

GRADUATE PROGRAM IN HEALTH CARE ADMINISTRATION

DEVELOPMENT OF A PRIMARY CARE SITE:

ISSUES FOR THE HEALTH CARE EXECUTIVE

SUBMITTED TO:

LCDR E. C. EHRESMANN, Ph.D., M.H.S.A, CAAMA

BY

LIEUTENANT DOUGLAS E. THOMAS, CHE

MSC, USN

JACKSONVILLE, FLORIDA

MAY 1998

**DISTRIBUTION STATEMENT A**  
Approved for Public Release  
Distribution Unlimited

20000107 038

# 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 the burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1224, 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 <p style="text-align: center;">May 1998</p>		3. REPORT TYPE AND DATES COVERED <p style="text-align: center;">FINAL REPORT ( 07/97 to 07/98)</p>	
4. TITLE AND SUBTITLE <p style="text-align: center;">Development of a Primary Care Site Issues for the Health Care Executive</p>				5. FUNDING NUMBERS	
6. AUTHOR(S) <p style="text-align: center;">LT Douglas E. Thomas, MSC, USN</p>				8. PERFORMING ORGANIZATION REPORT NUMBER  <p style="text-align: center;">32k-98</p>	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <p style="text-align: center;">Naval Hospital Jacksonville FL 32214</p>					
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) <p style="text-align: center;">US ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL BLDG 2841 MCCS-HRA US ARMY-BAYLOR PROGRAM IN HCA 3151 SCOTT RD SUITE 1412 FORT SAM HOUST TEXAS 78234-6135</p>				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION AVAILABILITY STATEMENT <p style="text-align: center;">Approved for Public Release: Distribution is unlimited</p>				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <p>Naval Hospital, Jacksonville, Florida is a community hospital located in the North Eastern portion of Florida. The Commanding Officer and his staff are responsible for approximately 230,000 total cachement area beneficiaries in Florida and Georgia (Managed Care, 1997). In Florida, there are five Branch Medical Clinics that provide care at Naval Air Station Jacksonville, Naval Station, Mayport, Naval Air Station Cecil Field, Naval Station Orlando, and Naval Station Key West Florida. In Georgia, there are Branch Medical Clinics in Athens, Atlanta, Kings Bay, and Albany. Naval Hospital Jacksonville and its Branch Medical Clinics came on line with the Department of Defense's managed care program, TRICARE, in June of 1996. Since then, the hospital has empanelled patients to one of four Primary Care Managers: Family Practice, Pediatrics, the Primary Care Clinic ( a civilian contract with Coastal Government Services, Inc.) and, most recently, the Internal Medicine Clinic (IMC). In May 1998, the contract with Coastal Government Services expires and will not be renewed. As of March 1998, approximately 7,000 beneficiaries are enrolled in the Primary Care Clinic (Managed Care, 1998). To provide care for these 7,000 enrolled beneficiaries, and other eligible beneficiaries, a new primary care site will be formed.</p>					
14. SUBJECT TERMS <p style="text-align: center;">Capacity, Primary Care Manager, TRICARE, Group Practice</p>				15. NUMBER OF PAGES	
17. SECURITY CLASSIFICATION OF REPORT <p style="text-align: center;">N/A</p>				16. PRICE CODE	
				20. LIMITATION OF ABSTRACT <p style="text-align: center;">UL</p>	
18. SECURITY CLASSIFICATION OF THIS PAGE <p style="text-align: center;">N/A</p>		19. SECURITY CLASSIFICATION OF ABSTRACT <p style="text-align: center;">N/A</p>		20. LIMITATION OF ABSTRACT	

## ABSTRACT

Naval Hospital, Jacksonville, Florida is a community hospital located in the North Eastern portion of Florida. The Commanding Officer and his staff are responsible for approximately 230,000 total catchment area beneficiaries in Florida and Georgia (Managed Care, 1997). In Florida, there are five Branch Medical Clinics that provide care at Naval Air Station Jacksonville, Naval Station Mayport, Naval Air Station Cecil Field, Naval Station Orlando, and Naval Station Key West Florida. In Georgia, there are Branch Medical Clinics in Athens, Atlanta, Kings Bay, and Albany. Naval Hospital Jacksonville and its Branch Medical Clinics came on line with the Department of Defense's managed care program, TRICARE, in June of 1996. Since then, the hospital has empanelled patients to one of four Primary Care Managers: Family Practice, Pediatrics, the Primary Care Clinic (a civilian contract with Coastal Government Services, Inc.) and, most recently, the Internal Medicine Clinic (IMC). In May 1998, the contract with Coastal Government Services expires and will not be renewed. As of March 1998, approximately 7,000 beneficiaries are enrolled in the Primary Care Clinic (Managed Care, 1998). To provide care for these 7,000 enrolled beneficiaries, and other eligible beneficiaries, a new primary care site will be formed. This new Primary Care Manager will be a multispecialty group encompassing the Departments of Internal Medicine, Pediatrics, and Obstetrics/Gynecology.

In forming this multispecialty group, issues such as marketing, panel size, capacity, and staffing requirements have been carefully evaluated in order for Naval Hospital Jacksonville to be prepared when contract services with Coastal Government Services are terminated 31 May 1998.

## TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	ii
LIST of TABLES and FIGURES	v
Chapter	
1. Introduction.....	1
Conditions Prompting Study.....	2
Problem Statement.....	4
2. Methods and Procedures.....	5
Data Source.....	5
Demand.....	5
Capacity.....	6
Staffing.....	6
Assumptions.....	7
3. Results.....	8
Organizational Structure.....	8
Demand.....	10
Capacity.....	14
Staffing.....	17
Cost.....	21
4. Discussion.....	23
Organization Structure.....	24
Quality.....	26
Education/Marketing.....	28
Capacity.....	31
Staffing.....	36
5. Summary.....	42
Appendices	
A. Definition of Terms.....	43
B. Spreadsheet Model.....	45
References.....	46

## LIST OF TABLES and FIGURES

### TABLES

	Page
1. Outpatient Visits, Calendar year 1997.....	11
2. Pre and Post TRICARE Workload.....	11
3. Division of Provider Time.....	16
4. Available Appointment by Type.....	16
5. Benchmark Data on Panel Size.....	17
6. Panel Size Per Provider at Naval Hospital Jacksonville.....	18
7. Total Staffing for Primary Care Group.....	20
8. Cost and Staffing for Enrolled Population.....	21
9. Cost and Staffing for Enrolled and Space A.....	21
10. 1993 AMA Workload.....	33
11. Spreadsheet Model for Calculating Capacity.....	35

### FIGURES

1. Organization Chart before PCG Formation.....	8
2. Organization Chart After PCG Formation.....	9
3. FY97 Outpatient Visits.....	12

## Chapter 1

### INTRODUCTION

The United States Naval Hospital Jacksonville, Florida, is an integrated health care system centered around a community hospital providing both inpatient and outpatient care to a population of approximately 240,000 beneficiaries in Georgia and Florida (Managed Care, 1998). The present facility, commissioned on 9 December 1967, was designed to provide inpatient care for up to 400 patients. However, with the continuing shift from inpatient to outpatient care and the advent of managed care, Naval Hospital Jacksonville's active bed (formerly defined as "operating bed") capacity has been reduced to approximately 80 beds (BUMED, 1997).

In addition to the core hospital facility, there are nine Branch Medical Clinics (BMC) for which the Commanding Officer, Naval Hospital Jacksonville (NHJ) is responsible. The branch clinics are located in Northern Florida (Jacksonville, Mayport, Cecil Field), Central Florida (Orlando), South Florida (Key West), and Georgia (Atlanta, Athens, Albany and Kings Bay). Although responsible for the overall health care of over 200,000 beneficiaries, only a portion of this population is within NHJ's geographic catchment area and close enough to receive care at the hospital on a routine basis (Resource Analysis Planning System, 1997). NHJ's catchment area facilities include the Naval Hospital, BMC Jacksonville, BMC Mayport, BMC Cecil Field, and BMC Kings Bay for specialty care (Managed Care, 1998).

In June 1996, the Department of Defense's (DOD) managed care program, TRICARE, came on line for Naval Hospital Jacksonville (OSD(HA), 1996). Under TRICARE Prime, beneficiaries select a Primary Care Manager (PCM) who is responsible for providing the primary care needs of the enrolled beneficiary. Operating in Region 3 (Southeast Florida, Georgia, and South Carolina) of the TRICARE network, NHJ began enrolling beneficiaries to four Naval Hospital PCMs: Family Practice, Pediatrics, Internal Medicine, and the Primary Care Clinic, as well as the BMCs. As defined by the Assistant

Secretary of Defense for Health Affairs (OSD(HA)), empanelment is "the process by which primary care managers are identified and individual TRICARE Prime enrollees are assigned to them" (OSD(HA), 1997). In addition to the military PCMs, beneficiaries have the option of choosing a civilian PCM available to them through the network of providers as arranged for by Humana Military Health Services (HMHS), Region 3's Managed Care Support Contractor (MCSC).

Of the four PCMs at NHJ, the Family Practice Department has the largest number of enrolled beneficiaries and is home to the Navy's largest Family Practice (FP) Residency program. Approximately 12 staff FP physicians and 39 FP residents enrolled roughly 8,500 beneficiaries and recorded over 65,000 outpatient visits in fiscal year 1997 (FY97) (Worldwide Outpatient Reporting System, 1997). The Pediatrics Department, staffed with six pediatricians and two pediatric nurse practitioners, has an enrolled population of approximately 6,800 and recorded approximately 30,000 outpatient visits in FY97. The second busiest clinic at NHJ is the Primary Care Clinic (PCC). The PCC is a civilian contract service with Coastal Government Services, Inc (CGS). The PCC is staffed with four physicians, three physician's assistants, and one nurse practitioner and has some 7,000 beneficiaries enrolled (Managed Care, 1998). During FY97, approximately 43,000 outpatient visits were recorded in the PCC (Worldwide Outpatient Reporting System). The newest primary care site, the Internal Medicine Department, has approximately four full-time internists for 850 enrolled lives. Combined with the enrolled populations of BMC Jacksonville, BMC Mayport, and BMC Cecil Field, NHJ has a total catchment area of 133,331 beneficiaries with 49,009 enrolled in TRICARE Prime (Managed Care, 1997).

### **CONDITIONS PROMPTING THE STUDY**

On 31 May 1998, the contract with CGS, the PCC's contracting agent, will expire. Under this contract, CGS is required to see a minimum number of outpatient visits (OPV)

per year and will be reimbursed for OPVs that exceed the contract limit. This form of fee-for-service reimbursement – where more visits could result in more reimbursement – has the potential for what Kongstvedt calls “churning” whereby the provider performs more procedures than are really necessary (1996). In addition to the potential for churning, the PCC has additional enrollment capacity that has not been met. Consequently, many space available appointments exist and are being used by non-enrolled (i.e. SPACE “A”) beneficiaries.

In 1996 the Assistant Secretary of Defense, Health Affairs announced that a new method for allocating budgets to all military treatment facilities (MTF) would be implemented (OSD(HA), 1995). This method, called Enrollment Based Capitation (EBC), will base budget figures primarily on the number of beneficiaries enrolled. Similar to civilian HMOs, each MTF will receive a fixed dollar amount per member per month from DOD (OSD(HA), 1997). To date, no capitated rate per member per year (PMPY) has been set. However, to give MTFs an opportunity to increase enrollment and “experiment” with EBC, FY97 was established as a “trial period” during which MTFs could learn the specifics of capitated reimbursement (OSD(HA), 1997). Fiscal year 1997 data shows only 46 percent of catchment area eligible beneficiaries were enrolled in TRICARE Prime at NHJ (Managed Care, 1997). According to the Head, Managed Care at NHJ, this low figure of enrollment is largely due to appointment availability for non-enrollees, beneficiaries unaware of or not understanding the TRICARE program, or convenience of civilian PCMs (Taylor, 1997). Although the enrollment level is less than desired overall, both Family Practice and Pediatric PCMs are at or near their capacity. The only PCMs with unused capacity are Internal Medicine and the civilian contracted Primary Care Clinic. Approximately 50 percent of the beneficiaries treated in the PCC are not enrolled in TRICARE Prime, and approximately 19 percent of those cared for in Internal Medicine are not enrolled (CHCS, 1998). Under EBC, this level of space “A” care theoretically will result in lost revenues for the MTF.

