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A STUDY OF THE FACTORS THAT IMPACT FEMALE MILITARY BENEFICIARIES OBTAINING PREVENTIVE HEALTH SERVICES

by

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M.S.M June 1993, Troy State University
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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirement for the Degree of

DOCTOR OF PHILOSOPHY

URBAN SERVICES

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ABSTRACT

A STUDY OF THE FACTORS THAT IMPACT FEMALE MILITARY BENEFICIARIES OBTAINING PREVENTIVE HEALTH SERVICES

Cynthia Andrea Chargois
Old Dominion University, 2001
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The purpose of this study was to determine what factors predict whether female military retirees or the female beneficiary of a military retiree, ages 40 to 64, will obtain preventive health services, specifically, Pap smears, mammograms, and clinical breast examinations. Based on the findings of the study, it is suggested that it may be important for the Department of Defense to broaden their scope of interest to include those areas that are most prominent in affecting female military retirees or the female beneficiary of a military retiree, particularly those 40 to 64, in obtaining preventive health services.

The study comprised of 8252 female, military health system beneficiaries who were retired or the female beneficiary of a retiree, 40 to 64 years of age. The 1998 Health Care Survey of Department of Defense Beneficiaries was the instrument used for this study. The theoretical framework was an adaptation of Aday and Andersen's (1975), Aday, Fleming and Andersen's (1984) and Aday et al's (1998) models known as the framework for the study of access to medical care and the framework for classifying topics and issues in health services research.

Multiple regression analyses were conducted on twenty-seven hypotheses. The results from the analyses of the individual components of the model proved that women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval will obtain the three preventive health services.

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Further, being enrolled in TRICARE significantly impacted the women's ability to obtain a Pap smear and a mammogram. Age, race, and the retiree's rank are additional contributors to a woman obtaining a Pap smear and a clinical breast examination. In analysis of enabling factors, level of education, income, having supplemental insurance, utilizing TRICARE Prime or other civilian insurance/HMO, and never traveling more than 30 minutes to the primary care manager's facility were found to be significant to a women obtaining the three preventive health services. Factors such as feeling downhearted and blue, having a lot of energy and a general perception of overall health were significant to the women obtaining the preventive health services. Waiting longer for an appointment with a civilian provider, in addition to satisfaction with the military health care system and overall satisfaction were significant to a woman obtaining all three preventive health services. Lastly, women who smoke were found to be less likely to obtain the three preventive health services.

Multiple regression analyses were performed to determine whether the full model predicts the subjects' ability to obtain the preventive health services. In two of the cases, Pap smear ($F(41, 194) = 1.71$, $p < .05$) and mammogram ($F(41, 194) = 1.68$, $p < .05$), the overall regression was statistically significant beyond the .05 level. Therefore, the assumption that the model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain preventive services is only partially supported.

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This dissertation is dedicated to the women whose strength, courage, and conviction I most admire:

Roslyn Chargois
Teresa Chargois
Annie Bell Green
Louise Collier
Stella Chargois

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CHAPTER I

Introduction

There is concern within the healthcare sector that too much is spent on the treatment of cases for whom the chance of health improvements or survival are remote, and that too little is spent on preventive services (Aday, Begley, Lairson, & Slater, 1998). Preventive services focus on decreasing mortality and occurrence rates of preventable diseases such as breast cancer and cervical cancer. Breast cancer is the most common cancer in American women, with approximately 180,200 new cases diagnosed annually (Clinicians' Handbook, 1998; Johns Hopkins Health, 1999). Breast cancer results in the death of almost 44,000 women each year and remains the leading cause of death in women between the ages of 40 and 55 (Johns Hopkins Health, 1999).

Every year an estimated 14,500 women in the United States are told that they have invasive cervical cancer and approximately 5,000 die each year (Mayo Clinic Health Information, 1997). Many studies and their subsequent findings heightened the awareness that preventive medical care may reduce the morbidity and mortality of diseases like breast and cervical cancer (Clinicians' Handbook, 1998; Love et al., 1997). Thus, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, released in 1990, identified health improvements and objectives to be reached by the year 2000 (Healthy People, 2010, p 1.; Healthy People, 2000, p. 1). Healthy People 2010 builds on the initiatives of Healthy People 2000 and is committed to a single, overarching purpose: promoting health and preventing illness, disability, and premature death (Healthy People, 2010, 2000, p.1).

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The Department of Defense (DoD) expanded their guidelines with the Defense Authorization Act (P.L. 104-106, Section 701) for fiscal year 1996 to ensure quality of health for its military beneficiaries (TRICARE/CHAMPUS Policy Manual, 1999, p. 1). Included in this beneficiary population are females who are retired or the female beneficiary of a retiree. The DoD initiative was to provide these women who are eligible for military health care with Pap smears, mammograms, and clinical breast examinations. Even though this population is a targeted group, there are often factors that hinder them from obtaining the recommended services.

The rules governing military health care are contained in Title 10, Chapter 55 of the U.S.C. (United States Code). However, prior to the enactment of Medicare in 1965, the statutory language regulating the provision of military health care did not specifically address care for military retirees. According to Burrelli (1992) the first language that briefly addressed the issue of retirees was contained in a Public Law written in 1956. Burrelli contends that Public Law (P.L.) 84-569 (70 Statute 250, June 1956) which was established initially by the Dependent's Medical Care Act of 1956, provides reference to entitlement for active duty dependents, retirees and their dependents.

Burrelli notes that as written in Title 10, health care for active duty members is an entitlement, while their dependents were entitled to care in military treatment facilities on a space available basis. The author also references the fact that retirees and their dependents are entitled to care in military treatment facilities on a space-or-service available basis.

In 1995, DoD embarked on a new program, called TRICARE, which forecasted to improve the quality, cost, and accessibility of services for its beneficiaries (Military

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Health System Website, 2000). TRICARE is the DoD's regional managed-care program for delivering health care to members of the Armed Services and their families, survivors, and to retired members and their families (Stoloff, Lurie, Goldberg, & Almendarez, 2000, p. 2-1). As shown in Figure 1, the country is divided into geographical regions. Stoloff et al. (2000) further explains that congress mandated that the program be modeled on HMO plans offered by the private sector and other similar government health-insurance programs (p. 2-1). One of the programs, TRICARE Prime, mandates that all beneficiaries enrolled are guaranteed access to care according to strict time standards (Stoloff et al., 2000, p.2-6). TRICARE offers eligible beneficiaries three choices for their health care: TRICARE Prime, TRICARE Extra, and TRICARE Standard. According to the Military Health System Web Site (2000), TRICARE Prime is the option where most health care comes from a military treatment facility (MTF), augmented by the TRICARE contractor's Preferred Provider Network. It explains that under the TRICARE Extra option, a doctor, hospital, or other medical provider listed in the TRICARE Provider Directory is chosen. Lastly, the Military Health System Web Site (2000) clarifies that TRICARE Standard is the plan where the individual can see the authorized provider of their choice. However, TRICARE Standard's greater flexibility means that health care generally costs more. (Table 1 displays the cost to Retirees and their Family Members for the three levels of TRICARE).

There are numerous factors that impact whether a female obtains selected preventive health services. According to a study conducted by Stoloff et al. (2000) which evaluated the TRICARE program for fiscal year 2000, TRICARE has emphasized well-care and preventive medicine (p. 3-11). The authors conclude that there was a

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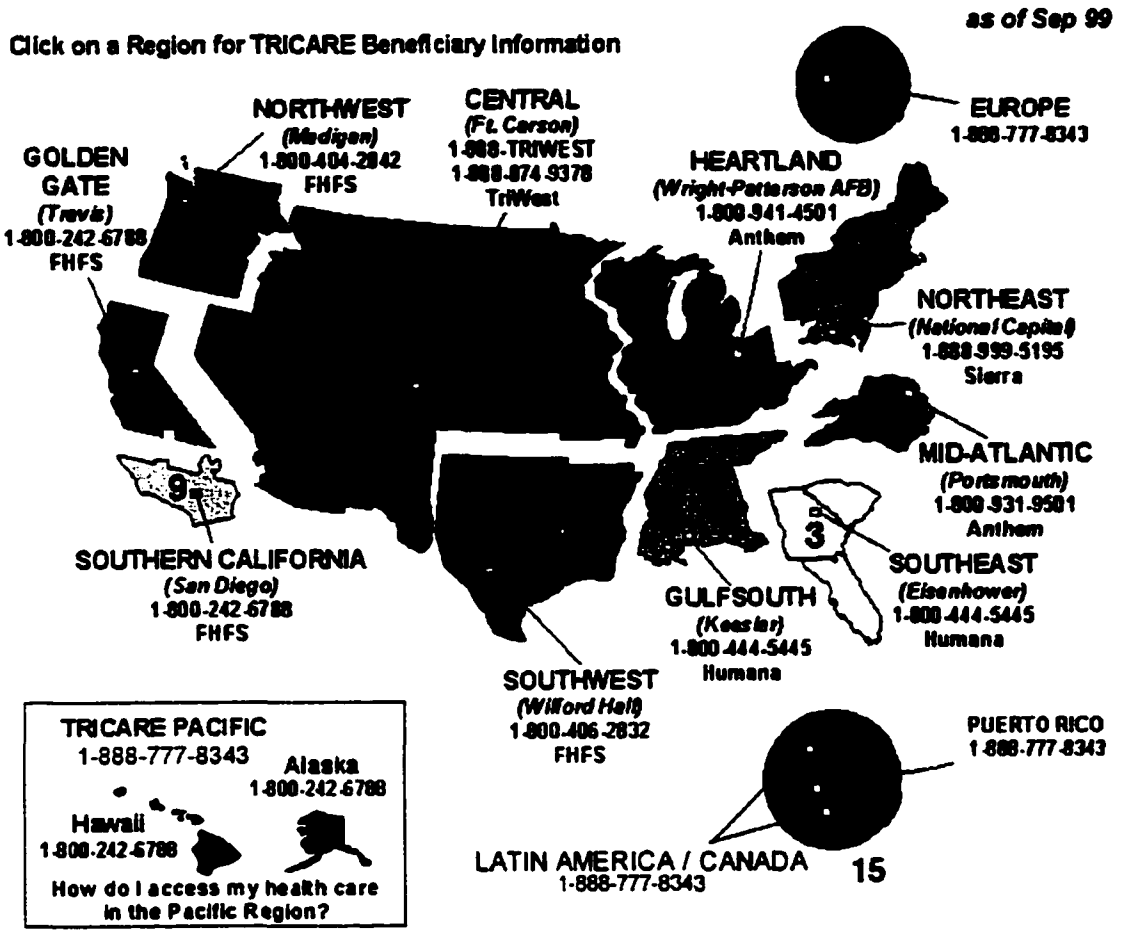
Figure 1. TRICARE health service regions.



Note. From Military Health System Web Site. (2000). TRICARE Management Activity. Falls Church, VA. Available [online]

http://www.tricare.osd.mil/tricare/beneficiary/

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Table 1

TRICARE Cost – Retirees and Their Family Members

	TRICARE Prime	TRICARE Extra	TRICARE Standard (Standard CHAMPUS)
Annual Deductible Individual/Family	None	$150/$300	$150/$300
Annual Enrollment Fees Individual/Family	$230/$460	None	None
Civilian Provider copays:		20% of negotiated fee	25% of allowable charges
Outpatient Visit	$12		
Emergency Care	$30		
Mental Health Visit	$25		
Civilian Inpatient Cost Share	$11 per day ($25 minimum)	$250 per day or 25% of hospital billed charges; plus 20% professional fees	$390 per day or 25% of hospital billed charges; plus 25% of professional fees
Civilian Inpatient Mental Health	$40 per day	20% of institutional and professional charges	$144/day or 25% of institutional and professional charges

Note. From Military Health System Web Site. (2000). TRICARE Management Activity. Falls Church, VA. Available [online] http://www.tricare.osd.mil/tricare/beneficiary/

general increase in the receipt of preventive care from 1994 to 1998 for the beneficiary populations as a whole (p. 3-11). However, the authors reveal that GYN procedures, including Pap tests, are an exception to this trend (p. 3-11). According to Stoloff et al. (2000) the level of annual Pap tests dropped from 69 to 66 percent, over the period of analysis, for women in the overall DoD beneficiary population (p. 3-39). Acknowledging that there are several reasons for not obtaining preventive health services, using a theoretical framework, can provide a rational for predictions about the relationships

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among the variables influencing whether a women receives the selected preventive health services.

Theoretical Framework

There is a substantial amount of information related to the issue of barriers to medical care. Studies investigating this issue have used various research paradigms to explain access to medical care. Khan and Bhardwaj (1994) categorized delivery system and user characteristics as spatial (geographic or physical) and aspatial (social) barriers or facilitators to the use of services. When facilitators exceed barriers, access is achieved (Khan and Bhardwaj, 1994). According to the World Health Organization (WHO) (1978),

> Accessibility implies the continuing and organized supply of care that is geographically, financially, culturally, and functionally within easy reach of the whole community. The care has to be appropriate and adequate in content and in amount to satisfy the needs of people and it has to be provided by methods acceptable to them. (p. 58)

Khan and Bhardwaj (1994), and WHO (1978), have each proposed useful and appropriate frameworks. Since there are several models from which to choose to frame the problem, the theoretical framework for this study involves the obstacles surrounding obtaining medical care, specifically preventive care. The structure for this study is an adaptation of Aday and Andersen's (1975), Aday, Fleming and Andersen's (1984) and Aday et al.'s (1998) models known as the framework for the study of access to medical care and the framework for classifying topics and issues in health services research. The model (framework for classifying topics and issues in health services research) was chosen

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because many of the exisiting frameworks on access were adapted from the refined Aday et al. model. Further, the Aday et al. (1998) model represents revisions or additions to the framework introduced in the first edition of Aday, Begley, Lairson, and Slater's (1993) book, influenced by a conceptual framework focusing on the social and individual determinants of health. As shown in Figure 2, a graphic representation of Aday et al.'s (1998) framework for classifying topics and issues in health services research, the model is structured around ten concepts – health policy, delivery system, population-at-risk, environment, realized access, health risks, effectiveness, equity, efficiency, and health.

Health Policy

Aday et al. (1998 & 1995) state that "health policy has been directed at a variety of factors that ultimately determine the health of individuals and populations" (p. 16). The developers further explain that diversity and complexity of contemporary health policy has its roots historically in the evolution of the role played by different levels of government – federal, state, and local – in the policymaking process. As stated in the original model, Aday and Andersen (1975) consider health policy as the starting point for consideration of the access concept. The authors believe that "improved access to care is an important goal of health policy" (p. 6). Additionally, the authors state that it is the effect of health policy on altering access to medical care that health planners and policy makers are often concerned with evaluating.

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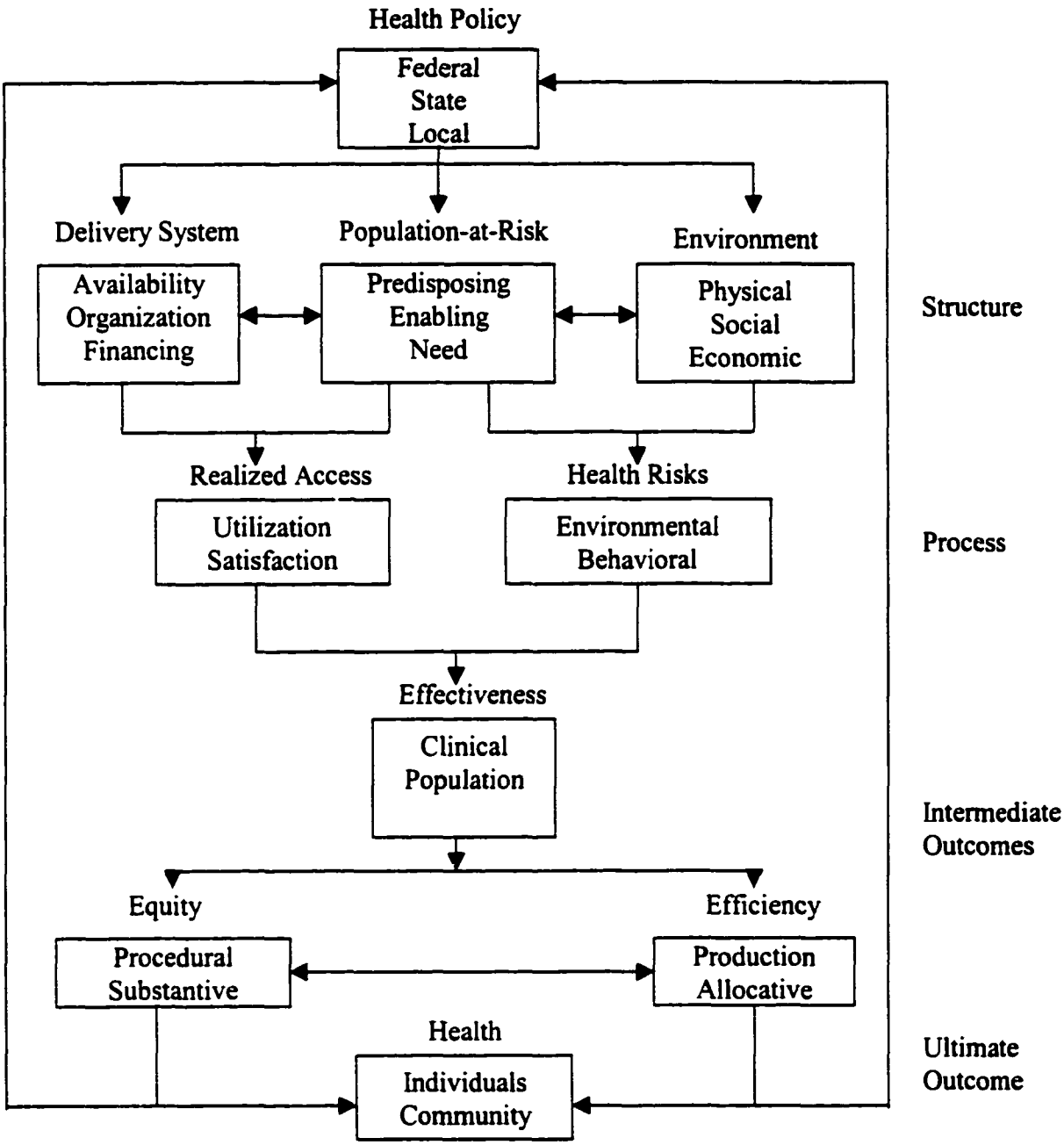
Figure 2. Framework for classifying topics and issues in health services research.



Aday, L. A., Begley, C.E., Lairson, D.R., & Slater, C.H. (1998). Evaluating the healthcare system: effectiveness, efficiency, and equity. Chicago, IL: Health Administration Press.

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Delivery System

The delivery system is based on the criterion of freedom of choice for the consumer (Aday et al., 1998). The authors explain that the freedom-of-choice norm emphasizes the importance of personal autonomy in determining the ability to receive care. The authors conclude that the empirical indicators of access based on the freedom-of-choice norm are the distribution and availability of healthcare resources to consumers. These indicators include data on the hours of clinic operation and provider availability at night, on weekends, or in emergencies; and the average time it takes to get an appointment. An additional indicator, according to the authors, are the characteristics financing of the system which can dictate the options consumers can realistically afford. Aday and Andersen (1975) state that implicit in the access concept is the fact that certain categories of people have more or less "access" to medical care than others.

Population-at-Risk

The population-at-risk may be characterized in terms of predisposing, enabling, and need characteristics (e.g., demographics and attitudes, personal and family resources, perceived and evaluated health status, respectively) (Aday et al., 1998). As the authors note, population-at-risk is an important factor in that health disparities between groups remain substantial and show little evidence of narrowing.

Environment

The framework for classifying issues in health services research acknowledges that the physical, social, and economic environment in which individuals live and work

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can also have consequences for their access to health and healthcare (Aday et al., 1998). The authors explain that health risks in the physical environment include toxic and environmental contaminants transmitted through the air, soil, or water in a given neighborhood or community. The social environment encompasses a look at the social resources, or social capital, that may be available to individuals, associated with the family structure, voluntary organizations, and social networks that both bind and support them. The economic environment encompasses both human and material capital resources, reflected in the schools, jobs, income, and housing that characterize the community.

Realized Access

Realized access refers to the objective and subjective indicators of the actual process of seeking care (Aday et al., 1998). These are, according to the authors, in effect, indicators of the extent to which the system and population characteristics predict the demand for care (i.e., how much care is used, if any) and how satisfied potential or actual consumers are with the healthcare system.

Health Risks

The model indicates that the environment directly influences the likelihood of exposures to significant environmental and behavioral health risks (Aday et al., 1998). According to the authors, the Healthy People 2000 goals and objectives are used to provide a framework for reviewing the health of the community and associated environmental and behavioral risks. They conclude that the environmental health risks

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are addressed by a series of health protection objectives and the behavioral risks by the health promotion objectives. There are thirteen overall categories of the health protection and health promotion objective examined through this framework. Those objectives are, according to Aday et al. (1998):

Health Protection:

1. Unintentional injuries
2. Occupational safety and health
3. Environmental health
4. Food and drug safety
5. Oral Health

Health Promotion:

6. Physical Activity
7. Nutrition
8. Tobacco
9. Alcohol and other drugs
10. Family planning
11. Mental health and mental disorders
12. Violent and abusive behavior
13. Educational and community-based programs

Effectiveness, Efficiency, and Equity

The three pieces of the model considered the intermediate outcomes are effectiveness, efficiency, and equity. Effectiveness – or the production of health benefits – is placed before efficiency and equity in the framework (Figure 2) to indicate the central role it plays in assessing the cost of producing health benefits (i.e., efficiency) as well as the distribution of these benefits and costs across groups (i.e., equity) (Aday et al., 1998, p.11). Aday et al.(1998) explains that effectiveness examines the benefits of healthcare measured by improvements in health. The authors define equity as being concerned with health disparities and the fairness and effectiveness of the procedures for addressing

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equity. Efficiency relates health improvements to the resources required to produce benefits.

Health

Like the health risk category, the health factor is built around Healthy People 2000 goals and objectives. According to Aday et al. (1998) the health of the community is examined in terms of three broad goals represented in Healthy People 2000:

1. Increase the span of healthy life for Americans
2. Reduce disparities of health among Americans
3. Achieve access to preventive services for all Americans.

Health services research provides basic descriptive data on the organization and operation of the healthcare system (Aday et al., 1998). The authors explain that the model also analyzes likely relationships between and among components (reflected by the arrows in Figure 2), examining the impact of health policy on the delivery system and the individuals and populations affected by these initiatives; on the effectiveness, efficiency, and equity of the delivery system; and ultimately and most importantly, on the health of the population the delivery system was intended to serve.

The foundation of this investigation is based on the adaptation of the previously mentioned concepts and model. Steps utilized in the refinement and final adaptation of the model can be found in Chapter 3. The definitions and methods of this study provide guidance for determining the ability of females to obtain selected preventive health services by describing, analyzing, and evaluating the structure, process, and ultimate outcome of obtaining preventive health services. Four factors are examined to predict

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whether the women achieve the ultimate outcome - obtaining selected preventive health services. These four factors are the characteristics of the delivery system, characteristics of the population-at-risk (the structure), realized access, and health risks (the process). Each of the four concepts in the adapted model is defined like those of the original model (Figure 2). As in Figure 2, there are hypothesized relationships among the different components. However, unlike the original model, the author chose to adapt the model to introduce the ultimate outcome, preventive health services, first, this was done to provide a clear understanding of the focus of this study. Figure 3 is a graphic representation of the adapted theoretical framework.

Statement of the Problem

The DoD regularly conducts studies that focus primarily on whom is or is not receiving care, their level of satisfaction with the care and services rendered, their knowledge of coverage (insurance) and, in general, what types of barriers exist. However, there has been very little attention devoted to identifying what factors most strongly predict why the care is received. Knowing what factors are influential in obtaining preventive health services permits policy change and adjustments to the system to increase access to these services. The focus of this investigation is, therefore, to examine what factors predict whether female military beneficiaries who are retired or the female beneficiary of a retiree, ages 40 to 64, will obtain preventive health services.

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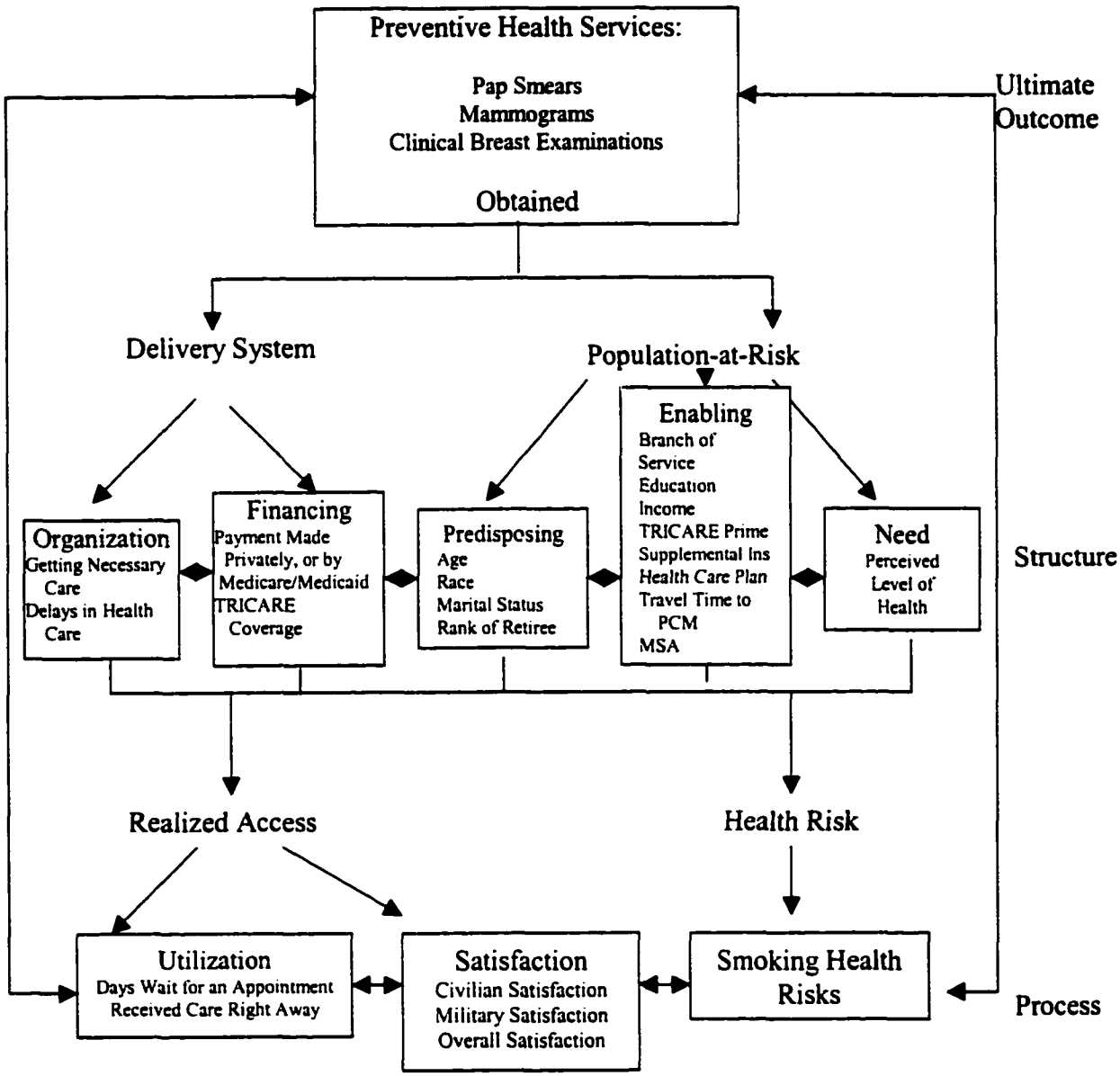
Figure 3. Adapted framework for the study of access to selected preventive health services.



Adapted from: Aday, L. A., Begley, C.E., Lairson, D.R., & Slater, C.H. (1998). Evaluating the healthcare system: effectiveness, efficiency, and equity. Chicago, IL: Health Administration Press. By Cynthia A. Chargois

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Purpose

Using an adaptation of Aday et al. (1998) model of the framework for classifying topics and issues in health services research, this study examined what factors predict whether female military retirees or the female beneficiary of a military retiree, ages 40 to 64, will obtain selected preventive health services. Although this study focused on the health of female military beneficiaries, there are several implications for metropolitan statistical areas (MSA). Military beneficiaries make up a large portion of many MSAs and are included in the description of the communities' overall health. This study assessed if the female military beneficiaries who are retired or the female beneficiary of a retiree, living MSAs verses non-MSAs, differ in obtaining preventive health services.

Significance

There is significant documentation on the benefits of receiving preventive health services. As previously noted, preventable diseases are the cause of hundreds of thousands of deaths and incidences of incapacitation each year. Since part of the military medical care system's objective is to provide high quality, accessible service to its beneficiaries, it is important to investigate the obstacles to providing these services. The decrease in the incidence of invasive cervical cancer has been credited to the widespread use of Papanicolaou (Pap) smear screening (McMeekin, McGonigle, and Vasilev, 1997). It has been estimated that screening women aged 20-64 every three years reduces cumulative incidence of invasive cervical cancer by 91% (Guide to Clinical Preventive Services Assessment, 1999). Additionally, annual screening reduces incidence [of cervical cancer] by 93% (International Agency for Research on Cancer Working Group

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on Evaluation of Cervical Screening Program, 1986). Lastly, at this time, there is little doubt that breast cancer screening by clinical examination and mammography has the potential of reducing mortality from breast cancer for women aged 50 through about 70 (Guide to Clinical Preventive Services Assessment, 1999).

Understanding and acknowledging these statistics makes this study and its findings significant to the military health system (MHS) and other healthcare systems because it provides information that will assist in decision making. Knowing what factors hinder women in receiving preventive services allows policy makers and healthcare providers the opportunity to efficiently focus time and resources on those specific issues.

This chapter provided a background on the significance of obtaining preventive health services. An explanation of the theoretical framework was developed that will be the context for examining the question of whether female military beneficiaries obtain preventive health services. The discussion in the chapter that follows offer additional insight into past studies that have focused on the obstacles to access to care. Specifically, Chapter 2 will give an overall perspective of previous research based on the adapted framework for the study of access to selected preventive health services (Figure 3). Additionally, this chapter will discuss the type of research design used and the research question and hypotheses that are addressed in this study.

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CHAPTER II

Review of the Literature

Researchers have investigated whether women obtain preventive health services from varying points of reference. Many of the studies sought to measure whether women obtain preventive health services in quantitative terms by reporting the effects one or more variables have had on obtaining preventive health services. Numerous studies have used Aday and Andersen's (1975) framework for the study of access to medical care as the underlying theoretical framework to explain whether women obtain preventive health services. The purpose of this chapter is to discuss studies that relate to the model adapted by the investigator (Figure 3); framework for the study of access to selected preventive health services. The focus of these studies is those factors, which effect whether females, in general or female veterans obtain preventive health services.

Preventive Health Services

Preventive health services involve an array of health care services. Specific services, such as mammograms, clinical breast examinations and Pap smears are common services that are quite often the focus of research. These services, if provided on the recommended schedules, have been known to decrease the mortality rates of the selected sicknesses and diseases (Calle et al., 1993; Guide to Clinical Preventive Services Assessment, 1999).

The TRICARE/CHAMPUS Policy Manual (1999) states that preventive care is diagnostic and other medical procedures not related directly to specific illness, injury, or

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definitive set of symptoms, or obstetrical care, but rather performed as periodic health screening, health assessment, or health maintenance (p. 2). Congruent with Healthy People 2010, the TRICARE/CHAMPUS Policy Manual (1999) suggests that the following services may be provided during acute and chronic care visits or during preventive care visits for asymptomatic individuals to maintain and promote good health:

Cancer Screening Examinations and Services.

a. Breast Cancer:

(1) Physical Examination. For women age 40 and older, annual clinical examinations should be performed.

(2) X-ray mammography. Mammography is recommended as a routine screening procedure (i.e., performed in the absence of any signs or symptoms of breast disease) when ordered by a physician, or upon self-referral as outlined below for:

(a) An asymptomatic woman 40 years of age for one baseline mammogram.

(b) An asymptomatic woman 40 years of age, but under 50 years of age, for one screening mammography every 24 months.

(c) An asymptomatic woman 50 years of age and older for one screening mammography every 12 months.

(d) An asymptomatic woman 35 years of age, but under 50 years of age, for a baseline mammogram at age 35 and one screening mammogram every 12 months thereafter if the woman is considered to be at high risk of developing breast cancer. Documented indicators for high risk are:

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1 A personal history of breast cancer;

2 A personal history of biopsy-proven benign breast disease;

3 A mother, sister, or daughter who has had breast cancer;

4 Not given birth prior to age 30; or

5 Other acceptable high risk factors as may be recommended by major authorities (e.g., the American Academy of Family Physicians, American Cancer Society, American College of Obstetricians and Gynecologists, American College of Physicians, and U.S. Preventive Services Task Force (USPSTF) (1999)) (pp. 2-3).

b. Cancer of Female Reproductive Organs.

(1) Papanicolaou smears. Cancer screening Papanicolaou (PAP) tests should be performed for women who are at risk for sexually transmissible diseases, women who have or have had multiple sexual partners (or if their partner has or has had multiple sexual partners), women who smoke cigarettes, and women 18 years of age and older when provided under the terms and conditions contained in the guidelines adopted by the Executive Director, TRICARE Management Activity. The frequency of the PAP tests will be at the discretion of the patient and clinician but not less frequent then three years (TRICARE/CHAMPUS Policy Manual, 1999, pp. 2-3).

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Healthy People 2000 is the prevention agenda for the Nation (Healthy People 2000 Fact Sheet, 1999). It is a statement of national opportunities - a tool that identifies the most significant preventable threats to health and focuses public and private sector efforts to address those threats (Healthy People 2000 Fact Sheet, 1999). Healthy People offers a simple but powerful idea: provide the information and knowledge about how to improve health in a format that enables diverse groups to combine their efforts and work as a team (Healthy People 2000 Fact Sheet, 1999). Healthy People 2000 Fact Sheet (1999) emphasizes that Healthy People is based on scientific knowledge and is used for decision making and for action. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, released in 1990, identifies health improvement goals and objectives to be reached by the year 2000 (Healthy People 2010, 2000, p. 1).

> As explained in the Healthy People 2000 Fact Sheet (1999), Healthy People 2000 is a comprehensive agenda organized into 22 priority areas, with 319 supporting objectives. Three overarching goals are to increase years of healthy life, reduce disparities in health among different population groups, and achieve access to preventive health services.

One priority area of Healthy People 2000 is cancer (Healthy People 2000 Fact Sheet, 1999). As priority area 16 of the Healthy People 2000 agenda, cancer is recognized as the second leading cause of death in the United States (Healthy People 2000 Review, 1998-1999). Acknowledging the severity of this disease, objectives were set to aid in prevention and survival of cancer. Specifically, in terms of breast and cervical cancer, the following baseline objectives were established for Healthy People 2000:

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16.3 Reduce breast cancer deaths to no more than 20.6 per 100,000 women.

16.4 Reduce deaths from cancer of the uterine cervix to no more than 1.3 per 100,000 women.

16.11 Increase to at least 60 percent those women aged 50 and older who have received a clinical breast examination and a mammogram within the preceding 1 to 2 years.

16.12 Increase to at least 95 percent the proportion of women aged 18 and older who have ever received a Pap test, and to at least 85 percent those who received a Pap test within the preceding 1 to 3 years (Healthy People 2000 Review, 1998-1999, pp. 155-162).

According to Healthy People 2000 Review (1998-1999), data for 1994 indicate that substantial progress has been made in increasing the numbers of women receiving mammograms and Pap tests. But as discussed by Aday et al. (1998) although progress has been made toward achieving a number of the health goals for the nation, most have not yet been accomplished. In addition, the authors state that environmental and behavioral risks remain, and the attendant health impacts for some groups in particular are significant.

> Healthy People 2010 initiative continues in this [Healthy People 2000] tradition as an instrument to improve health for the first decade of the 21st century. Healthy People 2010 outlines a comprehensive, nationwide health promotion and disease prevention agenda. It is designed to serve as a roadmap for improving the health of all people in the United States during the first decade of the 21st century (Healthy People 2010, 2000, p.1).

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> Like the preceding Healthy People 2000 initiative – which was driven by an ambitious, yet achievable, 10-year strategy for improving the Nation's health by the end of the 20th century – Healthy People 2010 is committed to a single, overarching purpose: promoting health and preventing illness, disability, and premature death (Healthy People 2010, Healthy People 2000, p.1).

Like Healthy People 2000, a priority area of Healthy People 2010 is cancer (Healthy People 2010, Healthy People 2000, p. 3). One of the goals of Healthy People 2010 is to reduce the number of new cancer cases as well as the illness, disability, and death caused by cancer (Healthy People 2010, 2000, p.3-3). To achieve this goal four objectives have been set: (1) to reduce the breast cancer death rate; (2) to reduce the death rate from cancer of the uterine cervix; (3) to increase the proportion of women who receive a Pap test; (4) to increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years (Healthy People 2010, 2000).

In the process of studying preventive health services, a number of researchers have attempted to identify the factors that prevent women aged 40 to 64 from receiving these services (Bindman, Grumbach, Osmond, Vranizan & Stewart, 1996; Calle, Flanders, Thun & Martin, 1993; Calnan, 1985; Hayward, Shapiro, Freeman & Corey, 1988). In some instances, one factor has been selected and individually examined as to its effect on obtaining preventive health services. In other instances, factors have not necessarily been studied and reported as independent variables. In the case of Calle et al. (1993), it is noted that the tendency of women to underuse screening technologies varies greatly across levels of basic demographic characteristics. Bindman et al. (1996) conclude that a regular source of care is the single most important factor associated with the receipt

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of preventive services, but optimal primary care from a regular place increases the likelihood that women will receive preventive care. These findings have not been applied for obtaining preventive services specifically, or in terms of women or female retirees or military beneficiaries.

Delivery System

The delivery system represents part of the conceptual model of equity of access to medical care developed by Ronald Andersen and Lu Ann Aday, and their colleagues to guide the conduct of national and community surveys of access (Aday et al., 1998). The term delivery system is used to refer more specifically to those arrangements for the potential rendering of care to consumers (Aday & Andersen, 1975). The delivery system is characterized by two main elements -- organization and financing.

Organization and Obtaining Preventive Services

Aday and Andersen (1975) present the definition as:

> Organization describes "what the system does with its resources. It refers to the manner in which medical personnel and facilities are coordinated and controlled in the process of providing medical services." A component of organization is entry. Entry refers to the process of gaining entrance to the system (travel time, waiting time, etc.) (p. 8).

In analyzing a summary of patients not completely satisfied with their most recent medical visit, Aday et al. (1984) found that age (over 64 years) was a significant predictor of satisfaction with office waiting time, as older patients tended to be most satisfied [with

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the amount of time they had to wait]. The investigators further note that, of all the equitable factors examined to explain satisfaction with this dimension of care, which included an examination of out-of-pocket cost and overall quality of care received during the visit, the actual office waiting time was clearly the most important predictor (p. 69). This information could be relevant in assessing how organization affects obtaining preventive services among women in the targeted age range, as it would seem to imply that women aged 40-64 may be less satisfied with this dimension of care.

Bindman, et al. (1996) examined whether health insurance, a regular place of care and optimal primary care are independently associated with receiving preventive care services among 3,846 English-speaking and Spanish-speaking women in urban California. The investigators concluded that a regular source of care is the single most important factor associated with the receipt of preventive services, but optimal primary care from a regular place increases the likelihood that women will receive preventive care.

Financing and Obtaining Preventive Services

Financing is characterized as an individual's source of payment. The growing linkage between coverage and delivery is particularly important because health insurance products and delivery systems also are becoming increasingly complex and organizationally differentiated (Gold, Nelson, Lake, & Hurley, 1995; Shortell & Hull, 19996). Many sources have cited that there is a relationship between an individual's payment plan and their ability to obtain medical care (Kerr, Hays, Mitchinson, Lee, & Siu, 1999; Mark & Mueller, 1996; Rimer, Ross, Cristinzio, & King, 1992). Some studies

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have found that HMO members obtain more preventive services than those who are members of other plans (Manning, Leibowitz, & Goldberg, 1984; Bernstein, Thompson, & Harlan, 1991; Luft & Miller, 1994; Makuc, Freid, & Parsons, 1994). Manning et al. (1984) asked the question, "Does a prepaid group practice deliver less care than the fee-for-service system when both serve comparable populations with comparable benefits" (p. 1505)? To answer this question, the researchers randomly assigned a group of 1580 persons to receive care free of charge from either a fee-for-service physician of their choice (431 persons) or the Group Health Cooperative of Puget Sound (1149 persons). In addition, 733 prior enrollees of the Cooperative were studied as a control group. The researchers found that the number of preventive services was higher in the prepaid groups and that the lower rates of use that were observed, suggests that the style of medicine at prepaid group practices is markedly less "hospital-intensive" and, consequently, less expensive. Bernstein et al. (1991) studied whether HMOs are more likely to offer cancer-screening examinations than the fee-for-service sector in a nationally representative sample of the United States population. The sample was accessed from the Cancer Control Supplement of the 1987 Health Interview Survey (NHIS). The researchers concluded that for five of six screening tests examined (Pap smear, mammography, breast physical examination, digital rectal examination, and blood stool test), members of HMOs are significantly more likely to have received the test within the last 3-year period.

As described by Rimer et al. (1992), data from the Fox Chase Cancer Center study suggest that HMO membership and/or the HMO interventions, including free mammograms, health education materials, and compliance-enhancing interventions, were associated with an increase in utilization for older and younger women. Rimer et al.

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(1992) further state that participation in an HMO-sponsored program seems to reverse the usual age-related decrease in mammography. There have been explanations of the patterns previously mentioned; one in particular is that health maintenance organizations may provide more education on the availability and importance of breast cancer screening (Riley, Potosky, Klabunde, Warren, & Ballard-Barbash, 1999). Additionally, some plans have established screening policies for their providers and some have developed centralized systems for outreach and delivery of preventive services to their enrollees (Riley et al., 1999). Riley et al. (1999) concluded that knowledge about how patterns of care differ between HMO and fee-for-service (FFS) setting is limited. However, the authors state that more consistent evidence is available demonstrating that HMO enrollees receive more preventive services, including cancer screening services, than persons in the FFS setting. The authors further found that HMO enrollees continued to have breast cancer diagnosed at earlier stages than women in the FFS setting. Phillips, Kerlikowske, Baker, Chang, and Brown (1998) state that a one-part model that examines the predictors of adherence verses nonadherence [of obtaining a mammography exam] (among all women) could indicate that HMO membership is a predictor of adherence.

