

AD _____

MIPR NO: 95MM5522

TITLE: Women Aboard Navy Ships: A Comprehensive Health
and Readiness Research Project

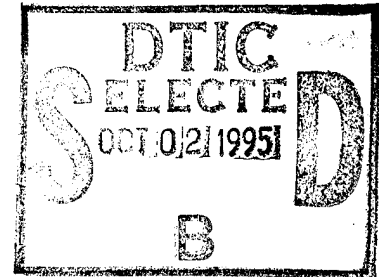
PRINCIPAL INVESTIGATOR: Frank C. Garland, Ph.D.

CONTRACTING ORGANIZATION: Naval Health Research Center
San Diego, California 92186-5122

REPORT DATE: 24 August 1995

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel
Command
Fort Detrick, Maryland 21702-5012



DISTRIBUTION STATEMENT: Approved for public release;
distribution unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

19950927 099

DTIC QUALITY INSPECTED 8

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 24 August 1995		3. REPORT TYPE AND DATES COVERED Annual 15 Nov 94 - 1 Aug 95	
4. TITLE AND SUBTITLE Women Aboard Navy Ships: A Comprehensive Health and Readiness Research Project				5. FUNDING NUMBERS 95MM5522	
6. AUTHOR(S) Frank C. Garland, Ph.D.					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Health Research Center San Diego, California 92186-5122				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This is a progress report of a comprehensive epidemiologic research study of a large population of women in an operationally deployed situation -- assignment to ships. This study is designed to address aspects of the four major research topic areas specified in an Institute of Medicine Report which provided recommendations for research on the Health of Military women. These topic areas include factors affecting the health and performance of women serving aboard ship, psychological and health issues resulting from integration of women, health promotion and disease prevention, and access to and delivery of health care. This project utilizes three primary data collection methods (1) a questionnaire administered aboard ship, (2) ascertainment of sick call visits aboard ship, and (3) a structured interview of medical department staff. The population covered includes all women serving aboard U.S. Navy ships, and an equal number of men matched on important characteristics. The project is meeting milestones.					
14. SUBJECT TERMS Medical care, reproductive health, health promotion, health psychology, occupational health, women, military populations.				15. NUMBER OF PAGES 284	
				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unlimited		

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to **stay within the lines** to meet **optical scanning requirements**.

Block 1. Agency Use Only (*Leave blank*).

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C - Contract	PR - Project
G - Grant	TA - Task
PE - Program Element	WU - Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. (*If known*)

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."

DOE - See authorities.

NASA - See Handbook NHB 2200.2.

NTIS - Leave blank.

Block 12b. Distribution Code.

DOD - Leave blank.

DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.

NASA - Leave blank.

NTIS - Leave blank.

Block 13. Abstract. Include a brief (*Maximum 200 words*) factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code (*NTIS only*).

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., **TOP SECRET**, **SECRET**, **CONFIDENTIAL**, **UNCLASSIFIED**). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

FOREWORD

Opinions, interpretations, conclusions and recommendations are those of the author and are not necessarily endorsed by the US Army.

____ Where copyrighted material is quoted, permission has been obtained to use such material.

____ Where material from documents designated for limited distribution is quoted, permission has been obtained to use the material.

____ Citations of commercial organizations and trade names in this report do not constitute an official Department of Army endorsement or approval of the products or services of these organizations.

____ In conducting research using animals, the investigator(s) adhered to the "Guide for the Care and Use of Laboratory Animals," prepared by the Committee on Care and Use of Laboratory Animals of the Institute of Laboratory Resources, National Research Council (NIH Publication No. 86-23, Revised 1985).

FCG For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

____ In conducting research utilizing recombinant DNA technology, the investigator(s) adhered to current guidelines promulgated by the National Institutes of Health.

____ In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

____ In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.

Accession For	
RTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

Frank C. Gosland 24 Aug 95
PI - Signature Date

TABLE OF CONTENTS

Title Page	i
 Section A: <u>REQUIRED SUBMISSION DOCUMENTS</u>	
Standard Form 298	ii
Foreword	iii
 Section B: <u>TABLE OF CONTENTS</u>	
Table of Contents	iv
 Section C: <u>INTRODUCTION, METHODS, RESULTS, AND CONCLUSIONS</u>	
Abstract	1
1.0 Introduction	2
1.1 Women Aboard Ship	3
1.2 Issues Facing Women Aboard Ship	4
1.3 Background and Review of Previous Studies	8
2.0 Methods	9
2.1 Development of List of Ships Enrolled in the Study	9
2.2 U.S. Navy Shipboard Health Survey Development	12
2.3 U.S. Navy Shipboard Health Survey Sampling and Administration Design	17
2.4 Sick Call Visit Ascertainment	20
2.5 Medical Department Structured Discussions	24
2.6 Development of Reports	25
3.0 Results	26
3.1 U.S. Navy Shipboard Health Survey	26
3.2 Prototype Analysis	30
3.3 Sick Call Results	31
3.4 Medical Department Structured Discussion Results	36
3.5 Report Development	38
4.0 Conclusions	41
 Section D: <u>REFERENCES</u>	
Bibliography	1

APPENDICES

Appendix A

Briefings and Presentations	A.2
Workshops	A.5

Appendix B

Report Topics and Analysis Plans	B.1
--	-----

Appendix C

Shipboard Health Surveys	C.1
Survey Topic Distribution Table	
Survey 123	
Survey 456	
Survey 78	
Survey 90	
Anonymous Questionnaire	

Appendix D

Medical Department Structured Discussions	D.1
---	-----

Appendix E

Department of the Navy (DoN) Pregnancy Policy	E.1
---	-----

Appendix F

Congressional Recommendations	F.1
-------------------------------	-----

Appendix G

Sick Call Log	G.1
---------------------	-----

Abstract

Purpose. This is a progress report of a comprehensive epidemiologic research study of a large population of military women in an operationally deployed situation — assignment to ships. The project is being conducted under the Congressionally established Defense Women's Health Research Program (DWHRP). This study is designed to address aspects of the four major research topic areas specified in an Institute of Medicine Report which provided recommendations for research on the health of military women. These topic areas include factors affecting the health and performance of women serving aboard ship, psychological and health issues resulting from integration of women into a hierarchical male environment, health promotion and disease prevention, and access to and delivery of health care. The objectives of the study include descriptions of the health status, health care utilization patterns, health care needs, reproductive characteristics, birth control availability and pregnancy-related issues, psychological characteristics, perceived stress, and self-reported occupational and environmental exposures of women assigned aboard U.S. Navy ships and a comparison group of men aboard the same ships.

Methods. This project utilizes three primary data collection methods (1) a questionnaire administered aboard ship, (2) ascertainment of sick call visits aboard ship, and (3) a structured discussion with medical department staff. The population covered includes all women serving aboard U.S. Navy ships, and an equal number of men matched on important characteristics. This project is interactive with several other Navy efforts under the DWHRP, and directly interactive with two: (1) the Feasibility and Design of a Tri-Service Relational Database Architecture Allowing Service Specific and Tri-Service Reporting of Hospitalization Rates, which provides information on the population under study and builds longitudinal files, and (2) the Intervention to Reduce Adverse Gynecologic Outcomes Among Women Aboard Ship Project.

Results. Sixty ships with approximately 8,447 women aboard were selected for inclusion in year one of the study. To date, 46 have been surveyed and all are providing sick call information. Guided discussions with shipboard medical staff are ongoing. Report literature reviews and analysis plans have been formulated.

Conclusions. This project is progressing at a rapid rate and milestones are on schedule. The feasibility of data collection aboard ship and the procedures for doing so have been established. Data are being edited, key-punched, verified, and computer analysis files are in development. The Shipboard Automated Medical System (SAMS) has been enhanced to make it more useful for the reporting of sick call visits. SAMS has been determined to be a useful source of information, when SAMS is not in use, sick call data has been obtained using NHRC sick call logs. Medical Department Guided Discussions are proving to be a valuable source of information regarding training, equipment, personnel, and supply needs. The multidisciplinary team that has been established is poised to provide the scientific context, analysis, and interpretation of the large amount of data which will result from this study. Research area domains have been identified and analysis plans have been specified. Overall, the project is meeting milestones.

1.0 INTRODUCTION

In 1993, Congress mandated epidemiological studies of the health status, medical care, and occupational and environmental exposures of women in the military. In response to this mandate, the Naval Health Research Center in San Diego, California, initiated a study of the health status of women aboard Navy ships. This is a report of the first results from the study, which is currently ongoing.

This project is part of the Defense Women's Health Research Program (DWHRP) which was Congressionally mandated in 1994 and 1995 (Appendix F contains the Congressional language). The project is a comprehensive epidemiologic research study of a large population of women in the military in an operationally deployed situation - assignment to ships. The Congressional Committee that established the DWHRP in 1994 commended the Department of Defense in 1995 "...for its development of a program that focuses on epidemiologic research and database development; standards and policy issues; and solutions-oriented research". Specifically, the Committee stated that the 1995 program shall include "...epidemiologic research regarding women deployed for military operations, including research on patterns of illness and injury, environmental and occupational hazards (including exposure to toxins), side-effects of pharmaceuticals used by women so deployed, psychological stress associated with military training, deployment, combat and other traumatic incidents, and other conditions of life, and human factor research regarding women so deployed". This project is designed to meet these objectives.

At the request of the U.S. Army Medical Research and Materiel Command, the Institute of Medicine (IOM) convened a Committee on Defense Women's Health Research and developed a report entitled "Recommendations for Research on the Health of Military Women", published in August of 1995. This report provides overarching recommendations which specify what the DWHRP research topic areas should be: (1) unique to military women, (2) especially prevalent among military women, and (3) related to the ability of women to perform their mission. The specific topic areas, which expand upon the Committee's recommendations for research, fall into four broad areas: (1) major factors affecting the health and work performance of military women, (2) psychological and health issues resulting from integration of women into a hierarchical male environment, or related to women and men living and working together in close quarters, (3) health promotion and disease prevention, and (4) access to and delivery of health care. The objectives of this comprehensive study touch on all of these major research areas.

This project is interactive with several other major efforts under the DWHRP and directly interactive with two: (1) the Feasibility and Design of a Tri-Service Relational Database Architecture Allowing Service Specific and Tri-Service Reporting of Hospitalization Rates, and (2) the Intervention to Reduce Adverse Gynecologic Outcomes Among Women Aboard Ship project.

The DWHRP Tri-Service Database Project has allowed the identification of women assigned to ships through review of longitudinal computerized career history files for active-duty Navy personnel which have been developed in collaboration with this project. These files have allowed identification of individual women assigned to serve aboard particular ships through the identification of the duty station code to which the woman was assigned. Demographic information for ship personnel could then be determined, including age, race, pay grade, and occupational designation. This greatly facilitated study population identification and the matching of men serving aboard the same ship, and facilitated development of individually-specified self-administered questionnaires on many of the ships surveyed.

The Intervention to Reduce Adverse Gynecologic Outcomes Among Women Aboard Ship Project focuses on the development of educational and behavioral interventions to reduce the acquisition of sexually transmitted diseases and unplanned pregnancies among women serving aboard ship. This project utilizes state of the art non-invasive diagnostic tests for some of the most common sexually transmitted diseases — chlamydia, gonorrhea, and serologic markers for syphilis and hepatitis. Highly developed educational interventions have been developed and tested for efficacy among Marine Corps men on deployment and are now being adapted and tested on women aboard ship on deployment.

1.1 Women Aboard Ship.

Women have been assigned to non-combatant ships since 1978. Currently, approximately 8,808 women serve aboard or are scheduled to serve aboard U.S. Navy ships [1]. This includes approximately 6,719 women serving aboard Logistic/Support ships, 91 women serving with embarked staff personnel, 487 women serving with Carrier Air Wings, 246 women serving with other Shipboard Air Units, 14 women serving with Miscellaneous Shipboard Units and 1251 women serving aboard Combatant ships. These numbers do not include women serving aboard U.S. Navy Supply Ships or Hospital Ships. The Bureau of Naval Personnel (BUPERS) PERS-00W has developed assignment plans which will result in over 13,000 women serving aboard over 130 U.S. Naval ships by 1998. Since 1978, more than 35,000 women have served aboard U.S. Navy ships [2].

According to BUPERS 409, there are currently 41 non-combatant ships with women aboard, stationed in 10 home ports [3]. There are currently 32 combatant ships, including 5 Aircraft Carriers, with women serving aboard. These counts do not include women aboard Hospital Ships or other U.S. Naval Service (USNS) Ships.

It is the goal of the Navy, as stated by ADM Boorda, Chief of Naval Operations (CNO), to have all ship types, except submarines, open to women. Women aboard ships face a wide range of occupational issues that are exaggerated because of the intense industrial environment of a ship, the intensity of activity when deployed, long-term separation from home, and factors associated with social isolation and integration. This large number of unique occupational stressors facing young women involved in non-traditional occupations makes the study of this

population imperative both to guarantee a healthful work environment and to keep readiness at a maximal level.

Data derived from shipboard outpatient records, other external sources, and survey data will provide information of immediate relevance to health care for women aboard ships. This information will assist Bureau of Medicine and Surgery (BUMED) and fleet decision-makers in several ways: (a) it will help define the personnel, resources, and training needed to meet the medical needs of women aboard Navy ships; (b) it will provide a scientific basis for making changes to the provision of medical care aboard ships to better meet the medical needs of deployed women and men, potentially improving effectiveness; (c) it will provide a basis for provisioning adequate quantities of contraceptives and medical supplies aboard ships to meet the needs of women; (d) it will provide an assessment of potential health hazards to personnel; (e) it will help assess whether more pre-deployment screening would reduce the need for medical evacuation; and; (f) it will provide a scientific basis for design and implementation of interventions.

The development of a longitudinally followed cohort such as this will enhance our understanding of the primary issues facing women aboard ships, determine the magnitude of issues and their impact on readiness, and provide the information needed to take corrective action to maintain optimal well-being of military women and optimal military readiness at all times.

1.2 Issues Facing Women Aboard Ship.

Consultations with personnel at BUMED, BUPERS, CINCLANTFLT, CINCPACFLT, and others have assisted in defining the major issues facing women aboard ship. Pregnancy-related issues are of paramount importance. The following paragraphs list the major issues associated with women aboard ship that have emerged in discussions. These issues have been the basis for the approach that has been taken in this study and for defining the content of the data collection instruments that were used during this first year. These major issues have also been the basis for defining specific research topics that will be pursued against the collected data throughout the second year and subsequent years of the project. Clearly, not all issues represented are of equal magnitude in terms of effects on fleet readiness, and this listing should not be construed as representing equality of thrust.

In keeping with the major research topic guidelines recommended by the IOM; (1) unique to military women, (2) especially prevalent among military women, (3) related to the ability of military women to perform their mission responsibilities; these major topic areas have been further subdivided into the following categories for this project; (1) occupational health; (2) health care delivery aboard ship; (3) pregnancy; (4) health promotion (diet and nutrition, physical exercise, tobacco and alcohol use, and preventive services); (5) psychosocial; and (6) family issues. A brief explanation of each of these topics and the issues involved in each is contained in the following paragraphs.

Occupational health. The shipboard environment is intensely industrial. Women assigned to ships are exposed to a wide array of physical, chemical, and other occupational hazards. Many occupations currently held by women were traditionally filled by men. Women engaged in non-traditional occupations may be exposed to occupational stressors that may affect women differentially from men [4]. For example, repetitive biomechanical stressors associated with hand-tool operation and vibration may be associated with higher rates of some illnesses in women than in men in the same occupations [5]. Environmental exposure to solvents, pesticides and other toxins may have effects on reproductive health [6]. In addition to these exposures, risks associated with exposure to ionizing radiation and the potential effects of non-ionizing radiation (microwaves, electromagnetic fields) on women's reproductive health need further scrutiny [7,8]. Possible synergistic effects of multiple exposures also need to be quantified.

Health care delivery. Planning resources to provide optimal health care for a growing proportion of women serving aboard a wider range of ships presents a challenge for Navy medicine. Health care providers themselves believe that the increased presence of women on board may necessitate upgrading a ship's medical staff (i.e., a physician's assistant, rather than an independent duty corpsman, or a medical officer rather than a physician's assistant) [9,10]. Other research indicates that women are more likely to participate in regular Pap tests and mammography screening if the health care provider is a woman [11]. Since screening rates for cervical and breast cancer are considered markers of quality health care, such factors affecting women's utilization of preventive medical services need to be considered in planning for the full integration of women into the shipboard environment. Previous analyses have been reported of the needs for obstetrical (OB) and gynecological (GYN) care aboard the submarine tenders U.S.S. Frank Cable [9] and U.S.S. Hunley [9,10]. Hughey analyzed records of 222 women crew members associated with the U.S.S. Frank Cable, and determined that the women had 2,140 medical encounters for obstetrical or gynecological care and 176 routine prenatal OB visits during 710 woman years of military service, for a rate of 3.5 OB-GYN visits per year. The most common reasons for the visits were routine gynecological examinations (30 percent), sexually transmitted diseases (14 percent), and menstrual abnormalities (13 percent) [9]. The high frequency of OB-GYN visits suggests a major unmet need on most ships at sea, where OB-GYN referral specialists generally are not available.

Pregnancy. Women aboard ship are predominately of childbearing age, and pregnancy is common. During a one-year period ending in June 1990, 98 documented pregnancies occurred among approximately 300 women crew members assigned to the U.S.S. Frank Cable [9]. These pregnancies were presumably not evident before the women came aboard, as pregnant women are not assigned aboard ships. Women more than 20 weeks pregnant are removed from ship [12]. Women removed from shipboard assignments due to pregnancy are not replaced. Pregnancy rates aboard ship have been reported to be as high as 15-20 percent [13], resulting in major impacts on fleet readiness. Rates of pregnancy, determination of planned versus unplanned pregnancies, and underlying motivation for the timing of pregnancies are all issues needing study. The rate of ectopic pregnancy in military populations has been described as 1 per 83 live births in an active-duty and dependent military population that received its health care at the U.S. Air Force Regional

Medical Center in Wiesbaden, Germany [14]. This rate is higher than the rate of 1 ectopic pregnancy per 100 live births in the general U.S. population [15]. The rates among active-duty enlisted personnel appeared to be particularly high in the Wiesbaden region, at 1 per 27 in the Army and 1 per 28 in the Air Force [14]. These data are important since ectopic pregnancies may require rapid diagnosis and prompt surgical intervention and account for 12 percent of maternal deaths [14].

Health promotion. Recognizing the role that personal health behaviors play in morbidity and mortality risks, the Navy has established a comprehensive Health Promotion Program [16] to foster the physical and emotional well-being of its personnel and to reduce the risks of adverse health outcomes. Within the broader context of health promotion, it is becoming well-documented that men and women differ in their risks for a variety of illnesses as well as in health-related behavior. These issues are particularly salient in the Navy shipboard environment, where women's expanded roles are exposing them to new physical and psychological demands and potential health hazards.

Diet and nutrition. Shipboard food must meet Navy nutritional standards, but storage and space constraints on deployed ships limit the range of menu options available. In general, it has been reported that foods eaten away from home have lower nutrient densities and higher fat content than foods prepared and eaten at home [17]. While efforts are being made to offer more fresh produce and at least one low-fat entree choice at every meal in Navy mess halls and galleys, concern for the palatability and acceptability of military food has resulted in setting Navy nutritional standards at levels that exceed the recommended daily allowance (RDA) for fat (not to exceed 35% of total calories under garrison feeding conditions), salt (2 to 4 times the RDA for sodium), and protein (about twice the recommended daily amount) [18]. Navy nutritionists also acknowledge that female personnel may require supplemental iron to meet the recommended 18 mg/day for women [18]. Because women have different nutritional needs than men, particularly in micronutrients (e.g., iron, calcium) but require fewer calories, women aboard ship may find it difficult to meet their dietary needs or choices (e.g., more fresh produce, less fat, less sodium, less red meat) [19].

Physical exercise. Regular physical activity is essential for cardiovascular health, musculoskeletal strength and flexibility, and weight control [20]. It is important, therefore, that women aboard ship be provided with adequate facilities and sufficient time to engage in both aerobic and anaerobic exercise. In addition to its cardiovascular and weight-maintenance benefits, aerobic exercise has been found to improve mood profiles and self-esteem in women [21] and may help reduce their risk of certain cancers [22]. Weight-bearing exercises, such as walking or jogging, are especially important for women to help preserve bone density and prevent osteoporosis [22]. Anaerobic weight training should be included in the exercise regimen to help build and maintain muscle strength, which is critical for safely navigating the shipboard environment as well as performing a number of occupational specialties. It is significant in this regard that shipboard personnel have been found to have somewhat lower classification scores on

the Navy's mandatory Physical Readiness Test (PRT) for sit-ups, push-ups, and overall PRT score than personnel in other communities [23].

Tobacco and alcohol use. Within the Navy community, both cigarette smoking and alcohol consumption were reported to be highest among personnel assigned to surface ships (women were not included in this study) [23]. The same study found that personnel in both surface ship and submarine communities consistently reported less positive feelings about their lives than did shore-based personnel [23]. Substance use and abuse are often associated with stress and negative moods, such as loneliness, boredom, and depression [24]. There is mounting evidence that women in stressful occupations may be at particular risk for substance use and abuse [25]. Women aboard ship may be at high risk for substance abuse, although this has not been documented. It is important to explore these relationships and their implications for preventive interventions.

Preventive services. Approximately one fourth of all visits to sick bay aboard ship are for routine health services and preventive care [26,27]. The monthly visit rate for women is higher than for men, due entirely to female-specific procedures, such as Pap tests and contraceptive prescriptions [26,1]. It has been reported that three of the major preventive health services available to women; (1) pap tests, (2) clinical breast examinations, and (3) hypertension screening - can lower morbidity and mortality rates depending on the age of the population [28,29]. Other services associated with female reproductive health, such as pregnancy tests, birth control counseling and prescriptions, and screening and education programs for STDs, are equally important to women's health. Because of the alarming increase in STD rates nationally, and because untreated chlamydia, gonorrhea, and infections from other pathogens in women can result in infertility, ectopic pregnancy, and congenital problems in offspring, reducing the risks associated with STDs has become especially critical [30,11,9].

Psychosocial. Stress from a wide range of causes is a major occupational health problem for women [31], and many gender differences in health status may be associated with responses to stress. For example, depression, obsessive-compulsive disorders, and panic disorders have been reported to be more prevalent in women, while substance abuse, antisocial personality disorders, and suicide tend to be more frequent in men [32]. The stressors typical of shipboard life, such as separation from family, crowding, noise, and work intensity, may be compounded for women by their new role on board ship. As women are brought aboard some ships for the first time, their status as a minority subgroup will be highlighted, and new job responsibilities and role expectations may test self-esteem and contribute to stress. On the other hand, job rewards, such as recognition and challenge, may mitigate the negative effects of work-related stress [33]. This study will include measures of the degree of stress experienced by women aboard ship, the coping strategies they employ, and the impact of stress on their health and quality of life. Because women generally report more reliance on social support networks than men [34,35], and because social support is linked to health, an important area of investigation will be the availability and utilization of social support in the shipboard milieu.

Family issues. Family separation issues will not be a major focus of this study. This important subject area will be covered through interactive proposals in association with Universities. As women begin to take on a larger role in today's military, it is essential to determine what impact this has on their families. Military-induced separation has been ranked by military spouses as the most dissatisfying aspect of military life [36-38]. To date, there has been little investigation specifically into the effects of separation of women in the military from their families. However, a study examining the effects of separation among civilian mothers of infants, children, and toddlers noted agitation during the separation period and depressed behavior and activity levels following the mother's return [39]. More research is needed, since studies to date indicate there is evidence that family factors influence retention. An important finding is that high-performing and successful military personnel are more likely to plan to remain in the military if they believe that the quality of military life for their children compares favorably with that for children in civilian life [40,41].

1.3 Background and Review of Previous Studies.

Recent Congressional legislation has mandated research on women's health issues by the Department of Defense [42]. Specifically, the legislation calls for research related to women experiencing combat stress and trauma, exposure to toxins and other environmental hazards, stress in warfare situations, mental health deterioration, including post traumatic stress disorder (PTSD), and depression. Additionally, the legislation requires human factor studies related to women. The legislation mandates program planning, research infrastructure development, database development, cohort development, health surveillance, and epidemiologic studies related to women in active-duty service [42]. Definition of issues has been further detailed by a Tri-Service Defense Women's Health Research Program Working Group that has established epidemiologic studies of the health care needs of deployed women and documentation of patterns of illness and injury as top research priorities [43].

Previous studies have indicated that women have unique health problems and different health care requirements than men, both in disorders of the reproductive systems and in general [44,26]. Women also have different patterns of health care use aboard ships [26,1]. Issues such as the type of health care provided and delegation of medical tasks on Navy ships such as destroyer tenders and repair ships with women aboard have been examined [26,1,45]. Major health-related issues concerning women in the Navy and other services have been reviewed in some detail and hospitalization rates of women in the Navy have been analyzed [1]. The largest single reason for hospitalization of Navy women was pregnancy, which accounted for 22 percent of all hospitalizations during 1974-1979 [1].

In addition, previous studies have examined issues that are complementary and lay the groundwork for this study. An NHRC study by Nice and Hilton reported patterns of medical care use aboard ships by Navy men and women during 1988-1989 [30,46]. The overall objective of this prior study was to identify health care requirements of women aboard Combat Logistics Force ships and recommend medical department adjustments to meet those requirements. The study

analyzed quarterly reports provided during October 1988 through October 1989 by medical departments on 20 ships and data on individual patient encounters collected from sick-call logs of 15 ships during November 1988 and 20 ships in June 1989. The November 1988 data were collected aboard seven destroyer tenders, two repair ships, two oilers, and four salvage ships with 7,688 crew members, of whom 24 percent were women. The June 1989 data were from six destroyer tenders, one repair ship, five submarine tenders, four oilers, and four salvage ships, representing 13,592 crew members, of whom 25 percent were women. Types of data collected quarterly included number of crew members and medical department staff, total days at sea, reasons for sick-call visits, pelvic examinations, referrals off ship, medical evacuations, new pregnancies, and other information.

An NHRC study by Hoiberg examined patterns of illness in Navy women [1] and provided a context for more recent reports on illnesses and needs for medical care by Navy women during deployments. A report titled, "Obstetric and Gynecological Needs of Women Assigned to Sea Duty Aboard a Submarine Tender", examined needs for enhancements to reproductive medicine services aboard the U.S.S. Frank Cable [9]. Additional information and data on sick-call visits were reported by LCDR Martha Marean, NC, USNR, in a report of medical care for women aboard a submarine tender titled, "Medical Care for Women Crew members aboard the U.S.S. Hunley" [47]. These reports have helped to identify major issues and to define areas requiring surveillance and further study.

2.0 METHODS

This project utilizes three primary data collection methods: (1) a self-administered survey given aboard ship, (2) ascertainment of sick call visits aboard ship, and (3) a structured interview of medical department staff aboard ship. The population covered includes all women serving aboard U.S. Navy ships, and an equal number of men matched on important characteristics.

2.1 Development of List of Ships Enrolled in the Study.

The process of identifying ships to be enrolled in this study began by obtaining a list of U.S. Navy ships with women crew members assigned from Chief, Bureau of Naval Personnel, Washington, D.C. This list was coordinated and modified based on review with respective Type Commanders to confirm availability and to receive permission to conduct research aboard the targeted ships. Ships with operational commitments which precluded them from participating in the study were dropped from the list. Additionally, USNS Ships and Hospital Ships were not enrolled in this study. The final list identified 60 U.S. Navy ships as being available to participate in the study. The list of ships enrolled in this study is presented in Table 1.

Table 1. Ships Enrolled in Survey Study.