In addition to lost revenues, the large amount of space "A" care provided in the PCC leads to another condition. Anecdotal evidence suggests that care in the PCC is delivered in a manner contrary to what many consider ideal (Kongstvedt, 1996). Members of the medical staff in Internal Medicine and Obstetrics/Gynecology have indicated many of the patients referred to them from the PCC lack many of the basic elements of primary care such as prevention and wellness (Montgomery, et al., 1997). Rather than delivering care in a preventative and managed fashion, the PCC provides primarily episodic acute care to both enrollees and space "A" beneficiaries.

### **PROBLEM STATEMENT**

To address the issues of low enrollment, perceived lower quality, and poorly coordinated care, a decision was made at the command level to replace the PCC with a group practice made up of Internal Medicine, Pediatrics, and OB/GYN. However, the problem that NHJ faced was organizing three departments currently operating independently into a cooperative multispecialty group practice.

With the disestablishment of the PCC on 1 June 1998, NHJ will have to replace it with another PCM and wanted to know: **is there a more efficient and appropriate manner in which health care can be delivered?**

## Chapter 2

### **METHODS AND PROCEDURES**

This research project is a quantitative and descriptive case study. In the process of answering the research question, numerous secondary questions developed: Historically, how much primary care - space "A" and Prime - has been delivered? What are our current capabilities and how much of the current capacity do we want to maintain? What is needed to meet the difference - if one exists?

#### Data Sources

The data for this study was obtained from historical workload data existing in multiple systems such as the Composite Health Care System (CHCS), Corporate Executive Information System (CEIS), Medical Expense and Performance Reporting Systems (MEPRS), Resource Analysis Planning System (RAPS), and other database systems. Once collected, the data were entered into a spreadsheet based on a model developed at the Department of the Navy's Bureau of Medicine and Surgery (BUMED), Code 312. This model was used to calculate capacity, determine the effects of demand, calculate staffing requirements, and develop "what-if" scenarios. Also used in collecting reference data was the Tidewater *Ambulatory Care Model* developed at Naval Medical Center, Portsmouth, Virginia. Finally, a comprehensive literature review of benchmark data for utilization patterns, provider productivity, and clinic staffing was conducted for group practices.

#### Demand

Beneficiary utilization/demand for this model is based on the 5.2 outpatient visits (OPV) per year per beneficiary calculated by NHJ's Strategic Management Department.

This level of demand was calculated using FY97 data and is an average of beneficiaries in NHJ's catchment area.

#### Capacity Calculation

MTF capacity was operationally defined as total number of outpatient visits (OPV) available per year. The benchmark was achieved by combining total OPVs for Internal Medicine and the PCC for fiscal year 1997, which was approximately 50,000. Appointment templates were then developed for each provider type. Military providers were available for 40 weeks of direct care, while civilian providers were available for 47 weeks. Based on time available for direct care, the total number of appointments were developed using appointment templates, which were then multiplied by the number of full time equivalent (FTE) providers to arrive at total outpatient visit capacity.

To help determine capacity, a model developed at the Bureau of Medicine and Surgery, Code-312, was used. This model uses appointment templates as a means for developing the number of annual appointments based on the number and type of providers and their availability to provide direct care. The number of annual appointments available was then divided by the expected number of OPVs per year to determine capacity.

#### Staffing

Panel size was set at 500 enrollees per general internist, 750 per nurse practitioner and 1,500 for the adolescent provider. Although these panel sizes are low when compared to industry standards, interviews with several managed care experts indicate it is best to start a new managed care program conservatively then grow enrollment gradually until a point of equilibrium is reached. Moreover, the dual role of internists as referral specialists and PCM, and our lack of experience with the group concept made us believe that a conservative approach was best at this point.

Clinical support staff was calculated based on a one-for-one medical assistant (MA) per provider ratio to ensure each provider has a dedicated MA. For administrative support personnel, FTE requirements were calculated based on hours of operation and job requirements. For support-provider staff ratio, the total number of clinical and administrative support personnel was divided by the number of providers to achieve the ratio of 2.02 support FTEs per provider.

#### Assumptions

The target market for this study includes those beneficiaries currently enrolled in the PCC and Internal Medicine, as well as space "A" users of these clinics. For the purposes of this study, we assume the size of this population – both enrolled and space "A" - and the enrollment status of these beneficiaries will not change.

The data used in this study were derived from multiple sources such as CEIS, MEPRS, and CHCS. In the calculation of demand and capacity, we assume these figures to be accurate.

The original proposal for this study called for development of a space utilization plan. With the closure of the PCC and subsequent reassignment of their spaces to the Primary Care Group (PCG or the Group), the need to conduct this portion of the study has been obviated. Therefore, space utilization will not be addressed in this study.

## Chapter 3

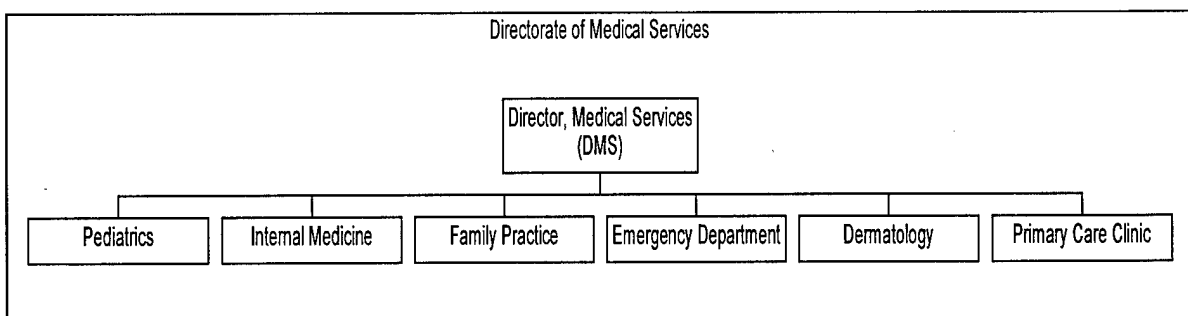
### RESULTS

The results of the study will be provided in four categories: 1) organizational structure, 2) demand, 3) capacity, and 4) staffing.

#### Organizational Structure

Based on the command's desire to investigate a group practice model, a complete literature review was conducted to determine what benefits could be achieved from this type of organizational structure. The literature was clear and convincing that the group practice model offered numerous improvements over the existing organizational structure at NHJ. Many of the benefits normally achieved by group formation - shared resources, increased cooperation/coordination, and increased access to specialists - could easily be imported into our health care system. Figure 1 shows the organization structure of the Medical Directorate prior to forming the PCG. Each department of this organization structure operates independently of one another and does not share resources, which results in lost economies of scale (Duncan, et. al 1995).

Figure1. Organizational Structure Prior to Forming the Primary Care Group.

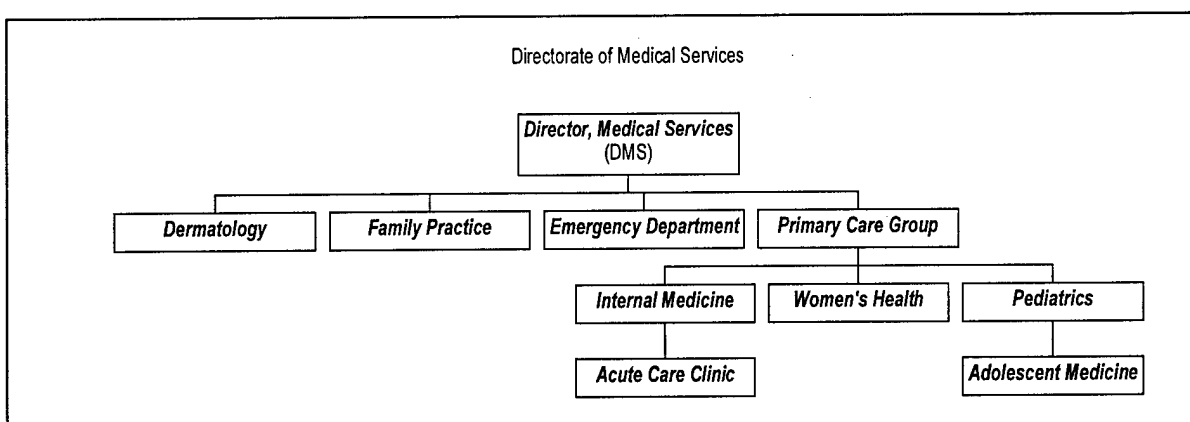


To improve both the technical and non-technical delivery of health care, a more vertically integrated structure was developed. These benefits would be achieved not by physically

merging Pediatrics, Internal Medicine, and OB/GYN, but rather by establishing one PCM based on a cooperative relationship where each department or division contributes assets to the Group. The one PCM – the Primary Care Group (PCG) – will have a total capacity that will be subdivided by beneficiary type (i.e. adult, adolescent, or pediatric).

Figure 2 depicts how the Medical Directorate will be restructured.

Figure 2. Organizational Structure after Primary Care Group Formation



In the technical delivery of health care, female beneficiaries who have an internist as their PCM will have the option of booking an appointment directly with the women's health specialist. The internists unanimously agreed that, while they could provide routine care for women, this was not their area of expertise. At the same time, the family nurse practitioners and certified nurse midwives assigned to OB/GYN agreed that female beneficiaries should have direct access to them if they desired. From the non-technical delivery aspect, this would be accomplished by establishing booking criteria to be used by the central appointments office. When a female beneficiary calls to make an appointment for a routine "well women's" visit or an acute OB/GYN problem, they will automatically be defaulted to the women's health specialist. On those occasions when a female patient is seen by her PCM and needs her annual exam, an appointment will be

made at her PCM's reception desk without need for consultation. All adult non-OB/GYN primary care will be provided by the normal PCM.

Adolescents are defined as those individuals 13-18 years old (Guyer, 1998). Because they are not yet adults, adolescents are not treated by adult medicine providers or internists. They are typically cared for by physicians who specialize in adolescent medicine or pediatricians who prefer working with adolescents (Montgomery, 1997). An adolescent physician will be hired to meet the demands of approximately 1,800 adolescents currently in the PCC. For adult non-OB/GYN care, beneficiaries will see their normal PCM.

TRICARE access standards mandate that beneficiaries have access to their PCMs, or an agent of the PCM, 24 hours a day, seven days per week. Additionally, the Assistant Secretary of Defense, Health Affairs, indicated that "it is desirable to have a certain level of acute care services available to enrollees outside of normal 0730 to 1630 duty hours" (OSD(HA), 1997, p.2). To meet this standard, the PCG will have an evening clinic that operates until 2000, Monday through Friday, and 1100 to 2000 on Saturday and Sunday. At present, each division of the Group – Internal Medicine, Pediatrics, and OB/GYN – has an evening clinic, which is staffed with at least one provider, one nurse, one medical assistant and, in some cases, a clerk. To eliminate redundancies, one check-in desk will be shared by the Group.

### Demand

Outpatient utilization data for fiscal years 1995-1997 were collected from MEPRS and reported in the Worldwide Outpatient Reporting System (WORS). In addition to historical demand data, catchment area data for NHJ were collected from CEIS to determine if any significant changes in population occurred that may have affected utilization. Although CHCS provides a close count of beneficiaries enrolled to the various PCMs at NHJ, no database exists on the number of space "A" beneficiaries using

the hospital. However, CHCS does provide access to the number of OPVs by beneficiary category, enrollment status, and age (under 65 or over 65 only). To estimate the number of space "A" beneficiaries, this report was run and industry standards for OPVs were compared to each category of beneficiary. Table 1 lists the number of OPVs by enrollment category, which is further broken down by those over 65 years of age.

Table 1. Outpatient Visits, Calendar Year 1997

CY97 OPVs	OB/GYN	PCC	Pediatrics	Internal Medicine
Prime	18,675	25,589	30,488	4,661
Space "A"	5,679	17,437	2,949	1,264
> 65	203	3,572	-	836
Total OPVs	24,557	43,026	33,437	6,761

Source: CHCS

Applying the 5.2 OPVs per year calculated by NHJ's Strategic Management Department, approximately 400 space "A" beneficiaries obtained care from Internal Medicine. In the PCC, approximately 4,000 space "A" users obtained care. Pediatrics recorded the lowest level of space "A" care where only 560 beneficiaries were seen. Finally, the OB/GYN Department counted approximately 1,100 space "A" users.

When the data for each department are separated, it appears as though TRICARE has had only a marginal effect on outpatient utilization. Table 2 lists the total number of OPVs for the 12 months preceding TRICARE and the first 12 months during TRICARE.