It is thought that individuals in areas with greater HMO presence have better overall access to care (Gresenz, Stockdale, & Wells, 2000). Mark and Mueller (1996) conducted a study, which used a national probability sample of 1,985 persons who reported being covered by private health insurance, an HMO, a preferred provider organization (PPO), or a traditional plan. The authors concluded that HMO enrollees are more likely than their counterparts in traditional plans to have had a medical visit in the past year, and more total medical visits. However, the authors state that they are more

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likely to report having unmet health care needs. Further, HMO enrollees are more likely to cite difficulty with getting an appointment and less likely to cite cost as the reason for their unmet health care needs (Mark & Mueller, 1996).

More recently, there has been a growth of point-of-service plans and "open-access" HMOs, which allow patients direct access to specialist (Kerr, Hays, Mitchinson, Lee, and Siu, 1999). Franks and Clancy (1997) state that the results of their study, which focused on demographic disparities and the relationship of HMO insurance for adult patients from primary care, offer some assurance that patients enrolled in HMOs may be at decreased risk of lower access to specialists based solely on sex or insurance status compared with non-HMO patients. Some studies, however, have demonstrated that patients enrolled in managed care plans are less satisfied with access to specialty care than those enrolled in fee-for-service arrangements (Kerr et al., 1999; Mark & Mueller, 1996).

Analyses of evidence from peer-reviewed literature indicate that, compared to traditional insurance/FFS and PPO enrollees, HMO enrollees had fewer hospital admissions and days; less utilization of more costly tests and procedures and home healthcare visits; lower satisfaction with perceived physician interpersonal skills and quality of care but higher satisfaction with finances (Miller, 1998, p. 656). It may be difficult to generalize from these results, but there is enough evidence to conclude that financing has a significant impact on a person's ability to not only obtain care, but also influences the manner in which they receive the care. With the growth of managed care, interest is growing in measures that are specific to populations enrolled in particular health plans or served by individual provider systems or groups (Gold, 1998). Thus, the

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investigation into the population-at-risk.

Population-at-Risk

The characteristics of the population-at-risk are measured by the predisposing, enabling and need components (Aday et al., 1998; Aday & Andersen, 1975). The model [the theoretical framework - Figure 3] suggest that people's use of healthcare is a function of their predisposition to use services, factors that enable or impede use, and their need for care (Gold, 1998).

A study conducted by Romeis, Gillespie, Virgo & Thorman (1991) further examined factors [from the 1982 and 1984 Health Interview Surveys (HIS)] associated with health use by 2,181 female veterans. The study found that compared with non-veteran counterparts, female Veterans are, on average, slightly younger, less likely to be married, less likely to live alone, and less likely to be white. Further, Romeis, et al. (1991) found that "female Veterans have slightly more years of formal education, are slightly more affluent, have slightly larger households and are more apt to live in the western and southern states; but that relative to need characteristics (perceived health and activity limitation), female Veterans and non-Veterans were statistically similar" (p. 934). Therefore, researchers concluded that "predictors of female Veterans' use of overall health services were not significantly different than predictors of female non-Veterans' use of health services" (p. 935). The findings of Romeis, et al. (1991) are very noteworthy, since much of the literature does not specifically examine the subgroup of female Veterans in drawing conclusions on the utilization of preventive health services.

Romeis, et al. (1991) further state that, as a result, Veterans' Administration

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planners may not need to conduct large, additional, independent studies of female Veterans, but rather may use general population surveys to estimate overall demand for care by Veterans. Therefore, the following predictors for utilization of preventive medical services, even though typically resulting from studies of the general populace, should serve as adequate predictors for female veterans, as well.

Predisposing Components and Obtaining Preventive Services

Aday and Andersen (1975) define predisposing as:

> Predisposing components include those variables that describe the propensity of individuals to use services. These properties exist prior to the onset of illness episode. Predisposing components include age, sex, race, religion and values concerning health and illness (p. 8).

A 1999 study in Missouri examined predictors of compliance with the recommended cervical cancer screening schedule and found that compliance was more likely among women younger than 50 years of age and women who had either had a recent mammography or a clinical breast examination (Simoes, Newschaffer, Hagdrug, Ali-Abarghoui, Tao, Mack & Brownson, 1999). Relevant to age, these findings are similar to statistics reported fifteen years earlier, when it was determined that use of breast cancer examinations and Papanicolaou smears remained lower among older women (Makuc, Freid & Kleinman, 1989, p. 21). As to Papanicolaou smears specifically, the trend toward lower compliance in older women was readily observed in 1984 (Aday, et al., 1984, p. 35), and confirmed again later in 1991 (Harlan, Bernstein & Kessler, 1999).

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In an effort to determine which groups of American women were at greatest risk of not receiving recommended cervical and breast cancer screenings, data from the *1986 Access to Care Survey* (Hayward, et al., 1988) were analyzed. For purposes of the study, women were asked if they had received three procedures during the previous year: Papanicolaou smear (women aged 20 and older); breast examination (women aged 20 and older); and mammogram (women aged 40 and older). It was again found that older women are at increased risk for not receiving the preventive care, and that screening mammography, although more common than during the late 1970s, was still markedly underused even ten years later (Hayward, et al., 1988).

One study, seeking to evaluate the effect of demographic characteristics on the underuse of mammography and Papanicolaou smear screening, analyzed responses from 12,252 women who participated in the *1987 National Health Interview Survey (NHIS) Cancer Control Supplement* (Calle, et al., 1993). Calle, et al. (1993) determined that more than 60% of all women over the age of 40 reported never having had a mammogram and 86% had not had one in the past year (p. 54).

The Calle, et al. (1993) study also confirmed that older age -- both 50 to 64 years, and 65 years and older -- were important predictors of not having had a recent Papanicolaou smear (p. 56). The Hayward, et al. (1988) study specifically found that 11% of women aged 65 years or older reported that they had never received a Papanicolaou smear (p. 1178).

Another of the strongest predictors for never having received a Papanicolaou smear was race, specifically Hispanic ethnicity (Calle, et al., 1993, p. 56). Among African-Americans, however, there has been an increase in the rate of Papanicolaou

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smear usage since 1973, and, since 1985, the rates among African-American women have exceeded those of white women (Makuc, et al., 1989). Several studies have found that African-American women were more likely to have Papanicolaou smears than either Hispanic or white women, and in some cases both (Hayward, et al., 1988, p. 1179; Harlan, et al., 1991; Simoes, et al., 1999, p. 125). This is probably a reflection of public health efforts to target low income and minority women (Simoes, et al., 1999, p. 125).

One study has reported that older women more frequently have locally advanced cervical cancer at the time of diagnosis compared to younger women (Grovar, Cook & Goldman, 1986). The Hayward, et al. (1988) study has suggested that lower rate of Papanicolaou smears among older women may be responsible, at least in part, for these findings and that failure to have had a Papanicolaou smear often predicted lack of other care (p. 1180).

National standards recommending that women 50 years of age and older receive an annual mammogram have been in place since 1982 (Anda, Sienko, Remington, Gentry & Marks, 1990, p. 123). Still, despite these standards and general agreement with the standards many women 50 years of age and older have never had a mammogram (Anda, et al., 1990, p. 123).

Among women aged 50 years or older, 19.7% reported that they had had mammograms during the past year, 24% had them within the past two years and 39% reported that they, at some time in their lives, had undergone a mammogram (Hayward, et al., 1988, p. 1179). The Calle, et al., (1993) study found that women 65 years of age or older with less than a high school education were least apt to have had a mammogram (p. 55). As to clinical breast examinations in women aged 40 years or older, only 54.5%

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reported that they had undergone an examination by a physician within the last year (Hayward, et al., 1988, p. 1179).

In a study conducted in England among women aged 45 to 64, researchers collected information on the respondent's previous use of three preventive health services -- cervical smear, breast screening and regular dental check-up -- that was accessed from a larger interview survey about women's views on programs for the early detection of breast cancer (Calnan, 1985). The study examined whether women carry out seven different types of preventive health behavior and attempted to identify ways of characterizing participants or non-participants in the various forms of behavior. Personal health behavior was measured by questions about the respondents' knowledge and behavior in relation to smoking, diet, exercise and seat belt use. Combining age with other population characteristics, Calnan (1985) concluded that there was some evidence to suggest that there was a distinctive group that does not carry out any form of preventive behavior (p. 268). This group was characterized as being *older* women who were not working, who left school before they were 15 years old and who tended to be socially isolated (Calnan, 1985, p. 268).

Women having neither a mammogram nor a clinical breast examination in the previous five years were both independently associated with increased odds of not complying with annual cervical cancer screening (Simoes, et al., 1999, p. 124). Many of the associations with cervical cancer screening identified in the Simoes, et al. (1999) study have been previously reported in other populations, as well (Makuc, et al., 1989; Calle, et al., 1993; Hayward, et al., 1988; Harlan, et al., 1991).

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Enabling Components and Obtaining Preventive Services

Enabling is described as personal and family resources (Aday et al., 1998). Aday and Andersen (1975) further define enabling as:

> The means individuals have available to them for the use of services. Both resources specific to the individual and his family (income, insurance coverage) and attributes of the community in which the individual lives (rural-urban character, region) are included here (p. 8).

In addition to finding that older females are at increased risk for not receiving preventive care, studies have also found that women who were uninsured or lower in socioeconomic status are similarly at greater risk (Hayward, et al., 1988; Simoes, et al., 1999; Aday, et al., 1984, p. 35). Another study found that women who were insured by Medicaid were more likely than uninsured women to receive Papanicolaou smears (Bindman, et al., 1996, p. 273), although women with private insurance are somewhat more likely to have a Papanicolaou smear than those insured under public programs (Aday, et al., 1984, p. 35).

Specifically, uninsured women and women with less education were found to be less likely to have had a mammogram (Hayward, et al., 1988,), or cervical cancer screening (Simoes, et al., 1999) than those that were insured and had more education. "Only 72% of poor and near-poor women (income $\leq$ 150% of the federal poverty level) had Papanicolaou smears within the recommended time period, compared with 83% for non-poor women" (Hayward, et al., 1988, p. 1179). Data from the *1987 National Health Interview Survey (NHIS)* of 12,868 adult women revealed that women below the poverty index were less likely to be compliant with having a Papanicolaou smear in the last three

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years (Simoes, et al., 1999). Thus, the poor remain less likely than the non-poor to have received recent preventive care (Makuk, et al., 1989, p. 21). However, compliance among the poor differs when examined in conjunction with race.

Calle, et al. (1993) evaluated the effect of demographic characteristics on the underuse of mammography and Pap smear screening from responses of 12,252 women who participated in the *1987 National Health Interview Survey Cancer Control Supplement.* The study found that the influence of income on use of mammography services, specifically, differed by race, making white women below the poverty level less likely to be screened than black or Hispanic women below the poverty level. Further, poor white women were also more likely to have never undergone a Papanicolaou smear than were poor black women. Calnan (1985) found that this was the one factor that distinguished between participation and non-participation in the various forms of preventive health behavior, i.e., social class.

Women residing in rural regions and uninsured women are also less likely to have had either breast examinations or mammography (Hayward, et al., 1988, p. 1179), or Papanicolaou smears or breast examinations (Aday, et al., 1984, p. 35). The Calle, et al. (1993) study also found that residence in rural areas was a strong predictor of under-utilization of mammography (p. 55).

Need and Obtaining Preventive Services

Need refers to health status or illness as a predictor of health service use (Aday et al., 1998, p. 180). The need for care may be either perceived by the individual or evaluated by the delivery system (Aday & Andersen, 1975, p. 9).

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Wolinsky & Johnson (1991) conducted a study that examined the use of health services by older adults, using baseline data on 5,161 respondents surveyed as part of the panel design of the Longitudinal Study on Aging (LSOA). From this study the authors found that the need characteristics are consistent with prior expectations that older adults with poorer perceptions of their health are more likely to use health services.

While not limited specifically to females only, a study that attempted to improve understanding of those factors which inhibit or facilitate older, non-institutionalized persons' use of health care in general examined data from a 1974 Massachusetts statewide random probability sample of 1,625 individuals 65 years of age or older. The study concluded that need characteristics, i.e., illness level, in general, accounted for most of the explained variance in the utilization of five health services: hospitals, physicians, dentists, home care and ambulatory care (Branch, Jette, Evashwick, Polansky, Rowe & Diehr, 1981). While the sample in that study is older than the subject age of this study, the results in Branch, et al. (1981) would tend to support a conclusion that older females who avoid preventive services do so because of a lack of perceived need on their part or because they are not told otherwise by their medical care delivery system.

Although the focus of another study was to determine how race affects health services use by older women, relevant information was reported in reference to physical health as a predictor of the need for and use of health services in general (Gale & Erickson, 1997). In that study, the relationships among functional health and its correlates in a sample of 101 low-income, older African American (N=32), white (N=37) and Hispanic (N=32) women residing in the southwestern United States was examined. Statistically significant associations were found among age, education and income and the

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functional health variables of physical health and psychosocial health. Physical health was found to be a significant predictor of the need for and use of health services. The authors remarked that little emphasis has been placed on the functional health needs of older women and race in policy and practice.

The Calnan (1985) study found that those women who reported at least one attendance at their general practitioner in the past year were more likely to use or carry out preventive health behavior than those who reported no attendance. It was further determined that frequency of ill health strongly discriminated for the practice of various types of preventive health behavior. The author suggested that, based on his findings, that the study's sample group of women (aged 45-64) were largely non-compliant as to preventive behavior, women were evidently receiving cervical smears as part of other medical procedures and not necessarily because they asked for them.

Eve (1988) tested the hypothesis that the percent of variance explained in the use of health services by the health care services utilization model could be significantly increased by including measures of past use of health care services and of past health status. Utilizing data from older women, not living with a spouse, who participated in the *Social Security Administration Longitudinal Retirement History Survey*, the authors determined that measures of previous use of health care services were more strongly related to current use of health care services in 1979 than were measures of previous health status. The author notes that changes occurred, particularly in such enabling variables as income, private insurance and public insurance, and the need variables, as the test population moved from their pre-retirement years to their post-retirement years over the course of the ten-year study, thus making the study more relevant. As a result, the

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authors conclude that the use of health care services in the past is an especially important predictor of current use, due to increased knowledge of the availability of these services and how to gain access to them (Eve, 1988, p. M31).

Realized Access

> Realized access refers to the objective and subjective indicators of the actual process of seeking care. These are, in effect, indicators of the extent to which the system and population characteristics predict the demand for care (i.e., how much care is used, if any) and how satisfied potential or actual consumers are with the healthcare system (Aday et al., 1998, p.180).

There are two entities to realized access: (1) utilization and (2) satisfaction.

Utilization and Obtaining Preventive Services

The utilization of health services is characterized in terms of the site/type, purpose or time interval/volume of use (Aday et al., 1998; Aday & Andersen, 1975). The site/type of the medical care encounter refers to the place where care was received: doctor's office, hospital outpatient department, emergency room, etc. (Aday & Andersen, 1975).

Site/Type

Studies have shown that having a customary source of care, i.e., a regular place where one goes to receive health care, as well as continuity of care are important predictors of utilization and compliance (Aday, et al., 1980; Aday and Andersen, 1975; Becker, et al., 1972). Additionally, Aday, et al. (1984) states, "Those who have no

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regular source [a particular provider] tend to have the lower utilization rates" (p. 71).

According to Hayward, et al. (1988), there are five variables significantly associated with receiving preventive care in the form of breast examinations, one of which is usual site of medical care. Another study cited a regular source of care as the single most important factor associated with women receiving preventive services (Bindman, et al., 1996). Women who received care from health maintenance organizations or private physicians were more likely to have had breast examinations than those at sites such as hospital outpatient clinics, community clinics and emergency rooms (Hayward, et al., 1988). Women who cited an emergency department as their regular place of care were the least likely to receive preventive care services (Bindman, et al., 1996).

The Bindman, et al. (1996) study concluded that the mean percentage of eligible preventive services received (breast examination, mammography, Papanicolaou smear and blood pressure screening), taking into account the women's eligibility for the services (only women over age 50 were eligible for all four) was 49% for those with no regular place of care. They further resolved that the mean percentage of eligible preventive services received was 83% for those with a regular place of care.

In a study that examined the utilization of both overall and Veterans' Administration health care services by female Veterans, utilization was studied as a set of contact decisions: whether or not to utilize any inpatient, Veterans' Administration inpatient, any outpatient and Veterans' Administration outpatient services (Romeis, Gillespie & Thorman, 1988). Results indicated that among other predictors of usage (health status and some demographic variables) of the Veterans' Administration facilities

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was the usage of other Veterans' Administration benefits, the absence of private insurance coverage, and low income (Romeis, et al., 1988). (Average age of females in the study was 47.33 years (Romeis, et al., 1988).)

Studies have also been conducted to examine why female Veterans were not using Veterans' Administration health services (Hoff & Rosenheck, 1998) and health care benefits as often as male Veterans (Dvoredsky & Cooley, 1985). Hoff & Rosenheck (1998) determined that the difference was explained by lower utilization by women of Veterans' Administration outpatient services, since inpatient admission rates were the same across gender, with the significant difference in the area of self-reported mental disorders for women. The authors explicitly stated that their findings were not consistent with the belief that overall utilization rates translate to lower utilization of all types of services and among all subgroups of Veterans (Hoff & Rosenheck, 1998, p. 1117). The study did recognize, however, that there was equality across gender of hospital admittance rates, but noted that female patients in Veterans' Administration hospitals are a decided minority and have been reported to have difficulty maintaining privacy and feeling safe (Hoff & Rosenheck, 1998, p. 1117).

Dvoredsky & Cooley (1985) examined the mental health care needs of women veterans through a demographic analysis of women who enlist and are discharged from the armed forces. Additionally, patterns seen in the women's use of available benefits, with particular emphasis on use of health care services were explained. The study determined that the lower utilization of Veterans' Administration health care benefits was perhaps due to a choice among female Veterans to receive health care in non-Veterans' Administration facilities. This was based on the fact that although female Veterans

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accounted for 4.1 percent of all Veterans in 1983, they accounted for only 1.5 percent of all discharges from Veterans' Administration hospitals in that year. Furthermore, the authors found that the patterns of utilization for female Veterans suggested a selective usage of Veterans' Administration hospitals for serious illnesses requiring protracted care.

The summary of results for another study explained how Veterans (not distinguished by sex) select the site where medical care will be received, i.e., Veterans' Administration facility, doctor's office, hospital outpatient department, emergency room, etc., as related to distance. This study specifically examined the effects of distance to Veterans' Administration facilities on the choice and level of utilization of Veterans' Administration outpatient services by U.S. Veterans (Burgess & DeFiore, 1994). It was determined, by way of the *1987 Survey of Veterans*, that distance is found to significantly affect the initial discrete choice for measured distances up to 60 miles at a decreasing rate. Then, once some Veterans' Administration outpatient contact is made, distance is a major factor only for the elderly in determining the amount of utilization. Further, the study revealed that elderly Veteran users living more than 30-40 miles from the nearest Veterans' Administration are expected to make fewer visits in a year than younger Veterans.

Purpose

The purpose of a visit means whether it was for preventive, illness-related or custodial care (Aday & Andersen, 1975). According to Hayward, et al. (1988), the lower rate of Papanicolaou smears in older women is not due to less frequent physician contact, as older women were equally likely to have had routine physical examinations and more

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likely to have had two or more physician visits within the last year. In addition, as earlier stated by Calnan (1985), consultation behavior and frequency of ill-health are strong discriminators for the practice of various types of preventive behavior, but that due to the low rate of utilization of preventive services by older women, he suggested that many women are evidently given cervical smears as part of other medical procedures and not necessarily because they demand it.

Simoes, et al. (1999) study concluded that there was a strong association between compliance with one type of screening and compliance with another, that physicians and other health workers were perhaps using one screening visit to either recommend or offer others. Other studies (Kirkman-Liff & Kronefeld, 1992; Hueston & Stiles, 1994) have sustained the association supported by Simoes, et al. (1999).

Data from 3,100 Arizona women indicated that women who had a Papanicolaou smear were far more likely to have had a mammogram (Kirkman-Liff & Kronefeld, 1992). In addition, a review of almost 1,400 women's charts in three rural Kentucky clinics serving mostly a low-income, underinsured population found that if a Papanicolaou smear had been performed in the previous three years there were increased odds that other screening tests, such as mammography, clinical breast examination and others had also been performed (Hueston & Stiles, 1994).

Time Interval/Volume

The time interval/volume for a visit may be expressed in terms of contact, volume or continuity measures (Aday & Andersen, 1975). Aday, et al. (1984) concluded that the place where one routinely goes for care (as well as the form of insurance coverage), have

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substantial impact on selected outpatient physician contact rates in particular (p. 69). As to female Veterans, it has been determined that although their health care within the Department of Veterans' Affairs (VA) has improved considerably since the early 1980s, problems reportedly continue (Weiss, 1995). Weiss suggests that the lack of privacy for women at many VA facilities, and incomplete physical examinations as continued problematic issues. These findings suggest that, at least for women, contact and volume may be substantially affected by VA shortcomings, and, as a result, hinder female Veterans in obtaining preventive services.

Additionally, Frame (1992) purports that continuity of care is a necessary element for reinforcing physician motivation for health maintenance. If physicians do not care for the same patient overtime, they will not experience a reward from the initial investment in health maintenance and will be much less likely to continue it. Frame, therefore, concludes that without continuity of care, the physician is less likely to feel responsible for the patient's welfare and less likely to experience a sense of failure if the patient contracts a preventable disease.

Satisfaction and Obtaining Preventive Services

Consumer satisfaction refers to the attitudes of those who have experienced a contact with the medical care system toward the system (Aday & Andersen, 1975). There are many aspects that could determine an individual's level of satisfaction, i.e., courtesy shown to them, level of information given, and the quality of service or care.

Just over ten years ago, it was demonstrated that a causal relationship exists between patient satisfaction and the use of health services in a study that examined a

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representative sample of low income families (Zastowny, Roghmann & Cafferata, 1989). Analysis of data from five major area clinics that were main sources of medical care for an upstate New York community (two HMOs, two hospital-affiliated teaching clinics and one continuity-of-care clinic) found that, in some providers, the association between use and satisfaction is positive and in others it is negative (Zastowny, et al., 1989). Although the authors noted that the data were quite old (Medicaid Files, 1973); that the measurement of need for health care and satisfaction involve patient report and secondary indicators such as family size; and that certain regulatory and financial aspects of health care and health delivery have changed, important fundamental processes had remained the same, such as what factors determine patient satisfaction with care.

A major finding of the Zastowny, et al. (1989) study was that utilization of the medical care system and consumer satisfaction are strongly associated in provider subsamples and often not in the authors' sample as a whole, which suggested the importance of the unique experiences of patients, the providers' structural characteristics, and the existence of different care environments or physician styles. Further, the authors state that disability and chronic illness may be especially powerful patient characteristics.

Related to the idea of customer service is the idea of skepticism toward medical care and health care utilization. A recent study assessed the impact of skepticism toward health care providers on health behavior and health care utilization using a cross-sectional analysis of data from the *1987 National Medical Expenditure Survey (NMES)* (Fiscella, Franks & Clancy, 1998). Skepticism was defined by the authors as doubts about the ability of conventional medical care to appreciably alter one's health status. The researchers explained that skepticism was independently found to be associated with

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many factors, including uniformly lower health care utilization and less prevention compliance, although it is significant to note that not having health insurance or a regular source of care were associated with this attitude, as well. The authors point out that the study highlights the relevance of patient attitudes to physician performance profiling.

In the summer of 1999, a study reported that there are currently more than 1.2 million women Veterans in the U.S. population, comprising almost 5% of the Veteran population, with 14% of all active duty military personnel being female (Guihan, Weaver, Cowper, Nydam & Miskevics, 1999, p. 203). In spite of this significant population, however, it was found that female Veterans cite health care administered by the Veterans' Administration as elusive, substandard and insensitive (Fox, 1983). Guihan, et al. (1999) state that, "in the past, women did not seek health care at Veterans' Administration medical centers because they were probably unaware of their eligibility for Veterans' Administration health care benefits" (p. 203). The authors note, however, that now, while the numbers of women being treated at Veterans' Administration facilities are rising, the frequency of care to women at any one Veterans' Administration medical center remains very low. The authors speculate that these facts raise serious concerns about the quality of care, especially as to procedures that are unique or predominant among women. Additionally, a study conducted by Calnan (1985) found that those who were critical of modern medicine or tended not to comply with medical instructions were less likely to participate in a healthy lifestyle or obtain preventive services such as a cervical smear than were those who had more faith in medicine.

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Health Risks

The environment directly influences the likelihood of exposures to significant environmental and behavioral health risks (Aday et al., 1998). The model (Figure 2) indicates behavioral health risks as a component of health risks.

Behavioral Risks and Obtaining Preventive Services

Aday et al. (1998, p. 186) describe behavioral risks as the lifestyle and health promotion practices of individuals. The Wolinsky & Johnson (1991) study found that worrying about one's health resulted in greater levels of health services utilization. The authors concluded that older adults with poorer perceptions of their health were more likely to use a variety of health services. While such findings provide considerable support for the importance of health beliefs and worries, the Eve (1988) study (noted previously) would seem to discount these findings, as it was determined that measures of previous use of health care services were more strongly related to current use of health care services in 1979 than were measures of previous health status.

A Japanese study examined the association of health-related worries (over cancers, diabetes, work-related stress, heart attack, obesity, general physical fitness, and/or other health conditions) and perceived health status (excellent, good, fair or poor) to the utilization of health care services in general for 19,139 Japanese local public service employees (Ren, Okubo & Takahashi, 1994). Results showed that perceived health status was associated with the utilization for almost all medical conditions, as was worry over a specific condition and the subsequent utilization of health care services). Although the focus of the work concluded that the implication of the findings was that

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measures targeting the relief of an employee's health-related worries through either health consultation or other health programs may contribute to the reduction of an employee's health care utilization and costs, the findings are relevant here as it serves to further the supposition of the predictive nature of perceived health status on obtaining preventive health services. As specifically related to females, it has been found that women who rated their health as very good or good were more likely to have carried out or used all of the forms of preventive health behavior -- apart from cervical smear -- than those in fair or poor health (Calnan, 1985).

A 1999 study found that patient factors were related to the odds of receiving prevention services in Veterans' Health Administration medical centers (Rabiner, Branch & Sullivan, 1999). In examining the association between patient characteristics and the odds of receiving 13 health promotion/disease prevention services recommended by the U.S. Prevention Services Task Force (USPSTF) for average-risk individuals, a mail survey was sent to a random sample of 68,422 Veterans who obtained primary care from any of the 153 Veterans' Health Administration facilities in 1996. Of those, 44,304 responded. The authors determined that, in addition to demographic factors and self-reported health, health risk behaviors were associated with the odds of receiving preventive services. Additionally, current smokers, heavy alcohol drinkers and females were less likely to receive many health promotion services, whereas regular exercisers, overweight individuals, males, those reporting poorer health, individuals reporting high or controlled blood pressure and those reporting high or controlled cholesterol levels were more likely to receive USPSTF-recommended prevention services. Several studies have examined general reasons among individuals for lack of compliance and participation in

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prevention services (Starfield, 1992; Simoes, et al., 1999, p. 126; Harlan, 1991). It has been noted that, quite simply, not everyone desires to participate in prevention when it requires personal actions or appears to be imposed (Starfield, 1992). The most common reasons given are procrastination; belief that it was unnecessary or that they did not view themselves as having a problem (Simoes, et al., 1999; Harlan, 1991).

Summary of Military Health System Literature

One of the goals of the MHS is to place more emphasis on women's health issues (Department of Defense Directive, 1998; Department of Defense, 1999). Studies have been conducted in areas that focus on assessing the needs of women veterans and others have looked into what improvements are needed in health services for women veterans (Dvoredsky & Cooley, 1985; Weiss, 1995). As indicated throughout this chapter, and as mentioned in earlier studies (Wolinsky et al., 1985; Horgan, Taylor, & Wilensky, 1983; Page, 1982), female veterans' use of health services does not differ much from their non-veteran counterparts. Studies have reported that predictors of usage of the Veterans' Administration facilities were perceived health status, some demographic variables, the absence of private insurance coverage, low income, and distance to nearest facility (Romeis, Gillespie, & Thorman, 1988; Hoff & Rosenheck, 1998; Dvoredsky & Cooley, 1985; Burgess & DeFiore, 1994).

According to the study conducted by Weiss (1995), it has been determined that although female Veterans' health care within the Department of Veterans' Affairs has improved considerably since the early 1980s problems reportedly continue. He suggests that the lack of privacy for women at many VA facilities, and incomplete physical

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examinations as continued problematic issues. These findings suggest that, at least for women, contact and volume may be substantially affected by VA shortcomings, and, as a result, hinder female Veterans in obtaining preventive services.

Research Design

This study used a correlational research design in the analysis of a secondary data set. The author believes this design is the strongest technique possible to discover the relationship between the variables of interest. The correlational research design is used to test the hypotheses regarding expected relationships. The 1998 Health Care Survey of Department of Defense Beneficiaries (HCSDB): Technical Manual (1999) reported that of the 206,007 questionnaires (Appendix A) mailed, 70,504 were completed and returned. The selection of the sub-sample was based on the following criteria: to be a female MHS beneficiary who is retired or the female beneficiary of a retiree and between 40 and 64 years of age. Therefore, the sub-sample meeting the criteria and used in this study consisted of 8252 females.

Research Question and Hypotheses

The major premise for this study was that subjects, who have obstacles, perceived or real, to medical care will be less likely to obtain preventive services than those who do not have obstacles to medical care. The central research question investigated was: What factors predict whether female military retirees or the female beneficiary of a retiree, ages 40 to 64, will obtain preventive health services? Twenty-seven hypotheses

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were developed to test the thesis of this study, each hypothesis was developed based on the review of literature.

Delivery System (Organization and Financing)

Hypotheses 1a through1f involved the characteristics of the delivery system determined by two elements – organization and financing. Organization is the degree of difficulty in two items: (1) getting necessary care and (2) delays in health care while waiting for approval. Financing is defined as the types of payment made to civilian facilities for outpatient visits and if the individual is covered by TRICARE. The hypotheses were:

Organization

Hypothesis 1a. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain Pap smears.

Hypothesis 1b. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain mammograms.

Hypothesis 1c. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain clinical breast examinations.

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Financing

Hypothesis 1d. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain Pap smears.

Hypothesis 1e. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain mammograms.

Hypothesis 1f. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain clinical breast examinations.

Population-at-Risk (Predisposing, Enabling, and Need)

Hypotheses 2a through 2i related to the characteristics of the population-at-risk defined by three sub-categories – predisposing, enabling, and need. Predisposing, the demographic characteristics of the population, was derived from four self-reported demographic questions, e.g., age, race, marital status, and the rank of the retiree. The enabling component was represented by eight questions, which relate to the means by which individuals obtain services. These questions dealt with the respondents' level of education, household income, their branch of service, the type of insurance they carry, if they have supplemental insurance, most used health care plan, the time it takes to travel to primary care manager's facility, and their location – MSA or non-MSA. Need was defined by an individual's perceived level of health. It was further defined by whether pain interfered with the respondent's normal work schedule, if the women felt calm and

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peaceful, downhearted and blue, or had a lot of energy in the last month and how much time did physical health or emotional problems interfered with social activities. The hypotheses were:

Predisposing Factors

Hypothesis 2a. Women who are younger, African American, married and a retired officer are more likely to obtain Pap smears.

Hypothesis 2b. Women who are younger, African American, married and a retired officer are more likely to obtain mammograms.

Hypothesis 2c. Women who are younger, African American, married and a retired officer are more likely to obtain clinical breast examinations.

Enabling Factors

Hypothesis 2d. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain Pap smears.

Hypothesis 2e. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain mammograms.

Hypothesis 2f. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental

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insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain clinical breast examinations.

Need Factors

Hypothesis 2g. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain Pap smears.

Hypothesis 2h. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain mammograms.

Hypothesis 2i. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain clinical breast examinations.

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Realized Access (Utilization and Satisfaction)

Hypotheses 3a through 3f were developed around the premise of realized access. Realized access was defined by two entities – utilization and satisfaction. Utilization was determined by how many days the women had to wait for an appointment with a military or a civilian provider and the wait between the time she made an appointment and day she was actually seen for minor care. Additionally, utilization was defined by whether or not the women received care right away when they needed it. Satisfaction was represented in three components– (1) satisfaction with the civilian health care system; (2) satisfaction with the military health care system; and (3) overall satisfaction. Civilian and military satisfaction range from rating the facilities overall and the services provided, to assessing the health care providers and staff. Overall satisfaction was defined by the women's rating of their personal doctor or nurse and the facility where they received care. In addition, how often the doctor or the staff showed respect, listened carefully, explained things in a way they could understand, spent enough time with them, and were as helpful as they thought they should be, determined the overall satisfaction level. The hypotheses were:

Utilization

Hypothesis 3a. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain Pap smears.

Hypothesis 3b. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain mammograms.

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Hypothesis 3c. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain clinical breast examinations.

Satisfaction

Hypothesis 3d. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain Pap smears.

Hypothesis 3e. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain mammograms.

Hypothesis 3f. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain clinical breast examinations.

Health Risk (Smoking)

Hypotheses 4a through 4c were developed around the concept of health risks. Health risk was evaluated by one behavioral risk, smoking and will hereafter be known as smoking health risks. There is one question that deals with smoking - whether they now smoke every day, some days or not at all. The hypotheses were:

Hypothesis 4a. Women who smoke are less likely to obtain Pap smears.

Hypothesis 4b. Women who smoke are less likely to obtain mammograms.

Hypothesis 4c. Women who smoke are less likely to obtain clinical breast examinations.

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Model of Access to Preventive Health Services

Hypotheses 5a through 5c were developed from a compilation of the previous hypotheses, which create the model of access to selected preventive health services. Therefore, the hypotheses include characteristics of the delivery system, characteristics of the population-at-risk, realized access, and smoking health risks. The hypotheses were:

Hypothesis 5a. The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain Pap smears.

Hypothesis 5b. The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain mammograms.

Hypothesis 5c. The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain clinical breast examinations.

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CHAPTER III

Methodology

This chapter presents the purpose of this study in addition to a detailed description of the exact steps taken to obtain responses from participants of this study from the existing data set. A description of the original study sample is then provided followed by the instrumentation section of this chapter. The instrumentation section describes the actual survey and how it was assessed for face, content, and construct validity. A test of reliability was later conducted on each factor and an account of the operational definitions was made. Further, a description of the statistical tests preformed to address the hypotheses was provided in this chapter, concluding with the results of the Institutional Review Board.

Purpose

Using an adaptation of Aday et al. (1998) model of the framework for classifying topics and issues in health services research, this study examined what factors predict whether female military retirees or the female beneficiary of a military retiree, ages 40 to 64, to obtain selected preventive health services. Although this study focused on the health of female military beneficiaries, there are several implications for metropolitan statistical areas (MSA). Military beneficiaries makeup a large segment of the population in many MSAs and are included in the description of the communities' overall health. This study assessed, through the analysis of a secondary data set, if the female military

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beneficiaries who are retired or the female beneficiary of a retiree, living in MSAs verses non-MSAs, differ in obtaining preventive services.

Procedures

The 1998 HCSDB: Technical Manual (1999) points out that,

> the Survey was fielded by mail. Out of 206,007 adults sampled, DRC [United Healthcare, Data Recognition Corporation] mailed 206,007 questionnaires in Wavel; mailings to beneficiaries over age 65 occurred in November and December 1998; mailings to all other beneficiaries occurred in January and February 1999. Wave 1 re-mailings and Wave 2 mailings and re-mailings had the same schedule for all beneficiaries. The final mailing took place on April 27, 1999. Of these questionnaires, 70,690 were completed and returned by June 11, 1999, for a response rate of 34 percent.

The 1998 HCSDB: Technical Manual (1999) further explains that only those surveys in which the beneficiaries who were eligible for the survey and returned a questionnaire with at least one question answered were retained. All other records were dropped. The researchers identified 70,504 eligible respondents, 34.2 percent of the total mailed 1998 questionnaires. Additionally, as shown in Table 2 and according to the 1998 HCSDB: Technical Manual (1999) 35,436 (17.2% of the total) surveys were mailed to retirees and their families under age 65 and 18,631 (9 percent of the total) returned valid (non-blank questionnaires or responding to at least one question) surveys, for a response rate of 53 percent. However, based on the criteria set for selection of the sub-sample for

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Table 2

Frequency and Percent Distribution of Final Disposition of Survey Sample by Beneficiary Group

Final Survey Disposition	Active Duty Personnel	Active Duty Family Members Under Age 65	Retirees and their Families Under Age 65	Non-Active Duty Age 65 or Over	Total
Returned non-blank survey	30,227 14.7%	14,961 7.3%	18,631 9.0%	6,871 3.3%	70,690 34.3%
Total	115,212 55.9%	43,500 21.1%	35,436 17.2%	11,859 5.8%	206,007 100.0%

Note. Adapted from: 1998 Health Care Survey of DoD Beneficiaries: Technical Manual. (1999, July). Washington, DC: Mathematica Policy Research, Inc.

this study, female MHS beneficiaries who are retired or the female beneficiaries of a retiree and between 40 to 64 years of age, the result was a sample size of 8252 females.

Data set was requested from the Director of Program Evaluation, Health Program Analysis and Evaluation, Office of the Assistant Secretary of Defense, Health Affairs (Appendix B). Recognizing the need to adhere to the Privacy Act of 1974, it was requested that all patient identifiers be eliminated from provided resources. The data set was forwarded to the researcher and authorized for use in this study.

Description of the Original Study Sample

This study was conducted via analysis of a secondary data set that was derived from the 1998 HCSDB. The 1998 HCSDB: Technical Manual reported that:

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The HCSDB is a mail survey of a representative sample of military health system (MHS) beneficiaries. The DoD Defense Manpower Data Center prepared the sampling frame, which consists of selected variables for each MHS beneficiary in the Defense Enrollment Eligibility Reporting System (DEERS) database in July 1998. DEERS includes everyone who is eligible for a MHS benefit (i.e., everyone in the Uniformed Services -- Army, Air Force, Navy, Marine Corps, Coast Guard, the Commissioned Corps of the Public Health Service (PHS), National Oceanic and Atmospheric Administration (NOAA), Guard/Reserve personnel who are activated for more than 30 days per year-- and other special categories of people who qualify for benefits). The DEERS database includes those on active duty, retired from military careers, immediate family members of people in the previous two categories, and surviving family members of people in these categories.

According to the DEERS Program Manual (1982),

Enrollment in DEERS is mandatory for all beneficiaries. All active duty personnel and retirees entitled to retirement pay are enrolled automatically by their parent Uniformed Service. However, all dependents must be enrolled by their active duty or retired sponsor. In addition, selected sponsors (those who are issued a DD Form 1173, Uniformed Services Identification and Privilege Card) must enroll themselves and their dependents.

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Instrumentation

According to the 1998 HCSDB: Form A Codebook and User's Guide (1999), the HCSDB is an annual health survey of active duty military personnel, retirees, and their adult family members. The survey is sponsored by the Assistant Secretary of Defense (Health Affairs), under authority of the National Defense Authorization Act for Fiscal Year 1993 (P.L. 102-484). The Adult Form A survey (Appendix A) is intended to assess beneficiaries' satisfaction with and access to health care, knowledge of the TRICARE system, and use of preventive and other health care services.

The Adult Form A survey is comprised of 120 questions. According to the 1998 HCSDB: Technical Manual the survey includes topics on use of health care, use of preventive health care, understanding of TRICARE, type of health plan covering the beneficiary, satisfaction with health plan, satisfaction with health care, access to health care, beneficiaries' health status, and demographic characteristics.

Face Validity

Initially, the instrument was assessed for face validity by the investigator. *Face validity* was used to indicate whether the instrument, on the face of it, appears to measure what it claims to measure (i.e., will persons making use of this instrument accept it as a valid measure in the everyday sense of the word?) (Isaac and Michael, 1995). The instrument was administered to three volunteers, all of whom were health professionals, to assess the face validity of the instrument. Each judged the instrument as an accurate measure of satisfaction with and access to health care, knowledge of the TRICARE

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system, and use of preventive and other health care services. The same three health professionals then assessed the instrument for content validity (Appendix D).

Content Validity

Content validity determined how well the content of the questionnaire tests the kinds of things about which conclusions are to be drawn (Isaac and Michael, 1995). To estimate content validity, the health professionals were given the definition of each category included in the adapted theoretical framework (1998). Each expert was asked to identify all possible items from the questionnaire that represented the categories from the adapted theoretical framework. If two of the three volunteers agreed that the item was representative of the category, then the item was considered valid. As shown in Appendix E, the three volunteers chose questions from the instrument (Appendix A) that related to the items in the adapted theoretical framework. The results of the content validity, which are shown in detail in Appendix E, are as follows:

Delivery System – Organization. As a measure of the Delivery System, the panel chose six questions dealing with the process of gaining entrance into the system to define organization. The selection by the experts includes questions such as whether TRICARE Prime improves access to care, in general, and preventive care, specifically. Additionally, the experts selected questions involving how much of a problem did the women have getting care that they or their doctor believed to be necessary.

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Delivery System – Financing. Financing was defined by seven questions involving an individual's source of payment and how long they were covered by TRICARE. The questions selected incorporated how many nights the women stayed at a civilian or military facility that was primarily paid by a TRICARE plan or by private payment, Medicare, or Medicaid.

Population-at-Risk – Predisposing. Population-at-Risk was categorized as those predisposing, enabling, and need characteristics and factors previously mentioned. The volunteers chose eight questions to describe the predisposing variables, which are the properties that exist prior to the onset of illness episode. They include such things as age, sex, and race factors.

Population-at-Risk – Enabling. Seventeen questions were selected to describe the enabling factors. These factors refer to the specific resources for the individual and her family i.e., income, insurance coverage.

Population-at-Risk – Need. Need was also a category of population-at-risk and the volunteers selected five questions that related to perceived illness levels. The questions chosen dealt with whether, during the past fours weeks, the women felt calm and peaceful, had a lot of energy, or felt downhearted and blue. Additionally, the health care professionals selected questions dealing with whether physical health or emotional problems interfered with normal work or social activities.

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Realized Access – Utilization. Realized Access was defined by Aday et al. (1998) as utilization and satisfaction. According to the three health professionals, eighteen questions dealt with the site/type, purpose and time interval.

Realized Access – Satisfaction. Satisfaction had a larger selection of questions to define the attitudes of those who have experienced a contact with the medical care system. Twenty-nine questions were chosen to represent satisfaction.