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
1	USS Platte	Oiler	84	175	259
2	USS Shenandoah	Destroyer Tender	49	1,095	1,144
3	USS Grapple	Salvage Ship	35	69	104
4	USS Santa Barbara	Ammunition Ship	108	339	447
5	USS Mount Baker	Ammunition Ship	83	333	416
6	USS Barry	Guided Missile Destroyer	30	327	357
7	USS Frank Cable	Submarine Tender	310	1,019	1,329
8	USS Dixon	Submarine Tender	500	970	1,470
9	USS Detroit	Fast Combat Support Ship	76	609	685
10	USS Merrimack	Oiler	100	178	278
11	USS Shasta	Ammunition Ship	76	371	447
12	USS McKee	Submarine Tender	458	1,000	1,458
13	USS Camden	Oiler	57	543	600
14	USS L. Y. Spear	Submarine Tender	429	541	970
15	USS Kiska	Ammunition Ship	86	320	406
16	USS Lasalle	Misc Command Ship	65	585	650
17	USS Simon Lake	Submarine Tender	505	495	1,000
18	USS Monongahela	Oiler	93	217	310
19	USS Grasp	Salvage Ship	27	87	114
20	USS Eisenhower	Aircraft Carrier (Nuclr Prop)	524	4,476	5,000
21	USS Supply	Fast Combat Support Ship	7	682	689
22	USS John Young	Destroyer	25	295	320

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
23	USS Rainier	Fast Combat Support Ship	70	510	580
24	USS Curtis Wilber	Destroyer	23	317	340
25	USS Coronado	Misc Command Ship	42	608	650
26	USS Cape Cod	Destroyer Tender	411	1,019	1,430
27	USS Mount Hood	Ammunition Ship	87	319	406
28	USS Comstock	Dock Landing Ship	33	315	348
29	USS Flint	Ammunition Ship	51	397	448
30	USS Mauna Kea	Ammunition Ship	44	317	361
31	USS Cimarron	Oiler	76	149	225
32	USS Willamette	Oiler	79	178	257
33	USS Safeguard	Salvage Ship	25	76	101
34	USS Salvor	Salvage Ship	24	78	102
35	USS Yellowstone	Destroyer Tender	425	1,007	1,432
36	USS Wasp	Amphibious Lndg Ship	3	1,197	1,200
37	USS Kearsarge	Amphibious Lndg Ship	4	1,196	1,200
38	USS Saipan	Amphibious Assault Ship (GP)	2	1,194	1,196
39	USS Nassau	Amphibious Assault Ship (GP)	3	1,197	1,200
40	USS Mt. Whitney	Amphibious Command Ship	109	691	800
41	USS Briscoe	Destroyer	4	316	320
42	USS Hayler	Destroyer	34	286	320
43	USS Laboon	Destroyer	4	316	320
44	USS Emory S. Land	Submarine Tender	506	894	1,400

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
45	USS Holland	Submarine Tender	356	1,044	1,400
46	USS Abraham Lincoln	Aircraft Carriers (Nuclear Prop)	400	4,600	5,000
47	USS Butte	Ammunition Ship	39	373	412
48	USS Sacramento	Fast Combat Support Ship	67	453	520
49	USS Puget Sound	Destroyer Tender	459	941	1,400
50	USS Seattle	Fast Combat Support Ship	89	461	550
51	USS Arctic	Fast Combat Support Ship	111	429	540
52	USS Moosbrugger	Destroyer	26	365	391
53	USS Edenton	Salvage & Rescue Ship	50	300	350
54	USS Ashland	Dock Landing Ship	38	362	400
55	USS Tortuga	Dock Landing Ship	4	396	400
56	USS Gunston Hall	Dock Landing Ship	5	395	400
57	USS George Washington	Aircraft Carrier (Nuclear Prop)	2	4,998	5,000
58	USS Stennis (PCU)	Aircraft Carrier (Nuclear Prop)	487	4,513	5,000
59	USS John F. Kennedy	Aircraft Carrier	524	4,476	5,000
60	USS Ramage	Destroyer	<i>Not Yet Determined</i>		
TOTALS			8,447	51,409	59,856

2.2 U.S. Navy Shipboard Health Survey Development.

Several methods were used for the development of the U.S. Navy Shipboard Health Survey; these included: (1) review of extant questionnaires, literature, and standard scales, (2)

bringing together of subject matter experts in workshops, (3) elucidation of major issues from knowledgeable sources, and (4) review of Navy requirements concerning the level of women's health and access to health care.

Review of extant questionnaires, literature, and standard scales. The following questionnaires were obtained and reviewed. Items were adopted from them for use in the questionnaires developed for this project whenever practical.

- (1) Centers for Disease Control and Prevention/National Center for Health Statistics
 - National Health Interview Survey Questionnaires
 - Health Interview Survey Form HIS-1 (1992)
 - Health Interview Survey Form HIS-2A (1992)
 - National Ambulatory Health Care Survey: 1994, 1995, and proposed 1996 patient record data-collection forms
 - Youth Behavior Survey
- (2) Department of Defense
 - Office of Assistant Secretary of Defense (Health Affairs) 1995 Survey of Health Related Behaviors Among Military Personnel (Draft)
- (3) U.S. Navy
 - Naval Health Research Center Health and Nutrition Survey
 - Naval Health Research Center Health and Physical Readiness Program Evaluation Questionnaire
 - Post-deployment Female Questionnaire (Portsmouth Naval Hospital)
 - Post-deployment Male Questionnaire (Portsmouth Naval Hospital)
 - Health Care Provider Questionnaire (Portsmouth Naval Hospital)
 - Naval Health Research Center Reproductive Health Survey
 - Naval Health Research Center Family Impact Questionnaire
 - Naval Health Research Center Quality of Life Enjoyment and Satisfaction Questionnaire
 - Naval Health Research Center STD/HIV Risk Survey
 - Naval Health Research Center U.S.S. Theodore Roosevelt No-Smoking Policy Survey
 - Naval Health Research Center/AIRLANT Tobacco Use Policy Opinion Survey
 - Naval Health Research Center, Navy Seabee Health Questionnaire
 - Naval Health Research Center, Navy Follow-Up for Fitness Questionnaire
 - Navy Quality of Life Questionnaire (1993 Craiger JS, et al.)
 - Marine Corps Quality of Life questionnaire (Kerce, et al. 1993)
 - Naval Health Research Center, Health Care Professional Survey—Attitudes and Practices Concerning Tobacco Use
 - Naval Health Research Center, Patient Care Survey
 - Naval Health Research Center, Health Care Survey for Health Care Providers
 - Naval Health Research Center, Health Care Survey for Women
 - Naval Health Research Center, Female Sexual Abuse Survey

- (4) U.S. Army
Walter Reed Army Institute of Research, Impact of Operation Desert Storm on
Military Service Personnel
Army Health Promotion Program Fit-to-Win Health Risk Appraisal Questionnaire
- (5) Harvard University
Diet Assessment
- (6) Georgia State University
Norris Traumatic Stress Schedule [45]
- (7) Beloit College
Dissociative Experiences Scale [48]
- (8) Emory University
Healthier People Questionnaire
- (9) Special Contributions
Dr. Leon R. Derogatis, SCL-90-R® Symptom Checklist
J.L. Horn, K.W. Wanberg, and F.M. Foster, Alcohol Use Inventory
CDR Michael J. Hughey, MC, USNR, Winnetka, Illinois, Suggested Questions for Navy
Shipboard Health Survey
LCDR Jacqueline Brooks, NC, USN, Suggested Questions for Navy Shipboard Health
Survey
COL James A. Martin, USA, Ret. (HQ, USAMRMC, Fort Detrick MD), Revised Stress
and Family-related Questions for Navy Shipboard Health Survey

Standard Scales. An extensive literature review was conducted as well as a review of the above questionnaires for the development of the U.S. Navy Shipboard Health Survey and the following standard scales and inventories were deemed appropriate and were selected for inclusion in the survey:

(1) Brief Symptom Inventory-63 (BSI-63) [49]. This is a 63-item subset of the Derogatis SCL-90—R, that assesses psychopathology and psychological distress along multiple dimensions [49]. Its reliability and validity have been previously measured, and alpha coefficients for the 9 primary symptom dimensions indicate a high degree of consistency among the items that compose each subscale [50]. The scale measures psychological distress in general, according to previous studies that have assessed its dimensionality in adults and younger subjects (11). Norms are available for several populations [51]. (Form 78, Q53)

(2) Center for Epidemiological Studies Depression Scale (CES-D) [52]. The CES-D scale measures current frequency of depressive symptoms, with emphasis on depressed affect, and was designed for survey research use [52]. The full scale includes items that reflect depressed affect;

feelings of guilt, worthlessness, helplessness, hopelessness; sleep disturbance; loss of appetite; and psychomotor deficits. Subjects are asked to indicate the number of days during the past 7 days that they experienced each symptom. The CES-D has been validated in household surveys on probability sample and in clinical validation studies. Alpha coefficients were 0.90 or above for normal subjects and depressed patients. The scale is oriented toward measurement of depressed mood rather than toward identification of severe depression. It has been tested for reliability and validity in numerous previous studies [52-54]. A seven-item version of the CES-D was developed and validated previously against the full CES-D [55,56]. The validated shortened version was used to minimize questionnaire length. This version provides two subscales, a 3-item depressed mood scale and a 4-item malaise scale, intended to allow assessment of physiogenic bias [55]. (Forms 456 and 78, Q41)

(3) Client Satisfaction Questionnaire (CSQ) [57]. This is an 18-item scale that measures general satisfaction with medical care services. (Form 90, Q69-77)

(4) Health Belief Model Questionnaire [58]. This standard instrument assesses multiple dimensions of the Health Belief Model [59] using 4-point Likert-type items. The instrument has been used in previous studies [58,60]. (Form 123, Q51; Form 456, Q53)

(5) Health Perceptions Questionnaire (HPQ) [61]. This instrument is a 29-item scale that investigates subjective self-reports of physical health. It was developed for evaluation of medical care and population assessments of perceived health status. It requires about 10 minutes to complete. This questionnaire has been tested in a variety of settings [62]. (Form 90, Q66-67)

(6) Mental Health Inventory (MHI) [63]. This instrument is a 38-item general measure of mental health and psychological functioning. It is used to assess the psychological health of populations, identify unmet needs for care, and predict the use of mental health and general health services. A 6-item scale that assesses reliability is incorporated into the instrument. The total of 44 items takes about 10 minutes to complete. (Form 90, Q49-65)

(7) Social Support Inventory [34,35]. A number of epidemiological studies have been performed linking social support to physical and mental health [35,64], although previous research suggests that the relationship may be stronger in men than women when other major risk factors have been taken into account [65]. A standard index of social support is used to assess the extent of the respondent's network of relatives and friends, and frequency of contact with these individuals. The index was developed for use on a probability sample of 6,928 adults in Alameda County, California, and has been tested and validated in numerous previous studies [34,66,67]. Although it used a different and considerably longer instrument to assess social support, a study of military recruits in training indicated that individuals who had many negative life events and less social support had a higher frequency of repeated illnesses than those with fewer negative life events and more social support [68]. (Forms 456 and 78, Q47-51)

(8) Medical Interview Satisfaction Scale (MISS) [69]. This 29-item scale was developed to measure the degree of satisfaction with a particular consultation or provider. It takes less than 10 minutes to complete. (Form 90, Q68)

(9) Military Stress Inventory (WRAIR). This is an inventory designed for military populations consisting of questions regarding stress experienced during the past two weeks as a result of a wide range of concerns ranging from deployment to personal and family health and financial issues. It was used in the Walter Reed Army Institute of Research (WRAIR) Post-Desert Storm studies of Persian Gulf War Veterans. (Forms 456 and 78, Q42-Q45)

(10) Quality of Life Scale (Andrews-Withey QOL) [28]. The questionnaire included a four-item Quality of Life scale previously used in research on Navy populations.

Bringing together of subject matter experts in workshops. Two workshops focusing on the U.S. Navy Shipboard Health Survey development were held in San Diego, California, the first on March 1-2, 1995, and the second on May 8-9, 1995. Drafts of the survey were circulated to participants between workshops. There were 17 participants in the first workshop and 22 in the second workshop. (Appendix A contains a complete list of participants for each workshop.) Participants included epidemiologists, psychologists, family and social science experts, and other subject matter experts from the Department of Defense and Universities. This panel of experts reviewed the survey relevance, scientific merit, comparability with previous studies, and other important characteristics.

Elucidation of major issues from knowledgeable sources. A series of briefings were conducted to inform key players of the intent and scope of the U.S. Navy Shipboard Health Survey, its role in this study, and to elucidate from them the major issues and areas of research requiring special emphasis. These briefings included: RADM J.H. Black, Fleet Surgeon, Atlantic Fleet; RADM D. Frost, Fleet Surgeon, Pacific Fleet; CAPT T.G. Patel, Director, Surface Medicine, Navy Bureau of Medicine and Surgery; the COMNAVAIRLANT Force Medical Officer; the COMNAVSUBLANT Force Medical Officer; the COMNAVSURFLANT Force Medical Officer; the COMNAVAIRPAC Force Medical Officer; the COMNAVSUBPAC Force Medical Officer; the COMNAVSURFPAC Force Medical Officer; the Special Assistant for Women's Policy, Bureau of Naval Personnel; the Process Action Team on Women's Issues of the Navy Bureau of Medicine and Surgery; a Naval Aerospace and Operational Medicine Institute symposium, and a conference at NATO Headquarters on Women in NATO. (Appendix A contains a complete listing of briefings.)

Review of Navy requirements. SECNAV INSTRUCTION 1000.10, Department of the Navy (DoN) Policy on Pregnancy of 06 February 1995 specifies a bi-annual report from BUPERS to the Assistant Secretary of the Navy concerning knowledge level of women regarding health and access to health care by women. Items were included in the survey to provide information to BUPERS on the medically-related aspects of these issues. Specifically, these questions were designed to assess the knowledge level of women concerning the availability of medical and other

services available for family planning and other medical concerns; and to examine issues of priority for obstetric and gynecological services for women preparing for deployment. (Appendix E contains the complete text of this DoN policy.)

2.3 U.S. Navy Shipboard Health Survey Sampling and Administration Design.

Sampling Design. Because a wide range of data elements are involved in the U.S. Navy Shipboard Health Survey, a single survey instrument encompassing all elements would be too long for completion within a reasonable period of time. Therefore, a set of essential core items was identified for completion by all subjects, and the remainder of the data elements were divided among four versions plus an anonymous supplemental survey. The U.S. Navy Shipboard Health Survey has four alternate forms, Forms 123, 456, 78, and 90. (Appendix C contains a complete set of these forms.) All forms for the U.S. Navy Shipboard Health Survey consist of 63 identical core items, 18 identical core items in a women's section, and a variable number of items that differ by form. Forms 123 and 456 focus on health status issues while Forms 78 and 90 focus on psychological status. (Appendix C contains a detailed listing of the topic areas covered by each form.) Table 2 summarizes the focus of each survey type.

Table 2. Survey Topic Focus by Form Type.

Form	Terminal digit of respondent's social security number	Approximate percent of subjects receiving this form	Main focus
123	1, 2, or 3	30%	Health status
456	4, 5, or 6	30%	Health status
78	7 or 8	20%	Psychological status
90	9 or 0	20%	Psychological status

Length Considerations. The logistics of administering a survey aboard ship required that a simple procedure be developed for allocating forms of the survey to subjects that could be reliably performed under the difficult and demanding conditions encountered aboard ships. The research department of the Social Security Administration (SSA) verified that the terminal digit of the Social Security Number (SSN) is assigned in a serial sequence and may be treated as a random number for all practical uses. The SSN is readily available for all personnel and served as the basis for deciding which form of the survey each SSN can be validated as needed using the CHAMPION Research Database maintained at the Naval Health Research Center, San Diego. It was determined from the SSA that 10 percent of the population has each terminal digit 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 of the SSN. In order to select a 30 percent sample, it is possible to provide a form to individuals with any 3 terminal digits of the SSN, for example, those whose SSNs end in 1, 2, or 3. Another 30 percent sample could be selected for another form, consisting of those

whose SSNs end in 4, 5, or 6. Similarly, a 20 percent sample could consist of those whose SSNs end in 7 or 8, and another 20 percent sample of those whose SSNs end in 9 or 0.

Table 3. Form Distribution by Terminal Digit of Social Security Number.

<u>SSN TERMINAL DIGIT</u>	<u>FORM NUMBER</u>	<u>SAMPLE</u>
1,2, or 3	Form 123	30%
4,5, or 6	Form 456	30%
7 or 8	Form 78	20%
9 or 0	Form 90	20%

As depicted in Table 3 above, each form of the survey was identified with a two or three digit code that served to remind study personnel of the SSNs of the individuals who were asked to complete each form. Each form was also clearly marked with the range of SSNs of the individuals who were asked to complete the form, and the SSN of each respondent was obtained in writing to assure that the form given to the individual corresponded to the terminal digit of that individual's SSN.

When a sample of greater than 30 percent of the population was required for a particular scale, the scale was printed on two forms. For example, a 50 percent sample could be obtained by including the scale of a form given to 30 percent and on another form given to 20 percent of the population.

Variables were carefully chosen so that the key variables were a set of core items that were completed by all respondents. This assured the ability to make direct comparisons among all respondents. When non-core elements were assigned to the different forms, as needed to reduce the length of the survey, every effort was made to assure that items and scale that were most likely to be compared were included on the same forms. In the case of the anonymous survey only a single form was used.

Anonymous Supplemental Health and Behavioral Survey. An anonymous survey dealing with sensitive topic areas of sexually transmitted disease prevention and contraception was also developed. (This survey is contained in Appendix C.) The Anonymous Supplemental Health and Behavior Survey includes items on sexual behavior, unintended pregnancy, and other topics for which a respondent-identified survey was not deemed appropriate.

Survey matching design. The study is designed ultimately to include all women aboard Navy ships. To provide a comparison group of male personnel, a male subject was matched to each woman based on the following criteria:

- Work division (exact match)
- Department (exact match)

- Race (white, black, Hispanic, other) (exact match)
- Pay grade (matched by groups: E1-E3, E4-E6, E7-E9, O1-O3, O4-O6)
- Rating (exact match unless no matching individual is available in the rating. In that case, an individual with a closely related rating will be invited to participate, as described below)
- Date of birth (nearest date of birth, not to exceed plus or minus two years on most ships, as described below)

If an exact match on rating is impossible due to the limited number of individuals with that rating aboard a particular ship, then the subject must match on Navy Careers Rating Group, as specified in official Navy Careers publications. For example, data processing technicians may be matched, if necessary, with individuals in other clerical and administrative occupations when an exact match on rating is impossible.

After all other matching criteria have been met, the male will be selected who has the fewest number of days between his date of birth and the date of birth of the matching female subject. The difference will almost always be less than two years. In no case will it exceed three years (1,095 days). This is an issue primarily on ships with small complements. If the male who is selected using this procedure is unwilling to participate in the study, the next male most closely matched on date of birth who meets all other matching criteria will be matched to the female subject.

Survey Administration. Prior to conducting the survey administration aboard a U.S. Navy ship, the Commanding Officer of the ship is notified of our purpose and permission to conduct our research is requested. Notification is accomplished by Naval message, personal contact by a coordinator, or Naval letter, as appropriate. If the Commanding Officer desires, a personal brief can be provided by a coordinator.

Once permission to conduct our research is granted, liaison with the Medical Department, Administration Department, and the Women-at-Sea Coordinator begins. Through this liaison, all logistics issues are resolved, and survey administration dates are set.

Following briefing of appropriate chain-of-command and appropriate message traffic, Medical Departments aboard ship are contacted as initial shipboard liaisons. Medical Department staff assist with additional contacts as necessary aboard ship including Women-at-Sea Coordinators, the shipboard personnel department, and assist with briefings of the Executive Officers and Commanding Officers of ships included in the study.

Identification of study subjects. The procedure for identification of study subjects and the selection of the matched males in the study was accomplished as follows: (1) the shipboard population was identified using the NHRC files in the CHAMPION Research Database. An initial roster of all eligible participants was electronically developed which included all data elements needed for matching, (2) the shipboard personnel department provided a personnel roster which

was compared to the NHRC roster, and the NHRC roster was updated as needed, (3) a matching program was run to select the males to be included in the survey, (4) individual identification labels were created for each participant to be included and the label was affixed to the survey package, (5) packages were sorted by division to aid in the distribution process.

Shipboard survey packaging design. The overall administration plan included distribution of individually identified packets with all the necessary materials to each study subject. (This was not possible for the earliest ships surveyed.) Whenever possible, study subjects would be brought together in a common location, briefed on the study, and the surveys would be proctored. When, due to shipboard activity pace, it was not practical for all shipboard personnel to remain in one area, the questionnaires were distributed, the participants were allowed to fill them out in their own work spaces, and then the completed surveys were collected.

Each package contains a U.S. Navy Shipboard Health Survey, an Anonymous Supplemental Health and Behavioral Survey, a brochure which explains the purpose of the survey and provides directions for the participant, separate envelopes for returning the surveys, anonymous surveys, and consent forms, as well as a pencil to use when completing the surveys. All of the materials contained in the packages are color coded to assist the participant. The envelopes provided help to ensure that the participants' confidentiality and anonymity is protected throughout all stages of the survey process.

2.4 Sick Call Visit Ascertainment.

Two methods of ascertainment of sick call visits aboard ship are being used in this study. The method used depends upon which of the methods are being used aboard individual ships for logging patient visits: (1) the Shipboard Automated Medical System (SAMS), or (2) the use of NHRC-supplied sick call logs, which either replaced or supplemented the paper logs kept aboard ship. Table 4 displays which ships are providing medical encounter data primarily by SAMS and which ships are providing medical encounter data primarily by NHRC Sick Call Log.

Table 4. Ships Providing Medical Encounter Data by SAMS and by NHRC Sick Call Log.

	NAME OF SHIP	HULL #	HOME PORT	SAMS OR SICK CALL LOG
1	USS Platte	AO-186	Norfolk, VA	SAMS
2	USS Shenandoah	AD-44	Norfolk, VA	Sick Call Log
3	USS Grapple	ARS-53	Little Creek, VA	Sick Call Log
4	USS Santa Barbara	AE-28	Charleston, SC	SAMS
5	USS Mount Baker	AE-34	Charleston, SC	Sick Call Log

	NAME OF SHIP	HULL #	HOME PORT	SAMS OR SICK CALL LOG
6	USS Barry	DDG-52	Norfolk, VA	Sick Call Log
7	USS Frank Cable	AS-40	Charleston, SC	Sick Call Log
8	USS Dixon	AS-37	San Diego, CA	SAMS
9	USS Butte	AE-27	Earle, NJ	Sick Call Log
10	USS Detroit	AOE-4	Earle, NJ	Sick Call Log
11	USS Merrimack	AO-179	Norfolk, VA	Sick Call Log
12	USS Shasta	AE-33	Concord, CA	SAMS
13	USS Mckee	AS-41	San Diego, CA	Sick Call Log
14	USS Camden	AO-2	Bremerton, WA	Sick Call Log
15	USS L.y.spear	AS-36	Norfolk, VA	Sick Call Log
16	USS Kiska	AE-35	Concord, CA	Sick Call Log
17	USS Lasalle	AGF-3	La Madalenna, Itly	Sick Call Log
18	USS Simon Lake	AS-33	La Madalenna, Itly	Sick Call Log
19	USS Monongahela	AO-178	Norfolk, VA	SAMS
20	USS Grasp	ARS-51	Little Creek, VA	Sick Call Log
21	USS Eisenhower	CVN-69	Norfolk, VA	Sick Call Log
22	USS Supply	AOE-6	Norfolk, VA	Sick Call Log
23	USS John Young	DD-973	San Diego, CA	SAMS
24	USS Sacramento	AOE-1	Bremerton, WA	Sick Call Log
25	USS Rainier	AOE-7	Bremerton, WA	Sick Call Log
26	USS Curtis Wilbur	DDG-54	San Diego, CA	SAMS
27	USS Coronado	AGF-11	San Diego, CA	Sick Call Log
28	USS Cape Cod	AD-43	San Diego, CA	SAMS
29	USS Mount Hood	AE-29	Concord, CA	SAMS
30	USS Comstock	LSD-45	San Diego, CA	SAMS

	NAME OF SHIP	HULL #	HOME PORT	SAMS OR SICK CALL LOG
31	USS Flint	AE-32	Concord, CA	Sick Call Log
32	USS Mauna Kea	AE-22	Concord, CA	Sick Call Log
33	USS Cimarron	AO-177	Pearl Harbor, HI	SAMS
34	USS Willamette	AO-180	Pearl Harbor, HI	SAMS
35	USS Safeguard	ARS-50	Pearl Harbor, HI	SAMS
36	USS Salvor	ARS-52	Pearl Harbor, HI	SAMS
37	USS Puget Sound	AD-38	Norfolk, VA	SAMS
38	USS Yellowstone	AD-41	Norfolk, VA	Sick Call Log
39	USS Seattle	AOE-3	Earle, NJ	Sick Call Log
40	USS Arctic	AOE-8	Norfolk, VA	Sick Call Log
41	USS Moosbrugger	DD-980	Mayport, FL	Sick Call Log
42	USS Edenton	ATS-1	Mayport, FL	Sick Call Log
43	USS Wasp	LHD-1	Norfolk, VA	Sick Call Log
44	USS Kearsarge	LHD-3	Norfolk, VA	Sick Call Log
45	USS Saipan	LHA-1	Norfolk, VA	Sick Call Log
46	USS Nassau	LHA-4	Norfolk, VA	Sick Call Log
47	USS Mt. Whitney	LCC-20	Norfolk, VA	Sick Call Log
48	USS Ashland	LSD-48	Little Creek, VA	Sick Call Log
49	USS Briscoe	DD-977	Norfolk, VA	Sick Call Log
50	USS Hayler	DD-997	Norfolk, VA	SAMS
51	USS Tortuga	LSD-46	Little Creek, VA	Sick Call Log
52	USS Gunston Hall	LSD-44	Little Creek, VA	Sick Call Log
53	USS Laboon	DD-658	Norfolk, VA	Sick Call Log
54	USS Geo Washington	CVN-73	Norfolk, VA	Sick Call Log
55	USS Stennis (PCU)	CVN-74	Norfolk, VA	Sick Call Log

	NAME OF SHIP	HULL #	HOME PORT	SAMS OR SICK CALL LOG
56	USS John F. Kennedy	CV-67	Mayport, FL	Sick Call Log
57	USS Emory S. Land	AS-39	Norfolk, VA	Sick Call Log
58	USS Ramage	DD	Norfolk, VA	Sick Call Log
59	USS Holland	AS-32	Guam	Sick Call Log
60	USS Abraham Lincoln	CVN-72	Alameda, CA	Sick Call Log

Use of the Shipboard Automated Medical System (SAMS). A survey was conducted of the ships involved in this study to determine their use of SAMS for recording of medical encounters. It was found that approximately 50 percent of the ships involved in this study were using SAMS for recording of medical encounters. It was also determined that, to be useful for this study, SAMS would need to be enhanced and would need to have the system menus expanded to include medical conditions affecting women. SAMS version 7.02, due to be released in August 1995, includes the identified enhancements as well as a standard report to NHRC from SAMS. These enhancements are described in detail in the following paragraph. For the current study, ships using SAMS perform a monthly download to a floppy disk provided by NHRC and mail that disk to NHRC.

Enhancements to SAMS. A close liaison was established with the SAMS office at Navy Management Systems Support Office (NAVMASSO). An assessment of the current capabilities of SAMS was made, and several meetings were held to define necessary enhancements to SAMS to improve its utility for capturing and supplying data for shipboard research on women's health issues.

The current diagnoses selection lists for SAMS were reviewed and substantially expanded. The SAMS diagnosis menus were greatly expanded to include diagnoses specific to women and diseases more common in women. These diagnoses were specified in terms of standard ICD-9 terminology codes to be added to SAMS version 7.02 menus.

As a first step in this procedure, conditions with relative risks of four or higher for women were identified using a table of sick call visit rates from a previous study by Nice and Hilton [70]. Examples of diagnoses added using this source were acute reactions to stress and migraine headaches, which were eight times more commonly reported as a sick call diagnosis in women; phlebitis or thrombophlebitis, which were 21 times as common in women; and kidney infection, which was 12 times more common as a sick call diagnosis in women.

Procedures were implemented to fully convert SAMS data to the ICD-9 standard definition codes. The use of standard ICD-9 definitions will enhance reporting of results in NHRC reports and journal publications. It will also provide a better basis for comparisons with acute care provided in the other services and in civilian medicine. When an ICD-9 code cannot be determined, SAMS will now prompt the provider for a clear description of the illness or symptoms that is sufficiently explicit to allow an ICD-9 coder to assign an appropriate ICD-9 code.

A general principle now incorporated in SAMS is the concept that the person reporting the diagnosis should use the most specific diagnosis possible given the evidence available. For example, directions have been given that a term such as "dermatitis" will not be used alone if the diagnosis is "contact dermatitis after using paint solvent". Explicit and complete diagnoses will improve the accuracy of coding and assist in identifying areas where further epidemiological or industrial hygiene studies may be needed.

In addition to routine recording of the shipboard diagnosis, SAMS has been expanded to obtain a particularly detailed diagnosis for every medical evacuation. This will be followed by a check of the associated hospitalizations to verify the diagnosis. These are major events and it is important to determine the provisional and discharge (final) diagnoses that resulted in the evacuation event.

2.5 Medical Department Structured Discussions.

Based on discussions with medical department personnel, and a pilot survey of open-ended questions given aboard the U.S.S. Eisenhower, a standard Medical Department Discussion Guideline Form was developed. A schedule for administering this interview was also developed. (Appendix D contains the Medical Department Discussion Guideline Form.)

Subjects. Participants in this study were U.S. Navy medical personnel serving aboard ship. The interview participant was the ship's senior medical department representative. The titles of the interview participants included: Senior Medical Officer (SMO), Medical Officer (MO), and Independent Duty Corpsman (IDC). A total of twenty-four health care providers agreed to be interviewed.

Shipboard health care discussion guidelines. The guidelines were used to elicit responses from participants. The interview was divided into seven sections: Human Resources, Fiscal and Equipment Resources, Automated Data Processing (ADP) Resources, Logs and Records, Morbidity and Incidence Data, Health Care Provider Issues, and Training and Education/Health Awareness. The Human Resources section asked the health care provider about manpower resources allocated to the medical department. The Fiscal and Equipment Resources section asked about the adequacy of the medical department's budget, Authorized Medical Allowance List (AMAL), pregnancy testing, and solicited recommendations for AMAL changes

to enhance the health care provided for women at sea. The ADP Resources section was designed to determine the level of utilization of the Shipboard Automated Medical Systems (SAMS) in medical department. The Logs and Records section identified the nature of record keeping in medical departments. The Morbidity and Incidence Data section attempted to determine the total medical department daily caseload, female medical daily caseload, pregnancy testing and occurrence, sexually transmitted disease (STD) incidence, and medical evacuation (MEDEVAC) frequency. The Health Care Provider Issues section was designed to evaluate the medical department personnel's feelings on their ability to provide adequate health care for a ship's female patient population. This included the physical environment of the medical department, obstetrical and gynecological (OB/GYN) services, pregnancy testing, and contraceptive availability. The Training and Education/Health Awareness section was designed to provide information about the health training and education available aboard ship. Finally, health care providers were asked for their "comments, concerns, and/or recommendations" and their opinion of the "major issues facing women aboard ship." The question asking for "comments, concerns, and/or recommendations" was asked once after the first half of the interview and again at the end of the interview.

