

ADHERENCE TO CLINICAL PREVENTATIVE SERVICE GUIDELINES BY
SELECTED MILITARY HEALTHCARE PROVIDERS

1997

PETERSEN

ADHERENCE TO CLINICAL PREVENTATIVE SERVICE GUIDELINES BY
SELECTED MILITARY HEALTHCARE PROVIDERS

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DISCLAIMER STATEMENT

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“ This work was supported by the Uniformed Services University of the Health Sciences Protocol N06126-01. The opinions or assertions contained herein are the private opinions of the author and are not to be construed as official or reflecting the views of the Department of Defense or the Uniformed Services University of the Health Sciences

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ABSTRACT

This descriptive study reveals what preventative women's health care screening tests, as suggested by the Clinician's Handbook of Preventative Services (CHPS) (U.S. Department of Health and Human Services, 1994), are being employed by a randomly selected group of Air Force health care providers.

The study was conducted via retrospective record review at a midsized U.S. Air Force health care facility. The study included women ranging in age from 35 to 55 years, who were seen in the Family Practice or OB/GYN clinics for women's health care. The population studied included active duty women, active duty dependents, and retired female patients. The study employed a tool designed by the researcher using screening guidelines outlined in the CHPS. Two primary care women's health care providers reviewed the tool to obtain estimates of content validity.

Following Institutional Review Board approval from the Uniformed Services University of the Health Sciences (USUHS), a pool of 250 records meeting the criteria outlined in the tool were selected. A random sample of 50 subjects was obtained by review of every fifth record. Data analysis consisted of the use of descriptive statistics to report the screening tests used in health maintenance. CHPS standards were met or exceeded for documentation regarding mammograms, pap smears, blood pressure, weight and digital rectal exam. The study found the documentation of height and cholesterol did not meet CHPS standards.

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by

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THESIS

Presented to the Graduate School of Nursing Faculty of
the Uniformed Services University of the Health Sciences

in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF SCIENCE DEGREE

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

MAY 1997

DEDICATION

To my friends and family, I dedicate the creation of this thesis. Without their love, encouragement, and support the completion of this thesis would not have been possible.

To Sarina, Diane, Kate, Rose, Tami, Shae, Dawn, and Liz for the support and encouragement through these last twenty months to accomplish this personal goal of mine. You kept me on the straight and narrow, and let me see the light ahead me. Thanks for making me play once in a while so I could stay on track.

To Pat McMullen and my classmates. To Pat for the long hours of editing and support. I 'm very grateful. To my classmates, thanks for sharing both the frustrations and the good times of graduate school.

To my parents, who have instilled a strong work ethic and desire to succeed, as well as providing love, encouragement and support throughout the pursuit of this degree. Thanks for being there when I needed you.

ACKNOWLEDGEMENT

The assistance, guidance, and support of numerous people have contributed to making possible the attainment of this degree. I am especially grateful to Patricia McMullen, chairperson, and the members of the thesis advisory committee, Dr. Barbara M Silva, and Major Mary Kathryn Odahl. Their guidance, knowledge, and support was invaluable.

Grateful appreciation is also extended to Dr. Ken Miller, who gave willingly of his time during this study.

TABLE OF CONTENTS

CHAPTER ONE: THE RESEARCH PROBLEM

Introduction.....	1
Statement of the Problem.....	4
The Research Question.....	5
Operational Definitions.....	6
Limitations and Assumptions.....	8
Summary.....	8

CHAPTER TWO: LITERATURE REVIEW

Discussion of Variables.....	10
Summary.....	16

CHAPTER THREE: CONCEPTUAL FRAMEWORK

Foundation.....	17
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CHAPTER FOUR: METHODOLOGY

Instrumentation.....	20
Study Design.....	21
Sampling.....	22
Data Collection.....	23
Findings.....	23

CHAPTER FIVE: DATA ANALYSIS

Results.....	24
Discription of the Study Sample.....	24

CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

Content Discussion.....	34
Conclusion.....	41
Implications for Further Study.....	42
REFERENCES.....	46
APPENDICES	
Appendix A: The Instrument.....	53
Appendix B: Health Risk Appraisal Questionnaire.....	55
Appendix C: Adult Preventive Care-Flow Sheet.....	59
Appendix D: Pap Overprint.....	61

LIST OF TABLES

Table 1: Demographic Data.....	25
Table 2: Frequency Grouped by Age, Last Mammogram and Last Clinic Visit.....	26
Table 3: Results of the Clinical Breast Exam.....	27
Table 4: The Year of the Last Pap Smear.....	27
Table 5: Frequency of Documentation of Rectal Examination Being Performed Part of a GYN Examination.....	28
Table 6: The Documented or Non-documented Results of Testing for Stool for Occult Blood	29
Table 7: The Frequency of Age, Performance of Rectal Exam and Testing for Hemocult Blood.....	29
Table 8: The Year the Screening Cholesterol was Ordered, Frequency and Percentage.....	31
Table 9: Frequency of Blood Cholesterol Level Based on National Institute of Health, National Heart, Lung and Blood Institute Guidelines.....	31
Table 10: What Types of Providers Were Seen for GYN Appointments; Frequencies and Percentages.....	32

CHAPTER ONE: THE RESEARCH PROBLEM

Introduction

The purpose of this study was to reveal what preventative women's health care screening tests, as suggested by the Clinician's Handbook of Preventative Services (CHPS) (U.S. Department of Health and Human Services, 1994), were employed by a randomly selected group of Air Force health care providers (AFHCP). CHPS was used because the Air Force embraces the concept of health prevention in its vision. With deep reductions in defense budget dollars allotted to health care, the impact of preventative medicine will be monumental. This study included providers who most often provide women's health care. Health promotion decreases an individual's risk for disease and increases the readiness of the military force. The increased number of women in the military also makes this study important as it impacts the readiness stature. This study sought to continually improve the delivery of preventative services and optimize the health of the military population.

Many of the most serious disorders encountered by clinicians can be prevented (Frame, 1986; Guide to Clinical Preventive Services, Report of U.S. Preventive Services Task Force, 1996). Clinicians now have the opportunity, skills, and resources to promote health and prevent disease (American Academy of Family Physicians, 1994; Frame, 1993; Harris, O'Malley, Fletcher & Knight, 1990). Health promotion in the military can help ensure that American forces are healthy enough to execute the duties they are assigned. Preventative health care eases the financial burden of health care systems and results in a healthier population (U.S. Preventative Services Task Force, 1996).

Military health care providers (MHCPs) have the important task of maintaining and promoting the health of America's fighting forces, retirees and their dependents. A patient's initial encounter with a MHCP is typically in the outpatient arena, where many illnesses can be prevented or delayed by means of immunizations, chemoprophylaxis, early detection screening and maintenance of a healthy lifestyle (Hayward, Stienburg, Ford, Roizen & Roach, 1991; American Academy of Family Physicians, 1994).

Many of the screening tests recommended in "Put Prevention into Practice" are initiated at certain ages because studies have shown these age groups to be more susceptible to disease (Youngkin & Davis, 1994, p. 35). Certain racial groups are also at greater risk for particular diseases (Lawrence & Mickalide, 1987; Sox & Woolf, 1993; National High Blood Pressure Education Program [NHBPEP], 1990). Preventative screening is essential for these patients. Preventative health care and screening can alert the provider to potential problems, allowing early detection, intervention, and treatment, thereby preventing permanent damage. Once alerted, the patient may adopt a modification in lifestyle, such as cessation of smoking or drinking, a change in diet or an increase in physical activity (USDHHS, 1994). By means of provider-patient collaboration, early problem identification and intervention is possible.

This study explored specific preventative screenings utilized at one midsized Air Force hospital and how often such screenings were employed prior to the implementation of the "Put Prevention into Practice" program. This study may help illuminate areas of preventative strength and those which can be improved. It is hoped that the information generated from this study will positively influence AFHCP's as to the importance of

preventative measures and encourage them to include recognized preventative screening measures in their practice.

Statement of the Problem

There is some lack of consensus concerning the delivery of preventative health care, specifically the nature and frequency of screenings (Clinician's Handbook of Preventative Services, U.S. Department of Health and Human Services, 1994). The simple annual physical recommended for preventative medicine often includes conflicting or nonconsistent criteria set by government agencies, professional associations and educational experts (Frame, 1993; American Academy of Family Physicians, 1994). The CHPS is designed to dispel this confusion by collating the recommended guidelines of all the major authorities on preventative medicine. Clinicians are encouraged to develop a protocol using the recommended guidelines for their practice and clientele (Harris, et al., 1990; Frame, 1993). It is important to involve everyone (clinicians, staff, and patients) in the delivery of preventive services, but it is also important to utilize every patient encounter as an opportunity for preventive care (Frame, 1993; Hayward, et al., 1991). The guidance provided in the CHPS seeks to establish minimum preventative practice standards.