Health Risks – Smoking. The professionals defined the final category of behavioral risks, lifestyle and health promotion practices of individuals, as smoking health risks, with one question relating to smoking.

Construct Validity

Upon establishing both face and content validity, *construct validity* was assessed. Construct validity is the extent to which an instrument is said to measure a theoretical construct or trait (Lobiondo-Wood and Haber, 1998). After the elimination of nominal level items and to determine construct validity, a factor analysis was run on all questions that were on an ordinal scale or higher. *Factor analysis* is a technique for analyzing patterns of intercorrelation among many variables; basically, it elucidates the underlying meaning of concepts (Isaac and Michael, 1995; Polit, 1996).

One hundred and eight questions were analyzed for the sample of 8252 women, using the principal axis method of factor extraction. The factors were orthogonally rotated using the varimax procedure. Using a minimum eigenvalue of 1.0 as the criterion for

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factors, ten factors accounting for 42.3% of the variance were extracted. Those factors were:

Factor 1 – Civilian Health Care System Satisfaction

Factor 2 – Military Health Care System Satisfaction

Factor 3 – Overall Health Care System Satisfaction

Factor 4 – Need

Factor 5 – Health Care Plan (TRICARE Prime)

Factor 6 – Organization

Factor 7 – Health Plan Experience

Factor 8 – Financing

Factor 9 – Utilization

Factor 10 – Health Care Plan Claims

Even though ten factors were extracted, only seven of the factors were congruent with the adapted theoretical framework (Figure 3) addressed in this study. Three factors were not considered for further analyses as they deal with a specific type of insurance plan available and were not applicable to the entire sub-sample. Thus, those pertinent factors were:

Factor 1 – Civilian Health Care System Satisfaction

Factor 2 – Military Health Care System Satisfaction

Factor 3 – Overall Health Care System Satisfaction

Factor 4 – Need

Factor 6 – Organization

Factor 8 – Financing

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Factor 9 – Utilization

According to Kerlinger (1986) items whose correlations fall below .30 for criterion acceptability do not represent the criterion trait measured and should be dropped from the scale thereby enhancing scale reliability. Therefore, only those items at or above r = .30 were considered a sufficient loading for the factor. The results, presented in Appendix F, are ordered and blocked by size of loading to facilitate interpretation of the factor matrix. An explanation of each factor is as follows:

Factor 1 – Civilian Health Care System Satisfaction. The first factor, which accounted for 12% of the variance, had twenty-one items with loadings above the cutoff of .30. This factor captures various levels of satisfaction, specifically, with the civilian health care system; and was named Civilian Health Care System Satisfaction.

Factor 2 – Military Health Care System Satisfaction. The second factor, which accounted for 11% of the variance, also had twenty-one items with loadings above .30. This factor captures various levels of satisfaction with the military health care system; this factor was called Military Health Care System Satisfaction.

Factor 3 – Overall Health Care System Satisfaction. The third factor had eight items with loadings above the cutoff. This factor captures the overall satisfaction with healthcare facilities in general; this factor was called Overall Satisfaction.

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Factor 4 – Need. Factor 4 had seven items with high loadings. The items dealt with whether, during the past fours weeks, the women felt calm and peaceful, had a lot of energy, or felt downhearted and blue. Additionally, the health care professionals selected questions dealing with whether physical health or emotional problems interfered with normal work or social activities. Based on the definitions of the concepts in the adapted theoretical model, each question was representative of different aspects of need, and was therefore labeled Need.

Factor 6 – Organization. Factor 6 had three items loading above the .30 cutoff. Each question related to the administrative and organization of health services; therefore, the factor was named Organization.

Factor 8 – Financing. Factor 9 had two items loading above the .30 cutoff. The items addressed issues of financing and were named Financing.

Factor 9 – Utilization. The final factor, factor 10, has four items loading above the cutoff. This factor dealt with the use of services and was named Utilization.

Predisposing, Enabling and Smoking Health Risks. These variables were not included in the final analysis, due to the level of data (nominal) categories considered in this study. Based upon the selections made by the professional panel for content validity and congruent with the definitions provided by Aday et al. (1998) the predisposing (demographics) factor was defined by four questions, enabling by thirteen questions and

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smoking health risks by one. Prior to any hypothesis testing, a test of reliability was conducted to determine the final set of questions.

Test of Reliability

Cronbach's alpha was used to determine the reliability of those factors that represent the predictor variables. Reliability is the degree of dependability or accuracy with which an instrument measures the attribute it is designed to measure (Polit, 1996). Polit (1996) specifically defines Cronbach's alpha as an index of the degree to which all of the different items in a scale are measuring the same attribute. The author declared as the .5 as the cutoff for acceptable and unacceptable reliabilities. According to Kerlinger and Lee (2000), a satisfactory level of reliability is dependent upon how the measure is used. The further state that in some cases a reliability value of .5 or .6 is acceptable, whereas in other a value of .9 is barely acceptable. A low reliability value may be acceptable if the measuring instrument has high validity (Kerlinger and Lee, 2000, p. 662).

The predictor variables, characteristics of delivery system, the population-at-risk, realized access, and smoking health risks are all represented by questions that formed the previously mentioned factors. In the category of delivery system there are two elements. The first, organization, was developed from the Organization Factor. A test of reliability conducted on the items that represent this factor with an initial alpha level of .62 was calculated. A second test of reliability indicated an alpha of .85 after removal of one item (H98054, dealing with how much of a problem, if any, was it to get a referral to a specialist). This resulted in the Organization Factor consisting of two questions. The

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second category of the delivery system, financing, was developed from the Financing Factor. The Financing Factor is comprised of two items, and has a reliability of .48. Since the factor consists of only two items and the reliability coefficient was close to the acceptable .5 cutoff no items were deleted. Additionally, as previously stated, "a low reliability value may be acceptable if the measuring instrument has high validity" (Kerlinger and Lee, 2000, p. 662).

Characteristics of population-at-risk are defined by three categories – predisposing, enabling, and need. Need the only category of the three not measured on a nominal level, consisted of seven items dealing with the women's level of health. Upon initial analysis, the Need factor yielded an alpha level of .23, after removal of one item (H98112 during the last 12 months, how many days did you miss from work due to illness or injury) resulted in an alpha of .84.

Realized Access has two components – utilization and satisfaction. The Utilization Factor originally contained four questions as previously discussed, however this resulted in an alpha level of .24. After eliminating the question with lowest item (question H98087), the Utilization Factor is now represented by three questions, with a resulting alpha level of .53.

Although originally conceptualized as one variable, the factor analysis revealed three separate variables. These variables represent satisfaction with the civilian health care system, the military health care system or overall satisfaction. Satisfaction with the civilian health care system and the military health care system include twenty-one questions dealing with various aspects of satisfaction, with alpha levels of .98 and .99,

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respectively. The Overall Satisfaction Factor consists of the eight items previously discussed and generated an alpha level of .81.

Smoking health risks involves those behavioral risks that an individual might take. Only one question defines Smoking Health Risk and therefore no test of reliability was conducted. A comparison of the items selected by the panel of health professional to that of the factor analysis after the test of reliability is displayed in Appendix G.

As previously mentioned, characteristics of population-at-risk are also defined by predisposing and enabling factors. Predisposing, the demographic characteristics of the population are derived from self-reported demographic questions. Enabling factors, which are those means individuals have that renders use of services are represented. Both factors are measured on nominal levels and it is not appropriate to obtain a reliability measure for these characteristics.

Comparison of Categories – Content and Construct Validity

A summary of the comparison between content and construct validity is shown in Appendix G. The category of Organization, based on content validity, was represented by seven questions; however, factor analysis supported that only three of those questions. After a test of reliability one of the questions was eliminated to increase the alpha level, resulting in Organization being defined by the two questions.

The category of Financing was represented by seven questions based on content validity. Factor analysis, however, determined only two of those questions define Financing. Need, the next category, was initially defined by five questions based on content validity. Factor analysis supported seven questions related in this category;

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however, after a test of reliability one was removed to increase the alpha level. Content validity for the next category, resulted in eighteen questions defining Utilization. Factor analysis defined the category with four questions, one of which was removed after a test of reliability, thereby defining utilization by three questions.

The final three categories all deal with varying levels of satisfaction. The process of content validity defined satisfaction as a general category. Twenty-nine questions were selected to define satisfaction overall. Conversely, factor analysis resulted in the separation of satisfaction into three categories: Civilian, Military, and Overall Satisfaction. Civilian Satisfaction and Military Satisfaction were both measured by twenty-one questions, respectively while Overall Satisfaction was measured by nine questions.

Based upon face, content, and construct validity, items that did not relate directly to this study were eliminated (listed in Appendix H for informational purposes only) and no longer considered for purposes of this study. Further, where possible and without loss of information, each question that compose the individual factors, were coded on a numeric scale in order to make calculations for the creation of sub-scales. Those responses, which were on a numeric scale, were added together to create sub-scales for the following factors: civilian satisfaction, military satisfaction, and overall satisfaction. These three factors were the only ones created into summated rating scales because they most closely fit the criteria described by Kelinger and Lee (2000). The summated rating scale is a set of attitude items, all of which are considered of approximately equal "attitude value," [an organized predisposition to think, feel, perceive, and behave toward a referent or cognitive object] and to which participants respond with degrees of

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agreement or disagreement (Kerlinger and Lee, 2000, p. 712). According to Kerlinger and Lee (2000) it is important to note two characteristics of summated rating scales: first, *U*, the universe of items, is conceived to be a set of items of equal "attitude value;" one item is the same as any other item in attitude scale (p. 712). The second characteristic according to Kerlinger and Lee (2000) is that the scales can allow for the intensity of attitude expression; participants can agree or they can agree strongly (p. 713). Based on these characteristics, civilian satisfaction, military satisfaction, and overall satisfaction were created into sub-scales, identification of these sub-scales is found in Appendix I. All of the final categories of variables and factors and their corresponding questions used for future analyses are found in Appendix J. These variables and factors are representative of the adapted theoretical framework (Figure 3).

Operational Definitions

After ascertaining validity and reliability, the operational definitions were established. The criteria variables of this study were whether the women obtained preventive health services, defined as:

- how recently the women had a Pap smear;
- how recently the women had a mammogram; and
- how recently the women had a clinical breast examination.

The criterion variables were measured on an ordinal level that addresses when the women had a Pap smear, a mammogram, and a clinical breast examination. Using a five-point scale the responses were: 5 - within the last twelve months, 4 - one to two years ago, 3 - more than two but less than five years ago, 2 - five or more years ago, 1 - never had any

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of the services. There was also a logical assumption made in this study that how recently the women had a preventive health service is correlated with the likelihood of the women obtaining the preventive health service in the future. Based on the adapted model the predictor variables were conceptualized as follows:

Delivery System

Characteristics of the delivery system were determined by two elements:

1. Organization, the level of difficulty of getting necessary care; and delays in health care while waiting for approval; and
2. Financing defined by the type of payment made to civilian facilities for outpatient visits and if the individual is covered by TRICARE.

Population-at-Risk

Characteristics of population-at-risk were defined by three different variables:

3. Predisposing factors signified by the woman's current age, race or ethnic background, marital status, and her or the woman's spouse's retirement rank;
4. Enabling is defined by the woman's highest grade or level of school completed, total family income, affiliated branch of service, and if she is enrolled in TRICARE Prime. Enabling is further defined as type of supplemental insurance carried, the type of health plan most often used in the last year, if it takes more than thirty minutes to reach the primary care manager's facility and residing in a MSA. Residing in a MSA was developed from the variable enrolled DMIS (Defense Medical Information System) which provides the geographic region and facility to which a person is

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enrolled for medical care. From the given region or facility the definition of MSA, referred to as a county or group of adjoining counties that contains at least one urbanized area of 50,000 inhabitants or more ("Standard Metropolitan Statistical Area", 2000), is applied; and

5. Need initially defined on a general basis - an individual's perceived level of health. It is further defined by whether pain interfered with the respondent's normal work schedule. Need is also assessed by mental health factors such as whether the women felt calm and peaceful, downhearted and blue, had a lot of energy in the last month and how much time did physical health or emotional problems interfere with social activities.

Realized Access

Defined by two entities:

6. Utilization determined by how many days the women had to wait for an appointment with a military or a civilian provider and the wait between the time she made an appointment and day she was actually seen for minor care. Additionally, utilization is defined by whether or not the women received care right away when they needed it; and
7. Satisfaction represented in three different parts – (1) satisfaction with the civilian health care system; (2) satisfaction with the military health care system; and (3) satisfaction overall. Civilian and military satisfaction ratings considered the facilities overall and the services provided, in addition to assessing the health care providers and staff. Overall satisfaction is defined by the women's rating of their personal

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doctor or nurse and the facility where they received care. Rankings of overall satisfaction also included how often the doctor or the staff showed respect, listened carefully, explained things in a way they could understand, spent enough time with them, and were as helpful as they thought they should be. As previously explained, due to the number of questions in each category of satisfaction and the characteristics of summated rating scales, sub-scales were created for each individual satisfaction level.

Smoking Health Risk

8. The behavioral health risk, smoking is defined by the 1998 HCSDB question, do you smoke every day, some days or not at all?

Analysis of Data

Univariate statistics, analyses involving one variable at a time, were conducted to obtain summary information about the distribution, variability, and central tendency of the variables (Polit, 1996; SPSS, 1999). After assessment of the variables, if the variables had categories with less than 5 percent representation, they were recoded, a process of collapsing the ranges of the existing values into new values (Polit, 1996; SPSS, 1999).

Bivariate analyses were used to examine the empirical relationship between two variables. Crosstabulations (also known as the two-way contingency table analysis), which are the calculation of a two-dimensional frequency distribution for categorical variables (Polit, 1996), were also conducted. This particular analysis was used to

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evaluate whether a statistical relationship exists between two chosen variables. The Pearson chi-square test statistic was used as the test of significance with the level of significance set at .05.

Simple linear regression analysis which is the statistical procedure for predicting values of a dependent (criteria) variable based on the value of one independent (predictor) variable (Polit, 1996), was then conducted. Regression is a useful technique that allows one to predict outcomes and explain the interrelationships among variables (Munro and Page, 1993).

Multivariate statistics were used to provide a simultaneous analysis of the multiple independent and dependent variables (Grimm & Yarnold, 1995, p. 4). There are numerous statistical test that can be classified in two broad groups: parametric and nonparametric (Polit, 1996). According to Polit (1996), parametric tests are ones that involve the estimation of at least one parameter and nonparametric do not test hypotheses about specific population parameters (p.114). The use of parametric and nonparametric tests is controversial (Polit, 1996, p. 115); a decision of which type of statistic test to use was made. Kerlinger & Lee (2000) explain,

> A parametric statistical test depends on a number of assumptions about the population from which the samples used in the test are drawn. The best-known assumption is that the population scores are normally distributed. A nonparametic or distribution-free statistical test depends on no assumption as to the form of the sample population or the values of the population parameters. The problem of assumption is difficult, thorny, and controversial (p. 415).

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However, Kerlinger & Lee (2000) state that some statisticians and researchers believe that the violation of the assumptions is not so serious because tests like the *F*- and *t*-tests are robust, which roughly means that they operate well even under assumption violations (p. 415). Additionally, researchers, Toothaker and Newman (1994), also favor the use of parametric tests for nonnormal data. Therefore, because parametric tests are much more powerful and have a higher probability of correctly rejecting the null hypothesis than when a nonparametric procedure is applied to the same data set (Polit, 1996, p. 115) the multivariate statistics used for this study was multiple regression analysis.

Multiple regression analysis, which is an extension of simple linear regression and allows researchers to improve predictive power through two or more independent variables to predict a dependent variable, was also conducted (Polit, 1996). A simultaneous multiple regression model in which all the predictor variables are entered at the same time was utilized. The simultaneous multiple regression model, also known as the standard multiple regression model, was utilized because all independent variables are dealt with on an equal footing (Polit, 1996). According to Polit (1996) this strategy is most appropriate when all independent variables are of equal importance to the research problem. For this study, the dependent/criterion variables were whether the women obtained preventive health services, defined as:

- how recently the women had a Pap smear;
- how recently the women had a mammogram; and
- how recently the women had a clinical breast examination.

The independent/predictor variables were those that defined characteristics of the delivery system – organization and financing, the characteristics of population-at-risk –

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predisposing, enabling, and need, realized access – utilization and satisfaction, and smoking health risks, all based upon the adapted model (Figure 3).

In order to assess the overall effectiveness of the theoretical framework (hypotheses 5a-c), those variables measured on the nominal level (qualitative predictor variables) were dummy coded. In order to use qualitative predictor variables in a regression analysis, it is necessary to transform the variables into quantitative dummy variables (Kachigan, 1991). Essentially a conversion of each level of a qualitative variable into a binary variable is conducted (Kachigan, 1991). This method of coding categorical levels of a variable into dichotomous variables, uses codes of 0 and 1 to represent the presence or absence of an attribute, e.g., female = 1, male = 0 (Polit, 1996). Before actually coding the data, reference groups were chosen. Based on statistical grounds, the choice of a reference group is arbitrary (Hardy, 1993), however, the chosen reference category, i.e., "white" expresses the ability of the other categories (black, Hispanic, etc.) to obtain preventive health services relative to the chosen reference category. Therefore, the reference group should be well defined (Hardy, 1993). For this study the chosen reference group was a category at the midrange point. Selecting the midrange point reduces the likelihood that less careful researchers will seize on one statistically significant coefficient without first checking to see if the variable, as a multicategory predictor, registers a significant effect (Hardy, 1998, p. 10). Complete coding and data analyses are presented in Chapter 4.

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Institutional Review Board

Approval for this study was obtained through the institutional review board of Old Dominion University, College of Health Sciences (Appendix K) and the Office of the Assistant Secretary of Defense, Health Affairs: Director, Program Evaluation, Health Program Analysis and Evaluation. All data were handled according to the policies and procedures of Old Dominion University Human Subjects Review Board and the Privacy Act of 1974.

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CHAPTER IV

Results

The purpose of this study was to determine what factors predict whether female military retirees or the female beneficiary of a military retiree, ages 40 to 64, will obtain preventive health services. This chapter will consist of a description of the total sample, the total female sample, and the sub-sample of women between ages 40 and 64. Statistical analyses used includes two-way contingency analyses of the predisposing and enabling characteristics and crosstabulations of whether women obtained preventive health services within the recommended timeframe by predisposing and enabling characteristics for the selected sample. Additionally, the chapter provides descriptive statistics for each criterion variable and finally, hypothesis testing.

Description of the Total Sample: Frequencies

An overview of the demographic characteristics (predisposing and enabling factors) of the total sample population is presented in Tables 3 and 4. The total sample consented of the previously mentioned 70,504 questionnaires returned. The total sample the ages ranged from 18 to 99 with the average age being 42.5 (SD = 15.3). As shown in Table 3, seventy-five percent of the respondents are white and 79% are married. Forty-three percent of the total sample are active duty personnel, of which 71% are enlisted, 26% are officers, and 3% are warrant officers. Twenty percent of the total sample are family members (beneficiaries) of the active duty member, 27% are retirees or the family member of the retiree under 65 years old, and 10% are retirees or the family member of

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Table 3

Predisposing Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
Preventive Health Service Obtained: Pap Smears						
<12 months ago	21873	31	21788	69	5344	65
1-2 years ago	7094	10	7060	22	1911	23
>2<5 years ago	970	1	964	3	300	3
5> years ago	1211	2	1200	4	556	7
Never	2363	3	431	1	44	1
Missing Data	36993	53	382	1	97	1
Total	70504	100	31825	100	8252	100
Preventive Health Service Obtained: Mammograms						
<12 months ago	10121	14	10043	32	5255	64
1-2 years ago	3275	5	3244	10	1552	19
>2<5 years ago	1297	2	1280	4	577	7
5> years ago	736	1	727	2	330	4
Never	3244	5	2121	7	377	4
Missing Data	51831	73	14410	45	161	2
Total	70504	100	31825	100	8252	100

(table continues)

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Table 3

Predisposing Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
Preventive Health Service Obtained:						
Clinical Breast Examination						
<12 months ago	11560	17	11489	36	5306	64
1-2 years ago	3055	4	3027	9	1346	16
>2<5 years ago	1199	2	1181	4	528	7
5> years ago	737	1	731	2	376	5
Never	1533	2	514	2	181	2
Missing Data	52420	74	14883	47	515	6
Total	70504	100	31825	100	8252	100
Race						
American Indian or Alaska Native	482	1	215	1	57	1
Asian	3291	5	2182	7	749	9
Black or African American	7402	10	3081	10	554	7
Hispanic or Latino	3931	5	1735	5	321	4
Native Hawaiian or other Pacific Islander	808	1	374	1	102	1
White	52841	75	23514	74	6360	77
Missing Data	1749	3	724	2	109	1
Total	70504	100	31825	100	8252	100

(table continues)

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Table 3

Predisposing Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
Marital Status						
Never Married	7110	10	2220	7	67	1
Married	55456	79	25839	81	7141	86
Separated	1269	2	518	2	134	2
Divorced	3536	5	1097	3	241	3
Widowed	2477	3	1878	6	653	8
Missing Data	656	1	273	1	16	0
Total	70504	100	31825	100	8252	100
Rank of Retiree						
Officer	18394	26	7908	25	1773	22
Warrant Officer	2053	3	858	3	274	3
Enlisted	50057	71	23059	72	6205	75
Total	70504	100	31825	100	8252	100

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Table 4

Enabling Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
Branch of Service						
Army	23973	34	10797	34	2642	32
Public Health Service/ National Oceanic & Atmospheric Ad/ Coast Guard	1207	2	669	2	128	2
Air Force	24266	34	11485	36	3429	41
Marine Corps	4945	7	1786	6	416	5
Navy	16111	23	7086	22	1636	20
Missing Data	2	0	2	0	1	0
Total	70504	100	31825	100	8252	100
Education						
8th grade or less	527	1	422	1	233	3
Some high school	1519	2	1279	4	602	7
High school graduate or GED	15925	23	8257	26	2791	34
Some college or 2-year degree	30289	43	13265	42	2892	35
4-year college graduate	9339	13	4382	14	771	9
More than 4-year college degree	11671	16	3745	12	798	10
Missing Data	1234	2	475	1	165	2
Total	70504	100	31825	100	8252	100

(table continues)

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Table 4

Enabling Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
Income						
Less than $20K	8099	11	3661	12	735	9
$20-$39K	25844	37	11744	37	2354	29
$40K-$59K	17651	25	7910	25	2251	27
$60K-$79K	8953	13	3946	12	1271	15
$80K and over	7071	10	2911	9	1183	14
Missing Data	2886	4	30172	5	458	6
Total	70504	100	1653	100	8252	100
TRICARE Prime	25841	37	17332	55	4964	60
Supplemental Insurance	14254	20	6601	21	2358	29
Most Utilized Health Care Plan						
TRICARE Prime	44306	63	21033	66	4857	59
TRICARE Prime Senior*	327	1	164	1		
TRICARE Standard/Extra	7090	10	2919	9	893	11
Medicare Part A & B	4215	6	1744	5	86	1
Other Civilian Insurance/HMO	8206	11	3734	12	1960	24
Missing Data	6360	9	2231	7	428	6
Total	70504	100	31825	100	8252	100

*Note: TRICARE Prime Senior not considered in total sub-sample.

(table continues)

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Table 4

Enabling Characteristics

Variable	Total Sample		Total Female Sample		Total Sub-Sample	
	N	%	*N*	%	*N*	%
More than 30 minutes travel to Primary Care Manager						
Never	43109	61	20463	64	4946	60
Sometimes	8423	12	3880	12	873	10
Usually	3541	5	1626	5	467	6
Always	8256	12	3742	12	1382	17
Missing Data	7175	10	2114	7	584	7
Total	70504	100	31825	100	8252	100
Reside in a Metropolitan Statistical Area	14815	21	8410	26	3051	37

the retiree 65 years and older. As shown in Table 4, 34% of the respondents are affiliated with the Air Force and the Army, respectively, 23% with the Navy, 7% with the Marine Corps, and 2% are associated with the Coast Guard, PHS, and NOAA. Twenty-three percent were high school graduates, while 43% had some college.

Table 4 presents the variation of family income across the sample, 11% earned less than $20 thousand a year and 10% earned $80 thousand or more a year. Most, 37% and 25%, of the respondents' family income fell in the middle range of $20 to $39 thousand or $40 to $50 thousand dollars a year, respectively. Thirty-seven percent are enrolled in TRICARE Prime and 20% have supplemental insurance; therefore, the most utilized health care plan was TRICARE Prime (63%) and other civilian HMOs (11%). The majority, 61%, never have to travel more than thirty minutes to their primary care manager's facility and 21% reside in a MSA.

Description of the Total Female Sample: Frequencies

Of the total respondents to the survey, 31,825 were women, representing 45% of the sample. Tables 3 and 4 also present an overview of the demographic characteristics (predisposing and enabling factors) for the total female sample. Of those 31,825 women, the average age was 42.3 (SD = 15.36). Nineteen percent (n=31,825) of the women are on active duty, Of which 72% are enlisted, 25% are officers, and 3% are warrant officers. Forty-two percent of the total female sample are family members of the active duty member, 30% are retirees or family members under 65, and 9% are retirees or family members 65 years or older. As shown in Table 3, most had a Pap smear (69%) less than 12 months ago but the percent for mammograms (32%) and clinical breast examination

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(36%) less than 12 months ago were much lower. Seventy-four percent of the respondents are white and 81% are married. As shown in Table 4, 36% of the respondents are affiliated with the Air Force, 34% with the Army, 22% with the Navy, 6% with the Marine Corps, and 2% are associated with the Coast Guard, PHS, and NOAA. Twenty-six percent of the women were high school graduates, while 42% had some college.

As shown in Table 4, family income varied across the sample, 12% earned less than $20 thousand a year and 9% earned $80 thousand or more a year. Most, 37% and 25%, of the respondents' family income fell in the middle range of $20 to $39 thousand or $40 to $50 thousand dollars a year, respectively. Table 4 further displays a little more than half, 55%, of the women enrolled in TRICARE Prime and 21% maintain supplemental insurance; therefore, the most utilized health care plan was TRICARE Prime (66%) and other civilian HMOs (12%). The majority, 64%, never have to travel more than thirty minutes to their primary care manager's facility and 26% reside in a MSA.

Description of the Total Sub-Sample of Women 40-64: Frequencies

A sub-sample of 8252 MHS beneficiaries who are retired or the female beneficiary of a retiree 40 to 60 years of age was selected for analysis in this study. As previously mentioned data in Tables 3 and 4 represent an overview of the demographic characteristics of the selected population. The variables presented are those predisposing and enabling factors discussed in the adapted theoretical framework. In the sub-sample of the average age was 54.1 (SD=6.9) with a significant majority (96%) of the women being

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beneficiaries. Most had a Pap smear (65%), mammogram (64%), and clinical breast examination (64%) less than 12 months ago. As shown in Table 3, seventy-seven percent of the women are white and the majority (86%) are married. While all of the respondents or their spouse are retired, 75% of them were enlisted, 22% were officers and 3% were warrant officers.

As displayed in Table 4, the respondents or their spouse are retired from the Air Force, 41%; Army; 32%; Navy; 20%; Marines, 5%; and the PHS, NOAA and, Coast Guard represented 2 percent. Thirty-four percent of the women were high school graduates, while 35% had some college education. Family income varied across the sample; 9% earned less than $20 thousand a year and 14% earn $80 thousand or more a year. Most, 29% and 27%, of the respondents' family income fell in the middle ranges of $20 to $39 thousand or $40 to $59 thousand dollars a year, respectively.

As shown in Table 4, insurance is another part of the enabling characteristics. More than half, 60%, of the women are enrolled in TRICARE Prime while 29% maintain a supplemental insurance; therefore, the most utilized health care plans are TRICARE Prime (59%) and other civilian HMOs (24%). The majority, 60%, never have to travel more than thirty minutes to their primary care manager however only 37% reside in a MSA.

Crosstabulation of the Sub-Sample's Predisposing and Enabling Characteristics

Crosstabulation (also known as two-way contingency table) analyses were conducted to compare the sub-sample's predisposing and enabling characteristics. The crosstabulations were conducted on uncollapsed data to obtain a description of the

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relationship between the variables prior to recoding. The two-way contingency tables can be found in Appendix L.

Race

The first analysis conducted was comparing race (American Indian/Alaska Native, Asian, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander, and White) with several variables. Those variable were marital status, rank, location (reside in MSA or non-MSA), education, income, branch of service, enrolled in TRICARE Prime, supplemental insurance, most used health care plan, and how often it takes more than thirty minutes to travel to the primary care manager's facility. As shown in Appendix L, there was a significant relationship between race and marital status (x^2 (20, 8128) = 89.67, p = <.001). The proportion of American Indian/Alaska Native, Asian, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander, and White who were married were .75, .90, .77, .89 .90, and .87, respectively.

Race and rank were found to be significantly related (x^2 (10, 8143) = 270.43, p = <.001). The proportion of American Indian/Alaska Native, Asian, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander, and White who were enlisted were .97, .85, .94, .88, .94, and .71, respectively.

Race and branch of service were also found to be significantly related (x^2 (20, 8142) = 184.64, p = <.001). The proportion of American Indian/Alaska Native, Asian, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander, and White who were in the Air Force were .46, .35, .35, .39, .32, and .43, respectively.

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Level of education and race were also significantly related (x^2 (25, 7989) = 543.32, p = <.001) in addition to income and race being significantly related (x^2 (20, 7719) = 116.83, p = <.001), with the highest proportion being high school graduates or having some college or two year degree and making between $20 to $59 thousand.

Enrolled in TRICARE Prime proved to be statistically significant to race (x^2 (5, 7262) = 16.94, p = .005). Additionally, there was a statistically significant relationship between race and supplemental insurance coverage (x^2 (5, 7284) = 26.84, p = <.001). Race and the most used health care plan was found to be significantly related (x^2 (20, 7723) = 31.54, p = .048). With a majority, 62 percent of the population enrolled in TRICARE Prime, the proportion of American Indian/Alaska Native, Asian, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander, and White to those enrolled in TRICARE Prime was .64, .67, .64, .69, .60, and .61, respectively. Lastly, race and how often it takes more than thirty minutes to travel to the primary care manager's facility proved statistically significant (x^2 (15, 7573) = 69.65, p = <.001). Most of the population, 65 percent, never had to travel thirty minutes or more to their primary care manager's facility.

Marital Status

The categories for marital status were widowed, divorced, separated, married, and never married and as compared to the seven other variables accessed, three variables were significantly related to marital status. Rank and marital status was statistically significant (x^2 (8, 8236) = 208.81, p = <.001), the proportion of widowed, divorced, separated, married, and never married women who are enlisted were .98, .67, .73, .60 and .40,

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respectively. Marital status and education were statistically significant (x^2 (20, 8076) = 160.41, p = <.001) with the proportion of women being high school graduates, having a GED, some college, or a two year degree.

Marital status and income were statistically significant (x^2 (16, 7781) = 1403.38, p = <.001) with the highest proportion of the women earning $20 to $59 thousand a year, with the exception of 44% of widowed and 31% of divorced women earning less than $20 thousand. Marital status was found to be statistically significant with coverage by supplemental insurance (x^2 (4, 7772) = 13.25, p = .010), the ratio of women widowed, divorced, separated, married, and never married not covered by supplemental insurance were .67, .79, .73, .70, and .65, respectively. Finally, marital status and the health care plan used most were significantly related (x^2 (16, 7810) = 51.24, p = <.001). The proportion of widowed, divorced, separated, married, and never married to those who used TRICARE Prime the most were .62, .67, .62, .62, and .62, respectively.

Rank

Two-way contingency table analyses were conducted on whether rank was related to location (reside in MSA or non-MSA), branch of service, education, income, enrolled in TRICARE, coverage by supplemental insurance, most used health care plan, and how often did it take more than thirty minutes to travel to the primary care manager's facility. Rank consisted of officers, enlisted personnel, and warrant officers. As displayed in Appendix L, rank was significantly associated with location (reside in MSA or non-MSA), service, covered by supplemental insurance, and the type of health plan used most often. In the case of rank being significantly associated with location (reside in MSA or

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non-MSA) (x^2 (2, 8252) = 11.68, p = .003), the proportion of officers, enlisted, and warrant officers who lived in non-metropolitan statistical areas were .66, .62, and .58, respectively. Whereas for those officers, enlisted, and warrant officers who lived in metropolitan statistical areas the proportions were .34, .38, and .42, respectively. Where rank is significantly related to the branch of service (x^2 (8, 8251) = 297.99, p = <.001), the proportion of officers, enlisted, and warrant officers who were in the Army were .31, .31, and .71. The proportion of officers, enlisted, and warrant officers who were in the Air Force were .43, .43, and .7 and for those in the Navy the proportion were .19, .20, and .18, respectively. Rank was also found to be significant with education (x^2 (8, 7794) = 1820.78, p = <.001), with the highest proportion having a high school degree or a higher level of education.

Additionally, income was statistically significant to (x^2 (10, 8087) = 1227.81, p = <.001), with the highest proportion of officers and warrant officers making from $40 thousand to over $80 thousand. The enlisted personnel earned between $20 and $59 thousand a year. As mentioned, rank was significantly associated with coverage by any supplemental insurance (x^2 (2, 7788) = 163.35, p = <.001), with the proportion of officers, enlisted, and warrant officers not covered by supplemental insurance being .57, .73, and .69. For those officers, enlisted, and warrant officers covered by supplemental the ratio were .43, .27, and .31. A significant relationship was noted between rank and the health plan used the most (x^2 (8, 7824) = 30.32, p = <.001), with the proportion of officers, enlisted, and warrant officers who used TRICARE Prime being .62, .62, and .60, respectively.

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Location

Residing in metropolitan statistical area (MSA) or non-MSA was crosstabulated with education, income, branch of service, enrolled in TRICARE Prime, coverage by supplemental insurance, what health care plan was used the most, and how often did it take more than thirty minutes to travel to the primary care manager's facility. Residing in a MSA or a non-MSA, as displayed in Appendix L, proved to be significantly related to level of education, income, branch of service, enrolled in TRICARE Prime, covered by supplemental insurance, and health care plan used the most. Where location was significantly related to education (x^2 (5, 8087) = 37.76, p = <.001) the largest proportion of those living in either area had a high school diploma, a GED, some college, or a 2 year degree.

Income and location were statistically significant (x^2 (4, 7794) = 57.09, p = <.001) with the most making $20 thousand or more a year. Location was found to be significant to branch of service (x^2 (4, 8251) = 16.74, p = .002). The proportion of non-MSA and MSA to those in the Army was .32 in both instances, to those in the Air Force .42 and .40; and to those in the Navy .18 and .22, respectively.

Location (reside in MSA or non-MSA) was also found to be related to TRICARE Prime (x^2 (1, 7365) = 1747.39, p = <.001), with the proportion of non-MSA and MSA to those enrolled in TRICARE Prime was .49 and .96 and for those not enrolled was .51 and .04, respectively. Additionally, location (reside in MSA or non-MSA) was statistically related to coverage by any type of supplemental insurance (x^2 (1, 7788) = 362.70, p = <.001), with the proportion of non-MSA and MSA to being covered by supplemental insurance .38 and .18 and to not being covered by supplemental insurance .62 and .82,

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respectively. Location (reside in MSA or non-MSA) was also related to the type of health care plan most used insurance (x^2 (4, 7824) = 1900.52, p = <.001), with the proportion of non-MSA and MSA to TRICARE Prime being .44 and .92, and to other civilian insurance or HMO being .62 and .38, respectively.

Branch of Service

The categories of branch of service entailed the Army, Public Health Service/National Oceanic and Atmospheric Administration (NOAA)/Coast Guard, Air Force, Navy, and Marine Corps and of the variables accessed four were found to be significantly related to branch of service. They were level of education, income, health care plan most used and how often it takes more than thirty minutes to travel to the primary care manager's facility. Level of education (x^2 (20, 8086) = 55.80, p = <.001) and income (x^2 (16, 7793) = 31.55, p = <.001) were found to be significant to branch of service. The largest proportion of the women had a high school diploma, GED, some college, or 2-year degree and made between $20 to $59 thousand.

In the relationship between branch of service and the health care plan most used (x^2 (16, 7824) = 32.67, p = .008), the proportion of those affiliated with the Army, Public Health Service/National Oceanic and Atmospheric Administration/Coast Guard, Air Force, Navy, and Marine Corps who used TRICARE Prime the most were .62, .56, .63, .61, and .60, respectively. As mentioned, branch of service was significantly related to how often it takes more than thirty minutes to travel to the primary care manager's facility (x^2 (12, 7667) = 21.52, p = .043). The ratio of those affiliated with the Army, Public Health Service/National Oceanic and Atmospheric Administration/Coast Guard, Air

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Force, Navy, and Marine Corps to never having to take more than thirty minutes to travel to the primary care manager's facility were .63, .60, .66, .64, and .63, respectively.

Education

The levels of education assessed were 8th grade or less, some high school, high school graduate or GED, some college or 2-year degree, 4-year college graduate, and more than 4 years of college. Crosstabulation analyses were conducted to evaluate whether education was related to income, whether the women were enrolled in TRICARE Prime, coverage by supplemental insurance, what health care plan was used the most, and how often did it take more than thirty minutes to travel to the primary care manager's facility. As shown in Appendix L, of the variables accessed, each was found to be significantly related to level of education. In the case of the combined significance between education and income (x^2 (20, 7654) = 1333.57, p = <.001), the proportion of income increased as the level of education increased. Where education and being enrolled in TRICARE Prime was significant (x^2 (5, 7225) = 48.59, p = <.001), the highest proportion were those enrolled in TRICARE Prime. Level of education was significantly related to health care plan most used (x^2 (20, 7674) = 95.81, p = <.001), with the highest ratio utilizing TRICARE Prime. The ratio of those with completing 8th grade or less, some high school, high school graduate or GED, some college or 2-year degree, 4-year college graduate, and more than 4 years of college to never having to take more than thirty minutes to travel to the primary care manager's facility were .63, .60, .65, .64, .67, and .66, respectively. Lastly, being covered by supplemental insurance was inversely

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related to level of education (x^2 (5, 7638) = 40.29, p = <.001), with most of the population not being covered by supplemental insurance.

Income

The levels of income assessed were less than $20 thousand, $20 thousand to $39,999, $40 thousand to $59,999, $60 thousand to $79,999, and $80 thousand and over. Crosstabulation analyses were conducted to evaluate whether income was related to whether the women were enrolled in TRICARE Prime, coverage by supplemental insurance, what health care plan was used the most, and how often did it take more than thirty minutes to travel to the primary care manager's facility. As shown in Appendix L, of the variables accessed, each was found to be significantly related to the level of income.

In the case of the combined significance between income and enrolled in TRICARE Prime (x^2 (4, 6970) = 118.99, p = <.001), with the largest proportion being enrolled in TRICARE Prime. Where income and being covered by supplemental insurance was significant (x^2 (4, 7371) = 108.78, p = <.001), the highest proportion did not have supplemental insurance. Health care plan used the most was statistically significant to income (x^2 (20, 7654) = 1333.57, p = <.001), with the largest ratio of those utilizing TRICARE Prime the most followed by other civilian insurance or HMO. Lastly, how often it takes more than thirty minutes to travel to the primary care manager's facility was found to be significant to income (x^2 (12, 7258) = 108.54, p = <.001), with most never having to travel more than 30 minutes.

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TRICARE Prime

Two-way contingency table analyses were conducted on those enrolled in TRICARE Prime compared to whether the women were covered by supplemental insurance, what health care plan was used the most, and how often it took more than thirty minutes to travel to the primary care manager's facility. TRICARE Prime was defined as whether or not the women were enrolled. As shown in Appendix L, this variable was found to be significantly related to whether the women were covered by supplemental insurance, what health care plan was used the most, and how often did it take more than thirty minutes to travel to the primary care manager's facility. Enrollment in TRICARE Prime was related to whether the women were covered by supplemental insurance (x^2 (1, 7020) = 531.50, p = <.001). The proportion of whether or not the women were enrolled in TRICARE Prime to whether or not they were covered by supplemental insurance were .20 and .47, and .80 and .53, respectively.

With respect to the significance between enrolled in TRICARE Prime and the health care plan used the most (x^2 (4, 7033) = 5344.02, p = <.001), 65 percent of the women used TRICARE Prime the most. The ratio of whether or not the women were covered by TRICARE Prime to TRICARE Prime being the most used were .93 and .04, respectively. Finally, TRICARE Prime was significantly related to how often it took more than thirty minutes to travel to the primary care manager's facility (x^2 (3, 6889) = 80.90, p = <.001), with 65 percent of the women never having to travel more than thirty minutes. The proportion of whether or not the women were enrolled in TRICARE Prime to never having to travel more than thirty minutes to the primary care manager's facility were .62 and .71.

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Supplemental Insurance

Crosstabulations were conducted on whether the women were covered by any type of supplemental insurance, what health care plan was used most, and how often it took more than thirty minutes to travel to the primary care manager's facility. As shown in Appendix L, analysis of whether the women were covered by any type of supplemental insurance and what health care plan was used the most proved to be statistically significant (x^2 (4, 7439) = 845.96, p = <.001). It was found that the majority, 64 percent used TRICARE Prime the most. The proportion of whether or not the women were covered by any type of supplemental insurance to the most used health care plan, TRICARE Prime, was .40 and .75. It was also found that having any type of supplemental insurance was significantly related to how often it took more than thirty minutes to travel to the primary care manager's facility (x^2 (3, 7251) = 9.94, p = .019). The majority, 64 percent, of the women never took more than thirty minutes to travel to the primary care manager's facility, however, 18 percent always took more than thirty minutes to travel to the primary care manager's facility. The proportion of whether or not the women were covered by any type of supplemental insurance to never having took more than thirty minutes to travel to the primary care manager's facility was .66 and .64. The proportion of always having taken more than thirty minutes to travel to the primary care manager's facility was .16 and .19.

Health Care Plan Most Used

A final crosstabulation was conducted on what health care plan was used the most and how often did it take more than thirty minutes to travel to the primary care manager's

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facility. TRICARE Prime, TRICARE Standard/Extra, Medicare Part A and B, and other Civilian Insurance/HMO were the variables that defined the health care plan used most. As displayed in Appendix L, the relationship between these two variables proved to be significant (x^2 (12, 7402) = 149.77, p = <.001). Sixty-five percent of the women never took more than thirty minutes to travel to the primary care manager's facility. The proportion of TRICARE Prime, TRICARE Standard/Extra, Medicare Part A and B, and other Civilian Insurance/HMO to never having to take more than thirty minutes to travel to a primary care manager were .61, .65, .56, and .74.