Procedure. Interviewees were selected for participation based on their role as a health care provider for male and female U.S. Navy personnel between the time period of May 1, 1995 through July 31, 1995. Participants were asked for their input as part of a larger shipboard health research survey. Interviews were conducted by four research associates. Each of the interviewers have extensive knowledge of shipboard medical issues, and an average of 18 years of U.S. Navy experience. Half of the interviews were conducted by male interviewers and the remaining interviews were conducted by the female interviewers. The research associates conducted the interview during a time convenient for the senior medical department representative. Interviews occurred in the medical departments aboard ship. The average interview time was approximately 57 minutes.

2.6 Development of Reports.

During the workshop on 8-9 MAY 1995, collaborators met to define research domains and within the domains, to define specific hypotheses, analysis plans, and to assign particular domains to investigators with acknowledged expertise in the domain, and to develop report formats. Specific topics spanned a wide range of research domains throughout the social and medical sciences. Eleven domain areas were defined and proposed lead authors were identified. Since the time of that meeting, the participants have provided a review of the relevant literature in their proposed topic areas, as well as an abstract, hypotheses, detailed analysis plans including sample size calculations, and proposed statistical procedures for conducting their research. (Appendix B contains the proposed research topic domains from each lead author for the eleven research topics.)

3.0 RESULTS

3.1 U.S. Navy Shipboard Health Survey.

Status of ship surveys. Table 5 lists ships surveyed or expected to be surveyed by September 1995. Table 6 lists ships that are expected to be completed by 31 December 1995, pending operational availability.

Table 5. Ships Surveyed or Expected to be Completed by September 1995.

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
1	USS Platte	Oiler	84	175	259
2	USS Shenandoah	Destroyer Tender	49	1,095	1,144
3	USS Grapple	Salvage Ship	35	69	104
4	USS Santa Barbara	Ammunition Ship	108	339	447
5	USS Mount Baker	Ammunition Ship	83	333	416
6	USS Barry	Guided Missile Destroyer	30	327	357
7	USS Frank Cable	Submarine Tender	310	1,019	1,329
8	USS Dixon	Submarine Tender	500	970	1,470
9	USS Detroit	Fast Combat Support Ship	76	609	685
10	USS Merrimack	Oiler	100	178	278
11	USS Shasta	Ammunition Ship	76	371	447
12	USS McKee	Submarine Tender	458	1,000	1,458
13	USS Camden	Oiler	57	543	600
14	USS L.Y.Spear	Submarine Tender	429	541	970
15	USS Kiska	Ammunition Ship	86	320	406
16	USS Lasalle	Misc Command Ship	65	585	650
17	USS Simon Lake	Submarine Tender	505	495	1,000
18	USS Monongahela	Oiler	93	217	310

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
19	USS Grasp	Salvage Ship	27	87	114
20	USS Eisenhower	Aircraft Carrier (Nuclear Prop)	524	4,476	5,000
21	USS Supply	Fast Combat Support Ship	7	682	689
22	USS John Young	Destroyer	25	295	320
23	USS Rainier	Fast Combat Support Ship	70	510	580
24	USS Curtis Wilbur	Destroyer	23	317	340
25	USS Coronado	Misc Command Ship	42	608	650
26	USS Cape Cod	Destroyer Tender	411	1,019	1,430
27	USS Mount Hood	Ammunition Ship	87	319	406
28	USS Comstock	Dock Landing Ship	33	315	348
29	USS Flint	Ammunition Ship	51	397	448
30	USS Mauna Kea	Ammunition Ship	44	317	361
31	USS Cimarron	Oiler	76	149	225
32	USS Willamette	Oiler	79	178	257
33	USS Safeguard	Salvage Ship	25	76	101
34	USS Salvor	Salvage Ship	24	78	102
35	USS Yellowstone	Destroyer Tender	425	1,007	1,432
36	USS Wasp	Amphibious Lndg Ship	3	1,197	1,200
37	USS Kearsarge	Amphibious Lndg Ship	4	1,196	1,200
38	USS Saipan	Amphibious Assault Ship (GP)	2	1,194	1,196
39	USS Nassau	Amphibious Assault Ship (GP)	3	1,197	1,200

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
40	USS MT. Whitney	Amphibious Command Ship	109	691	800
41	USS Briscoe	Destroyer	4	316	320
42	USS Hayler	Destroyer	34	286	320
43	USS Laboon	Destroyer	4	316	320
44	USS Emory S. Land	Submarine Tender	506	894	1,400
45	USS Holland	Submarine Tender	356	1,044	1,400
46	USS Abraham Lincoln	Aircraft Carrier (Nuclear Prop)	400	4,600	5,000
TOTALS			6,542	32,947	39,489

Table 6. Ships Surveys Scheduled for Completion by 31 December 1995.

	NAME OF SHIP	SHIP TYPE	FEMALE CREW	MALE CREW	TOTAL CREW
1	USS Butte	Ammunition Ship	39	373	412
2	USS Sacramento	Fast Combat Support Ship	67	453	520
3	USS Puget Sound	Destroyer Tender	459	941	1,400
4	USS Seattle	Fast Combat Support Ship	89	461	550
5	USS Arctic	Fast Combat Support Ship	111	429	540
6	USS Moosbrugger	Destroyer	26	365	391
7	USS Edenton	Salvage & Rescue Ship	50	300	350
8	USS Ashland	Dock Landing Ship	38	362	400
9	USS Tortuga	Dock Landing Ship	4	396	400
10	USS Gunston Hall	Dock Landing Ship	5	395	400
11	USS Geo Washington	Aircraft Carrier (Nuclear Prop)	2	4,998	5,000
12	USS Stennis (Pcu)	Aircraft Carrier (Nuclear Prop)	487	4,513	5,000
13	USS John F. Kennedy	Aircraft Carrier	524	4,476	5,000
14	USS Ramage	Destroyer	<i>Not Yet Determined</i>		
TOTALS			1,901	18,462	20,363

3.2 Prototype Analyses.

The following are a series of prototype analyses that have been performed on a small set of the survey data.

Table 7. Mean number of days with specified symptoms of depression, by gender, survey respondents.

How many days during the past week have you:	Women (N=178) Mean days	Women (N=178) S.D.	Men (N=169) Mean days	Men (N=169) S.D.
Felt you couldn't get going?	1.41	1.74	1.14	1.38
Felt sad?	1.82	1.73	1.38	1.68
Had trouble getting to sleep or staying asleep?	2.20	2.39	1.64	1.91
Felt that everything was an effort?	1.54	2.06	1.13	1.61
Felt lonely?	2.16	2.44	2.18	2.49
Felt you couldn't shake the blues?	1.41	1.94	0.96	1.66
Had trouble keeping your mind on what you were doing?	1.76	2.02	1.39	1.77

Table 8. Mean overall stress score, by gender, survey respondents.

	Women (N=176) Mean	Women (N=176) S.D.	Men (N=169) Mean	Men (N=169) S.D.
On the whole, how much stress do you think is in your life right now?	3.26	1.00	3.04	0.95

Categories for scoring: (1) Not at all, (2) A little bit, (3) Moderate amount, (4) Quite a bit, (5) Extreme amount

Table 9. Mean quality of life scores, by gender, survey respondents.

How do you feel about your:	Women (N=179) Mean	Women (N=179) S.D.	Men (N=169) Mean	Men (N=169) S.D.
Job?	4.51	1.44	4.70	1.36
Personal life?	5.52	1.37	5.64	1.22
Health and physical condition?	5.30	1.25	5.43	1.37
Life as a whole?	5.70	1.05	5.87	1.02

Categories for scoring: (1) Terrible, (2) Unhappy, (3) Mostly dissatisfied, (4) Mixed, (5) Mostly satisfied, (6) Pleased, (7) Delighted

3.3 Sick Call Results.

Sick call data were obtained from the Shipboard Automated Medical System (SAMS) for the ships listed below. Sick call logs are being coded and prepared for analysis. The following sixteen ships have provided SAMS data.

Table 10. Ships that Provided Preliminary SAMS Data.

Ship Name	Ship Type	No. of Women	No. of Men	Total Crew
Cape Cod (AD-43)	Destroyer Tender	411	1,019	1,430
Cimarron (AO-177)	Oiler	76	274	350
Comstock (LSD-45)	Dock Landing Ship	33	315	348
Dixon (AS-37)	Submarine Tender	500	970	1,470
Mt. Hood (AE-29)	Ammunition Ship	87	319	406
Safeguard (ARS-50)	Salvage Ship	25	76	101
Shasta (AE-33)	Ammunition Ship	76	371	447
Salvor (ARS-52)	Salvage Ship	24	78	102
Santa Barbara (AE-28)	Ammunition Ship	108	339	447
Platte (AO-186)	Oiler	84	175	259
Monongahela (AO-178)	Oiler	93	217	310

Ship Name	Ship Type	No. of Women	No. of Men	Total Crew
John Young (DD-973)	Destroyer	25	295	320
Curtis Wilbur (DD-654)	Destroyer	23	317	340
Puget Sound (AD-38)	Destroyer Tender	459	541	1,000
Hayler (DD-997)	Destroyer	34	646	680
Willamette (AO-180)	Oiler	79	178	257
Total		2,137	6,130	8,267

Prototype analysis of the most common sick call diagnoses. The following prototype analysis, displayed in Table 11 is based on the data from one Destroyer Tender class ship.

Table 11. Shipboard Automated Medical System (SAMS) sick call visits, by diagnosis and gender, AD Class Destroyer Tender, ranked by total rate per 10,000 person-months, 1 April 1995 - 28 April 1995 (Based on N = 422 women and N = 1145 men)

ICD-9 category	Condition	Number			Rate per 10,000 person-months		
		Women	Men	Total	Women	Men	Total
461.00	Acute sinusitis	7	12	19	166	105	121
465.90	Acute upper respiratory infection	10	4	14	237	35	89
462.00	Acute pharyngitis	9	4	13	213	35	83
278.00	Obesity	7	5	12	166	44	77
558.90	Gastroenteritis and colitis, not otherwise specified	7	5	12	166	44	77
847.00	Sprains/strains of other and unspecified parts of back (neck)	4	6	10	95	52	64
133.00	Acariasis including scabies	7	1	8	166	9	51
372.00	Acute conjunctivitis	2	6	8	47	52	51
110.40	Athlete's foot	4	3	7	95	26	45
V82	Special screening for other conditions	3	4	7	71	35	45
718.00	Other derangement of joint (excluding knee)	4	2	6	95	17	38
845.00	Sprains /strains of ankle and foot (ankle)	3	3	6	71	26	38
795.00	Nonspecific abnormal histological findings (includes Pap, TB skin test)	5	0	5	118	0	32
685.00	Pilonidal cyst	4	1	5	95	9	32
597.80	Urethritis , not otherwise specified	2	3	5	47	26	32
388.12	Other disorders of the ear	1	4	5	24	35	32
381.00	Acute otitis media, nonsuppurative	3	0	3	71	0	19
680.00	Carbuncle, furuncle	3	0	3	71	0	19
727.00	Other disorders of synovium, tendon, and bursa (synovitis)	3	0	3	71	0	19
054.10	Herpes simplex	2	1	3	47	9	19
455.00	Hemorrhoids	1	2	3	24	17	19
490.00	Bronchitis, not specified as acute or chronic	1	2	3	24	17	19
726.00	Disorders of peripheral ligaments (includes bursitis, tendinitis)	0	3	3	0	26	19
851.00	Cerebral contusion or laceration	0	3	3	0	26	19
308.00	Acute reaction to stress with predominant disturbance of emotions	2	0	2	47	0	13
463.00	Acute tonsillitis	2	0	2	47	0	13
486.00	Pneumonia, organism unspecified	2	0	2	47	0	13
595.00	Cystitis	2	0	2	47	0	13
784.00	Headache and head and neck symptoms	2	0	2	47	0	13

789.00	Abdominal pain	2	0	2	47	0	13
034.00	Streptococcal sore throat and scarlet fever	1	1	2	24	9	13
303.00	Alcohol dependence syndrome	1	1	2	24	9	13
690.00	Erythematous dermatitis (dandruff)	1	1	2	24	9	13
704.80	Other specified diseases of hair and follicles	1	1	2	24	9	13
780.70	Malaise and fatigue	1	1	2	24	9	13
840.00	Sprains/strains, shoulder, upper arm (acromioclavicular joint/ligament)	1	1	2	24	9	13
132.00	Pediculus capitis infestation	0	2	2	0	17	13
552.00	Hernia of abdominal cavity, with obstruction	0	2	2	0	17	13
604.90	Orchitis and epididymitis, not otherwise specified	0	2	2	0	17	13
733.00	Other disorders of bone and fascia	0	2	2	0	17	13
924.20	Contusion of ankle and foot, excluding toes	0	2	2	0	17	13
229.00	Benign neoplasm of lymph nodes	1	0	1	24	0	6
272.00	Hypercholesterolemia	1	0	1	24	0	6
300.00	Anxiety states	1	0	1	24	0	6
531.90	Gastric ulcer without mention of hemorrhage or perforation	1	0	1	24	0	6
535.00	Gastritis and duodenitis	1	0	1	24	0	6
617.00	Endometriosis	1	0	1	24	0	6
728.00	Other disorders of muscle, ligament, fascia	1	0	1	24	0	6
780.20	Syncope and collapse	1	0	1	24	0	6
802.00	Fracture of nasal bones, jaw, or orbit	1	0	1	24	0	6
844.00	Sprains/strains of knee and leg (lateral collateral ligament of knee)	1	0	1	24	0	6
846.00	Sprains/strains of sacroiliac region (lumbosacral joint or ligament)	1	0	1	24	0	6
871.00	Open wound of eyeball (without prolapse of ocular tissue)	1	0	1	24	0	6
886.00	Traumatic amputation of other fingers (excluding thumb)	1	0	1	24	0	6
924.10	Contusion of knee and lower leg	1	0	1	24	0	6
V22	Normal pregnancy	1	0	1	24	0	6
078.10	Viral warts	0	1	1	0	9	6
098.00	Acute gonococcal infection of lower urinary tract	0	1	1	0	9	6
276.50	Dehydration	0	1	1	0	9	6
373.10	Blepharitis (inflammation of eyelid)	0	1	1	0	9	6
378.00	Strabismus	0	1	1	0	9	6
477.90	Allergic rhinitis	0	1	1	0	9	6
493.90	Asthma, unspecified	0	1	1	0	9	6
564.00	Functional digestive disorders not elsewhere classified	0	1	1	0	9	6
601.90	Prostatitis, not otherwise specified	0	1	1	0	9	6

684.00	Impetigo	0	1	1	1	0	9	6
714.00	Rheumatoid arthritis	0	1	1	1	0	9	6
724.30	Sciatica	0	1	1	1	0	9	6
780.50	Sleep disturbance, not otherwise specified	0	1	1	1	0	9	6
786.50	Chest pain, not otherwise specified	0	1	1	1	0	9	6
816.00	Fracture of one or more phalanges of hand	0	1	1	1	0	9	6
842.00	Sprains/strains of wrist and hand: (illofemoral ligament)	0	1	1	1	0	9	6
882.00	Open wound of hand except fingers alone	0	1	1	1	0	9	6
913.00	Superficial injury of elbow, forearm, and wrist	0	1	1	1	0	9	6
924.90	Contusion of unspecified site	0	1	1	1	0	9	6
930.00	Foreign body on eye	0	1	1	1	0	9	6
TOTAL		125	110	235	2,962	961	1,500	

3.4 Medical Department Structured Discussion Results.

Medical department personnel who participated in these discussions served aboard ships where men and women assigned for duty. Table 12 shows the ships and the dates on which the medical department discussions were completed.

Table 12. Structured Medical Department Discussions Completed.

Ship Name	Hull #	Home Port	Date
USS Eisenhower	CVN-69	Norfolk, VA	16 FEB 95 to 22 MAR 95
USS Cape Cod	AD-43	San Diego, CA	23 MAR 95
USS Platte	AO-186	Norfolk, VA	18 JUL 95
USS Shasta	AE-33	Concord, CA	03 APR 95
USS Dixon	AS-37	San Diego, CA	22 MAR 95
USS Mauna Kea	AE-22	Concord, CA	04 APR 95
USS Supply	AOE-6	Norfolk, VA	18 JUL 95
USS Grapple	ARS-53	Little Creek, VA	19 JUL 95
USS Grasp	ARS-51	Little Creek, VA	27 JUN 95
USS Shenandoah	AD-44	Norfolk, VA	21 JUL 95
USS Yellowstone	AD-41	Norfolk, VA	14 JUL 95
USS Santa Barbara	AE-28	Charleston, VA	18 JUL 95
USS Mt Baker	AE-34	Charleston, VA	17 JUL 95
USS Frank Cable	AS-40	Charleston, VA	18 JUL 95
USS Mount Hood	AE-29	Alameda, CA	12 JUN 95
USS Comstock	LSD-45	San Diego, CA	14 APR 95
USS Safeguard	ARS-50	Pearl Harbor, HI	16 MAY 95
USS Cimarron	AO-177	Pearl Harbor, HI	22 MAY 95
USS Willamette	AO-180	Pearl Harbor, HI	23 MAY 95
USS Salvor	ARS-52	Pearl Harbor, HI	17 MAY 95

Ship Name	Hull #	Home Port	Date
USS McKee	AS-41	San Diego, CA	17 JUL 95
USS Coronado	AGF-11	San Diego, CA	29 JUN 95
USS Curtis Wilbur	DDG-54	San Diego, CA	29 JUN 95
USS Rainier	AOE-7	Puget Sound, OR	06 JUL 95

Representative prototype report. Tables 13 and 14 present preliminary analyses using the medical department discussions data.

Table 13. Morbidity and Incidence Data.

Morbidity and Incidence Data Item	Mean Score	St. Dev.	High Score	Low Score
How many women have been transferred, since 10 January, 1995, due to pregnancy?	4.0	3.9	11	0
Approximately, how many patients are seen by medical on a daily basis?	16	15	60	2
Approximately, how many female patients are seen by medical on a daily basis?	7	9	30	0
How many medical evacuations have been conducted since 01 January, 1995?	1	1.6	7	0
How many of these medical evacuations were due to pregnancy?	0.67	0.58	1	0
What was the total number of pregnancy tests conducted aboard this ship beginning 01 January, 1995?	62	93	340	0
How many women were confirmed pregnant by a pregnancy test aboard this ship beginning 01 January, 1995?	11	16	57	0

Table 14. Common Themes of Major Concerns Expressed by Medical Department Personnel.

What do you feel are the major issues facing women aboard this ship?	
1. OB/GYN, Sexually Transmitted Diseases (STDs), and Birth Control	a. STD's, keeping PAP current, stress of OPTEMPO impacts on ability to deal with family/life stressors. b. Availability of specialized OB/GYN services. c. Pregnancy issues, i.e., birth control. d. Trying to provide adequate health care.
2. Personal/role immaturity	a. Maturity, responsibility in personal and professional matters. b. Maturity level low. c. Child care, especially for single women.
3. Berthing Issues	a. Privacy b. Accommodations c. Female berthing
4. Personnel issues	a. Must have a woman working in the medical department. b. Loss of personnel after pregnancy. Billets being gapped.
5. Miscellaneous:	a. Dating/role confusion b. Patient/health care provider relationship
6. No comment offered	

3.5 Report Development.

This section lists the report topic areas and investigators responsible for each area. (Appendix B contains a detailed literature review, hypotheses to be tested and analysis plans for each of the 11 report topic areas.)

(1) Incidence Rates of Disease and Injury Occurring Aboard Ship Report.

Proposed Lead Author: Frank C. Garland, Ph.D.

The activities under this milestone will include development of a report entitled "Incidence Rates of Disease and Injury Report Occurring Aboard Ship". This report will provide incidence based rates of newly diagnosed cases of the specified disorders in women aboard ship. For example, incidence rates of adult-onset asthma, kidney infections and other disorders listed will be calculated on Year 1 data (sick call data) using the shipboard female population as the population at risk.

(2) Health Beliefs Assessment Report.

Proposed Lead Author: LT Michael J. Schwerin, MSC, USNR

This report will examine the health behavior of male and female shipboard U.S. Navy personnel in relation to the Health Beliefs Model (Becker, 1974). The report attempts to explain health-seeking behavior by analyzing its relationships to antecedent conditions within the individual. Initially, willingness to seek health care for an illness is influenced by an individual's perceptions of susceptibility to and severity of the illness. Health seeking action can be triggered by an individual's evaluation of health status. Health-seeking behavior depends upon an individual's estimate of the potential benefits of the behavior in reducing susceptibility or severity. The estimated benefits are then weighed against perceptions of physical, psychological, financial, and other risks; costs; and barriers.

(3) Psychosocial Health and Well-Being Factors Report.

Proposed Lead Author: James A. Martin, Ph.D., BCD

This report will explore three broad domains of psychosocial research: sources of current psychosocial stress, perceived impact of stressors, and the impact of distress on the performance of military duties and personal life responsibilities. The primary focus will be psychosocial stressors in the work environment aboard ship, and the perceived impact of these stressors on current levels of psychosocial distress. Other military and personal life stressors also will be examined as part of assessment of the overall quality of life of women aboard ship. The report also will examine the impact of distress as it relates to perceived performance of military duties and personal life responsibilities, as well as the impact of distress on objective measures of health, well-being, job performance, and personal life role performance.

(4) Shipboard Conditions and Upper Respiratory Disease Risk In Active-Duty Deployed Navy Personnel Report.

Proposed Lead Author: Edward D. Gorham, M.P.H

This report will focus on the upper respiratory tract infections which are the most common infectious diseases in the United States in adults, and pose a considerable health threat to the shipboard population. Many viral agents known to cause acute respiratory illness are transmissible

through indoor air. Historically, military populations aggregated for training or deployment have experienced high incidence rates of acute upper respiratory infections (URI), and URI is the leading cause of outpatient illness in active-duty Navy personnel assigned to ships. However, associations between shipboard ventilation and crowding in living spaces with incidence rates of upper respiratory infections are not well defined. This report will assess the relationship between incidence rates of acute URI as determined from sick call visits aboard a Navy aircraft carrier during deployment and ventilation characteristics (including rate of air change in cubic feet per minute, percent fresh air and number of square feet per person, based on personnel berthing assignments).

(5) Pregnancy, Use of Contraception, and Family Planning Attitudes Report.

Proposed Lead Authors: Marie D. Thomas, Ph.D., and Patricia J. Thomas, M.A.

This report will focus on: pregnancy, use of contraception, and family planning attitudes. The following topics will be explored: the interrelationships among family planning attitudes, contraceptive behavior, and unplanned pregnancy; the effects of psychosocial stress and lifestyle behaviors on contraceptive use; and rates of pregnancy and contraceptive use for the sample as a whole and within various subgroups.

(6) Self-Reported Symptom Inventory for Women Aboard Navy Ships Report.

Proposed Lead Author: Kathleen M. Wright, Ph.D.

This report will focus on analysis of the Brief Symptom Inventory (BSI), and will be organized into three interrelated areas, each having specific products: establishing gender-based norms for military service members; and collecting prospective longitudinal follow-up data on the effects of shipboard duty and deployment for male and female service members; identifying groups at high- and low-risk for symptoms and relating risk status to other health and performance indicators.

(7) Gender Differences in Response to Stress Report.

Proposed Lead Author: Ross R. Vickers, Jr.

The objective of this report will be to determine whether there are gender differences in the organization and meaning of common experiences particularly with regard to stress. The report will analyze the associations of gender, marital status, and family composition with variables including stress, job and life satisfaction, health status, and health utilization, and will explore whether traditional foci may be insensitive to the fact that the same event or circumstance may mean different things to different people.

(8) Relationship of Family Composition to Physical and Mental Health Report.

Proposed Lead Authors: Dorothy J. Jeffreys, Ph.D., Theresa Russo, Ph.D., and Lea Dougherty, M.S.W.

Using questionnaire data primarily from items on family composition, service history, and health status, this report will investigate hypotheses, that health issues for service personnel differ by

marital status, family composition, and gender; that they vary by length of service, number of deployments, and type of shipboard assignment; and that health and well being of service personnel aboard ship are influenced by the extent of and involvement with support resources (family, friends, and organizations).

(9) Health Promotion Issues Report.

Proposed Lead Author: Terry L. Conway, Ph.D.

Using data from the shipboard questionnaire and comparative data from women ashore and civilian women, this report will investigate life style behaviors such as tobacco and alcohol use, physical activity, and weight management. It will focus primarily on individuals' perceived access to counseling services related to life style and other health-related behaviors (e.g., family planning/birth control methods, stress management, and drug/alcohol abuse counseling).

(10) Women's Health Conditions - Segment I Report.

Proposed Lead Authors: Donna Kritz-Silverstein, Ph.D and Deborah Wingard, Ph.D

This report will describe the prevalence of disorders associated with the menstrual cycle and reproductive system, and time lost from work due to menstrual and reproductive disorders in women aboard Navy ships. Ovulatory and menstrual disturbances have been associated with stress (Merikangas, K.R., Foeldenyi, M., Angst, J., 1993; Carpenter, S.E., 1994). This report will compare the prevalence of disorders related to menstruation and the menstrual cycle and time lost from work by deployment status, pay grade, and rating. Among women who report having experienced symptoms within the previous 90 days, deployed and non-deployed women will be compared in terms of development of new conditions and worsening of existing conditions.

(11) Women's Health Conditions - Segment II Report.

Proposed Lead Authors: Deborah Wingard, Ph.D. and Donna Kritz-Silverstein, Ph.D.

Using shipboard questionnaire data and other resources, this report will investigate the prevalence of health conditions and symptoms in young women and men in different ethnic/racial groups aboard Navy ships. It will also examine gender differences in the reporting of specific health conditions and symptoms, as well as in the total number of conditions reported by men and women. Specifically, gender differences in the experience of migraines and other headaches and gender differences in injury rates within specific ratings, will be examined. Comparisons will be made between deployed and non-deployed individuals to determine if deployment has an adverse association with health indicators.

4.0 CONCLUSIONS

This project is progressing at a rapid rate and milestones are on schedule. Currently 46 ships have been surveyed, demonstrating the feasibility of data collection aboard ship. Data are being edited, key-punched, verified, and computer analysis files are in development.

The Shipboard Automated Medical System (SAMS) has been enhanced to make it more useful for reporting of sick call visits. Approximately one-half of the ships in the study are using the SAMS system and providing data for this study. SAMS has been determined to be a useful source of information. When the SAMS functions that study data is obtained from are not in use, sick call data will be obtained using NHRC sick call logs. Medical Department Guided Discussions are proving to be a valuable source of information regarding training, equipment, personnel, and supply needs.

The multidisciplinary team that has been established is poised to provide the scientific context, analysis, and interpretation of the large amount of data which will result from this study. Research area domains have been identified and analysis plans have been specified. Overall the project is meeting milestones.

Bibliography

1. Hoiberg A. Health status of women in the military. *Health Psychology* 1984;3:273-87.
2. Miller M. Personal Communication, 1995.
3. Navy Bureau of Personnel, BUPERS 409. Personal Communication, 1995.
4. Wool, C.A., Barsky, A.J. Do women somatize more than men? Gender differences in somatization. *Psychosomatics*, 1994;35:445-452.
5. Wingard, D.L. (Accepted for publication). Patterns and puzzles: the distribution of health and illness among women in the United States. Chapter in Rusez, S., Olesen, V., Clarke, A., EDS. *Women's Health: The Dynamics of Diversity*. Ohio State University Press, 1995.
6. National Center for Health Statistics. (1994). Current estimates from the National Health Interview Survey: United States, 1991. *Vital and Health Statistics, Series 10, Number 180*. Public Health Service, Washington DC:US Government Printing Office.
7. Stewart W, Ovellet-Hellstrom R. Adverse reproductive events and electromagnetic radiation. Baltimore, MD. The Johns Hopkins University, Department of Epidemiology, 1991. (Report No. 1R01 OH02373-01A1).
8. Hanley MJ. Non-ionizing radiation - current issues and controversies. *J Occ Med*, 1993;25:95-111.
9. Hughey M. Operational obstetrics and gynecology: the medical care of women assigned to sea duty and other isolated duty stations. Washington DC: U.S. Navy Bureau of Medicine and Surgery, 1993.
10. Hughey M. The surgical care of women in operational settings. Washington DC: U.S. Navy Bureau of Medicine and Surgery, 1993.
11. Hoiberg A. Health care needs of women in the Navy. *Mil Med* 1979;144:103-9.
12. U.S. Navy, NAVINST on pregnancy, 1995.
13. Pate J. Personal Communication, 1994.
14. Birdsong W. Ectopic pregnancy in a military population. *Mil Med*, 1987;152:525-6.

15. Weckstein L. Current perspectives on ectopic pregnancy. *Obstet Gynecol Survey* 1985;40:279-82.
16. U.S. Navy, Chief of Naval Operations. OPNAVINST 6100.2 Comprehensive health promotion program, 1994.
17. National Research Council. Diet and health. Washington DC: National Academy Press, 1989.
18. Departments of the Army, the Navy, and the Air Force. Naval Command Medical Instruction (NAVMEDCOMINST) 10110.1. Washington, DC; Department of the Navy, 1985.
19. Patterson B, Block G. Food choices and the cancer guidelines. *AM J Public Health* 1988;78:282-286.
20. Bouchard C, Shephard R, Stephens T, Sutton J, McPherson B. Exercise, Fitness and health, 1990.
21. Pronk N, Jawad A, Crouse S, Rohack J. Acute effects of walking on mood profiles in women: preliminary findings in postmenopausal women. *Medicine, Exercise, Nutrition, and Health* 1994;3:148-155.
22. Pinto B, Marcus B. Physical activity, exercise, and cancer in women. *Medicine, Exercise, Nutrition, and Health* 1994;3:102-111.
23. Conway T, Trent LK, Conway SW. Physical readiness and lifestyle habits among U.S. Navy personnel during 1986, 1987, and 1988 (Naval Health Research Center Technical Report No. 89024). San Diego CA; Naval Health Research Center, 1989.
24. Schoenborn C, Horn J. Negative moods as correlates of smoking and heavier drinking; implications for health promotion (Advance Data from Vital and Health Statistics, No. 236). Washington DC: Government Printing Office, 1993.
25. Stellman S, Stellman J. Women's occupations, smoking and cancer and other diseases. *CA: A Cancer Journal for Clinicians* 1980;31:29-43.
26. Markenson G, Raez E, Colavita M. Female health care during Operation Desert Storm: The Eighth Evacuation Hospital Experience. *Milit Med* 1992;157:610-13.
27. Jones, B.H., Bovee, M.W., Harris J.M.3d, Cowan, D.N. Intrinsic risk factors for exercise-related injuries among male and female army trainees. *Am J Sports Med*, 1993;21:705-10.