Table 2. Pre and Post TRICARE Workload

Period	PCC	FPC	Peds	OB/GYN	IMC
Jun 95-May 96	43,886	52,859	35,808	24,944	3,714
Jun 96-May 97	43,843	62,967	30,609	23,831	5,327

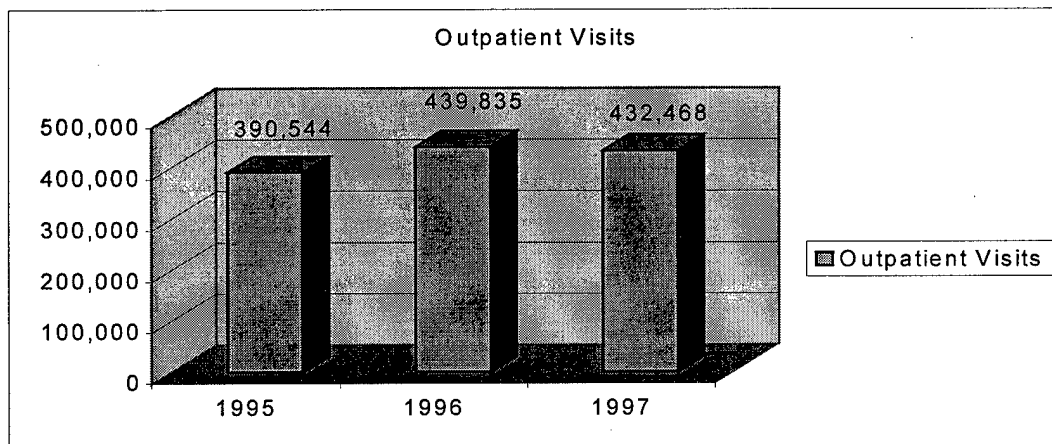
Note. IMC represents only the general internists. Other specialists' utilization is not counted.

Source: WORS

Of the five departments analyzed, two showed a considerable increase in workload, while one had a significant reduction. Although not an enrollment site, Internal Medicine's utilization increased by 43 percent and Family Practice's increased 19 percent. On the other hand, Pediatrics' workload decreased by 15 percent.

Comparing the first four months of FY97 to FY98, utilization is down almost 12 percent for FY98 (CHCS, 1998). The two percent decrease in FY97 utilization has not resulted from a change in catchment area population. According to CEIS data, NHJ's catchment area population was 140,349 in FY96. This figure increased .82 percent in FY97 to 141,503, and is projected to remain at approximately 138,000 through the year 2001 (CEIS, 1998). Overall, NHJ counted more than 432,000 outpatient visits for FY97. As shown in Figure 3, this represents a 10.7 percent increase over FY95 utilization and a two percent decrease when compared to FY96 utilization. It should be noted at this point that NHJ's catchment area population refers to those beneficiaries who use or are eligible to use NHJ on a regular basis, and

Figure 3. Naval Hospital Jacksonville Outpatient Visits, FY97



Source: WORS.

does not include the hospital's total catchment area. It is difficult to explain the inconsistency in utilization rates across departments when the overall population has not

changed significantly. This finding is supported by Miller and Luft's study which showed that utilization rates increased for some HMOs and decreased for others after the introduction of managed care (1994).

A recurring theme that emerged during conversation with managed care directors at other MTFs was one of caution when determining capacity. When projecting capacity or utilization for new PCMs or managed care programs, these managers indicated this should be approached conservatively (Schmidt, 1997; Smith, 1997; Gross, 1997). The two models examined for this study based their capacity on a utilization rate of 3 to 3.5 OPVs per year. We believe this is an aggressive goal for several reasons. First, a major component of the Group Practice is Internal Medicine and industry standards show that internists typically see fewer visits per hour than do other providers (AMA, 1993, as cited in Wright et al., 1994). Second, because many of our beneficiaries have not been receiving regular preventative care, we anticipate a portion of providers' time will initially involve comprehensive examinations, which can take up to 60 minutes on the first visit, and require several follow-up visits. Third, with the exception of the contract providers, almost every active duty provider has inpatient responsibilities that render him or her unavailable during certain periods. General internists spend an average of five weeks per year on inpatient duties, while OB/GYN and pediatric providers spend approximately nine weeks each (DeGroot and Guyer, 1998). Although inpatient responsibilities were accounted for when calculating capacity, using internists as PCMs for such a large enrolled population has not been attempted before at NHJ and the impact of being both a PCM and specialist with inpatient duties is unclear. Finally, although NHJ is developing a nurse triage/demand management system, it is uncertain when this program will become operational to help regulate demand. Until a demand management system is implemented, or until we gain more experience with managed care, we will base our capacity on the 5 OPVs per year calculated by Strategic Management.

### Capacity

When the decision was made to replace the PCC, the Commanding Officer of NHJ indicated there would be no degradation of service or capacity for either enrolled or space "A" beneficiaries. Establishing a benchmark for the number of enrolled beneficiaries was relatively simple as this figure was readily available from the Managed Care Department. However, as mentioned previously, no method exists for accurately determining the number of nonenrolled beneficiaries using NHJ. To ensure present capacity was maintained, no degradation of service occurred, and to have a metric that was easily calculated, capacity was operationally defined to be the total number of OPVs available and was benchmarked on FY97 OPVs for the PCC and Internal Medicine (n= 49,787). Adding total OPVs as shown in Table 1 derived this figure.

In calculating capacity at approximately 50,000 OPVs per year, only the PCC and Internal Medicine were considered. Even though the Group will be comprised of Internal Medicine, Pediatrics, and Women's Health, not every service of the Group will undergo significant change. Pediatrics will assume responsibility for approximately 1,800 adolescents currently enrolled to the PCC; but its staff will be augmented by one pediatrician, one clerk, and one medical assistant, and the adolescent provider will be physically located in the Group's spaces, which will result in little impact on their current operations. For women's health, the PCC presently has a full time WHNP providing almost all women's health services. To continue providing this service, a full time WHNP will be hired and supported by other nurse practitioners and OB/GYN physicians from the OB/GYN Department. Consequently, no dramatic changes will occur for this service. However, Internal Medicine presently has approximately 850 beneficiaries enrolled, and on 1 June - when the PCC is disestablished - this number will increase over 600 percent to almost 6,000 (5,000 adults presently enrolled to the PCC + Internal Medicine's 850 enrolled population).

### Model of Capacity

A careful analysis of the two staffing models revealed that the MED-312 Model was more appropriate as a guide for this study. Appointment times and schedules vary depending on provider type (i.e., family practice, general internist, or pediatrician). The MED-312 model uses appointment templates which allow users to account for different practice patterns, available times for direct care, and patient mix to accurately determine capacity. Developing our model for staffing and capacity was accomplished using a 3-step process.

In Step one, we developed appointment templates for each provider type - civilian or military - that allowed us to determine specific appointment types and numbers. Appendix B provides a detailed look at the templates developed. Designating appointment types was critical for the Group because of the distinction between PCM and specialty clinic functions. The literature search revealed that civilian providers are available for direct care an average of 47 weeks per year, and this metric was used in calculating their availability. For military providers, however, the two models examined offered two different measures of availability: 39 weeks for Tidewater and 45 weeks for MED-312. In addition to the standard military training, leave, and TAD requirements, the internists have specialty care and inpatient responsibilities that limit their primary care availability; therefore, we based our model on 40 weeks of direct care availability.

Table 3 shows the division of active duty provider time. Based on the appointment templates, a spreadsheet was used to calculate the number of appointments available daily in Step 2. This allowed us to calculate each provider

Table 3. Division of Provider Time

Activity	Weeks
Inpatient Care	5
Leave	4
TAD/CME	2
NonCME Training	1
Direct PCM Care	40
TOTAL	52

Note. Includes all active duty providers except pediatric nurse practitioners

category's level of contribution. In Step 3, the number of appointments available each week were then multiplied by the number of each type provider, then multiplied by the number of weeks available for direct care. Table 4 lists the number of available appointments by type and provider category that was used to determine PCM capacity.

Table 4. Number of Available Appointments Monthly by Type

	SDA <sup>1</sup>	FU <sup>2</sup>	NEW <sup>3</sup>	CONS <sup>4</sup>	Total
Military Providers	405	252	126	189	972
Civilian Providers	1,250	1,286	650	-	3,429
Total Appts/Mo	1,707	1,678	836	189	4,401

Note. Appointment types: 1 = Same Day Acute. 2 = Follow-up. 3 = New Patient. 4 = Specialty Consult. Total appointments for providers in Appendix B.

The comparison data in developing requirements for appointment type were obtained from CHCS using the monthly statistics module, which provides appointment totals by type. The data were collected for Internal Medicine and the PCC to obtain total numbers of OPVs, and averaged over 12 months to determine demand by appointment

type. Once developed, the model can be used to conduct what-if scenarios on utilization, demand management, and level of provider support. Moreover, as we mature as a PCM, we can recalculate the distribution of appointments and determine the effect of having fewer “new” appointments, more specialty care, or increased efficiency in patient treatment time.

### Staffing

An analysis of demand and capacity made it clear that additional personnel would be needed to support the PCG. Panel sizes for NHJ and civilian sector providers are listed in Table 5. The figures represent panel sizes that are smaller than benchmark data for both military and civilian organization, with the exception of the adolescent provider.

Table 5. Panel Size Per Provider Type By Organization

<b>Provider Type</b>	<b>NHJ</b>	<b>HCHP/Kenmore</b>	<b>Cambridge</b>
Gen Internists (Military)	500	1,600	1,800
Nurse Practitioners	750	900	800
Pediatrics	850	1,350 <sup>1</sup>	1,350
Adolescent Provider	1,500	1,350 <sup>1</sup>	1,350

Note. 1. Not Harvard Community Health Plan (HCHP); data from Kenmore Center.  
Source. Butler, 1996.

Panel size for the adolescent provider represent the approximate number of adolescents presently enrolled to the PCC. This provider’s service will be augmented by the active duty pediatricians whose panel sizes are smaller than industry standards. The small panel size results from the dual role of our specialty providers. These panels will gradually increase as we mature with managed care and gain a better understanding of the impact being PCMs for a large population. Based on appointment templates, panel size for each provider was calculated using 5 OPVs per year as our measure of demand.

Using appointment templates to calculate capacity, the data in Table 6 show there are presently an inadequate number of appointments available for the adolescent provider. However, when compared to the number of ambulatory encounters per for a multispecialty group, the number of visits is consistent with industry standards. Hoeschst Marion Roussel (as cited in Butler) reports 5,072 ambulatory encounters per year per provider for pediatrics (1996).

Table 6. Calculated Panel Size Per Provider

	Appts Available/Yr	Panel Size/Provider
General Internists	2,160	432
Nurse Practitioner	3,995	799
Pediatricians <sup>1</sup>	4,400	880
Adolescent Provider	5,170	1,034

Note: 1. Approximate value including pediatric nurse practitioners. Panel size calculated from capacity model in Appendix B.

Midlevel providers were not considered full time equivalents due to the additional time spent with patients and the occasional need to consult with a physician. Nurse practitioners and PAs ranged from .5 to .8 FTEs (Kongstvedt, 1996; Butler, 1996). The literature indicated that midlevel providers, especially nurse practitioners, were considered less than a FTE because of the extra time spent educating patients. Our appointment templates allow for extra time with patients in the "new" appointment category, which are designed for those patients being seen for the first time in the Group and consequently require a more comprehensive examination and additional education. Additionally, appointment templates for the pediatric nurse practitioners reflect 20 minute visits versus 15 minute visits for pediatricians. Based on appointment templates

developed to measure capacity, the level of productivity was considered by our staff NPs to be realistic and obtainable.

A majority of primary care for enrollees will be provided by the general internists, pediatricians, and NPs. However, to meet the demand of our space "A" beneficiaries, the PCG will employ two physician FTEs and one-half (.5) a physician assistant FTE in an acute care setting within the Group. The decision to employ two physicians over other provider types was enhanced by the fact that two primary care physicians are currently employed in the PCC and wish to continue working at NHJ. Moreover, they are familiar with CHCS, command policies and procedures, and are willing to work evenings and weekends. Because their primary function will be providing acute care, these two physicians will not have beneficiaries enrolled to them. In addition to the acute care needs, they will support the Group and provide "overflow" care to enrolled beneficiaries.