Frequencies of Women Who Had Not Received Preventive Health Services Within the Recommended Timeframe

In order to provide a clearer picture of the respondents who had not had the three preventive health services within the recommended timeframe an analysis of this population was conducted prior to hypothesis testing. Although they represent a small percent, a comparison, displayed in Appendix M, of those women from both the total female sample and the total sub-sample who had not received the selected preventive health services within the recommended timeframe was conducted.

Based upon Healthy People 2010 and other sources, women 18 years and older should have a Pap smear not less frequent than 3 years, women 40 years of age should have a mammogram every 24 months and 50 years and older annually (Healthy People 2010, 2000; TRICARE/CHAMPUS Policy Manual, 1999; TRICARE Standard Provider Handbook, 1999). Clinical breast examinations should be performed annually for women age 40 and older. Considering those standards, three of the responses to the criterion

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variables, last routine Pap smear, mammogram, and clinical breast examination, were analyzed for those women who had not received the selected preventive health services within the recommended timeframe. Respondent categories were then collapsed into (1) never, (2) 5 or more years ago, and (3) greater than 2 years but less than 5 years ago. According to the responses shown in Table 3, 12%, 15%, and 14% of the women had not received a Pap smear, mammogram, or a clinical breast examination, respectively, within the recommended timeframe.

Pap Smear

As shown in Table 5, 2595 of the total female sample and 900 of the total sub-sample of women ages 40 to 64 had not obtained a Pap smear in the recommended timeframe. Of the total female sample, the average age is 48.3 (SD=17.7) where the average age of the total sub-sample of women is 54.8 (SD=7.0). As displayed in Tables 5 and 6, very little difference exist between the total female sample and the total sub-sample of women with the exception of the percentage of those who had not obtained a Pap smear in more than five years and location. Forty-six percent (n=2595) of the total female sample and 62% (n=900) of the total sub-sample of women had not obtained a Pap smear in more than five years. As displayed in Appendix M, the total sub-sample of women ages 40 to 64 who had not obtained a Pap smear in more than five years (62%) was the highest percent of the three preventive health services discussed in this study. In the case of location, 77% (n=2595) of the total female sample and only 29% (n=900) of the total sub-sample of women who had not obtained a Pap smear in the recommended timeframe lived in a MSA.

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Table 5

Predisposing Characteristics – Women Who Had Not Obtained a Pap Smear within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Preventive Health Service Obtained: Pap Smear				
>2<5 years ago	431	16	300	33
5> years ago	1200	46	556	62
Never	964	38	44	5
Total	2595	100	900	100
Race				
American Indian or Alaska Native	12	1	5	1
Asian	264	10	103	11
Black or African American	120	5	30	3
Hispanic or Latino	117	4	30	3
Native Hawaiian or other Pacific Islander	46	2	18	2
White	1975	76	699	78
Missing Data	61	2	15	2
Total	2595	100	900	100
Marital Status				
Never Married	312	12	6	1
Married	1849	71	766	85
Separated	35	1	16	2
Divorced	69	3	24	3
Widowed	301	12	87	9
Missing Data	29	1	1	0
Total	2595	100	900	100
Rank of Retiree				
Officer	505	19	129	14
Warrant Officer	74	3	30	3
Enlisted	2016	78	741	82
Total	2595	100	900	100

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Table 6

Enabling Characteristics - Women Who Had Not Received a Pap Smear Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Branch of Service				
Army	873	34	283	31
Public Health Service/ National Oceanic &	54	2	13	1
Air Force	937	36	367	41
Marine Corps	110	4	43	22
Navy	621	24	194	5
Total	2595	100	900	100
Education				
8th grade or less	88	3	43	5
Some high school	190	7	99	11
High school graduate or GED	924	36	348	39
Some college or 2-year degree	968	37	280	31
4-year college graduate	232	9	73	8
More than 4-year college degree	153	6	45	5
Missing Data	40	2	12	1
Total	2595	100	900	100
Income				
Less than $20K	351	14	118	13
$20-$39K	951	37	297	33
$40K-$59K	625	24	241	27
$60K-$79K	292	11	111	12
$80K and over	192	7	73	8
Missing Data	184	7	60	7
Total	2595	100	900	100

(table continues)

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Table 6

Enabling Characteristics - Women Who Had Not Received a Pap Smear Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
TRICARE Prime	1154	45	438	49
Supplemental Insurance	724	28	246	27
Most Utilized Health Care Plan				
TRICARE Prime	1197	46	398	44
TRICARE Prime Senior*	25	1		
TRICARE Standard/Extra	314	12	144	16
Medicare Part A & B	261	10	16	2
Other Civilian Insurance/HMO	434	17	205	23
Missing Data	364	14	137	15
Total	2595	100	900	100
More than 30 minutes travel to Primary Care Manager				
Never	1275	49	414	46
Sometimes	260	10	74	8
Usually	118	5	30	4
Always	289	11	128	14
Missing Data	653	25	254	28
Total	2595	100	900	100
Reside in a Metropolitan Statistical Area	1997	77	263	29

*Note: TRICARE Prime Senior not considered in total sub-sample.

Mammogram

As shown in Table 7, 4128 of the total female sample and 1284 of the total sub-sample of women had not obtained a mammogram in the recommended timeframe. Of the 4128 total female sample, the average age is 44.2 (SD=14.7) where average age of the total sub-sample of women is 52.2 (SD=7.5). Like in the case of Pap smear and as displayed in Tables 7 and 8, very little difference exist between the total female sample and the total sub-sample of women with the exception of location. There is a definite contrast in the percent of the total female sample (74%) and the total sub-sample of women (32%) who had not obtained a mammogram in the recommended timeframe and lived in a MSA.

Clinical Breast Examination

As shown in Table 9, 2426 of the total female sample and 1085 of the total sub-sample women had not obtained a clinical breast examination in the recommended timeframe. Of the 2426 women, the average age is 52.6 (SD=14.2) where average age of the total sub-sample of women is 53.7 (SD=7.3). Similar to the two other preventive health services and as displayed in Tables 9 and 10, very little difference exist between the total female sample and the total sub-sample of women with the exception of location. Like in the case of mammogram, there is a definite contrast in the percent of the total female sample (76%) and the total sub-sample of women (29%) who had not obtained a clinical breast examination in the recommended timeframe and lived in a MSA. However, it should be noted that a significant number (48%) of the women in the total sub-sample reported never having had a clinical breast examination.

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Table 7

Predisposing Characteristics – Women Who Had Not Obtained a Mammogram within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Preventive Health Service Obtained: Mammogram				
>2<5 years ago	2121	51	577	45
5> years ago	727	18	330	26
Never	1280	31	377	29
Total	4128	100	1284	100
Race				
American Indian or Alaska Native	26	1	6	1
Asian	379	9	151	12
Black or African American	367	9	64	5
Hispanic or Latino	245	6	60	4
Native Hawaiian or other Pacific Islander	56	1	23	2
White	2952	71	963	75
Missing Data	103	3	17	1
Total	4128	100	1284	100
Marital Status				
Never Married	237	6	9	1
Married	3318	80	1105	86
Separated	74	2	27	2
Divorced	145	3	29	2
Widowed	312	8	110	8
Missing Data	42	1	4	1
Total	4128	100	1284	100
Rank of Retiree				
Officer	3110	75	189	15
Warrant Officer	905	22	42	3
Enlisted	113	3	1053	82
Total	4128	100	1284	100

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Table 8

Enabling Characteristics - Women Who Had Not Received a Mammogram Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Branch of Service				
Army	1489	36	432	34
Public Health Service/ National Oceanic &	95	2	15	1
Air Force	1349	33	501	39
Marine Corps	228	6	75	6
Navy	967	23	261	20
Total	4128	100	1284	100
Education				
8th grade or less	101	3	60	4
Some high school	216	5	105	8
High school graduate or GED	1177	29	462	36
Some college or 2-year degree	1635	40	431	34
4-year college graduate	521	12	115	9
More than 4-year college degree	405	9	87	7
Missing Data	73	2	24	2
Total	4128	100	1284	100
Income				
Less than $20K	504	12	148	11
$20-$39K	1496	36	394	31
$40K-$59K	1023	25	356	28
$60K-$79K	497	12	175	14
$80K and over	371	9	144	11
Missing Data	237	6	67	5
Total	4128	100	1284	100

(table continues)

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Table 8

Enabling Characteristics - Women Who Had Not Received a Mammogram Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
TRICARE Prime	2154	52	671	52
Supplemental Insurance	840	20	321	25
Most Utilized Health Care Plan				
TRICARE Prime	2451	59	623	49
TRICARE Prime Senior*	19	1		
TRICARE Standard/Extra	464	11	183	14
Medicare Part A & B	216	5	15	1
Other Civilian Insurance/HMO	517	13	291	23
Missing Data	461	11	172	13
Total	4128	100	1284	100
More than 30 minutes travel to Primary Care Manager				
Never	2280	55	608	47
Sometimes	439	11	112	9
Usually	208	5	54	4
Always	500	12	189	15
Missing Data	701	17	321	25
Total	4128	100	1284	100
Reside in a Metropolitan Statistical Area	3073	74	415	32

*Note: TRICARE Prime Senior not considered in total sub-sample.

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Table 9

Predisposing Characteristics – Women Who Had Not Obtained a Clinical Breast Examination within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Preventive Health Service Obtained: Clinical Breast Examination				
>2<5 years ago	514	21	181	17
5> years ago	731	30	376	35
Never	1181	49	528	48
Total	2426	100	1085	100
Race				
American Indian or Alaska Native	8	0	2	0
Asian	299	13	146	14
Black or African American	159	7	53	5
Hispanic or Latino	129	5	53	5
Native Hawaiian or other Pacific Islander	48	2	25	2
White	1728	71	792	73
Missing Data	55	2	14	1
Total	2426	100	1085	100
Marital Status				
Never Married	82	3	10	1
Married	1889	78	917	84
Separated	41	2	20	2
Divorced	68	3	30	3
Widowed	317	13	103	9
Missing Data	29	1	5	1
Total	2426	100	1085	100
Rank of Retiree				
Officer	482	20	151	14
Warrant Officer	86	3	41	4
Enlisted	1858	77	893	82
Total	2426	100	1085	100

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Table 10

Enabling Characteristics - Women Who Had Not Received a Clinical Breast Examination Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
Branch of Service				
Army	890	37	384	35
Public Health Service/ National Oceanic &	37	1	10	1
Air Force	850	35	434	40
Marine Corps	109	5	52	5
Navy	540	22	205	19
Total	2426	100	1085	100
Education				
8th grade or less	100	4	58	5
Some high school	197	8	109	10
High school graduate or GED	841	35	414	39
Some college or 2-year degree	836	35	340	31
4-year college graduate	220	9	79	7
More than 4-year college degree	175	7	57	5
Missing Data	57	2	28	3
Total	2426	100	1085	100
Income				
Less than $20K	350	14	151	14
$20-$39K	841	35	353	33
$40K-$59K	604	25	302	28
$60K-$79K	272	11	122	11
$80K and over	200	8	98	9
Missing Data	159	7	59	5
Total	2426	100	1085	100

(table continues)

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Table 10

Enabling Characteristics - Women Who Had Not Received a Clinical Breast Examination Within the Recommended Timeframe

Variable	Total Female Sample		Total Sub-Sample	
	N	%	*N*	%
TRICARE Prime	1154	45	565	52
Supplemental Insurance	724	28	283	26
Most Utilized Health Care Plan				
TRICARE Prime	1110	45	518	48
TRICARE Prime Senior*	22	1		
TRICARE Standard/Extra	272	11	159	15
Medicare Part A & B	256	11	16	1
Other Civilian Insurance/HMO	401	17	229	21
Missing Data	365	15	163	15
Total	2426	100	1085	100
More than 30 minutes travel to Primary Care Manager				
Never	1191	49	517	48
Sometimes	240	10	87	8
Usually	109	5	42	4
Always	295	12	142	13
Missing Data	591	24	297	27
Total	2426	100	1085	100
Reside in a Metropolitan Statistical Area	1854	76	263	29

*Note: TRICARE Prime Senior not considered in total sub-sample.

Crosstabulation of Whether Women Obtained Preventive Health Services Within the Recommended Timeframe by Predisposing and Enabling Characteristics

Crosstabulation (also known as two-way contingency table) analyses were conducted to compare whether women obtained the three preventive health services within the recommended timeframe to the recoded predisposing and enabling characteristics. As mentioned in Chapter 3, if the variables had categories with less than 5 percent representation, they were recoded, a process of collapsing the ranges of the existing values into new values (Polit, 1996; SPSS, 1999).

Pap Smear

Two-way contingency tables were conducted to compare whether women obtained a Pap smear within the recommended timeframe to predisposing and enabling characteristics. The predisposing and enabling characteristics were: race, marital status, rank, branch of service, education, income, enrolled in TRICARE Prime, supplemental insurance, most used health care plan, how often it takes more than thirty minutes to travel to the primary care manager's facility, and location (reside in MSA or non-MSA).

As shown in Table 11, whether women obtained a Pap smear within the recommended timeframe was significantly related to rank (x^2 (1, 8155) = 27.91, p = <.001). The ratio of whether women obtained a Pap smear within the recommended timeframe to those who were Officers, or Enlisted, were 25.7, and 74.3. Level of education proved to be significantly related to whether women obtained a Pap smear within the recommended timeframe (x^2 (3, 7994) = 61.03, p = <.001). The proportion of whether women obtained a Pap smear within the recommended timeframe whom had an

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Table 11

Crosstabulation of Whether Women Obtained a Pap Smear Within the Recommended Timeframe by Predisposing and Enabling Characteristics

Predisposing and Enabling Characteristics	Pap Smear				P-Value
	Yes		No		
	#	%	#	%	
Race					
White	5598	78.2	699	79.0	
All Others	1564	21.8	186	21.0	.577
Total	7162	100.0	885	100.0	
Marital Status					
Married	6293	86.7	766	85.1	
All Others	962	13.3	134	14.9	.177
Total	7255	100.0	900	100.0	
Rank					
Officers	1867	25.7	741	82.3	
Enlisted	5388	74.3	159	17.7	<.001*
Total	7255	100.0	900	100.0	
Branch of Service					
Army	2330	32.1	283	31.4	
Navy/ Marine Corps/ Public Health/NOAA/Coast Guard	1902	26.2	250	27.8	.606
Air Force	3022	41.7	367	40.8	
Total	7254	100.0	900	100.0	
Education					
Some High School or less	685	9.6	142	16.0	
High School Graduate or GED	2411	33.9	348	39.2	<.001*
Some College or 2-Year Degree	2584	36.4	280	31.5	
4-Year College Graduate or more	1426	20.1	118	13.3	
Total	7106	100.0	888	100.0	
Income					
Less than $20K	604	8.8	118	14.0	
$20K-$39K	2028	29.6	297	35.4	
$40K-$59K	1987	29.0	241	28.7	<.001*
$60K-$79K	1143	16.7	111	13.2	
$80k and over	1100	16.0	73	8.7	
Total	6862	100.0	840	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

(table continues)

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Table 11

Crosstabulation of Whether Women Obtained a Pap Smear Within the Recommended Timeframe by Predisposing and Enabling Characteristcs

Predisposing and Enabling Characteristics	Pap Smear				P-Value
	Yes		No		
	#	%	#	%	
Enrolled in TRICARE Prime					
Yes	4465	68.6	438	56.9	<.001*
No	2047	31.4	332	43.1	
Total	6512	100.0	770	100.0	
Covered by Supplemental Insurance					
Yes	2089	30.4	246	29.4	.516
No	4772	69.6	592	70.6	
Total	6861	100.0	838	100.0	
What Health Care Plan Used the Most					
TRICARE Prime	4401	63.2	398	51.9	<.001*
Other Health Plans	2562	36.8	369	48.1	
Total	6963	100.0	767	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager					
Never	4476	64.5	414	64.1	.817
Sometimes to Always	2459	35.5	232	35.9	
Total	6935	100.0	646	100.0	
Location					
Non-MSA	4502	62.1	637	70.8	<.001*
MSA	2753	37.9	263	29.2	
Total	7255	100.0	900	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

some high school or less, a high school graduate or a GED, some college or a 2-year degree, or a 4-year college graduate or more were 9.6, 33.9, 39.4, and 20.1, respectively.

Whether women obtained a Pap smear within the recommended timeframe was significantly related to income (x^2 (4, 7702) = 62.26, p = <.001). The ratio of whether women obtained a Pap smear within the recommended timeframe to having less than

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$20K, $20 - $39K, $40K - $59K, $60K - $79K, or $80K and over were 8.8, 29.6, 29.0, 16.7, and 16.0, respectively. Enrolled in TRICARE Prime proved to be statistically significant to whether women obtained a Pap smear within the recommended timeframe (x^2 (1, 7282) = 42.73, p = <.001), with 68.6 percent enrolled. Whether women obtained a Pap smear within the recommended timeframe and the most used health care plan was found to be significantly related (x^2 (1, 7730) = 37.58, p =<.001). The proportion of the women who had obtained a Pap smear within the recommended timeframe to TRICARE Prime, or other health plans were 63.4 and 36.8. Lastly, whether women obtained a Pap smear within the recommended timeframe race was significantly related to location (x^2 (1, 8155) = 26.15, p = <.001), with 62.1 percent of the women who obtained a Pap smear within the recommended timeframe living in a non-MSA.

Mammogram

Crosstabulation (also known as two-way contingency table) analyses were conducted to compare whether women obtained a mammogram within the recommended timeframe to predisposing and enabling characteristics. The predisposing and enabling characteristics were: race, marital status, rank, branch of service, education, income, recommended timeframe and race (x^2 (1, 7985) = 3.75, p = <.001).

As shown in Table 12, the proportion of whether women obtained a mammogram within the recommended timeframe who were white was 78.5. Whether women obtained a mammogram within the recommended timeframe was significantly related to rank (x^2 (1, 8091) = 38.38, p = <.001). The ratio of whether women obtained a mammogram

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Table 12

Crosstabulation of Whether Women Obtained a Mammogram Within the Recommended Timeframe by Predisposing and Enabling Characteristcs

Predisposing and Enabling Characteristics	Mammogram				P-Value
	Yes		No		
	#	%	#	%	
Race					
White	5271	78.5	963	76.0	
All Others	1447	21.5	304	24.0	.053
Total	6718	100.0	1267	100.0	
Marital Status					
Married	5889	86.5	1105	86.1	
All Others	918	13.5	179	13.9	.662
Total	6807	100.0	1284	100.0	
Rank					
Officers	1779	26.1	231	18.0	
Enlisted	5028	73.9	1053	82.0	<.001*
Total	6807	100.0	1284	100.0	
Branch of Service					
Army	2152	31.6	432	33.6	
Navy/Marine Corps/Public Health/NOAA/Coast Guard	1790	26.3	351	27.3	.119
Air Force	2864	42.1	501	39.0	
Total	6806	100.0	1284	100.0	
Education					
Some High School or less	654	9.8	165	13.1	
High School Graduate or GED	2266	34.0	462	36.7	
Some College or 2-Year Degree	2415	36.2	431	34.2	<.001*
4-Year College Graduate or more	1333	20.0	202	16.0	
Total	6668	100.0	1260	100.0	
Income					
Less than $20K	576	9.0	148	12.2	
$20K-$39K	1917	29.8	394	32.4	
$40K-$59K	1853	28.8	356	29.3	
$60K-$79K	1065	16.6	175	14.4	<.001*
$80k and over	1016	15.8	144	11.8	
Total	6427	100.0	1217	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

(table continues)

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Table 12

Crosstabulation of Whether Women Obtained a Mammogram Within the Recommended Timeframe by Predisposing and Enabling Characteristcs

Predisposing and Enabling Characteristics	Mammogram				P-Value
	Yes		No		
	#	%	#	%	
Enrolled in TRICARE Prime					
Yes	4204	68.7	671	60.2	<.001*
No	1916	31.3	443	39.8	
Total	6120	100.0	1114	100.0	
Covered by Supplemental Insurance	1982	30.8	321	26.6	
Yes	4446	69.2	886	73.4	.003*
No	6428	100.0	1207	100.0	
Total					
What Health Care Plan Used the Most					
TRICARE Prime	4142	63.2	623	55.9	<.001*
Other Health Plans	2412	36.8	492	44.1	
Total	6554	100.0	1115	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager					
Never	4240	64.7	608	63.1	.337
Sometimes to Always	2311	35.3	355	36.9	
Total	6551	100.0	963	100.0	
Location					
Non-MSA	4223	62.0	869	67.7	
MSA	2584	38.0	415	32.3	<.001*
Total	6807	100.0	1284	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

within the recommended timeframe to those who were Officers or Enlisted, were 26.1 and 73.9. Level of education proved to be significantly related to whether women obtained a mammogram within the recommended timeframe (x^2 (3, 7928) = 23.08, p = <.001). The proportion of whether women obtained a mammogram within the

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recommended timeframe whom had some high school or less, a high school graduate or a GED, some college or a 2-year degree, or a 4-year college graduate or were 9.8, 34.0, 36.2, and 20.0, respectively.

Whether women obtained a mammogram within the recommended timeframe was significantly related to income (x^2 (4, 7644) = 27.00, p = <.001). The ratio of whether women obtained a mammogram within the recommended timeframe to having less than $20K, $20 - $39K, $40K - $59K, $60K - $79K, or $80K and over were 9.0, 29.8, 28.8, 16.6, and 15.8 respectively. Enrolled in TRICARE Prime proved to be statistically significant to whether women obtained a mammogram within the recommended timeframe (x^2 (1, 7234) = 30.69, p = <.001), with 68.7 percent enrolled. Covered by a supplemental insurance proved to be statistically significant to whether women obtained a mammogram within the recommended timeframe (x^2 (1, 7635) = 8.69, p = .003), with 30.8 percent covered. Whether women obtained a mammogram within the recommended timeframe and the most used health care plan was found to be significantly related (x^2 (1, 7669) = 21.72, p = <.001). The proportion of the women who had obtained a mammogram within the recommended timeframe to TRICARE Prime, or other health plans were 63.4 and 36.8. Lastly, whether women obtained a mammogram within the recommended timeframe race was significantly related to location (x^2 (1, 8091) = 14.73, p = <.001), with 62 percent of the women who obtained a mammogram within the recommended timeframe living in a non-MSA.

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Clinical Breast Examination

Two-way contingency table analyses were conducted to compare whether women obtained a clinical breast examination within the recommended timeframe to predisposing and enabling characteristics. The predisposing and enabling characteristics were: race, marital status, rank, branch of service, education, income, enrolled in TRICARE Prime, supplemental insurance, most used health care plan, whether it takes more than thirty minutes to travel to the primary care manager's facility, and location (reside in MSA or non-MSA).

As shown in Table 13, there was a significant relationship between whether the women obtained a clinical breast examination within the recommended timeframe and race (x^2 (1, 7634) = 18.32, p = <.001). The proportion of whether women obtained a clinical breast examination within the recommended timeframe who were white was 79.7. Whether women obtained a clinical breast examination within the recommended timeframe was significantly related to marital status (x^2 (1, 7737) = 4.11, p = .043). The proportion of whether women obtained a clinical breast examination within the recommended timeframe to those who were married was 86.8. Whether women obtained a clinical breast examination within the recommended timeframe was significantly related to rank (x^2 (1, 7737) = 35.08, p = <.001). The ratio of whether women obtained a clinical breast examination within the recommended timeframe to those who were Officers or Enlisted were 26.1, and 73.9. Branch of service proved to be significantly related to whether women obtained a clinical breast examination within the recommended timeframe (x^2 (2, 7736) = 7.89, p = .019). The proportion of whether women obtained a clinical breast examination within the recommended timeframe who were in the Army,

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Table 13

Crosstabulation of Whether Women Obtained a Clinical Breast Examination Within the Recommended Timeframe by Predisposing and Enabling Characteristics

Predisposing and Enabling Characteristics	Clinical Breast Examination				P-Value
	Yes		No		
	#	%	#	%	
Race					
White	5231	79.7	792	73.9	
All Others	1332	20.3	279	26.1	<.001*
Total	6563	100.0	1071	100.0	
Marital Status					
Married	5773	86.8	917	84.5	
All Others	879	13.2	168	15.5	.043*
Total	6652	100.0	1085	100.0	
Rank					
Officers	1735	26.1	192	17.7	
Enlisted	4917	73.9	893	82.3	<.001*
Total	6652	100.0	1085	100.0	
Branch of Service					
Army	2072	31.2	384	35.4	
Navy/Marine Corps/Public Health/NOAA/Coast Guard	1781	26.8	267	24.6	.019*
Air Force	2798	42.1	434	40.0	
Total	6651	100.0	1085	100.0	
Education					
Some High School or less	600	9.2	167	15.8	
High School Graduate or GED	2198	33.7	414	39.2	
Some College or 2-Year Degree	2394	36.7	340	32.2	<.001*
4-Year College Graduate or more	1333	20.4	136	12.9	
Total	6525	100.0	1057	100.0	
Income					
Less than $20K	536	8.5	151	14.7	
$20K-$39K	1860	29.6	353	34.4	
$40K-$59K	1805	28.7	302	29.4	
$60K-$79K	1069	17.0	122	11.9	<.001*
$80k and over	1016	16.2	98	9.6	
Total	6286	100.0	1026	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Table 13

Crosstabulation of Whether Women Obtained a Clinical Breast Examination Within the Recommended Timeframe by Predisposing and Enabling Characteristcs

Predisposing and Enabling Characteristics	Clinical Breast Examination				P-Value
	Yes		No		
	#	%	#	%	
Enrolled in TRICARE Prime					
Yes	4112	68.8	565	60.4	<.001*
No	1866	31.2	371	39.6	
Total	5978	100.0	936	100.0	
Covered by Supplemental Insurance					
Yes	1936	30.8	283	27.9	.065
No	4354	69.2	731	72.1	
Total	6290	100.0	1014	100.0	
What Health Care Plan Used the Most					
TRICARE Prime	4050	63.2	518	56.0	<.001*
Other Health Plans	2361	36.8	407	44.0	
Total	6411	100.0	925	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager					
Never	4117	64.3	517	65.6	.472
Sometimes to Always	2285	35.7	271	34.4	
Total	6402	100.0	788	100.0	
Location					
Non-MSA	4130	62.1	735	67.7	
MSA	2522	37.9	350	32.3	<.001*
Total	6652	100.0	1085	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

Public Health Service/NOAA/Coast Guard/Navy/Marine Corps, or Air Force, were 31.2, 26.8, and 42.1, respectively. Level of education proved to be significantly related to whether women obtained a clinical breast examination within the recommended timeframe (x^2 (3, 7582) = 75.82, p = <.001). The proportion of whether women obtained

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a clinical breast examination within the recommended timeframe whom had some high school or less, a high school graduate or a GED, some college or a 2-year degree, or a 4-year college graduate or more were 9.2, 33.7, 36.7, and 20.4, respectively.

Whether women obtained a clinical breast examination within the recommended timeframe was significantly related to income (x^2 (4, 7312) = 82.37, p = <.001). The ratio of whether women obtained a clinical breast examination within the recommended timeframe to having less than $20K, $20 - $39K, $40K - $59K, $60K - $79K, or $80K and over were 8.5, 29.6, 28.7, 17.0, and 16.2 respectively. Enrolled in TRICARE Prime proved to be statistically significant to whether women obtained a clinical breast examination within the recommended timeframe (x^2 (1, 6914) = 26.23, p = <.001), with 68.8 percent enrolled having obtained a clinical breast examination within the recommended timeframe. Whether women obtained a clinical breast examination within the recommended timeframe and the most used health care plan was found to be significantly related (x^2 (1, 7336) = 17.70, p = <.001). The proportion of the women who had obtained a clinical breast examination within the recommended timeframe to TRICARE Prime was 63.2. Lastly, whether women obtained a clinical breast examination within the recommended timeframe race was significantly related to location (x^2 (1, 7737) = 12.78, p = <.001), with 62.1 percent of the women who obtained a clinical breast examination within the recommended timeframe living in a non-MSA.

Discussion of Research Question and Hypotheses

The overall thrust of this study was to determine what factors predict whether female military retirees or the female beneficiary of a retiree, ages 40 to 64, will obtain

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preventive health services. To accomplish this objective, both simple linear (conducted on hypotheses 4a – 4c) and multiple regression analyses were conducted to address each hypothesis. Multiple regression was used to examine the relative contribution of each predictor variable in explaining the overall variance in obtaining the three preventive health services. A simultaneous multiple regression model where all the predictor variables are entered at the same time was utilized. Because all independent variables were viewed as equal (Polit, 1996). Standardized regression coefficients are presented to facilitate the comparison of the change in units of each criterion variable for an increase of one unit in each predictor variable, controlling for all other predictor variables in the equation.

Delivery System (Organization and Financing)

Tables 14 and 15 display the combined contribution of the two organization and two financing variables to the understanding of the variance in women obtaining the preventive health services. Organization was defined by the women's difficulty in getting necessary care and difficulty caused by delays in health care while waiting for approval. Financing was defined by the type of payments made (privately, Medicare, or Medicaid) and if the women are enrolled by TRICARE. The criterion variables were the last routine female examination with a Pap smear, a mammogram, and a clinical breast examination.

Organization

Hypothesis 1a. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain Pap smears.

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Hypothesis 1b. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain mammograms.

Hypothesis 1c. Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain clinical breast examinations.

As previously mentioned, the data were analyzed by multiple regression, using as predictors difficulty getting necessary care and difficulty caused by delays in health care while waiting for approval. As shown in Table 14, the regressions were a rather poor fit, with the combined effects explaining less than 3% of the variance for obtaining any of the three preventive health services, therefore caution must be observed in interpreting the usefulness of the equation. However, the overall relationship of the organization factors to Pap smear ($F(2, 7535) = 97.17$, $p < .05$), mammogram ($F(2, 7535) = 82.88$, $p < .05$), and clinical breast examination ($F(2, 7535) = 101.02$, $p < .05$) were significant.

Both predictors, difficulty getting necessary care and difficulty caused by delays in health care while waiting for approval achieved a consistent significant effect on obtaining the preventive health services. Those women who have less difficulty in getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain a Pap smear, a mammogram, and a clinical breast examination. Therefore, hypotheses 1a – 1c were supported considering the statistical significance of this model for each criterion variable.

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Table 14

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on the Delivery System Variable – Organization

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Organization Factor	B	Beta	B	Beta	B	Beta
Difficulty in Getting Necessary Care	-7.330E-02	-.054*	-9.501E-02	-.058*	-8.492E-02	-.058*
Difficulty Caused by Delays in Health Care While Waiting for Approval	-.163	-.118*	-.171	-.102*	-.177	-.118*
R^2		.025		.002		.026
F (2, 7535)		97.17*				
F (2, 7535)				82.88*		
F (2, 7535)						101.02*

*Significant at $p < .05$

Financing

Hypothesis 1d. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain Pap smears.

Hypothesis 1e. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain mammograms.

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Hypothesis 1f. Women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain clinical breast examinations.

As shown in Table 15, the data were analyzed by multiple regression, using as predictors visits paid privately, Medicare, or Medicaid, and how many months covered by TRICARE. The regressions were a rather poor fit for Pap smear ($R^2 = .002$), mammogram ($R^2 = .002$), and clinical breast examination ($R^2 = .000$), therefore extreme caution should be taken in interpreting the usefulness of the equation, prediction errors could be large. However, in the case of Pap smear ($F (2, 3297) = 3.37$, $p < .05$), and mammogram ($F (2, 3297) = 3.71$, $p < .05$), their overall relationship to the financing factors were significant. The number of months covered by TRICARE achieved a consistent significant effect on obtaining a Pap smear and a mammogram, with those covered by TRICARE longer being more likely to obtain a Pap smear, and a mammogram. Therefore, hypotheses 1d and 1e were partially supported considering the overall significance of this model and the individual effect of the variable – months covered by TRICARE.

Population-at-Risk (Predisposing, Enabling, and Need)

The following hypotheses, hypotheses 2a through 2i, were centered on selected factors of the population-at-risk. Hypotheses 2a through 2c involved the predisposing factors of age, race, marital status, and rank. Hypotheses 2d through 2f concentrated on the enabling factors of level of education, total family income, branch of service, enrollment in TRICARE Prime, having supplemental insurance, the most used health care

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Table 15

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on the Delivery System Variable – Financing

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Financing Factor	B	Beta	B	Beta	B	Beta
Visits Paid Privately, Medicare, Medicaid	2.686E-03	.022	3.993E-03	.027	2.819E-03	.022
Months Covered by TRICARE	6.977E-03	.047*	8.752E-03	.049*	1.257E-03	.008
R^2		.002		.002		.000
F (2, 3297)		3.37*				
F (2, 3297)				3.71*		
F (2, 3297)						.692

*Significant at $p < .05$

plan, traveling less than thirty minutes to their primary care manager's facility and place of residence (MSA versus non-MSA). The final hypotheses for population-at-risk, hypotheses 2g through 2i, involved the need factors of perception of health, having pain interfere with normal work schedule, calm and peaceful feelings, downhearted and blue feelings, having a lot of energy and having had physical health or emotional problems interfere with social activities. A coding scheme known as dummy coding was conducted on race, marital status, rank, branch of service, enrollment in TRICARE Prime, and type of supplemental insurance. Other variables coded were the health plan most used, how often did it take to travel more than thirty minutes to see their primary care manager, and location (MSA versus non-MSA). All of the coded variables were measured on a nominal scale. As discussed in Chapter 3, those variables measured on the

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nominal level are dummy coded. Before actually coding the data, reference groups were chosen based on the review of literature and Appendix N displays the coded variables and the selected reference groups. In analysis of the dummy variables, the resulting b coefficient was assessed to indicate the changes in the criterion variable with respect to the reference group. Statistics for hypotheses 2a through 2i are found following the explanation of results in Tables 16, 17, and 18.

Predisposing Factors

Hypothesis 2a. Women who are younger, African American, married and a retired officer are more likely to obtain Pap smears.

Hypothesis 2b. Women who are younger, African American, married and a retired officer are more likely to obtain mammograms.

Hypothesis 2c. Women who are younger, African American, married and a retired officer are more likely to obtain clinical breast examinations.

As shown in Table 16, multiple regression analysis was performed with age, race, marital status and rank as predictors. The regression formula developed was a poor fit for Pap smear ($R^2 = .006$), mammogram ($R^2 = .031$), and clinical breast examination ($R^2 = .011$) and like the previous regressions, extreme caution should be taken in light of the high degree of variability which can result in large prediction errors. However, the overall relationship of the predisposing factors to Pap smear ($F(4, 7537) = 11.36$, $p < .05$), mammogram ($F(4, 7537) = 60.99$, $p < .05$) and clinical breast examination ($F(4, 7537) = 20.26$, $p < .05$) were significant.

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Table 16

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on Population-At-Risk – Predisposing Factors

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Predisposing Factor	B	Beta	B	Beta	B	Beta
Age	-1.722E-03	-.013	2.500E-02	.157*	4.922E-03	.035*
RACE: All Others	8.300E-03	.004	-7.823E-03	-.003	-.112	-.046*
Martial Status: All Others	-3.631E-02	-.014	-5.819E-02	-.018	-6.131E-02	-.021
Rank	.154	.074*	.203	.080*	.164	.073*
R^2		.006		.031		.011
F (4, 7537)		11.36*				
F (4, 7537)				60.99*		
F (4, 7537)						20.26*

*Significant at $p < .05$

With other variables held constant, obtaining a mammogram and a clinical breast examination were significantly related to the women's age, with older women being more likely to obtain the two services. As anticipated, in the case of race, not being White was significantly related to obtaining a clinical breast examination. As reflected in Table 16, all other races are 4.6% less likely than Whites to obtain and clinical breast examinations. Rank achieved consistent significant effect on the three preventive health services, with the higher ranking women or those who were beneficiaries of higher-ranking retirees being more likely to obtain all three preventive health services. Considering the outcomes of the models, the hypotheses were only partially supported. Taking into

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account the individual effects of the variables age and marital status failed to support each hypothesis.

Enabling Factors

Hypothesis 2d. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain Pap smears.

Hypothesis 2e. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain mammograms.

Hypothesis 2f. Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain clinical breast examinations.

As shown in Table 17, multiple regression analysis was performed with education, income, branch of service, enrollment in TRICARE Prime, having supplemental insurance, the most used health care plan, never traveling more than thirty minutes to their primary care manager's facility and place of residence as predictors. The

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Table 17

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on Population-At-Risk – Enabling Factors

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Enabling Factor	B	Beta	B	Beta	B	Beta
Education	6.078E-02	.013*	3.869E-02	.032*	9.009E-02	.084*
Income	7.854E-02	.010*	6.035E-02	.066*	7.116E-02	.088*
SVC1: Army	2.648E-02	.028	1.176E-03	.001	-6.246E-02	-.030*
SVC3: Air Force	6.393E-02	.026*	6.767E-02	.031*	1.704E-02	.009
TRICARE: Not TRICARE Prime Enrolled	-7.060E-03	-.017*	-8.158E-02	-.068*	-6.147E-02	-.057*
Supplemental1: Supplemental Insurance	6.604E-02	.025*	.103	.043*	6.252E-02	.030*
HLTHPLAN4: Other Health Plans	2.388E-02	.032	3.863E-02	.017	.147	.031*
Travel: Never - 30 Minutes Travel to Primary Care Manager (PCM)	9.482E-02	.023*	.111	.048*	9.414E-02	.071*
LOC1: Non-MSA	7.233E-02	.039*	.103	.046	1.212E-02	.047*
R^2	.028		.017		.030	
F (9, 6994)		22.30*				
F (9, 6994)				13.22*		
F (9, 6994)						24.33*

*Significant at $p < .05$

regression was a very modest fit for Pap smear ($R^2 = .028$), mammogram ($R^2 = .017$), and clinical breast examination ($R^2 = .030$). However, the overall relationship of the enabling factors to Pap smear ($F (9, 6994) = 22.30$, $p < .05$), mammogram ($F (9, 6994) = 13.22$, $p < .05$), and clinical breast examination ($F (9, 6994) = 24.33$, $p < .05$) were significant.

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With other variables held constant, obtaining a Pap smear, a mammogram, and a clinical breast examination were significantly related to the women's education and income levels, with those with a higher level of education and income being more likely to report obtaining the three preventive health services. There was consistent statistical significance between obtaining all three preventive health services and not being TRICARE Prime enrolled, having supplemental insurance, and never traveling more than thirty minutes to the primary care manager's facility, each in relation to their reference group.

According to the results presented in Table 17, not being TRICARE Prime enrolled decreased the likelihood of the women obtaining a Pap smear, a mammogram, and a clinical breast examination compared to being TRICARE Prime enrolled. Having supplemental insurance increased the likelihood of the women obtaining a Pap smear, a mammogram, and a clinical breast examination by 2.5%, 4.3%, and 3.0%, respectively, compared to not having supplemental insurance. Those women who utilized other health plans the most increased the likelihood of obtaining a clinical breast examination by 3.1% when compared to those who utilized TRICARE Prime the most. Never traveling more than thirty minutes to the primary care manager's facility significantly increased the likelihood of obtaining the three preventive health services. This significance was in relation to the reference group of having to travel more than thirty minutes. For those women who never had to travel more than thirty minutes to their primary care manager's facility, there was an increased likelihood of obtaining a Pap Smear by 2.3%, a mammogram by 4.8%, and a clinical breast examination by 7.1%. Therefore, the hypotheses, 2d through 2f, were only partially supported with only the presupposed

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notion of higher education and income, not being enrolled in TRICARE Prime, have supplemental insurance, and never traveling more than thirty minutes to the primary care manager's facility being supported.

Need Factors

Hypothesis 2g. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain Pap smears.

Hypothesis 2h. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain mammograms.

Hypothesis 2i. Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain clinical breast examinations.

As shown in Table 18, multiple regression analysis was performed with perceived health status, the affect pain had on normal work, feeling calm and peaceful, level of energy, feeling downhearted and blue, and the effect physical health or emotional

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Table 18

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on Population-At-Risk – Need Factors

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Need Factor	B	Beta	B	Beta	B	Beta
In General, How Is Your Health	-7.890E-02	-.059*	-9.397E-03	-.006	-7.598E-02	-.053*
Pain Interfere With Your Normal Work	1.635E-02	-.009	6.640E-02	.030*	3.475E-02	.018
Felt Calm and Peaceful	-2.934E-03	-.002	-8.161E-02	-.037*	-5.592E-03	-.003
Had a Lot of Energy	2.716E-02	.015	5.436E-02	.025	5.600E-02	.028*
Felt Downhearted and Blue	7.452E-03	.005	-3.703E-02	-.015	-7.476E-02	-.033*
Physical/Emotional Problems Interfere With Your Social Activities	-7.187E-02	-.031	-3.394E-02	-.012	-4.241E-03	-.017
R^2		.004		.002		.004
F (6, 7462)		5.29*				
F (6, 7462)				3.09*		
F (6, 7462)						5.44*

*Significant at $p < .05$

problems had on social activities as predictors. The regression was a poor fit for Pap smear ($R^2 = .004$), mammogram ($R^2 = .002$), and clinical breast examination ($R^2 = .004$). However, the overall relationship of the need factors to Pap smear ($F (6, 7462) = 5.29$, $p < .05$), mammogram ($F (6, 7462) = 3.09$, $p < .05$), and clinical breast examination ($F (6, 7462) = 5.44$, $p < .05$) were significant.

With other variables held constant, obtaining a Pap smear and a clinical breast examination were significantly related to the women's perception of their health, with the lower their perception the more likely they were to obtain the two services. Feeling

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downhearted and blue and having a lot of energy achieved a significant effect with obtaining a clinical breast examination, with the more the women felt downhearted and blue and had a lot of energy the more likely the women were to obtain the service. In the case of obtaining a mammogram, pain interfering with normal work and feeling calm and peaceful proved to be significantly related. The more pain interferes with normal work and not feeling calm and peaceful meant the women would more than likely obtain a mammogram. Considering the individual effects of each variable it is therefore concluded that the hypotheses, 2g through 2i, were only partially supported.

Realized Access (Utilization and Satisfaction)

Tables 19 and 20 illustrate the combined contribution of the six utilization and satisfaction variables to the understanding of the variance in women obtaining the preventive health services. Utilization was defined by how many days the women had to wait for an appointment and care in general, with a civilian provider, and with a military provider. Satisfaction was defined by how the women rate their satisfaction with their civilian health care system, their military health care system, and with their health care system overall. The criterion variables were the last routine female examination with a Pap smear, a mammogram, and a clinical breast examination.

Utilization

Hypothesis 3a. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain Pap smears.

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Hypothesis 3b. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain mammograms.

Hypothesis 3c. Women who wait less time for an appointment and care in general, with a civilian or military provider are more likely to obtain clinical breast examinations.