28. Naval Health Research Center. NHRC Technical Report 88-43, reporting in Andrews-Withey 1976 Quality of Life scale, 1988.
29. Hoiberg A. Sex and occupational differences in hospitalization rates among Navy enlisted personnel. *J Occup Med* 1980;22:685-90.
30. Malone J, Hyams K, Hawkins R, Sharp T, Daniell F. Risk factors for sexually-transmitted diseases among deployed U.S. military personnel. *Sexually Transmitted Diseases* 1993;20:294-8.
31. Stellman J, Smow BR. Occupational safety and health hazards and the psychosocial health and well-being of workers. In: Cataldo MF, Coates TJ, EDS., *Health and industry: A behavioral medicine perspective*. New York; Wiley, 1993:270-284.
32. Cleary P. Gender differences in stress-related disorders. in: Barnett R, Brener L, Banich G, EDS. *Gender and stress*. New York: Free Press, 1987:39-72.
33. Barnett R, Davidson H, Marshall NL. Physical symptoms and the interplay of work and family roles. *Health Psychology* 1991;10:94-101.
34. Berkman L, Syme S. Social networks, host resistance, and mortality: A nine year follow-up study of Alameda County residents. In: Steptoe A, Wardle J, ed. *Psychosocial processes and health: A reader*. Cambridge, England: Cambridge University Press, 1994: 43-67.
35. Cohen S, Syme S, EDS. *Social support and health*. San Diego: Academic Press, 1985.
36. U.S. Department of Defense, Defense Manpower Data Center. *Description of spouses of officer and enlisted personnel in the U.S. Armed Forces*, 1985.
37. Lund D. Junior officer retention in the modern volunteer Army: Who leaves and who stays? In: Hunter EJ, Nice DS, EDS. *Military Families: Adaption to change*. New York: Preger, 1978:32-41.
38. Black W. Military induced family separation: a stress-reduction intervention. *Social Work* 1993;38:273-280.
39. Field T. Young children's adaptations to repeated separations from their mothers. *Child Development* 1991;13:539-47.
40. U.S. Army, Army Research Institute Newsletter. U.S. Army Institute for the Behavioral and Social Sciences, 1993.

41. Amen D, Jellen L, Merves E, Lee R. Minimizing the impact of deployment separation on military children: stages, current preventive efforts, and system recommendations. *Mil Med* 1988; 153; 441-6.
42. U.S. Congress. 103rd Congress, 1st Session. H.R. 2401. National Defense Authorization Act, Subtitle D-Women's Health Research, 1993.
43. U.S. Navy, Naval Medical Research and Development Command Letter 3900 Ser 04/0327 of 16 MAR 1994.
44. Hines J. Ambulatory health care needs of women deployed with a heavy armored division during the Persian Gulf War. *Milit Med* 1992;157:219-22.
45. Norris F. Screening for traumatic stress. *J Appl Soc Psychol* 1990;20:1704-18.
46. Nice D, Hilton S. Sex differences and occupational influences on health care aboard U.S. Navy ships. *Milit Psychol* 1990;6:109-23.
47. Marean M. Medical care of women crew members aboard the U.S.S. Hunley - Results of active duty for special work, 1993.
48. Bernstein E. Development, reliability, and validity of a dissociation scale. *J Nerv Ment Dis* 1986;174:285-93.
49. Derogatis L, Lazarus L. SCL-90—R, Brief Symptom Inventory, and matching clinical rating scales. In: Maruish M, ed. The use of psychological testing for treatment planning and outcome assessment. Hillsdale NJ: Lawrence Erlbaum Associates, Inc., 1994: 217-48.
50. Boulet J, Boss M. Reliability and validity of the Brief Symptom Inventory. *Psychological Assessment* 1991;3:433-7.
51. Cochran C, Hale W. College student norms on the Brief Symptom Inventory. *Journal of Clinical Psychology* 1985;41:777-9.
52. Radloff L. The CES-D scale: a self-report depression scale for research in the general population. *Appl Psychol Measurement* 1977;1:385-401.
53. Orme J, Reis J, Herz E. Factorial and discriminant validity of the Center for Epidemiological Studies Depression (CES-D) scale. *Journal of Clinical Psychology* 1986;42:28-33.

54. Husaini B, et al. Depression in rural communities: Validating the CES-D scale. *Journal of Community Psychology* 1980;8:20-27.
55. Mirowsky J, Ross C. Age and depression. *J Health Soc Behav* 1992;33:187-205.
56. Ross C, Mirowski J. Components of depressed mood in married men and women: The Center for Epidemiologic Studies Depression Scale. *Am J Epidemiol* 1984;119:997-1004.
57. Nguyen T, Attkisson C, Stegner B. Assessment of patient satisfaction: development and refinement of a service evaluation questionnaire. *Evaluation and Program Planning* 1983;6:299-314.
58. Norman P, Fitter M. Predicting attendance at health screening: organizational factors and patient's health beliefs. *Couns Psychol Q* 1991;4:143-55.
59. Janz N, Becker M. The health belief model: a decade later. *Health Educ Quart* 1984;11:1-47.
60. Norman P, Fitter M. Intention to attend a health screening appointment: some implications for general practice. *Couns Psychol Q*, 1989;2:261-72.
61. Ware J. Scales for measuring general health perceptions. *Health Services Research*, 1976;11:396-415.
62. Goodwin D, Insull W, Russell M, Probstfield J. Predicting adherence to prescribed regimens using the health perceptions questionnaire (HPQ). In: Schumaker S, Schron E, Ockene J, Parker C, Probstfield J, Wolle J, ed. *The handbook of health behavior change*. New York: Springer, 1990: 64-83.
63. Ware J, Johnston S, Davies-Avery A, Brook R. Conceptualization and measurement of health for adults in the Health Insurance Study: Vol III, Mental Health. RAND Publication No. R-1987/3-HEWW. Santa Monica CA: RAND Corporation, 1979.
64. Berkman L, Syme S. Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda county residents. *Am J Epidemiol* 1979;109:186-204.
65. Shumaker S, Hill D. Gender differences in social support and physical health. *Health Psychol* 1991;10:102-11.
66. Wingard D, Berkman L, Brand R. A multivariate analysis of health-related practices: A nine-year mortality follow up of the Alameda County Study. In: Steptoe A, Wardle

J, EDS. Psychosocial processes and health: A reader. Cambridge, England: Cambridge University Press, 1994: 273-89.

67. Kohout F, Berkman L, Evans D, Cornoni-Huntley J. Two shorter forms of the CES-D Depression Symptoms Index. *Journal of Aging & Health* 1993;5:179-93.
68. Sarason I, Levine H, Basham R, Sarason B. Life events, social support, and illness. *Psychosom Med* 1985;47:156-63.
69. Wolf M, Stiles W. Medical interview satisfaction scale. In: Wilkin D, Hallam L, Dogget M, ed. *Measures of need and outcome for primary care*. New York: Oxford University Press, 1981.
70. Nice S, Hilton S. Sex differences in health care requirements aboard U.S. Navy ships. Technical Report No. 90-2. San Diego CA; Naval Health Research Center, 1990

APPENDICES

- A. 1. BRIEFINGS AND PRESENTATIONS**
2. WORKSHOPS
- B. REPORT TOPICS**
ANALYSIS PLANS
- C. SHIPBOARD HEALTH SURVEYS**
- D. MEDICAL DEPARTMENT STRUCTURED DISCUSSIONS**
- E. DEPARTMENT OF THE NAVY (DoN) PREGNANCY POLICY**
- F. CONGRESSIONAL RECOMMENDATIONS**
- G. SICK CALL LOG**

APPENDIX A

A.1 BRIEFINGS AND PRESENTATIONS

A.2 WORKSHOPS

APPENDIX A.1
BRIEFINGS AND PRESENTATIONS

Briefings/Presentations
by Frank C. Garland, Ph.D

12 SEPT 94 to Present

12 September 1994, Washington D.C.

RADM J.H. Black

Fleet Surgeon, US Atlantic Fleet

CAPT N.Dean

Force Medical Officer, COMNAVSURFLANT

CAPT Warlick

Force Medical Officer, COMNAVSUBLANT

CAPT Frazier

Force Medical Officer, COMNAVAIRLANT

"Women Aboard U.S. Navy Ships: A Comprehensive Health and Readiness Research Project"

12 October 1994, Washington D.C.

The Process Action Team (PAT) on Women's Issues

Bureau of Medicine and Surgery

"The Defense Women's Health Research Program at The Naval Health Research Center"

12 October 1994, Washington D.C.

CAPT S. Clemens

Special Assistant for Women's Policy, Bureau of Naval Personnel

13-14 October 1994, Washington D.C.

CAPT T.G. Patel

Director, Surface Medicine, Bureau of Medicine and Surgery

06 December 1994, Pensacola, Florida

Naval Aeromedical Problems Course

Naval Aerospace & Operational Medical Institute

12 January 1995, San Diego, California

CAPT R.J. Lentz

Force Medical Officer, COMNAVAIRPAC

"Women Aboard U.S. Navy Ships: A Comprehensive Health and Readiness Research Project"

17 January 1995, San Diego, California

CAPT J.H. Fahey

Force Medical Officer, COMNAVSURFPAC

"Women Aboard U.S. Navy Ships....".

Briefings FCG p.2

14-16 February 1995, Pearl Harbor, Hawaii

RADM D. Frost

Surgeon, CINCPAC

CAPT K. Andrus

Fleet Surgeon, US Pacific Fleet

CAPT J. Murray

Force Medical Officer, COMNAVSUBPAC

Fleet Marine Force, Pacific Representative

03 April 1995, San Diego, California

Dr. S. Joseph

Assistant Secretary of Defense for Health Affairs

12 April 1995, San Diego, California

CAPT R. Carter

Director of Research & Development, Naval Medical Research &
Development Command

16 May 1995, San Diego, California

CAPT T.G. Patel

Director, Surface Medicine, Bureau of Medicine and Surgery

06-08 June 1995, Brussels, Belgium

1995 Conference of Women in NATO Forces

"The Defense Women's Health Research Program in the Navy: An
Overview"

APPENDIX A.2

WORKSHOPS

WOMEN ABOARD NAVY SHIPS WORKSHOP

March 1 & 2 1995

San Diego, CA

Ron Clapsaddle, Senior Computer Programmer/Analyst

Ogden Government Services

Terry Conway, Ph.D., Research Director

Center for Behavioral and Community Health, San Diego State
University

Kristee Emens-Hesslink, M.A., Psychologist

GEO-Centers, Inc.

Mike Feris, East Coast Coordinator

Management Assistance and Concepts Corporation

Cedric Garland, Dr. P.H., Associate Professor

University of California, San Diego

Frank Garland, Ph.D., Department Head

Health Sciences and Epidemiology, Naval Health Research Center

Ed Gorham, M.P.H., Research Epidemiologist

Naval Health Research Center

Betty Gunderson, M.A., Administrative Coordinator

Uniband, Inc.

Dorothy Jeffreys, Ph.D., Professor

Marywood College Military Family Institute

Donna Kritz-Silverstein, Ph.D., Assistant Adjunct Professor

University of California, San Diego

Jim Martin, Ph.D., Associate Professor

Bryn Mawr College

Steve Nice, Ph.D., Scientific Director

Naval Health Research Center

Kathy Rooney, R.N., West Coast Coordinator

Uniband, Inc.

Marie Thomas, Ph.D., Personnel Research Psychologist

Navy Personnel Research and Development Center

Pat Thomas, M.S., Supervisory Research Psychologist

Navy Personnel Research and Development Center

Ross Vickers, Ph.D., Research Psychologist

Naval Health Research Center

Debbie Wingard, Ph.D., Associate Professor

University of California, San Diego

WOMEN ABOARD NAVY SHIPS WORKSHOP

May 8 & 9 1995
San Diego, CA

Ralph Burr, M.A., Statistician
Naval Health Research Center

Ron Clapsaddle, Senior Computer Programmer/Analyst
Ogden Government Services

Terry Conway, Ph.D., Research Director
Center for Behavioral and Community Health, San Diego State
University

Kristee Emens-Hesslink, M.A., Psychologist
GEO-Centers, Inc.

Mike Feris, East Coast Coordinator
Management Assistance and Concepts Corporation

Cedric Garland, Dr. P.H., Associate Professor
University of California, San Diego

Frank Garland, Ph.D., Department Head
Health Sciences and Epidemiology, Naval Health Research Center

Ed Gorham, M.P.H., Research Epidemiologist
Naval Health Research Center

Betty Gunderson, M.A., Administrative Coordinator
Uniband, Inc.

Laurel Hourani, Ph.D., Division Head
Health Sciences, Naval Health Research Center

Dorothy Jeffreys, Ph.D., Professor
Marywood College Military Family Institute

Donna Kritz-Silverstein, Ph.D., Assistant Adjunct Professor
University of California, San Diego

Jim Martin, Ph.D., Associate Professor
Bryn Mawr College

Lex Merrill, Ph.D., Clinical Research Psychologist
Naval Health Research Center

Steve Nice, Ph.D., Scientific Director
Naval Health Research Center

John Overland, Computer Programmer/Analyst
Ogden Government Services

Kathy Rooney, R.N., West Coast Coordinator
Uniband, Inc.

Rex Sanderson, West Coast Coordinator
Management Assistance & Concepts Corporation

Marie Thomas, Ph.D., Personnel Research Psychologist
Navy Personnel Research and Development Center

Women Aboard Navy Ship Workshop p.2

Pat Thomas, M.S., Supervisory Research Psychologist
Navy Personnel Research and Development Center

Ross Vickers, Ph.D., Research Psychologist
Naval Health Research Center

Debbie Wingard, Ph.D., Associate Professor
University of California, San Diego

Kathleen Wright, Ph.D., Deputy Chief
Department of Military Psychiatry, Walter Reed Army Institute
of Research

APPENDIX B
REPORT TOPICS AND ANALYSIS PLANS

APPENDIX B

TENTATIVE REPORT TOPIC AREAS AND PROPOSED LEAD AUTHORS

B.1	INCIDENCE RATES OF DISEASE AND INJURY OCCURRING ABOARD SHIP REPORT Frank C. Garland, Ph.D	B-3
B.2	HEALTH BELIEFS ASSESSMENT REPORT LT Michael J. Schwerin, MSC, USNR	B-7
B.3	PSYCHOSOCIAL HEALTH AND WELL-BEING FACTORS REPORT James A. Martin, Ph.D., BCD	B-24
B.4	SHIPBOARD CONDITIONS AND UPPER RESPIRATORY DISEASE RISK IN ACTIVE-DUTY DEPLOYED NAVY PERSONNEL REPORT Edward D. Gorham, M.P.H.	B-29
B.5	PREGNANCY, USE OF CONTRACEPTION, AND FAMILY PLANNING ATTITUDES REPORT Marie D. Thomas, Ph.D. Patricia J. Thomas, M.A.	B-38
B.6	SELF-REPORTED SYMPTOM INVENTORY IN WOMEN ABOARD NAVY SHIPS REPORT Kathleen M. Wright, Ph.D.	B-43
B.7	GENDER DIFFERENCES IN RESPONSE TO STRESS REPORT Ross R. Vickers, Jr.	B-49
B.8	RELATIONSHIP OF FAMILY COMPOSITION TO PHYSICAL AND MENTAL HEALTH REPORT Dorothy J. Jeffreys, Ph.D. Theresa Russo, Ph.D. Lea Dougherty, MSW	B-53
B.9	HEALTH PROMOTION ISSUES REPORT Terry L. Conway, Ph.D.	B-69
B.10	WOMEN'S HEALTH CONDITIONS — SEGMENT I REPORT Donna Kritz-Silverstein Deborah Wingard	B-77
B.11	WOMEN'S HEALTH CONDITIONS — SEGMENT II REPORT Deborah Wingard Donna Kritz-Silvers	C-85

B.1 REPORT TOPIC AREA: Incidence Rates of Disease and Injury Occurring Aboard Ship Report

PROPOSED LEAD AUTHOR: Frank C. Garland, Ph.D.

ABSTRACT:

This report will include development of a report entitled "Incidence Rates of Disease and Injury Occurring Aboard Ship Report." This report will provide incidence rates of newly diagnosed cases of the specified disorders in women aboard ship. For example, incidence rates of adult-onset asthma, kidney infections, and other disorders listed can be calculated using the shipboard female population as the population at risk.

HYPOTHESIS:

Incidence rates of newly diagnosed cases can be calculated using the shipboard female population as the population at risk.

ANALYSIS PLANS:

Medical History Section:

Variables:

Independent:

The section of the questionnaire being examined obtains personal history of 10 medically-diagnosed diseases: asthma, migraine, anemia, depression, gonorrhea, syphilis, chlamydia, urinary tract infection, kidney infection, and hernia.

Dependent:

Subsequent sick call visits, hospitalizations, and self-reported medical conditions.

Co-variables:

Age, race, gender, occupation.

Item(s): Questionnaire Item 21, all forms. This is a closed-ended question with 10 categories, one for each diagnosis, and a position for marking age at first diagnosis.

Statistics:

Hypothesis Testing:

Hypotheses involving this section will be tested using contingency tables (Fleiss, 1981 #4), relative risk, 95 percent confidence intervals on relative risks (Katz, 1978 #3), and multiple logistic regression (Hosmer, 1989 #5) (Breslow, 1980 #8).

Descriptive:

Incidence rates of sick call visits will be reported according to medical history, with confidence intervals calculated using the Poisson (Lilienfeld, 1993 #6) or binomial confidence intervals (Armitage, #7).

Sample Size: N=10,000 (5,000 women and 5,000 men)

Item(s): Questionnaire Items 22-24, all forms. These are closed-ended questions, including yes/no items, and dates.

Statistics:

Hypotheses Testing:

Hypotheses involving this section will be tested using contingency tables (Fleiss, 1981), relative risk, 95 percent confidence intervals on relative risks (Katz, 1978), and multiple logistic regression (Hosmer, 1989; Breslow, 1980).

Descriptive:

Incidence rates of sick call visits will be reported according to medical history, with confidence intervals calculated using the Poisson (Lilienfeld, 1993) or binomial confidence intervals (Armitage).

Sample Size: N-10,000 (5,000 women and 5,000 men)

Validation Potential:

Diagnoses that were made during a hospitalization at a military health care facility can be verified using the CHAMPION database.

OB-GYN Availability:

Availability of medical supplies and equipment and OB-GYN care is an important issue needing evaluation aboard ship. It has also been speculated that some of the OB-GYN conditions

encountered during deployment could have been detected and dealt with before deployment, but that appointment schedules did not accommodate women awaiting deployment.

Item(s): Questionnaire Items 22-24, all forms. These are closed-ended questions, including yes/no items, and dates.

Statistics:

Hypotheses Testing:

A report will be developed involving testing and using the contingency tables (Fleiss, 1981), relative risk, 95 percent confidence intervals on relative risks (Katz, 1978), and multiple logistic regression (Hosmer, 1989; Breslow, 1980).

Descriptive:

Incidence rates of sick call visits will be reported according to medical history, with confidence intervals calculated using the Poisson (Lilienfeld, 1993) or binomial confidence intervals (Armitage).

Sample Size: N-10,000 (5,000 women and 5,000 men)

Validation Potential:

Diagnoses that were made during a hospitalization at a military health care facility can be verified using the CHAMPION database.

Recent Medical Care:

This section is not designed to produce a report per se, but rather to allow testing of hypotheses based on data from other sections of the questionnaire or sick call logs. This work will develop a data set consisting of date last seen by M.D., other professional, and hospital corpsman, and, for deployed personnel, date the individual was medically screened preceding deployment.

Variables:

Independent:

Date last seen by M.D., other professional, and hospital corpsman, and, for deployed personnel, date the individual was medically screened preceding deployment.

Dependent:

Subsequent sick call visits, hospitalizations, and self-reported medical conditions.

Co-variables:

Age, race, gender, occupation.

LITERATURE REVIEW: None.

BIBLIOGRAPHY: None.

B.2 REPORT TOPIC AREA: Health Beliefs Assessment Report

PROPOSED LEAD AUTHOR: LT Michael J. Schwerin, MSC, USNR

ABSTRACT:

This report will examine the health behavior of male and female U.S. Navy personnel aboard ships in relation to the Health Beliefs Model (Becker, 1974). The report attempts to explain health-seeking behavior by analyzing its relationship to antecedent conditions within the individual. Initially, willingness to seek health care for an illness is influenced by individual's perception of susceptibility to and severity of the illness. Health seeking action can be triggered by an individual's evaluation of health status. This evaluation reflects perceived susceptibility to and severity of a particular disease. Health-seeking behavior depends upon an individual's estimate of the potential benefits of the behavior in reducing susceptibility or severity. The estimated benefits are then weighed against perceptions of physical, psychological, financial, and other risks; costs; and barriers.

HYPOTHESIS:

This report will examine the perceptions of: susceptibility to disease, potential severity of disease, benefits of health-seeking, and barriers in the health-finding effort among male and female shipboard personnel in the U.S. Navy. Furthermore, the report will identify factors which effect individuals' perceptions of their health-seeking behavior (self-report of pathology) and factors which effect that person's actual health-care utilization (actual reasons for sick call visit).

The report will also address which HBM factors (perceived susceptibility to disease, perceived severity of disease, potential benefits and perceptions of barriers) may influence the gender differences that exist in health care utilization aboard ship. The report will also examine the HBM factors in traditional/non-traditional occupational roles, as initially examined by Nice and Hilton (1992).

ANALYSIS PLANS:

An identification of health care utilization barriers will also be sought. With additional information as to the perceived physical, psychological, and various other barriers to health care, both patient and health care providers will benefit.

Variables:

The Health Belief Questionnaire (HBQ; Norman & Fitter, 1995; Norman and Fitter, 1989) is based on the HBM (See Appendix 1). Items were selected for the HBQ from items in previous studies measuring the HBM (Berkanovic et al., 1981; Canlan, 1984; Champion, 1984; Cummings et al., 1978; Elder et al., 1985; Jette et al., 1981; King, 1982; Mainman et al., 1977; Norman & Fitter, 1989; Pill et al., 1988; Schwoon & School, 1979; Weissfeld et al., 1987). Cronbach alpha for each subscale appear in Table 1.

Table 1.
Cronbach alpha for Health Belief Model Questionnaire subscales

Subscale Name	A	B	C	D
Health Value	.54	.69	.77	.80
Health Comparison	.70	.75	---	---
Illness Activities	.56	.64	---	---
Susceptibility to Serious Illnesses	.89	.94	.91	.86*
Susceptibility to Health Problems	.54	.53	---	.90*
Severity of Serious Illnesses	.95	.95	.97	.86*
Severity of Health Problems	.58	.82	---	.90*
Barrier: Motivation	.84	.72	.75	.92
Barrier: Worries	.72	.71	.66	.76
Barrier: Reasons	.58	.76	---	.79
Barrier: Time Constraints	---	.90	.58	---

A Norman & Fitter (1989)

B Norman & Fitter (1991)

C Norman (1993)

D Norman & Conner (1993)

* Serious and Health Problems were combined into one scale.

The five scales of the HBQ include General Health Beliefs, Perceived Susceptibility, Perceived Severity, Perceived Benefits, and Perceived Barriers.

For the first scale, General Health Beliefs, three subscales were constructed. The first subscale measures health value ("How important do you think it is that people take special care of their health?"); the second subscale measures health comparison ("Compared to other people of your age, would you say you get ill much more/less often?"); and the third general health beliefs subscale measures illness activities ("When I'm ill, I try to keep going on as usual."). These subscales are essential in determining whether men and women place differential values on healthcare in general, regardless of available healthcare facilities.

The next series of scales directly measures the HBM. Perceived Susceptibility asks the individual's perceived vulnerability the Health problems (weight problems, high blood pressure) and Serious conditions (cancer, heart disease, stroke, heart attack).

Perceived Severity measures the respondent's concern of Health problems (weight problems, high blood pressure) and Serious conditions (cancer, heart disease, stroke, heart attack).

Perceived Benefits is measured by a single item, "How effective do you think health screening is in reducing your chances of getting a serious illness?". Cronbach alpha was not calculated for this single item.

Finally, Perceived Barriers is measured by four subscales: Time constraints ("I would have problems getting an appointment."); Motivation ("I'm too lazy."); Reasons ("I'm already seeing the doctor a lot."); and Worries ("Fear of the results of screening—of what they might find.").

The dependent measure for intent to utilize healthcare or not utilize healthcare could be measured by the item, "If you had the opportunity, how likely is it that you would use sick call?" Subjects would respond from 1-4 (very unlikely, unlikely, likely, very likely). The dependent measure of healthcare attendance could be measured as a dichotomous variable (1=yes; 2=no).

Statistics:

Differentiation between groups of people (high intent/low intent; utilize/do not utilize) will be necessary. Discriminant analysis appears to be an effective statistical tool in differentiating between two groups. Variables included in analysis will include subscales from the HBM (Health Value, Health Comparison, Illness Activities, Perceived Susceptibility of Health Problems, Perceived Susceptibility of Serious Conditions, Perceived Severity of Health Problems, Perceived Severity of Serious Conditions, Perceived Benefits, and Perceived Barriers: Time Constraints, Motivation, Reasons, and Worries).

Appendix 1

Health Beliefs Model Questionnaire Items and Constructs

Health Beliefs Model Questionnaire (Norman & Fitter, 1989; Norman & Fitter, 1991). All items are answered on a scale of 1–4, from very extremely negative, negative, positive, very positive (e.g., “1=not at all often; 2=not often; 3=often; 4=very often.”)

General Health Beliefs.

Health Value

1. How often do you think about your health?
2. How concerned are you about your health?
3. How important do you think it is that people take special care of their health?
4. How likely is it that you will try to do a better job of taking care of your health in the future?

Health Comparison

5. Compared to other people of your age, would you say you get ill much more/less (neg keyed) often?
6. Compared to other people of your age, when you do get ill would you say you get much more/less (neg keyed) often?
7. I seem to resist illness better than other people.

Illness Activities

8. In general, when you get ill, how much does it interfere with your usual activities?
9. When I'm ill, I try to keep going on as usual.
10. When I'm ill, I cut back on whatever I'm doing in order to get well.

Perceived Susceptibility. How likely do you feel it is that you will develop any of the following problems in the next 12 months?

Health Problems

11. Weight problems
12. High blood pressure

Serious Conditions

13. Cancer
14. Heart disease
15. Stroke
16. Heart attack

Perceived Severity. How serious a health problem do you think the following would be if you were to develop them?

Health Problems

- 17. Weight problems
- 18. High blood pressure

Serious Conditions

- 19. Cancer
- 20. Heart disease
- 21. Stroke
- 22. Heart attack

Perceived Benefits.

- 23. How effective do you think health screening is in reducing your chances of getting a serious illness?

Perceived Barriers. Which of the following reasons would stop you from attending a screening appointment?

Time Constraints

- 24. It would take up a lot of my spare time.
- 25. I would have problems getting to an appointment.
- 26. It would be too much effort.
- 27. I have other more important things to do.

Motivation

- 28. I'm uninterested.
- 29. I'm too lazy.

Reasons

- 30. I might be "told off."
- 31. I already feel healthy.
- 32. I don't know enough about it.
- 33. I'm already seeing the doctor a lot.

Worries

- 34. Fear of the results of screening—of what they might find.
- 35. It would be embarrassing.
- 36. Would you be worried about any aspects of a screening appointment?

Appendix 2

Health Beliefs Model Questionnaire

53a. Please use the following scale for the first 10 items below: 1=Not at all; 2=Somewhat; 3=Frequently; 4=Very much so.

- | | | | | | |
|-----|--|---|---|---|---|
| 1. | How often do you think about your health? | 1 | 2 | 3 | 4 |
| 2. | How concerned are you about your health? | 1 | 2 | 3 | 4 |
| 3. | How important do you think it is that people take special care of their health? | 2 | 3 | 4 | |
| 4. | How likely is it that you will try to do a better job of taking care of your health in the future? | 1 | 2 | 3 | 4 |
| 5. | Compared to other people of your age, would you say you get ill much more often? | 2 | 3 | 4 | |
| 6. | Compared to other people of your age, when you do get ill would you say you get ill much more often? | 1 | 2 | 3 | 4 |
| 7. | I seem to resist illness better than other people. | 1 | 2 | 3 | 4 |
| 8. | In general, when you get ill, how much does it interfere with your usual activities? | 3 | 4 | | |
| 9. | When I'm ill I try to keep going on as usual. | 1 | 2 | 3 | 4 |
| 10. | When I'm ill I cut back on whatever I'm doing in order to get well. | 1 | 2 | 3 | 4 |

53b. How likely do you feel it is that you will develop any of the following problems in the next 12 months? Please use the following scale to answer the next six questions: 1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely.

- | | | | | | |
|-----|---------------------|---|---|---|---|
| 11. | Weight problems | 1 | 2 | 3 | 4 |
| 12. | High blood pressure | 1 | 2 | 3 | 4 |
| 13. | Cancer | 1 | 2 | 3 | 4 |
| 14. | Heart disease | 1 | 2 | 3 | 4 |
| 15. | Stroke | 1 | 2 | 3 | 4 |
| 16. | Heart attack | 1 | 2 | 3 | 4 |

53c. How serious a health problem do you think the following would be if you were to develop them? Please use the following scale to answer the next six questions: 1=Not at all severe; 2=Not severe; 3=Severe; 4=Very severe.