There are a total of 36 providers and 74 support personnel for a ratio of 2.05 support staff per provider. This level of support is consistent with both the Tidewater and MED-312 models. However, it is below the 4.02 support staff-to-provider ratio cited by the Management Group Medical Association (MGMA). The ratio of 2.05 support staff per provider does not include the support personnel from third party collections, fiscal, or managed care (i.e. Health Benefits Advisors) that support us in varying capacities.

Table 7 shows the planned staffing for the entire Primary Care Group

Table 7. Proposed Staffing of Primary Care Group Divisions

Proposed IMC Staff		Proposed Pediatrics Staff		Proposed OB/GYN Staff	
IMC Provider Type	Number	Peds Provider Type	Number	OB/GYN Provider type	Number
PCMs <sup>1</sup>	7	Pediatricians	7	OB/GYN	8
Cardiologist	1	Peds Nurse Pract	2	CNM	2
Pulmonologist	1	RN	4	FNP/WHNP	3
Gastroenterologist	2	0000 Corpsman	7 (1LPO)	RN	3
Endocrinologist	1	Technical HMs	0	0000 Corpsman	14 (1 LPO)
Allergist	1	Clerks	4	Technical HMs	0
Physician Assistant	1	Secretary	1	Clerks	2
RN	7			Secretary	1
0000 Corpsman/MA	12 (1LPO)				
Technical HMs	10				
Civilian Techs	1				
Medical Clerks	8				
Secretary	1				

Note. 1. Includes general internists and general practice physicians. Actual and Proposed Staffing as of April 1998.

Cost

Another purpose for forming the PCG was to deliver high quality care at a reduced cost. Initially, this would be achieved by reducing the number of contract personnel currently used to provide space "A" care. Data in Table 8 show the costs associated with providing care for 7,000 enrollees with limited capacity for

Table 8. Cost of Contract Providers for Enrolled Population

Position	Quantity	Est. Cost/Ea (000)	Total Cost (000)
General Internists	4	-	-
Adolescent M.D.	1	\$140-180	\$140-180
Nurse Practitioner	5	70-80	\$350-400
Medical Asst.	8	25-30	\$200-240
Medical Clerks	4	18-25	\$72-100
<b>TOTAL</b>			<b>\$762-920</b>

Note. Total resource costs based on estimates. Source: NHJ Fiscal Dept. General Internists are active duty and considered sunk costs.

space "A" beneficiaries. However, rather than limit capacity to only the enrolled population, NHJ will continue to provide the same level of space "A" care that it has in the past. Table 9 shows the costs associated with additional staffing requirements needed for increased capacity and space "A" care.

Table 9. Estimated Costs and Staffing Requirements for Expanded Capacity

Position	Quantity	Est Cost/Ea (000)	Total Cost (000)
General Internists	4	-	-
Adolescent M.D.	1	\$140-180	\$140-180
General/Family Practice	3	120-180	360-540
Nurse Practitioner	6	70-80	420-480
Physician Asst.	1	60-70	60-80
Registered Nurse	2	35-45	70-90
Medical Asst.	16	25-30	400-480
Medical Clerk	5	18-25	90-125
<b>TOTAL</b>			<b>\$1.54-1.97M</b>

Note. Costs in thousands (except total). Source: NHJ Contracting Division, Fiscal Department.

The delta which results from meeting the needs of an enrolled population versus maintaining the present level of capacity (enrolled + space "A") is approximately \$1 million ( $\$1.97\text{M} - \$805\text{K} = \$1.17\text{M}$ ). As indicated previously, EBC was to be implemented in FY98 which would result in MTFs being funded "primarily" based on its enrolled population with an adjustment offered for non-enrolled beneficiaries using the MTF (Internet, 1997). For many MTF commanding officers and commanders, the goal was to size their organization to provide care for an enrolled population and to limit space "A" care. However, sizing MTF staffs and facilities to accommodate only Prime enrollees was not the direction others desired. When Fort Leonard Wood Army Community Hospital changed its policy to limit care for retirees over 65, many retirees and organizations representing them immediately complained to senior officials (Funk, 1997). Although this policy was quickly rescinded, it did indicate the commitment some commanders had to EBC and TRICARE, and demonstrated that there was confusion on the policy of space "A" care. To clarify this policy, both the Congress and DoD have indicated that "military hospitals and clinics will continue to treat active-duty family members, retirees, and older retirees on a space available basis." Moreover, the Assistant Secretary of Defense for Health Affairs indicated that the notion of cutting back on space "A" care and forcing dependents and retirees out of the military system was "put to rest" (Maze, 1998. p.10). Consequently, NHJ has in its plan capacity for those presently enrolled in the PCC, capacity for growth of the enrolled population, and capacity for space "A" care.

## Chapter 4

### DISCUSSION

The concept of the new primary care site is a multispecialty group practice involving Pediatrics, Internal Medicine, and OB/GYN. It was proposed that these three departments combine their management, financial, and clinical resources to provide "seamless" care for the entire family as well as consultative services for other PCMs. Beneficiaries who select the Primary Care Group (PCG) as their PCM could move freely between the specialties as their health care needs dictated. For example, an enrolled female who normally receives her care through Internal Medicine could easily be evaluated and treated by a women's health specialist if she desired, and could do this without having to go through the usual PCM consultation procedures which could delay treatment/evaluation. In delivering this form of coordinated and seamless care, NHJ is ahead of policy makers in Washington, D.C. who recently indicated that plans are being made to change TRICARE so that women can bypass their normal PCM and have direct access to women's health specialists (Funk, 1998).

With the disestablishment of the PCC on 1 June 1998, NHJ will have to replace it with another PCM and wanted to know: is there a more efficient and appropriate manner in which health care can be delivered? The purpose of this study was to explore the issues surrounding the problem of developing an efficient and more appropriate health care delivery model. To do this, NHJ had to evaluate what organizational structure provides the best use of resources to improve the quality of health care; a model for determining capacity; the appropriate number, mix, and type of contract providers needed to staff this new PCM; education of the medical staff to achieve "buy-in" and gain support; and a model for coordination of intra-group care.

### Organizational Structure

For many people, health care professionals included, managed care is something that seems to be everywhere, yet is not easily understood. Consequently, an appropriate starting point for a discussion regarding managed care and group practice development is to accurately define managed care and what a group practice is. Kongstvedt defines managed care as “a system of health care delivery that tries to manage the cost of health care, the quality of health care, and access to that care” (1996, p. 996). Managed care is available to consumers in many forms under many names. Examples include Health Maintenance Organizations (HMO), Preferred Provider Organizations (PPO), Point-of-Service Plans (POS), Independent Practice Association (IPA), Group Practice Without Walls (GPWW), Physician Hospital Organization (PHO), and Management Service Organization (MSO) to name a few (Kongstvedt, 1996). In the early years of managed care, it was relatively easy to distinguish between types of managed care organizations – you were either an HMO or not. However, in recent years many variations and organizational structures have developed yet still fall under the general HMO or service organization category (Kongstvedt, 1996). It is this proliferation of organization types that has caused much of the confusion among consumers and health professionals alike.

Among one of the older forms of HMO managed care plans is the group practice. The 1997 Managed Care Digest Series (HMO-PPO Digest) indicates that the top two largest individual HMO plans are group practices, which have been active for 52 years (Hoechst Marion Roussel, 1997). Kongstvedt writes “in 1937, the Group Health Association was started in Washington D.C. at the behest of the home owner’s loan Corporation. . .” (1996, p.5). Today, group practices come in many forms and vary depending on the physician’s desire to integrate with other providers. However, physicians are increasingly moving toward group practices because they offer many benefits. Unland writes “that in the past two years physicians have almost universally accepted the notion that they need to ‘network’ better with one another if they are to cope

with – and, hopefully, thrive in – the era of highly evolved managed care that inexorably approaches in most markets” (1996, p.58). In addition to improving performance through networking, group practices also enhance providers’ position by achieving economies of scale in several areas. Group practice offers providers the efficiencies of shared billing systems, expanded physician services, shared overhead, centralized credentialing/privileging, laboratory services, and general centralized supply systems (Hochron, 1997). In an interview with James Aluia, he indicates that another benefit of group practice is its ability to “afford some of the information data-systems necessary to control patient volumes and to control economics of that population base” (1996, p. 28). The model developed at Naval Hospital Jacksonville is a multispecialty, hospital-based group practice. In a study conducted by Fein et al., they indicate "hospital-based group practice is an increasingly popular method for reorganizing clinics to provide primary care services in teaching hospitals" (1987, p. 11). According to the authors:

Primary care group practices are proposed as a way to increase access, continuity and coordination of care while promoting accountability, productivity, and efficiency. The benefits of group practice are attributed to more efficient utilization patterns due to primary care reorganization, as well as to greater physician productivity" (Fein, et al., 1987, p. 11).

Unland writes that the "most significant management challenge in group practice formation revolve around the operational consolidation of the individual participating practices" (1996, p. 80). Early meetings about the Group and its organizational structure bear out Unland’s prophecy, as there is considerable dialogue about how much autonomy, if any, each department will sacrifice if they join the Group. Will there be a “business manager” responsible for a consolidated budget? Will the number of supervisory personnel be reduced and this function come under one or two personnel versus the current three or four? Will the department heads be required to answer to a “group

practice leader” or will he/her be able to make independent decisions within his or her department?

In the merging of these departments, NHJ has been careful not to fall into what Scroggins calls the “athletes foot” syndrome. In this syndrome, Scroggins warns that many group formations progress straight through the difficult issues - like surgeons operating on a brain tumor - of practice location, recruitment, and division of earnings. However, when it was time to decide on smaller issues such as which computer software will be used, or how the practice should be listed in the yellow pages, the physicians could not agree and - like a patient dying of athletes foot because the doctors couldn't agree on which therapy to use - the group initiative died because consensus on the smaller issues could not be achieved (1996). Consequently, many of the smaller issues have been tabled for future discussion and will not be presented in this paper.

### Improved Quality

A major impetus for development of the Primary Care Group is to improve the quality of care for beneficiaries. Because there are many different standards, measuring quality in health care is a difficult task. From a consumer's perspective, quality is measured by satisfaction according to access to and ability to communicate with providers, problem resolution, and ability to get information on benefits and coverage (Hays, as cited by Fromberg, 1997). From a clinical perspective, Fromberg writes that satisfaction measures have limitations because measures of this type may indicate “perceptions” about the quality of care, but they do not allow one to compare one plan to another in terms of better or worse clinical care (1997).

In the 1960s and '70s, Avedia Donebedian (as cited in Kongstvedt, 1996) developed three criteria for measuring quality, and each category measured quality in a different context. The first, structured criteria, defines quality based on capability. Measures such as board certification, facility licensure status, and compliance with safety

codes have been used by many purchasers of health care (i.e. employers and insurance companies) to assess an organization's level of accomplishment or ability to meet certain standards. The second criteria for measuring quality, process criteria, evaluates the way an organization provides care. Examples include referrals to specialists, health screenings, and clinical algorithms for different conditions. The third measure is outcome criteria. This criterion is used to evaluate the outcome of the service provided and historically has been measured using infection rates, morbidity, and mortality. Although these criteria are widely used by many organizations, each has its limitations. Structured criteria does not allow one to measure an organization or individual beyond the minimum standard and establishing a relationship with outcomes must be accomplished for this metric to yield better results. Process criteria must also be linked with outcomes to be an effective measure of quality. When used alone, outcome criteria do not indicate why something happened, only that it did occur (Kongstvedt, 1996).

According to Montgomery, et al., PCC's current practice of medicine is largely episodic and non-preventative (Personal Interview, 1997). This observation of episodic and non-preventative care was confirmed during an interview with the PCC Manager who indicated the present contract with PCC is based on a fee-for-service arrangement which requires them to see a minimum number of visits annually. As a result, they are unable to schedule appointments for any duration that allowed them to practice preventative medicine (McCarty, 1997).

An effective health care organization will be proactive in ensuring its beneficiaries' health is managed in a preventative manner as much as possible. Kongstvedt writes that managed care has been largely defined by HMOs since the early 1970s and that preventative services essentially define the HMO industry (1996). Moreover, in a 1994 report, *Defining Primary Care*, The Institute of Medicine (IOM) indicated primary care will be an important instrument in health promotion and disease prevention"...(1994). The concept of preventative care is not new. Over 50 years ago,

Lee and Jones wrote eight fundamentals of good care, and three directly address what Kongstvedt and the IOM consider to be essential elements to primary care: 1) "Good care emphasizes prevention; 2) Good medical care maintains a close continuing personal relationship between physician and patient; and 3) Good medical care coordinates all types of medical services" (Williams and Torrens, 1988, p. 419).