As shown in Table 19, multiple regression analysis was performed with the number of days waiting between scheduling an appointment and seeing the doctor for minor care as a regressor. In addition to how long the women waited for an appointment with a military and a civilian provider for a minor illness or injury The regression model was a poor fit for Pap smear ($R^2 = .014$), mammogram ($R^2 = .012$), and clinical breast examination ($R^2 = .010$). However, the overall relationship between the utilization factors and obtaining a Pap smear ($F(3, 771) = 3.61$, $p < .05$), mammogram ($F(3, 771) = 4.07$, $p < .05$), and a clinical breast examination ($F(3, 771) = 2.55$, $p < .05$) were significant.

With other variables held constant, there was consistent significant relationship between how long the women had to wait for an appointment with a civilian provider for a minor illness or injury and the three preventive health services. The longer the women had to wait for an appointment with a civilian provider for a minor illness or injury, the more likely the women were to obtain the three preventive services. In observing the overall significance of the model, all three hypotheses would be considered, however recognizing the coefficient of each variable the hypotheses are only partially supported in that only one variable achieved a significant effect and thereby failed to support the theories – hypotheses 3a – 3c.

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Table 19

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on Realized Access - Utilization

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Utilization Factor	B	Beta	B	Beta	B	Beta
How Many Days Waiting Between the Time You Made Appt. and Visit for Minor Care	-3.982E-02	-.071	-7.007E-03	-.010	-3.567E-02	-.057
How Long Did You Wait for an Appt. With a Military Provider for Minor Illness/Injury	5.856E-02	.060	5.163E-02	.043	4.077E-02	.037
How Long Did You Wait for an Appt. With a Civilian Provider for Minor Illness/Injury	9.772E-02	.105*	.132	.114*	9.952E-02	.095*
R^2		.014		.012		.010
F (3, 771)		3.61*				
F (3, 771)				4.07*		
F (3, 771)						2.55*

*Significant at $p < .05$

Satisfaction

Hypothesis 3d. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain Pap smears.

Hypothesis 3e. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain mammograms.

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Hypothesis 3f. Women who rate their civilian satisfaction, military satisfaction, and their overall satisfaction as high are more likely to obtain clinical breast examinations.

As shown in Table 20, multiple regression analysis was performed with the women's level of satisfaction with their civilian and military health care system, and their satisfaction overall as predictors. The regression was a poor fit for Pap smear (R^2 = .017), mammogram (R^2 = .032), and clinical breast examination (R^2 = .031). However, the overall relationship between the satisfaction factors and obtaining a Pap smear ($F(3, 2424) = 13.74$, $p < .05$), a mammogram ($F(3, 2424) = 26.99$, $p < .05$), and a clinical breast examination ($F(3, 2424) = 25.82$, $p < .05$) were significant.

With other variables held constant, there was consistent significant relationship between the women's level of satisfaction with their military health care system and their satisfaction overall and the three preventive health services. In each case, the higher the level of satisfaction the more likely the women were to obtain the three preventive services. Considering the overall significance of the model, hypotheses 3d through 3f would be supported, however considering the coefficient of each variable the hypotheses can only be partially supported with two of the three variables proving significant.

Health Risks (Smoking)

Hypothesis 4a. Women who smoke are less likely to obtain Pap smears.

A simple linear regression analysis was performed to determine if the smoking health risk variables would predict whether the subjects' would obtain a Pap smear. The criterion variable was the last routine female examination with a Pap smear. The

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Table 20

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations on Realized Access - Satisfaction

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Satisfaction Factor	B	Beta	B	Beta	B	Beta
Civilian Satisfaction	2.527E-04	.006	-7.960E-04	-.016	5.519E-04	.102
Military Satisfaction	2.625E-03	.091*	3.334E-03	.097*	3.240E-03	.103*
Overall Satisfaction	7.726E-03	.077*	1.683E-02	.140*	1.368E-02	.124*
R^2		.017		.032		.031
F (3, 2424)		13.74*				
F (3, 2424)				26.99*		
F (3, 2424)						25.82*

*Significant at $p < .05$

predictor variable entered into the equation was the one that best defines smoking health risks: Do you now smoke every day, some days or not at all? The regression equation for predicting whether women will obtain a Pap smear is:

$$Y^1 = 4.71 + -.217x$$

Y^1 = whether women will obtain a Pap smear

4.71 = intercept constant

x = smoking health risk

Test of the overall equation indicated that there was a statistically significant relationship between smoking health risks and obtaining a Pap smear ($F(1, 4141) = 52.43$, $p < .05$). Still, it should be noted that the variance reflected in this model was

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quite low at $R^2 = .013$. The correlation between smoking health risks and obtaining a Pap smear was -.113 interpreted to mean that the less the women smoke the more likely they are to obtain a Pap smear, therefore hypothesis 4a was supported.

Hypothesis 4b. Women who smoke are less likely to obtain mammograms.

A simple linear regression analysis was performed to determine if the smoking health risks variable would predict the subjects' ability to obtain mammograms. The criterion variable is the last routine female examination with a mammogram. The predictor variable entered into the equation was do you now smoke every day, some days or not at all? The regression equation for predicting whether women will obtain a mammogram is:

$$Y^1 = 4.83 + -.387x$$

Y^1 = whether women will obtain a mammogram

4.83 = intercept constant

x = smoking health risk

Test of the overall equation showed that there was a statistically significant relationship between smoking health risks and obtaining a mammogram ($F(1, 4141) = 141.91$, $p < .05$). It should, however, be noted that the variance reflected in this model was low at $R^2 = .27$. The correlation between smoking health risks and obtaining a mammogram was -.159 interpreted to mean that the less the women smoke the more likely they are to obtain a mammogram. However, since the overall test of the model was significant, hypothesis 4b was consequently supported.

Hypothesis 4c. Women who smoke are less likely to obtain clinical breast

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examinations.

Like hypotheses 4a and 4b, a simple linear regression analysis was performed to determine if the smoking health risks variable would predict the subjects' ability to obtain clinical breast examinations. The criterion variable was the last routine female examination with a clinical breast examination. The predictor variable entered into the equation was the same as in hypotheses 4a and 4b. The regression equation for predicting whether women will obtain a clinical breast examination is:

$$Y^1 = 4.76 + -.245x$$

Y^1 = whether women will obtain a clinical breast examination

4.76 = intercept constant

x = smoking health risk

Although the variance explained by this model was quite low ($R^2 = .014$), the test of the overall equation showed that there was a statistically significant relationship between smoking health risks and obtaining a clinical breast examination ($F(1, 4141) = 56.83$, $p < .05$). The correlation between smoking health risks and obtaining a clinical breast examination was -.120 interpreted to mean that the less the women smoke the more likely they are to obtain a clinical breast examination. Hypothesis 4c was therefore supported.

Model of Access to Preventive Health Services

The regression equations performed to assess these hypotheses include all seventy-six predictor variables used to measure the components of the theoretical framework. These analyses allowed for identification of the relative importance the

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combined effects the model had on predicting whether the women will obtain the specified preventive health service.

Hypothesis 5a: The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain Pap smears.

Hypothesis 5b: The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain mammograms.

Hypothesis 5c: The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiaries of a military retiree to obtain clinical breast examinations.

Multiple regression analyses were performed to determine whether the full model predicts the subjects' ability to obtain Pap smears, mammograms, and clinical breast examinations (tests of hypotheses 5a-5c). As shown in Table 21, the criterion variable for hypothesis 5a was the last routine female examination with a Pap smear. The criterion variable for hypothesis 5b was the last routine female examination with a mammogram. The criterion variable for hypothesis 5c was the last routine female examination with a clinical breast examination.

The predictor variables as a group did a modest job of explaining variation in the three dependent variables. The model explained 17% of the variance in obtaining a Pap smear, 22% in obtaining a mammogram, and 14% in obtaining a clinical breast examination. In two of the cases, Pap smear ($F(30, 235) = 1.42$, $p < .05$) and mammogram ($F(30, 235) = 1.67$, $p < .05$)), the overall regression was statistically

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Table 21

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations to all Variables of the Model of Access to Preventive Health Services

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Factor	B	Beta	B	Beta	B	Beta
Difficulty in Getting Necessary Care	-2.816E-02	-.025	-9.485E-02	-.069	8.996E-02	.076
Difficulty Caused by Delays in Health Care While Waiting for Approval	-3.212E-02	-.028	5.045E-02	.037	-.131	-.111
Visits Paid Privately, Medicare, Medicaid	9.958E-03	.067	3.420E-03	.019	-5.528E-03	-.036
Months Covered by TRICARE	9.335E-03	.056	2.175E-02	.106	3.197E-03	.018
Age	-6.732E-03	-.057	1.667E-02	.116	1.692E-04	.001
RACE: All Others	1.169E-02	.006	-.178	-.074	-.213	-.104
Marital: All Others	9.880E-02	.047	.249	.096	1.426E-02	.006
Rank	9.633E-02	.051	6.021E-02	.026	4.860E-02	.025
Education	-7.460E-02	-.084	-3.741E-02	-.034	7.681E-02	.081
Income	7.033E-02	.110	.114	.147	3.797E-02	.057
SVC1: Army	8.125E-03	.005	-.189	-.094	-.137	-.079
SVC3: Air Force	-.121	-.071	-.326	-.157	-8.139E-02	-.046
TRICARE1: Not TRICARE Prime Enrolled	-3.869E-02	-.039	-6.511E-03	-.005	9.342E-02	.090
Supplemental1: Supplemental Insurance	8.272E-02	.046	.121	.056	8.195E-02	.044

*Significant at $p < .05$

(table continues)

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Table 21

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations to all Variables of the Model of Access to Preventive Health Services

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Factors	B	Beta	B	Beta	B	Beta
HLTHPLAN: Other Health Plan	4.049E-02	.023	.127	.060	.180	.099
Travel: Sometime to Always More than 30 Minutes Travel to Primary Care Manager (PCM)	-.157	-.096	-.157	-.079	-.197	-.116
LOC1: Non-MSA	9.571E-02	.059	.137	.069	9.062E-02	.053
In General, How Is Your Health	-.118	-.100	-5.919E-02	-.041	-2.981E-02	-.024
Pain Interfere With Your Normal Work	-.154	-.086	.149	.069	.167	.090
Felt Calm and Peaceful	-1.232E-02	-.008	-.103	-.052	2.692E-02	.016
Had a Lot of Energy	-.167	-.091	-.130	-.058	-.122	-.064
Felt Downhearted and Blue	.163	.095	.404	.193*	-9.180E-02	-.051
Physical/Emotional Problems Interfere With Your Social Activities	4.523E-02	.025	-3.835E-02	-.018	.236	.127
How Many Days Waiting Between the Time You Made Appt. and Visit for Minor Care	-6.384E-02	-.107	2.339E-02	.032	3.611E-02	.058
How Long Did You Wait for an Appt. With a Military Provider for Minor Illness/Injury	.188	.177*	1.008E-02	.008	2.509E-02	.023

*Significant at $p < .05$

(table continues)

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Table 21

Multiple Regression of Obtaining Pap Smears, Mammograms, and Clinical Breast Examinations to all Variables of the Model of Access to Preventive Health Services

	Obtained Pap Smear		Obtained Mammogram		Obtained Clinical Breast Examination	
Factors	B	Beta	B	Beta	B	Beta
How Long Did You Wait for an Appt. With a Civilian Provider for Minor Illness/Injury	.117	.121	.187	.158*	7.755E-02	.077
Civilian Satisfaction	-4.911E-03	-.046	-2.858E-03	-.052	-3.967E-03	-.084
Military Satisfaction	-7.605E-05	-.108	-4.105E-03	-.099	2.656E-03	.075
Overall Satisfaction	-4.418E-03	-.002	3.043E-02	.261*	1.073E-02	.107
Smoke Daily, Some Days, or Not at All	-.416	-.234*	-.326	-.150*	-.215	-.116
R^2	.172		.217		.137	
F (30, 235)		1.42*				
F (30, 235)				1.67*		
F (30, 235)						1.09

*Significant at $p < .05$

significant beyond the .05 level. Therefore, hypotheses 5a and 5b were accepted while hypothesis 5c was rejected.

Seventeen percent of the variance in obtaining a Pap smear was explained. The coefficient of two of the variables included in the model revealed a substantial effect on obtaining a Pap smear. The longer the women had to wait for an appointment with a military provider for minor illness or injury were also significantly related to the women obtaining a Pap smear. Lastly, the less likely they were to smoke the more likely the

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women were to obtain a Pap smear.

Twenty-two percent of the variance in obtaining a mammogram was explained. Feeling downhearted and blue was significantly related to the women obtaining a mammogram. Having to wait longer for an appointment with a civilian provider for minor illness or injury and having an increased level of overall satisfaction significantly contributed to the women obtaining a mammogram. Lastly, the less likely the women were to smoke the more likely the women were to obtain a mammogram.

Table 22 displays the overall significance of each hypothesis. However, it should be recognized that the relative importance of each variable was considered for each hypothesis, therefore, only eight of the hypotheses were fully supported. Those hypotheses were hypotheses 1a through 1c, 4a through 4c, and 5a and 5b. The factor analysis, discussed in Chapter 3, extracted ten discrete factors. Although only seven of the factors were pertinent to the adaptation of the Aday, et al. (1998) model (Figure 3), the ten factors were deemed appropriate to consider a new theoretical model. Therefore, the ten factors (Civilian Health Care System Satisfaction, Military Health Care System Satisfaction, Overall Health Care System Satisfaction, Need, Health Care Plan (TRICARE Prime), Preventive Services, Organization, Health Plan Experience, Financing, Utilization, Health Care Plan Claims) were used to construct a new model.

This new model, if found to be significant, could be used to determine which factors predict whether female military retirees or the female beneficiaries of this study would obtain the selected preventive health services. The hypothesis for this investigation was similar to hypothesis 5 with the inclusion of the three additional variables (Health Care Plan (TRICARE Prime), Health Plan Experience, and Health Care Plan Claims).

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Table 22

Hypothesis Outcomes

	Hypothesis	P-Value
1a	Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain Pap smears.	<.001*
1b	Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain mammograms.	<.001*
1c	Women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain clinical breast examinations.	<.001*
1d	Women who make payments privately, receive Medicare, or Medicaid and are covered by TRICARE are more likely to obtain Pap smears.	.034*
1e	Women who make payments privately, receive Medicare, or Medicaid and are covered by TRICARE are more likely to obtain mammograms.	.025*
1f	Women who make payments privately, receive Medicare, or Medicaid and are covered by TRICARE are more likely to obtain clinical breast examinations.	.501
2a	Women who are younger, African American, married and a retired officer are more likely to obtain Pap smears.	<.001*
2b	Women who are younger, African American, married and a retired officer are more likely to obtain mammograms.	<.001*
2c	Women who are younger, African American, married, and a retired officer are more likely to obtain clinical breast examinations.	<.001*

Note: *p-value significant at <.05 level.

(table continues)

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Table 22

Hypothesis Outcomes

	Hypothesis	P-Value
2d	Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain Pap smears.	<.001*
2e	Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain mammograms.	<.001*
2f	Women who are affiliated with the Air Force, have higher levels of education, have a higher income, are enrolled in TRICARE Prime, have supplemental insurance, use TRICARE Prime the most, never travel more than thirty minutes to their primary care manager's facility, and live in a MSA are more likely to obtain clinical breast examinations.	<.001*
2g	Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain Pap smears.	<.001*
2h	Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain mammograms.	<.001*

Note: *p-value significant at <.05 level.

(table continues)

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Table 22

Hypothesis Outcomes

	Hypothesis	P-Value
2i	Women who perceive their health status as poor, have had pain interfere with their normal work schedule, do not feel calm and peaceful, have felt downhearted and blue, did not have a lot of energy in the last month and have had physical health or emotional problems interfere with social activities are more likely to obtain clinical breast examinations.	<.001*
3a	Women who wait less time for an appointment and care in general, with a civilian provider, and with a military provider are more likely to obtain Pap smears.	.013*
3b	Women who wait less time for an appointment and care in general, with a civilian provider, and with a military provider are more likely to obtain mammograms.	.007*
3c	Women who wait less time for an appointment and care in general, with a civilian provider, and with a military provider are more likely to obtain clinical breast examinations.	.054*
3d	Women who rate their civilian satisfaction, military satisfaction, and their satisfaction overall as high are more likely to obtain Pap smears.	<.001*
3e	Women who rate their civilian satisfaction, military satisfaction, and their satisfaction overall as high are more likely to obtain mammograms.	<.001*
3f	Women who rate their civilian satisfaction, military satisfaction, and their satisfaction overall as high are more likely to obtain clinical breast examinations.	<.001*
4a	Women who smoke are less likely to obtain Pap smears.	<.001*
4b	Women who smoke are less likely to obtain mammograms.	<.001*
4c	Women who smoke are less likely to obtain clinical breast examinations.	<.001*

Note: *p-value significant at <.05 level. (table continues)

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Table 22

Hypothesis Outcomes

	Hypothesis	P-Value
5a	The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain Pap smears.	.009*
5b	The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain mammograms.	.011*
5c	The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain clinical breast examinations.	.349

Note: * p-value significant at <.05 level

Preventive Health Services (obtaining a Pap smear, a mammogram, and a clinical breast examination) served as the criteria variables. In conducting the analyses, if the F ratio was significant at the .05 level, the hypothesis was supported. The hypothesis is: The model of access to preventive health services will predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain preventive services.

Simultaneous multiple regression analyses were conducted on the three preventive health services were all three of the new factors were included into the model to determine their combined effect on the model and to further address the hypothesis.

The first analysis which addressed whether the model would predict the likelihood of the females to obtain Pap smears, resulted in a non-significant relationship ($F(33, 23) = .958$, $p < .05$). The next analysis addressed whether the model would predict the

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likelihood of the females to obtain mammograms, also resulted in a non-significant relationship ($F (33, 23) = .634$, $p < .05$). The final analysis addressed whether the model would predict the likelihood of the females to obtain clinical breast examinations, resulted in a non-significant relationship ($F (33, 23) = 1.59$, $p < .05$). In light of the results from the multiple regression analyses, the hypothesis could not be supported. Therefore, the development of a new model to determine which factors predict whether the female military retirees or the female beneficiaries of this study will obtain the selected preventive health services could not be constructed.

Summary of Data Analysis

This chapter presented the results attained from the data collection of 8252 female military retirees or the female beneficiary of a retiree, ages 40 to 64, to address the presented twenty-seven hypotheses. The data analysis was presented in five sections. The first section presented the demographic characteristics of the study sample through the use of frequency tables. The second section utilized crosstabulations to evaluate whether a statistical relationship existed between the predisposing and enabling variables. Section three examined those women who had not received the selected preventive health services within the recommended timeframe. Section four addressed hypotheses one through five. Simple linear and multiple regression analyses were used to ascertain the affect that the predictor variables had on predicting the likelihood of the subjects' obtaining the specified preventive health services. Finally, section five investigated the

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likelihood of ten discrete factors to predict whether the subjects of this study will obtain the selected preventive health services.

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CHAPTER V

Conclusions

Discussion

This chapter discusses the findings of the study based on the analysis of the data. The study was conducted via analysis of a secondary data set that was derived from the 1998 HCSDB. Summary, limitations to the study, and recommendations for future research are presented based on the findings discussed in the previous chapters.

The theoretical framework of this study was adapted from work by Aday et al. (1998) to predict the relationship between selected factors and obtaining preventive health services. The central research question developed for this study focuses on what factors impact the study subjects' ability to obtain three preventive health services – Pap smears, mammograms, and clinical breast examinations. Overall, twenty-seven assumptions about the relationship between the factors and the three preventive health services were presented to answer the research question.

The purpose of this study was to determine what factors predict whether female military retirees or the female beneficiary of a military retiree, ages 40 to 64, would obtain preventive health services. Three criteria variables, Pap smears, mammograms, and clinical breast examinations were selected to depict the preventive health services obtained by the study sample. The study sample investigated the relationships among seventy-six variables of which fifty were computed to create sub-scales for civilian satisfaction, military satisfaction, and overall satisfaction. Twelve variables measured demographic characteristics (predisposing and enabling), and the remaining fourteen

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variables measured the subjects' individual responses to organization, financing, need, utilization and smoking health risk factors. These variables were measured from a sample size of 8252 female military retirees or the female beneficiary of a military retiree.

As mentioned in the previous chapters, the percentages of those women who have received the three preventive health services within the recommended timeframe are relatively high. In relation to the Healthy People (HP) 2000 and 2010 statistics, female military retirees or the female beneficiary of a military retiree who received a Pap test within the preceding 1–3 years slightly exceeded the HP2000 target rate of 85% by 3 percent and is within range of the HP2010 target rate of 90 percent. For those who have received a clinical breast examination and a mammogram within the preceding 1–2 years, the women of this study sample exceeded the HP2000 target rate of 60% by 26 and 24 percent and the HP2010 target rate of 70% by 16 and 14 percent, respectively. There could be many reasons why female military retirees or the female beneficiary of a military retiree obtained these services but the guiding forces could very well be the Department of Defense (DoD) Directives and congressional mandates which facilitates access to these services.

One DoD Directive, the Patient Bill of Rights and Responsibilities in the Military Health System (1998), assigns responsibilities for MHS implementation of the President's Consumer Bill of Rights and Responsibilities in Healthcare. According to this Directive, "the MHS shall promote the availability of providers who have special training in women's health issues to serve as Primary Care Managers for female Prime [TRICARE] enrollees (p.4)." Based upon this Directive, TRICARE has implemented the policy that they will share the cost [after the costs shown in Table 1] of screening Pap

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smears and related brief or intermediate office visits for asymptomatic women who are or have been sexually active, or smoke cigarettes, or have reached 18 years of age (TRICARE Standard Provider Handbook, 1999).

In relation to mammography and clinical breast examinations, congressional mandate set forth a DoD Breast Cancer Prevention, Education, and Diagnosis Initiative. In response to concerns that DoD beneficiaries did not have access to state-of-the-art diagnosis and treatment for breast cancer, Congress allocated $25 Million in each of Fiscal Year (FY) 96, FY97, and FY98 to increase beneficiary access to diagnosis, treatment, and education on breast care, and education about diagnosis and treatment options (Department of Defense, 1999). Before this initiative, the standard of access to breast exams within the MHS was inconsistent and fragmented. There were few mammography appointments available at MTFs; and many women MHS beneficiaries had to schedule their mammography appointments months in advance or at non-military facilities (Department of Defense, 1999). By adding personnel, supplies, and equipment, access to breast cancer diagnosis and care increased. Additionally, an organized uniform MHS breast care education effort had not previously existed. Generally, women beneficiaries were unaware of how to reduce the mortality of breast cancer and most had little knowledge about the importance of obtaining a baseline screening mammogram (Department of Defense, 1999). Moreover, the MHS did not have an organized program to promote monthly breast self-examinations for women (Department of Defense, 1999). Basically, the Breast Cancer Initiative created a climate of innovation. The congressional mandate and funding enabled a rapid leap to top-quality in FY98 for a program perceived in FY96 as unsatisfactory (Department of Defense, 1999).

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Another initiative put forth by DoD and each of the services' Surgeon Generals is a plan of Optimization. The TRICARE Management Activity (TMA) and the three services [Air Force, Army, and Navy] created an aggressive plan to support development of a high performance comprehensive and integrated health service delivery system (Nelson, 2001). TMA and the services took lessons learned from both military and civilian health plan, the outcome – the new MHS Optimization Plan (Nelson, 2001). Full implementation of this plan is to result in a quality, cost effective health service delivery system.

Under the Optimization Plan is a strong emphasis upon Population Health Care which will decrease beneficiary demands on the MHS (Sculley, 2001). The processes of Population Health includes population enrollment/assessment; case management; self-care; prevention programs; disease management through adherence to evidence-based medicine; and best practices embodied in clinical practice guidelines (Nelson, 2001; Sculley, 2001; Carlton, 2001). The services are further improving their effectiveness of care by adopting the U.S. Preventive Services Task Force recommendation for clinical preventive services, the DoD/VA clinical practice guidelines for disease/condition management and other evidence-based clinical practices. According to the Air Force Surgeon General (Carlton, 2001), Primary Care Optimization [same as the MHS Optimization Plan] requires that the MHS measure themselves against nationally recognized standards for breast and cervical cancer screening. As evident in this study, the MHS is meeting those standards with more than 60% of the women sampled obtaining Pap smears, mammograms, and clinical breast examinations. The question or concern is will those numbers continue to rise, if not, what are the factors that could

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prevent it from happening. And what are the factors that inhibit the remaining 40% from obtaining these preventive health services.

As shown in the previous chapters, the sub-sample of this study was very comparative to the total sample and the total female sample. The majority of the population was white, married, and enlisted in the Air Force, Army, or Navy. Most of the sample had at least a high school diploma, made at least $20 thousand a year and was enrolled in TRICARE Prime with the exception of the total population in which only 37% were enrolled. However, in each instance TRICARE Prime was the most utilized health care plan followed by other civilian insurance/HMO. In each case, over half of the population never had to travel more than 30 minutes to their primary care manager's facility and somewhat surprisingly majority lived outside the MSA. These findings show that the study sample's demographic variables presented significant mean differences within several categories. These differences were most evident among race, having TRICARE Prime, having supplemental insurance, the health care plan most utilized and living in a metropolitan statistical area. These outcomes are not overly surprising in light of the fact that most studies reveal that these variables are factors that impact obtaining preventive health services (Aday, et al., 1984, p. 35; Hayward, et al., 1988, p. 1179; Harlan, et al., 1991; Simoes, et al., 1999, p. 125). Conversely, it was found that there was no significant difference in having to travel 30 minutes to the primary care manager and obtaining preventive health services. This finding would appear to be a quite interesting find especially in view of the fact that majority of the population reside outside of the MSA. However, as noted by Stoloff et al.(2000), all beneficiaries enrolled in TRICARE Prime are guaranteed access to care according to strict time standards. Additionally,

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primary care should be available within a 30-minute drive from the beneficiary's home. Further, as pointed out in one study which analyzed the effect of distance to VA facilities on the choice and level of utilization of VA outpatient services, there is a significant effect on the initial discrete choice for care (Burgess & DeFiore, 1994).

In the process of analysis, a review was conducted to derive a picture of the population of women who had not obtained the preventive health services within the recommended timeframe. Surprisingly, this population (total female sample and total sub-sample) almost mirrored those who had received the preventive health services within the recommended timeframe with the exception of the majority (above 70%) of those in the total sample resided in an MSA. For example, in each category of those who had and had not received the three preventive health services, approximately 70% were white, and roughly 80% were married and enlisted in the military service. Additionally, around 40% were in the Air Force, had some college or two-year degree and made $20 - $39 thousand a year, while approximately 20% had some type of supplemental insurance.

Crosstabulations which are the calculation of a two-dimensional frequency distribution for categorical variables (Polit, 1996), were conducted. This particular analysis was conducted to evaluate whether a statistical relationship existed between the predisposing and enabling factors and obtaining the three preventive health services. In the analysis of obtaining a Pap smear, race, the retirees' rank, level of education, income, enrollment in TRICARE Prime, most utilized health care plan, and location proved to be statistically significant in whether the women obtained the service. In crosstabulation of mammogram by the predisposing and enabling characteristics, the very same variables resulted in a significant relationship in addition to being covered by supplemental

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insurance. Obtaining a clinical breast examination was also statistically significant to race, the retirees' rank, level of education, income, enrollment in TRICARE Prime, most utilized health care plan, and location. Additionally, branch of service proved to have a significant impact. As mentioned earlier, these findings are all in support of previous studies findings (Aday, et al., 1984, p. 35; Hayward, et al., 1988, p. 1179; Harlan, et al., 1991; Simoes, et al., 1999, p. 125).

As previously discussed, this study focused on what factors impact whether a female military retiree or the female beneficiary of a military retiree, ages 40 to 64, will obtain preventive health services. Multiple regression analyses were used to examine the relative contribution of each predictor variable in explaining the variance in obtaining three preventive health services – Pap smear, mammogram, and clinical breast examination. The results were presented in two parts. First, each predictor variable was assessed to explain their relative importance to obtaining the preventive health services. Then the results are presented for all the variables included in the regression equation, which allowed for identification of the importance of each factor relative to all other variables.

It was hypothesized that women who have less difficulty getting necessary care and less difficulty due to delays in approval of care would be more likely to obtain the preventive health services. These are definitely factors that can be affected by enhancements to the military health system. In all three situations, obtaining Pap smears, mammograms, and clinical breast examinations, the hypotheses were supported. The findings are similar to numerous other studies (Bindman, et. al, 1996; Kerr, Hays,

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Mitchinson, Lee, & Siu, 1999; Mark & Mueller, 1996; Rimer, Ross, Cristinzio, & King, 1992).

Financing was another component of the theoretical model. It was hypothesized that women who are able to make payments privately, receive Medicare, or Medicaid and are covered by TRICARE for a longer period of time are more likely to obtain the preventive health service. It was determined that being enrolled in TRICARE was significant to the women obtaining a Pap smear and a mammogram. This finding is important for the MHS in that it supports the need for continued emphasis on maintaining TRICARE contracts and encouraging military health care beneficiaries to enroll into TRICARE.

A series of hypotheses (2a through 2i) speculated that characteristics of population-at-risk would have an effect on obtaining preventive health services. Population-at-risk includes those demographic and need factor variables previously discussed. A wealth of literature supports the fact that certain characteristics of the population-at-risk are indicative of women obtaining preventive health services (Aday, et al., 1984; Calle, et al., 1993; Hayward, et al., 1988; Simoes, et al., 1999; Wolinsky & Johnson, 1991). The results of this study indicated that the predisposing factors - age, race and the retirees' rank impacted whether the women obtained all three preventive health services. Most of the enabling characteristics had an influence on obtaining the preventive health services. With all other variables held constant, education, income, having supplemental insurance, being affiliated with the Air Force or Army, utilizing TRICARE Prime, never traveling more than 30 minutes to the primary care manager's

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facility, and place of residence were consistently significant across all three preventive services.

In the case of need, obtaining a Pap smear was influenced by only one of the factors, the women's perception of their health. Obtaining a mammogram was influenced by how often pain interfered with normal work and feeling peaceful and calm. Finally, clinical breast examination was impacted by the women's perception of their health, having a lot of energy, and feeling downhearted and blue. This is an area that can be further investigated from a mental health perspective in that the need factor makes clear the necessity of mental health intervention. Depressive/anxiety symptoms are common and access to care for psychological distress remains a problem for many women (Sherbourne, et al., 2001). Sherbourne, et al. (2001) explain that sources of unmet need include patient factors, clinician factors, and characteristics of the health system, such as costs of mental health care. Additionally, Anfinson & Bona (1985) indicate that serious problems persist in the recognition and treatment of psychiatric problems in primary care. Improved outcomes depend on improved recognition, and screening instruments need to be streamlined tremendously to be accepted by primary care providers (Anfinson & Bona, 1985). Women could very well be accessing the health care system to obtain preventive health services with the hopes of having someone recognize their mental health issues. As previously mentioned, this is an area that could be researched for correlation between accessing the three preventive health services of this study and mental health issues, this would help to enhance the quality of care for patients.

The review of literature indicated that there is a significant relationship between realized access and the ability of women to obtain preventive health services. Realized

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access was characterized as the amount of use by and the level of satisfaction of the women. It was presupposed that utilization factors – waiting less time for an appointment and care, in general, or with either a civilian provider or a military provider – will impact women obtaining the preventive health services. It was interesting to find that the longer the women waited for an appointment with a civilian provider for minor illness or injury the more likely they were to obtain the preventive health services. This finding deserves closer investigation because this would make one presume that the female military health care beneficiary desires to access the civilian health care system for their preventive health care than to access the MHS. If this presumption is correct, which can only be verified through further investigation, then additional research is necessary to determine why. If one of the objectives of the MHS is to re-capture patients into their system (Nelson, 2001), then understanding the reason why the female military health care beneficiary prefers the civilian health system is necessary.

Satisfaction is another component of realized access. The results of the study revealed that the more satisfied the women were with either military or overall care the more likely they are to receive the three preventive health services. Understanding this finding can allow the MHS to focus on and further enhance those factors that promote the women's satisfaction level. For instance, knowing that having convenient hours of operation improves satisfaction then measures can be taken to adjust or extend a facility's operating hours to make them suitable for patients.

Smoking health risks were assessed as a part of the factors that influence the ability to obtain preventive health services. As the literature indicated in the previous chapters, smoking health risks, which were defined in the study as whether a women

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smokes is a definite factor in whether women obtain Pap smears, mammograms, and clinical breast examinations, with the less women smoke the more likely they are to obtain the services. This study hypothesized a significant relationship between smoking health risks and obtaining preventive health services. Analyses conducted for this study upheld the premise that the health risk of smoking is significantly related to obtaining Pap smears, mammograms, and clinical breast examinations. These are findings that can be impacted by additional MHS health promotion initiatives. The MHS health promotion offices could coordinate additional measures to touch patients at every level of care, for example, a patient picking up a prescription at an MTF Pharmacy can be asked there smoking status and be given educational information if they smoke.

The final hypotheses dealt with the overall model's ability to predict the factors that impact the ability of the women of this particular study to obtain preventive health services. The initial hypothesis involved the overall model's ability to determine whether the women would obtain a Pap smear. It was presupposed that the model of access to preventive health services would predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain Pap smears. Only six factors produced a statistically significant contribution in explaining 28% of the variance in obtaining a Pap smear. Those factors were perceived level of health, feeling calm and peaceful, feeling downhearted and blue, length of time the women waited for an appointment with a civilian provider for minor illness or injury, civilian satisfaction, and whether the women smoke. Of those factors, the need component proved to be the biggest contributor to the outcome.

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The next criteria variable, mammogram, was assessed in the same manner as Pap smear. It was postulated that the model of access to preventive health services would predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain mammograms. Like the previous hypothesis, this assumption was also supported. However, only four factors produced a statistically significant contribution to the total explained variance of 26% in obtaining a mammogram: feeling downhearted and blue, how long the women waited for an appointment with a civilian provider for minor illness or injury, overall satisfaction, and whether the women smoke.

Finally, a hypothesis, which involved the overall model's ability to determine whether the women would obtain clinical breast examinations, was assessed. In this situation, it was hypothesized that the model of access to preventive health services would predict the likelihood of female military retirees or the female beneficiary of a military retiree to obtain clinical breast examinations. Unlike the previous hypotheses, this hypothesis could not be supported.

After ascertaining the results of the hypotheses developed around the adapted theoretical framework (Figure 3), analyses were conducted to determine if a new theoretical model could be constructed. It was presupposed that this new theoretical model, which included three variables – health care plan (TRICARE Prime/Senior), health plan experience, health care plan claims would ascertain which factors predict whether female military retirees or the female beneficiaries of this study will obtain the selected preventive health services. However, after conducting multiple regression analyses on the factors, the hypothesis could not be supported, therefore the adapted model was not actualized.

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Limitations and Recommendations for Future Studies

The process of predicting preventive services is complex and very often influenced by a number of correlated factors, some factors may change over time, or there may be reciprocal relationships between variables. Since this research was a secondary analysis of existing data, other data about some of the dynamic variables that may influence the ability of the women to obtain preventive services was not available. An original data set could have allowed for an oversampling of populations underrepresented in this study, e.g., racial and ethnic minorities. Additionally, the variables included in this instrument were measured at varying levels, which increased the difficulty in interpretation of analyses. In order to conduct the best possible analysis, variables had to be re-coded and in the process information is lost, e.g., explanation of the impact that certain single variables have on the criteria variable is lost through dummy coding. In other instances when the distribution of variables are altered to better match another one, such as the normal distribution information can be lost (Puri,1996).

Furthermore, this study relied on self-reported information for most of the variables studied. While in some studies patients have been found to be reliable reporters of the type of factual information used in this study, such as the waiting time in the office (Brown and Adams, 1992), there is evidence that patients tend to overestimate their receipt of preventive care services (Bindman et al., 1996). The most common error in reporting is underestimating the time that has elapsed since receiving the test (Whitman, Lacey, Ansell, Chen, Dell, & Phillips, 1993). Response bias may have also skewed the results in that those more satisfied with their care may have been more likely to complete

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the survey. For future studies it is recommended that the measurement of the data be uniform to allow for better interpretation of the analyses.

Recommendation for future studies includes further investigation on how mental health programs or mental health status, especially depression, impact prevention behaviors. Additionally, research into the inverse relationship between waiting longer for appointments with civilian providers rather than making an appointment with a military provider could bring a better understanding as to how this factor contributes to the women obtaining preventive health services. These two studies alone would build on the limited body of knowledge of the retired military community.

As evident in the review of literature, there is very little research done on the military retiree accessing the military health system. More focus has been directed to the military retiree within the VA Health Care System. While the VA Health Care System is important, entry into the Military Treatment Facility (MTF) is just as, if not more, important. As evident in this study, 60% of the retired females or the female beneficiary of the retirees are enrolled in TRICARE Prime and are utilizing this health care plan the most. Because of this, more retirees and their family members will be accessing the MTFs and knowing what promotes their access is important to making efficient changes to the system.

Additionally, through factor analysis, this study produced three factors (Health Care Plan (TRICARE Prime), Health Plan Experience, and Health Care Plan Claims) that were not investigated on a larger level. Although these factors did not produce enough significance to develop a new model, they should not be disregarded in future studies. In view of the fact that TRICARE has become the foundation of the MHS, focused

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investigation should be placed on the plan and its relationship to obtaining services. This study has a broad scope of looking at the female military retiree and the female beneficiary of the retiree, there could and should be more studies directed toward the military retiree obtaining services within the MTF.

Implications of Results

While percentages are high for obtaining the three preventive health services, the question is whether they will remain high. As noted in the study by Stoloff et al. (2000), annual Pap test dropped from 69 to 66 percent over the period of analysis [1994 to 1998], for women in the overall DoD beneficiary population. The point to focus on is how to maintain or enhance the percentages of women obtaining Pap smears, mammograms, and clinical breast examinations.

Based upon the results of this study several recommendations can be made to further improve the percentages of women obtaining the three preventive health services. In the investigation of those women who had not received a Pap smear, a mammogram, and a clinical breast examination within the recommended timeframe, no true or astounding differences were found from those who had received the preventive health services. Several important conclusions did emerge from post hoc analyses. Further analyses included an investigation into the individual components of the model, in addition to the overall model, which presented significant findings to which attention can be focused. The results of this study are interesting because it does show a relationship between the factors associated with the model and obtaining Pap smears, and

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mammograms. It is quite intriguing, however, that investigation into the model overall was unable to explain the ability of women to obtain clinical breast examinations.

In investigation into the individual components of the model, it was found that women who have less difficulty getting necessary care and less difficulty caused by delays in health care while waiting for approval are more likely to obtain all three preventive health services. As previously mentioned, these are areas that can be impacted by the operations of the MHS. It appears from a previous study (Stoloff, et al., 2000) that TRICARE has made it easier to make a medical appointment, and people can see their provider more quickly. However, he noted that the level of perceived access to care when needed, in general (includes specialty and primary care) is considerably higher for those receiving care outside the military system. This study indicates a significant area of concern related to the function of the system. Therefore, the MHS needs to address the perception that that those accessing health care outside of the MHS have about the difficulty in getting care through the military system. This perception can very likely be corrected by educating the patient about their regional military health care system. In the area of financing, being enrolled in TRICARE increased the likelihood of the women obtaining a Pap smear and mammogram. Based upon this finding campaigns for TRICARE enrollment should be further emphasized to this population group.

Focusing on the population-at-risk, there should be awareness that there are certain predisposing and enabling factors which affect whether a woman will obtain the preventive health services. Some of these factors such as the woman's use of TRICARE Prime, having supplemental insurance, and the time it takes to travel to the patient's primary care manager's facility can be impacted by the MHS. Based on the findings of

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this study, women should be encouraged to enroll and use TRICARE Prime, have supplemental insurance, and have a primary care manager assigned to them that is within 30 minutes of their home. The need factor of population-at-risk impacted the women's ability to obtain a Pap smear, a mammogram, and a clinical breast examination on varying levels. It is important to recognize that some of these variables have mental health connotations, i.e., feeling downhearted and blue, while others can be focused on from a health promotion aspect i.e., having a lot of energy or a general perception of health. These are areas that can be further investigated by the MHS's health promotion and mental health program directors.

In the area of realized access, it was discovered that waiting longer for an appointment with a civilian provider was positively related to a woman obtaining all three preventive health services. This finding is the opposite of Stoloff et al.'s (2000) research, which indicated that those receiving care from civilian providers generally had shorter wait times for appointments. Additionally, the authors found that TRICARE goals for appointment wait time are met about 90 percent of the time by both civilian and by military providers. Since this finding does support previous research, further investigation into the inverse relationship of waiting longer for an appointment with a civilian provider and obtaining the preventive health services should be performed.

Satisfaction with the military health care system and overall satisfaction were found to be significant contributors to a woman obtaining the three preventive health services. Stoloff et al. (2000) reported that there is a general pattern of improved satisfaction with access under TRICARE, but the levels of satisfaction of those using the military system are considerably less than for those using the civilian-only care. This is a

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finding to which considerable attention should be directed. If the military treatment facilities are going to recapture patients from the civilian health care system, focus is going to have to be placed on increased satisfaction.

Made obvious from this study and further enhanced by previous studies, smoking health risks significantly impacted the women's likelihood to obtain all three preventive health services. The more women smoke, the less likely they are to obtain a Pap smear, a mammogram, or a clinical breast examination. Keeping this finding in mind, the MHS's health promotion, smoking cessation programs should also focus on this population group as an indirect way of encouraging other preventive health measures.

In analysis of the overall model, the need component in addition to time waited for an appointment with a civilian provider, civilian satisfaction, overall satisfaction, and whether the women smoke were the significant contributors to women obtaining a Pap smear, a mammogram, and a clinical breast examination. Knowing and understanding the effects of these variables on obtaining the preventive health services makes prioritization of initiatives easier. Based on the findings of this study, one area of focus that should be continued is the Breast Cancer Initiative. As noted from previous study findings (Stoloff, et al., 2000) and as discovered in this study, the high percentage of women obtaining mammograms has greatly increased from 1994 to 1998 and is properly associated with the Breast Care Initiative. Continued support from the Surgeon Generals of the military services can only promote this top-quality initiative.

While percentages for female military retirees or the female beneficiary of a military retiree obtaining the three preventive health services are high, very little study has been done on the impact that certain factors have on these women obtaining the

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services. Discovering the factors that influence the ability of women to obtain preventive health service can be valuable information to the Department of Defense in that it will provide information that will help to further enhance health care within the military health care system. In drawing attention to these issues, it is suggested that it may be important to broaden the scope of interest to include those areas that are most prominent in affecting female military retirees or the female beneficiary of a military retiree, particularly those 40 to 64, in obtaining preventive health services. The findings from this analysis suggest that planning future services for this population can truly enhance the women's ability to obtain the preventive health services. Additionally, this study will add to the limited body of knowledge on preventive health services and the military health care system.