- | | | | | | |
|-----|---------------------|---|---|---|---|
| 17. | Weight problems | 1 | 2 | 3 | 4 |
| 18. | High blood pressure | 1 | 2 | 3 | 4 |
| 19. | Cancer | 1 | 2 | 3 | 4 |
| 20. | Heart disease | 1 | 2 | 3 | 4 |
| 21. | Stroke | 1 | 2 | 3 | 4 |
| 22. | Heart attack | 1 | 2 | 3 | 4 |

53d. Use the following scale to answer the next question: 1=Not at all effective; 2=not effective; 3=Effective; 4=Very effective.

23. How effective do you think health screening is in reducing your chances of getting a serious illness? 1 2 3 4

53e. Which of the following reasons would stop you from going to sick call? 1=Very untrue; 2=Untrue; 3=True; 4=Very true.

24. It would take up a lot of my spare time. 1 2 3 4

25. I would have problems getting to an appointment. 1 2 3 4

26. It would be too much effort. 1 2 3 4

27. I have other more important things to do. 1 2 3 4

28. I'm uninterested. 1 2 3 4

29. I'm too lazy. 1 2 3 4

30. I might be 'told off.' 1 2 3 4

31. I already feel healthy. 1 2 3 4

32. I don't know enough about it. 1 2 3 4

33. I'm already seeing the doctor a lot. 1 2 3 4

34. Fear of the results of screening — of what they might find. 1 2 3 4

35. It would be embarrassing. 1 2 3 4

36. Would you be worried about any aspects of a screening appt.? 1 2 3 4

LITERATURE REVIEW:

The Health Beliefs Model:

The Health Beliefs Model (HBM) was conceptualized as a framework for understanding why individuals did or did not engage in a wide variety of health-related actions (Janz & Becker, 1984). Since the 1950's, the HBM has been utilized in immunization programs (Rosenstock, 1974), preventive breast self-examination (Hallas, 1982; Calnan & Moss; 1984), adherence to therapeutic regimens (Becker, Drachman & Kirscht, 1972; Cummings, Becker, Kirscht, et al., 1982; Gordis, Markowitz & Lilienfeld, 1969; Harris, Skyler, Linn, et al., 1980; Inui, Yourtee & Williamson, 1976; Kirscht & Rosenstock, 1977; Taylor, 1979), preventive health behavior (Langlie, 1977), smoking (Weinberger, Greene, Mamlin, et al., 1981), and dietary compliance (Becker, Maiman, Kirscht, Haefner & Drachman, 1977). In a review of the results of 29 HBM-related investigations, Janz and Becker (1984) conclude that there is "substantial empirical support for the HBM" (p. 1). Additionally, Winett (1995) identifies the HBM as an effective means of enhancing health promotion. He states that the HBM, as well as the theory of reasoned action (Ajzen & Fishbein, 1984) and protection motivation theory (Rogers, 1984) "all strive to present salient information to specific individuals to increase a sense of vulnerability, convey the notions of normative changes favorable to adopting the product, and emphasize the benefits to costs of adoption (i.e., increase outcome expectancy)" (p. 347).

Health Beliefs Model and Utilization of Health Care:

Utilization of health care and the role of the HBM has been researched on several occasions in the past five years. Norman and Fitter (1989) examined the role of the HBM in attending health screenings. This study employed a new HBM questionnaire and the Health Locus of Control questionnaire. Correlational and regression analyses show general health beliefs to be poor predictors of intent to attend screenings while significant predictors include perceptions of the efficacy of screenings, perceptions of barriers (worries of the screening appointment), and perceived susceptibility to common illness. Of the demographic variables included in analyses (age, sex, marital status, and education level), only marital status was a significant predictor of intent to utilize health screening ($r = -0.11$, $p < .05$).

Norman and Fitter (1991) then sought to identify variables that would be predictive of health screening attendance. An HBM questionnaire similar to that of the previous study was used. A stepwise discriminate analysis showed that patients' beliefs about the severity of high blood pressure and weight problems, worries about the screening appointment, and the extent to which patients reported cutting back on everyday activities when ill discriminated between screening attenders and non-attenders.

Norman (1993) examined the HBM and intent to attend a health check. The HBM questionnaire used in previous studies (Norman and Fitter, 1989; 1991) was used in this study. Significant correlates of health check intent to attend included health value, efficacy of doctors,

benefits, motivational barriers, time barriers, and worries. Significant correlates of intent were introduced into a stepwise regression formula to identify predictors of attendance. Significant predictors included benefits of health checks, motivational barriers, and time barriers. These three variables accounted for 59 percent of the variance associated with intent.

Significant correlates of attendance included health value and intent. As with intent, significant correlates were entered into a stepwise regression formula to determine significant predictors of attendance. Health value was the only significant predictor of attendance, accounting for four percent of the variance.

Norman and Conner (1993) used the HBM questionnaire as well as the Theory of Planned Behaviour (TPB: Ajzen, 1988; 1991) to predict attendance at health checks. HBM factors which showed between group differences (attenders and non-attenders) included health value, benefits, and efficacy of health checks. HBM factors which were significantly predictive of attendance, as shown by a discriminant analysis, included health value, benefits of health checks, and motivational factors.

Gender Differences in Health Care Utilization:

Gender differences in health care utilization have been shown to exist in both civilian and military populations. In a civilian population controlling for pregnancy health care utilization and age, numerous studies have demonstrated that women utilize health care more than men (Andersen & Anderson, 1967; Briscoe, 1987; Cleary, Mechanic & Greenley, 1982; Hankin, 1974; Kohn & white, 1976; Nathanson, 1975; Tessler, Mechanic & Dimond, 1976; Verbrugge, 1979; Verbrugge, 1985; Verbrugge & Depner, 1980). In an examination of U.S. Navy shipboard personnel and their utilization of health care, Nice and Hilton (1992) found that shipboard women utilize health care more than men and that women in non-traditional occupations visited sick call significantly more than women in traditional occupations. It seems apparent that gender differences in health care utilization exist in civilian and military populations.

BIBLIOGRAPHY:

1. Ajzen, I. (1988). Attitudes, personality, and behaviour. Milton Keynes: Open University Press.
2. Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behavior and Human Developmental Processes*, 50. 179-211.
3. Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall
4. Andersen, R., & Anderson, O.W. (1967). A decade of health services. Chicago: University of Chicago Press
5. Becker, M.H. (Eds.) (1974). The health belief model and personal health behavior. *Health Educational Monographs*, 2, 324-508.

6. Becker, M.H., Drachman, R.H., and Kirscht, J.P. (1972). Predicting mothers' compliance with pediatric medical regimens. *Journal of Pediatrics*, 81, 843-853.
7. Becker, M.H., Maiman, L.A., Kirscht, J.P., Haefner, D.P., and Drachman, R.H. (1977). The health belief model and prediction of dietary compliance: A field experiment. *Journal of Health Society Behavior*, 18, 348-366.
8. Briscoe, M.E. (1987). Why do people go to the doctor? Sex differences in the correlates of GP consultation. *Social Science and Medicine*, 25, 507-513.
9. Canlan, M.W. (1984). The health belief model and participation in programmers for the early detection of breast cancer. *Social Science and Medicine*, 19, 823-830.
10. Canlan, M.W. and Moss, S. (1984). The health belief model and compliance with education given at a class on breast self-examination. *Journal of Health Society Behavior*, 25, 198-210.
11. Champion, V.L. (1984). Instrument development of the health belief model constructs. *Advances in Nursing Science*, 6, 73-85.
12. Cleary, P.D., Mechanic, D., and Greenley, J.R. (1982). Sex differences in medical care utilization: An empirical investigation. *Journal of Health and Social Behavior*, 23, 106-109.
13. Cummings, K.M., Becker, M.H., Kirscht, J.P., et al. (1982). Psychosocial factors affecting adherence to medical regimens in a group of hemodialysis patients. *Medical Care*, 20, 567-579.
14. Cummings, K.M., Jette, A.M., and Rosenstock, I.M. (1978). Construct validation of the health belief model. *Health Education Monograph*, 6, 394-405.
15. Elder, G.P., Artz, L.M., Beaudin, P., Carleton, R.A., Lasater, T.M., Peterson, G., Rodrigues, A., Guandagnoli, E., and Celicar, W.F. (1985). Multivariate evaluation of health attitudes and behavior: development and validation of a method for health promotion research. *Preventive Medicine*, 14, 34-54.
16. Gordis, L., Markowitz, M., and Lilienfeld, A.M. (1969). Why patients don't follow medical advice: A study of children on long-term antistreptococcal prophylaxis. *Journal of Pediatrics*, 75, 957-968.
17. Hallal, J.C. The relationship of health beliefs, health locus of control, and self-concept to the practice of breast self-examination in adult women. *Nursing Research*, 31, 137-142.
18. Hankin, J. (1974). Psychological distress and the use of medical services. Unpublished doctoral dissertation, University of Wisconsin-Madison.
19. Harris, R., Skyler, J.S., Linn, M.W., et al. (1980). Relationship between the health belief model and compliance as a basis for intervention in diabetes mellitus. In *Psychological Aspects of Diabetes in Children and Adolescents, Pediatric Adolescent Endocrinology* (Edited by Laron, Z., and Galatzer, A.), 10, 123-132.
20. Inui, T.S., Yourtee, E.L., and Williamson, J.W. (1976). Improved outcomes in hypertension after physician tutorials. *Annual Internal Medicine*, 84, 646-651.
21. Janz, N.K. and Becker, M.H. (1984). The health belief model: a decade later. *Health Education Quarterly*, 11, 1-47.

22. Jette, A.M., Cummings, K.M., Brock, B.M., Phelps, M.C., and Naessens, J. (1981). The structure and reliability of health belief indices. *Health Services Research*, 16. 81-98.
23. King, J. (1982). The impact of patients' perceptions of high blood pressure on attendance at screening. *Social Sciences and Medicine*, 16. 1079-1091.
24. Kirscht, J.P. and Rosenstock, I.M. (1979). Patient adherence to antihypertensive medical regimens. *Journal of Community Health*, 3, 115-124.
25. Kohn, R., and White, K. (Eds.) (1976). *Health care — An international study: Report of the World Health Organization/international collaborative study of medical care utilization*. London: Oxford University Press.
26. Langlie, J.K. (1977). Social networks, health beliefs, and preventive health behavior. *Journal of Health Social Behavior*, 18, 244-260.
27. Mainman, L.A., Becker, M.H., Kirscht, J.P., Haefner, D.P., and Drachman, R.H. (1977). Scales for measuring health beliefs model dimensions: a test of the predictive value, internal consistency and relationships among beliefs. *Health Education Monographs*, 5. 215-230.
28. Nathanson, C.A. (1975). Illness and the feminine role: A theoretical review. *Social Science and Medicine*, 9, 57-62.
29. Nice, D.S. and Hilton, S. (1992). Sex differences and occupational influences on health care utilization aboard U.S. Navy ships. *Military Psychology*, 6(2), 109-123.
30. Norman, P., and Fitter, M. (1989). Intention to attend a health screening appointment: some implications for general practice. *Counseling Psychology Quarterly*, 2. 261-272.
31. Norman, P., and Fitter, M. (1991). Predicting attendance at health screening: organizational factors and patients' health beliefs. *Counseling Psychology Quarterly*, 4. 143-155.
32. Pill, R., French, J., Harding, K., and Stott, N.C.H. (1988). Invitation to attend a health check in a general practice setting: comparison of attenders and non-attenders. *Journal of the Royal College of General Practitioners*, 29. 53-56.
33. Rogers, R.W. (1984). Changing health-related attitudes and behavior: The role of preventive health psychology. In J.H. Harvey, J.E. Maddux, R.P. McGlynn, and C. D. Stoltenberg (Eds.), *Social perception in consulting and clinical psychology* (Vol 9, 91-112). Lubbock: Texas Tech University.
34. Rosenstock, I.M. (1974). The health belief model and preventive health behavior. *Health Education Monograph*, 2, 354-386.
35. Schwoon, D.R. and Schmool, H.J. (1979). Motivation to participate in cancer screening programmers. *Social Science and Medicine*, 13. 283-286.
36. Taylor, D.W. (1979). A test of the health belief model in hypertension. In *Compliance in Health Care* (Edited by Haynes, R.B., Taylor, D.W., and Sackett, K.L.), 103-109, Johns Hopkins University Press: Baltimore.

37. Tessler, R., Mechanic, D., and Dimond, M. (1976). The effect of psychological distress on physician utilization: A prospective study. *Journal of Health and Social Behavior*, 17, 353-364.
38. Verbrugge, L.M. (1979). Female illness rates and illness behavior: Testing hypotheses about sex differences in health. *Women and Health*, 4, 61-79.
39. Verbrugge, L.M. (1985). Gender and health: An update on hypotheses and evidence. *Journal of Health and Social Behavior*, 26, 156-182.
40. Verbrugge, L.M., and Depner, C.E. (August, 1980). Sex differences in health: Testing sociological hypotheses. Paper presented at the meeting of the American Sociological Association, New York.
41. Wallston, K.A., and Wallsgon, B.S. (1981). Health locus of control scales. In *Research with the Locus of Control Construct*, 2nd edn (Edited by Lefcourt, H.) Academic Press: New York.
42. Weinberger, M., Green, J.Y., Mamlin, J.J., et al. (1981). Health beliefs and smoking behavior. *American Journal of Public Health*, 71, 1253-1255.
43. Weissfeld, J.L., Brock, B.M., Kirscht, J.P., and Hawthorne, V.M. (1987). Reliability of health belief indices: confirmatory factor analysis in sex, race, and age subgroups. *Health Services Research*, 21, 777-793.
44. Winett, R.A. (1995). A framework for health promotion and disease prevention programs. *American Psychologist*, 50, 5, 341-350.

B.3 REPORT TOPIC AREA: Psychosocial Health and Well-Being Factors Report

PROPOSED LEAD AUTHOR: James A. Martin, Ph.D., BCD

ABSTRACT:

This report will explore three broad domains of psychosocial research: sources of current psychosocial stress, perceived impact of stressors, and the impact of distress on the performance of military duties and personal life responsibilities. The primary focus will be psychosocial stressors in the work environment aboard ship and the perceived impact of these stressors on current levels of psychosocial distress. Other military and personal life stressors also will be examined as part of assessment of the overall quality of life of women aboard ship. The report also will examine the impact of distress as it relates to perceived performance of military duties and personal life responsibilities, as well as the impact of distress on objective measures of health, well-being, job performance, and personal life role performance.

HYPOTHESIS: (A representative and not an exhaustive list):

Primary Focus (includes both a duty and personal life focus):

Determine current sources of psychosocial stress.

Determine current level of psychosocial distress.

Determine the impact of distress on duty performance.

Determine the impact of distress on health and well-being.

Determine factors associated with stress mediation.

Determine factors associated with enhanced coping.

Hypotheses and Expected Findings: (A representative and not an exhaustive list):

Women will report more stress related to onboard ship duty issues and living conditions/relationships.

Women will experience more distress related to onboard ship duty and living conditions/relationships.

Stress issues related to non-duty personal life and background issues will be different for women and will present an added stressor.

Women's self-assessed and objective performance of duty will not differ from men.

Women will present a less favorable self-assessment of personal/family life performance and will report a more negative overall assessment of physical, psychological, and behavioral well-being.

ANALYSIS PLANS:

Variables of Interest: (A representative and not an exhaustive list):

Independent: Life stress variables.

Dependent: Psychological distress measure (CES-D short form) and self-assessed job performance and personal life measures, health symptoms and health care utilization, objective health indicators, objective duty status indicators.

Co-Variables/Control Variables: Demographic characteristic, including age, race, education, marital status, number of children, ship type, ship living conditions and deployment status, peer and leader relationship variables.

Other sources of data that will be used to support this effort:

The Navy's 1995 POWR Assessment: Perceptions of Wellness and Readiness (POWR) data will be used for comparison purposes, to include validation of the CES-D short form versus the full CES-D and the Hopkins Symptom Checklist as a useful measure of distress for Navy women. Data from the Navy's 1995 Antarctic Health Survey will also be used to validate the usefulness of the stress, distress, and performance variables used in the current U.S. Navy Shipboard Health Survey. Data will also be used from associated medical and personnel status records. A major by-product of this effort will be the intended confirmation of the CES-D short form as a reliable, valid, and useful brief measure of psychosocial distress for future Navy health studies. Currently, there are no psychosocial distress scales that have been validated with military women.

Statistics:

Data analysis will make use of a full range of descriptive statistics. Multivariate analyses using a variety of reliability, factor analytic, and multiple regression methods will be used to establish the appropriateness (reliability, validity, and predictive utility) of the survey's individual items, measures, and scales, and to determine patterns of relationships among and between the variables of interest. All data will be analyzed using SPSS generated statistical programs.

LITERATURE REVIEW:

This research is grounded in the extensive "stress and well-being" literature that has evolved in the health and social science disciplines of psychology, psychiatry, sociology, social work, nursing, and epidemiology (Cohen, Kessler, and Gordon, 1995).

The focus on stress, stress response, and physical, psychological, and behavioral outcomes derives from the work of Mason (1975), builds on the concepts of life stress events (Dohrenwend, Raphael, Schwartz, Stueve, and Skodol, 1993) and stressful life conditions (Wheaton, 1990), and the potential cumulative effects of daily stressors on physical, psychological, and behavioral health and well-being (Bolger, DeLongis, Kessler, Reed, and Neal, 1987). The concept of well-being is rooted in the work of Campbell (1976) and maintains its usefulness as demonstrated by the recent interest of the Secretary of Defense to enhance the quality of life for members of the military services and their families.

The model for understanding the stress process derives primarily from the work of Lazarus (Lazarus and Folkman, 1984) and includes both an understanding of the stress appraisal process, the concept of coping (Lazarus, 1981), and the full range of human responses that may be elicited by the stress-coping process (Cohen, Evans, Krantz, and Stokols, 1986).

This research builds on a long history of military-specific stress and well-being research conducted at the Army Research Institute for the Social and Behavioral Sciences (ARI), the Walter Reed Army Institute of Research (WRAIR), and the Naval Health Research Center (NHRC). It also directly builds on the research efforts underway as part of the 1994 Defense Women's Health Research Program. In this regard, Dr. Martin has collaborated extensively with Navy scientists in the design phase of the current U.S. Navy Shipboard Health Survey. In addition, he is collaborating with Dr. Jessica Wolfe, Director of the Veterans Administration Women's Health Research Center, on a longitudinal study of health and well-being issues related to women's service in the Gulf War. Dr. Martin is a Guest Scientist at the Department of Military Psychiatry, Walter Reed Army Institute of Research, and is involved in the analysis of related military duty and military life stress data from WRAIR's multi-faced Gulf War studies. Prior to his retirement from active duty, Colonel Martin was a principal investigator in this WRAIR scientific program.

BIBLIOGRAPHY:

1. Baun, A., and Grunberg, N.E. (1991). Gender, stress, and health. *Health Psychology*, 10:80-85.
2. Bolger, N., DeLongis, A., Kessler, R.C., and Schilling, E. (1989). The effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, 57, 808-818.
3. Cameron, L., Leventhal, E.A., and Leventhal, H. (1995). Seeking medical care in response to symptoms and life stress. *Psychosomatic Medicine*, 57:35-47.
4. Campbell, A., Converse, P.E., and Rogers, W. L. (1976). *The quality of American life*. New York: Russell Sage Foundation.

5. Cohen, S., Evans, G.W., Krantz, D.S. and Stokols, D. (1986). Behavior, health, and environmental stress. New York: Plenum Press.
6. Cohen, S., Kessler, R.C., and Gordon, L.U. (1995). Measuring stress: a guide for health and social scientists. New York: Oxford University Press.
7. Dohrenwend, B.P., Raphael, K.G., Scharitz, S., Stueve, A., and Skodol, A. (1993). The structural event probe and narrative rating method (SEPARATE) for measuring stressful life events. In L. Goldberger and S. Brsnitz (Eds.) Handbook of stress: Theoretical and clinical aspects (2nd ed., pp. 174-199). New York: The Free Press.
8. Holberg, A. and White, J. (1992). Health status of women in the armed forces. *Armed Forces and Society*, 4:514-533.
9. Lazarus, R.S. (1981). The stress and coping paradigm. In C. Eisdorfer, D. Cohen, A. Gleinman, and P. Maxim (eds.) Models for clinical psychopathology. (pp. 177-214) New York: Spectrum.
10. Lazarus, R.S., and Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.
11. Mason, J.W. (1975). A historical view of the stress field, part 2. *Journal of Human Stress I*, 22-36.
12. Melchior, L.A., Huba, G.J., Brown, V.B., and Reback, C.J. (1993). A short depression index for women. *Educational and Psychological Measurement*, Vol. 53(4), 1117.
13. Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, Vol. 1(3), 385-401.
14. Wheaton, B. (1990). Life transitions, role histories, and mental health. *American Sociological Review*, 55, 209-223.
15. Wool, C.A. and Barsky, A.J. (1994). Do women somatize more than men? *Psychosomatics*, 35:445-452.

B.4 REPORT TOPIC AREA: Shipboard Conditions and Upper Respiratory Disease Risk in Active-Duty Deployed Navy Personnel Report

PROPOSED LEAD AUTHOR: Edward D. Gorham, M.P.H.

ABSTRACT:

This report will focus on the upper respiratory tract infections which are the most common infectious diseases in the United States in adults, and pose a considerable health threat to the shipboard population. Many viral agents known to cause acute respiratory illness are transmissible through indoor air. Historically, military populations aggregated for training or deployment have experienced high incidence rates of acute upper respiratory infections (URI), and URI is the leading cause of outpatient illness in active-duty Navy personnel assigned to ships. However, the associations between shipboard ventilation and crowding in living spaces with incidence rates of upper respiratory infections are not well defined. This report will be designed to assess the relationship between incidence rates of acute URI as determined from sick call visits aboard a Navy aircraft carrier during deployment and ventilation characteristics (including rate of air change in cubic feet per minute, percent fresh air and number of square feet per person based on personnel berthing assignments).

HYPOTHESIS:

Berthing space crowding (square feet per person) is not positively related to incidence of sick call visits in active-duty Navy personnel living aboard an aircraft carrier during deployment (N=5000).

Berthing space ventilation rate (cubic feet of air per minute) and ventilation index (cubic feet of air per minute per person) are not inversely related to incidence of sick call visits during deployment in active-duty Navy personnel living aboard an aircraft carrier (N=5000).

Berthing space percent fresh air is not inversely related to incidence of sick call visits during deployment in active-duty Navy personnel living aboard an aircraft carrier (N=5000).

Primary Objectives:

To evaluate the potential relationship between crowding in berthing areas and incidence of sick call visits for URI.

To evaluate the potential relationship between ventilation characteristics in berthing areas and incidence of sick call visits for URI.

To determine incidence rates of sick call visits for URI by work division, berthing space, age, race, and gender.

To describe the temporal association between port call visits and frequency of URI sick call visits.

Additional Objectives:

To determine if self-reported occupational exposure to dust, vapors, or fumes is positively related to incidence of sick call visits for URI (N=700¹).

To determine if self-reported cigarette smoking is positively related to incidence of sick call visits for URI (N=700¹).

To determine if self-reported passive smoke exposure or active smoking is positively related to incidence of sick call visits for URI (N=700¹).

ANALYSIS PLANS:

Study Population:

The study population for the testing of primary hypotheses will consist of approximately 5,000 active-duty enlisted and officer personnel serving aboard a U.S. Navy aircraft carrier. For secondary hypotheses, 350 women and 350 men, matched on paygrade, work division, occupation, race, and date of birth $\pm$ 3 years, will fill out a questionnaire that will ascertain self-reported occupational exposures, active and passive smoking, and URI symptoms.

Crowding and Ventilation Measurement:

Individual information on work division and sleeping quarters will be obtained through rosters from the Personnel and Supply Divisions aboard ship. Populations at risk for berthing spaces and work divisions will be determined using these rosters. Ventilation and design specifications of berthing spaces will be determined from technical drawings available at the U.S. Navy Technical Library located at the 32nd Street Naval Station in San Diego. From these sources, a crowding and ventilation index will be determined for the ship berthing spaces (N=70). To further describe ventilation characteristics in berthings areas, average overnight ambient carbon dioxide levels will be measured in a sample of berthing compartments using Draeger Direct Reading Diffusion Tubes. Incidence rates for URI will be determined using sick call visit logs.

¹ 350 women and a matched sample of 350 men, matched on paygrade, work division, occupation, race, and date of birth, $\pm$ 3 years.

Case Definition:

Patients presenting to sick call with a sore throat, runny nose, cough, or sneezing, without a self-reported history of a respiratory allergy within the past 90 days will be defined as cases. Fever will be noted if present. This definition is designed to capture acute respiratory diseases of known or suspected viral origin (ICD-9 codes 460-466,480). The case definition will exclude diagnoses of streptococcal infections (ICD-9 code 034), allergic rhinitis (ICD-9 code 477), influenza (ICD-9 code 487), and bacterial pneumonias (ICD-9 codes 481-483), although these will be ascertained and subject to surveillance. Only first presentation for an individual within a 30-day period will be accepted. Follow-up visits for the same individual within a month of the first diagnosis will be excluded. Criteria are listed in Attachment 3.

Sample Size and Power:

Expected Incidence of URI:

The incidence of URI in this population is expected to be approximately 28 to 43 per 1,000 per month based on previous experiences of deployed U.S. Navy aircraft carriers (Table 1).

Statistical Power:

This study is planned to have sufficient power for the testing of primary hypotheses to detect relative risks in the range of 1.3 to 1.5 assuming a multiple logistic model, analyses by quartiles, a 2-sided alpha level of 0.05, and 80 percent power.

Analysis Plan:

Using a prospective study design, incidence rates will be determined by age, gender, race, work division, occupation, paygrade, berthing space crowding index, berthing space ventilation rate, ventilation rate in cubic feet per minute per person, and percent fresh air (N=5000). In a subgroup (N=700), incidence rates will also be determined by self-reported occupational exposures, smoking status, and passive smoke exposure.

The main hypotheses will be tested using logistic regression with the dependent variable being incidence of upper respiratory infection and independent variables of crowding index, ventilation rate, and percent of fresh air (quartiles). Potential confounding variables include race, gender, age, work division, and paygrade. To evaluate the potential association between crowding and ventilation indices in berthing areas with incidence of sick call visits for those berthing areas, scatterplot diagrams will be constructed and the appropriate correlation statistic will be applied. A Pearson correlation coefficient will be used if the ventilation index and incidence rates are distributed normally by berthing area. Spearman's Rank or Kendall's Tau correlation coefficients will be used if either variable is not normally distributed or cannot be readily transformed.

Respiratory disease frequency and incidence by ship size and deployment, U.S. Navy, 1967-1985									
Overall illness frequency and incidence per 1000 per day, Indian Ocean Deployment, 1985									
	Small		Medium		Large		Expected number* aboard aircraft carrier with 5000		
	Destroyers/frigates (N=3)		Cruisers (N=1)		Carriers (N=2)				
Respiratory Disease	Frequency	Rate	Frequency	Rate	Frequency	Rate	in 1 month	in 3 months	
URI	106	2.24	34	1.9	650	1.44	216	648	
Influenza	5	0.11	0	0.0	323	0.72	108	324	
Overall illness frequency and incidence per 1000 per day, European Deployment, 1985									
	Small		Medium		Large		Expected number* aboard aircraft carrier with 5000		
	Destroyers/frigates (N=5)		Cruisers (N=3)		(Carriers (N=1)				
Respiratory Disease	Frequency	Rate	Frequency	Rate	Frequency	Rate	in 1 month	in 3 months	
URI	438	3.58	235	4.04	147	0.96	144	432	
Influenza	40	0.33	8	0.14	24	0.16	24	72	

*based on the incidence rate aboard carriers in this deployment

Source: Blood CG, Griffith DK, Ship size as a factor in illness incidence among US Navy vessels. Mil Med. 1990; 155:310-314.

LITERATURE REVIEW:

Acute upper respiratory infections (URIs) encompass a large group of illnesses of known or suspected viral origin, but which can be complicated by bacterial infection (Benenson, A.S., Ed., 1990). Clinically, URIs are often divided according to whether fever is present. Known viral agents causing acute febrile respiratory diseases (ICD-9 codes 461-466,480) include parainfluenza viruses, adenoviruses, rhinoviruses, respiratory syncytial virus, and some coronaviruses, coxsackieviruses, and echoviruses. The symptoms of these viral infections include fever, headache, general achiness, and cold-like symptoms. The other major category of URIs in which fever is generally absent, except in young children, is the common cold (ICD-9 code 460). These infections are characterized by sneezing, lacrimation, nasopharyngeal irritation, and chilliness (Benenson, Ed., 1990). Over 100 serotypes of rhinovirus have been identified as agents for colds, along with a few coronaviruses, but virus can be demonstrated in cell or tissue culture in only 20 to 35 percent of cultured cases (Benenson, Ed., 1990). It has been estimated that the etiologic agents responsible for almost one-half of all colds are unknown (Benenson, Ed., 1990; Garibaldi, 1985).

Health and Social Impact of URIs:

Upper respiratory tract diseases are the most common infectious diseases among adults in the United States (Garibaldi, 1985). Acute URIs also cause significant morbidity and mortality among children and older adults (Benenson, Ed., 1990). The health threat which URIs pose to children and older adults, and the magnitude of acute disability which URIs account for in adults, make them a major health and economic concern. In the United States, acute respiratory disease annually accounts for an estimated 1.25 million hospitalizations and 75 million physician visits. The direct medical costs for URIs have been estimated at 15 billion dollars annually, and the indirect cost associated with absenteeism and lost income due to URIs approaches 60 billion dollars annually (Dixon).