Of the three criteria noted (as cited in Kovner, 1995), process criteria is considered the most direct measure of quality (Weitzman, 1995). Kovner, (citing Blum) indicates that process criteria's "great virtue of process evaluation lies in the broad clinician involvement and education which is a consequence and may subsequently result in improved practices" (1974, p. 383). Using the process criteria of measuring quality - whereby internists, OB/GYNs, and pediatricians evaluate beneficiaries referred from providers in the PCC - the almost unanimous consensus among practitioners at NHJ is that the quality of care can be improved for PCC beneficiaries, and development of a coordinated group of providers is an effective model for improving the quality of care (Montgomery, et al., 1997).

#### Education of the Medical Staff

The most significant challenge encountered with this concept has been the change in practice behavior for the subspecialists who have practiced specialty care for many years.

In the development of their group practice model, Naval Hospital Charleston identified Family Practice, Internal Medicine, Pediatrics, OB/GYN, and General Surgery as "key ingredients" to providing primary care (Etienne and Langenberg, 1996). In 1993 the Council on Graduate Medical Education (COGME) defined family physicians (i.e. family practice), general internists, and pediatricians as primary care physicians (Pritzker, 1997). In this report the COGME did not include obstetrician/gynecology as a primary care provider. However, during the development of the Federal Health Security Act, the

104<sup>th</sup> Congress of the Senate and House of Representatives indicated that obstetricians/gynecologists should be designated as primary care providers (Pritzker, 1997). Moreover, the American College of Obstetricians/Gynecologists (ACOG) recognized that OB/GYNs are “the ideal candidates to serve as primary care physicians for women...” (Pritzker, 1997, p. 402). Because approximately 80 percent (5,500) of the target market – beneficiaries using the PCC - are women, an essential element of the new Primary Care Group is women’s health (CHCS, 1997).

At present, OB/GYN has eight OB/GYN physicians, two Certified Nurse Midwives (CNM), and two Family Nurse Practitioners (FNP). Industry standards for an OB/GYN’s PCM panel range from 1,600 to 2,750 (OSD(HA),1995). Using the minimum industry standard for OB/GYNs panel sizes, and counting each eligible primary care provider as one half a full time equivalent (FTE) - CNMs are not privileged to provide primary care at NHJ - approximately 5,700 women could theoretically be enrolled to this group (4.5 FTEs X 1,600 = 7,200). Initially, the Group proposed employing the services of the OB/GYN physicians and nurse practitioners to support the women’s health division. However, participation in the Primary Care Group was resisted by the OB/GYNs because of concern that acting as PCMs will compromise their ability to obtain adequate time in the operating room. Moreover, in addition to their surgical responsibilities, the OB/GYNs note that they support the Family Practice Residency program through teaching and supervision of Residents during their OB/GYN rotations. Moreover, lessons learned from the Naval Hospital Charleston indicated one of their mistakes was trying to involve the general surgeons in their model of PCMs (Etienne and Langenberg, 1996). For political and clinical reasons, using surgeons – whether general or OB/GYN - as PCMs proved to be a mistake that NHJ did not want to repeat. This issue was discussed at length among medical staff at NHJ and rather than mandate OB/GYN involvement to support a women’s health clinic, we determined these services

could be provided by midlevel providers such as a women's health nurse practitioner (WHNP), CNM or FNP.

As noted earlier, the COGME defines general internists as primary care physicians. Even though the Department of Internal Medicine has been an enrollment site since September 1997, and, by definition internists are PCMs, a significant amount of TRICARE/managed care education was needed and continues for these providers. Most of the internists were unaware of access standards and other details associated with TRICARE Prime enrollees. The general internists at NHJ have been accustomed to providing specialty care for active duty and retired beneficiaries and their dependents, and until recently almost all of this care was provided on a space "A" basis. In addition to the general internists, there are a number subspecialists (i.e. pulmonology, cardiology, gastroenterology, endocrinology) who have the potential to empanel a finite number of patients. Because these subspecialists follow patients with chronic and complex diseases, they are in an ideal position to provide both the specialty and primary care to this small population. However, in addition to providing both primary and specialty care to their chronically ill patients, these physicians ideally will be available to support other clinicians and help provide primary care for beneficiaries enrolled to the Group. Retraining this group of subspecialists may be especially practical because all are also board certified in general Internal Medicine and make ideal primary care physicians (Weiner, 1994). The concept of retraining specialists and subspecialists is not out of the norm with the civilian sector. According to Villaneuva, et al., many subspecialists have been receiving "refresher" training to hone their PCM skills in order for them to participate in capitated managed care plans (1996). A study conducted in 1994 found that 22 institutions (medical schools and managed care organizations) either had or were developing retraining programs, which offered recognition ranging from general specialty board certification to enhanced primary care skills with no formal certification (Jacoby, et al., 1997). Although the same study indicated medicine and pediatric subspecialties were

less opposed to retraining, it also concluded a majority of specialists contacted were not interested in retraining in order to provide primary care.

### Capacity

To determine capacity, two models were evaluated: 1) The Ambulatory Care Model (i.e. The Tidewater Model), and 2) MED-312 Model. It was originally proposed that a third model, used at Naval Medical Center San Diego, would be evaluated. Due to an inability to obtain complete data and the time constraints on completing this project, this model will not be considered.

The Tidewater Model, based on a study conducted at Naval Medical Center Portsmouth by a team under the direction of CAPT R. Otlowski, MSC, USN, was used in the development of their managed care plan (1995). This model provided an analysis of panel size per provider, support staff requirements, and readiness requirements (i.e. training, deployments, etc.). The second model is based on a study conducted at MED-312 by LCDR Terry Butler, MSC, USN. This model provided a comprehensive review for determining capacity through development of actual appointment templates for different provider types. It provides metrics on provider/patient ratios, outpatient visits per year, support staff data, and productivity data, which can be used for benchmarking (1996).

Although a very good reference source, The Tidewater Model has several features that make it suboptimal for our use. First, the Tidewater Model is based on a system dedicated to the delivery of primary care. The Primary Care Group at NHJ will be a unique PCM in that it will provide both primary and specialty care. As indicated previously, both the general internists and the OB/GYN providers at NHJ serve as a referral service for other departments at NHJ as well as for Branch Medical Clinics Jacksonville, Mayport and Cecil Field. Consequently, these providers must dedicate a portion of their schedules to specialty care where appointments are typically 40-60

minutes in duration. Second, the Tidewater Model does not account for any inpatient residency training services. As staff internists, pediatricians, OB/GYNs, and CNMs, these providers have inpatient responsibilities and residency training requirements that take them away from primary care. Third, this model addresses the primary care needs of active duty beneficiaries, which the PCG will not be involved with. In developing our model for capacity, the MED-312 Model was used as a benchmark. This model was very helpful to the neophyte business manager in developing appointment templates to help measure capacity, and provided excellent benchmarking data.

These two models use a slightly different technique for determining available provider time, capacity, and support staff requirements. However, as Dial points out, there are numerous methods and metrics used by civilian organizations to determine staffing needs and capacity. He indicates there are three commonly used methods for estimating staffing requirements: 1) planned enrollment growth, 2) appointment waiting time, and 3) number of OPVs. For group and staff-model HMOs, 59.3 percent use a specific member-PCM ratio to estimate staffing needs (Dial, 1995). Based on the MED-312 model, we were able to determine the number of OPVs by appointment type, which was considered crucial for us to project capacity for both primary and specialty care.

#### *Data analysis in Determining Capacity*

Utilization patterns of outpatient care varies among the beneficiaries using the MHS and civilian organizations. In a study conducted at RAND by Levy and Hylan (as cited in Butler) they determined that different beneficiary groups consumed varying amounts of health care. The average number OPVs range from 3.09 for active-duty members to 5.7 for beneficiaries over 65 (1996). In civilian HMOs, non-Medicare users experienced an average of 3.5 OPVs per year while those over 65 had an average of 7.8 physician encounters per year (Hoechst Marion Roussel, 1997). For group practices, both the Group Health Association of America and Hoechst Marion Roussel reported the

average number of physician encounters for non-Medicare members was 3.9, and 5.3 for Medicare members (1991; 1997). In their paper, *Evaluation of Primary Care Manager Capacity*, Wright et al. indicate FY93 Tidewater direct care use was 5.02 visits per beneficiary for both primary and specialty care (1994). This figure more closely represents what we expect since each element of the Group is also a specialty service. In its recently completed 1998 community needs assessment, NHJ calculated 5.2 OPVs per member for FY97 and 5.5 for FY96 (Strategic Management Department, 1998). This figure includes both active duty dependents, retirees, and dependents of retirees, and was the metric we used in calculating capacity.

Benchmark productivity for providers is summarized in Table 10. The data show internists experience the fewest encounters of all primary care providers which is one of the reasons for smaller panel sizes for the internists.

Table 10. 1993 Average AMA Workload

Specialty	Weeks/Yr	Visits/Hr	Patients/Week	Patients/Year
Gen Practice <sup>1</sup>	47	3.06	105	4,935
Internal Med	47	2.41	61.3	2,884
Pediatrics <sup>2</sup>	47	3.14	96.4	4,531
OB/GYN	47	3.16	88.4	4,155

Note. 1. Gen Practice includes family medicine and general medical officer. 2. Includes general pediatrics and adolescent medicine.

Source: Wright et al.. Reproduced with author's permission.

In their study, Conry et al. report that internists spent, on average, 25 percent more time with patients when conducting a general medical examination than did family practice (FP) physicians. Moreover, internists ordered more than twice as many radiographic examinations and almost 4 times as many electrocardiograms than did FPs (1991). Table 8 also shows that civilian providers work an average of 47 weeks per year. The two PCM

models evaluated for this study offered different numbers of weeks available for direct care. The Tidewater model calculates 39 weeks (195 days/5 days per week = 39) of available time, whereas the MED-312 "assumed" 45 weeks of available time (Otlowski 1996; Butler, 1996). As Butler indicated however, provider availability is a metric unique to each facility and must be calculated with each MTF's unique requirements in mind (1996). At NHJ, we calculated 40 weeks of direct care time for our military providers.

In general, managed care has resulted in increased outpatient utilization and reduced inpatient utilization (Ginzburg, 1997). However, this trend is not universal. While health maintenance organization (HMO) plans generally had lower hospital admissions rates, the data are inconclusive on physician office visits (Miller and Luft, 1994). They cite 14 observations from 10 studies where seven observations showed lower OPVs and an equal number showed higher use. Stearns, Wolfe, and Kindig conducted a study which shows that inpatient utilization decreases while outpatient utilization increases in a managed care environment. In their study, inpatient utilization for enrollees (n=1,444) with a mean age of 29.5 years decreased from 87.1 days/1000 members to 72.9 days/1000 members. At the same time, OPVs increased from 4.36 physician visits to 5.16 (1992). An analysis of premanaged care and post managed data indicate similar findings for NHJ. Both the Family Practice and Internal Medicine clinics experienced an increase in utilization, whereas Pediatrics utilization decreased. For the PCC and OB/GYN clinics however, their utilization remained relatively unchanged. It is unknown why utilization patterns are inconsistent across clinics. From FY95 to FY96 there was a 13 percent increase in total OPVs. From FY96 to FY97 there was a 2 percent decrease in the number of OPVs.

For projecting the impact of utilization, Table 11 shows how the model can be manipulated in what-if scenarios. For five OPVs, enrollment capacity is just over 10,000. In the last column of Table 11, the expected number of OPVs is reduced to four, which

results in an enrollment capacity of nearly 13,000. This model assumes capacity for OPVs remains unchanged and demonstrates the significance of controlling or reducing demand. By reducing OPVs by one, a 25 percent increase in capacity results. This calculation – while perhaps not exact - supports Kongstvedt's projection, which indicates the typical nurse triage/self help program returns \$2.40 to \$2.77 for every dollar invested in these programs (1996).

Table 11. Spreadsheet Model for Calculating Capacity

Outpatient Visits Per Year		5	4
Civilian Work Weeks/Year	47		
Military Work Weeks/Year	40		
	Providers	Appts/wk	Appts/Yr
Day Physicians	2.0	170	7990
Day NPs	2.9	247	11585.5
PA	0.5	42.5	1997.5
Evening Physicians	2.0	160	7520
Evening NPs	3.0	240	11280
Weekend NP	1	38	1976
Military Providers	4.0	216	8640
Duty MD		0	0
FTEs	14.4	1113	50989
ENROLLMENT CAPACITY		10198	12747

Note. Appendix A contains complete spreadsheet model.