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References

1998 Health Care Survey of DoD Beneficiaries: Form A Codebook and User's Guide. (1999, August). Washington, DC: Mathematica Policy Research, Inc.

1998 Health Care Survey of DoD Beneficiaries: Technical Manual. (1999, July). Washington, DC: Mathematica Policy Research, Inc.

Aday, L. A., & Andersen, R. (1975). Development of indices of access to medical care. Ann Arbor, Michigan: Health Administration Press.

Aday, L. A., Begley, C.E., Lairson, D.R., & Slater, C.H. (1998). Evaluating the healthcare system: effectiveness, efficiency, and equity. Chicago, IL: Health Administration Press.

Aday, L. A., Fleming, G. W., & Andersen, R. (1984). Access to medical care in the U.S.: who has it, who doesn't. Chicago, Illinois: Pluribus Press, Inc.

Anda, R.F., Sienko, D.G., Remington, P.L., Gentry, E.M., & Marks, J.S. (1990). Screening mammography for women 50 years of age and older: practices and trends, 1987. American Journal of Preventive Medicine 6, 123-129.

Anfinson, T. J. & Bona, J. R. (1995). A health services perspective on delivery of psychiatric services in primary care including internal medicine. The Medical Clinics of North America, 85 (3), 597-616.

Bashshur, R. L., Homan, R. K., & Smith, D. G. (1994). Beyond the uninsured: problems in access to care. Medical Care, 32 (5), 409-419.

Bernstein, A., Thompson, G., & Harlan, L. (1991). Differences in rates of cancer screening by usual source of medical care. Medical Care, 29 (3), 196-209.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Bindman, A. B., Grumbach, K., Osmond, D. Vranizan, K., & Stewart, A. L. (1996). Primary care and receipt of preventive services. Journal of General Internal Medicine, 11, 269-276.

Branch, L., Jette, A., Evashwick, C., Polansky, M., Rowe, G., & Diehr, P. (1981). Toward understanding elders' health service utilization. Journal of Community Health, 7, 80-92.

Brown, J.B., & Adams, M.E. (1992). Patients as reliable reporters of medical care process: recall of ambulatory encounter events. Medical Care, 30, 400-411.

Burgess, J.F., & DeFiore, D.A. (1994). The effect of distance to VA facilities on the choice and level of utilization of VA outpatient services. Social Science and Medicine, 39, 95-104.

Burrelli, D.F. (1992). Military Retiree Health Care: Base Closure and Realignment. Congressional Research Report for Congress.

Calle, E. E., Flanders, D. Thun, M. J. & Martin, L. M. (1993). Demographic predictors of mammography and pap smear screening in US women. American Journal of Public Health, 83, 53-60.

Calnan, M. (1985). Patterns in preventive behaviour: a study of women in middle age. Social Science and Medicine, 20 (3), 263-268.

Carlton, P.K. (2001). Air Force: service a privilege, pleasure. U.S. Medicine, 37 (1), 22-23.

Defense Enrollment Eligibility Reporting System (DEERS) Program Manual: DoD 1341.1-M (1982, May). Available [online] http://web7.whs.osd.mil/pdf2/13411M(5-82)/chap3.pdf

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Department of Defense Breast Cancer Prevention, Education, and Diagnosis Initiative: Four Year Program Retrospective (1999, November). Falls Church, VA: SRA International, Inc.

Department of Defense Directive: Patient Bill of Rights and Responsibilities in the Military Health System: DODD6000.14 (1998, March).

Dvoredsky, A.E., & Cooley, W. (1985). The health care needs of women veterans. Hospital & Community Psychiatry, 36, 1098-1102.

Eve, S.B. (1988). A longitudinal study of use of health care services among older women. Journal of Gerontology, 43, M31-M39.

Fichtenbaum, R. & Gyimah-Brempong, K. (1997). The effects of race on the use of physicians' services. International Journal of Health Services, 27 (1), 139-156.

Fiscella, K., Franks, P., & Clancy, C.M. (1998). Skepticism toward medical care and health care utilization. Medical Care, 36, 180-189.

Fox, J.E. (1983). Female veterans call care from VA elusive, substandard, insensitive. US Medicine, 19, 13-14.

Frame, P.S. (1992). Maintenance in clinical practice: strategies and barriers. American Family Physician, 45 (3), 1192-1200.

Franks, P., & Clancy, C.M. (1997). Referrals of adult patients from primary care: demographic disparities and their relationship to HMO insurance. The Journal of Family Practice, 45 (1), 47-53.

Gale, B.J., & Erickson, J.R. (1997). How race affects health services uses by older women. Health Care for Women International, 18, 221-232.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Gold, M. (1998). Beyond coverage and supply: Measuring access to healthcare in today's market. HRS: Health Services Research, 33 (3), 625-652.

Gold, M., Nelson, L., Lake, T., & Hurley, R. (1995). Behind the curve: a critical assessment of how little is known about arrangements between managed care plans and physicians. Medical Care Research and Review, 52 (3), 307-341.

Gresenz, C.R., Stockdale, S.E., & Wells, K.B. (2000). Community effects on access to behavioral health care. HRS: Health Service Research, 35 (1), 293-306.

Grimm L. G., & Yarnold, P. R. (1998). Introduction to multivariate statistics In L. G. Grimm, & P. R. Yarnold (Eds.), Reading and understanding multivariate statistics (p. 4). Washington, DC: American Psychological Association.

Grovar, S.A., Cook, E.F., & Goldman, L. (1986). Delayed diagnosis of gynecological tumors in elderly women: relation to national medical practice patterns, abstracted. Clinical Research, 34, 820.

Guide to Clinical Preventive Services Assessment. (1999). Screening for Cervical Cancer. Available [online] http://www.epo.cdc.gov/wonder/prevguid/ 0000109/entire.htm

Guihan, M., Weaver, F.M., Cowper, D.C., Nydam, T., & Miskevics, S. (1999). Using department of veterans affairs administrative databases to examine long-term care utilization for men and women veterans. Journal of Medical Systems, 23, 201-218.

Harlan, L.C., Bernstein, A.B., & Kessler, L.G. (1999). Cervical cancer screening: who is not screened and why? American Journal of Public Health, 81, 885-891.

Hayward, R. A., Shapiro, M. F., Freeman, H. E., & Corey, C. R. (1988). Who gets screened for cervical and breast cancer? Results from a new national survey. Archives of Internal Medicine, 148, 1177-1181.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Hoff, R.A., & Rosenheck, R.A. (1998). Female veterans' use of department of veterans affairs health care services. Medical Care, 36, 1114-1119.

Horgan, C., Taylor, A., & Wilensky, G. (1983) Aging veterans: Will they overwhelm the system? Health Affairs (Milwood), 2, 77.

Hueston, W., & Stiles, M. (1994). The papanicolaou smear as a sentinel screening tests for health screening in women. Archives of Internal Medicine, 154, 1473-1477.

International Agency for Research on Cancer Working Group on Evaluation of Cervical Cancer Screening Programmes. (1986). Screening for squamous cervical cancer: duration of low risk after negative results of cervical cytology and its implication for screening policies. British Medical Journal, 293 659-664.

Isaac, S., & Michael, W.B. (1995). Handbook in Research and Evaluation (3rd ed.). San Deigo, California: EdiTS.

Johns Hopkins Health. (1999, March). Breast cancer. InteliHealth, Inc: Home to Johns Hopkins Health Information. Available [online] http://www.intelihealth.com

Kachigan, S. A. (1991). Multivariate Statistics: a conceptual introduction (2rd ed.). New York: Radius Press.

Kerlinger, F. N. (1986). Foundations of Behavioral Research (3rd ed.). New York: Holt, Rinehart, Winston.

Kerlinger, F. N., & Lee, H. B. (2000). Foundations of Behavioral Research (4d ed.). Forth Worth: Harcourt College Publishers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Kerr, E.A., Hays, R.D., Mitchinson, A., Lee, M., & Siu, A.L. (1999). The influence of gatekeeping and utilization review on patient satisfaction. Journal of General Internal Medicine, 14, 287-296.

Khan, A. A., & Bhardwaj, S. M. (1994). Access to health care. A conceptual framework and its relevance to health care planning. Evaluation and the Health Professions, 17 (1), 60-76.

Kirkman-Liff, B., & Kronefeld, J. (1992). Access to cancer screening services for women. American Journal of Public Health, 82, 733-735.

LoBiondo-Wood, G., & Haber, J. (1998). Nursing Research: Methods, Critical Appraisal, and Utilization (4th ed). St Louis, MO: Mosby-Year Book Inc.

Love. R. R., Davis, J. E., Mundt, M., & Clark, C. (1997). Health promotion and screening services reported by older adult patients of urban primary care physicians. The Journal of Family Practice, 45 (2), 142-150.

Luft, H., & Miller, R. (1994). Managed care plan performance since 1980: a literature analysis. Journal of the American Medical Association, 271 (19), 1512-1519.

Makuc, D.M., Freid, V.M., & Kleinman, J.C. (1989). National trends in the use of preventive health care by women. American Journal of Public Health, 79, 21-26.

Makuc, D., Freid, V., & Parsons, P. (1994). Health insurance and cancer screening among women: advanced data from vital and health statistics. Vital and Health Statistics of the CDC Atlanta, GA.

Manning, W., Leibowitz, A., & Goldberg, G. (1984). A controlled trial of the effect of a prepaid group practice on use of services. The New England Journal of Medicine, 310 (23), 1505-1510.

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Mark, T., & Mueller, C. (1996). Access to care in HMOs and traditional insurance plans. Health Affairs, 15 (4), 81-87.

Mayo Health Information. (1997, April). Cervical cancer. Mayo Foundation for Medical Education and Research. Available [online] http://www.mayohealth.org/mayo/9704/htm/cervical.htm

McMeekin, D.S., McGonigle, K.F., & Vasilev, S. A. (1997). Cervical cancer prevention: toward cost-effective screening. Medscape Women's Health, 2 (12) Available [online] http://www.medscape.com/Medscape/WomensHealth/journal/1997

Military Health System Web Site. (2000). TRICARE Management Activity. Falls Church, VA. Available [online] http://www.tricare.osd.mil/tricare/beneficiary

Miller, R.H. (1998). Healthcare organizational change: Implications for access to care and its measurement. HSR: Health Services Research, 33 (3), 653-680.

Munro, B. H., & Page, E. B. (1993). Statistical Methods for Health Care Research (2nd ed.). Philadelphia, Pennsylvania: J. B. Lippincott Company.

Nelson, R. A. (2001). Navy focus on remaining flexible. U.S. Medicine, 37 (1), 35-36.

Page, W. F. (1982). Why veterans choose Veterans Administration hospitalization: a multivarate model. Medical Care, 20, 308.

Penchansky, R., & Thomas, J.W. (1981). The concept of access: definition and relationship to consumer satisfaction. Medical Care, 19 (2), 127-140.

Phillips, K.A., Kerlikowske, K., Baker, L.C. Chang, S.W., & Brown, M.L. (1998). Factors associated with women's adherence to mammography screening guidelines. HRS: Health Services Research, 33 (1), 29-53.

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Polit, D. F. (1996). Data Analysis & Statistics for Nursing Research. Stamford, Connecticut: Appleton & Lange.

Puri, B. K. (1996). Statistics in Practice: An illustrated guide to SPSS. London, England: Arnold.

Rabiner, D.J., Branch, L.G., & Sullivan, R.J. (1999). Patient factors related to the odds of receiving prevention services in veterans health administration medical centers. American Journal of Managed Care, 5, 1153-1160.

Ren, A., Okubo, T., & Takahashi, K. (1994). Health-related worries, perceived health status, and health care utilization. Sangyo Ika Daigaku Zasshi, 16, 287-299.

Riley, G.F., Potosky, A.L., Klabunde, C.N., Warren, J.L., & Ballard-Barbash, R. (1999). Stage at diagnosis and treatment patterns among older women with breast cancer: An HMO and fee-for-service comparison. Journal of the American Medical Association, 281 (8), 720-726.

Rimer, B. K., Ross, E., Cristinzio, S., & King, E. (1992). Older women's participation in breast screening. Journal of Gerontology, 47 (Special Issue), 85-91.

Romeis, J.C., Gillespie, K.N., & Thorman, K.E. (1988). Female veterans' use of health care services. Medical Care, 26, 589-595.

Romeis, J.C., Gillespie, K.N., Virgo, K.S., & Thorman, K.E. (1991). Female veterans' and nonveterans' use of health care services. Medical Care, 29, 932-936.

Sculley, P. (2001). Army modernizes in face of shortfall. U.S. Medicine, 37 (1), 13-14.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Sherbourne, C. D., Dwight-Johnson, M., & Klap, R. (2001). Psychological distress, unmet need, and barriers to mental health care for women. Women's Health Issues, 11 (3), 231-243.

Shortell, S.M., & Hull, K.E. (1996). The new organization of the health care delivery system. In S.H. Altman and U. Reinhardt (eds.), Changing health care system. Chicago: Health Administration Press.

Simoes, E.J., Newschaffer, C.J., Hagdrug, N., Ali-Abarghoui, F., Tao, X., Mack, N., & Brownson, R.C. (1999). Predictors of compliance with recommended cervical cancer screening schedule: A population-based study. Journal of Community Health, 24, 115-130.

SPSS Base 10.0 Applications Guide. (1999). Chicago, IL.

Standard Metropolitan Statistical Area, Microsoft. Encarta Online Enyclopedia. (2000) Available [online] http://encarta.msn.com

Starfield, B. (1992). Primary Care. New York: Oxford University Press.

Stoloff, P.H., Lurie, P.M., Goldberg, L., & Almendarez, M (2000). Evaluation of the TRICARE program: FY 2000 report to congress. Available from Center of Naval Analysis, Alexandria, VA.

Toothaker, L.E. & Newman, D.A. (1994). Nonparametric competitors to the two-way ANOVA. Journal of Educational and Behavioral Statistics, 19, 237-273.

TRICARE/CHAMPUS Policy Manual. (1999). Chapter 1, Section 10:1: TRICARE Standard – Clinical Preventive Services. Available [online] http://www.tricare.osd.mil/

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

TRICARE Standard Provider Handbook. (1999). Provider Resources. Available [online] http://www.tricare.osd.mil/providerhandbook/

U.S. Department of Health and Human Services. Healthy People 2000 Review. Washington, DC: 1998-1999.

U.S. Department of Health and Human Services. Healthy People 2000 Fact Sheet Washington, DC: 1999. Available [online] http://odphp.osophs.dhhs.gov/pubs/hp2000

U.S. Department of Health and Human Services. Healthy People 2010 (Conference Edition, in Two Volumes). Washington, DC: January 2000.

Weiss, T.W. (1995). Improvements in VA health services for women veterans. Women & Health, 23, 1-12.

Whitman, S., Lacey, L. Ansell, D., Chen, E.H., Dell, J., & Phillips, C.W. (1993). Do chart reviews and interviews provide the same information about breast and cervical cancer screening? International Journal of Epidemiology, 22, 393-397.

Wolinsky, F. D., Coe, R. M., & Mosely, R. R. (1985) Veterans and non-veterans' useof health services: a comparative analysis. Medical Care, 23, 1358.

Wolinsky, F. D., & Johnson, R. J. (1991). The use of health services by older adults. Journal of Gerontology, 46, S345-357.

World Health Organization (WHO). (1978). Primary health care. Report of the International Conference on the Primary Health Care, Alma Ata, 6-12 September. Geneva, Switzerland:Author.

Zastowny, T.R., Roghmann, K.J., & Cafferata, G.L. (1989). Patient satisfaction and the use of health services. Explorations in causality. Medical Care, 27, 705-723.

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Appendix A

Annotated Questionnaire

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RCS: DD-HA(A) 1942
Expires: 10/14/01

Rec'd. 10/28/98
FINAL

1998 Health Care Survey of DoD Beneficiaries

FORM A

UNITED HEALTHCARE
SURVEY PROCESSING ACTIVITY
c/o DATA RECOGNITION CORPORATION
5900 BAKER ROAD
MINNETONKA, MN 55345-5867

UHC Survey No. 98-0012

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Privacy Notice

According to the Privacy Act of 1974 (Public Law 93-579), the Department of Defense is required to inform you of the purposes and use of this survey. Please read it carefully.

Authority: 10 U.S.C., Chapter 55, Public Law 102-484; E.O. 9397

Purpose: This survey helps policy makers gauge beneficiary satisfaction with the current military health care system and provides valuable input from beneficiaries that will be used to improve the system.

Routine Uses: None

Disclosure: Voluntary. Failure to respond will not result in any penalty to the respondent. However, maximum participation is encouraged so that data will be as complete and representative as possible.

INSTRUCTIONS FOR COMPLETING THE SURVEY

- Please use a No. 2 pencil.

- Make heavy black marks that fill the circle for your answer.
- Please do not make stray marks of any kind.

INCORRECT MARKS **CORRECT MARK**

- Unless otherwise specified in the instructions for a question, only one answer should be marked

Example:

How long has this child lived in his or her current local area?

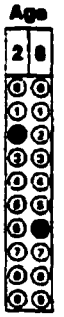
- ● Less than 6 months
- ○ 6-12 months
- ○ 1-3 years
- ○ More than 3 years

If your answer is "Less than 6 months," then mark just one circle as shown above.

- Sometimes you will be asked to enter a number in a row of boxes. When this occurs, you should write the requested information in the row of boxes and blacken the corresponding circles under the numbers you wrote.

Example:

- What age were you on your last birthday?
- Write the numbers in the boxes, making sure that the last number is always placed in the right-hand box.
- Fill in the unused boxes with zeros.
- Then, mark the matching circle below each box.



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Instructions

The purpose of this survey is to provide TRICARE managers with the feedback necessary for monitoring the implementation and operations of TRICARE and for improving TRICARE performance in the future. Please return the completed questionnaire in the enclosed postage-paid envelope within two weeks of the date of the enclosed cover letter.

Eligibility for the Survey

A. This survey is about the health care of the person addressed in the cover letter. The questionnaire should normally be completed by that person, but may be completed by someone else under special circumstances.

For the name that appears on the cover letter, please determine if *all the following* statements are true:

1. The addressee was eligible for a military health system (MHS) health plan on *July 1, 1998*. MHS health plans include TRICARE Prime, TRICARE Extra, TRICARE Standard (CHAMPUS), TRICARE Senior Prime, and space-available care at military treatment facilities for persons over age 65. By *eligibility* we mean that you received health care from one of these plans, or that *you could* have received health care from one of these plans, even if you did not.

2. The addressee is not permanently incapacitated such that completing the questionnaire would be difficult or impossible.

3. The addressee is not incarcerated.

Is the addressee eligible to complete the survey? H98ELGA

1 ○ Yes, all 3 conditions are true and I am the addressee ⇨ Go to Question 1 on Page 6
2 ○ Yes, all 3 conditions are true but I am not the addressee ⇨ Go to B
3 ○ No ⇨ Go to Question 119 on Page 23

B. *If you are not the addressee* of the cover letter, you may complete the questionnaire on behalf of an eligible addressee if *all the following* statements are true:

1. The addressee is eligible to complete the questionnaire;

2. The addressee is temporarily ill or incapacitated because of health problems; and

3. You are familiar with the experiences and opinions of the addressee regarding his or her health care over the last 12 months.

Are these statements true? H98ELGB
1 ○ Yes, all the statements are true ⇨ Go to Question 1 on Page 6
2 ○ No, please arrange for the addressee to complete the questionnaire

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I: Use of Health Care

This section refers to all the health care you received in the last 12 months, including all the plans, facilities, and providers you may have used over that 12 months period.

1. In the last 12 months, did you yourself receive *any* health care at a health care facility or from a health care professional?

H98001

1 ○ Yes
2 ○ No ⇨ Go to Section II

H98001_R See Note 4

2. In the last 12 months, did you stay overnight in a *military* health care facility as a patient?

(Military facilities include military hospitals and clinics (including sick call), PRIMUS clinics, and NAVCARE clinics.)

H98002

1 ○ Yes
2 ○ No ⇨ Go to Question 4
3 ○ Not sure ⇨ Go to Question 4

H98002_R See Note 5

3. In the last 12 months, how many nights did you stay overnight in a *military* health care facility as a patient?

H98003

Nights

(If more than 99 nights, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98003_R

4. In the last 12 months, did you stay overnight in a *civilian* health care facility as a patient?

(Civilian facilities include civilian hospitals or clinics, facilities operated by a civilian TRICARE contractor, Uniformed Services Treatment Facilities (USTFs), and Veteran's Affairs hospitals or clinics.)

H98004

1 ○ Yes
2 ○ No ⇨ Go to Question 6
3 ○ Not sure ⇨ Go to Question 6

H98004_R See Note 6

5. In the last 12 months, how many nights did you stay overnight in each type of *civilian* health care facility as a patient?

a. Civilian facility primarily paid by a TRICARE plan

(Include visits for which you paid because of your TRICARE plan's deductible.)

H98005A

Nights

(If more than 99 nights, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98005AR

b. Civilian facility primarily paid by private payment, Medicare, or Medicaid

H98005B

Nights

(If more than 99 nights, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98005BR

6. In the last 12 months, did you make any outpatient visits to a *military* health care professional or health care facility?

(By outpatient visits we mean all visits to a health care professional as a patient that did not involve staying overnight in a facility. A health provider could be a general doctor, a specialist doctor, a nurse practitioner, a physician assistant, a nurse, or anyone else you would see for health care.)

H98006

1 ○ Yes
2 ○ No ⇨ Go to Question 8
3 ○ Not sure ⇨ Go to Question 8

H98006_R See Note 7

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7. In the last 12 months, how many outpatient visits did you make to a *military* health professional or health care facility?

H98007

Visits

(If more than 99 visits, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98007_R

8. In the last 12 months, did you make any outpatient visits to a *civilian* health care professional or health care facility?

H98008

1 ○ Yes
2 ○ No ⇨ Go to Question 10
3 ○ Not sure ⇨ Go to Question 10

H98008_R See Note 8

9. In the last 12 months, how many outpatient visits did you make to a *civilian* health professional or health care facility?

a. Civilian doctor or facility primarily paid by a TRICARE plan

(Include visits for which you paid because of your TRICARE plan's deductible.)

H98009A

Visits

(If more than 99 visits, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98009AR

b. Civilian doctor or facility primarily paid by private payment, Medicare, or Medicaid

H98009B

Visits

(If more than 99 visits, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98009BR

10. In the last 12 months, did you go to a *military* emergency room for your own care?

H98010

1 ○ Yes
2 ○ No ⇨ Go to Question 12
3 ○ Not sure ⇨ Go to Question 12

H98010_R See Note 9

11. In the last 12 months, how many times did you go to a *military emergency room* to get care for yourself?

H98011

Times

(If more than 99 times, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98011_R

12. In the last 12 months, did you go to a *civilian emergency room* to get care for yourself?

H98012

1 ○ Yes
2 ○ No ⇨ Go to Question 14
3 ○ Not sure ⇨ Go to Question 14

H98012_R See Note 10

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13. In the last 12 months, how many times did you go to a *civilian emergency room* for your own care?

a. Civilian emergency room primarily paid by a TRICARE plan

(Include visits for which you paid because of your TRICARE plan's deductible.)

H98013A

Times

(If more than 99 times, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98013AR

b. Civilian emergency room primarily paid by private payment, Medicare, or Medicaid

H98013B

Times

(If more than 99 times, mark "99")

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98013BR

14. In the last 12 months, how many prescriptions did you have that were written by a *civilian* provider but were filled with a *military* pharmacy? Please include refills.

H98014

2 ○ 1 to 6 prescriptions and/or refills
3 ○ 7 to 12 prescriptions and/or refills
4 ○ More than 12 prescriptions and/or refills
1 ○ No prescriptions or refills

II: Preventive Health Care

15. When did you last visit a doctor or nurse for any reason?

(Do not include visits to a dentist.)

H98015

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a visit to a doctor

16. Not counting when you were sick or pregnant, when was the last time you had a general medical or physical examination or checkup?

H98016

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a general physical or checkup

17. a. When did you last have a blood pressure reading?

H98017A

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a blood pressure reading

b. Do you know if your blood pressure is too high or not?

H98017B

1 ○ Yes, it is too high.
2 ○ No, it is not too high.
3 ○ Don't know.

18. When did you last have a cholesterol screening, that is, a test to determine the level of cholesterol in your blood?

H98018

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a cholesterol screening

19. When did you last have a flu shot?

H98019

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a flu shot

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20. When was the last time you had a general dental examination or checkup?

H98020

5 ○ Less than 12 months ago
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a dental checkup

21. Have you smoked at least 100 cigarettes in your entire life?

H98021

1 ○ Yes
2 ○ No ⇨ Go to Question 25
3 ○ Don't know ⇨ Go to Question 25

H98021_R See Note 11

22. Do you now smoke every day, some days or not at all?

H98022

4 ○ Every day ⇨ Go to Question 24
3 ○ Some days ⇨ Go to Question 24
2 ○ Not at all
1 ○ Don't know ⇨ Go to Question 25

H98022_R

23. How long has it been since you quit smoking cigarettes?

H98023

3 ○ Within the last 12 months
2 ○ 12 months or more ⇨ Go to Question 25
1 ○ Don't know ⇨ Go to Question 25

H98023_R

24. In the last 12 months, on how many visits were you advised to quit smoking by a doctor or other health provider?

H98024

1 ○ None
2 ○ 1 visit
3 ○ 2 to 4 visits
4 ○ 5 to 9 visits
5 ○ 10 or more visits

H98024_R

25. In the last 12 months, have you used chewing tobacco, snuff, or other smokeless tobacco?

H98025

1 ○ Yes
2 ○ No

26. Are you male or female?

SRSEX

1 ○ Male
2 ○ Female ⇨ Go to Question 28

XSEXA See Note 12 Part A

27. When was the last time you had a prostate gland examination or blood test for prostate disease?

H98027

5 ○ Within the last 12 months
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a prostate gland examination

Go to Section III

H98027_R See Note 12 Part B

28. When did you last have a routine female examination with a Pap smear?

H98028

5 ○ Within the last 12 months
4 ○ 1 to 3 years ago
3 ○ More than 3 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a routine female exam with Pap smear

H98028_R See Note 12 Part C

29. a. Are you under age 40?

H98029A

1 ○ Yes ⇨ Go to Question 30
2 ○ No ⇨ Go to Question 29b

H98029AR See Note 13

b. When was the last time your breasts were checked by mammography or other x-ray like procedure?

H98029B

5 ○ Within the last 12 months
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a mammogram

H98029BR See Note 13

c. When was the last time your breasts were checked by clinical exam?

H98029C

5 ○ Within the last 12 months
4 ○ 1 to 2 years ago
3 ○ More than 2 but less than 5 years ago
2 ○ 5 or more years ago
1 ○ Never had a breast clinical exam

H98029CR See Note 13

30. Have you been pregnant in the last 12 months or are you pregnant now?

H98030

1 ○ Yes, I am pregnant now or have been pregnant in the last 12 months
2 ○ No ⇨ Go to Section III

H98030_R See Note 14

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31. When during your pregnancy did you first begin receiving care from a doctor or other health care professional? H98031

H98031_R

7 ○ During first 3 months
6 ○ During second 3 months
5 ○ During final 3 months
1 ○ I did not receive any care before I delivered
4 ○ I did not receive any care yet. I am now less than 3 months pregnant.
3 ○ I did not receive any care yet. I am now between 3 and 6 months pregnant.
2 ○ I did not receive any care yet. I am now more than 6 months pregnant.

III: Understanding TRICARE

By TRICARE, we mean the military health system (MHS), including TRICARE Prime, TRICARE Senior Prime, TRICARE Extra, and TRICARE Standard (CHAMPUS).

32. How well do you feel you understand TRICARE overall? H98032

4 ○ I understand very well
3 ○ I understand somewhat
2 ○ I understand a little
1 ○ I have no understanding

33. How well do you feel you understand the following aspects of TRICARE Prime, TRICARE Senior Prime, and TRICARE Extra/Standard? H98033A - H98033J

	I Understand Very Well 4	I Understand Somewhat 3	I Understand A Little 2	I Have No Understanding 1
a. The benefits offered under TRICARE Prime/TRICARE Senior Prime	○	○	○	○
b. The benefits offered under TRICARE Extra/Standard	○	○	○	○
c. The costs to me of TRICARE Prime/TRICARE Senior Prime	○	○	○	○
d. The costs to me of TRICARE Extra/Standard	○	○	○	○
e. The amount of choice I have in selecting my primary care physician under TRICARE Prime/TRICARE Senior Prime	○	○	○	○
f. The amount of choice I have in selecting my primary care physician under TRICARE Extra/Standard	○	○	○	○
g. The amount of choice I have to use civilian health care providers under TRICARE Prime/TRICARE Senior Prime	○	○	○	○
h. The amount of choice I have to use civilian health care providers under TRICARE Extra/Standard	○	○	○	○
i. Procedures for making an appointment under TRICARE Prime/TRICARE Senior Prime	○	○	○	○
j. Procedures for making an appointment under TRICARE Extra/Standard	○	○	○	○

34. What are the sources of your information about TRICARE? MARK ALL THAT APPLY. H98034A - H98034L

A ○ A presentation about TRICARE
B ○ An information package mailed to my home
C ○ A military doctor or other health care professional
D ○ A civilian doctor or other health care professional
E ○ The TRICARE information telephone number
F ○ The base newspaper
G ○ My city, town or regional newspaper
H ○ My friends and neighbors
I ○ My local military treatment facility
J ○ A radio or TV commercial
K ○ An Internet web site
L ○ Some other source

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IV: Health Plan

35. Are you active duty? H98035

1 ○ Yes ⇨ Go to Question 41
2 ○ No

H98035_R See Note 15

36. Are you currently enrolled in TRICARE Prime or TRICARE Senior Prime? MARK ONLY ONE ITEM.

1 ○ Yes
2 ○ No ⇨ Go to Question 39
3 ○ Not sure ⇨ Go to Question 40

H98036

H98036_R See Note 16

37. If you are currently enrolled in TRICARE Prime, how likely are you to disenroll in TRICARE Prime for a different type of insurance coverage in the next 12 months? H98037

1 ○ Very unlikely
2 ○ Unlikely
3 ○ Neither likely nor unlikely
4 ○ Likely
5 ○ Very likely
6 ○ I don't know

H98037_R

38. As a member of TRICARE Prime, did you have a primary care manager based in a military or civilian facility? H98038

(A primary care manager is a health care provider who is your primary point of contact with the health system. He or she provides routine care, coordinates your total health care, arranges for hospital admissions, makes referrals to specialists, maintains health records, and recommends preventive and wellness services.)

1 ○ A primary care manager based at a military facility
2 ○ A primary care manager based at a civilian facility
3 ○ Not sure

H98038_R

39. If you are not currently enrolled in TRICARE Prime, how likely are you to enroll in TRICARE Prime in the next 12 months? H98039

1 ○ Very unlikely
2 ○ Unlikely
3 ○ Neither likely nor unlikely
4 ○ Likely
5 ○ Very likely
6 ○ Not sure

H98039_R

40. In your use of TRICARE Extra/Standard in the last 12 months, when you visited a health care provider, did you usually use a provider that was in the TRICARE Extra network? H98040

1 ○ Yes
2 ○ No
3 ○ Not sure
4 ○ Did not use TRICARE Extra/Standard in the last 12 months

H98040_R

41. How strongly do you agree or disagree with the following statements about TRICARE Prime or TRICARE Senior Prime?

H98041A- H98041E

		Strongly Disagree 1	Dis-agree 2	Neither Agree Nor Disagree 3	Agree 4	Strongly Agree 5
A	a. TRICARE Prime or TRICARE Senior Prime improves access to care.	○	○	○	○	○
B	b. TRICARE Prime or TRICARE Senior Prime improves preventive care.	○	○	○	○	○
C	c. TRICARE Prime or TRICARE Senior Prime makes it harder to see a specialist.	○	○	○	○	○
D	d. TRICARE Prime or TRICARE Senior Prime makes it easier to get phone advice.	○	○	○	○	○
E	e. TRICARE Prime or TRICARE Senior Prime saves money on health care.	○	○	○	○	○

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42. Whether or not you are *currently* enrolled in TRICARE Prime, did you rely on TRICARE Prime for most of your care *in the last 12 months*? MARK ONLY ONE ITEM.

H98042

1 ○ Yes
2 ○ No
3 ○ Not sure ⇨ Go to Question 44

H98042_R See Note 17

43. How many months out of the last 12 months were you covered by TRICARE Prime?

H98043

(If more than 99 months, mark "99")

Months

← Write the number in the boxes.

← Then, mark the matching circle below each box.

H98043_R

44. Are you currently covered by any type of supplemental insurance?

(Primary insurers include TRICARE Prime, TRICARE Senior Prime, TRICARE Extra/Standard (CHAMPUS), and Medicare. Supplemental insurance covers all of your out-of-pocket costs not paid by these primary insurers. Include supplemental insurance through your spouse that covers you.)

H98044

1 ○ Yes
2 ○ No ⇨ Go to Question 46
3 ○ Not sure ⇨ Go to Question 47

H98044_R See Note 18

45. What supplemental insurance are you currently covered by? MARK ALL THAT APPLY.

1=Marked 2=Unmarked

A ○ CHAMPUS Supplemental Insurance.

(This is medical insurance you usually get through military or retiree associations.)

B ○ Medicare supplemental (Medigap) insurance
C ○ Other supplemental insurance that covers some or all of your out-of-pocket costs *not* paid by your primary insurer
D ○ None

H98045A - H98045D

H98045AR - H98045DR

46. Has TRICARE had any effect on your decision whether or not to be covered by CHAMPUS supplemental insurance or Medicare supplemental insurance?

H98046

1 ○ No, TRICARE has had no effect on my decision whether or not to be covered by supplemental insurance.
2 ○ Yes, I have *added* supplemental insurance because of TRICARE.
3 ○ Yes, I have *dropped* supplemental insurance because of TRICARE.

H98046_R

47. Besides any TRICARE or supplemental plans discussed above, what other insurance or managed care plans are you currently covered by? MARK ALL THAT APPLY.

H98047A - H98047G

(Include insurance through your spouse that covers you.)

1=Marked 2=Unmarked

A ○ A civilian fee-for-service insurance
B ○ A civilian Health Maintenance Organization(HMO)
C ○ A civilian preferred provider organization (PPO) or point of service (POS) plan.

(Under a PPO you may use any health care provider you wish, although you may get better benefits and/or lower out-of-pocket costs if you use a preferred provider. Under a POS plan, you may use an HMO for comprehensive benefits at a low cost or any other health care provider you choose for limited benefits at a higher cost.)

D ○ Medicare, Part A
E ○ Medicare, Part B
F ○ Federal Employees Health Benefits Program (FEHBP)
G ○ None

48. Has TRICARE had any effect on your decision whether or not to be covered by private insurance or to join a private HMO or PPO?

H98048

(Please do not include Medicare Part B, CHAMPUS supplemental insurance, or Medicare supplemental insurance.)

1 ○ No, TRICARE has had no effect on my decision whether or not to be covered by a private medical insurance or join an HMO or PPO.
2 ○ Yes, I have *added* private insurance coverage because of TRICARE.
3 ○ Yes, I have *dropped* private insurance coverage because of TRICARE.

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49. In the last 12 months, how much "out-of-pocket" money did you and your family members who were eligible for your military medical benefits spend on medical care, including premiums, enrollment fees, deductibles, co-insurance, and co-payments, that was not reimbursed by insurance?

(If you have family coverage, include expenditures for yourself and all covered family members. Include prescription medications, but do not include over-the-counter medications. If you do not know the exact amount, estimate the amount.)

○ No expenses

$ per year

H98049A

(Round to the nearest whole dollar)

0 0 ← Write the number in the boxes.

← Then, mark the matching circle below each box.

1=Marked
2=Unmarked

H98049B

H98049AR and H98049BR See Note 19

V: Satisfaction with Health Plan

The questions in this section ask about your experience with your primary health plan. Your primary health plan is the one you used most in the last 12 months.

50. Which health care plan did you use most in the last 12 months? MARK ONLY ONE.

H98050

1 ○ TRICARE Prime
2 ○ TRICARE Senior Prime
3 ○ TRICARE Standard/Extra (CHAMPUS)
4 ○ Medicare Part A and/or Part B
5 ○ Other civilian health insurance or civilian HMO

51. Do you have one person you think of as your personal doctor or nurse?

H98051

(A personal doctor or nurse is the health provider who knows you best. This can be a general doctor, a specialist doctor, a nurse practitioner, or a physician assistant. For members of TRICARE Prime, this is your Primary Care Manager (PCM).)

1 ○ Yes
2 ○ No ⇨ Go to Question 53

H98051_R See Note 20

52. We want to know your rating of your personal doctor or nurse. How would you rate your personal doctor or nurse now?

(Use any number on a scale from 0 to 10 where 0 is the worst personal doctor or nurse possible and 10 is the best personal doctor or nurse possible.)

○ 0 WORST PERSONAL DOCTOR OR NURSE POSSIBLE
○ 1
○ 2
○ 3
○ 4
○ 5
○ 6
○ 7
○ 8
○ 9
○ 10 BEST PERSONAL DOCTOR OR NURSE POSSIBLE
-6 ○ I don't have a personal doctor or nurse.

H98052

H98052_R

53. In the last 12 months, did you or a doctor think you needed to see a specialist?

H98053

(Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and others who specialize in one area of health care. A referral is approval or permission to see a specialist.)

1 ○ Yes
2 ○ No ⇨ Go to Question 55

H98053_R See Note 21

54. In the last 12 months, how much of a problem, if any, was it to get a referral to a specialist that you needed to see?

H98054

1 ○ A big problem
2 ○ A small problem
3 ○ Not a problem
4 ○ I didn't need to see a specialist in the last 12 months.

55. In the last 12 months, did you see a specialist?

H98055

1 ○ Yes
2 ○ No ⇨ Go to Question 57

H98055_R See Note 22

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56. We want to know your rating of the *specialist you saw most often* in the last 12 months, including a personal doctor if he or she was a specialist. How would you rate your specialist?

(Use any number on a scale from 0 to 10 where 0 is the worst specialist possible and 10 is the best specialist possible.)

H98056

H98056_R

- ○ 0 WORST SPECIALIST POSSIBLE
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10 BEST SPECIALIST POSSIBLE
- -6 ○ I had no specialist care in the last 12 months.

57. In the last 12 months, did you need any mental health treatment or counseling for a personal or family problem?

H98057

- 1 ○ Yes
- 2 ○ No ⇨ Go to Question 59

H98057_R See Note 23

58. In the last 12 months, how much of a problem did you have getting mental health treatment or counseling from your plan?

H98058

- 1 ○ A big problem
- 2 ○ A small problem
- 3 ○ Not a problem
- 4 ○ Did not seek treatment or counseling

59. In the last 12 months, how much of a problem, if any, was it to get the care you or a doctor believed necessary?

H98059

- 1 ○ A big problem
- 2 ○ A small problem
- 3 ○ Not a problem
- 4 ○ I had no visits in the last 12 months.

60. In the last 12 months, how much of a problem, if any, were delays in health care while you waited for approval from your health plan?

H98060

- 1 ○ A big problem
- 2 ○ A small problem
- 3 ○ Not a problem
- 4 ○ I had no visits in the last 12 months.

61. In the last 12 months, did you or anyone else *send in any claims* to your health plan?

(Claims are sent to a health plan for payment. You may send in the claims yourself, or doctors, hospitals, or others may do this for you.)

H98061

- 1 ○ Yes
- 2 ○ No ⇨ Go to Question 65
- 3 ○ Don't know ⇨ Go to Question 65

H98061_R See Note 24

62. How often did your health plan handle your claims *in a reasonable time*?

H98062

- 1 ○ Never
- 2 ○ Sometimes
- 3 ○ Usually
- 4 ○ Always
- 5 ○ Don't know
- -6 ○ No claims were sent to the health plan in the last 12 months.

63. How often did your health plan handle your claims *correctly*?

H98063

- 1 ○ Never
- 2 ○ Sometimes
- 3 ○ Usually
- 4 ○ Always
- 5 ○ Don't know
- -6 ○ No claims were sent to the health plan in the last 12 months.

64. In the last 12 months, before you went for care, how often did your health plan *make it clear how much you would have to pay*?

H98064

- 1 ○ Never
- 2 ○ Sometimes
- 3 ○ Usually
- 4 ○ Always
- 5 ○ Don't know
- -6 ○ No claims were sent to the health plan in the last 12 months.

65. In the last 12 months, did you look for any *information* in written materials from your health plan?

H98065

- 1 ○ Yes
- 2 ○ No ⇨ Go to Question 67

H98065_R See Note 25

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66. In the last 12 months, how much of a problem, if any, was it to find or understand information in the written materials?

H98066

1 ○ A big problem
2 ○ A small problem
3 ○ Not a problem
-6 ○ I didn't look for information from my health plan in the last 12 months.

H98066_R

67. In the last 12 months, did you call your health plan's customer service to get information or help?

H98067

1 ○ Yes
2 ○ No ⇨ Go to Question 69

H98067_R See Note 26

68. In the last 12 months, how much of a problem, if any, was it to get the help you needed when you called your health plan's customer service?

H98068

1 ○ A big problem
2 ○ A small problem
3 ○ Not a problem
-6 ○ I didn't call my health plan's customer service in the last 12 months.

H98068_R

69. Paperwork means things like having your records changed, processing forms, or other paperwork related to getting care.

a. In the last 12 months, did you have any experience with paperwork for your health plan?

H98069A

1 ○ Yes
2 ○ No ⇨ Go to Question 70

H98069AR See Note 27

b. In the last 12 months, how much of a problem, if any, did you have with paperwork for your health plan?

H98069B

1 ○ A big problem
2 ○ A small problem
3 ○ Not a problem
-6 ○ I didn't have any experiences with paperwork for my health plan in the last 12 months.

H98069BR See Note 27

70. Have you called or written your plan with a *complaint or problem*?

H98070

1 ○ Yes
2 ○ No ⇨ Go to Question 73

H98070_R See Note 28

71. Was your *complaint or problem* settled to your satisfaction?

H98071

1 ○ Yes
2 ○ No
3 ○ I am still waiting for it to be settled.
-6 ○ I didn't have any complaint or problem.

72. How long did it take for the health plan to *resolve* your complaint?

H98072

1 ○ Same day
2 ○ 1 week
3 ○ 2 weeks
4 ○ 3 weeks
5 ○ 4 or more weeks
6 ○ I am still waiting for it to be resolved.
-6 ○ I didn't have any complaint or problem.