Preventative services can be divided into three categories: screening tests, counseling interventions, and immunizations and chemoprophylaxis (U.S. Preventative Services Task Force, 1996, pg. xli). The basic screening tests examined in this study included: mammogram, clinical breast exam (CBE), digital rectal exam, stool for occult blood, pap smear, and measurement of cholesterol, blood pressure, height and weight. The

literature, including CHPS and other authorities, indicates that women in the 35-55 year age group are at particular risk for health problems which can be detected by these screening measures. These simple measurements may save a patient's life by providing the opportunity for early diagnosis and management. Hence, the purpose of this study was to find out if military health care providers ordered specific preventive screening tests as outlined in CHPS and how often these screening tests were performed.

The Research Question

Do military health care providers adhere to clinical preventative service guidelines published by the U.S. Department of Health and Human Services concerning:

1. Mammography Screening
2. Clinical Breast Examination
3. Digital Rectal Exams
4. Stool for Occult Blood Testing
5. Pap Smear Evaluation
6. Cholesterol Screening
7. Blood Pressure Evaluation
8. Height and Weight Measurement

Operational Definitions

For the purpose of this study, the following definitions were used:

Military Health Care Provider (MHCP): This term includes the OB/GYN Physician, Family Practice Physician, Nurse Midwife, OB/GYN Nurse Practitioner, and Family Nurse Practitioner, all of whom provide women's health care in the U.S. Air Force health

care system. These providers have acquired additional knowledge and skills and have assumed a role as primary health care providers to the female military beneficiary population.

CHPS: This identifies the Clinician's Handbook of Preventative Services, published by the U.S. Department of Health and Human Services, 1994, which provides guidelines for providers in the use of appropriate preventative services including screening tests, immunizations, and counseling and health advice. It is a resource for the clinician in that it provides information on how to perform each preventative service, how to obtain patient education materials and where to obtain further references.

Clinical Breast Exam (CBE): An examination, performed by the health care provider, of the patient's breasts and axillary lymph nodes utilizing inspection and palpation. Palpation is done by the examiner with the patient in the recumbent position, the patient's arm raised over her head, with a rolled sheet under the shoulder on the side being examined. The examiner inspects for symmetry, nipple alignment, nipple discharge, abnormal venous pattern, color, and skin appearance changes which may include dimpling, puckering and enlarged pores.

Inspection is performed with the patient in four positions: with her arms at her sides; with her arms raised above her head; with her hands on her hips with the pectoral muscles tightened; and with her arms extended forward and her face straight forward as she stands up and leans forward at the waist (Lichtman & Papera, 1990, p. 153; Youngkin & Davis, 1994, p. 282; Guide to Clinical Preventive Services, Report of the U.S. Preventive Services Task Force, 1996).

Self Breast Exam (SBE): The same inspection and palpation maneuvers described above are done by the patient at home. Palpation is performed on both breasts in the shower and in the recumbent position. This exam should be done monthly by the patient, approximately 4-5 days after menses. The exam should be observed by a provider at the yearly exam to ensure proper patient technique (Youngkin & Davis, 1994, p. 283; Guide to Clinical Preventive Services, Report of the U.S. Preventive Services Task Force, 1996).

Digital Rectal Exam: This is strictly a screening test for detecting colorectal cancer in asymptomatic persons. A provider inserts a finger into the rectal vault to palpate the rectal walls to detect masses or lesions, as well assessing anal sphincter tone (Lichtman & Papera, 1990, p. 36).

Stool for Occult Blood: Stool is obtained from a rectal examination and then chemically tested for the presence of blood. The purpose of the test is to detect pathologic lesions before they produce symptoms and while the condition is still amenable to treatment (Watson & Jaffe, 1995, p. 455).

Blood Pressure (B/P): Office sphygmomanometry (the blood pressure cuff) remains the most appropriate screening test for hypertension in the symptomatic population. The systolic arterial blood pressure rises during activity or excitement and falls during sleep. In the normal, relaxed, sitting adult, it may be as low as 100 and as high as 140 mm. of mercury (Hg). The diastolic blood pressure during the relaxation phase between heart beats is normally about 80 mm. Hg. It is dependent chiefly upon the elasticity of the arteries and peripheral resistance. Blood pressure varies with age, sex,

altitude, muscular development, and with the degree of worry and fatigue. In young healthy persons, 100 to 139 mm. Hg systolic and 60 to 89 mm. Hg diastolic are considered normal (Youngkin & Davis, 1994, p. 597; Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure, 1993).

Height (Ht): Height is measured in inches. Height should be recorded at least once with the annual physical.

Weight (Wt): Every individual's weight is measured in pounds (lbs.). The patient should be weighed on a calibrated scale in the health care provider's office.

Limitations and Assumptions

The sample was specifically limited to women of all races, between 35 and 55 years of age. The records included active duty, retired and dependent women that sought their health care in the military health care system. Participants were selected from one midsize Air Force facility. Findings are limited because they are based on a small group at one site. The sample was limited to 50 reviewed outpatient records, comprised of a population of 250 eligible participants. Every fifth record meeting the proposed criteria was selected for review.

Summary

The purpose of this study was to investigate whether specific tests are being ordered as suggested by the Clinician's Handbook for Preventative Services, U.S. Department of Health and Human Services, by military health care providers in one mid-sized Air Force facility. Women between the ages of 35-55 years were selected for study inclusion because this is the point where many baseline preventative measures need

to be instituted. The variable of race was added because members of different races are predisposed to different disease processes. Screening tests reviewed annually for women of this age range include SBE, CBE, B/P, digital rectal exam, stool for occult blood, papanicolaou smear, height, weight, and cholesterol. It is important to note that the screening tests of height and cholesterol are not performed as annual tests, however they should be included in annual review of a record. The goal of this study was to increase health care provider's awareness of preventative services, and to optimize the health of the patients they serve. It is hoped that the information generated from this study will positively influence military health care Providers as to the importance of preventive measures and encourage them to include recognized preventative screening measures in their practice.

CHAPTER TWO: LITERATURE REVIEW

There is inconsistency among authorities about the recommendations for most types of preventive care (Guide to Clinical Preventive Services, Report of the U.S. Preventive Services Task Force, 1996, p. xxvii; Youngkin & Davis, 1994, p. 3; Lichtman & Papera, 1990, p. xv, Frame, 1986). The CHPS provides information in great detail on the basics of performing specific types of preventive care as well the principles of the three major types of preventive care: screening, immunization and counseling. This study is directed at screening (Davis, Bialek, Parkinson, Smith & Vellozzi, 1990; Hayward, Stienburg, Ford, Roizen & Roach, 1991; Lawrence & Mickalide, 1987). This chapter will describe those preventative measures which were the focus of the present research. Each of the screening components: blood pressure, height, weight, clinical breast exam, self breast exam, mammography, stool for occult blood, papanicolaou smear and cholesterol will be discussed individually.

Blood Pressure

Increased blood pressure may indicate hypertension, which is a serious disease in its own right or may indicate other underlying disease processes. Approximately 50 million Americans have elevated blood pressure warranting monitoring or drug therapy (Burt, Whelton, Rocella, Brown, Cutler, Higgins, Horan & Labarthe, 1995; Joint National Committee on Detection, Evaluation & Treatment of Hypertension, 1993; Sagie, Larson & Levy, 1993). Hypertension is usually defined as a diastolic pressure of 90 mm Hg or greater or a systolic pressure of 140 mm Hg or greater (Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure, 1993). To diagnose high

blood pressure there should be more than one reading on three separate visits with the diastolic pressure 90 mm Hg or higher and the systolic pressure 140 mm Hg or higher (Joint Committee on Detection, Evaluation, and Treatment of High Blood Pressure, 1993). This disease may be controlled by patient lifestyle modifications, medication or combined lifestyle-medication therapy (Department of Health and Human Services; The Surgeon General's report on nutrition and health, 1988; Collins, Petro, MacMahon, Herbert, Fiebach, Eberlein, Godwin, Qizilbash, Taylor & Hennekens, 1990; Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure, 1993).

Hypertension is a leading risk factor for coronary heart disease, congestive heart failure, stroke, ruptured aortic aneurysm, renal disease, and retinopathy (Bass, Newschaffer, Klag & Bush, 1993; Burt, et al., 1995; Collins, et al., 1990). Heart disease is the leading cause of death in the U.S., accounting for nearly 740,000 deaths each year. Cerebrovascular disease, the third leading cause of death, accounts for about 150,000 deaths each year (Burt, et al., 1995; National Center for Health Statistics, 1994; National High Blood Pressure Education Program [NHBPEP], 1990). Treatment of hypertension is associated with reduced coronary heart disease and vascular death (Collins, et al., 1990; SHEP Cooperative Research Group, 1991). Blood pressure should be included in every screening or at a minimum of every two years (American College of Physicians, 1991; National High Blood Pressure Education Program, 1990, NHBPEP, 1990).

Height

Height is included in this study strictly as a means to determine ideal body weight. Body weight in relation to height can suggest nutritional or hormonal abnormalities (Lichtman & Papera, 1990, p. 71). Interval measurement of height is also important since a decrease in height can raise the index of suspicion for osteoporosis (Lichtman & Papera, 1990, p. 410). Almost 70% of fractures in persons aged 45 years and older are related to osteoporosis, and most of these are women (National Institutes of Health, 1984, p. 800; Melton, 1988). Racial effects should be considered: African Americans tend to be taller and heavier than Caucasians, Asians tend to be shorter and slighter than Caucasians (Youngkin & Davis, 1994, p. 48). Height should be included periodically in the annual exam at the discretion of the provider (American Academy of Physicians, 1993; Canadian Task Force on Periodic Health Examination, 1989).