To help regulate demand, a Telephone Nurse Triage System is presently being developed at NHJ. Johnson indicates having a demand management system in place such as a nurse triage or information line will help channel care to the most appropriate source - home/self care versus PCM intervention – and can significantly reduce the number of visits to a provider's office, thus potentially allowing for a larger panel size (1994). According to Inforum, more than 1 million calls per month are made to health information lines, and more than 7 percent of all households have used health information

lines within the past two years (as cited in Hospitals, 1991). In addition to using a nurse triage or advice line, Kongstvedt writes that many organizations are using self-care programs such as Vickery & Fries *Take Care of Yourself* (1996) handbook distributed by Humana to all enrolled beneficiaries in Regions 3 & 4 (1996).

### Staffing

In developing a model for staffing the Primary Care Group, a great deal of discussion revolved around the use of physician extenders, nurse practitioners and physician assistants. As managed care matures, increasing numbers of physician assistants and nurse practitioners capable of providing high quality care at a reduced cost will be employed (Hochran, 1997). Physician extenders are used in 86 percent of closed panel HMOs and 48 percent of open panel plans (Kongstvedt, 1996). In the South Atlantic market - the Jacksonville, Florida area - the cost of employing a nurse practitioner (NP) is approximately two thirds that of a generalist physician (GP). The average salary for an NP or PA is approximately \$75,000, whereas the GP costs an average of \$122,000 (Fiscal, 1997; AMA, 1997). A study of group-staff HMOs conducted by Rentmeester (as cited in Altman & Reinhardt) found that one NP can increase a physician's panel size by 30-50 percent (1996). Moreover, these providers are considered to be equally productive, prescribe similarly to physicians, and are satisfactory to members (Hooker, as cited in Altman & Reinhardt, 1996). This consideration of cost was important because one of the reasons for disestablishing the PCC was to achieve some cost savings without compromising the quality of care. In addition to being less expensive, FNPs and PAs offer a wide variety of skills that allow them to deliver primary care in the areas of women's health, pediatrics, and adult medicine. Although family practice physicians were considered, the market survey conducted by NHJ's Fiscal Department indicated that family practice providers would not only be more costly, but difficult to recruit due to scarcity. Finally, experience with staff FNPs and PAs at NHJ

lead us to believe this group of midlevel providers is highly capable of delivering quality health care.

When evaluating the capabilities of FNPs and PAs, a clear distinction was made concerning administrative burden. Nurse practitioners are licensed to practice independent of a physician and therefore are not required to have medical records countersigned by a physician. However, BUMED instruction mandates that every PA must have a physician appointed as a primary supervisor. For those patients treated by PAs, the physician supervisor must conduct random record reviews and countersign all records screened (1997). The general internists will constitute the bulk of primary care physicians for adults in the PCG. Because the PAs hired would work in the adult clinic, the general internists would be responsible for supervising the PAs. The administrative burden of reviewing and cosigning PA records, in addition to the responsibilities as specialists, was considered to be too time and labor intensive. Consequently, the decision was made to use mostly nurse practitioners. Although PAs add a degree of administrative oversight, they are considered one of the more productive provider types, and allow physicians to focus on more complicated illnesses (Butler, 1996; Steinwachs, et al., 1986). And, with the closure of the PCC, NHJ has a ready pool of qualified and trained PAs. Consequently, one PA will be hired to to augment the provider staff in the acute care clinic.

Although these midlevel providers are less expensive and allow for increased capacity, not all providers or plans employ them. The number of midlevel providers per 100,000 members varies greatly. Weiner, in analyzing data from 16 states, found the average number of midlevel providers to be 23. However, the overall number ranged from zero to 67 (1994). Goodman, et al. compared the national average of midlevel providers to a large benchmark HMO, which had 12.1 midlevel providers per 100,000, and found 19.6 midlevel providers per 100,000 for the United States (1996). In the area of practice, Weiner writes that approximately 60 percent of all NPs and PAs are

practicing in either Internal Medicine, Family Practice, or Pediatric settings, and that a large percentage of ambulatory OB/GYN care is provided by physician extenders, which includes CNMs (1994).

### Contract Personnel

To obtain the services of contract providers and support personnel, NHJ worked with four different sources: the Naval Medical Logistics Command (NAVMEDLOGCOM), the Fleet Industrial and Supply Center (FISC), the Government Services Administration (GSA), and Humana Military Health Systems (HMHS).

For personal services contracts exceeding \$100,000 Navy MTFs are required to use the services of a major contracting agent (FISC, 1996). NAVMEDLOGCOM is the preferred source contracting with providers because of their extensive experience in recruiting and screening applicants. However, for less complicated or less expensive contracting services - such as clerks or medical assistants - either the FISC or GSA can be used. NHJ used all four of these contracting agents to staff the PCG.

We first identified our personnel requirements then prepared a statement of work (SOW), which lists the minimum qualifications needed to perform the job (i.e. board certified pediatrician with three years experience). Also identified in the SOWs were the job descriptions, hours to be worked, and general conditions of employment. Once the requirements were determined, the NAVMEDLOGCOM advertised the positions in local and national newspapers and journals. Applicants that responded to the advertisement were sent an application package that was completed and returned to NAVMEDLOGCOM for evaluation. Returned applications were forwarded to NHJ and reviewed by a panel that included physicians, nurses and an administrator. Based solely on the package submitted, individuals were be evaluated and ranked for selection. Although individuals can be interviewed, local policy requires NHJ to interview all applicants if it interviews one (Smith, 1998). This expense is borne by the hiring MTF

and can become quite costly if multiple candidates are applying for one or two positions. For this reason, NHJ selected candidates solely on the packages submitted. This same process was used for hiring clerks and medical assistants. For providers, however, Humana was contracted with under a resource sharing arrangement.

As Region 3's Managed Care Support Contractor, HMHS is in a position to support NHJ in either a resource sharing or resource support capacity. As an agency, Humana is responsible for recruitment and selection of applicants. Much like with the FISC or NAVMEDLOGCOM, a SOW is provided which details our requirements and working conditions.

#### Support Staff

Historically, military medicine has fallen short of providing adequate support staff for providers, both clinical and administrative. In the development of the PCG model, considerable emphasis was placed on ensuring adequate personnel were available. Both the Med-312 and Tidewater model indicate that approximately 2 to 2.5 support staff members are required for each provider (Butler, 1996; Otlowski, 1996). The Management Group Medical Association indicates, on average, 4.02 FTE support staff are used in civilian primary care practices (Denning, 1996). In calculating support staff FTEs, each provider was assigned a dedicated medical assistant or hospital corpsman. We anticipate this "team" approach will increase productivity for the provider as the assistant becomes more familiar with the provider's practice patterns.

Even though we carefully calculated support personnel, the provider-to-support staff ratio was still below that of the MGMA, but is consistent with the MED-312 and Tidewater models. The difference in our figures may result from not accounting for all support personnel. In the civilian sector, functions such as billing and collections are accounted for in their support staff analysis. However, when most MTF managers calculate their support staff FTEs they do not consider the personnel working in finance collecting data or working in third party collections (TPC) collecting money. While most

would agree we have historically been understaffed in clinical support personnel, administratively this may not be true due to inaccurately counting these FTEs.

For the majority of support staff, an agency contract was sought. Under this arrangement, the government contracts with an agency – such as Humana - who is responsible for recruiting, evaluating, discharging and replacing employees. These individuals do not work for the government, they are employees of the contracting agent who works for the government. For each of these contracting agencies, the process of identifying skills needed and outlining the job description is the same.

A portion of our clinical support staff was obtained through the FISC. A partial hiring was accomplished because of a shortage of hospital corpsman in Internal Medicine. Additionally, we did not want all newly hired medical assistants and clerks to begin work within a narrow timeframe. To help spread the training requirements, and to have additional help sooner rather than later, a portion of support personnel was obtained early. For the remainder of support personnel, Humana met all requirements.

#### Coordination of Intra-Group Care

A significant benefit from group practice formation is the ability to better coordinate patient care. Fein et al. indicate that primary care group practices are “a way to increase access, continuity, and coordination of care while promoting accountability, productivity, and efficiency” (1987, p. 11). The present system of patient referral between PCMs at NHJ requires a provider to complete either an electronic or “hard copy” standard form 513 (SF-513) for consultation purposes - standard practice at most MTFs. The SF-513 is then routed to Consult Control where its receipt is “logged” and a clerk makes an appointment with the appropriate specialty clinic. The clerk must then notify the patient of the appointment date and time via phone or mail. This process can take several days or weeks to complete, involves computer input by several individuals - provider, consult clerk, and appointment clerk - and requires the customer (i.e. the

patient) to leave the hospital with no idea of when his or her appointment will be. Not infrequently, patients, because they have not been contacted within a week or so, will telephone the hospital's central appointment line to find out if their specialty appointment has been scheduled. This causes the patient to wait in the telephone appointment queue - if they get through at all - only to hear their appointment has not yet been scheduled.

Establishing a seamless form of care where a beneficiary can see their PCM or relevant specialist as needed will enhance both the technical and nontechnical quality of care. Although beneficiaries are not experts in the technical process of health care delivery, they do understand when the nontechnical processes, such as getting appointments, are efficient (Roark and Tucker, 1997). Eliminating the need to prepare a consult will save time for providers and support personnel, and will delight the beneficiary who can make an appointment directly with a specialty service or leave the hospital with their specialty appointment if needed. This will result in better use of hospital resources by eliminating duplication of data entry.

## Chapter 5

**SUMMARY**

The Primary Care Group (PCG) will be a hospital based multispecialty group practice consisting of Internal Medicine, Pediatrics, and Women's Health/ OB/GYN services. NHJ will staff the PCG to meet the demands of those beneficiaries currently enrolled to the PCC and Internal Medicine, as well as provide increased capacity for future enrollment and space "A" beneficiaries.

To accomplish this task, providers and support personnel of each division of the Group will change their current business practices. A more cooperative arrangement has been developed to ensure our beneficiaries receive high quality care and our providers are able to practice effective primary care. Moreover, a paradigm shift must occur for those providers who are not involved in the delivery of primary care. Although OB/GYN physicians in the civilian sector are very much involved in primary care, ours are not. This untapped capacity will undoubtedly have to be exploited in the future when enrollment based capitation becomes a reality and beneficiaries who want to use the MTF but are unable due to limited access.

By establishing the PCG, Naval Hospital Jacksonville is moving in the direction that appears to be the wave of the future. Unland refers to multispecialty group practices as a "powerful market force in providing a wide range of vertically integrated medical services" (1996, p. 72). Although we have a solid model for determining capacity and staffing, and evaluating demand, the benchmark data indicates we can still achieve additional efficiencies and increase productivity. However, as indicated by the numerous conversations with managed care experts, the last thing a PCM should do is overextend itself, and we have intentionally taken this conservative approach to avoid such a scenario.