73. We want to know your rating of all your experience with your health plan. How would you rate your health plan now?

(Use any number on a scale from 0 to 10 where 0 is the worst health plan possible and 10 is the best health plan possible.)

H98073

○ 0 WORST HEALTH PLAN POSSIBLE
○ 1
○ 2
○ 3
○ 4
○ 5
○ 6
○ 7
○ 8
○ 9
○ 10 BEST HEALTH PLAN POSSIBLE

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VI: Access to Health Care

74. In the last 12 months, what type of facility did you go to most often for health care, or advice on health care? MARK ONLY ONE ANSWER.

(Refer to this facility throughout the remainder of this section.)

H98074

1 ○ A military facility – This includes:
- Military clinic
- Military hospital (including sick call)
- PRIMUS clinic
- NAVCARE clinic

2 ○ A civilian facility – This includes:
- Doctor's office
- Clinic
- Hospital
- Civilian TRICARE contractor
- Uniformed Services Treatment Facility (USTF)
- Veteran's Affairs (VA) clinic or hospital

3 ○ I went to neither type of health care facility in the last 12 months. ⇨ Go to Section IX

H98074_R See Note 29

75. In the last 12 months, how often did you or a family member have to make 3 or more phone calls to make an appointment with a health care professional?

H98075

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I did not try to make any appointments in the last 12 months.

76. In the last 12 months, did you have any:

a. well patient visits, such as a physical?

H98076A

1 ○ Yes
2 ○ No

b. referrals to specialty care?

H98076B

1 ○ Yes
2 ○ No

77. How many weeks did you usually have to wait between the time you made an appointment for care and the day you actually saw the provider:

a. for a well patient visit, such as a physical?

H98077A

1 ○ 2 weeks or less
2 ○ More than 2 weeks but less than 4 weeks
3 ○ 4 or more weeks
4 ○ I didn't need to get this type of care in the last 12 months.

b. for a specialty referral, such as a cardiologist visit?

H98077B

1 ○ 2 weeks or less
2 ○ More than 2 weeks but less than 4 weeks
3 ○ 4 or more weeks
4 ○ I didn't need to get this type of care in the last 12 months.

78. In the last 12 months, did you have any routine visits for a minor *illness or injury*, such as a cold or sore throat?

H98078

1 ○ Yes
2 ○ No ⇨ Go to Question 80

H98078_R See Note 30

79. How many days did you usually have to wait between the time you made an appointment for care and the day you actually saw the provider for a routine visit for a minor illness or injury, such as a cold or sore throat?

H98079

1 ○ Same day
2 ○ 1 day
3 ○ 2 - 3 days
4 ○ 4 - 7 days
5 ○ 8 - 14 days
6 ○ 15 - 30 days
7 ○ 31 days or longer
-6 ○ I didn't need to get this type of care in the last 12 months.

H98079_R

80. In the last 12 months, did you have any *urgent care* visits for an acute injury or illness, such as a broken arm or shortness of breath?

H98080

1 ○ Yes
2 ○ No ⇨ Go to Question 82

H98080_R See Note 31

81. How many days did you usually have to wait between the time you made an appointment for care and the day you actually saw the provider for an urgent care visit for an acute injury or illness, such as a broken arm or shortness of breath?

H98081

1 ○ Same day
2 ○ 1 day
3 ○ 2 or more days
-6 ○ I didn't need to get urgent care right away for an illness or injury in the last 12 months.

H98081_R

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82. How often did it take you more than 30 minutes to travel to the facility where you visit your primary care manager?

H98082

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

83. In the last 12 months, how often did you wait in the doctor's office or clinic more than 30 minutes past your appointment time for routine care?

H98083

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

VII: Satisfaction with Health Care – Part 1

This section asks about your experience with the health care you received at the facility you used most in the last 12 months. This is the same facility you were thinking of in the previous section, Section VI.

84. In the last 12 months, did you call a doctor's office or clinic <u>during regular office hours</u> to get help or advice <u>for yourself</u>?

H98084

1 ○ Yes
2 ○ No ⇨ Go to Question 86

H98084_R See Note 32

85. When you called during regular office hours, how often did you <u>get</u> the help or advice you needed?

H98085

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
-6 ○ I didn't call for help or advice during regular office hours in the last 12 months.

H98085_R

86. In the last 12 months, did you have an illness or injury where you needed to see a doctor or other health provider right away?

(A health provider could be a general doctor, a specialist doctor, a nurse practitioner, a physician assistant, a nurse, or anyone else you would see for health care.)

H98086

1 ○ Yes
2 ○ No ⇨ Go to Question 88

H98086_R See Note 33

87. When you needed to see a doctor or other health provider for an illness or injury right away, how often did you get care as soon as you wanted?

H98087

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
-6 ○ I didn't need to get care right away for an illness or injury in the last 12 months.

H98087_R

88. In the last 12 months, did you make any appointments with a doctor or other health provider for regular or routine health care?

H98088

1 ○ Yes
2 ○ No ⇨ Go to <u>Question 90</u>

H98088_R See Note 34

89. In the last 12 months, how often did you get an appointment for <u>*regular or routine*</u> health care as soon as you wanted?

H98089

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
-6 ○ I didn't need an appointment for regular or routine care in the last 12 months.

H98089_R

90. How often did office staff at a doctor's office or clinic treat you with courtesy and respect?

H98090

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

91. How often was office staff at a doctor's office or clinic as helpful as you thought they should be?

H98091

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

92. How often did doctors or other health providers listen carefully to you?

H98092

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

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93. How often did doctors or other health providers explain things in a way you could understand?

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

H98093

94. How often did doctors or other health providers show respect for what you had to say?

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

H98094

95. How often did doctors or other health providers spend enough time with you?

1 ○ Never
2 ○ Sometimes
3 ○ Usually
4 ○ Always
5 ○ I had no visits in the last 12 months.

H98095

96. We want to know your rating of all your health care from the facility you used most in the last 12 months. How would you rate all your health care?

(Use any number on a scale from 0 to 10 where 0 is the worst health care possible and 10 is the best health care possible.)

○ 0 WORST HEALTH CARE POSSIBLE
○ 1
○ 2
○ 3
○ 4
○ 5
○ 6
○ 7
○ 8
○ 9
○ 10 BEST HEALTH CARE POSSIBLE
-6 ○ I had no visits in the last 12 months.

H98096

VIII: Satisfaction with Health Care – Part 2

This section asks about your experience with the health care that you received at <u>military</u> facilities, even if you used civilian facilities for most of your care in the last 12 months. It also asks about your experience with the health care that you received at <u>civilian</u> facilities, even if you used military facilities for most of your care in the last 12 months. Some of the questions in this section may ask for information that is similar to the information you provided in Section VII.

97. Did you receive any health care from a <u>military</u> facility or provider in the past 12 months?

1 ○ Yes
2 ○ No ⇨ Go to Question 101

H98097

H98097_R See Note 35

98. How long did you usually wait between the day you made an appointment for care and the day you actually saw a military provider for minor illness or injury, like treatment for a sore throat?

1 ○ Same day
2 ○ 1 - 3 days
3 ○ 4 - 7 days
4 ○ 8 - 14 days
5 ○ 15 - 30 days
6 ○ 31 - 60 days
7 ○ More than 60 days
-6 ○ Does not apply

H98098

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99. How much do you agree or disagree with the following statements about the health care you received at military facilities in the last 12 months?

H98099A-H98099B

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a. I am satisfied with the health care that I received at military facilities.	1 ○	2 ○	3 ○	4 ○	5 ○
b. I would recommend military health care to my family or friends who need care.	○	○	○	○	○

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100. Please rate the following aspects of the health care you received at *military* facilities in the past 12 months.
(IF THE QUESTION DOES NOT APPLY TO YOU, MARK NOT APPLICABLE.)

H98100A - H98100S

	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Not Applicable -6
a. Convenience of location of treatment	○	○	○	○	○	○
b. Convenience of hours	○	○	○	○	○	○
c. Access to health care whenever you need it	○	○	○	○	○	○
d. Access to a specialist if you need one	○	○	○	○	○	○
e. Access to hospital care if you need it	○	○	○	○	○	○
f. Access to medical care in an emergency	○	○	○	○	○	○
g. Ease of making appointments for health care by phone	○	○	○	○	○	○
h. Length of time you wait at office to see the provider	○	○	○	○	○	○
i. Length of time you wait between making an appointment for routine care and the day of your visit	○	○	○	○	○	○
j. Availability of health care information or advice by phone	○	○	○	○	○	○
k. Services available for getting prescriptions filled	○	○	○	○	○	○
l. Thoroughness of examination	○	○	○	○	○	○
m. Ability to diagnose my health care problems	○	○	○	○	○	○
n. Skill of health care providers	○	○	○	○	○	○
o. Thoroughness of treatment	○	○	○	○	○	○
p. The outcomes of your health care (how much you are helped)	○	○	○	○	○	○
q. Overall quality of health care	○	○	○	○	○	○
r. Provider's explanation of health care procedures	○	○	○	○	○	○
s. Provider's explanation of medical tests	○	○	○	○	○	○

101. Did you receive any health care from a *civilian* facility or provider in the past 12 months?

1 ○ Yes
2 ○ No ⇨ Go to Section IX

H98101

H98101_R See Note 36

102. How long did you usually wait between the day you made an appointment for care and the day you actually saw a civilian provider for minor illness or injury, like treatment for a sore throat?

1 ○ Same day
2 ○ 1 - 3 days
3 ○ 4 - 7 days
4 ○ 8 - 14 days
5 ○ 15 - 30 days
6 ○ 31 - 60 days
7 ○ More than 60 days
-6 ○ Does not apply

H98102

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103. How much do you agree or disagree with the following statements about the health care you received at civilian facilities in the last 12 months?

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
	1	2	3	4	5
a. I am satisfied with the health care that I received at civilian facilities. (H98103A)	○	○	○	○	○
b. I would recommend civilian health care to my family or friends who need care. (H98103B)	○	○	○	○	○

104. Please rate the following aspects of the health care you received at *civilian* facilities in the past 12 months. (IF THE QUESTION DOES NOT APPLY TO YOU, MARK NOT APPLICABLE.)

(H98104A - H98104S)	Poor	Fair	Good	Very Good	Excellent	Not Applicable
	1	2	3	4	5	-6
a. Convenience of location of treatment	○	○	○	○	○	○
b. Convenience of hours	○	○	○	○	○	○
c. Access to health care whenever you need it	○	○	○	○	○	○
d. Access to a specialist if you need one	○	○	○	○	○	○
e. Access to hospital care if you need it	○	○	○	○	○	○
f. Access to medical care in an emergency	○	○	○	○	○	○
g. Ease of making appointments for health care by phone	○	○	○	○	○	○
h. Length of time you wait at office to see the provider	○	○	○	○	○	○
i. Length of time you wait between making an appointment for routine care and the day of your visit	○	○	○	○	○	○
j. Availability of health care information or advice by phone	○	○	○	○	○	○
k. Services available for getting prescriptions filled	○	○	○	○	○	○
l. Thoroughness of examination	○	○	○	○	○	○
m. Ability to diagnose my health care problems	○	○	○	○	○	○
n. Skill of health care providers	○	○	○	○	○	○
o. Thoroughness of treatment	○	○	○	○	○	○
p. The outcomes of your health care (how much you are helped)	○	○	○	○	○	○
q. Overall quality of health care	○	○	○	○	○	○
r. Provider's explanation of health care procedures	○	○	○	○	○	○
s. Provider's explanation of medical tests	○	○	○	○	○	○

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IX: Your Health

105. In general, would you say your health is:

5 ○ Excellent
4 ○ Very good
3 ○ Good
2 ○ Fair
1 ○ Poor

H98105

106. The following questions are about activities you might do during a typical day. Does *your health now limit you* in these activities? If so, how much?

a. ***Moderate activities***, **such as moving a table, pushing a vacuum cleaner, bowling, or playing golf**

3○ Yes, limited a lot
2○ Yes, limited a little
1○ No, not limited at all

H98106A

b. **Climbing *several* flights of stairs**

3○ Yes, limited a lot
2○ Yes, limited a little
1○ No, not limited at all

H98106B

107. During the *past 4 weeks*, have you had any of the following problems with your work or other regular daily activities *as a result of your physical health*?

a. ***Accomplished less*** **than you would like**

1○ Yes
2○ No

H98107A

b. **Were limited in the *kind* of work or other activities**

1○ Yes
2○ No

H98107B

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108. During the *past 4 weeks*, have you had any of the following problems with your work or other regular daily activities *as a result of any emotional problems* (such as feeling depressed or anxious)?

a. ***Accomplished less*** **than you would like**

1○ Yes
2○ No

H98108A

b. **Did not do work or other activities as *carefully* as usual**

1○ Yes
2○ No

H98108B

109. During the *past 4 weeks*, how much did *pain* interfere with your normal work (including work both outside the home and housework)?

1 ○ Not at all
2 ○ A little bit
3 ○ Moderately
4 ○ Quite a bit
5 ○ Extremely

H98109

110. These questions are about how you feel and how things have been with you during the *past 4 weeks*. For each question, please indicate the one answer that comes closer to the way you have been feeling. How much of the time during the *past 4 weeks*:

a. **Have you felt calm and peaceful?**

6 ○ All of the time
5 ○ Most of the time
4 ○ A good bit of the time
3 ○ Some of the time
2 ○ A little of the time
1 ○ None of the time

H98110A

b. **Have you had a lot of energy?**

6 ○ All of the time
5 ○ Most of the time
4 ○ A good bit of the time
3 ○ Some of the time
2 ○ A little of the time
1 ○ None of the time

H98110B

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110. continued:

c. Have you felt downhearted and blue?

H98110C

6 ○ All of the time
5 ○ Most of the time
4 ○ A good bit of the time
3 ○ Some of the time
2 ○ A little of the time
1 ○ None of the time

111. During the *past 4 weeks*, how much of the time have your *physical health or emotional problems* interfered with your social activities (like visiting with friends, relatives, etc.)?

H98111

6 ○ All of the time
5 ○ Most of the time
4 ○ A good bit of the time
3 ○ Some of the time
2 ○ A little of the time
1 ○ None of the time

112. During the last 12 months, how many days did you miss from work (including work at home and childcare responsibilities) due to your own illness or injury?

H98112

(If more than 99 days, mark "99")

Days

← Write the number in the boxes.

← Then, mark the matching circle below each box.

X: Facts about You

Information in this section will be used to study how different kinds of people view our health care system. This information will not be used to identify you personally.

113. What was your family's total income in 1987 before taxes?

(Include wages before taxes, dividends, interest, social security, pensions, alimony, net business or farm income, and any other money income received by members of the family who are 15 years of age or older.)

H98113

1 ○ Less than $20,000
2 ○ $20,000 to $39,999
3 ○ $40,000 to $59,999
4 ○ $60,000 to $79,999
5 ○ $80,000 and over

114. Which of the following best describes your current marital status?

SRMARST

5 ○ Never married
4 ○ Married
3 ○ Separated
2 ○ Divorced
1 ○ Widowed

115. What is your current age?

SRAGE

Years

← Write the number in the boxes.

← Then, mark the matching circle below each box.

SRAGE_R See Note 2

116. What is the highest grade or level of school that you have completed?

1=Marked 2=Unmarked

A ○ 8th grade or less
B ○ Some high school, but did not graduate
C ○ High school graduate or GED
D ○ Some college or 2-year degree
E ○ 4-year college graduate
F ○ More than 4-year college degree

SREDA-SREDF

SREDHIGH See Note 3

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117. What is your race or ethnic background? MARK ALL THAT APPLY.

1=Marked 2=Unmarked

SRRACEA ○ American Indian or Alaska Native
SRRACEB ○ Asian
SRRACEC ○ Black or African American
SRRACED ○ Hispanic or Latino
SRRACEE ○ Native Hawaiian or other Pacific Islander
SRRACEF ○ White

118. a. Are you on active duty? H98118A

1 ○ Yes ⇨ Go to Question 118b
2 ○ No ⇨ Go to Question 119

H98118AR See Note 37

b. Are you currently involved in an operational deployment, including sea duty, or in a duty position that might require you to deploy quickly, such as a mobilization assignment, mobility status, sea duty, or an operational tour?

H98118B

1 ○ Yes
2 ○ No

119. Are you the person this questionnaire is addressed to?

H98119

1 ○ Yes
2 ○ No

120. On what date did you complete this questionnaire?

Month	Day	Year
○ January		
○ February		
○ March	0 0	
○ April	0 1	
○ May	0 2	
○ June	0 3	
○ July	0 4	
○ August	0 5	
○ September	0 6	
○ October	0 7	
○ November	0 8	0 9
○ December	0 9	0 0

SRMO SRDAY SRYEAR

SRDATE See Note 1

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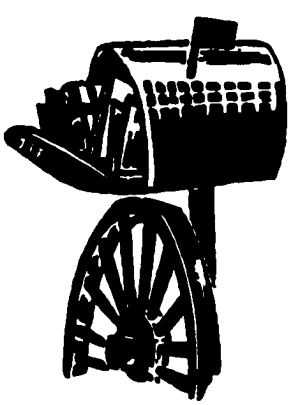

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Appendix B

15 Sep 99

From: LT Cynthia A. Chargois, MSC, USN, 258-51-3926/2300
To: Head, Health Programs and Analysis/TMA, Attn: LCOL Thomas Williams

Subj: REQUEST FOR DATA ICO THE 1995 AND 1998 HEALTH CARE SURVEY OF DEPARTMENT OF DEFENSE BENEFICIARIES

1. I am active duty Navy attached to Naval Reserve Officers Training Corps, Hampton Roads in the Duty Under Instruction (DUINS) program as a full-time student at Old Dominion University. I am a student in the Doctorate of Philosophy in Urban Services, Health Services Concentration program. As a part of this program, I am required to complete a dissertation related to health services.

2. Per my conversation with Ms. Patricia Golson on 15 February 99, I am requesting a copy of the data from the 1995 and 1998 health care survey of the department of defense beneficiaries and all related publications, to include a copy of the Summary and Technical Reports. This request comes to assist in the fulfillment of the requirements for my degree. I am further requesting permission to publish the findings in my dissertation and any subsequent professional publications.

3. The following information is needed:

a. Recognizing the Privacy Act of 1974, I request that all patient identifiers be eliminated from any resources provided;

b. Any information on the validity and reliability of the 1995 and 1998 questionnaires;

c. The data be provided in SPSS format on CD ROM or disk; and

d. Clean copies of the 1995 and 1998 questionnaires.

4. The information provided will be used for the following:

a. Research Topic. A study of the impact of access, satisfaction, and health status on female military retirees and the wives of military retirees obtaining preventive services.

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Subj: REQUEST FOR DATA ICO THE 1995 AND 1998 HEALTH CARE SURVEY OF DEPARTMENT OF DEFENSE BENEFICIARIES

b. Research Design/Question. Depending upon the availability of the 1995 data set and how closely related the two questionnaires are, the research design/question will be one of the following:

1) Causal Comparative Design: Will there be a difference in those who obtain preventive services and those who do not, considering their level of access, satisfaction, and health?

2) Correlational Design: Does access, satisfaction, and health status predict whether female military beneficiaries who are retired or the wife of a retiree will obtain preventive health services?

c. Statistical Analysis. Multivariate analysis will be conducted in order to make sound predictions or comparisons of the groups.

5. If additional information is needed, I can be reached at (757) 436-0565 or by e-mail at CAChargois@aol.com.

C. A. CHARGOIS
LT MSC USN

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Appendix C

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
HEALTH AFFAIRS
SKYLINE FIVE, SUITE 810, 5111 LEESBURG PIKE
FALLS CHURCH, VIRGINIA 22041-3206

TRICARE
MANAGEMENT
ACTIVITY

October 28, 1999

LT Cynthia A. Chargois
701 Whisper Walk
Chesapeake, VA 23322

Dear Lieutenant Chargois:

In response to your letter dated September 15, 1999, enclosed you will find CD-ROM data sets for 1995 and 1998 Health Care Survey of Department of Defense Beneficiaries which contains the survey data for the 1995 and the 1998 as comma delimited text files. Also, enclosed are several pages that show layout (order of the variables) and formats. These files were created directly from the Statistical Analysis System (SAS) data sets and the order of the text files should correlate with order in the SAS data sets.

The data sets provided are clean of any patient specific identifiers. You will be held personally responsible for the observance of all conditions of use and for establishment and maintenance of security arrangements as outlined in the Privacy Act of 1974. The data provided may be used as a part of your dissertation

Please let me know if you have any questions or have difficulty with the CD. My point of contact is Ms. Patricia Golson who can be reached at (703) 681-4263.

Sincerely,

THOMAS V. WILLIAMS, LTC, MSC, USA
Director, Program Evaluation
Health Program Analysis and Evaluation

Enclosures:
As stated

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Appendix D

Measure of
Face and Content Validity

Expert Raters:

Gary L. Baker, Commander, Medical Service Corps, United States Navy

Maggie L. Richard, Commander, Nurse Corps, United States Navy

Robert L. Sumter, Lieutenant, Medical Service Corps, United States Navy

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Face validity is the extent to which the measure is subjectively viewed by knowledgeable individuals as adequately measuring all aspects of the construct of interest. Content validity is whether the instrument includes all relevant measures related to the objective of the study. Each definition presented is adapted from:

Aday, L. A., Begley, C.E., Lairson, D.R., & Slater, C.H. (1998). Evaluating the healthcare system: effectiveness, efficiency, and equity. Chicago, IL: Health Administration Press.

Aday, L. A., Fleming, G. V. & Andersen, R. (1984). Access to medical care in the U.S.: Who has it, who doesn't. Chicago, Illinois: Pluribus Press, Inc.

Aday, L. A. & Andersen, R. (1975). Development of indices of access to medical care. Ann Arbor, MI: Health Administration Press.

The questions are those from the 1998 Health Care Survey of DoD Beneficiaries (attached).

To achieve face and content validity, I am requesting that you, as an expert in the field of health care review the definitions, then examine each question and their sub-questions and place beside it the number of the definition that *best* fits that particular question. If none of the definitions seem appropriate simply skip the question. The following are the definitions you are asked to consider:

1. **Organization** refers to the process of gaining entrance to the system (travel time, waiting time, etc.)
2. **Financing** is characterized as an individual's source of payment
3. **Predisposing** refers to the properties that exist prior to the onset of illness episode. They include such things as age, sex, race, religion and values concerning health and illness.
4. **Enabling** refers to both resources specific to the individual and his family (income, insurance coverage) and attributes of the community in which the individual lives (rural-urban character, region) are included here.

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5. **Need** refers to health status or illness as a predictor of health service use. The need for care may be either perceived by the individual or evaluated by the delivery system.

6. **Utilization** characterized in terms of the site/type, purpose or time interval/volume of use.

7. **Satisfaction** refers to the attitudes of those who have experienced a contact with the medical care system toward the system

8. **Behavioral Risks** determined by the lifestyle and health promotion practices of individuals.

Thank you for your assistance.

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Appendix E

Data Dictionary from Content Validity

Preventive Health Services

H98028	When did you last have a routine female examination with a Pap smear? Within the last 12 months 1 to 3 years ago More than 3 but less than 5 years ago 5 or more years ago Never had a routine female exam with Pap smear
H98029B	When was the last time your breast were checked by mammography or other x-ray like procedure? Within the last12 months 1 to 2 years ago More than 2 but less than 5 years ago 5 or more years ago Never had a mammography
H98029C	When was the last time your breast were checked by clinical exam? Within the last12 months 1 to 2 years ago More than 2 but less than 5 years ago 5 or more years ago Never had a mammography

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Delivery System

Organization:

How strongly do you agree or disagree with the following statements about TRICARE Prime orTRICARE Senior Prime:

H98041A — TRICARE Prime or TRICARE Senior Prime improves access to care.
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly Agree

H98041B — TRICARE Prime or TRICARE Senior Prime improves preventive care.
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly Agree

H98041D — TRICARE Prime or TRICARE Senior Prime saves money on health care.
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly Agree

H98058 — In the last 12 months, how much of a problem did you have getting mental health treatment or counseling from your plan?
A big problem
A small problem
Not a problem
Did not seek treatment or counseling

H98059 — In the last 12 months, how much of a problem, if any, was it to get the care you or a doctor believed necessary?
A big problem
A small problem
Not a problem
I had no visits in the last 12 months

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H98060 In the last 12 months, how much of a problem, if any, were delays in health care while you waited for approval from your health plan?
A big problem
A small problem
Not a problem
I had no visits in the last 12 months

Financing:

In the last 12 months, how many nights did you stay overnight in each type of *civilian* healthcare facility as a patient?

H98005a Civilian facility primarily paid by a TRICARE plan
(Ratio)

H98005b Civilian facility primarily paid by private payment, Medicare, or Medicaid
(Ratio)

In the last 12 months, how many outpatient visits did you make to a *civilian* health professional or health care facility?

H98009a Civilian doctor or facility primarily paid by a TRICARE plan
(Ratio)

H98009b Civilian doctor or facility primarily paid by private payment, Medicare, or Medicaid
(Ratio)

In the last 12 months, how many times did you go to a *civilian emergency room* for own care?

H98013a Civilian emergency room primarily paid by a TRICARE plan
(Ratio)

H98013b Civilian emergency room primarily paid by private payment, Medicare, or Medicaid
(Ratio)

H98043 How many months out of the last 12 months were you covered by TRICARE Prime?
(Ratio)

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Population-At-Risk

Predisposing (Demographics):

SRAGE	What is your current age? (Range is 40-64: ratio)
SRRACEA-F	What is your race or ethnic background? American Indian or Alaska Native Asian Black or African American Hispanic or Latino Native Hawaiian or other Pacific Islander White
SRMARST	Which of the following best describe your current marital status? Never married Married Separated Divorced Widowed

Enabling:

SREDA-F	What is the highest grade or level of school that you have completed? 8th grade or less Some high school, but did not graduate High school graduate or GED Some college or 2-year degree 4-year college graduate More than 4-year college degree
H98113	What was your family's total income in 1997 before taxes? Less than $20,000 $20,000 to $39,000 $40,000 to $59,000 $60,000 to $79,000 $80,000 and over

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SVC	Service (Branch of) Army Public Health Service Air Force National Oceanic & Atmospheric Ad Marine Corps Navy Coast Guard Unknown
H98036	Are you currently enrolled in TRICARE Prime or TRICARE SeniorPrime? Yes No Not sure
H98044	Are you currently covered by any type of supplemental insurance? (Primary insurers include TRICARE Prime, TRICARE Senior Prime, TRICARE Extra/Standard (CHAMPUS), and Medicare. Supplemental insurance covers all of your out-of-pocket costs not paid by these primary insurers, include supplemental insurance through your spouse that covers you.) Yes No Not Sure
H98047A-H98047F	Besides any TRICARE or supplemental plans discussed above, what other insurance or managed care plans are you currently covered by? (include insurance through your spouse that covers you.) A civilian fee-for-service insurance A civilian Health Maintenance Organization (HMO) A civilian preferred provider organization (PPO) or point of service (POS)plan Medicare, Part A Medicare, Part B Federal Employees Health Benefits Program (FEHBP)
H98050	Which health care plan did you use most in the last 12 months? TRICARE Prime TRICARE Senior Prime TRICARE Standard/Extra (CHAMPUS) Medicare Part A and/or Part B Other civilian health insurance or civilian HMO

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Need:

H98109 During the *past 4 weeks*, how much did pain interfere with your normal work (including work both outside the home and housework)?
Not at all
A little bit
Moderately
Quite a bit
Extremely

These questions are about how you feel and how things have been with you during the *past 4 weeks*. For each question, please indicate the one answer that comes closer to the way you have been feeling. How much of the time during the *past 4 weeks*:

H98110A Have you felt calm and peaceful?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

H98110B Have you had a lot of energy?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

H98110C Have you felt downhearted and blue?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

H98111 During the *past 4 weeks*, how much of the time have your *physical health or emotional problems* interfered with your social activities (like visiting with friends, relatives, etc.)?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

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Realized Access

Utilization:

H98001	In the last 12 months, did you yourself receive any health care at a health care facility or from a health care professional? Yes No
H98002	In the last 12 months, did you stay overnight in a military health care facility as a patient? Yes No Not Sure
H98003	In the last 12 months, how many nights did you stay overnight in a military health care facility as a patient? (Ratio)
H98004	In the last twelve months, did you stay overnight in a civilian health care facility as a patient? Yes No Not Sure
H98006	In the last 12 months, did you make any outpatient visits to a military health care professional or health care facility? Yes No Not Sure
H98007	In the last 12 months, how many outpatient visits did you make to a military health professional or health care facility? (Ratio)
H98008	In the last 12 months, did you make any outpatient visits to a civilian health care professional or health care facility? Yes No Not Sure
H98010	In the last 12 months, did you go to a military emergency room for your own care? Yes No Not Sure

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H98012 In the last 12 months, did you go to a civilian emergency room to get care for yourself?
Yes
No
Not Sure

H98055 In the last 12 months, did you see a specialist?
Yes
No

H98074 In the last 12 months, what type of facility did you go to most often for health care, or advice on health care?
A military facility – this includes:
- Military clinic
- Military hospital
- PRIMUS clinic
- NAVCARE clinic

A civilian facility – this includes:
- Doctor's office
- Clinic
- Hospital
- Civilian TRICARE contractor
- Uniformed Services Treatment Facility (USTF)
- Veteran's Affairs (VA) clinic or hospital

I went to neither type of health care facility in the last 12 months

In the last 12 months, did you have any:

H98076A well patient visits, such as a physical?
Yes
No

H98076B referrals to specialty care?
Yes
No

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H98079 How many days did you usually have to wait between the time you made an appointment for care and the day you actually saw the provider for a routine visit for a minor illness or injury, such as a cold or sore throat?
Same day
1 day
2-3 days
4-7 days
8-14 days
15-30 days
31 days or longer
I didn't need to get this type of care in the last 12 months

H98080 In the last 12 months, did you have any urgent care visits for an acute injury or illness, such as a broken arm or shortness of breath?
Yes
No

H98098 How long did you usually wait between the day you made an appointment for care and the day you actually saw a military provider for minor illness or injury, like treatment for a sore throat?
Same day
1-3 days
4-7 days
8-14 days
15-30 days
31-60 days
More than 60 days

H98101 Did you receive any health care from a civilian facility or provider in the last 12 months?
Yes
No

H98102 How long did you really wait between the day you made an appointment for care and the day you actually saw a civilian provider for minor illness or injury, like treatment for a sore throat?
Same day
1-3 days
4-7 days
8-14 days
15-30 days
31-60 days
More than 60 days
Does not apply

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Satisfaction:

H98052 We want to know your rating of your personal doctor or nurse. How would you rate your personal doctor or nurse now?
0 (Worst personal doctor or nurse possible)
to
10 (Best personal doctor or nurse possible)
I don't have a personal doctor or nurse

H98056 We want to know your rating of the specialist you saw most often in the last 12 months, including a personal doctor if he/she was a specialist. How would you rate your specialist?
0 (Worst specialist possible)
to
10 (Best specialist possible)
I had no specialist care in the last 12 months

H98090 How often did office staff at a doctor's office or clinic treat you with courtesy and respect?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98091 How often was office staff at a doctor's office or clinic as helpful as you thought they should be?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98092 How often did doctors or other health providers listen carefully to you?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

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H98093 How often did doctors or other health providers explain things in a way you could understand?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98094 How often did doctors or other health providers show respect for what you had to say?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98095 How often did doctors or other health providers spend enough time with you?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98096 We want to know your rating of your health care from the facility you used most in the last 12 months. How would you rate all your health care?
0 (Worst health care possible)
to
1 (Best health care possible)
I had no visits in the last 12 months

How much do you agree or disagree with the following statements about the health care you received at military facilities in the last 12 months?

H98099A I am satisfied with the health care that I received at military facilities.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

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H98099B I would recommend military health care to my family or friends who need care.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

How much do you agree or disagree with the following statements about the health care you received at civilian facilities in the last 12 months?

H98103A I am satisfied with the health care that I received at civilian facilities.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

H98103B I would recommend civilian health care to my family or friends or friends who need care.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

Please rate the following aspects of the health care you received at *military* facilities in the past 12 months.

H98100L	Thoroughness of examination
H98100M	Ability to diagnose my healthcare problems
H98100N	Skills of health care provider
H98100O	Thoroughness of treatment
H98100P	The outcomes of your healthcare (how much you are helped)
H98100Q	Overall quality of healthcare
H98100R	Providers explanation of healthcare procedures
H98100S	Providers explanation of medical tests

Poor
Fair
Good
Very Good
Excellent
Not Applicable

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Please rate the following aspects of the health care you received at *civilian* facilities in the past 12 months.

H98104L	Thoroughness of examination
H98104M	Ability to diagnose my healthcare problems
H98104N	Skills of health care provider
H98104O	Thoroughness of treatment
H98104P	The outcomes of your healthcare (how much you are helped)
H98104Q	Overall quality of healthcare
H98104R	Providers explanation of healthcare procedures
H98104S	Providers explanation of medical tests

Poor
Fair
Good
Very Good
Excellent
Not Applicable

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Health Risks

H98022 Do you now smoke every day, some days or not at all?
Every day
Some days
Not at all
Don't know

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Appendix F

Factor Pattern and Factor Loading
(N=8252)

Variable	Factor Loadings 1	2	Communality (h^2)
H98103a	.52		.68
H98103b	.47		.64
H98104a	.54		.53
H98104b	.69		.66
H98104c	.74		.73
H98104d	.67		.62
H98104e	.64		.70
H98104f	.60		.63
H98104g	.74		.67
H98104h	.66		.61
H98104i	.70		.68
H98104j	.70		.60
H98104k	.55		.38
H98104l	.86		.78
H98104m	.87		.81
H98104n	.88		.83
H98104o	.90		.86
H98104p	.87		.80
H98104q	.90		.85
H98104r	.86		.82
H98104s	.84		.79
H98099a		.57	.73
H98099b		.56	.73
H98100a		.48	.48
H98100b		.62	.57
H98100c		.70	.72
H98100d		.66	.64
H98100e		.60	.65
H98100f		.51	.52
H98100g		.65	.63
Eigenvalue	18.4		
% of Variance Explained	11.6		

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Factor Pattern and Factor Loading
(N=8252)

Variable	Factor Loadings 2	3	4	7	Communality (h^2)
H98100h	.72				.65
H98100i	.72				.71
H98100j	.64				.54
H98100k	.53				.36
H98100l	.85				.77
H98100m	.86				.80
H98100n	.88				.82
H98100o	.89				.86
H98100p	.87				.82
H98100q	.89				.83
H98100r	.85				.80
H98100s	.83				.78
H98052		.32			.36
H98090		.47			.54
H98091		.53			.62
H98092		.74			.66
H98093		.68			.55
H98094		.80			.67
H98095		.70			.60
H98096		.48			.67
H98105			.62		.40
H98109			-.72		.44
H98110a			.63		.51
H98110b			.74		.53
H98110c			-.56		.48
H98111			-.69		.51
H98112			-.51		.29
H98054				.36	.21
H98059				-.45	.23
H98060				.80	.42
Eigenvalue	11.2	4.0	3.6	2.6	
% of Variance Explained	11.0	3.3	3.0	1.9	

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Factor Pattern and Factor Loading
(N=8252)

Variable	Factor Loadings		Communality (h^2)
	9	10	
H98009b	.36		.21
H98043	-.45		.23
H98079		-.63	.24
H98087		.32	.29
H98098		-.35	.20
H98102		-.43	.23
Eigenvalue	1.7	1.7	
% of Variance Explained	1.3	1.2	

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Appendix G

Comparison of Content and Construct Validity

Category	Item	Content Validity (Professional Panel)	Construct Validity (Factor Analysis)	Content Reliability (Cronbach's Alpha)	Construct Reliability (Factor Analysis) (Cronbach's Alpha)
Organization	H98041A	*		.68	.85
	H98041B	*			
	H98041D	*			
	H98054**	*			
	H98058	*			
	H98059	*	+		
	H98060	*	+		
Financing	H98005A	*		.68	.48
	H98005B	*			
	H98009A	*			
	H98009B	*	+		
	H98013A	*			
	H98013B	*			
	H98043	*	+		
Need	H98105		+	.83	.84
	H98109	*	+		
	H98110A	*	+		
	H98110B	*	+		
	H98110C	*	+		
	H98111	*	+		
	H98112**				
Utilization	H98001	*		.67	.53
	H98002	*			
	H98003	*			
	H98004	*			
	H98006	*			
	H98007	*			
	H98008	*			
	H98010	*			
	H98012	*			
	H98055	*			
	H98074	*			

* Item was chosen or selected by professional panel as a valid item.
+ Item was statistically validated in factor analysis. These only reflect those used in statistical analysis and hypothesis testing.
** Item removed after reliability test of factor analysis, not included in alpha level or further analysis.

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Comparison of Content and Construct Validity

Category	Item	Content Validity (Professional Panel)	Construct Validity (Factor Analysis)	Content Reliability (Cronbach's Alpha)	Construct Reliability (Factor Analysis) (Cronbach's Alpha)
Utilization	H98076A	*		.67	.53
	H98076B	*			
	H98079	*	+		
	H98080	*			
	H98087**				
	H98098	*	+		
	H98101	*			
	H98102	*	+		
Overall Satisfaction	H98052	*	+	.85***	.81
	H98056	*			
	H98090	*	+		
	H98091	*	+		
	H98092	*	+		
	H98093	*	+		
	H98094	*	+		
	H98095	*	+		
	H98096	*	+		
Civilian Satisfaction	H98103A	*	+	.85***	.98
	H98103B	*	+		
	H98104A		+		
	H98104B		+		
	H98104C		+		
	H98104D		+		
	H98104E		+		
	H98104F		+		
	H98104G		+		
	H98104H		+		
	H98104I		+		
	H98104J		+		
	H98104K		+		
	H98104L	*	+		
	H98104M	*	+		
	H98104N	*	+		

* Item was chosen or selected by professional panel as a valid item.

\+ Item was statistically validated in factor analysis. These only reflect those used in statistical analysis and hypothesis testing.

** Item removed after reliability test of factor analysis, not included in alpha level or further analysis.

*** Alpha level is representative of all three satisfactions – overall, civilian, and military- combined.

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Comparison of Content and Construct Validity

Category	Item	Content Validity (Professional Panel)	Construct Validity (Factor Analysis)	Content Reliability (Cronbach's Alpha)	Construct Reliability (Factor Analysis) (Cronbach's Alpha)
Civilian Satisfaction	H98104O	*	+	.85***	.98
	H98104P	*	+		
	H98104Q	*	+		
	H98104R	*	+		
	H98104S	*	+		
Military Satisfaction	H98099A	*	+	.85***	.99
	H98099B	*	+		
	H98100A		+		
	H98100B		+		
	H98100C		+		
	H98100D		+		
	H98100E		+		
	H98100F		+		
	H98100G		+		
	H98100H		+		
	H98100I		+		
	H98100J		+		
	H98100K		+		
	H98100L	*	+		
	H98100M	*	+		
	H98100N	*	+		
	H98100O	*	+		
	H98100P	*	+		
	H98100Q	*	+		
	H98100R	*	+		
	H98100S	*	+		

* Item was chosen or selected by professional panel or through factor analysis as a valid item.

\+ Item was statistically validated in factor analysis. These only reflect those used in statistical analysis and hypothesis testing.

*** Alpha level is representative of all three satisfactions – overall, civilian, and military- combined.

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Appendix H

Eliminated Questions

H98001	In the last 12 months, did you yourself receive any health care at a health care facility or from a health care professional?
H98002	In the last 12 months, did you stay overnight in a military health care facility as a patient?
H98004	In the last twelve months, did you stay overnight in a civilian health care facility as a patient?
H98006	In the last 12 months, did you make any outpatient visits to a military health care professional or health care facility?
H98008	In the last 12 months, did you make any outpatient visits to a civilian health care professional or health care facility?
H98010	In the last 12 months, did you go to a military emergency room for your own care?
H98010	In the last 12 months, did you go to a civilian emergency room for your own care?
H98014	In the last 12 months, how many prescriptions did you have that were written by a civilian provider but were filled with a military pharmacy?
H98017A	When did you last have a blood pressure reading?
H98017B	Do you know if your blood pressure is too high or not?
H98018	When did you last have a cholesterol screening, that is, a test to determine the level or cholesterol in your blood?
H98019	When did you last have a flu shot?
H98020	When was the last time you had a general dental examination or checkup?
H98021	Have you smoked at least 100 cigarettes in your entire life?
H98023	How long has it been since you quit smoking cigarettes?

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H98024	In the last 12 months, on how many visits were you advised to quit smoking by a doctor or other health provider?
H98027	When was the last time you had a prostate gland examination or blood test for prostate disease?
H98030	Have you been pregnant in the last 12 months or are you pregnant now?
H98031	When during your pregnancy did you first begin receiving care from a doctor or other health care professional?

How well do you feel you understand the following aspects of TRICARE Prime, TRICARE Senior Prime, and TRICARE Extra/Standard?

H98033A	The benefits offered under TRICARE Prime/TRICARE Senior Prime
H98033B	The benefits offered under TRICARE Extra/Standard
H98033C	The costs to me of TRICARE Prime/TRICARE Senior Prime
H98033D	The costs to me of TRICARE Extra/Standard
H98033E	The amount of choice I have in selecting my primary care physician under TRICARE Prime/TRICARE Senior Prime
H98033F	The amount of choice I have in selecting my primary care physician under TRICARE Extra/Standard
H98033G	The amount of choice I have to use civilian health care providers under TRICARE Prime/TRICARE Senior Prime
H98033H	The amount of choice I have to use civilian health care providers under TRICARE Extra/Standard
H98033I	Procedures for making an appointment under TRICARE Prime/TRICARE Senior Prime
H98033J	Procedures for making an appointment under TRICARE Extra/Standard

What are the sources of your information about TRICARE?

H98034A	A presentation about TRICARE
H98034B	An information package mailed to my home
H98034C	A military doctor or other health care professional
H98034D	A civilian doctor or other health care professional
H98034E	The TRICARE information telephone number
H98034F	The base newspaper
H98034G	My city town or regional newspaper
H98034H	My friends and neighbors
H98034I	My local military treatment facility
H98034J	A radio or TV commercial
H98034K	An internet web site
H98034L	Some other source

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H98038	As a member of TRICARE Prime, did you have a primary care manager based in a military or civilian facility?
H98040	In your use of TRICARE Extra/Standard in the last 12 months, when you visited a health care provider, did you usually use a provider that was in the TRICARE Extra network?
H98042	Whether or not you are currently enrolled in TRICARE Prime, did you rely on TRICARE Prime for most of your care in the last 12 months?

What supplemental insurance are you currently covered by?