Weight

Fluctuations in weight should be appreciated by the MHCP. There are currently two methods for evaluating weight: 1) standardized height-weight tables (Metropolitan Life Insurance Company, 1983), and 2) calculation of body mass index (BMI) (Deurenberg, Westrate, & Seidel, 1991). According to CHPS, approximately 30 million American adults are overweight, which can increase mortality rates (American Academy of Family Physicians, 1993; U.S. Department of Agriculture, U.S. Department of Health and Human Services, 1990; Van Itallie, 1985). Indeed, the risks of hypercholesterolemia, coronary artery disease, stroke, and certain types of cancer are all increased with obesity (Foster & Burton, 1985; Hubert, Feinleib, & McNamera, & Castelli, 1983; Pi-Sunyer,

1993; Van Italli, 1985). “These rates are increased for an individual with weights of only 10% above their desired weight” (Duerenberg, et al., 1991; Gray, & Fujioka, 1991). Weights exceeding 20% above the desired weight are recognized as obesity. Obese individuals are three times more likely to develop hypertension and Type II Diabetes Mellitus than their nonobese counterparts (American Academy of Family Physicians, 1993; Hubert, et al., 1983; Van Italle, 1985).

Conversely, significant unexplained weight loss should alert the MHCP to investigate the potential for disease, such as malignancy, lupus, Type I diabetes, anorexia, HIV, and other endocrine disorders (American Cancer Society, 1992). Thus, height and weight screening can be an important tool in preventative medicine and should be performed periodically. Most authorities agree that measuring height and weight are at the discretion of the clinician but that performance of these screening tests should be reflected on the patient’s record (American Academy of Family Physicians, 1994; US Preventative Services Task Force, 1996; Canadian Task Force on the Periodic Health Examination, 1994).

Breast Evaluation

Breast cancer is the second leading type of cancer in women, with the incidence of the disease on the rise in the last 50 years (American Cancer Society, 1992). “ Important risk factors for breast cancer include female gender, residence in North America or Northern Europe, older age, and family history of breast cancer in a first - degree relative” (Guide to Clinical Preventive Services, 1996, p. 73; Kelsey & Gammon, 1991; Colditz, Willet, Hunter, Stampfer, Mason, Hennekens & Rosner, 1993).

Nulliparity; first pregnancy after 30 years of age; menarche before 12 years of age ; menopause after age 50; postmenopausal obesity; high economic status; and personal history of ovarian or endometrial cancer have also been associated with an increased risk of breast cancer (American College of Obstetricians and Gynecologists, 1993; Smart, Chu, Conley, Henson, Pommerenke, & Srivastova, 1993). In 1995, in the United States, there were an estimated 182,000 new cases of breast cancer diagnosed which accounted for the deaths of 46,000 women (Wingo, Tong & Bolden, 1995, p.12). Approximately 32% of all newly diagnosed cancers in women are cancers of the breast, the second most commonly diagnosed cancer in women (Wingo, et al., 1995). The annual incidence of breast cancer increased 55% between 1950 and 1991 (Kockanek & Hudson, 1992; Wingo, et al., 1995). Most authorities suggest CBE every one to three years for women under 40, and annually for women over 40 (American Academy of Family Physicians, 1994; American Academy of Obstetricians and Gynecologists, 1993).

The three screening tests that are commonly used for detection of breast cancer are the clinical breast exam (CBE), mammography, and self breast exam (Robertson, 1993; Canadian National Breast Screening Study, 1993). An annual clinical breast exam is recommended for women aged 40 years and older (American Academy of Family Physicians, 1993; American Cancer Society, 1992; American College of Obstetricians and Gynecologists, 1993; American College of Physicians, 1991). Screening mammograms for women 40 years and older should be performed every one to two years (American Cancer Society, 1992; American College of Obstetricians and Gynecologists, 1993). It is recommended that women aged 50 years and older have mammography and

a CBE annually (American Academy of Physicians, 1991; American Cancer Society, 1992; American College of Obstetricians and Gynecologists, 1993; Canadian Task Force on the Periodic Health Examination, 1986). For women at low risk, a monthly SBE, and a yearly CBE are recommended. In addition, a baseline mammogram is recommended at age 35-40 years, with regular mammography every one to two years starting at age 50 (American College of Obstetricians and Gynecologists, 1993). For those women with a familial history of breast cancer and those at high risk, a monthly SBE, a yearly CBE and a baseline mammogram should be performed at 35 years, then every one to two years as needed (American Academy Of Family Physicians, 1994; American College of Obstetricians and Gynecologists, 1993).

Occult Blood Screening

Colorectal cancer is the second leading cause of death in the United States (Wingo, et al., 1995; Fuches, Giovannucci, Colditz, 1994). Risk factors include history of familial cancer syndromes and polyposis or colorectal cancer in first degree relatives; personal history of ulcerative colitis; adenomatous polyps; and prior diagnosis of endometrial, ovarian or breast cancer (Fuchs, et al., 1994; Toribara & Sleisenger, 1995). If detected at an early stage, colorectal cancer can be successfully treated with surgery (Smart, et al., 1993; Walter, Frommer, & Cook, 1991).

Testing stool for occult blood is an easy, low cost method that can detect 75% of colorectal cancer while still localized (Watson & Jaffe, 1995). Thus, early detection can significantly impact morbidity and mortality. Currently there is insufficient evidence to recommend initiation or termination of routine fecal occult blood testing in

asymptomatic persons and therefore, this is under review (American Academy of Family Physicians, 1993) At this time, annual fecal occult blood testing is recommended for all asymptomatic individuals without known risk factors beginning at age 50 (American Cancer Society, 1992; American College of Physicians, 1993). Individuals at high risk for colorectal cancer should commence annual screening at age 40 (American College of Physicians, 1993). Fecal occult blood testing should be performed as a periodic health screening measure for all women 40 years of age and older (American College of Obstetricians and Gynecologists, 1993).

Digital Rectal Exam

There is insufficient evidence as to the effectiveness of the digital rectal exam as a screening tool for colorectal cancer (American Society of Colon and Rectal Surgeons, 1992; Toribara & Sleisenger, 1995). Digital rectal examination is indicated in the annual exam for men, but its value is unclear in the detection of colorectal cancer in women. Until further studies indicate discontinuing the digital rectal exam, it continues to be included in the annual exam for asymptomatic persons over age 40 years (American Society of Colon and Rectal Surgeons, 1992; American Cancer Society, 1992; American College of Obstetricians and Gynecologists, 1993; American Academy of Family Physicians, 1994).

Pap Smear Testing

The Pap smear is a screening test for atypical cervical cells suggestive of actual or preneoplastic changes, and may also identify cervical or vaginal infections (Wingo, et al., 1995; Hocutt, Clark, Pfenninger, 1992). Pap smear screening has been impressive in

the detection of cervical cancers, which are the third most common malignancy in women (Youngkin & Davis, 1994). Most major authorities recommend annual Pap smears beginning at age 18 or when a woman becomes sexually active (Calle, Flanders, Thun & Martin, 1993; American Cancer Society, 1993; American College of Obstetricians and Gynecologists, 1995). Most experts agree that when a normal reading is obtained on three consecutive annual exams, a Pap is recommended no less than every three years, at the discretion of the clinician (American College of Physicians, 1991; American College of Obstetricians and Gynecologists, 1995; Benet, Anderson, & Matistic, 1992). However, current standards also advise that women in non-monogamous relationships have annual paps due to increased risk of sexually transmitted diseases. This is because certain sexually transmitted diseases, particularly HPV, are associated with cervical dysplasia (Guide to Clinical Preventative Services, Report of the U.S. Preventative Services Task Force, 1996).

Cholesterol Screening

High blood cholesterol is a major modifiable risk factor for coronary artery disease, the leading cause of death for men and women in the United States (National Institute of Health, 1993; Guide to Clinical Preventative Services, Report of the U.S. Preventative Services Task Force, 1996, p. 15). In fact, "during middle age", for each 1% increase in total cholesterol coronary artery disease risk increases by an estimated 3% (Anderson, Casteli, & Levy; 1987; Davis, Rifkind, Brenner & Gordon, 1991, p. 3044). High (high-density lipoprotein cholesterol or HDL-C) and low (low-density lipoprotein cholesterol or LDL-C) levels are predictive of a lessened risk of cardiovascular disease (Bush, Fried &

Barrett-Conner, 1988; Manolio, Pearson, Wenger, Barrett, Payne & Harlan, 1992). Conversely, high LDL-cholesterol and low HDL-cholesterol levels are considered risk factors for atherosclerotic cardiovascular disease (Manolio, et al., 1992; Watson & Jaffe, 1995). Elevated low density lipids are a risk factor in middle-aged women, even though most coronary events in women occur well after menopause (Anderson, et al., 1987; Bass, Newschaffer, Klag & Bush, 1993; Bush, et al., 1988; Manolio, et al., 1992). Periodic screening for high blood cholesterol is recommended every 5 years for adults, age 19 years and older (CHPS, 1994, p. 163-4).