Historical Background:

Outbreaks of acute respiratory disease, pneumonia, and influenza have been documented during mobilization and deployment of military populations since at least 1500 A.D. (Paine). Acute respiratory diseases were responsible for 42 percent of all illness and 78 percent of all disease deaths in WWI (Love, 1922). Respiratory disease outbreaks occurred among workers on the Panama canal and in mines in South Africa (Gorgas, 1914). In a classic review, Finland (1942) noted that pneumonia outbreaks in these populations were associated with overcrowding, and the highest attack rates occurred among new laborers. As early as 1880, the Surgeon General of the Navy reported that respiratory diseases were the most common illnesses among sailors (U.S. Government Printing Office, 1880).

Because of the impact that respiratory disease, particularly influenza and other infectious diseases, had on military personnel, the U.S. Department of War established a board in 1941 for

the "Investigation and Control of Influenza and Other Epidemic Diseases in the Army." This board later became the Armed Forces Epidemiological Board (U.S. Government Printing Office, 1990). A large portion of the modern understanding of the epidemiology of respiratory disease is due to the work of military and civilian scientists associated with this board. This research led to major advances in the prevention of respiratory diseases, including development of influenza vaccine, adenovirus vaccine, purified polysaccharide pneumococcal vaccine, and antibacterial prophylaxis against *Streptococcus pyogenes*.

Despite these advances, however, and several epidemiologic and serologic investigations of acute URI in military (Hoeffler, 1975; Miller, 1964; Brundage, Scott, Lednar, et al, 1988; Evans, 1975) and civilian populations (Robertson, Burge, Hedge, et al, 1985; Sterling, Sterling, 1983), acute upper respiratory disease is still the leading cause of outpatient morbidity in many civilian and military populations, including active-duty Navy personnel assigned to ships (Gray, Mitchell, Tueller, Cross, Amundson, 1994).

Rationale for the Primary Objectives:

Ventilation, Crowding, and URI. Many of the leading infectious agents known to cause respiratory illness are transmissible through indoor air (Couch, 1981; Dick, Jennings, Mink, et al, 1978). A few studies have reported associations between ventilation characteristics of buildings and acute upper respiratory disease incidence (Brundage, Scott, Lednar, et al, 1988; Robertson, Burge, Hedge, et al, 1985; Sterling, Sterling, 1983). Brundage, et al (1988) found that incidence rates of acute febrile respiratory diseases at four Army training centers were fifty percent higher in buildings with closed ventilation systems. A cross-sectional survey reported that rhinitis was five times as prevalent (28 percent versus 5 percent) in air-conditioned buildings compared with naturally ventilated buildings (Robertson, Burge, Hedge, et al, 1985).

It is hypothesized that the ventilation characteristics of shipboard berthing spaces and the density and spatial relationships of their occupants may place some personnel at increased risk of URIs. Additionally, the aggregation of susceptibles in the ten air wings (N=200 each) at the beginning of the voyage may place these personnel (who share berthing spaces) at increased risk of URI. The temporal relationship between port call visits and URI admission frequency will also be determined for all ship personnel (N=5000).

BIBLIOGRAPHY:

1. Benenson, A.S. (Ed.) (1990). Control of Communicable Diseases in Man, 15th edition. Washington D.C.: American Public Health Association.
2. Garibaldi, R.A. (1985). Epidemiology of community acquired respiratory tract infections in adults. American Journal of Medicine, 78:32-37.
3. Dixon, R.E. Economic costs of respiratory tract infections in the United States. American Journal of Medicine, 78:45-51.

4. Paine, W. A treatise on the principles and practice of medicine and pathology, 1866:144. Philadelphia: University Publishing Company.
5. Love, A.G. (1922). A brief summary of the vital statistics of the U.S. Army during the world war. *Mil Surg.* 1:139-168.
6. Gorgas, W.C. (1914) Recommendations as to sanitation concerning employees of the mines on the Rand made to the Transvaal Chamber of Mines. *JAMA*, 62:1855-65.
7. Finland, M. (1942). Recent advances in the epidemiology of pneumococcal infections. *Medicine*, 21:307-344.
8. U.S. Navy, Sanitary and Statistical Report of the Surgeon-General of the Navy for the year 1880, Vol. VI. (1880). Washington, D.C.: US Government Printing Office.
9. The Armed Forces Epidemiological Board. Its First Fifty Years 1940-1990. (1990). Washington, D.C.: US Government Printing Office.
10. Hoefler, D.F. (1975). Current patterns of acute respiratory disease in the United States Navy and Marine Corps. *Yale Journal of Biological Medicine*, 48:171-178.
11. Miller, L.F. (1964). Acute respiratory infections in Naval personnel. *Mil Med*, 129:526-532.
12. Brundage, J.F., Scott, R.M., Lednar, W.M., et al. (1988). Building associated risk of febrile acute respiratory diseases in Army trainees. *JAMA*, 259:2108-2112.
13. Evans, A.S. (1975). Serologic studies of acute respiratory infections in military personnel. *Yale Journal of Biological Medicine*, 48:201-209.
14. Robertson, A.S., Burge, P.S., Hedge, A., et al. (1985). Comparison of health problems related to work and environmental measurements in two office buildings. *Br Med J*, 291:373-376.
15. Sterling, E. and Sterling, T. (1983). The impact of different ventilation levels and florescent lighting types on building illness: an experimental study. *Canadian Journal of Public Health*, 74:385-392.
16. Gray, G.C., Mitchell, B.S., Tueller, J.E., Cross, E.R., and Amundson, D.E. (1994). Pneumonia hospitalizations in the U.S. Navy and Marine Corps: Rates and risk factors for 6,522 admissions, 1981-1991. *American Journal of Epidemiology*, 139:793-802.
17. Couch, R.B. (1981). Viruses and indoor air pollution. *Bull, NY: Acad Med*, 57:907-921.
18. Dick, E.C., Jennings, L.C., Mink, K.A., et al. (1978). Aerosol transmission of rhinovirus colds. *Journal of Infectious Diseases*, 156:442-448.

B.5 REPORT TOPIC AREA: Pregnancy, Use of Contraception, and Family Planning Attitudes Report

PROPOSED LEAD AUTHORS: Marie D. Thomas, Ph.D.
Patricia J. Thomas, M.A.

ABSTRACT:

This report will focus on: pregnancy, use of contraception, and family planning attitudes. The following topics will be explored: the interrelationships among family planning attitudes, contraceptive behavior, and unplanned pregnancy; the effects of psychosocial stress and lifestyle behaviors on contraceptive use; and rates of pregnancy and contraceptive use for the sample as a whole and within various subgroups.

HYPOTHESIS: (A representative, but not exhaustive, list)

Pregnancy rates will be highest among women under the age of 25.

Family planning attitudes and contraceptive use will be related to age, education, marital status, and parental status.

Lifestyle behaviors (such as drinking, smoking, diet, sleep, and exercise) and utilization of healthcare services will be related to contraceptive behaviors.

There will be a relationship between psychosocial variables (such as stress and depression), use of contraception, and perceived probability of becoming pregnant in the next 12 months.

Women and men will differ in their family planning attitudes and beliefs regarding contraception.

ANALYSIS PLANS:

Compute current and 12-month pregnancy rates.

Assess pregnancy outcomes.

Determine the demographic variables associated with pregnancy while aboard ship, use of contraception, family planning attitudes.

Determine the variables associated with unplanned pregnancies.

Determine the relationship between contraceptive use and family planning attitudes.

Determine factors associated with high probabilities of becoming pregnant in the next 12 months.

Explore the relationship between use of contraception and other self-care health-related behaviors.

Variables of Interest:

Items associated with planned and unplanned pregnancy, contraceptive availability and use, and family planning.

Demographic variables (such as age, marital status, race/ethnicity, paygrade, level of education, current ship status, deployment status).

Lifestyle measures and psychosocial variables (such as psychological distress, stress, friends and family).

Statistics:

Data analysis will make use of a full range of descriptive statistics. Hypothesis testing will be conducted through the use of chi-square and t-tests, analysis of variance and multivariate analysis of variance. Multivariate analytic techniques to be used to determine patterns of relationships between and among variables of interest include multiple regression and discriminant analysis.

LITERATURE REVIEW:

Most of the theoretical literature on pregnancy and contraceptive use has focused on adolescents. For example, Oskamp and Mindick (1983) performed two longitudinal studies on adolescent contraceptive use. Good and poor contraceptors differed in several ways: good contraceptors (1) had superior contraceptive knowledge; (2) were superior on measures of peer relationships, planfulness, and socialization; and (3) were higher on attitudes and intentions that were consistent with effective use of birth control.

The relationships between demographic variables and pregnancy among civilian women of child-bearing age are well documented (e.g., Tanfer & Horn, 1985). Research with military populations has found fewer correlates, however. Royle & Thomas (in press), for example, reported no relationship between race and pregnancy among Navy women in their first enlistment. The greater homogeneity of military women as compared to civilian women is partially responsible for these results, but other factors should be explored. Among civilians, user characteristics also are related to contraceptive failure rates—more so than method of contraception (Jones & Forrest, 1992). Although a demonstration of this relationship would

identify at-risk military populations for interventions, similar analyses have not been conducted among servicewomen.

Several researchers have investigated the effect of pregnancy on relationships within military workgroups (Correnti & Jensen, 1989; Thomas, Thomas & McClintock, 1991). Supervisory treatment and attitude, particularly in operational units such as ships, was found to have changed more than co-worker relationships. Whether these changes, which tended to be negative, created psychosocial stress among pregnant women has not been documented.

The Navy has conducted several applied studies on pregnancy aboard ships. Most relevant to this project is the information gained from three surveys that were administered in 1988, 1990, and 1992 (Thomas & Edwards, 1989; M. Thomas & P. Thomas, 1993). Major findings are:

The point-in-time pregnancy rate for enlisted women has been very consistent over this period, ranging from 8.4 percent to 8.9 percent. The rate of pregnancy is highest for women who are E-4 and below. In terms of age, almost 65 percent of the women who were pregnant at the time of the 1992 survey were under the age of 25.

Most of the higher paygrade women (E-6 and above) who were pregnant at the time of the 1992 survey were married. There is some validity to the perception that many of the younger pregnant women are single; 64 percent of the pregnant E-2s and 49 percent of the pregnant E-3s were single.

More than half (59 percent) the pregnancies reported in the 1992 survey were unplanned. This has been a consistent finding over the three surveys. Of the women who became pregnant unintentionally, 56 percent reported that they had been using birth control. The two most common methods used by women who became pregnant were condoms and the contraceptive pill.

Abortion rates tend to be low (between 15 percent and 17 percent), except among E-2s. This low abortion rate is probably at least partly the result of the fact that the military is prohibited from performing or paying for the abortions of active-duty women or dependents except in very limited circumstances.

BIBLIOGRAPHY:

1. Correnti, E.E., and Jensen, P.S. (1989). Support of pregnant soldier in the workplace: a comparison of her assessment with that of her supervisor. *Military Medicine*, 154(11), 571-573.
2. Jones, E.F., and Forrest, J.E. (1992). Contraceptive failure rates based on the 1988 NSFG. *Family Planning Perspectives*, 24(12), 12-19.

3. Oskamp, S., and Mindick, B. (1983). Personality and attitudinal barriers to contraception. In D. Byrne and W.A. Fisher (Eds.), *Adolescents, sex, and contraception* 65-107. Hillsdale, NJ; Lawrence Erlbaum Associates.
4. Royle, M.H. and Thomas, P.J. (in press). Reducing unplanned pregnancies in the Navy. San Diego: Navy Personnel Research and Development Center.
5. Tanfer, K. and Horn, M.C. (1985). Contraceptive use, pregnancy and fertility patterns among single American women in their 20s. *Family Planning Perspectives*, 17(1); 10-19.
6. Thomas, M.D., Thomas, P.J., and McClintock, V. (1992). Pregnant enlisted women in Navy work centers (NPRDC TN-21-5). San Diego: Navy Personnel Research and Development Center.
7. Thomas, M.D. and Thomas, P.J. (1993). Surveys of pregnancy and single parenthood: The Navy experience. In P. Rosenfeld, J.E. Edwards, and M.D. Thomas (Eds.), *Improving organizational surveys: New directions, methods, and applications* 145-163. Newbury Park, CA: Sage.
8. Thomas, M.D., Thomas, P.J., and McClintock, V. (1991). Pregnant enlisted women in Navy work centers (NPRDC TN-91-5). San Diego: Navy Personnel Research and Development Center.
9. Thomas, P.J., and Edwards, J.E. (1989). Incidence of pregnancy and single parenthood among enlisted personnel in the Navy (NPRDC Tech. Report 90-1). San Diego: Navy Personnel Research and Development Center.
10. Stefanek, M.E., Derogatis, L.P., and Shaw, A. (1987). Psychological distress among oncology outpatients. *Psychosomatics*, 28(10). 530-539.
11. Wood, W.D. (1982). An attempt to validate the psychoticism scale of the Brief Symptom Inventory. *British Journal of Medical Psychology*, 55. 367-373.
12. Wood, W.D. (1986). Patterns of symptom report on the Brief Symptom Inventory. *Psychological Reports*, 58. 427-431.

B.6 REPORT TOPIC AREA: Self-Reported Symptom Inventory for Women Aboard Navy Ships Report

PROPOSED LEAD AUTHOR: Kathleen M. Wright, Ph.D.

ABSTRACT:

This report will focus on the analysis of the Brief Symptom Inventory (BSI), and be organized into three interrelated areas, each having specific products: establishing gender-based norms for military service members; collecting prospective longitudinal follow-up data on the effects of shipboard duty and deployment for male and female service members; identifying groups at high- and low-risk for symptoms and relating risk status to other health and performance indicators.

HYPOTHESIS:

The BSI Manual (Derogatis & Spencer, 1982) reports some normative data for patient and non-patient samples. Other than that, there were few normative studies described in the literature prior to the extensive studies undertaken by the Department of Military Psychiatry during the Gulf War. Since that time, norms have been determined for a large sample of primarily male soldiers and may be used in comparison to the Navy sample.

ANALYSIS PLANS:

Establish norms for the sample of Navy males and females matched on demographic variables.

Compare results on the nine symptom dimensions and the global indices of psychological distress for males and females; determine whether there are any differences based on gender or other demographic factors.

Perform factor analysis to validate internal structure of the BSI.

Prospective Data:

Consider these data as the first phase of a large scale prospective study with data collection points during or post future deployments.

Begin to establish a data base that may be followed longitudinally to determine the effects of onboard ship duty and deployment over time.

Determine the impact of prior deployment history on adaptation for male and female personnel.

Identification of Groups at Risk:

The GSI may be used as an overall indicator of psychological distress and, as such, can help identify groups at risk. Corresponding health and performance data can then be related to risk status for males and females.

Determine whether there are gender differences in risk indicators.

Determine whether risk status relates to a history of previous deployments as reported in the Military History of Deployment survey section.

Relate risk status to health symptoms and performance assessment.

Use risk status as pre-notification of future deployment baseline data for longitudinal follow-up of male and female samples.

Normative Data:

Males and females will differ on reported symptoms, overall GSI, and symptom profiles, with females reporting higher levels of psychological distress than males.

Those currently deployed who have a history of previous deployments will report lower levels of psychological distress than those without such history, regardless of gender.

Prospective Data:

Those reporting elevated levels of psychological distress at pre-deployment baseline will have greater difficulty coping when a deployment occurs, demonstrating increased physical symptoms, poorer performance, and greater psychological distress, regardless of gender.

Risk Status:

Those with high risk status as determined by GSI cut-off scores empirically derived from the normative data base will also report elevated physical symptoms and more frequent sick call visits.

Those with the highest risk status (the "outliers") will also report lower performance assessments, poorer coping, and a more difficult adaptation to onboard ship duty than those at lower risk, regardless of gender.

Variables:

Independent: Onboard ship duty and stresses; deployment status.

Dependent/outcome measures: BSI symptom dimensions; Global Severity Index; constructed scales based on results of factor analyses; other health-related indicators.

Co-variables: Demographic factors; history of previous military deployments.

Statistics:

Normative Data:

Factor analysis of the BSI will assess the internal structure of the instrument and verify the hypothesized dimensions. BSI subscales and GSI will be transformed into T-scores for comparison with the norms in the BSI manual and the norms established for the Gulf War samples. Norms will be gender keyed separately for males and females. T-tests will compare mean differences between male and female Naval personnel assessed for the current study and between the Navy samples and samples of Army personnel collected in 1991 and 1992 following the Gulf War.

Multiple regression analysis will test for the effects of previous deployments, mitigating levels of psychological distress during the present deployment, controlling for gender and other demographic variables.

Prospective Data:

Should there be the opportunity for follow up of subsamples of the population, then longitudinal comparisons of groups on the outcome measures may help determine adaptation to onboard ship duty. For example, changes in psychological status assessed by the GSI at Time 1 and Time 2 (ideally at the beginning and end of a deployment) can be correlated with physical symptoms and performance measures for males and females to compare adjustment rates.

Risk Status:

The male and female samples will be divided into high and low risk status based on GSI scores. Risk status will be correlated with sick call visits and health indicators documented over the course of the deployment. Risk status will also be related to history of previous deployments.

LITERATURE REVIEW:

Brief Symptom Inventory:

The Brief Symptom Inventory (BSI) is a 53-item self-report scale of symptoms (Derogatis & Spencer, 1982) derived from the 90-item Symptom Check List (SCL-90-R, Derogatis, 1977). Respondents are requested to rate the items on a 5-point scale of distress, ranging from "none" (0) to "extreme" (4), using the past week as a time frame for assessment. The BSI has been used extensively in both research and clinical practice to determine symptom profiles for psychiatric and medical patients and non-patient populations (Del-Vecchio-Good, Good, & Cleary, 1987; Francis, Rajan, & Turner, 1990; Marziali, 1984; Norbeck, 1985; Royse & Drude, 1984; Sable, 1989; Stefanek, Derogatis, & Shaw, 1987; Wood, 1982, 1986). Derogatis and Melisaratos (1983) in their frequently cited introductory report include an overview of studies using the BSI analyses, demonstrating high reliability with the SCL-90 ranging from 0.92 to 0.99, indicating that both inventories measure the same constructs and convergent validity between the symptom dimensions of the BSI and the clinical scales of the MMPI. The report also includes normative data for psychiatric inpatient, outpatient, and non-patient populations.

The BSI includes nine symptom dimensions or subscales: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation or Psychoticism, as well as three global indices of psychological distress. Those using the BSI as an outcome measure can assess respondents using either symptom profiles based on subscale scores, or the global indices to determine overall distress level. Internal consistency for all nine symptom dimensions is acceptable, with alpha coefficients ranging from a low of 0.71 on the Psychoticism dimension to a high of 0.85 on Depression. Test-retest reliability of a two week period ranged from a low of 0.68 for Somatization to a high of 0.91 for Phobic Anxiety. The Global Severity Index (GSI) reveals a stability coefficient of 0.90, giving strong evidence for the consistency of the BSI across time (Derogatis & Spencer, 1992).

BIBLIOGRAPHY:

1. Derogatis, L.R. (1977). The SCL Manual I: Scoring, administration and procedures for the SCL-90. Baltimore: Clinical Psychometric Research.
2. Derogatis, L.R., and Melisaratos, N. (1983). The brief symptom inventory: an introductory report. *Psychological Medicine*, 13, 595-605.
3. Derogatis, L.R., and Spencer, P.M. (1982). The Brief Symptom Inventory (BSI): Administration, scoring and procedure manual I. Baltimore, MD: Clinical Psychometric Research.
4. Del-Vecchio Good, M.G., B.J., and Clearly, P.D. (1987). Do patients' attitudes influence physician recognition of psychosocial problems in primary care? *The Journal of Family Practice*, 25(1), 53-59.

5. Francis, V.M., Rajan, P., and Tuner, N. (1990). British community norms for the Brief Symptom Inventory. *British Journal of Clinical Psychology*, 29. 115-116.
6. Marziali, E.A. (1984). Prediction of outcome of brief psychotherapy from therapist interpretive interventions. *Archives of General Psychiatry*, 41. 301-304.
7. Norbeck, J.S. (1985). Types of sources of social support and managing job stress in critical care nurses. *Nursing Research*, 34(4). 225-230.
8. Royse, D., and Drude, K. (1984). Screening drug abuse clients with the Brief Symptom Inventory. *The International Journal of the Addictions*, 19(8). 849-85.
9. Sable, P. (1989). Attachment, anxiety, and loss of a husband. *American Journal of Orthopsychiatry*, 59(4). 550-556.

B.7 REPORT TOPIC AREA: Gender Differences in Responses to Stress Report

PROPOSED LEAD AUTHOR: Ross R. Vickers, Jr.

ABSTRACT:

The objective of this report will be to determine whether there are gender differences in the organization and meaning of common experiences. The report will analyze the associations of gender, marital status, and family composition with variables including stress, job and life satisfaction, health status, and health utilization, and will explore whether traditional foci may be insensitive to the fact that the same event or circumstance may mean different things to different people.

Group comparisons in behavioral sciences typically focus on differences in mean levels of psychological variables. In the case of gender differences, women and men might be compared with respect to their average levels of stress, distress, illness, or job satisfaction. This focus may be insensitive to the fact that the same event or circumstance may mean different things to different people. The objective of this is to determine whether there are gender differences in the organization and meaning of common experiences.

HYPOTHESIS:

Stress will be less differentiated for married women than for single women or men. Women traditionally have been expected to be the primary care givers within families. Married women, therefore, can be expected to encounter more role conflict when job demands are acute. Males and single women are more likely to be able to focus on the job without concomitant effects on homelife stress. This hypothesis implies the presence of beta differences between married females and other sailors with respect to the structure of stress.

Stress will have a stronger relationship to distress in married women than it does among single women or men. This hypothesis assumes that stressors have synergistic effects. A stress that would have limited effects if it were the only problem a person faced at a given time may have much stronger effects when it occurs in combination with other stressors. This hypothesis implies the presence of gamma differences between married women and other sailors.

The preceding hypotheses focus on the potential effects of role conflicts for married women assigned to shipboard duty. The hypotheses actually apply to both men and women who occupy the roles of breadwinner and care giver, but it is expected that the number of men who are single parents, for example, will be too small to permit effect tests of hypotheses. In addition, the hypotheses can be extended to other individuals who are in situations which increase the probability of role conflict (e.g., dual career families). These possibilities will be explored, but the hypotheses were stated in terms of what may be the most extreme contrasts available.

ANALYSIS PLANS:

The sample providing the data is described elsewhere in this proposal. The social classification of individuals will be determined from self-reports of gender, marital status, and family structure. Stress indicators will be 30 items in the U.S. Navy Shipboard Health Survey dealing with working conditions, living conditions, and interpersonal/ family stressors.

Potential effects of stress which will be examined to determine gamma differences between groups include self-reports of emotional distress measured by a brief form of the Center for Epidemiologic Studies Depression scale (Radloff, 1977), quality of life, job and life satisfaction, coping, and health status. Objective measures of healthcare utilization also will be employed.

Structural equation modeling will provide the basic tests of hypotheses. LISREL VII will be applied in a multiple group analysis which will include modeling of mean values (Joreskog & Sorbom, 1989). Modeling will follow the two-stage procedure recommended by Marsh, Balla, and MacDonald. The first stage will develop and compare measurement models across the different groups in the analyses. Initial models will restrict measurement parameters to be equal. Alpha differences will be modeled by permitting the means to differ between groups. Beta change will be modeled by permitting factor loadings to differ between groups. The second stage of the analysis will relate the stress measures to the dependent variables. Gamma change will be tested by first restricting associations to be equal, then permitting them to vary across groups. The order of releasing constraints on the group parameters will be determined by the hypotheses as far as possible. Alternative models will be compared based on goodness-of-fit indices adjusted for parsimony (Mulaik, James, Van Alstine, Bennett, Lind & Stilwell, 1989).

LITERATURE REVIEW:

The conceptual approach applies Golembiewski's (Golembiewski, Billingsley & Yeager, 1976) conceptual model of alpha, beta, and gamma change (ABG change) to differences in male and female perceptions of stress. The ABG change model distinguishes between changes that alter the mean level of a variable (alpha change), changes that alter the coherence of specific behaviors as indicators of differences in the variable (beta change), and changes that alter the relationships between a given variable and other variables (gamma change).

The ABG change model was developed to describe the effects of organizational interventions. However, the concepts logically apply to any set of processes that affect psychosocial development. Thus, if gender essentially assigns a person to different biological and/or social "treatments" at birth, the cumulative impact of that treatment may be manifest in any of the three types of change. All three types of differences must be examined to understand the nature of gender differences. Other efforts within the overall project address alpha gender differences, so the present efforts will focus on beta and gamma differences.

BIBLIOGRAPHY:

1. Golembiewski, R.T., Billingsley, K., and Yeager, S. (1976). Measuring change and persistence in human affairs: Types of change generated by OD designs. *Journal of Applied Behavioral Science*, 12. 133-157.
2. Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1. 385-401.
3. Joreskog, K.G., and Sorbom, D. (1989) LISREL 7: A guide to the program and applications (2nd ed.). Chicago: SPSS, Inc.
4. Marsh
5. Mulaik, S.A., James, L.R., Van Alstine, J., Bennett, N., Lind, S., and Stilwell, C.D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychological Bulletin*, 105. 430-445.

B.8 REPORT TOPIC AREA: Relationship of Family Composition to Physical and Mental Health Report

PROPOSED LEAD AUTHORS: Dorothy J. Jeffreys, Ph.D.
Theresa Russo, Ph.D.
Lea Dougherty, MSW

ABSTRACT:

Using questionnaire data primarily from items on family composition, service history, and health status, this report will investigate three general hypotheses: health issues for service personnel differ by marital status, family composition, and gender; length of service, number of deployments, and type of shipboard assignment are related to health issues for service personnel; and health and well being of service personnel aboard ship are influenced by the extent of and involvement with support resources (family, friends, and organizations).

Two recent events have led to the importance of this current research: Congress has mandated the Department of Defense facilitate research on women's health issues, and servicewomen are being assigned to ships that are deploying for a variety of reasons. Health status of women in the civilian population has been found to be related to family composition and social supports (Higgins, C., Duxbury, L., Lee, C. 1994; Cohen, S., Hoberma, H.M., 1983). Therefore, this research investigated the relationship of family factors (marital status and number of children), social supports, and the health status of servicewomen aboard ship.

HYPOTHESIS:

Health issues for service personnel differ by marital status, family composition, and gender. The health status of service personnel will range from excellent to poor. For example, servicewomen with young children will be less healthy than other groups.

Comparisons of servicewomen's and servicemen's (who are serving aboard ship) current mental and physical health will be made by marital status and family composition. Healthcare utilization records of women and men will also be reviewed to determine frequency of, reason(s) for, access to and where was, care obtained during their stay aboard ship. Self-reports of service personnel's quality of life, stress, and depression will be analyzed to determine their satisfaction with their lives, the amount and extent of stress, and the extent of depression among servicewomen, by marital status and family composition.

Length of service, number of deployments, and type of shipboard assignments will be related to health issues for service personnel regardless of marital status, family composition, and gender. However, these factors are believed to have an additional effect and will be evaluated. As the period of time in Service and numbers of deployments increase, Service personnel will display increasingly better health. Shipboard assignments away from home port will have a

negative effect on the servicemember's health. His/her health will suffer more and more as time away from home port increases.

Self-reports of Servicemember's health conditions, medical visits, stress, depression, and quality of life will be examined by length of service, number of deployments, and type of shipboard assignment. Additionally, the shipboard healthcare utilization records will be analyzed by length of service, number of deployments, and type of shipboard assignment. Included in the regression analysis will be gender, marital status, and family composition.

The health and well-being of Service personnel aboard ship will be influenced by the extent of and involvement with their support resources (family, friends, organizations). As the extent of and relationship with family, friends, and organizations increases, the health and well-being of Service personnel will become better. It is expected that servicewomen will report greater number of associations and more active participation with support resources than servicemen. Women with children are also expected to report more associations and active participation with support resources than women without children.

Servicewomen and servicemen aboard ships will provide their perception of their relationships with family, friends, and organizations. This data will be examined to determine differences by gender, health status, marital status, and family composition.

ANALYSIS PLANS:

Variables:

The independent variables are family composition and marital status. The dependent variables are health conditions, medical care information, and mental health status. The co-variables consist of three types: demographic (age, gender, education, and race of servicemember), military information (length of military service, assignment to ship, status of ship, length of current ship assignment, number of deployments), and social support resources (relationships with family, friends and peers, associations with organizations, and perceptions of the helpfulness of Navy professionals and personnel).

Analyses:

Descriptive data using frequencies, percentages, measures of central tendency and variability will be calculated for all the variables listed above: independent, dependent, and co-variables. The predictive information will be obtained using correlations, analysis of variance, and multiple regressions.

Theoretical Framework:

Research on military-induced separation has primarily focused on wives of servicemen (Black, W.G., 1993). Military spouses consider military-induced family separation as their major dissatisfaction with military life (Styles, M.D., Janofsky, B.J., Blankinship, D., et al., 1990; Lund, D.A. 1978). Stress of separation is compounded when the military assignment involves combat duty, extended separation without communication, or service in extremely difficult circumstances. Symptoms of stress related to separation include increased physical illness, anxiety, grief, anger, guilt, loneliness, sleep disturbance, increased use of drugs and alcohol, low frustration level when dealing with children, and social isolation (Black, W.G., 1993; Nice, D.S., Beck, A.L., 1980; Hunter, E.J., Pope, M.A., 1981; McCubbin, H.I., Dahl, B.B., 1981). Thus, the questions arises, are these same stressors just as relevant to deployable servicewomen and their families.