H98045A	CHAMPUS supplemental insurance
H98045B	Medicare supplemental (Medigap) insurance
H98045C	Other supplemental insurance that covers some or all of your out-of-pocket costs not paid by your primary insurer
H98045D	None
H98046	Has TRICARE had any effect on your decision whether or not to be covered by CHAMPUS supplemental insurance or Medicare supplemental insurance?
H98048	Has TRICARE had any effect on your decision whether or not to be covered by private insurance or to join a private HMO or PPO?
H98049A	In the last 12 months, how much "out-of-pocket" money did you and your family members who were eligible for your military medical benefits spend on medical care, including premiums, enrollment fees, deductibles, co-insurance, and co-payments, that was not reimbursed by insurance?
H98051	Do you have a person you think of as your personal doctor or nurse?
H98053	In the last 12 months, did you or a doctor think you needed to see a specialist?
H98057	In the last 12 months, did you need any mental health treatment or counseling for a personal or family problem?
H98061	In the last 12 months, did you or anyone else send in any claims to your health plan?
H98065	In the last 12 months, did you look for any information in written materials from your health plan?
H98067	In the last 12 months, did you call your health plan's customer service to get information or help?

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Paperwork means things like having your records changed, processing forms, or other paperwork related to getting care.

H98069A	In the last 12 months, did you have any experience with paperwork for your health plan?
H98070	Have you called or written your plan with a complaint or problem?
H98071	Was your complaint or problem settled to your satisfaction?
H98084	In the last 12 months, did you call a doctor's office or clinic during regular office hours to get help or advice for yourself?
H98086	In the last 12 months, did you have an illness or injury where you needed to see a doctor or other heath provider right away?
H98088	In the last 12 months, did you make any appointments with a doctor or other health provider for regular or routine health care?

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

H98106A	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf
H98106B	Climbing several flights of stairs

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

H98107A	Accomplished less than you would like
H98107B	Were limited in the kind of work or other activities

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems?

H98108A	Accomplished less than you would like
H98108B	Did not do work or other activities as carefully as usual

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Appendix I

Identification of Sub-scales

Sub-scale	Number of Items Included in Sub-scale	Minimum	Maximum	Mean	Standard Deviation
Overall Satisfaction	8	1	46	36.49	8.46
Civilian Satisfaction	21	1	95	65.80	17.95
Military Satisfaction	21	1	105	63.17	25.49

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Appendix J

Final Data Dictionary Based upon Factor Analysis and Reliability

Preventive Health Services

H98028	When did you last have a routine female examination with a Pap smear? Within the last 12 months 1 to 3 years ago More than 3 but less than 5 years ago 5 or more years ago Never had a routine female exam with Pap smear
H98029B	When was the last time your breast were checked by mammography or other x-ray like procedure? Within the last12 months 1 to 2 years ago More than 2 but less than 5 years ago 5 or more years ago Never had a mammography
H98029C	When was the last time your breast were checked by clinical exam? Within the last12 months 1 to 2 years ago More than 2 but less than 5 years ago 5 or more years ago Never had a mammography

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Delivery System

Organization:

H98059 In the last 12 months, how much of a problem, if any, was it to get the care you or a doctor believed necessary?
A big problem
A small problem
Not a problem
I had no visits in the last 12 months

H98060 In the last 12 months, how much of a problem, if any, were delays in health care while you waited for approval from your health plan?
A big problem
A small problem
Not a problem
I had no visits in the last 12 months

Financing:

In the last 12 months, how many outpatient visits did you make to a *civilian* health professional or health care facility?

H98009b Civilian doctor or facility primarily paid by private payment, Medicare, or Medicaid
(Ratio)

H98043 How many months out of the last 12 months were you covered by TRICARE Prime?

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Population-At-Risk

Predisposing (Demographics):

SRAGE	What is your current age? (Range is 40-64: ratio)
SRRACEA-F	What is your race or ethnic background? American Indian or Alaska Native Asian Black or African American Hispanic or Latino Native Hawaiian or other Pacific Islander White
SRMARST	Which of the following best describe your current marital status? Never married Married Separated Divorced Widowed
MPCSMPL	sampling rank

Enabling:

SREDA-F	What is the highest grade or level of school that you have completed? 8th grade or less Some high school, but did not graduate High school graduate or GED Some college or 2-year degree 4-year college graduate More than 4-year college degree
H98113	What was your family's total income in 1997 before taxes? Less than $20,000 $20,000 to $39,000 $40,000 to $59,000 $60,000 to $79,000 $80,000 and over

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SVC	Service (Branch of) Army Public Health Service Air Force National Oceanic & Atmospheric Ad Marine Corps Navy Coast Guard Unknown
H98036	Are you currently enrolled in TRICARE Prime or TRICARE Senior Prime? Yes No Not sure
H98044	Are you currently covered by any type of supplemental insurance? (Primary insurers include TRICARE Prime, TRICARE Senior Prime, TRICARE Extra/Standard (CHAMPUS), and Medicare. Supplemental insurance covers all of your out-of-pocket costs not paid by these primary insurers, include supplemental insurance through your spouse that covers you.) Yes No Not Sure
H98050	Which health care plan did you use most in the last 12 months? TRICARE Prime TRICARE Senior Prime TRICARE Standard/Extra (CHAMPUS) Medicare Part A and/or Part B Other civilian health insurance or civilian HMO
H98082	How often did it take you more than 30 minutes to travel to the facility where you visit your primary care manager? Never Sometimes Usually Always I had no visits in the last 12 months
LOC	Reside in Metropolitan Statistical Area (MSA) or Non- Metropolitan Statistical Area (Non-MSA)

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Need:

H98105 In general, would you say your health is:
Excellent
Very good
Good
Fair
Poor

H98109 During the *past 4 weeks*, how much did pain interfere with your normal work (including work both outside the home and housework)?
Not at all
A little bit
Moderately
Quite a bit
Extremely

These questions are about how you feel and how things have been with you during the *past 4 weeks*. For each question, please indicate the one answer that comes closer to the way you have been feeling. How much of the time during the *past 4 weeks*:

H98110A Have you felt calm and peaceful?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

H98110B Have you had a lot of energy?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

H98110C Have you felt downhearted and blue?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

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H98111 During the *past 4 weeks*, how much of the time have your *physical health or emotional problems* interfered with your social activities (like visiting with friends, relatives, etc.)?
All of the time
Most of the time
A good bit of the time
Some of the time
A little of the time
None of the time

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Realized Access

Utilization:

H98079 How many days did you usually have to wait between the time you made an appointment for care and the day you actually saw the provider for a routine visit for a minor illness or injury, such as a cold or sore throat?
Same day
1 day
2-3 days
4-7 days
8-14 days
15-30 days
31 days or longer
I didn't need to get this type of care in the last 12 months

H98098 How long did you usually wait between the day you made an appointment for care and the day you actually saw a military provider for minor illness or injury, like treatment for a sore throat?
Same day
1-3 days
4-7 days
8-14 days
15-30 days
31-60 days or longer
More than 60 days
Does not apply

H98102 How long did you really wait between the day you made an appointment for care and the day you actually saw a civilian provider for minor illness or injury, like treatment for a sore throat?
Same day
1-3 days
4-7 days
8-14 days
15-30 days
31-60 days
More than 60 days

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Satisfaction/Overall:

H98052	We want to know your rating of your personal doctor or nurse. How would you rate your personal doctor or nurse now? 0 (Worst personal doctor or nurse possible) to 10 (Best personal doctor or nurse possible) I don't have a personal doctor or nurse
H98090	How often did office staff at a doctor's office or clinic treat you with courtesy and respect? Never Sometimes Usually Always I had no visits in the last 12 months
H98091	How often was office staff at a doctor's office or clinic as helpful as you thought they should be? Never Sometimes Usually Always I had no visits in the last 12 months
H98092	How often did doctors or other health providers listen carefully to you? Never Sometimes Usually Always I had no visits in the last 12 months
H98093	How often did doctors or other health providers explain things in a way you could understand? Never Sometimes Usually Always I had no visits in the last 12 months

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H98094 How often did doctors or other health providers show respect for what you had to say?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98095 How often did doctors or other health providers spend enough time with you?
Never
Sometimes
Usually
Always
I had no visits in the last 12 months

H98096 We want to know your rating of your health care from the facility you used most in the last 12 months. How would you rate all your health care?
0 (Worst health care possible)
to
0 (Best health care possible)
I had no visits in the last 12 months

Civilian Satisfaction:

How much do you agree or disagree with the following statements about the health care you received at civilian facilities in the last 12 months?

H98103A I am satisfied with the health care that I received at civilian facilities.
H98103B I would recommend civilian health care to my family or friends who need care.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

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Please rate the following aspects of the health care you received at *civilian* facilities in the past 12 months.

H98104A	Convenience of location of treatment
H98104B	Convenience of hours
H98104C	Access to health care whenever you need it
H98104D	Access to a specialist if you need one
H98104E	Access to hospital care if you need it
H98104F	Access to medical care in an emergency room
H98104G	Ease of making appointments for health care by phone
H98104H	Length of time you wait at office to see the provider
H98104I	Length of time you wait between making an appointment for routine care and the day of your visit
H98104J	Availability of health care information or advice by phone
H98104K	Services available for getting prescription filled
H98104L	Thoroughness of examination
H98104M	Ability to diagnose my healthcare problems
H98104N	Skills of health care provider
H98104O	Thoroughness of treatment
H98104P	The outcomes of your healthcare (how much you are helped)
H98104Q	Overall quality of healthcare
H98104R	Providers explanation of healthcare procedures
H98104S	Providers explanation of medical tests

Poor
Fair
Good
Very Good
Excellent
Not Applicable

Military Satisfaction:

How much do you agree or disagree with the following statements about the health care you received at military facilities in the last 12 months?

H98099A	I am satisfied with the health care that I received at military facilities.
H98099B	I would recommend military health care to my family or friends who need care.

Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree

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Please rate the following aspects of the health care you received at *military* facilities in the past 12 months.

H98100A	Convenience of location of treatment
H98100B	Convenience of hours
H98100C	Access to health care whenever you need it
H98100D	Access to a specialist if you need one
H98100E	Access to hospital care if you need it
H98100F	Access to medical care in an emergency room
H98100G	Ease of making appointments for health care by phone
H98100H	Length of time you wait at office to see the provider
H98100I	Length of time you wait between making an appointment for routine care and the day of your visit
H98100J	Availability of health care information or advice by phone
H98100K	Services available for getting prescription filled
H98100L	Thoroughness of examination
H98100M	Ability to diagnose my healthcare problems
H98100N	Skills of health care provider
H98100O	Thoroughness of treatment
H98100P	The outcomes of your healthcare (how much you are helped)
H98100Q	Overall quality of healthcare
H98100R	Providers explanation of healthcare procedures
H98100S	Providers explanation of medical tests
	Poor
	Fair
	Good
	Very Good
	Excellent

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Health Risks

Behavioral Risks:

H98022	Do you now smoke every day, some days or not at all? Every day Some days Not at all Don't know

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Appendix K

Old Dominion University College Of Health Sciences
Human Subject Review

Date: 11-17-99
Number: 11-17-99-06

Title of Research Project: A Study of The Factors that Impact female Military Beneficiaries Obtaining Preventive Services

Code Name: Retiree

___ This project has not been approved for the following reasons:

___ This project was determined to have significant risk to human subjects and should be reviewed by the Old Dominion University Institutional Review Board.

___ This project has been approved contingent upon the following revisions:

Upon making the revisions, please resubmit the proposal to Martha Walker, Chair of the College of Health Sciences Human Subject's Committee. Do not begin data collection until after you have received final approval

__X__ This project has been approved without revisions

Approved _____ _____
Martha Walker, Chair, College of Health Sciences Human Subject's Committee — Date

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Appendix L

Crosstabulation of the Sub-Sample's

Predisposing and Enabling Characteristics

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Crosstabulation of Race by Selected Variables

Variable	Race												*P-Value
	American Indian/Alaska Native		Asian		Black		Hispanic/Latino		Native Hawaiian/Pacific Islander		White		
	#	%	#	%	#	%	#	%	#	%	#	%	
Marital Status													
Widowed	9	15.8	58	7.8	65	11.8	23	7.2	4	4.0	488	7.7	
Divorced	4	7.0	9	1.2	33	6.0	4	1.3	2	2.0	188	3.0	
Separated	1	1.8	6	.8	21	3.8	2	.6	4	4.0	99	1.6	<.001
Married	43	75.4	674	90.1	427	77.4	285	89.3	90	90.0	5522	86.9	
Never Married	0	.0	1	.1	6	1.1	5	1.6	0	.0	55	.9	
Total	57	100.0	748	100.0	552	100.0	319	100.0	100	100.0	6352	100.0	
Rank													
Officer	2	3.5	83	11.1	28	5.1	29	9.0	5	4.9	1606	25.3	
Enlisted	55	96.5	637	85.0	520	93.9	281	87.5	96	94.1	4531	71.2	<.001
Warrant Officer	0	.0	29	3.9	6	1.1	11	3.4	1	1.0	223	2.5	
Total	57	100.0	749	100.0	554	100.0	321	100.0	102	100.0	6360	100.0	
Location													
Non-MSA	31	54.4	460	61.4	344	62.1	182	56.7	68	66.7	4044	63.6	.081
MSA	26	45.6	289	38.6	210	37.9	139	43.3	34	33.3	2316	36.4	
Total	57	100.0	749	100.0	554	100.0	321	100.0	102	100.0	6360	100.0	
Service													
Army	20	35.1	238	31.8	279	50.5	126	39.3	27	26.5	1927	30.3	
Public Health/NOAA Coast Guard	1	1.8	9	1.2	2	.4	1	.3	3	2.9	112	1.8	<.001
Air Force	26	45.6	259	34.6	196	35.4	124	38.6	33	32.4	2741	43.1	
Navy	7	12.3	210	28.0	51	9.2	43	13.4	33	32.4	1266	19.9	
Marine Corps	3	5.3	33	4.4	25	4.5	27	8.4	6	5.9	314	4.9	
Total	57	100.0	749	100.0	553	100.0	321	100.0	102	100.0	6360	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Race by Selected Variables

Variable	Race												*P-Value
	American Indian/Alaska Native		Asian		Black		Hispanic/Latino		Native Hawaiian/Pacific Islander		White		
	#	%	#	%	#	%	#	%	#	%	#	%	
Education													
8th grade or less	2	3.6	96	13.2	7	1.3	31	3.6	6	6.0	89	1.4	
Some High School	7	12.5	98	13.5	31	5.8	29	12.5	9	9.0	423	6.7	
High School or GED	15	26.8	255	35.2	170	32.0	104	26.8	47	47.0	2172	34.7	
Some College or 2-yr Degree	26	46.4	149	20.6	219	41.2	99	46.4	22	22.0	2334	37.2	<.001
4-Year College Graduate	3	5.4	95	13.1	43	8.1	31	5.4	8	8.0	580	9.3	
More than 4-Year College Degree	3	5.4	32	4.4	61	11.5	15	5.4	8	8.0	670	10.7	
Total	56	100.0	725	100.0	531	100.0	309	100.0	100	100.0	6268	100.0	
Income													
Less than $20K	10	18.5	64	8.8	82	15.6	49	16.1	5	5.1	516	8.6	
$20K - $39K	17	31.5	220	30.2	183	34.9	97	31.8	26	26.5	1787	29.7	<.001
$40K - $59K	18	33.3	237	32.5	139	26.5	102	33.4	39	39.8	1694	28.2	
$60K – 79K	6	11.1	117	16.0	75	14.3	36	11.8	17	17.3	1009	16.8	
$80K and over	3	5.6	91	12.5	45	8.6	21	6.9	11	11.2	1003	16.7	
Total	54	100.0	729	100.0	524	100.0	305	100.0	98	100.0	6009	100.0	
Enrolled in TRICARE Prime													
Yes	37	72.5	473	70.6	359	70.6	206	71.5	54	61.4	3767	66.4	.005
No	14	27.5	197	29.4	133	27.0	82	28.5	34	38.6	1906	33.6	
Total	51	100.0	670	100.0	492	100.0	288	100.0	88	100.0	5673	100.0	
Covered by Supplemental Insurance													
Yes	17	30.9	165	23.5	149	28.9	72	24.1	23	25.3	1901	31.6	<.001
No	38	69.1	536	76.5	367	71.1	227	75.9	68	74.7	4121	68.4	
Total	55	100.0	701	100.0	516	100.0	299	100.0	91	100.0	6022	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Race by Selected Variables

Variable	Race												*P-Value
	American Indian/Alaska Native		Asian		Black		Hispanic/Latino		Native Hawaiian/Pacific Islander		White		
	#	%	#	%	#	%	#	%	#	%	#	%	
What Health Care Plan Used the Most													
TRICARE Prime	34	64.2	475	67.3	328	64.0	205	69.0	56	59.6	3693	61.2	
TRICARE Standard	4	7.5	72	10.2	59	11.5	29	9.8	8	8.5	707	11.7	
or Extra Medicare Part A & B	1	1.9	5	.7	10	2.0	5	1.7	2	2.1	63	1.1	.025
Other Civilian Insurance or HMO	14	26.4	154	21.8	115	22.5	58	19.5	28	29.8	1570	26.0	
Total	53	100.0	706	100.0	512	100.0	297	100.0	94	100.0	6033	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager													
Never	26	49.1	418	63.0	374	72.2	174	58.6	57	62.6	3844	64.6	<.001
Sometimes	9	17.0	112	16.9	53	10.2	38	12.8	19	20.9	630	10.6	
Usually	6	11.3	44	6.6	28	5.4	24	8.1	6	6.6	355	6.0	
Always	12	22.6	89	13.4	63	12.2	61	20.5	9	9.9	1122	18.9	
Total	53	100.0	663	100.0	518	100.0	263	100.0	91	100.0	5951	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

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Crosstabulation of Marital Status by Selected Variables

Variable	Marital Status										
	Widowed		Divorced		Separated		Married		Never Married		*P-Value
	#	%	#	%	#	%	#	%	#	%	
Rank											
Officer	12	1.8	68	28.2	32	23.9	1632	40.3	27	59.7	
Enlisted	637	97.5	162	67.2	98	73.1	5251	59.7	40	40.3	<.001
Warrant Officer	4	.6	11	4.6	4	3.0	252	3.5	0	.0	
Total	653	100.0	241	100.0	134	100.0	7141	100.0	67	100.0	
Location											
Non-MSA	408	62.5	157	65.1	91	67.9	4490	62.9	44	65.7	.701
MSA	245	37.5	84	34.9	43	32.1	2651	37.1	23	34.3	
Total	653	100.0	241	100.0	134	100.0	7141	100.0	67	100.0	
Education											
8th grade or less	36	5.7	3	1.3	3	2.3	188	2.7	1	1.5	
Some High School	63	10.0	8	3.4	9	6.9	521	7.4	0	0.0	
High School or GED	245	38.9	48	20.3	35	26.7	2451	35.0	7	10.4	
Some College or 2-yr Degree	200	31.7	110	46.4	58	44.3	2497	35.6	24	35.8	<.001
4-Year College Graduate	40	6.3	20	8.4	12	9.2	685	9.8	14	20.9	
More than 4-Year College Degree	46	7.3	48	20.3	14	10.7	669	9.5	21	31.3	
Total	630	100.0	237	100.0	131	100.0	7011	100.0	67	100.0	
Income											
Less than $20K	275	43.7	73	31.1	38	29.5	334	5.0	14	21.5	
$20K - $39K	232	36.9	92	39.1	44	34.1	1959	29.1	25	38.5	<.001
$40K - $59K	83	13.2	43	18.3	24	18.6	2079	30.9	16	24.6	
$60K – 79K	23	3.7	18	7.7	10	7.8	1213	18.0	4	6.2	
$80K and over	16	2.5	9	3.8	13	10.1	1138	16.9	6	9.2	
Total	629	100.0	235	100.0	129	100.0	6723	100.0	65	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Marital Status by Selected Variables

Variable	Marital Status										*P-Value
	Widowed		Divorced		Separated		Married		Never Married		
	#	%	#	%	#	%	#	%	#	%	
Service											
Army	225	34.5	76	31.5	47	35.1	2261	31.7	26	38.8	
Public Health/NOAA	12	1.8	3	1.2	2	1.5	109	1.5	2	3.0	
Coast Guard											
Air Force	271	41.6	107	44.4	53	39.6	2968	41.6	24	35.8	.685
Navy	109	16.7	43	17.8	22	16.4	1446	20.2	13	19.4	
Marine Corps	35	5.4	12	5.0	10	7.5	357	5.0	2	3.0	
Total	652	100.0	241	100.0	134	100.0	7141	100.0	67	100.0	
Enrolled in TRICARE Prime											
Yes	376	69.4	146	67.0	81	71.7	4310	67.2	40	61.5	.549
No	166	30.6	72	33.0	32	28.3	2104	32.8	25	38.5	
Total	542	100.0	218	100.0	113	100.0	6414	100.0	65	100.0	
Covered by Supplemental Insurance											
Yes	199	33.5	49	21.2	35	27.3	2049	30.3	23	35.4	.010
No	395	66.5	182	78.8	93	72.7	4705	69.7	42	64.6	
Total	594	100.0	231	100.0	128	100.0	6754	100.0	65	100.0	
What Health Care Plan Used the Most											
TRICARE Prime	373	62.2	151	68.0	76	61.3	4214	62.1	34	61.8	
TRICARE Standard	93	15.5	27	12.2	15	12.1	750	11.1	6	10.9	
or Extra											<.001
Medicare Part A & B	15	2.5	2	.9	3	2.4	63	.9	3	5.5	
Other Civilian											
Insurance or HMO	119	19.8	42	18.9	30	24.2	1754	25.9	12	21.8	
Total	600	100.0	222	100.0	124	100.0	6781	100.0	55	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

(table continues)

Table 6

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Crosstabulation of Marital Status by Selected Variables

	Marital Status										
Variable	Widowed		Divorced		Separated		Married		Never Married		*P-Value
	#	%	#	%	#	%	#	%	#	%	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager											
Never	366	62.4	150	65.8	79	65.3	4311	64.7	32	54.2	.434
Sometimes	81	13.8	28	12.3	15	12.4	735	11.0	12	20.3	
Usually	39	6.6	16	7.0	7	5.8	400	6.0	4	6.8	
Always	101	17.2	34	14.9	20	16.5	1213	18.3	11	18.6	
Total	587	100.0	228	100.0	121	100.0	6659	100.0	59	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

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Crosstabulation of Rank by Selected Variables

Variable	Rank						*P-Value
	Officer		Enlisted		Warrant Officer		
	#	%	#	%	#	%	
Location							
Non-MSA	1172	66.1	3871	62.4	158	57.7	.003
MSA	601	33.9	2334	37.6	116	42.3	
Total	1773	100.0	6205	100.0	274	100.0	
Service							
Army	553	31.2	1894	30.5	195	71.2	
Public Health/NOAA/Coast Guard	36	2.0	75	1.2	17	6.2	
Air Force	760	42.9	2667	43.0	2	.7	<.001
Navy	331	18.7	1257	20.3	48	17.5	
Marine Corps	93	5.2	311	5.0	12	4.4	
Total	1773	100.0	6204	100.0	274	100.0	
Education							
8th grade or less	5	.3	222	3.7	6	2.2	
Some High School	36	2.0	548	9.0	18	6.7	
High School or GED	262	14.9	2428	40.1	101	37.4	<.001
Some College or 2-yr Degree	645	36.7	2137	35.3	110	40.7	
4-Year College Graduate	373	21.2	381	6.3	17	6.3	
More than 4-Year College Degree	436	24.8	344	43.1	18	6.7	
Total	1757	100.0	6060	100.0	270	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Rank by Selected Variables

Variable	Rank						*P-Value
	Officer		Enlisted		Warrant Officer		
	#	%	#	%	#	%	
Income							
Less than $20K	20	1.2	705	12.0	10	3.9	
$20K - $39K	157	9.4	2147	36.6	50	19.5	
$40K - $59K	386	23.0	1789	30.5	76	29.7	<.001
$60K – 79K	373	22.2	841	14.3	57	22.3	
$80K and over	741	44.2	379	6.5	63	24.6	
Total	1677	100.0	5861	100.0	256	100.0	
Enrolled in TRICARE Prime							
Yes	1054	65.4	3747	68.1	163	65.5	.111
No	557	34.6	1758	31.9	86	34.5	
Total	1611	100.0	6204	100.0	249	100.0	
Covered by Supplemental Insurance							
Yes	723	42.9	1555	26.6	80	30.7	<.001
No	964	57.1	4285	73.4	181	69.3	
Total	1687	100.0	5840	100.0	261	100.0	
What Health Care Plan Used the Most							
TRICARE Prime	1066	62.6	3635	62.3	156	60.7	
TRICARE Standard or Extra	222	13.0	647	11.0	24	9.3	
Medicare Part A & B	4	.2	81	1.4	1	.4	<.001
Other Civilian Insurance or HMO	410	24.2	1474	25.3	76	29.6	
Total	1702	100.0	5837	100.0	260	100.0	

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(table continues)

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Crosstabulation of Rank by Selected Variables

Variable	Rank						*P-Value
	Officer		Enlisted		Warrant Officer		
	#	%	#	%	#	%	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager							
Never	1107	66.4	3672	63.9	167	64.2	.230
Sometimes	184	11.0	653	11.4	36	13.8	
Usually	102	6.0	347	6.1	18	6.9	
Always	273	18.6	1070	16.4	39	15.0	
Total	1666	100.0	5742	100.0	260	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

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Crosstabulation of Location by Selected Variables

Variable	Location				*P-Value
	Non-MSA		MSA		
	#	%	#	%	
Education					
8th grade or less	139	2.7	94	3.1	
Some High School	353	6.9	249	8.3	
High School or GED	1742	34.2	1049	35.1	<.001
Some College or 2-yr Degree	1778	34.9	1114	37.3	
4-Year College Graduate	521	10.2	250	8.4	
More than 4-YearCollege Degree	566	11.1	232	7.8	
Total	5099	100.0	2988	100.0	
Income					
Less than $20K	451	9.2	284	9.9	
$20K - $39K	1389	28.2	965	33.6	<.001
$40K - $59K	1405	28.5	846	29.5	
$60K – 79K	834	16.9	437	15.2	
$80K and over	845	17.2	338	11.8	
Total	4924	100.0	2870	100.0	
Service	1670	32.1	972	31.9	
Army	80	1.5	48	1.6	
Public Health/NOAA/Coast Guard	2204	42.4	1225	40.2	.002
Air Force	966	18.6	670	22.0	
Navy	280	5.4	136	4.5	
Marine Corps	5200	100.0	3051	100.0	
Total					

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Location by Selected Variables

Variable	Location				*P-Value
	Non-MSA		MSA		
	#	%	#	%	
Enrolled in TRICARE Prime					
Yes	2111	49.2	2753	96.0	
No	2286	50.8	115	4.0	<.001
Total	4497	100.0	2868	100.0	
Covered by Supplemental Insurance					
Yes	1833	38.1	525	17.7	
No	2982	61.9	2448	82.3	<.001
Total	4815	100.0	2973	100.0	
What Health Care Plan Used the Most					
TRICARE Prime	2115	43.7	2742	92.9	
TRICARE Standard/Extra	842	17.4	51	1.7	
Medicare Part A & B	71	1.5	15	.5	<.001
Other Civilian Insurance/HMO	1815	37.4	145	4.9	
Total	4843	100.0	2953	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager					
Never	3058	64.1	1888	65.1	
Sometimes	557	11.7	316	10.9	
Usually	296	6.2	171	5.9	.669
Always	856	18.0	526	18.1	
Total	4767	100.0	2901	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

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Crosstabulation of Branch of Service by Selected Variables

Variable	Branch of Service										*P-Value
	Army		Public Health/ NOAA/Coast Guard		Air Force		Navy		Marine Corps		
	#	%	#	%	#	%	#	%	#	%	
Education											
8th grade or less	105	4.1	2	1.6	83	2.5	35	2.2	8	2.0	
Some High School	188	7.3	8	6.3	236	7.0	136	22.6	34	8.3	
High School or GED	871	33.7	35	27.8	1205	35.8	533	33.2	147	36.0	
Some College or 2-yr Degree	940	36.4	42	33.3	1214	36.1	552	34.4	143	35.0	<.001
4-Year College Graduate	212	8.2	22	17.5	306	9.1	192	12.0	39	9.6	
More than 4-Year College Degree	265	10.3	17	15.5	321	9.5	158	9.8	37	9.1	
Total	2581	100.0	126	100.0	3365	100.0	1606	100.0	408	100.0	
Income											
Less than $20K	279	11.1	7	5.8	262	8.1	151	9.7	35	9.0	
$20K - $39K	791	31.5	33	27.5	967	30.0	453	29.2	110	28.2	.011
$40K - $59K	681	27.2	39	32.5	945	29.3	457	29.4	129	33.1	
$60K – 79K	378	15.1	20	16.7	561	17.4	246	15.8	66	16.9	
$80K and over	379	15.1	21	17.5	486	15.1	247	15.9	50	12.8	
Total	2508	100.0	120	100.0	3221	100.0	1554	100.0	390	100.0	
Enrolled in TRICARE Prime											
Yes	1600	68.2	71	64.0	2067	67.0	980	67.1	246	61.6	.808
No	745	31.8	40	36.0	1017	33.0	481	32.9	118	32.4	
Total	2345	100.0	111	100.0	3084	100.0	1461	100.0	364	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Branch of Service by Selected Variables

Variable	Branch of Service										*P-Value
	Army		Public Health/ NOAA/Coast Guard		Air Force		Navy		Marine Corps		
	#	%	#	%	#	%	#	%	#	%	
Covered by Supplemental Insurance											
Yes	744	30.1	35	29.2	965	29.7	472	30.5	141	35.1	
No	1727	69.9	85	70.8	2283	70.3	1074	69.5	261	64.9	.285
Total	2471	100.0	120	100.0	3248	100.0	1546	100.0	402	100.0	
What Health Care Plan Used the Most											
TRICARE Prime	1536	62.6	67	56.8	2062	63.0	954	61.2	238	60.6	
TRICARE Standard or Extra	283	11.5	22	18.6	332	10.2	198	12.7	58	14.8	.011
Medicare Part A & B	32	1.4	0	.0	37	1.1	10	.6	7	1.7	
Other Civilian Insurance or HMO	602	24.5	29	24.6	843	25.7	396	25.5	90	22.9	
Total	2453	100.0	118	100.0	3274	100.0	1558	100.0	393	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager											
Never	1548	63.1	73	59.8	2113	66.4	970	63.5	242	63.4	.043
Sometimes	272	11.1	16	13.1	349	11.0	196	12.8	40	10.5	
Usually	174	7.1	4	3.3	181	5.7	87	5.7	20	5.2	
Always	460	18.7	29	23.8	539	17.9	274	17.9	80	20.9	
Total	2454	100.0	122	100.0	3182	100.0	1527	100.0	382	100.0	

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Crosstabulation of Education by Selected Variables

Variable	Education												*P-Value
	8th Grade or Less		Some High School		High School Graduate/GED		Some College/2 Year Degree		4 Year College Graduate		More than 4 Year College		
	#	%	#	%	#	%	#	%	#	%	#	%	
Income													
Less than $20K	59	26.1	105	18.8	295	11.3	202	7.4	27	3.6	19	2.4	
$20K - $39K	99	43.8	261	46.7	1009	38.6	761	27.8	107	14.5	82	10.5	
$40K - $59K	48	21.2	130	23.3	807	30.9	837	30.6	204	27.6	184	23.6	<.001
$60K – 79K	12	5.3	41	7.3	343	13.1	520	19.0	170	23.0	168	21.5	
$80K and over	8	3.5	22	3.9	160	6.1	415	15.2	232	31.4	327	41.9	
Total	226	100.0	559	100.0	2614	100.0	2735	100.0	740	100.0	780	100.0	
Enrolled in TRICARE Prime													
Yes	146	71.6	375	71.6	1753	70.3	1734	66.7	443	64.3	414	57.8	<.001
No	58	28.4	149	28.4	741	29.7	864	33.3	246	35.7	302	42.2	
Total	204	100.0	524	100.0	2494	100.0	2598	100.0	689	100.0	716	100.0	
What Health Care Plan Used the Most													
TRICARE Prime	145	69.0	366	66.1	1705	64.9	1686	61.3	445	60.1	413	53.6	
TRICARE Standard or Extra	23	11.5	76	13.7	291	11.2	319	11.6	88	11.9	84	10.9	
Medicare Part A & B	4	1.9	11	2.0	30	1.1	36	1.3	1	.1	2	.3	<.001
Other Civilian Insurance or HMO	37	17.6	101	18.2	598	22.8	711	25.8	207	27.9	271	35.2	
Total	209	100.0	554	100.0	2624	100.0	2752	100.0	741	100.0	770	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Education by Selected Variables

Variable	Education												
	8th Grade or Less		Some High School		High School Graduate/GED		Some College/2 Year Degree		4 Year College Graduate		More than 4 Year College		*P-Value
	#	%	#	%	#	%	#	%	#	%	#	%	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager													
Never	129	61.7	327	60.2	1686	65.2	1724	64.1	483	66.8	495	65.6	.021
Sometimes	27	12.9	71	13.1	262	10.1	302	11.1	90	12.4	105	13.9	
Usually	13	6.2	37	6.8	142	5.5	175	6.4	44	6.1	43	5.7	
Always	40	19.1	108	19.9	494	19.2	497	18.3	106	14.7	111	14.8	
Total	209	100.0	543	100.0	2584	100.0	2716	100.0	723	100.0	754	100.0	
Covered by Supplemental Insurance													
Yes	42	19.6	164	28.9	759	28.6	819	30.1	259	35.2	277	37.1	<.001
No	172	80.4	404	71.1	1891	71.4	1905	69.9	476	64.8	470	62.9	
Total	214	100.0	568	100.0	2650	100.0	2724	100.0	735	100.0	747	100.0	

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Crosstabulation of Income by Selected Variables

Variable	Income										*P-Value
	Less than 20K		20K to 39,999		40K to 59,999		60K to 79,999		80 and over		
	#	%	#	%	#	%	#	%	#	%	
Enrolled in TRICARE *Prime*											
Yes	464	73.9	1557	73.6	1376	67.5	695	61.1	601	57.2	<.001
No	164	26.1	559	26.4	662	32.5	442	38.9	450	42.8	
Total	628	100.0	2116	100.0	2038	100.0	1137	100.0	1051	100.0	
Covered by Supplemental Insurance											
Yes	161	23.3	556	24.8	663	30.8	410	34.5	443	40.2	<.001
No	529	76.7	1684	75.2	1487	69.2	778	65.5	660	59.8	
Total	690	100.0	2240	100.0	2150	100.0	1188	100.0	1103	100.0	
What Health Care Plan Used the Most											
TRICARE Prime	458	70.2	1529	69.5	1348	62.3	679	55.2	584	51.5	
TRICARE Standard	100	15.3	283	12.9	246	11.4	104	8.5	104	9.2	
or Extra Medicare Part A & B	21	3.2	36	1.6	20	.9	4	.3	2	.2	<.001
Other Civilian Insurance or HMO	73	11.3	353	16.0	549	25.4	444	36.0	444	39.1	
Total	652	100.0	2201	100.0	2163	100.0	1231	100.0	1134	100.0	

*p ≤ .05 level – Pearson Chi-Square Test Statistic

(table continues)

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Crosstabulation of Income by Selected Variables

Variable	Income										
	Less than 20K		20K to 39,999		40K to 59,999		60K to 79,999		80 and over		*P-Value
	#	%	#	%	#	%	#	%	#	%	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager											
Never	356	54.8	1321	60.8	1403	66.4	831	69.5	774	68.7	<.001
Sometimes	102	15.7	215	9.9	242	11.5	121	10.1	145	12.9	
Usually	43	6.6	147	6.8	117	5.5	68	5.7	69	6.1	
Always	149	22.9	490	22.5	350	16.6	176	14.7	139	12.3	
Total	650	100.0	2173	100.0	2112	100.0	1196	100.0	1127	100.0	

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Crosstabulation of TRICARE Prime by Selected Variables

Variable	TRICARE Prime Yes #	Yes %	No #	No %	*P-Value
Covered by Supplemental Insurance					
Yes	983	20.4	1037	47.2	
No	3842	79.6	1158	52.8	<.001
Total	4825	100.0	2195	100.0	
What Health Care Plan Used the Most					
TRICARE Prime	4493	93.3	84	3.8	
TRICARE Standard/Extra	93	2.0	667	30.4	
Medicare Part A & B	16	.3	49	2.2	<.001
Other Civilian Insurance/HMO	212	4.4	1394	63.5	
Total	4814	100.0	2194	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager	2901	61.5	1539	70.8	
Never	532	11.3	246	11.3	
Sometimes	295	6.3	118	5.4	<.001
Usually	988	20.9	270	12.4	
Always	4716	100.0	2173	100.0	
Total					

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Crosstabulation of Supplemental Insurance by Selected Variables

Variable	Supplemental Insurance				*P-Value
	Yes		No		
	#	%	#	%	
What Health Care Plan Used the Most					
TRICARE Prime	887	39.7	3874	74.8	
TRICARE Standard/Extra	467	20.9	394	7.6	
Medicare Part A & B	45	2.0	36	.7	<.001
Other Civilian Insurance/HMO	834	37.4	875	16.9	
Total	2233	100.0	5179	100.0	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care					
Manager	1451	66.0	3217	63.7	
Never	256	11.7	570	11.3	
Sometimes	137	6.2	298	5.8	.019
Usually	353	16.1	969	19.2	
Always	2197	100.0	5054	100.0	
Total					

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Crosstabulation of Health Care Plan Used The Most by Selected Variables

Variable	Health Care Plan Used The Most								*P-Value
	TRICARE Prime		TRICARE Standard/Extra		Medicare Part A & B		Other Civilian Insurance/HMO		
	#	%	#	%	#	%	#	%	
How Often Did it Take More Than 30 Minutes to Travel to Primary Care Manager									
Never	2851	61.3	532	64.6	43	55.8	1354	74.2	<.001
Sometimes	527	11.3	97	11.8	12	15.6	204	11.2	
Usually	296	6.4	47	5.7	9	11.7	93	5.1	
Always	978	21.0	147	17.9	13	16.9	174	9.5	
Total	4652	100.0	823	100.0	77	100.0	1825	100.0	

*$p \leq .05$ level – Pearson Chi-Square Test Statistic

Appendix M

Description of the Sample – Preventive Health Services Not Obtained

Pap Smear

Total Female Sample
N = 31,825

- 46% Pap smear more than 5 years ago
- 76% white
- 71% married
- 78% enlisted
- 41% Air Force
- 37% some college or 2 year degree
- 37% $20-$39K
- 45% TRICARE Prime
- 28% Supplemental Insurance
- 46% used TRICARE Prime
- 49% never travel 30 mins to PCM
- 77% reside in a MSA

Total Sub-Sample
N = 8252

- 62% Pap smear more than 5 years ago
- 78% white
- 85% married
- 82% enlisted
- 41% Air Force
- 39% high school graduate or GED
- 33% $20-$39K
- 49% TRICARE Prime
- 27% Supplemental Insurance
- 44% used TRICARE Prime
- 46% never travel 30 mins to PCM
- 29% reside in a MSA

Mammogram

Total Female Sample
N = 31,825

- 51% mammogram more than 2 less than 5 years ago
- 71% white
- 80% married
- 75% enlisted
- 36% Army
- 40% some college or 2 year degree
- 36% $20-$39K
- 52% TRICARE Prime
- 20% Supplemental Insurance
- 59% used TRICARE Prime
- 55% never travel 30 mins to PCM
- 74% reside in a MSA

Total Sub-Sample
N = 8252

- 45% mammogram more than 2 less than 5 years ago
- 75% white
- 86% married
- 82% enlisted
- 39% Air Force
- 36% high school graduate or GED
- 31% $20-$39K
- 52% TRICARE Prime
- 25% Supplemental Insurance
- 49% used TRICARE Prime
- 47% never travel 30 mins to PCM
- 32% reside in a MSA

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Appendix M

Description of the Sample – Preventive Health Services Not Obtained

Clinical Breast Examination

Total Female Sample
N = 31,825

- 49% clinical breast examination never obtained
- 71% white
- 78% married
- 77% enlisted
- 37% Army
- 35% high school graduate or GED
- 35% $20-$39K
- 45% TRICARE Prime
- 28% Supplemental Insurance
- 45% used TRICARE Prime
- 49% never travel 30 mins to PCM
- 76% reside in a MSA

Total Sub-Sample
N = 8252

- 48% clinical breast examination never obtained
- 73% white
- 84% married
- 82% enlisted
- 40% Air Force
- 39% high school graduate or GED
- 33% $20-$39K
- 52% TRICARE Prime
- 26% Supplemental Insurance
- 48% used TRICARE Prime
- 48% never travel 30 mins to PCM
- 29% reside in a MSA

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Appendix N

Dummy Variables Reference Group

Variable	Reference Group
Race	White
Marital Status	Married
Branch of Service	All Others
TRICARE Prime	Not TRICARE Prime Enrolled
Supplemental Insurance	No Supplemental Insurance
Most Utilized Health Plan	TRICARE Prime
More than 30 Minutes Travel to Primary Care Manager	Sometimes to Always Travel More than 30 Minutes to Primary Care Manager
Location (MSA versus Non-MSA)	Non-MSA

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VITAE

A native of Albany, Georgia, Cynthia Andrea Chargois received her Bachelor of Science degree in Allied Health from Albany State University in 1991 and her Master of Science in Management from Troy State University in 1993. Following completion of her degree at Albany State University, she was commissioned an Ensign in the United States Navy in 1991.

Cynthia's first duty assignment was as the Administrative Officer at the Naval Aerospace and Operational Medical Institute, Pensacola, FL. In 1994 she was assigned as the Director for Administration, Branch Medical Clinic Oceana, Virginia Beach, VA. Upon completion of that tour she reported to U.S. Naval Hospital, Keflavik, Iceland as Department Head, Staff Education and Training.

In 1998 Cynthia was selected for the Duty Under Instruction program and reported to Old Dominion University, Norfolk, VA to pursue a Ph.D. in Urban Studies concentration in Health Care Services. Later, in June 2000, she was assigned to the Bureau of Medicine and Surgery, Washington, DC as a Health Care Analyst in the Clinical Plans and Management Branch.

Cynthia is an active member of the American Academy of Medical Administrators (AAMA), the National Association of Health Services Executives, the National Naval Officers Association, and Delta Sigma Theta Sorority, Inc. She is currently published in the AAMA Executive and the Managed Care Interface Journal on issues dealing with Medicare eligible military retirees and ethics in health care delivery.

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