Summary

Studies have shown that clinicians may fail to provide recommended clinical preventative services, often because there is uncertainty among clinicians as to what services to provide and how often to provide them (Harris, et al., 1990; Hayward, et al., 1991). Uncertainties about the effectiveness of clinical preventative service raise questions about the value of a specific screening test in a routine evaluation of asymptomatic persons. The CHPS serves as a compilation of expert opinions concerning types and frequency of reasonable screening measures in specific populations. Justification and pertinent epidemiological data for each of the screening tests are described in this literature review. The recommended practice of each screening test, how often the screening is done, and expected recommendations are included in this study.

CHAPTER THREE: CONCEPTUAL FRAMEWORK

The principle of wellness is the foundation of this study. Consequently, Betty Neuman's systems model is particularly well suited to the objectives of this research. The Betty Neuman Systems Model is based on the homeostatic processes by which organisms maintain equilibrium and health by adjusting to varying conditions to satisfy their needs (Marriner-Tomey, 1994). Neuman parallels health to wellness and defines it as the state when all parts or subparts are in harmony within the individual. The wellness state is interrupted when disharmony occurs. Stressors are environmental forces that interchange with and may possibly alter system stability.

Neuman identifies three key environments: internal, external, and created. The internal environment includes all interactions contained within the patient. The external environment involves interactions occurring outside the patient, such as role expectations or financial circumstances. The created environment activates all system changes in the preservation of client system integrity and stability. This environment acts to provide the patient with a safe, protective theater for the client system. The created environment is constantly changing, either increasing or decreasing the wellness state of the client.

Prevention aims at keeping the body in a healthy state (Marriner-Tomey, 1994). It focuses on recognizing stressors and precluding any negatives that may result from these stressors (Marriner-Tomey, 1994; Neuman, 1982). Neuman's Systems Theory (1972) views prevention in terms of interventions. Interventions are defined as constant actions which help the patient obtain, recall, and preserve system stability. Neuman identifies three levels of prevention.

Primary prevention occurs when a stressor is identified or suspected. No internal environmental change has taken place, but there is a risk. In this case the provider attempts to reduce a patient's encounter with the stressor or strengthen the individual's flexible line of defense to decrease the chance of chain reaction. For example, a client may be a young adult who has no signs of disease at his or her clinic visit. If the patient smokes, the provider teaches the patient the stressors and risks associated with smoking.

Secondary prevention involves treating the individual after symptoms of the stressor have occurred. Secondary prevention increases internal resistance, reduces the response to a stressor and increases resistance factors. If the patient described above has now developed a cough and has chronic respiratory infections, the provider would treat the infections and work with the patient by continuing the patient's education on smoking.

Tertiary prevention occurs after active treatment. The primary goal of tertiary prevention is to strengthen resistance to the stressor and prevent the reoccurrence of a reaction process. For example, smoking is known to be hazardous to a patient with pulmonary problems, so the activity is avoided and education on smoking cessation is given to the patient.

Under Neuman's theory, at the level of tertiary prevention, the health care provider and the patient work toward smoking cessation, to prevent the reoccurrence of chronic lung ailments such as emphysema and pneumonia in a patient who already has preexisting lung problems. The health care provider, via appropriate preventative interventions, can alter the environment to positively impact the client system.

This study adopts the Neuman model of prevention. The use of screening tests helps the clinician recognize hidden stressors or risks thereby preventing a negative reaction to these stressors. The screening tests in this study embrace primary, secondary and tertiary prevention.

CHAPTER FOUR: METHODOLOGY

Instrumentation

The research instrument for this study was designed by the researcher based on the Adult Preventative Care Timeline found in the CHPS (1994, p. xix).

Figure 1. Adult Preventative Care Timeline: Recommendations of Major Authorities. (Clinician's Handbook of Preventative Services).

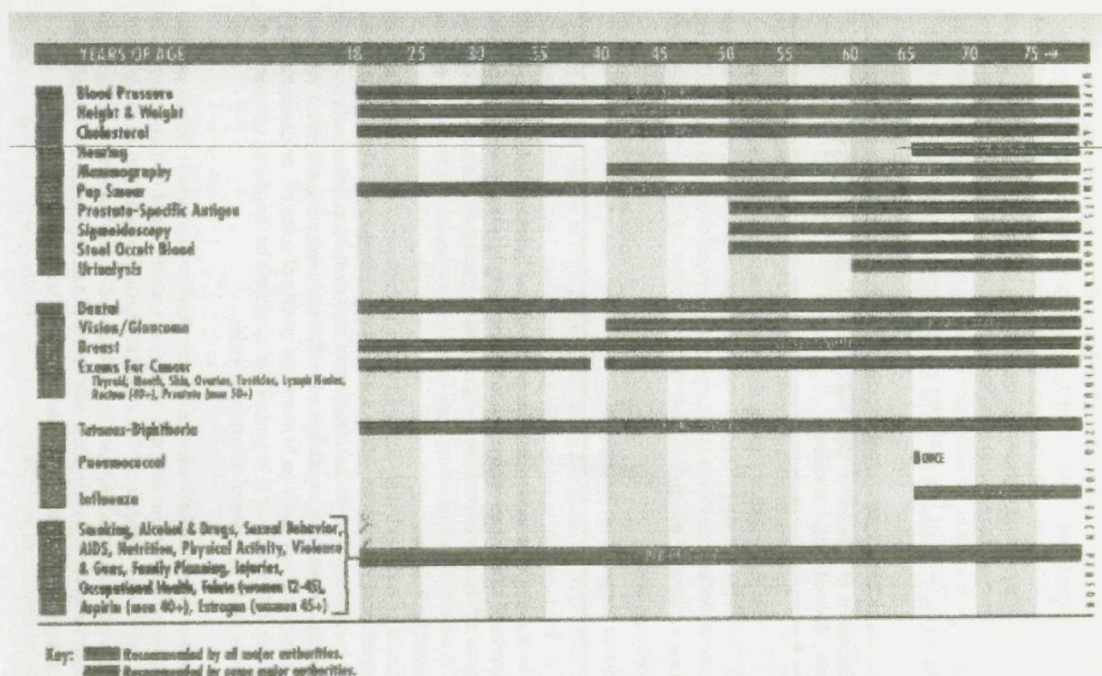


Figure 1 shows the actual timeline from which the research instrument evolved. The instrument was revised to fit the population and criteria identified in the study. The dates when each screening measure was last performed on the subjects was documented. Subject age and race were also noted. The results of the study were collated and compared with the CHPS recommendations.

The validity of the tool had not been previously tested. Therefore, the tool was submitted to two experts in the field of women's health. These experts were master's prepared and certified as an OB/GYN Nurse Practitioner or Certified

Nurse Midwife. The experts had a military background and were currently practicing in a military health care facility. Each expert indicated verbally that each item was relevant to the objective or purpose of the tool. Additionally, the experts were asked for recommendations regarding addition/deletion or modification of items. There were no changes in the tool recommended.

To establish intra-rater reliability, the investigator randomly selected 10 charts and coded the data on the study tool. One week after initial coding, the investigator re-coded these same 10 charts and evaluated the percent of agreement between initial coding and recoding. There was 100 percent agreement between the two coding occasions.

Study Design

This descriptive study employed an instrument developed by this researcher to record which women's health preventative screening tests, as suggested by CHPS, were ordered by Air Force health care providers and how often they were provided. The variables examined included: the pap, clinical breast exam, mammogram, stool for occult, digital rectal exam, blood, cholesterol, blood pressure, height, weight, age and race.

An actual finding or test result must have been placed in the patient's chart (i.e. a blood pressure 135/80 versus a check mark that the variable was done) in order to qualify as having been performed by the provider. Such specific information provided solid evidence that these tests were actually accomplished.

Protection of Human Subjects

The study sample consisted of female patients seen in family practice or OB/GYN clinics for their health care. Approval was obtained from the commander and Institutional Review Board at Andrews AFB, the Air Force Institutional Board and the Institutional Review Board at the Uniformed Services University of the Health Sciences. Prior to the record review, content validity was established by experts in the field of women's health. The subject data was coded to maintain anonymity and ensure privacy.

Sampling

The Family Practice and OB/GYN clinics at the study site see the majority of the female patients for routine and preventative health care. The patient sample included women ages 35-55 years of age, of all races, who received their routine and preventative health care in the Family Practice or OB/GYN clinics at Andrews AFB, MD. A pool of 250 records meeting the criteria defined in the tool were selected. A random sample was obtained by selecting every fifth chart of those women who met the study criteria until 50 records had been reviewed.

Women between the ages of 35-55 years were selected for study inclusion because this is the point where many baseline preventative measures need to be instituted. The variable of race was added because members of different races are predisposed to different disease processes.

A pilot study was performed to establish intra-rater reliability, thereby providing evidence of consistency of entering and coding data. The pilot study

was accomplished by taking a subset of 10 charts, recording data on the enclosed instrument, then returning one week later and reentering the data from the same 10 charts. The data from both occasions was then compared. The percent agreement was then calculated to measure consistency and reliability. There was one hundred percent agreement between the coding occasions.