The primary conceptual model for examining military-induced separation has been the ABC-X family stress model which studied families separated by war (Hill, R., 1949). This model has since been modified to the Double ABC-X model for further study of family adaptation to stressors (McCubbin, H.I., Patterson, J.M., 1982). Applying this conceptual model, the primary goal of much of the military family research has been to identify those stressors which families face and the resources used to cope with them. A consistent theme throughout this literature is that these stressors provide the potential for what is identified as "pile-up" of family life stressors (McCubbin, H.I., Patterson, J.M., 1982). Family and behavioral scientists have hypothesized that excessive stressors, particularly within a short period of time, may deplete a family's resources, making coping difficult and creating a high probability of family disruption. Research has found two sets of internal family resources that helped families cope with stress: Integration — the strength of a family's common interest, affection, cohesion interest, affection, cohesion, and unity; and Adaptability — a family's ability to be flexible in discussion and decision making (McCubbin, H.I., Boss, P., Wilson, L., et al., 1980).

Debate continues over whether or not military families are worse, better, or show little difference when compared to their civilian counterparts because of these stressors. Since the introduction of the ABC-X model, the stressors of military families have been labeled non-normative; however, as has been pointed out, many of these stressors have become normative to a peace-time military (Hill, R., 1949; Blaisure, K.R., Arnold-Mann, J., 1992). Military families often face unexpected stressors (delay in returning home from scheduled deployment, change in training schedule, threat of conflict); however, many of the stressors (relocation, long work hours, training deployments) are part of the military lifestyle and therefore expected.

More recently, a developmental model was introduced into the discussion of military families. Ideas have been presented about a developmental perspective for studying military families and can be paralleled by the developmental attachment theory to the feelings military couples experience when they undergo separation Gade, P., 1992; Vormbrock, J.K., 1993). This literature suggests that military families may cope differently with the stressors based on their

developmental level. Family Development Theory indicates that families are working on developmental tasks specific to their position in the family life cycle.

The work and family role demands of adulthood are a stage of the life cycle. Work-family conflicts increase as one's obligations to family increase through marriage and the arrival of children (Higgins, C., Duxbury, L., Lee, C., 1994). The roles of work and family are both demanding; and, therefore, conflict may arise from the simultaneous role demands (Steffy, B.D., Ashbaugh, D., 1986). This conflict may aggravate married life, resulting in lower levels of marital and family satisfaction, as well as creating job stress and physical strain (Steffy, B.D., Ashbaugh, D., 1986). It is also suggested that interrole conflict may be greater for working wives than working husbands (Graddick, M.M., Farr, J.L., 1983).

It is likely that military women will experience such conflict due to their nonstandard work schedule, deployment, and the high demands of military life. In order to balance work and family demands, military women must make difficult decisions regarding the planning of life cycle events. Such pressures surrounding these critical decisions can have a strong impact on all aspects of the lives of servicewomen.

The average age of the partners for first marriage is about 25.4 for men and 23.6 for women (Witwer, M., 1993). Military personnel do not vary greatly from their civilian peers in terms of the age and developmental stage at which they marry. By 1991, the marriage rate for enlisted servicewomen was 47 percent; the majority of these women are married to servicemen (Office of the Assistant Secretary of Defense, 1992). Research also indicates that many women in the military have their first child between the ages of 20 to 24, which is comparable to that of their civilian counterparts (Thomas, P.J., Edwards, J.E., 1989; Sussman, M.B., Steinmetz, S.K., 1988).

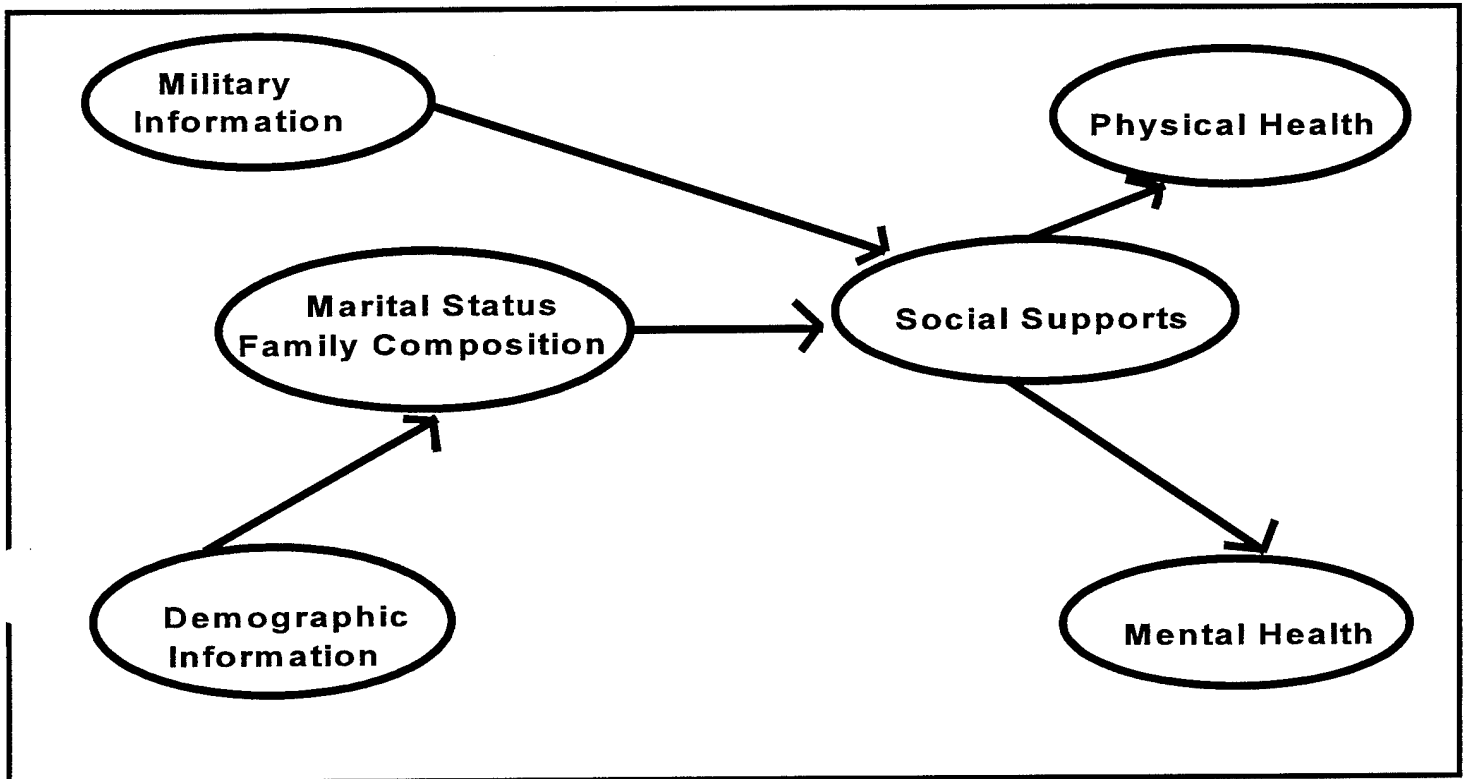
It is likely that most stressors experienced by non-military families will also be common for military families; however, there may be specific stressors for military families throughout the life cycle. For example, it is suggested that newly married couples who are not yet attached to each other will have more difficulty coping with separation (Vormbrock, J.K., 1993). Research also suggests that families tend to adapt better after experiencing separation (Black, W.G., 1993). It has also been found the quality of

military life as perceived by the spouse and family is related to the service members' job performance and retention (Etheridge, R.M., 1989; Segal, M.W., Harris, J.J., 1993). This has significant implications in that families that do not adapt well to the military lifestyle may have poor health, perform poorly in their jobs, have poor family relationships, and/or separate from the military.

There are two extremely relevant issues related to the deployment of women. The first includes the phenomenon that the military is deploying increased numbers of servicewomen for training, humanitarian, and combat reasons. The second deals with the problem that very little

research has addressed separation issues faced by servicewomen and their families. Consequently, questions remain unanswered as to the interaction between family relations and the physical health, mental health, and military experience of servicewomen. The following figure illustrates factors that are felt to be relevant as a result of literature.

Figure 1. Correlates of Health



LITERATURE REVIEW:

Deployment Issues for Family:

The family environment issue is a very important one when discussing effects of separation. Evidence clearly supports that separation may affect the health of all family members (Coolbaugh, K., Rosenthal, A., 1992; Rosen, L.N., Teitelbaum, J.M., 1993; Snyder, A.I., 1981). Overall, research has shown that military families may be more susceptible to spousal and child abuse, substance abuse, and illnesses because of the stress induced by separation (Coolbaugh, K., Rosenthal, A., 1992; Rosen, L.N., Teitelbaum, J.M., 1993; Snyder, A.I., 1981; Abbe, J.S., Naylor, G.S., Gavin, M., et al., 1986; Griffin, W.A., Morgan, A.R., 1988). The majority of this research, however, has focused primarily on the female spouse, rather than the military member, male or female. Little is known or discussed about how the military member deals with separation and the influence this may have on his or her health. The GAO Report also identified sources of stress for both deployed men and women as uncertainty of war, SCUD missile alerts, being away from families and friends, austerity of physical environment, lack of mail, rumor, military family policy, and uncertainty about when personnel would return home (U.S. General Accounting Office Report to the Secretary of Defense). The report further cited that differences in ability to cope with stress of deployment seemed to be more related to individual abilities rather than gender. It is also suggested that women may face more stress-related illnesses than men due to feeling pressure to prove themselves, role conflict to perform like a man, and the need to conform to the standards of femininity held by men (McBride, A.B., 1990; Rosen, L.N., Ickovics, J.R., Moghadam, L.Z., 1990). These stress-related illnesses seem more common for women assigned to traditional jobs than to nontraditional jobs (Hoiberg, A., 1984).

Similar to research on physical health and family issues related to military separations, the primary focus of mental health aspects has been on the spouse (primarily wife) and children of the deployed service member. Studies found family problems among children and spouses of service members to include phobias, somatic complaints, increased depression, anxiety, grief, anger, guilt, sleep disturbance, and loneliness (Coolbaugh, K., Rosenthal, A., 1992; Rosen, L.N., Teitelbaum, J.M., 1993; Abbe, J.S., Naylor, G.S., Gavin, M., et al., 1986; Nice, D.S., 1983). The level of stress caused by separation varies depending on the nature of the deployment (i.e., length of separation; combat or training deployment).

Despite the limited amount of research dealing with service member stress, all indications are that they do experience a

great deal of stress. Their stress is two-fold: the first relates to feelings about separation and job, while the second deals with the concern over the well-being of the family (U.S. General Accounting Office Report to the Secretary of Defense). A study of Army Reserve nurses which was conducted prior to an anticipated mobilization to the Persian Gulf indicated that these women were significantly more anxious than a comparison group of

civilian nurses. Within this group, having children was related to higher anxiety levels (Wynd, C.A., Dziedzicki, R.E., 1992). Family structure also appears to influence readiness to deploy, and this decline in readiness may have long-term consequences during deployment (Burnam, M.A., Meredith, L.S., Sherbourne, C.D., et al., 1992).

Marital Relations:

The stress of separation has a major impact on the marital relationship. Again, the majority of research has focused on wives of servicemen rather than on the service member or even husbands of servicewomen. The absence of the military service member creates ambiguity of boundaries and roles and may create a great deal of conflict. Common problems for military spouses are loneliness, problems with children, and physical illness.³⁵ Newly married couples are particularly vulnerable to disruption caused by separation because they have had less time to solidify their relationship. Correlational to the life cycle, couples experiencing their first separation are likely to experience more negative effects than couples who have undergone multiple separations. Separation may, however, have beneficial effects as well, such as allowing for individual growth and for enhancement of the marital relationship (Segal, M.W., 1986).

Research on occupational commitment and marital adjustment found that perceptions of both men and women were that higher levels of occupational commitment by wives adversely affected marital adjustment (Ladewig, B.H., McGee, G.W., 1986). This finding was consistent with another study which found that greater work involvement of the wife (measured by hours worked per week) negatively affected the marital relationship (Booth, A., Johnson, D.R., White, L., et al., 1984). It is possible that these problems may be even greater for servicewomen who experience extended separation from their families due to deployment.

Research on maternal employment suggests that if a mother is satisfied in her employment, this spills over to her family life. A study found that mothers who were satisfied with their job were more autonomous and less anxious on reunion with their infants after separation (Wille, D.E., 1992). A study assessing depression in working women found that depression was more common in women who were working outside of the home who held a more traditional view of what their role should be within the family (Krause, N., Geyer-Pestello, H., 1985). The fact that mission readiness weighs heavily on the ability of personnel to focus on their duty must be recognized (Stremlow, M.V., 1990). It is crucial that military personnel feel confident that their well-being, as well as the well-being of their families, are an important concern and priority to their commanders.

Role Strain and Social Supports:

Evidence suggests that there is a relationship between recent stressful life events and psychological and physical disorders. The majority of attention has focused on the role that social support plays in moderating this stress-health relationship. Related to these stressful life events is the role strain women experience related to the multiple roles that they fulfill within the family

and in their professional lives (Googins, B., Burden, D., 1987; Menninger, E.W., 1994). Research indicates that significant role strain exists for women who are single mothers and married women with young children. Women who receive a high level of social support experience what is referred to as the "buffering hypothesis", which suggests that high levels of social support protect them from stress induced pathology (Cohen, S., Hoberman, H.M., 1983). This further supports the need for research regarding the role strain and social support which do or do not exist for women in the military.

Children and Separation From Their Parents:

The literature regarding military separation and children focuses on father absence and the reaction of the child to the separation, as well. What has been reported is inconclusive because a child's emotional and behavioral problems are not assessed prior to the father's absence (Jensen, P.S., Grogan, D., Xenakis, S.N., et al., 1989). Additionally, little has been reported on mother absence. What has been reported is that children manifest both emotional problems and behavioral problems (Hillenbrand, E.D., 1976; Jensen, M.P., Lewis, C.R., Xenakis, L.S., 1986). However, these problems are correlated with length of separations and number of separations. Lengthy separations appear to be about more detrimental effects than shorter ones, while first time separations may be the most difficult (Jensen, M.P., Lewis, C.R., Xenakis, L.S., 1986; Field, T.M., 1991).

Studies have also suggested that children exhibit more behavioral and emotional problems when the mother experiences difficulties handling management of daily activities, or when other members of the household experience psychological symptoms such as stress, depression, or anxiety (McCubbin, H.I., Dahl, B.B., 1976; Jensen, P.S., Bloedau, L., Degroot, J., et al., 1990; Rosen, L.N., Teitelbaum, J.M., 1993). Research also suggests that the emotional development of each parent, as well as the stability of their marriage, contributes to the child's emotional development and resiliency (Amen, D.G., Jellen, L., Merves, E., et al., 1988). Extrapolations from research on father absence can be made to assess the effects of a mother's absence on her children, but the implications could be more severe in nature. It can be anticipated that if children are negatively affected by separations from parents, the parent will in turn be affected.

With regard to maternal employment, research suggests that children whose mothers are employed full time are at risk for developing insecure attachments to their mothers, are more disobedient toward adults, and more aggressive toward peers (Belsky, J., Rovine, M., 1990; Belsky, J., Eggebeen, D., 1991). Research has found that mothers who prefer to be employed may become less anxious about separation from their infants because the two roles of mother and employee are integrated, as well as denial of anxiety about leaving the infant to pursue a career (DeMeis, D.K., Hock, E., McBride, S.L., 1986).

Child Care:

There are a number of problems associated with child care in the military (Stremlow, M.V., 1990). More than half of the U.S. military installations do not have organized child care centers, while those that do provide on-site child care only meet about 60 percent of the demand. Additionally, extended waiting lists, hours that do not correspond with duty hours, and high costs signal this is an area of concern. Child care issues become compounded in times of deployment. Although research indicates there are no clear differences between males and females in regard to having sufficient child care arrangements for deployments, there is still significant concern regarding this issue for women (Schumm, W., Bell, D.B., Palmer-Johnson, C.E., et al., 1994). Child care is also significantly related to multiple role strain for working women (Schumm, W., Bell, D.B., Palmer-Johnson, C.E., et al., 1994). When a servicewoman deploys, if married, she must be able to rely on her spouse to provide primary care, and data indicates that servicewomen are less confident that their spouses can take full responsibility for family matters during deployment than servicemen (Burnam, M.A., Meredith, L.S., Sherbourne, C.D., et al., 1992). If she is a single parent, or married to another service member who is susceptible to deployment, she must ensure that sound child care arrangements are in place. A recent study of Army personnel found that women and soldiers in dual military marriages were more likely to report that child care arrangements were "fair" or "poor." (Burnam, M.A., Meredith, L.S., Sherbourne, C.D., et al., 1992). Therefore, additional research is needed to substantiate the effectiveness of child care arrangements and to what extent this issue affects the physical and mental health of servicewomen.

BIBLIOGRAPHY:

1. Higgins, C., Duxbury L., Lee C. (1994). Impact of life-cycle stage and gender on the ability to balance work and family responsibilities. *Family Relations*, 43. 144-50.
2. Cohen S., Hoberma, H.M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13. 99-125.
3. Black, W.G. (1993). Military-induced family separation: A stress reduction intervention. *Social Work*, 38. 273-80.
4. Styles, M.D., Janofsky, B.J., Blankinship, D., et al. (1990). Investigating family adaptation to Army life: Exploratory site visit findings. Caliber Associates, Alexandria, VA.
5. Lund, D.A. (1978). Junior officer retention in the modern volunteer army: who leaves and who stays? *Military Families:Adaption to change*. Hunter, E.J. and Nice, D.S. (Eds.) Praeger, New York. 32-41.
6. Nice, D.S., Beck, A.L. (1980). Feelings of depression in Navy wives prior to separation. Naval Health Research Center, San Diego, CA.
7. Hunter, E.J. and Pope, M.A. (1981). Family roles in transition in a changing military. Report No. USIU-TR-81-02. Dept of the Navy and Dept of the Air Force.

8. McCubbin, H.I., Dahl, B.B. (1981). McCubbin, H.I., Dahl, B.B., Hunter, E.J. (Eds.) Prolonged family separation: A longitudinal study. Families in the military system. Sage Publications, Beverly Hills, CA.
9. Hill, R., (1949). Families under stress. New York:Harper.
10. McCubbin, H.I., Patterson, J.M. (1982). Family adaptation to crises. McCubbin, H.I., Patterson, J. (Eds.) Family stress, coping and social support. Charles C. Thomas Publishers, Springfield, IL.
11. McCubbin, H.I., Boss, P., Wilson, L., et al. (1980). Developing family invulnerability to stress: Coping patterns and strategies wives employ. Trost, J. (Ed.). The family and change. International Library, Sweden.
12. Blaisure, K.R., Arnold-Mann, J. (1992). Return and reunion: A psychoeducational program aboard U.S. Navy ships. Family Relations, 41. 178-85.
13. Gade, P. (1992). Study of family adaptation in the U.S. military: Is a fresh perspective needed? Presentation at National Council on Family Relations, Orlando, FL.
14. Vormbrock, J.K. (1993). Attachment theory as applied to wartime and job-related marital separation. Psychological Bulletin, 114. 122-44.
15. Steffy, B.D., Ashbaugh, D. (1986). Dual-career planning, marital satisfaction, and job stress among women in dual-career marriages. Journal of Business and Psychology, 1. 114-23.
16. Graddick, M.M., Farr, J.L. (1983). Professionals in scientific disciplines: sex-related differences in work like commitments. Journal of Applied Psychology, 68. 641-645.
17. Witwer, M. (1993). Male teenagers seem to know more about condoms, are more comfortable obtaining them than females. Family Planning Perspective, 25. 94-95.
18. Office of the Assistant Secretary of Defense. (1992). Population representation in the military services: fiscal year 1991. Washington, DC.
19. Thomas, P.J., Edwards, J.E. (1989) Incidence of pregnancy and single parenthood among enlisted personnel in the Navy. Navy Personnel Research and Development Center, San Diego, CA.
20. Sussman, M.B., Steinmetz, S.K. (1988). Handbook of marriage and the family. Plenum, New York.
21. Etheridge, R.M. (1989). Family factors affecting retention: A review of the literature. Report No. 1511. U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA.
22. Segal, M.W., Harris, J.J. (1993). What we know about Army families. Special Rpt. No. 21. U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA.
23. Coolbaugh, K., Rosenthal, A. (1992). Family separation in the Army. U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA.
24. Rosen, L.N., Teitelbaum, J.M. (1993). Children's reactions to the desert storm deployment: Initial findings from a survey of Army families. Mil Med, 158. 465-469.
25. Snyder, A.I. (1981). Periodic marital separation and physical illness. American Journal of Orthopsychiatry, 48. 637-43.

26. Abbe, J.S., Naylor, G.S., Gavin, M., et al. (1986) Temporary parental absence and healthcare utilization: A cohort-controlled study. *Mil Med*, 151. 469-72.
27. Griffin, W.A., Morgan, A.R. (1988). Conflict in maritally distressed military couples. *American Journal of Family Therapy*, 16. 14-22.
28. U.S. General Accounting Office Report to the Secretary of Defense: Women in the military: Deployment in the Persian Gulf war.
29. McBride, A.B. (1990). Mental health effects of women's multiple roles. *American Psychologist*, 45. 381-84.
30. Rosen, L.N., Ickovics, J.R., Moghadam, L.Z. (1990). Employment and role satisfaction. *Psychology of Women Quarterly*, 14. 371-85.
31. Hoiberg, A. (1984). Health status of women in the U.S. military. *Health Psychology*, 3. 273-87.
32. Nice, D.S. (1983). The course of depressive affect in Navy wives during family separation. *Mil Med*, 148. 341-43.
33. Wynd, C.A., Dziedzicki, R.E. (1992) Heightened anxiety in Army Reserve nurses anticipating mobilization during operation desert storm. *Mil Med*, 157. 630-34.
34. Burnam, M.A., Meredith, L.S., Sherbourne, C.D., et al. (1992).
35. Segal, M.W. (1986). The military and the family as greedy institutions. *Armed Forces and Society*, 13. 9-38.
36. Ladewig, B.H., McGee, G.W. (1986). Occupational commitment, a supportive family environment, and marital adjustment: Development and estimation of a model. *Journal of Marriage and the Family*, 48. 821-29.
37. Booth, A., Johnson, D.R., White, L., et al. (1984). Women outside employment and marital instability. *American Journal of Sociology*, 90. 567-83.
38. Wille, D.E. (1992). Maternal employment impact on maternal behavior. *Family Relations*, 41. 273-77.
39. Krause, N., Geyer-Pestello, H. (1985). Depressive symptoms among women employed outside the home. *American Journal of Community Psychology*, 13. 49-67.
40. Stremlow, M.V. (1990). Coping with sexism in the military. The Rosen Publishing Group, New York, NY.
- Googins, B., Burden, D. (1987). Vulnerability of working parents: Balancing work and home roles. *Social Work*, 32. 295-99.
41. Menninger, E.W. (1994). The impact of the family on careers in psychiatry. *Bulletin of the Menninger Clinic*, 58. 497-501.
42. Jensen, P.S., Grogan, D., Xenakis, S.N., et al. (1989). Father absence: Effects on child and maternal psychopathology. *American Academy of Child and Adolescent Psychiatry*, 28. 171-75.
43. Hillenbrand, E.D. (1976). Father absence in military families. *The Family Coordinator*, 25. 451-58.
44. Jensen, M.P., Lewis, C.R., Xenakis, L.S. (1986). The military family in review: Context, risk, and prevention. *Journal of the American Academy of Child Psychiatry*, 25. 225-34.

45. Field, T.M. (1991). Young children's adaptations to repeated separations from their mothers. *Child Development*, 62. 539-47.
46. McCubbin, H.I., Dahl, B.B. (1976). Prolonged family separation: A longitudinal study. McCubbin, H.I., Dahl, B.B., Hunter, E.J. (Eds.) *Families in the military system*. Sage Publications, Beverly Hills, CA. 112-44.
47. Jensen, P.S., Bloedau, L., Degroot, J., et al. (1990). Children at risk: I. Risk factors and child symptomatology. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29. 51-59.
48. Rosen, L.N., Teitelbaum, J.M. (1993). Children's reactions to the desert storm deployment. Initial findings from a survey of Army families. *Mil Med*, 158. 465-69.
49. Amen, D.G., Jellen, L., Merves, E., et al. (1988). Minimizing the impact of deployment separation on military children: stages, current preventive efforts, and system recommendations. *Mil Med*, 153. 441-46.
50. Belsky, J., Rovine, M. (1990). Patterns of marital change across the transition to parenthood: pregnancy to three years postpartum. *Journal of Marriage and the Family*, 52. 5-19.
51. Belsky, J., Eggebeen, D. (1991). Early and extensive maternal employment and young children's socioemotional development: children of the national longitudinal survey of youth. *Journal of Marriage and the Family*, 53. 1083-1110.
52. DeMeis, D.K., Hock, E., McBride, S.L. (1986). The balance of employment and motherhood: longitudinal study of mothers' feelings about separation from their first-born infants. *Developmental Psychology*, 22. 627-32.
53. Schumm, W., Bell, D.B., Palmer-Johnson, C.E., et al. (1994). Gender trends in the U.S. Army and a discussion of implications for readiness and retention. *Psychological Reports*, 73. 499-511.

B.9 REPORT TOPIC AREA: Health Promotions Issues Report

PROPOSED LEAD AUTHOR: Terry L. Conway, Ph.D.

ABSTRACT:

Using data from the shipboard questionnaire and comparative data from women ashore and civilian women, this report will investigate life style behaviors such as tobacco and alcohol use, physical activity, and weight management. It will focus primarily on individuals' perceived access to counseling services related to life style and other health-related behaviors (e.g., family planning/birth control methods, stress management, and drug/alcohol abuse counseling).

HYPOTHESIS:

This report will primarily focus on providing comprehensive descriptive information on Navy women assigned shipboard duty, comparing shipboard women with shipboard men, and (to the extent that data are available) comparing shipboard women to both shore-based (e.g., POWR'95) and civilian women (e.g., NHIS/NHANES data). Several specific objectives include the following:

Provide in-depth descriptive statistics by standard demographic categories indicating prevalence of both health-promoting and health-detrimental lifestyle behaviors (e.g., physical activity/exercise, tobacco use, secondary exposure to tobacco smoke, alcohol use, weight loss/gain, hours of sleep per day).

Provide in-depth descriptive statistics by standard demographic categories indicating perceived accessibility of Navy health-promotion services (e.g., counseling regarding family planning/ birth control, other medical concerns).

Test for gender differences among shipboard personnel in prevalence of lifestyle behaviors and perceived accessibility to health-promotion counseling services.

Examine associations (and test replications from the literature, when available) among lifestyle behaviors, between lifestyle behaviors and perceived accessibility of counseling services, and between both of these categories of variables with health-related outcome variables (e.g., sickcall visits, self-reported health conditions).

ANALYSIS PLANS:

Statistical Analysis and Hypothesis Testing:

Primary data analyses will be performed using the SPSS for Windows statistical package. Basic descriptive information will be assessed by determining frequency counts and percentages or means and standard deviations, depending on the type of variable being examined. Simple two-group comparisons (e.g., comparing women and men) will be analyzed with chi-square tests (e.g., for categorical or dichotomous variables) or independent t-tests (e.g., for ratio, interval, and some ordinal variables). Multi-group comparisons will be made using ANOVA/MANOVA procedures or loglinear analysis procedures; again, depending on the type of variables being examined. Pearson correlations or nonparametric tests of association will be used to examine bivariate co-variation among variables; multiple regression or multiple logistic regression will be used to examine the independent contribution of predictor variables hypothesized to account for variability in health-related or other outcome measures.

Variables: (independent, primary, co-variates)/Questionnaire Items

Demographic-All Questionnaire Versions:

Item Number Content

2	Gender
3	Age
4	Race/Ethnicity
5	Highest level of education completed
6	Marital status
7	Paygrade
8	Enlisted rating
9	Marine M.O.S.
10	Total # years active duty
11	Total time spent aboard all ships; this ship
12	Where live when ship is in port
13	Current ship/command assigned to
14	Ship's current status (i.e., in port, at sea, etc.)
15	Currently deployed
16	Date began deployment
17	Time/length of deployment
18	# times previously deployed

Lifestyle-All Questionnaire Versions:

Item Number Content

- | | |
|----|---|
| 27 | Smoked 100 cigarettes in entire life |
| 28 | # days smoked cigarettes last 30 days |
| 29 | Average # cigarettes smoked per day during last 30 days |
| 30 | Expectations about smoking one year from now |
| 31 | Past 30-day exposure to tobacco smoke in immediate work area |
| 32 | Past 30-day exposure to tobacco smoke in sleeping or non-work area |
| 33 | Sleeping area information |
| 34 | Working area information |
| 35 | Past 7 days, # days had any alcoholic beverages |
| 36 | Past 7 days, usual # alcoholic drinks per day on days drank |
| 37 | Past 7 days, largest # alcoholic drinks per day |
| 38 | (Unmarried persons only) When ashore, live in a marital-like relationship |
| 39 | Height & weight |

Health Promotion Services-Questionnaire Version 123 Only:

Item Number Content

- | | |
|----|--|
| 45 | Agree-Disagree rating on whether the following Navy health-promotion services were readily available during past 30 days:

a Adequate exercise space
b Adequate exercise time
c Birth control supplies (such as condoms) |
| 46 | Agree-Disagree rating on whether the following counseling services were readily available during the past 30 days:

a Alcohol abuse
b Birth control methods
c Drug abuse
d Family planning
e Medical concerns
f Quitting smoking
g Stress management
h Weight control |

Exercise-Questionnaire Version 123 Only:

<u>Item Number</u>	<u>Content</u>
--------------------	----------------

- | | |
|----|--|
| 47 | In average week, # days engage in exercise/sports for at least 20 min (etc.) |
| 48 | In average week, # days engage in hard work (etc.) For at least 20 min |

Weight Change and Sleep-Questionnaire Version 123 Only:

<u>Item Number</u>	<u>Content</u>
--------------------	----------------

- | | |
|----|---|
| 49 | During past 30 days, have you gained weight, lost weight, stayed the same |
| 50 | During past 30 days, average # hours of sleep per 24-hour period |

LITERATURE REVIEW:

Health promotion has been an important priority area for the U.S. military since the early 1980's. The Department of Defense (DoD) specifically identified health promotion efforts as a way to enhance military readiness and the quality of life of DoD personnel (DoD Directive 1010.10, 1986). Within the Department of the Navy (DoN), vigorous health promotion efforts have emphasized the need for healthful life styles and reduction of health risk factors. These efforts began in the early 1980's when the Office of the Chief of Naval Operations promulgated OPNAVINST 6110.1B (and subsequently OPNAVINST 6110.1C and .1D), creating the Navy's Health and Physical Readiness (HAPR) program. This program established minimum standards for physical fitness and weight control and emphasized the need for all Navy personnel to participate in lifestyle behaviors which promote good health. Several areas related to primary health promotion efforts defined as concerns by the Navy (SECNAVINST 6110.5, 1986 and OPNAVINST 6100.2, 1992) are examined in this study of shipboard women, and include: (a) tobacco prevention and cessation; (b) physical activity and fitness; (C) weight control; (d) stress management; and (3) alcohol and drug abuse prevention.