## Appendix A

### Definition of Terms

ACOG	Americal College of Gynecologists
BUMED	Bureau of Medicine and Surgery
BUMEDINST	Bureau of Medicine and Surgery Instruction
CEIS	Corporate Executive Information System
CGS	Coastal Government Services
CHCS	Composite Health Care System
CNM	Certified Nurse Midwife
COGME	Council on Graduate Medical Education
DoD	Department of Defense
EBC	Enrollment Based Capitation
F(NP)	Family Nurse Practitioner
FISC	Fleet Industrial Supply Center
FP	Family Practice
FTE	Full Time Equivelant
FY	Fiscal Year
GPWW	Group Practice Without Walls
GSA	General Services Administration
HMHS	Humana Military Health System
HMO	Health Maintenance Organization
IMC	Internal Medicine Clinic
IPA	Independent Practice Association
LPO	Leading Petty Officer
MA	Medical Assistant
MGMA	Medical Group Management Association
MSO	Management Service Organization
MTF	Military Treatment Facility
NAVMEDLOGCOM	Naval Medical Logistics Command
NHJ	Naval Hospital Jacksonville
OB/GYN	Obstetrician/Gynecologist
OPV	Outpatient Visit
OSD(HA)	Office of the Assistant Secretary of Defense, Health Affairs
PA	Physician Assistant
PCC	Primary Care Clinic
PCG	Primary Care Group
PCM	Primary Care Manager
PHO	Physician Hospital Organization
POS	Point of Service
PPO	Preferred Provider Organization
RAPS	Resource Analysis Planning System
SF-513	Standard Form 513

SOW	Statement of Work
Space "A"	Space available
TPC	Third Party Collections
WHNP	Women's Health Nurse Practitioner
WORS	Worldwide Outpatient Reporting System

**Appendix B**  
**Spreadsheet Model**

STAFFING AND CAPACITY

Panel Size, Cost Estimates, and Preliminary Capacity Calculations for Contract and Hospital Staff

# Contract Personnel

Physician Providers		Nursing Support	
Number	3.00	Number	2.00
Cost per	\$ 180,000	Cost per	\$ 40,000
Total	\$ 540,000	Total	\$ 80,000
Enrollees per	1,000		
Total enrollees	3,000		
<b>Nurse Practitioners/PA</b>		<b>Support Staff</b>	
(6 NPs, 3 PAs)		MAS	
Number	6.00	Number	16.00
Cost per	\$ 85,000	Cost per	\$ 28,000
Total	\$ 510,000	Total	\$ 448,000
Enrollees per	750		
Total enrollees	4,500	Clerks	
<b>Adolescent Spec/Pediatrician</b>		Number	5.00
Number	1.00	Cost per	\$ 20,000
Cost per	\$ 180,000	Total	\$ 100,000
Total	\$ 180,000		
Enrollees per	2,000		
Total enrollees	2,000		

Total Cost	\$ 1,778,000
Est. Total Enrollees	9500

# Hospital Staff

Internal Medicine	Number		Cost per		Support Staff	
	Enrollees per	Total	Enrollee	Total	HM/s	Clerks
	500	4.50	\$ -	\$ -	12.00	-
Total enrollees	2,250					

OB/WHNP	Number		Cost per	
	Enrollees per	Total	Enrollee	Total
	50		\$ -	\$ -
Total enrollees				

Nursing	Number		Cost per	
	Military	Civilian	Enrollee	Total
	3	2	\$ 1,000	\$ 5,000
Total				

Total Enrollees	2250
Grand Total Enrollees	11750
Earnings Under EBC	\$ 11,750,000
Reim Rate	\$ 1,000

**STAFFING AND CAPACITY**

**CAPACITY CALCULATIONS**

Appointments Per Provider	Per Week	Per year	Panel Size Per Provider
Adolescent Provider	110	5170	1034
Day Clinic Appts	85	3995	799
Evening Clinic Appts	85	3995	799
Weekend Clinic Appts	46	2162	-
Military Provider Appts	54	2160	432
Duty M.D.	12	480	-

Outpatient Visits Per Year	5
Civilian Work Weeks/Year	47
Military Work Weeks/Year (FTE)	40

Providers	Apts/wk	Apts/Yr
Adolescent Provider	110	5170
Day Physicians	85	3995
Day NPs	247	11585.5
PA	42.5	1997.5
Evening Physicians	170	7990
Evening NPs	255	11985
Weekend NP	46	2392
Military Providers	216	8640
Duty MD	0	0
<b>13.4</b>	<b>1061</b>	<b>53755</b>

ENROLLMENT CAPACITY	10751
---------------------	-------

**STAFFING AND CAPACITY**

**SUPPORT PERSONNEL FTE REQUIREMENTS**

	Day Shift	Evening Shift	Weekend Clinic	FTEs Req
Nursing	2	2	0.4	4.4
	Total Nurses =			4.4
Front Desk Clerk	4	2	0.4	6.4
Appointment Clerk	1	0	0	1
ADS/Transcription Clerk	1	0	0	1
	Total Clerks =			8.4
MAs	10	5	1	16
	Total MAs =			16

**APPOINTMENT TYPE AND NUMBER**

	SDA	Total	FU	NEW	Total	CONS	Total
Day NP	5	15	7	5	15		
Day MD	5	5	7	3	3		
Evening PA	6	3	6	7	9		
Eve NP	6	18	6	3	6		
Evening MD	6	12	6	3	6		
TOTAL APPTS M-F (Civilians)	46	53	64		33		
Weekend Clinic		46			163		
	Per week	309			650		
	Per Month	1234					
Mil MD	3	11	4	2	7	3	11
Duty Internist	12	12			7		11
TOTAL APPTS/Day		23			31.50		47.25
	Per Week	101.25			126.00		189.00
	Per Month	405.00					

TOTAL CIV APPTS/DAY	149
TOTAL CIV APPTS/WK	847
TOTAL CIV APPTS/MO	3413
TOTAL CIV APPTS/YR	39786

TOTAL MIL APPTS/DAY	54
TOTAL MIL APPTS/WK	243
TOTAL APPTS/MO	972
TOTAL MIL APPTS/YR	9720

TOTAL MIL&CIV APPTS/DAY	203
TOTAL MIL&CIV APPTS/WK	1090
TOTAL MIL&CIV APPTS/MO	4385
TOTAL MIL&CIV APPTS/YR	49506

**STAFFING AND CAPACITY**

**APPOINTMENT TEMPLATES  
MILITARY GENERAL INTERNISTS**

Appt Type	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Cons	900	900	900	900	900
New	940	940	940	940	940
FU	1020	1020	1020	1020	1020
Rou	1040	1040	1040	1040	1040
			ADMIN		
FU	1120	1120	1120	1120	1120
Rou	1140	1140	1140	1140	1140
			LUNCH		
New	1300	1300	1300	Admin	1300
Cons	1340	1340	1340	Time	1340
Cons	1420	1420	1420		1420
			ADMIN		
SDA	1520	1520	1520		1520
SDA	1540	1540	1540		1540
SDA	1600	1600	1600		1600
<b>Total/Week</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>6</b>	<b>12</b>

54

**Appointment Type Legend**

- SDA = Same Day Acute
  - New = New Patient
  - FU = Follow-up
  - Cons = Specialty Consult
  - Rou = Routine
  - Weil = Well Baby Check-up
  - Comp = Comprehensive Exam
  - WW = Well Women
  - WSDA = Women's Same Day Acute
- Note 1: Admin time is used to allow providers to return telephone calls from patients and complete paper work  
 Note 2: ACC = Acute Care Clinic

**STAFFING AND CAPACITY**

**APPOINTMENT TEMPLATES  
MILITARY PEDIATRIC PROVIDERS**

Appt Type	PEDIATRICIAN					PEDIATRIC NURSE PRACTITIONER				
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SDA	800	800	800	800	800	800	800	800	800	800
SDA	815	815	815	815	815	820	820	820	820	820
SDA	830	830	830	830	830	840	840	840	840	840
SDA	845	845	845	845	845	900	900	900	900	900
SDA	900	900	900	900	900	920	920	920	920	920
SDA	915	915	915	915	915	940	940	940	940	940
FU	930	930	930	930	930	ADMIN	ADMIN	ADMIN	ADMIN	ADMIN
FU	945	945	945	945	945	1020	1020	1020	1020	1020
FU	1000	1000	1000	1000	1000	1040	1040	1040	1040	1040
FU	1015	1015	1015	1015	1015	1100	1100	1100	1100	1100
			ADMIN			1120	1120	1120	1120	1120
FU	1045	1045	1045	1045	1045	1140	1140	1140	1140	1140
Comp	1100	1100	1100	1100	1100	1200	1200	1200	1200	1200
Comp	1130	1130	1130	1130	1130	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
	1200	1200	1200	1200	1200	1300	1300	1300	1300	1300
Rou	1300	1300	1300	1300	1300	1320	1320	1320	1320	1320
Rou	1315	1315	1315	1315	1315	1340	1340	1340	1340	1340
Well	1330	1330	1330	1330	1330	1400	1400	1400	1400	1400
Well	1345	1345	1345	1345	1345	ADMIN	ADMIN	ADMIN	ADMIN	ADMIN
Comp	1400	1400	1400	1400	1400	1440	1440	1440	1440	1440
Well	1430	1430	1430	1430	1430	1500	1500	1500	1500	1500
			ADMIN			1520	1520	1520	1520	1520
Well	1500	1500	1500	1500	1500	1540	1540	1540	1540	1540
Well	1515	1515	1515	1515	1515	1600	1600	1600	1600	1600
Well	1545	1545	1545	1545	1545	21	21	21	21	21
Well	1600	1600	1600	1600	1600	Total/Week	Total/Week	Total/Week	Total/Week	Total/Week
	24	24	24	24	24	21	21	21	21	21
				14	24	12	12	12	12	21
<b>Total/Week</b>										<b>96</b>

Note 1: All appointments for adolescent & pediatric physician are 15 minutes. Appointments requiring additional time are merged.  
 Note 2: All pediatric nurse practitioner appointments are 20 minutes.  
 Note 3: Admin time used to return telephone calls and complete paperwork

STAFFING AND CAPACITY

APPOINTMENT TEMPLATES  
RESOURCE SHARING NURSE PRACTITIONERS

Appt Type	DAY SHIFT					AFTERNOON/EVENING SHIFT				
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SDA	800	800	800	800	800	SDA	1130	1130	1130	1130
SDA	820	820	820	820	820	SDA	1150	1150	1150	1150
Rou	840	840	840	840	840	Rou	1210	1210	1210	1210
Rou	900	900	900	900	900	FU	1230	1230	1230	1230
FU	920	920	920	920	920	FU	1250	1250	1250	1250
			Admin				Admin			
New	1000	1000	1000	1000	1000	Rou	1330	1330	1330	1330
New	1040	1040	1040	1040	1040	SDA	1350	1350	1350	1350
New	1120	1120	1120	1120	1120	Rou	1410	1410	1410	1410
1200			Lunch			New	1450	1450	1450	1450
New	1230	1230	1230	1230	1230	SDA	1530	1530	1530	1530
New	1310	1310	1310	1310	1310	1600				
Rou	1350	1350	1350	1350	1350	New	1630	1630	1630	1630
FU	1410	1410	1410	1410	1410	New	1710	1710	1710	1710
FU	1430	1430	1430	1430	1430	FU	1750	1750	1750	1750
			Admin			FU	1810	1810	1810	1810
SDA	1510	1510	1510	1510	1510		Admin			
SDA	1530	1530	1530	1530	1530	FU	1850	1850	1850	1850
FU	1550	1550	1550	1550	1550	FU	1910	1910	1910	1910
FU	1610	1610	1610	1610	1610	SDA	1930	1930	1930	1930
TOTAL/Week	17	17	17	17	17	17	17	17	17	17
						TOTAL/Week				85

**STAFFING AND CAPACITY**

**RESOURCE SHARING ADOLESCENT PROVIDER**

Appt Type	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SDA	800	800	800	800	800
SDA	815	815	815	815	815
SDA	830	830	830	830	830
SDA	845	845	845	845	845
SDA	900	900	900	900	900
SDA	915	915	915	915	915
FU	930	930	930	930	930
FU	945	945	945	945	945
FU	1000	1000	1000	1000	1000
FU	1015	1015	1015	1015	1015
			<b>ADMIN</b>		
FU	1045	1045	1045	1045	1045
Comp	1100	1100	1100	1100	1100
Comp	1130	1130	1130	1130	1130
	1200	1200	1200	1200	1200
			<b>LUNCH</b>		
Rou	1300	1300	1300	1300	1300
Rou	1315	1315	1315	1315	1315
Well	1330	1330	1330	1330	1330
Well	1345	1345	1345	1345	1345
Comp	1400	1400	1400	1400	1400
Well	1430	1430	1430	1430	1430
			<b>ADMIN</b>		
Well	1500	1500	1500	1500	1500
Well	1515	1515	1515	1515	1515
Well	1545	1545	1545	1545	1545
Well	1600	1600	1600	1600	1600
<b>Total/Week</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>
					<b>120</b>

**WOMEN'S HEALTH PROVIDER**

Appt Type	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
WW	730	730	730	730
WSDA	800	800	800	800
WW	820	820	820	820
WSDA	850	850	850	850
WW	910	910	910	910
WSDA	940	940	940	940
WW	1000	1000	1000	1000
WSDA	1030	1030	1030	1030
WW	1050	1050	1050	1050
WSDA	1120	1120	1120	1120
WSDA	1140	1140	1140	1140
			<b>Lunch</b>	
WSDA	1300	1300	1300	1300
WW	1330	1330	1330	1330
WSDA	1350	1350	1350	1350
WW	1420	1420	1420	1420
WSDA	1440	1440	1440	1440
WW	1510	1510	1510	1510
WSDA	1540	1540	1540	1540
WW	1600	1600	1600	1600
WSDA	1630	1630	1630	1630
WW	1650	1650	1650	1650
WSDA	1720	1720	1720	1720
WSDA	1740	1740	1740	1740
<b>Total/Week</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>
				<b>92</b>

Note: WHNP will work 10 hours/day, 4 days/week

**STAFFING AND CAPACITY**

**RESOURCE SHARING ACUTE CARE CLINIC PHYSICIAN**

Appt Type	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SDA	1130	1130	1130	1130	1130
SDA	1150	1150	1150	1150	1150
SDA	1210	1210	1210	1210	1210
SDA	1230	1230	1230	1230	1230
SDA	1250	1250	1250	1250	1250
SDA	1310	1310	1310	1310	1310
SDA	1330	1330	1330	1330	1330
SDA	1350	1350	1350	1350	1350
SDA			<b>Admin</b>		
SDA	1430	1430	1430	1430	1430
SDA	1450	1450	1450	1450	1450
SDA	1510	1510	1510	1510	1510
SDA	1530	1530	1530	1530	1530
SDA	1550	1550	1550	1550	1550
SDA	1610	1610	1610	1610	1610
SDA	1630	1630	1630	1630	1630
			<b>Dinner</b>		
SDA	1720	1720	1720	1720	1720
SDA	1740	1740	1740	1740	1740
SDA	1800	1800	1800	1800	1800
SDA	1820	1820	1820	1820	1820
SDA	1910	1910	1910	1910	1910
SDA	1930	1930	1930	1930	1930
<b>Total/Week (M-F)</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>
					<b>105</b>

Note 1: ACC physician will cover weekend clinic on a rotational basis.