Data Collection

This study was done on the basis of a chart review. The chart review was conducted on records of female patients that received their health care at the Family Practice and OB/GYN clinics at Andrews AFB. The records were reviewed and results were recorded by the researcher. The records were number coded for the purpose of data collection and anonymity. The records had to meet the criteria of age and sex and subjects had to have received care by Family Practice or OB/GYN clinics. The age and race were recorded along with the date of the last recorded results of the other variables. The actual test results had to be in the chart in order to be credited as having been performed (pap, mammogram, stool for occult blood, cholesterol). Weight, and blood pressure should have been recorded at each visit. Height should have been charted on at least one visit.

Findings

The investigator sought to determine whether preventative screening care received by women at this facility complies with CHPS guidelines. Additionally, the study helps to identify areas where preventative screening is being instituted

according to those recommendations and areas where preventative screening can be enhanced.

CHAPTER FIVE: DATA ANALYSIS

The purpose of this study was to reveal what preventative women's health care screening tests, described by the CHPS, are being used routinely by a selected group of Air Force health care providers. This chapter will give an overview of the data collected.

This study will provide data concerning what preventative screening tests are used by select group of AFHCP's at a mid-sized Air Force Hospital. The information generated will identify areas of strength and those requiring improvement.

Results

The results of this study are reported in terms of the questions that guided this research. The demographic characteristics are first described. These are followed by frequencies; percentages, and correlations of the screening measures.

Description of the Study Sample

The subjects in this study were active duty or military beneficiary females of military members. There were no retired members represented in this study. There were 50 subjects in this study. There were 13 (26%) active duty Air Force women represented and 37 military beneficiaries (74%).

Age

Age of the subjects ranged between 35 and 54 years of age, with a mean age of 44 years. Of the 50 charts reviewed, 22 (44%) of the subjects were under the age of 40. The other 28 (56%) were 40 to 54 years of age. There was no missing data. (Refer to Table 1)

Race

The races represented in the sample included one Asian (2%), 1 Hispanic (2%), 17 African Americans (34%), and 29 Caucasians (58%). Two of the records reviewed did not document the race of the subject, which accounts for 4% of the total sample size.

Table 1. summarizes the military status, the group age and race of the study subjects.

Table 1.
Demographic Data

Item	Number (50)	Percent (100)
<u>Air Force</u>		
Active Duty	12	24
Military Beneficiaries	38	76
<u>Age</u>		
35 - 40	23	46
41 - 46	17	34
47 - 54	10	20
<u>Race</u>		
Asian	1	2
Hispanic	1	2
African American	17	34
Caucasian	29	58

Note. Two of the 50 charts (4%) reviewed that did not indicate a race.

Mammogram

Chart information on mammograms indicated the year in which the subjects had their last mammogram or if they had had a mammogram at all. This data does not show if the mammogram was a baseline test, but it does indicate if the providers are keeping up with preventive screening as suggested by CHPS. There may not have been a result of a mammogram in the chart, but the chart should have indicated if the

screening mammogram was ordered. Table 2 includes the age of each subject, the year of the last mammogram, the year of the last clinic visit and if a mammogram was ordered at the last clinic exam.

The mammogram data also indicated whether a mammogram order had been documented at the last visit. If the words "mammogram not indicated" were written, this was considered a positive documentation. Fifteen charts indicated no documentation, 15/50 (30%) and 35/50 charts showed documentation, which indicates a 70% documentation rate. There were thirty records indicating the age of the patient was 40 years and older. There were 25/30 charts with documented up-to-date mammograms. Two charts indicated the last mammogram had been three years prior to this study. The other three charts had no documentation that a mammogram had ever been ordered or performed.

All 50 charts indicated that the subjects had gyn clinic visits in the last three years. The results are as follows: 7 (14%) of the charts had a clinic visit in 1995, 38 charts (76%) showed a clinic visit in 1996, and 5 (10%) showed a clinic visit in 1997.

Table 2. shows frequencies of subject age groups, year of the last mammogram, and the year of the last gyn clinic visit to a Family practice or OB/GYN clinic.

Table 2.
Frequency, grouped by age, last mammogram, and last clinic visit

Age Group	Year of Last Mammogram (# of Subjects)	Last Clinic Visit (# of Subjects)
35 - 41 (N=26)	1995 (7)	1995 (2)
	1996 (10)	1996 (20)
	1997 (2)	1997 (4)
42 - 48 (N=17)	1994 (1)	1994 (0)
	1995 (5)	1995 (4)
	1996 (10)	1996 (13)
49 - 54 (N=7)	1994 (1)	1994 (0)
	1995 (1)	1995 (1)
	1996 (3)	1996 (5)
	1997 (2)	1997 (1)

Clinical Breast Exam (CBE)

It is recommended that a clinical breast exam be done at the periodic visit for women 18 years and older (American College of Obstetricians and Gynecologists, 1993).

This study showed that a clinical breast exam was documented in 48 (96%) of the records reviewed and that 2 (4%) of the charts reviewed had no documentation of a clinical breast exam having been performed. The study shows that this facility met the CHPS standards in 48/50 records reviewed.

Table 3.
Results of the Clinical Breast Exam

Value	Frequency	Percent
0	2	4
1	48	96

Note. 0 = indicates that the clinical breast exam was not documented; 1 = indicated that the clinical breast exam was documented.

Pap Smear

All 50 patients had had a pap within the last two and one half years. Table 4 notes the year in which the last pap was completed. A total of 7 (14%) patients had their last pap in 1995, 38 (76%) had their last pap in 1996 and 5 (10%) of the patients had already received a pap smear in 1997.

Table 4.
The Year of the Last Pap Smear

Year of Last Visit	Number of Patients	Percent
1995	7	14
1996	38	76
1997	5	10

Rectal Examination

A rectal examination is not indicated in all women before age 40, but the data shows that most providers in this sample did include it in the annual gyn exam (American Cancer Society,, 1992; American College of Obstetricians and Gynecologists, 1993; American Society of Colon and Rectal Surgeons, 1992). Thirty of the patients in this study were 40 to 54 years of age. To clarify the results, the following categories were used to separate the data; no documentation, rectal was documented as done, exam not indicated. Three charts had no documentation of any kind, 45 charts documented a rectal examination as being performed, and two charts documented that a rectal examination was not indicated. The three charts with no documentation were patients aged 37, 44 and 45 years. These results indicate that two charts did not meet CHPS standards, because two of the patients were over 40 and had no documentation of a rectal exam..

Table 5.
Frequency of Documentation of Rectal Examination Being Performed as Part of a GYN Examination

Documentation	Frequency of Rectal Exam	Percentage
None	3	6
Documentation	45	90
Exam Not Indicated	2	4

Stool for Occult Blood

Many providers, when doing a rectal examination, test for occult blood and it is recommended that this screening test be included in the periodic health exam beginning at age 40 (American College of Obstetricians and Gynecologists, 1993). The following results were obtained: 21 charts had no documentation of occult blood testing (42%), 25 (50%) of the charts had documentation that the test had been performed, and 4 (8%) of the charts indicated that the test was not indicated. The study shows that the 30/50 were patients 40 years of age and older. These records of patients 40 years and older, indicated that 16/30 had documentation that a stool for occult blood had been tested, 14/30 did not met CHPS standards.

Table 6.
The Documented or Non-documented Results of Testing for Stool for Occult Blood

Documentation	Frequency of Testing Fecal Occult Blood	Percentage (100)
Documented	25	50
Exam not Indicated	4	8

Table 7 correlates the information of age, if a rectal exam was performed, and if a

stool for occult blood was performed. In review of this table, it can be determined whether the screening was done at the recommended age. There was one chart that indicated a patient over 40 had the rectal and hemocult blood testing deferred for an unspecified reason but it is clearly documented. Table 7 shows the age, frequency of performance of the rectal exam and testing of stool for occult blood.

Table 7.

The Frequency of Age, Performance of Rectal Exam and Testing for Hemocult Blood

Age	Rectal Exam Completed	# of Rectals that were tested for Occult Blood
35 - 41 (N=26)	21/ 26 (81%) *1	12/26 (46%) *3
42 - 48 (N=17)	15/17 (88%) *2	7/17 (41%) *4
49 - 54 (N=7)	7/7 (100%)	3/7 (43%) *5

- *1. 2 not documented; 3 not indicated/deferred
 *2. 1 not documented; 1 not indicated/deferred
 *3. 11 not documented; 3 not indicated/deferred
 *4. 7 not documented; 1 not indicated/deferred
 *5. 3 not documented 1 not indicated/deferred

Height

The mean height for the patients in this study was 58.8 inches. There were four (8%) charts that did not reveal a height for the patient. The shortest patient was 58.5 inches in height and the tallest was 68.5 inches in height. The height was often not found to be recorded the day of the patient visit, but the information was in the chart. The height was found to be recorded only one time in the records reviewed in the study

Weight

There were three (6%) records that did not have a recorded weight the day of the

visit, but did have recorded weights in the chart from the previous year. The lowest weight recorded in the reviewed records was 108 lbs. and the highest recorded weight was 217 lbs. The mean patient weight was 139.7 lbs. The relevance of these statistics will be discussed in the discussion.

Cholesterol

Table 8 gives the frequency of cholesterol screening and what year the screening was last performed. There were 21 (42%) charts without documentation of cholesterol ever being used as a screening test. There were 16 (32%) charts that had results of cholesterol screening documented in the chart within the last five years, which meets CHPS standards. There were two charts that documented the test as ordered but there were no dates on the orders.

Table 8.
The Year in Which the Screening Cholesterol was Ordered, Frequency & Percentage

Year	Frequency	Percentage
1985	1	2
1989	1	2
1990	2	4
1991	1	2
1992	6	12
1993	2	4
1994	3	6
1995	4	8
1996	3	6
1997	4	8
0	21	42
1	2	4

Note. 0 = the number of charts with no documentation of screening found. 1 = is the number of charts with orders to perform the screening but no date was on the order.

Table 9 shows the frequency of blood cholesterol screening. The lowest cholesterol reading was 33 mg/dL and the highest cholesterol reading was 260 mg/dL.

There were 23 (46%) records without documented results. Table 9 shows the results of the 27 records that had documented blood cholesterol results.

Table 9.
Frequency of Blood Cholesterol Levels based on American Heart Association Guidelines*

Blood Cholesterol Level	Frequency
Less than 200 mg/dL	15/27
200 - 229	6/27
230 or greater	6/27

* < 200 - Desirable blood cholesterol ; 200 -229 - Borderline high blood cholesterol; > 230 - High blood cholesterol. (CHPS Guidelines, 1994, p. 15).

Systolic and Diastolic Blood Pressure

The records reviewed included systolic and diastolic blood pressure documentation on every chart, which is 100% compliance. In review of the 50 charts, five showed elevated systolic pressures with 166 as the highest systolic pressure, followed by 160, 159, 148 and 146. The lowest systolic pressure was 99. The mean systolic pressure was 121. There was only one diastolic pressure that indicated clinical intervention. The highest diastolic pressure was 93, followed by 89. The mean diastolic pressure was 69. The documented blood pressures were recorded the day of the scheduled appointment.

Provider Type

Table 10 reveals what type of provider is most frequently seen for yearly gyn exams. The providers in the study are the most frequently seen providers for OB/GYN appointments. Providers included family practice physicians, OB/GYN physicians, family practice nurse practitioners, OB/GYN nurse practitioners and nurse midwives.

There were no patients seen by a Family Practice physician in this group of 50 reviewed records. The OB/GYN nurse practitioner was the most frequently seen provider for gyn appointments (68%). For this group of randomly chosen patients, the family nurse practitioner was less frequently seen (4%).

Table 10.

What Type of Providers Were Seen for GYN Appointments, Frequencies and Percentage

Type of Provider	Frequency	Percentage
Family practice physician	0	0
Family practice nurse practitioner	2	4
OB/GYN physician	9	18
OB/GYN nurse practitioner	34	68
Nurse Midwife	5	10

Teaching

The data shows that 23 (46%) of the patients were not given any documented health preventative teaching at their appointment. Three of these records indicated no documented teaching, but these patients were referred to other specialties. The other 27 (54%) records show documented teaching on the chart. The most frequently documented teaching was self breast exam (13). The second most frequent teaching was about menopause (7), followed by smoking (2), diet (2), exercise (2), birth control (1), sexually transmitted disease (1), blood pressure (1), and surgery (1). Several records documented more than one type of teaching was done at the gyn visit.

CHAPTER SIX:

Summary, Discussion, Conclusions & Recommendations

This descriptive study which revealed which preventative women's health care screening tests, as suggested by the CHPS, were employed by a randomly selected group of Air Force health care providers. The study was conducted via retrospective record review at a midsize U.S. Air Force health care facility. The study included women ranging in age from 35 to 54 years, who were seen in the Family Practice or OB/GYN clinics for health care.

The population studied included active duty women, active duty dependents and retired women. The study employed a tool designed by the researcher using selective screening guidelines outlined in the CHPS. A random sample of 50 subjects was obtained by review of every fifth eligible record from a pool of 250 records. Data analysis consisted predominately of the use of descriptive statistics to report the screening tests used in health maintenance.

The study indicated that the providers exceeded or met the CHPS standards with documentation of mammography, weight, pap smear, and blood pressure. The study indicated the providers did not meet the CHPS standards with respect to cholesterol screening and height measurements.

This chapter will present the study findings of each variable, and will attempt to interpret the findings and conclusions in reference to the conceptual framework of this thesis. The significance of the results, to whom this information is beneficial, and how this information will impact the health care delivered to the female patients receiving

care in the military will be discussed. Recommendations founded on the results of this study will be made and suggestions for further research will be included.

Age

The mean age of subjects in this study was 41 years of age, with the youngest being 35 years and the oldest being 54 years. The age variable is easily explained because a certain criteria was set prior to the study, that the subject had to be between the age of 35 and 55 years. The majority of the female patients seen by military health care providers are either active duty or dependents of active duty, and as a result, were younger in age.

Race

Racial statistics were based on the population of the one facility where the record review was conducted. The racial composition may have varied if this study was conducted overseas or in other areas of the United States. The issue here is not what racial groups are represented but the issue of disease prevention. It is important to have the racial background of an individual documented to help alert the provider to correctly screen the patient for such conditions as hypertension or diabetes mellitus. The study found documentation of ethnic background on 48/50 of the records reviewed..

Mammogram

The reviewed records did not indicate if the mammogram screening was a baseline screening, yearly screening, or if the patient had positive history of breast cancer or had a breast problem indicating the need for a mammogram. Many clinics that

provide routine women's health care do have a prescreening survey that questions the patient about previous mammogram history.

There were eight records that did not have documentation of a mammogram being performed, there was one patient record which did not meet CHPS standards, and the other 7 of these charts indicated that the patients were under 40, which met CHPS standards. The chart that had no documentation of a mammogram, did have a mammogram order documented on the chart. Three of the other seven patients under age 40 had orders for mammograms documented in their charts. The other 42/50 (84%) charts had documentation that a mammogram had been done in the last two years, which was in compliance with CHPS standards. It was noted that several of the charts reviewed had documented results of a mammogram being performed without a documented order on the chart.

All patients in this study over the age of 50 had mammograms in the last one to two years. Fifteen of the 22 patients under 40 years of age received a mammogram screening in the last two years.

The CHPS does not recommend patients in the 35-40 age group routinely receive mammograms unless there is a risk factor. With the exception of the patient described above, 22/50 (44%) had a mammogram in the last two years. It would appear that the military exceeded the standard for this age group. The research did not find that provider type made a difference in the ordering of mammograms. Further research could analyze factors that positively influenced mammography compliance data at this facility. Investigators could implement such facilitators at other health care sites

Papanicolaou Smear

The research showed that all 50 patients in the study had a pap smear done in the last two and one half years. The standards indicate a pap smear should be done no less than every three years if there has been no history of cervical cancer and the patient has had three normal paps (CHPS). Consequently, for this variable, CHPS standards were met or exceeded for the entire population. The research data did not include information regarding patient risks such a positive history of cervical cancer or sexually transmitted disease or if the patient were in non-monogamous relationships. It might be beneficial if all patients completed a check list of risk factors for specific problems at the time of each annual visit to alert providers as to needed testing and health teaching. Again this information may be on patient surveys that are filled out prior to the provider visit. The surveys mentioned earlier question patients on risk factors such as abnormal paps. The information in the study looked only at the documentation of the provider.

Clinical Breast Examination

The clinical breast exam is recommended annually for women 40 years of age and older and recommended every one to three years for women 30 to 39 years of age. The clinical breast exam was documented as being performed with the gyn exam in 48 (96%) of the records reviewed. The records review showed no documentation of a clinical breast exam on two patients, ages 39 and 45. The record review gave no information as to whether the two patients had a clinical breast exam in the last three years or why these two patients did not have a clinical breast exam. Forty-eight of the

records had documentation of clinical breast exam which indicates the military met the standards.

Rectal Examination

CHPS recommends that digital rectal exams should be included with the periodic health examination on all patients starting at age 40 or if indicated. Eighty-eight percent of the providers in this study 45/50 (90%) included the digital rectal exam as part of the gyn physical.

Two of the records documented that the digital exam was not indicated. Three records had no documentation of the exam as being performed or charted as deferred. One of these patients was aged 45 and, therefore, did not meet standards, for a compliance of 98%. The other two patients were age 37 and 39 respectively, so absence of a rectal examination was within CHPS standards. In most cases it appears that this facility exceeds standards for performing digital rectal exams, as this exam is routinely performed under the age of 40 years. Many providers used the digital rectal exam to confirm their pelvic examination.

Stool for Occult Blood

The CHPS has no set guidelines on testing for occult blood. However it does give the recommendations of the major authorities which reflect the need for annual testing starting at age 50 (American Cancer Society, American, 1992; Selby, 1993). It should be noted that the American College of Obstetricians and Gynecologists recommends this test be part of the periodic gyn exam performed on all women 40 years and older.

Of the 5 records that indicated the patient's age as 50 to 54, only one did not have documentation of stool for occult blood testing, with a compliance of 80% in that age group. Of the charts reviewed, 24(48%) did not have documentation of this test being performed. Thirteen of the 24 charts indicated the patient was 40 years and older, including one patient listed as 54 years of age for a compliance rate of 74%. Four charts of the 50 charts reviewed documented the test as not indicated. This research indicates that the military meets the standards of most of the authorities. Every chart reviewed in this study that had documented this test as being performed was negative for fecal occult blood.