**WEEKEND ACC  
RESOURCE SHARING PROVIDER**

Appt Type	SATURDAY	SUNDAY
SDA	1100	1100
SDA	1120	1120
SDA	1140	1140
SDA	1200	1200
SDA	1220	1220
SDA	<b>Admin</b>	<b>Admin</b>
SDA	1300	1300
SDA	1320	1320
SDA	1340	1340
SDA	1400	1400
	<b>Lunch</b>	<b>Lunch</b>
SDA	1500	1500
SDA	1520	1520
SDA	1540	1540
SDA	1600	1600
SDA	1620	1620
SDA	1640	1640
SDA	1700	1700
SDA	1720	1720
	<b>Admin</b>	<b>Admin</b>
SDA	1800	1800
SDA	1820	1820
SDA	1840	1840
SDA	1900	1900
SDA	1920	1920
SDA	1940	1940
<b>TOTAL</b>	<b>23</b>	<b>23</b>
		<b>46</b>

STAFFING AND CAPACITY

RESOURCE SHARING GENERAL INTERNIST

Appt Type	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Cons	900	900	900	900	900
New	940	940	940	940	940
FU	1020	1020	1020	1020	1020
FU	1040	1040	1040	1040	1040
			ADMIN		
FU	1120	1120	1120	1120	1120
FU	1140	1140	1140	1140	1140
			LUNCH		
New	1300	1300	1300	1300	1300
Cons	1340	1340	1340	1340	1340
Cons	1420	1420	1420	1420	1420
			ADMIN		
SDA	1520	1520	1520	1520	1520
SDA	1540	1540	1540	1540	1540
SDA	1600	1600	1600	1600	1600
<b>Total/Week</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>

60

## References

- Altman, S. H. and Reinhardt, U. E. (Eds.). (1996). Strategic Choices for a Changing Health Care System. Health Administration Press: Chicago.
- Aluia, J. J. (1995). Creating a Group Practice? Strategic Planning can Prevent Future Problems. Michigan Medicine, 95 (11), 26-28.
- Socioeconomic Characteristics of Medical Practices (1996). American Medical Association, Spring Survey, 99-100.
- Bed Capacity and Beds (1989). Bureau of Medicine and Surgery (BUMED-32) Instruction 6321.3.
- Berkowitz, E. N. (1996). Essentials of Health Care Marketing. Gaithersburg, MD: Aspen.
- Butler, T. L. (1996). Primary Care Group Practice and Computing MTF Enrollment Capacity. Hospital and Clinics Operations. Washington, DC. Bureau of Medicine and Surgery.
- Clinical Privileges for Allied Health Specialists (1997). Bureau of Medicine and Surgery Instruction 6320.66B.
- Conroy, C. M., Wilson, D. P., Main, D. S. (1991). Practice Style Differences Between Family Practice Physicians and Internists. Journal of the American Board of Family Practice Physicians, 4, (6), 399-406.
- Denning, J. J. (1996). Is Your Practice Overstaffed? Managed Care [On-line]. Available: [www.managedcaremag.com/archivemc/9606/mc9606.overstaff.shtml](http://www.managedcaremag.com/archivemc/9606/mc9606.overstaff.shtml).
- Dial, T. H., Palsbo, S. E., Bergsten, C., Gabel, J. R., Weiner, J. (1995). Data Watch. Health Affairs, 14, (2), 168-180.
- Enrollment Based Capitation (1997). [Powerpoint Presentation]. [On-line]. Available: [www.ha.osd.mil/ebc/default.html](http://www.ha.osd.mil/ebc/default.html)

Etienne, H. B. and Langenberg, S. L. (1996). The Reengineering of Naval Hospital Charleston. Military Medicine, 161 (12), 726-727.

Fein, O.T., Hoffman, S., Goldman, F., Greene, M., Lieb, E. (1987). Hospital Based Group Practice: Does It Change Clinic Patterns of Care? Journal of Internal Medicine, 2 (1), 11-19.

Fleet Industrial Supply Center (1996). Use of Simplified Acquisition Procedures up to \$100,000 (Ser:033b/0014). Norfolk, VA.

Frigoletto, F. D. (1996). Primary Care for Women. American College of Gynecology Women's Health Column [On-line]. Available: [http://www.acog.com/from\\_home/wohealth.htm](http://www.acog.com/from_home/wohealth.htm).

Fromberg, R. (1997). Measuring Up Under Managed Care. Healthcare Executive, 12, (7), 6-11.

Funk, D. (1997). No Room At The Clinic. Navy Times, 29 Sep 97.

Funk, D. (1997). Retirees Regain Army Clinic Access. Navy Times, 13 Oct 97.

Funk, D. (1997). TRICARE Changes to Benefit Patients. Navy Times, 96 Apr 9.

Ginzberg, E. (1997). Managed Care and the Competitive Market in Health Care. Journal of the American Medical Association, 277, (22), 1812-1813.

Goodman, D. C., Fisher, E. S., Bubolz, T. A., Mohr, J. E., Poage, J. F., Wennberg, J. E. (1997). Benchmarking the U.S. Physician Workforce. An Alternative to Needs-based or Demand-Based Planning. Journal of the American Medical Association, 277, (12), 1811-1817.

Gross, L. G. (1997). [TRICARE Prime Enrollment]. Personal Communication

Guyer, F. (1998). Personal Communication.

Guyer, F., Degroot, S. (1998). Personal Communication.

Hochron, S. M. (1997). Creating a New Group Practice: Prescription for Success. New Jersey Medicine 94 (3), 47-49.

- Hoechst Marion Roussel (1997). Managed Care Digest Series. (Volume 1).  
Kansas City, MO.
- Informed Access Systems, Inc. (1994, August). Patient Triage in Medicine: Overview of Clinical Quality and Effectiveness from Published Research. Boulder, CO:  
Johnson, D. A.
- Institute of Medicine (1994). Defining Primary Care [On-line]. Available:  
www.nas.edu
- Ivancevich, J. M. and Matteson, M. T. (1996). Organizational Behavior and Management. (4th ed.). Chicago: Irwin.
- Jacoby, I, Gary, N. E., Meyer, G. S., McCardle, P., Aurand, J., Chamberlin, J.,  
Potter, A. L. (1997). Retraining Physicians for Primary Care. Journal of the American Medical Association, 277, (19), 1560-1573.
- Kongstvedt, P. R. (1996). The Managed Health Care Handbook. (3<sup>rd</sup> ed.)  
Gaithersburg, MD: Aspen.
- Kovner, A. R. (1995). Jonas's Health Care Delivery in the United States. (5<sup>th</sup>  
ed.). New York: Springer.
- Maze, R. (1997). Debate on Whom to Treat Ends: Families Win. Navy Times.  
Mar 16, 1998, 10.
- Maze, R. (1997). Pentagon is Warned to Take Better Care of Older Retirees.  
Navy Times. Mar 16, 1998, 10.
- MCarty, J. (1997). Personal Communication.
- Miller, R. H., Luft, H. S. (1994). Managed Care Plan Performance Since 1980. A  
Literature Analysis. Journal of the American Medical Association, 271, (19), 1512-1519.
- Montgomery, J. C. (1997). Personal Communication.
- Montgomery, J. C., M.D., Yates, S., M.D., Guyer, F., M. D. (1997). Personal  
Communication.

Naval Hospital Jacksonville, FL (1997). [Worldwide Outpatient Reporting System]. Unpublished raw data.

Naval Hospital Jacksonville, FL (1998). [Strategic Management Department Environmental Assessment]. Unpublished raw data.

Naval Hospital, Jacksonville, FL (1997). [Managed Care Department Report on Active Duty Dependents and Non Active Duty Dependent Enrollment]. Unpublished raw data.

Naval Hospital, Jacksonville, FL (1997). [Managed Care Department Report on Active Duty Enrollment]. Unpublished raw data.

Naval Hospital, Jacksonville, FL (1997). [Managed Care Resource Analysis & Planning System Demographic Summary]. Unpublished raw data.

Naval Hospital, Jacksonville, FL (1997). [Fiscal Department]. Unpublished raw data.

Otlowski, R. A. (1996). Ambulatory Care Model. Norfolk, VA: Naval Medical Center Portsmouth.

Pritzker, J. (1997). Obstetrician/Gynecologist as Primary Care Physician in Managed health Care. Clinical Obstetrics and Gynecology, 40 (2), 402-413.

Roark, G. A., Tucker, S. L. (1997). Marketing: Applications in a military Health Care Setting. Military Medicine, 162, (8), 543-547.

Scroggins, R. E. (1996). How the Little things Can Kill a Practice Merger. Managed Care [On-line]. Available:

[www.managedcaremag.com/archivemc/9601/mc9601.athlete.shtml](http://www.managedcaremag.com/archivemc/9601/mc9601.athlete.shtml).

Steinwachs, D. M., Weiner, J. P., Shapiro, S., Batalden, P., Coltin, K., Wasserman, F. A. (1986). Comparison of the Requirements for Primary Care Physicians in HMOs With Projections Made by the GMENAC. The New England Journal of Medicine, 311, (4), 217-222.

Schmidt, G. (1997). [TRICARE Prime Enrollment]. Personal Communication.

- Smith, C. R. (1998). [TRICARE Prime Enrollment]. Personal Communication.  
Personal Communication.
- Smith, S. (1997). [TRICARE Prime Enrollment]. Personal Communication.
- Taylor, R. B. (1998). [TRICARE Prime Enrollment]. Head, Managed Care Department, Naval Hospital Jacksonville, FL. Personal communication.
- Telephone Health Information Services are Popular (1991). Hospitals, 65, (6), 14.
- The Assistant Secretary of Defense, Health Affairs. (1996). Policy for After Hours Care for TRICARE Prime Enrollees. Washington, DC: Stephen C. Joseph, M.D., M.P.H.
- The Assistant Secretary of Defense, Health Affairs. (1997). Policy for TRICARE Specialty Care Standards and Authorizations. Washington, DC: Edward D. Martin, M.D.
- The Assistant Secretary of Defense, Health Affairs. (1997). Policy Memorandum to Refine Policy for Priority Use of Medical Treatment Facilities by TRICARE Prime Enrollees. Washington, DC: Stephen C. Joseph, M.D., M.P.H.
- Unland, J. J. (1996). Medical Group Practice Formation. Journal of Health Care Finance, 23 (2), 57-82.
- Vickery, D. M., Fries, J. F. (1996). Take Care of Yourself (6<sup>th</sup> ed.). New York: Addison-Wesley.
- Villaneuva, A. M., White, B. G., Donohue, G. D. (1995). A Quarter Century of Experience with Career Change Education: An Option for Turning Specialists into Generalists. Academic Medicine, 70 (1), S110-S116.
- Weiner, J. P. (1994). Forecasting the Effects of Health Reform on U.S. Physician Workforce Requirement; Evidence From HMO Staffing Patterns. Journal of the American Medical Association, 272, (3), 222-230.
- Wright, R. E., Kunkel, A., Donebo, J., Uhlbricht, S., Bannow, S., Sanderson, P. (1995). Regional Health Services Operations. Primary Care Manager Guidance.