Cholesterol

It is suggested by CHPS that cholesterol be screened every five years. In the charts reviewed there were 23/50 (46%), that had no documented results of cholesterol anywhere in the chart. Of the 27 charts with documented results, 22 (44%) had cholesterol results in the last 5 years. The documented results in the last five years included 5 patients with borderline high cholesterol (less than 199 mg/dL) and 3 patients with high cholesterol (greater than 230 mg/dL). It is recommended that borderline cholesterol patients (200- 229 mg/dL) be reevaluated in 1-2 years with a repeat total and HDL-cholesterol measurement, along with reinforcement on nutrition and exercise. There was no documentation of counseling these 5 patients on diet, exercise or follow-up on results of borderline or high cholesterol. The research in this study indicates the military does not meet the CHPS standards. This is another area which indicates further research. Further research should be done on how cholesterol compliance could be

increased. Here, again, perhaps a permanent flow chart with test results and dates could be incorporated into the chart.

Blood Pressure

The CHPS recommends a screening blood pressure every two years. There was a blood pressure documented on every record reviewed in this study. There were 5 records that indicated increased systolic pressure (146 to 164 mm Hg.) and two with borderline increased diastolic pressures (93- 96 mm Hg.). The recommendation is the patient should have three increased blood pressures to diagnose hypertension. There was no repeated blood pressure documented on these charts and this research did not include this information. A research study could be initiated to study elevation of elevated blood pressures.

Height and Weight

Height is important to have on a record so that height and weight can be correlated in terms of desired body weight. Additionally, loss of height may signal the onset of osteoporotic changes. The patient's height could be found on 46 (92%) of the charts. Four records did not have the height documented.

The weight was documented in 47 (94%) of the records reviewed. It was noted that there were 27 overweight patients in this study. These patients weighed 20 lbs or more over their ideal weight. There is no documentation that these patients received counseling on diet or weight management strategies.

Provider Type

In the records reviewed in this study, the OB/GYN nurse practitioners provided the majority of health care (68%), OB/GYN physicians provided 18%, nurse midwives 10%, and family nurse practitioners 4%. This indicates the majority of women's health services for this age group are performed by non-physician providers.

Teaching

The teaching variable indicates that 46% of patients were not given any documented teaching at their appointment. The most frequently documented teaching was the self breast exam 14/27, followed by menopause (7), smoking (2), diet (2), exercise (2), counseling.

Conclusions

Upon entering discussion of the results of this study the researcher acknowledges that the sample size is small and that because the study was conducted in one facility, a universal conclusion can not take precedence without further research. When this study was initiated, the clinics in this study had not yet implemented "Put Prevention into Practice." Most of the screening tests done were performed according to the recommended standards or exceeded the recommendations of when to perform the tests. [The briefing of "Put Prevention into Practice" to the Family practice and OB/GYN clinics was done after this research was collected and is good news for this Air Force facility.] This indicates that this facility is well on its way towards putting prevention into practice.

This study indicated that the military meets or exceeds standards of CHPS on mammograms, pap smear, blood pressure and digital rectal exam. The surprise of this study is the results on cholesterol screening. This study indicates the military fell below the CHPS recommended standards with respect to cholesterol screening.

The researcher noted that the gyn clinic used a form that included the gyn exam, clinical breast exam, digital rectal exam, fecal occult blood, blood pressure, weight, and age. The researcher recommends the Air Force design a standardized form that includes gyn exam, clinical breast exam, digital rectal exam, fecal occult blood, blood pressure, weight and age, with the addition of mammogram, height and laboratory testing, (including dates, H & H & cholesterol). Teaching, to include self breast exam, nutrition, exercise, birth control/ HRT, menses and an area indicated as "other" would also be beneficial. Such a flow sheet would make documentation easier for the provider and avoid extensive writing. It is noted that after this study concluded, the clinics involved implemented "Put Prevention into Practice". The implementation included many of the recommendations mentioned in this study such as a permanent flow sheet with lab results and the date of the results. These forms are included in the Appendix B, C and D.

Many providers rely on support staff or the patient for much of the information, such as date, blood pressure, weight and previous lab tests. However, the provider is ultimately responsible for the documentation on the chart. The results of this research study indicate that the women's health care providers met or exceeded most CHPS standards for the screening tests identified in this study.

Implications for Further Research

The results of this research indicate further study in such areas as blood pressure and cholesterol screening and counseling. Continuance of this current study with a larger sample, further study of interrater reliability, and more facilities would provide a better picture of how compliant providers of women's health care are with recommendations from CHPS.

The blood pressure data would be an area for further research. A study of how well increased blood pressure is tracked and what medications, if any, are prescribed would provide a better analysis of hypertensive management of females in military health care facilities. This data was not included in this research study.

The cholesterol data is another potentially good research project. Research could include how cholesterol is followed, how borderline or high blood cholesterol is treated, what risk factors are present in these patients, and what medications or treatment are employed with these patients. Perhaps some research on this subject would increase provider and patient knowledge of blood cholesterol.

Considering the amount of documentation missing from the reviewed records, documentation is a problem that obviously comes to light with this research study. Documentation is a constant variable that providers should be aware of when delivering health care. Important decisions and good health care need to be based on accurate test results, which must be well documented.

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Appendix A

Subj #	Age	Race	Ht	Wt	Blood Press	Last Mam	Clinic Breast Exam	Rectal /Stool occult Blood	PAP	Cholesterol Yr/ #
#1										
#2										
#3										
#4										
#5										
#6										
#7										
#8										
#9										
#10										
#11										
#12										
#13										
#14										
#15										
#16										
#17										
#18										
#19										
#20										
#21										
#22										
#23										
#24										
#25										

Age - 35 to 55 years

Race - A = Asian, B = Black, C = Caucasian, H= Hispanic, N = Native American

**The categories above will have the last recorded date and results if indicated.
If the recorded results are elevated, it will be indicated by a (+).**

Appendix A

Subject #	Last Clinic Visit	Provider Type	If Indicated - Type of Health Teaching
# 1			
# 2			
# 3			
# 4			
# 5			
# 6			
# 7			
# 8			
# 9			
# 10			
# 11			
# 12			
# 13			
# 14			
# 15			
# 16			
# 17			
# 18			
# 19			
# 20			
# 21			
# 22			
# 23			
# 24			
# 25			

Health Care Provider

1. FP MD - Family Practice MD
2. FPNP - Family Nurse Practitioner
3. OB MD - OB/GYN MD
4. WHNP - Women's Health Nurse Practitioner
5. NMW - Nurse Midwife

15. CIGARETTE SMOKING

How would you describe your cigarette smoking habit?

- Never Smoked → Go To Question #19
- Used to Smoke → Go To Question #17
- Still Smoke → Go To Question #18

16. STILL SMOKE

How many cigarettes a day do you smoke?

10 20 30 40 50 60 70 80 90 Cigarettes Per Day
 1 2 3 4 5 6 7 8 9 → Go To Question #18

17. USED TO SMOKE

a. How many years has it been since you smoked cigarettes fairly regularly?

Less Than 1 Year
 10 20 30 40 50 60 70 80 90 Years
 1 2 3 4 5 6 7 8 9

b. What was the average number of cigarettes per day that you smoked in the 2 years before you quit?

10 20 30 40 50 60 70 80 90 Cigarettes Per Day
 1 2 3 4 5 6 7 8 9

18. In the next 12 months how many thousands of miles will you probably travel by each of the following?
 (NOTE: U.S. Average = 10,000 miles)

a. Car, Truck, or Van: ,000 Miles
 10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9

b. Motorcycle: ,000 Miles
 10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9

19. On a typical day now do you USUALLY travel?
 (Mark One Only)

- Walk
- Bicycle
- Motorcycle
- Sub-Compact or Compact Car
- Mid-Size or Full-Size Car
- Truck or Van
- Bus, Subway, or Train
- Mostly Stay Home

20. What percentage of the time do you usually buckle your safety belt when driving or riding?

%
 10 20 30 40 50 60 70 80 90
 1 2 3 4 5 6 7 8 9

21. On the average, how close to the speed limit do you usually drive?

- Within 5 mph of Limit
- 6-10 mph Over Limit
- 11-15 mph Over Limit
- More Than 15 mph Over Limit

22. How many times in the last month did you drive or ride when the driver had perhaps too much alcohol to drink?

10 20 30 40 50 Times
 0 1 2 3 4 5 6 7 8 9 Last Month

Bottles or Cans of Beer:

10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9

Glasses of Wine:

10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9

Wine Coolers:

10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9

Mixed Drinks or Shots of Liquor:

10 20 30 40 50 60 70 80 90
 0 1 2 3 4 5 6 7 8 9



MEN GO TO QUESTION #33

WOMEN

24. At what age did you have your first menstrual period?

10 20 30 40 50 Years Old
 1 2 3 4 5 6 7 8 9

25. How old were you when your first child was born?
 (If no children mark 0)

10 20 30 40 50 60 Years Old
 0 1 2 3 4 5 6 7 8 9

26. How long has it been since your last breast X-Ray? (Mammogram)
- Less Than 1 Year Ago
 1 Year Ago
 2 Years Ago
 3 or More Years Ago
 Never
-
27. How many women in your natural family (mother and sisters only) have had breast cancer?
- 0 1 2 3 4 5 6 7 8 9 10 or more Women
-
28. Have you had a hysterectomy operation?
- Yes
 No
 Not Sure
-
29. How long has it been since you had a pap smear test?
- Less Than 1 Year Ago
 1 Year Ago
 2 Years Ago
 3 or More Years Ago
 Never
-
- ★ 30. How often do you examine your breasts for lumps?
- Monthly
 Once Every Few Months
 Rarely or Never
-
- ★ 31. About how long has it been since you had your breasts examined by a physician or nurse?
- Less Than 1 Year Ago
 1 Year Ago
 2 Years Ago
 3 or More Years Ago
 Never
-
- ★ 32. About how long has it been since you had a rectal exam?
- Less Than 1 Year Ago
 1 Year Ago
 2 Years Ago
 3 or More Years Ago
 Never



WOMEN GO TO QUESTION #34

MEN

- ★ 33. About how long has it been since you had a rectal or prostate exam?
- Less Than 1 Year Ago
 1 Year Ago
 2 Years Ago
 3 or More Years Ago
 Never
-
- ★ 34. How many times in the last year did you witness or become involved in a violent fight or attack where there was a good chance of a serious injury to someone?
- 4 or More Times
 2 or 3 Times
 1 Time or Never
 Not Sure
-
- ★ 35. Considering your age, how would you describe your overall physical health?
- Excellent
 Good
 Fair
 Poor
-
- ★ 36. In an average week, how many times do you engage in physical activity (exercise or work which lasts at least 20 minutes without stopping and which is hard enough to make you breathe heavier and your heart beat faster)?
- Less Than 1 Time Per Week
 1 or 2 Times Per Week
 At Least 3 Times Per Week
-
- ★ 37. If you ride a bicycle, motorcycle or all-terrain vehicle (ATV) what percent of the time do you wear a helmet?
- 75-100%
 25-74%
 0-24%
 Doesn't
 Apply
-
- ★ 38. Do you eat some food every day that is high in fiber, such as whole grain bread, cereal, fresh fruits or vegetables?
- Yes
 No
-
- ★ 39. Do you eat food every day that is high in cholesterol or fat, such as fatty meat, cheese, fried foods, or eggs?
- Yes
 No

★ 40. In general, how satisfied are you with your life?

- Mostly Satisfied
- Partly Satisfied
- Not Satisfied

★ 41. Have you suffered a personal loss or misfortune in the past year that had a serious impact on your life? (For example, a job loss, disability, separation, jail term, or death of someone close to you.)

- Yes, 1 Serious Loss or Misfortune
- Yes, 2 or More
- No

★ 42a. Race

- Aleutian, Alaskan Native, Eskimo or American Indian
- Asian
- Black
- Pacific Islander
- White
- Other
- Don't Know

★ 42b. Are you of Hispanic origin such as Mexican-American, Puerto Rican, or Cuban?

- Yes
- No

★ 43. What is the highest grade you completed in school?

- Grade School or Less
- Some High School
- High School Graduate
- Some College
- College Graduate
- Post Graduate or Professional Degree

★ I. Cycle ergometry fitness test score

- A. Category I
- B. Category II
- C. Category III
- D. Category IV
- E. Category V
- F. Category VI
- G. Don't know
- H. Exempt
- I.
- J.
- K.
- L.

★ II. What is your status?

- A. Active Duty
- B. Reserve
- C. Guard
- D. Retired Military
- E. DoD Civilian Employee
- F. Spouse of Active Duty
- G. Spouse of Retired Military
- H. Other Family Member of Active Duty
- I. Other Family Member of Retired Military
- J. Non-appropriated fund employee
- K. Other
- L.

★ III.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

★ IV.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

★ V.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

★

VI. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	XI. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
VII. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	XII. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
VIII. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	XIII. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
IX. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	XIV. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
X. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	XV. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E

YOUR ANSWERS WILL BE KEPT CONFIDENTIAL.

107397

PLEASE DO NOT MARK IN THIS AREA

HEALTH RECORD

CHRONOLOGICAL RECORD OF MEDICAL CARE

DATE

SYMPTOMS, DIAGNOSIS, TREATMENT TREATING ORGANIZATION (Sign each entry)

PAP OVERPRINT

Check In Time:

89th Medical Group/ SGOG

Women's Health Clinic

Andrews AFB, MD 20672-6600

Appt Time:

Line of Duty? YES / NO

Sensitive Duty? YES / NO

Estimated Duration of Impairment:

Provider:

Records Available for Appointment? YES / NO

TO BE FILLED OUT BY PATIENT:

B/P:

Age: #Pregnancies: #Deliveries: #Miscarriages #Abortions:
1st day of Last Period: Do you have a Period Each Month? NO / YES

Wt:

Do you Smoke? NO / YES # Packs/day:

Initials:

Method of Birth Control using NOW: (please circle)
Abstinence / None / Birth Control Pills / Norplant / IUD / Diaphragm / Condoms /
Depo-Provera Injection (Last Shot Received:) /
Foam / Gel / Spermicides / Tubal Ligation / Vasectomy / Hysterectomy / Other:Allergies
to Meds:

Name of Pill or Hormones taking:

Date of last Mammogram:

Results:

Do you Examine Your Breasts monthly?

NO / YES

Date of last PAP:

Results normal?

NO / YES

History of Abnormal PAP? NO / YES

Date:

Results:

Treatment:

Have YOU had: (please circle)

Cancer / Diabetes / Seizures / Heart Disease / Stroke / Liver or Gall Bladder Disease /
Blood clots in legs or lungs / High Blood Pressure / Migraine Headaches / NONE

Do you have Bleeding Between Periods? NO YES

Do you have Bleeding After Intercourse? NO YES

Any Sexually Transmitted Diseases (STD)? NO YES Explain:

Breast or GYN Surgeries: NO YES Explain:

Breast or GYN Problems: NO YES Explain:

Any relatives with Breast Cancer? NO YES Who?

Any relatives with Ovarian / Uterine Cancer? NO YES Who?

Are you a DES exposure patient? NO YES

WHAT BRINGS YOU TO THE CLINIC TODAY?

(see reverse)

PATIENT'S IDENTIFICATION (Use this space for Mechanical Imprint)

PATIENTS: PLEASE COMPLETE!

Daytime Phone:

Location of Medical Records:

89MDG Overprint
HRC approved 2/96RECORDS
MAINTAINED
AT:

PATIENT'S NAME (Last, First, Middle initial)

SEX

RELATIONSHIP TO SPONSOR

STATUS

RANK/GRADE

SPONSOR'S NAME

ORGANIZATION

DEPART./SERVICE

SSN/IDENTIFICATION NO.

DATE OF BIRTH



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

4301 JONES BRIDGE ROAD
BETHESDA, MARYLAND 20814-4799



February 3, 1997

MEMORANDUM FOR PENNY L. PETERSEN, MAJOR, USAF, NC, GRADUATE
SCHOOL OF NURSING

SUBJECT: Human Subject Use Exemption for Protocol N06126-01

The nursing student protocol entitled "Adherence to Clinical Preventative Service Guidelines by Selected Military Health Care Providers" is exempt from human subject use review under the provisions of 32 CFR 219.101 (b)(4). The USUHS Institutional Review Board accepts the 8 January 1997 approval from Dr. Isadore Neurock, Director of Medical Education, Headquarters 89th Airlift Wing (AMC), to obtain information on the use of womens preventative health care screening tests in active duty, dependent, and retired USAF women. The IRB further understands that this is a retrospective study involving a medical records review in which identifiers will not be recorded with data, and that once the data is removed, there will be no way to trace it back to individual records.

Please notify this office of any amendments you wish to propose and of any untoward incidents which may occur in the conduct of this project. If you have any questions regarding human volunteers, please call me at 301-295-3303.

Michael J. McCreery, Ph.D.
LTC, MS, USA
Director, Research Programs and
Executive Secretary, IRB

Cc:
USUHS Graduate School of Nursing
File



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 89TH AIRLIFT WING (AMC)

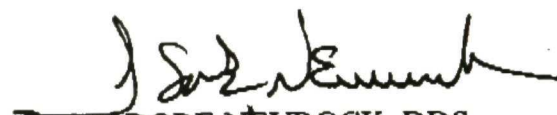


8 JAN 97

MEMORANDUM FOR MAJOR PENNY L. PETERSEN

FROM: 89 MDG/SGI
1050 W. PERIMETER RD
ANDREWS AFB, MD 20762-6600

1. On 8 January 1997 the Malcolm Grow Medical Center Institutional Review Board (IRB) granted approval for you to proceed with your research project "Adherence to Clinical Preventive Service Guidelines by Selected Military Health Care Providers".
2. Since your project involves only a records review the IRB does not need to monitor the progress you make and does not require a final report. Good luck with your study.


ISADORE NEUROCK, DDS
Director of Medical Education