Paralleling the prevention focus for our nation's health as set forth in *Healthy People 2000*, the U.S. military also has recognized the importance of primary prevention. By promoting healthful lifestyle behaviors, substantial reductions in morbidity and mortality associated with preventable illnesses and injuries can be achieved, along with enhancements in quality of life and reductions in job-related productivity losses. The U.S. military's strong emphasis on achievement and maintenance of high levels of physical fitness is a good example of promoting healthful lifestyle behaviors (i.e., fitness-enhancing activities) that can have a positive impact on job performance, including physical fitness performance (Conway & Cronan, 1992), perceived quality of life (Woodruff & Conway, 1992a,b; 1990), and long-term health (cf., *Healthy People 2000*). The military also has recognized and taken strong action to deal with unhealthful, high-risk

behaviors such as use of illegal drugs, alcohol abuse, and high rates of tobacco use (e.g., OPNAVINST 6100.2, 1992; DoD INSTRUCTION 1010.15, 1994).

Substantial progress has, in fact, been made in several areas. For example, in 1988 under five percent of personnel reported use of illegal drugs, and both alcohol and tobacco use declined over the decade of the 1980's (Bray, et al., 1988). However, military personnel are still more likely than their civilian counterparts to engage in lifestyle behaviors that place them at higher risk for health problems, as well as both intentional and unintentional injuries—namely, higher alcohol and tobacco use (Bray, et al., 1991). Although military women in general tend to engage in better health practices than men (cf., Conway, et al., 1989), the higher usage rates for tobacco and alcohol among military members compared to their civilian counterparts are evident among women as well as among men (Bray, et al., 1991). Furthermore, in Navy personnel these high risk behaviors may be more prevalent among those assigned to ships than to other duty stations. For example, previous research conducted by Conway, et al. (1989) indicated that personnel stationed aboard ships tended to engage in poorer health behaviors than shore-based personnel; however analyses were not conducted to assess the effects of potential co-variates (e.g., age, education) or to examine gender-related differences among shipboard personnel. The current study of shipboard personnel will provide a unique opportunity to extend previous research and provide current information related to both health-promoting and health-detrimental lifestyle behaviors among Navy shipboard women and men.

BIBLIOGRAPHY:

1. Bray, R.M., Marsden, M.E., Guess, L.L., Wheelless, S.C., Iannacchione, V.G., and Keesling, S.R. 1988 Worldwide survey of substance abuse and health behaviors among military personnel. Research Triangle Institute, RTI/4000/06-02FR, December 1988.
2. Bray, R.M., Marsden, M.E., and Peterson, M.R. (1991). Standardized comparisons of the use of alcohol, drugs, and cigarettes among military personnel and civilians. *American Journal of Public Health*. 81:865-869.
3. Chief of Naval Operations, OPNAVINST 6110.1B, "Health and Physical Readiness Program," dated 19 October 1982.
4. Chief of Naval Operations, OPNAVINST 6110.1C, "Physical Readiness Program," dated 07 August 1986.
5. Chief of Naval Operations, OPNAVINST 6110.1D, "Physical Readiness Program," dated 18 January 1990.
6. Chief of Naval Operations, OPNAVINST 6100.2, "Health Promotion Program," dated 25 February 1992.
7. Conway, T.L. & Cronan, T.A. (1992). Smoking, exercise, and physical fitness. *Preventive Medicine*, 21(6). 723-734. (Based on NHRC Report No. 90-43).
8. Conway, T.L., Trent, L.K. & Conway, S.W. (1989). Physical readiness and lifestyle habits among U.S. Navy personnel during 1986, 1987, and 1988 (Report No. 89-24). San Diego, CA: Naval Health Research Center.

9. Healthy People 2000, U.S. Department of Health and Human Services, Public Health Service, DHHS Publication No. (PHS) 91-50212, 1991.
10. Secretary of the Navy, SECNAVINST 6110.5, "Health Promotion Program," dated 17 September 1986.
11. U.S. Department of Defense, DoD DIRECTIVE 1010.10, "Health Promotion," dated 11 March 1986.
12. Woodruff, S.I. & Conway, T.L. (1990). Perceived life quality and health-related correlates among men aboard Navy ships. *Military Psychology*, 2(2). 79-94. (Based on NHRC Report No. 88-43.)
13. Woodruff, S.I. & Conway, T.L. (1992). Impact of health and fitness-related behavior on quality of life. *Social Indicators Research*, 26(4). 391-405. (Based on NHRC Report No. 90-26.)
14. Woodruff, S.I. & Conway, T.L. (1992). A longitudinal assessment of the impact of health/fitness status and health behavior on perceived life quality. *Perceptual and Motor Skills*, 75. 3-14. (Based on NHRC Report No. 91-3).

B.10 REPORT TOPIC AREA: Women's Health Conditions - Segment I Report

PROPOSED LEAD AUTHORS: Donna Kritz-Silverstein
Deborah Wingard

ABSTRACT:

This report will describe the prevalence of disorders associated with the menstrual cycle and reproductive system, and time lost from work due to these disorders in women aboard Navy ships. Ovulatory and menstrual disturbances have been associated with stress (Merikangas, K.R., Foeldenyi, M., Angst, J., 1993; Carpenter, S.E., 1994). This report will compare the prevalence of disorders related to menstruation and the menstrual cycle and time lost from work by deployment status, pay grade, and rating. Among women who report having experienced symptoms within the previous 90 days, deployed and non-deployed women will be compared in terms of development of new conditions and worsening of existing conditions.

HYPOTHESIS:

It is expected that the prevalence of symptoms will increase with increasing age and be higher among ethnic/racial minorities. It is also expected that deployed women will experience a higher prevalence of symptoms than non-deployed women. Among women who report experiencing symptoms within the previous 90 days, deployed women are expected to have a higher incidence of symptoms, a greater prevalence of symptoms that increased in severity, and higher rates of time lost from work due to symptoms. Because women who have a lower paygrade and rating may have jobs with less control, and to the extent that having less control is more stressful, it is also expected that there will be an inverse association of paygrade and rating with the prevalence and incidence of symptoms and the prevalence rate of time lost from work due to these symptoms.

ANALYSIS PLANS:

Variables:

Independent Variables and Co-variables: Age, race/ethnicity, deployment status, paygrade, and rating

Dependent Variables (in separate analyses): cramps or pain during menstrual period requiring medication or time off work; bleeding between periods; excessive frequency of periods (time between periods too short); heavy periods (excessive menstrual flow); period lasting longer than one week; scanty menstrual flow; irregular periods; other symptoms related to menstrual periods; abdominal pain from endometriosis; abdominal pain from known cysts; abdominal pain from other or unknown causes; missing two or more hours from work during the previous ninety

days due to symptoms or disorders of the reproductive systems; and missing one or more days of work during the previous ninety days due to symptoms or disorders of the reproductive system.

Statistical Analyses:

Frequencies will be computed for each of the dependent variables to yield the overall prevalence of symptoms and time missed from work. Stratification by age (less than 20, 20-24, 25-29, 30-34, 35-39, and 40 and older) and comparisons with chi square analyses will be used to examine the age-specific prevalence rates. Prevalence rates after stratification by race-ethnicity, deployment status, paygrade and rating will also be examined. Age- and race-adjusted comparisons by deployment status of the prevalence of each symptom, of time lost from work, of the incidence of new symptoms, and of the prevalence rate of symptoms that increased in severity will be accomplished with the Mantel-Haenszel extension test and logistic regression analyses. Similarly, age-adjusted comparisons by paygrade and by rate of each symptom that increased in severity will also be accomplished with the Mantel-Haenszel extension test and logistic regression analyses.

Secondary Analyses:

Secondary analyses will also describe the prevalence rates of breast disorders (lumps, discharge); other disorders of the female reproductive tract (such as urinary tract infections, vaginal rash or discharge, gonorrhea, and other sexually transmitted diseases); and the time lost from work due to these disorders. These analyses will be similar to those described for menstrual related symptoms and will also be adjusted for age and stratified by race/ethnicity, deployment status, paygrade and rating.

Other secondary issues to be addressed in this report include the associations of lifestyle factors with menstrual symptoms and other disorders of the reproductive system. Age, obesity, and lifestyle factors, such as cigarette smoking, exercise, alcohol consumption, and stress, have been reported to affect the menstrual cycle and menstrual disorders. For instance, older women have been found to report less dysmenorrhea than younger women (Sundell, G., Milsom, I., Andersch, B., 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K., 1992; Heisterberg, L. 1993; Kritz, D.C., 1985). Weight loss has been associated with irregular periods and amenorrhea (Carpenter, S.E., 1994; Falsetti, L., Pasenetti, E., Mazzini, M.D., Gastaldi, A., 1992). Cigarette smoking has been associated with shorter cycle length, increased dysmenorrhea, and menopause that occurs on average one to two years earlier than for nonsmokers (Sundell, G., Milsom, I., Andersch, B., 1990; Parazzini, F., Tozzi, L., Mezzopane, R., et al, 1994). Higher alcohol consumption has been associated with increased premenstrual symptoms (Caan, B., Duncan, D., Hiatt, R., et al, 1993); however, others have reported no association between alcohol consumption and dysmenorrhea (Parazzini, F., Tozzi, L., Mezzopane, R., et al, 1994; Tate, D.L., Charette, L., 1991). Exercise has been frequently recommended for treatment of dysmenorrhea (Greene, J.W., 1993). However, excessive exercise has been associated with delayed menarche, lack of ovulations, and the absence of menstrual periods (Janiger, O.,

Riffenburgh, R., Kersh, R., 1972; Green, J.W., 1993; Keizer, H.A., Rogol, A.D., 1990; Loucks, A.B., 1990). Similarly, stress and nulliparity have been associated with increased menstrual problems (Sundell, G., Milsom, I., Andersch, B., 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K., 1992; Hasin, M., Dennerstein, L., Gotts, G., 1988; Janiger, O., Riffenburgh, R., Kersh, R., 1972; Merikangas, K.R., Foeldenyi, M., Angst, J., 1993; Carpenter, S.E., 1994; Lee, K.A., Rittenhouse, C.A., 1991).

Most of the previous studies of menstrual disorders have relied on either clinic- or physician-based samples of women, or samples of college students. The present database is unique in that it will enable us to examine the associations of each of these variables with the prevalence of menstrual disorders and other conditions affecting reproductive health using data from women in the Navy. Comparisons can also be made among deployed and non-deployed women to determine if the patterns of association differ among these two groups of women and if deployment has a negative impact on women's reproductive health. Specifically, we will examine the associations of:

Obesity with the prevalence of menstrual disorders and other disorders of the female reproductive system. It is expected that thinner women will have a greater prevalence of symptoms and a higher prevalence of time lost from work due to symptoms. Body mass index (BMI) will be calculated (weight in kilograms/height in meters²) (question 39) and age-adjusted comparisons of the prevalence rate of each symptom and of time lost from work due to symptoms by quartile of BMI will be performed with the Mantel-Haenszel extension test and/or logistic regression. Separate comparisons will also be performed after stratification by deployment status, paygrade, and rating.

Cigarette smoking (questions 27-32) with the prevalence of menstrual disorders and other disorders of the female reproductive system. It is expected that women who currently smoke cigarettes will have a greater prevalence of symptoms and time lost from work, whereas women who have never smoked cigarettes will have the lowest prevalence of these variables, and women who are past smokers will be intermediate in their prevalence rates. Age-adjusted comparisons of the prevalence of each symptom and of time lost from work due to symptoms by smoking status will be performed with the Mantel-Haenszel extension test and/or logistic regression. Separate comparisons will also be performed after stratification by deployment status, paygrade, and rating.

Exercise (questions 47-48) with the prevalence of menstrual disorders and other disorders of the female reproductive system. It is expected that women who engage in moderate exercise will have the lowest prevalence of symptoms and the lowest rates of time lost from work due to these symptoms. Women who engage in the least amount of exercise are expected to have the greatest prevalence of cramps or pain during the menstrual cycle, abdominal pain, other menstrual disorders, and time lost from work due to symptoms. Women who have the greatest amounts of heavy exercise are expected to report the greatest prevalence of irregular menstrual cycles, missed periods, and periods with scanty menstrual flow. Age-adjusted comparisons of the prevalence of each symptom by exercise status will be performed with the Mantel-Haenszel extension test and/or

logistic regression. To test the possibility of a U-shaped relation between exercise and symptom prevalence, a quadratic component will be added to logistic regressions. Separate comparisons will also be performed after stratification by deployment status, paygrade, and rating.

Stress (forms 456 and 78, questions 42-45) with the prevalence of menstrual disorders and other disorders of the female reproductive system. A positive association is expected between stress scores and the prevalence of symptoms and time lost from work due to these symptoms. Scores on the measures of stress will be calculated and age-adjusted comparisons of the prevalence of each symptom and of time lost from work due to symptoms by quartile of stress score will be performed with the Mantel-Haenszel extension test. Logistic regression will be used to examine the association of stress scale score with each of the symptoms and time lost from work due to these symptoms after adjustment for age. Separate comparisons will also be performed with adjustment and stratification by deployment status, paygrade, and rating.

Pregnancy history (questions 61 and 64) with the prevalence of menstrual disorders and other disorders of the female reproductive system. An inverse association is expected between the number of pregnancies and number of births and the prevalence rates of symptoms and time lost from work due to symptoms. Age-adjusted comparisons of the prevalence of each symptom and of time lost from work due to these symptoms by number of pregnancies and by number of births will be performed with the Mantel-Haenszel extension test. Logistic regression will be used to examine the association of pregnancies and births with each of the symptoms and of time lost from work due to these symptoms after adjustment for age. Separate comparisons will also be performed after stratification by deployment status, paygrade, and rating.

Logistic regression models will also be used to examine the independent and synergistic effects of these variables (age, race/ethnicity, obesity, cigarette smoking, exercise, alcohol consumption, stress, and pregnancy history) on the prevalence and incidence of each symptom and time lost from work due to these symptoms.

LITERATURE REVIEW:

It has been estimated that 50-85 percent of the 15 million menstruating women in the United States suffer to one degree or another from dysmenorrhea and other menstrual and premenstrual symptoms (Budoff, P.W. 1981; Sundell, G., Milsom, I., Andersch, B. 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K. 1992). Endometriosis is a disease of the female pelvic mesenchyme in which tissue with epithelial and stromal characteristics of the endometrium develops in a situation other than in the uterus (Ajossa, S., Mais, V., Guerriero, S., et al, 1994). The reported prevalence of endometriosis ranges from a low of 1-8 percent (Barbieri, R.L., 1990; Mahmood, T.A., Templeton, A. 1991; Vercellini, P., Crosignani, P.G. 1993) to 22 percent among nonpregnant women and 16 percent among pregnant women (Moen, M.H., Muus, K.M. 1991; Wardle, P.G., Hull, M.G. 1993). As many as 54 percent of all women with endometriosis report chronic pelvic pain, and as many as 81 percent also complain of dysmenorrhea (Marana, R., Muzii, L., Caruana, P., et al, 1991). Menstrual symptoms also vary with age (Sundell, G.,

Milsom, I., Andersch, B., 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K., 1992; Heisterberg, L. 1993; Kritz, D.C., 1985) and race/ethnicity (Kritz, D.C., 1985; Janiger, O., Riffenburgh, R., Kersh, R., 1972).

For some women, the symptoms associated with the menstrual cycle are severe enough to cause a disruption in their daily activity (Sundell, G., Milsom, I., Andersch, B., 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K., 1992). These symptoms are responsible for more lost work and school hours among women than any other disease entity (Budoff, P.W. 1981; Sundell, G., Milsom, I., Andersch, B. 1990; Ng, T.P., Tan, N.C., Wansaicheong, G.K. 1992; Dingfelder, J.R., 1982). Approximately 5-15 percent of all women (almost 3.5-7 million American women) are incapacitated for 1-2 days each month because of their symptoms (Budoff, P.W., 1981; Norris, R.V., Sullivan, C., 1983; Holmlund, U., 1990). Thus, the experience of menstrual and reproductive system disorders may create an economic burden for employers as well as for the women themselves. However, there have been relatively few large, population-based studies of the prevalence of menstrual and reproductive system disorders and the time lost from work due to dysmenorrhea or other symptoms.

BIBLIOGRAPHY:

1. Budoff, P.W. (1981). No more menstrual cramps and other good news. New York: Penguin Books.
2. Sundell, G., Milsom, I., Andersch, B. (1990). Factors influencing the prevalence and severity of dysmenorrhea in young women. *British J. Obstet Gynecol*, 97. 588-594.
3. Ng, T.P., Tan, N.C., Wansaicheong, G.K. (1992). A prevalence study of dysmenorrhea in female residents aged 15-54 years in Clementi Town, Singapore. *Annals of the Academy of Medicine, Singapore*, 21. 323-327.
4. Ajossa, S., Mais, V., Guerriero, S., et al. (1994). The prevalence of endometriosis in premenopausal women undergoing gynecological surgery. *Clin Exp Obstet Gynecol*, 21. 195-197.
5. Barbieri, R.L., (1990). Etiology and epidemiology of endometriosis. *Am J Obstet Gynecol*, 162. 565-567.
6. Mahmood, T.A., Templeton, A. (1991). Prevalence and genesis of endometriosis. *Human Reproduction*, 6. 544-549.
7. Vercellini, P., Crosignani, P.G. (1993). Minimal and mild endometriosis. Is there anything new under the sun? *J Repro Med*, 38. 49-52.
8. Moen, M.H., Muus, K.M. (1991). Endometriosis in pregnant and nonpregnant women at tubal sterilization. *Human Reproduction*, 6. 699-702.
9. Wardle, P.G., Hull, M.G. (1993). Is endometriosis a disease? *Baillieres Clin Obstet Gynecol*, 7. 673-685.
10. Marana, R., Muzii, L., Caruana, P., et al. (1991). Evaluation of the correlation between endometriosis extent, age of the patients, and associated symptomatology. *Acta Europaea Fertilitatis*, 22. 209-212.

11. Heisterberg, L. (1993). Factors influencing spontaneous abortion, dyspareunia, dysmenorrhea, and pelvic pain. *Obstet Gynecol*, 81. 594-597.
12. Kritz, D.C. (1985). Predicting individual differences in the reported amount and severity of menstrual and premenstrual symptoms. *Dissertation Abstracts International*, 46(nl-b). 347.
13. Hasin, M., Dennerstein, L., Gotts, G. (1988). Menstrual cycle related complaints: a cross-cultural study. *J Psychosom Obstet Gynecol*, 9. 35-42.
14. Janiger, O., Riffenburgh, R., Kersh, R. (1972). Cross-cultural study of premenstrual symptoms. *Psychosomatics*, 13. 226-235.
15. Dingfelder, J.R. (1982). Treatment of dysmenorrhea. *Hospital Physician*. 73-78.
16. Norris, R.V., Sullivan, C. (1983). *PMS/Perimenstrual Syndrome*. New York:Rowson Associates.
17. Holmlund, U. (1990). The experience of dysmenorrhea and its relationship to personality variables. *Acta Psychiatric Scand*, 82. 182-187.
18. Merikangas, K.R., Foeldenyi, M., Angst, J. (1993). The Zurich Study. XIX. Patterns of menstrual disturbances in the community: results of the Zurich Cohort Study. *European Archives of Psychiatry and Clinical Neuroscience*, 243. 23-32.
19. Carpenter, S.E. (1994). Psychosocial menstrual disorders: stress, exercise and diet's effect on the menstrual cycle. *Current Opinion in Obstet Gynecol*, 6. 536-539.
20. Falsetti, L., Pasenetti, E., Mazzani, M.D., Gastaldi, A. (1992). Weight loss and menstrual cycle: clinic and endocrinological evaluation. *Gynecological Endocrinology*, 6. 49-56.
21. Parazzini, F., Tozzi, L., Mezzopane, R., et al. (1994). Cigarette smoking, alcohol consumption, and risk of primary dysmenorrhea. *Epidemiology*, 5. 469-472.
22. Caan, B., Duncan, D., Hiatt, R., et al. (1993). Association between alcoholic and caffeinated beverages and premenstrual syndrome. *J Repro Med*, 38. 630-636.
23. Tate, D.L., Charette, L. (1991). Personality, alcohol consumption, and menstrual distress in young women. *Alcoholism, Clin Exper Res*, 15. 647-652.
24. Greene, J.W. (1993). Exercise-induced menstrual irregularities. *Comprehensive Therapy*, 19. 116-120.
25. Keizer, H.A., Rogol, A.D. (1990). Physical exercise and menstrual cycle alterations. What are the mechanisms? *Sports Medicine*, 10. 218-235.
26. Loucks, A.B. (1990). Effects of exercise training on the menstrual cycle: existence and mechanisms. *Med and Science in Sports and Exercise*, 22. 275-280.
27. Lee, K.A., Rittenhouse, C.A. (1991). Prevalence of premenstrual symptoms in employed women. *Women and Health*, 17. 17-32.

PROPOSED LEAD AUTHORS: Deborah Wingard
Donna Kritz-Silverstein

ABSTRACT:

Using shipboard questionnaire data and other resources, this report will investigate the prevalence of health conditions and symptoms in young women and men of several ethnic/racial groups aboard Navy ships. It will also examine gender differences in the reporting of specific health conditions and symptoms, as well as in the total number of conditions reported by men and women. Specifically, gender differences in the experience of migraines and other headaches and gender differences in injury rates within specific ratings will be examined. Comparisons will be made between deployed and non-deployed individuals to determine if deployment has a negative association with health.

HYPOTHESIS:

It is expected that within each gender, the prevalence of symptoms will increase with increasing age and be higher among ethnic/racial minorities. It is also expected that women will report a greater prevalence of headaches, injuries, and other symptoms and conditions than men and that those who are deployed will report a higher prevalence of symptoms and conditions than the non-deployed. Because individuals who have a lower paygrade and rating may have jobs with less control, and to the extent that having less control is more stressful, it is also expected that there will be an inverse association between paygrade and rating and the prevalence of symptoms and conditions.

ANALYSIS PLANS:

Variables:

Independent Variables and Co-Variates:

Gender, age, race/ethnicity, deployment status, paygrade and rating.

Dependent Variables (in separate analyses):

The experience in the past 30 days of any of the following health conditions or symptoms: headache (migraine, non-migraine); injuries (muscle sprain or strain, back problems, other); common cold symptoms; dizziness; chills; cough; sore throat; fever; flu; diarrhea lasting at least 3 days; stomach problems; constipation; indigestion; nausea/vomiting; sinus trouble; hay fever; shortness of breath; hoarseness; skin problems; hearing problems; irritated eyes; trouble seeing with one or both eyes even if wearing glasses or contacts; pain in stomach; heat stress or heat

stroke; and psychological conditions or personal problems severe enough to interfere with daily activities. Other dependent variables are a physician's diagnosis in the past 30 days of: cold or acute nasopharyngitis; sore throat, viral; cough, viral; and flu. The Navy questionnaire includes the major components of the International Headache Society diagnostic criteria for migraines (visual disturbances, numbness or tingling, sensitivity to noise and sensitivity to light), as well as prior physician diagnosis of migraine.

Statistical Analyses:

Sex-specific frequencies will be computed for each of the dependent variables to yield the overall prevalence of each health related condition and symptom. Stratification within each gender by age (less than 20, 20-24, 25-39, 30-34, 35-39, and 40 and older) and comparisons with chi square analyses and the Mantel-Haenszel extension test will be used to examine the age- and sex-specific prevalence rates. Prevalence rates after stratification by race/ethnicity, deployment status, paygrade, and rating will also be examined. Gender differences in the prevalence of each health condition and symptom will be examined with logistic regression to adjust for age, race-ethnicity, and other factors such as deployment status.

Secondary Analyses:

Secondary analyses will focus on the associations of lifestyle variables, such as cigarette smoking, alcohol consumption, exercise, sleep, depression, and stress, with the prevalence of specific health conditions and symptoms (questionnaire items 27-32, 35-37, 42-45, 47-48, 50). We expect that cigarette smoking, alcohol consumption, lower exercise, fewer hours of sleep, and higher rates of depression or stress will be associated with a higher prevalence of health conditions and symptoms. These analyses will be performed separately within men and women. Age-adjusted comparisons of the prevalence of each condition and symptom by lifestyle category will be performed with the Mantel-Haenszel extension test and/or logistic regression. Separate comparisons will also be adjusted for and/or stratified by race/ethnicity, deployment status, paygrade, and rating. Similarly, for each sex, scores on the measures of depression and stress will be calculated, and age-adjusted comparisons of the prevalence of each condition and symptom by quartile of depression or stress score will be performed with the Mantel-Haenszel extension test. Logistic regression will be used to examine the association of depression or stress scale score with each of the symptoms and conditions after adjustment for age. Separate comparisons will also be adjusted and/or stratified by race/ethnicity, deployment status, paygrade, and rating.

Several studies have noted that women report more migraine headaches than men (15-18 percent compared to approximately 6 percent) and that migraines occur most frequently between the ages of 25 and 55 years (Lipton, R.B., Stewart, W.F., 1994; Migraine prevalence, Neurology, 1994). One population-based study in Finland reported that among women 54 percent of all headaches were migraines, compared to 39 percent among men (Honkasalo, M.L., Kaprio, J., Heikkila, K., Silanpaa, M., Koskenvuo, M., 1993). In the United States, women from lower-income households were at higher risk of having migraines and were more likely to use healthcare

services for their headaches even after adjusting for headache severity (Celentano, D.D., Linet, M.S., Stewart, W.F., 1990; Stewart, W.F., Lipton, R.B., Celentano, D.D., Reed, M.L., 1992). In the present study, the age-adjusted prevalence of migraine and non-migraine headaches will be examined separately for men and women using the Mantel Haenszel extension test and/or logistic regression. Analyses will be adjusted for possible confounders, such as cigarette smoking, alcohol consumption, lower exercise, fewer hours of sleep, and higher rates of depression or stress. We will examine the influence of exogenous estrogen use on headaches occurrence. Separate comparisons will be adjusted and/ or stratified by race/ethnicity, deployment status, paygrade, and rating.

In several national samples, more men than women have reported injuries (National Center for Health Statistics, 1994; Cherpitel, C.J., 1993). However, among intercollegiate athletes (Lanese, R.R., Strauss, R.H., Leizman, D.J., Rotondi, A.M., 1990) and military trainees (Jones, B.H., Bovee, M.W., Harris, J.M.3rd, Cowan, D.N., 1993; Ross, J., Woodward, A., 1994), women experience equal numbers or more injuries than men. This may reflect women's greater risk of injury given equal exposure activity. Physiologically, women have less muscle strength, lower bone mass, less lean muscle mass, more body fat, and a gynoidal fat distribution (Sanborn, C.F., Jankowski, C.M., 1994). Some of these characteristics may make women more prone to injury, given a similar impact or fall. In the present study, the age-adjusted prevalence of injuries in the past 30 days (including muscle sprain or strain, back problems, and other injuries) will be examined separately for men and women using the Mantel-Haenszel extension test and/or logistic regression. Analyses will be adjusted for possible confounders, such as race/ethnicity, obesity (weight in kilograms/height in meters²), alcohol consumption, lower exercise, fewer hours of sleep, higher rates of depression or stress, recent lifting of 25-49 or 50 or more pounds, and use of protective gloves or boots. Separate comparisons will also be adjusted and/or stratified by deployment status, paygrade and rating. These occupational classifications reflect different exposures to work related injury. Questionnaire data on injuries will be supplemented with injury data from sick logs aboard ship for separate analyses.

LITERATURE REVIEW:

There are numerous reports indicating that women use medical care and seek help from healthcare providers more often than men (Corney, R.H., 1990; Kendrack, M.A., Grant, K.R., Segall, A., 1991; Wingard, D.L., 1984; Celentano, D.D., Linet, M.S., Stewart, W.F., 1990). Women have also been found to report more symptomatology and higher morbidity than men (Wingard, D.L., 1948; Celentano, D.D., Linet, M.S., Stewart, W.F., 1990; Gijsbergs van Wijk, C.M., Van Vliet, K.P., Kolk, A.M., Everaerd, W.T., 1991; Klonoff, E.A., Landrine, H., 1992; Harris, R.B., Weissfeld, L.A., 1991; Wool, C.A., Barsky, A.J., 1994). For example, 15-18 percent of women report migraine headaches compared to approximately 6 percent of men (Lipton, R.B., Stewart, W.F., 1994; Migraine prevalence, Neurology 1994). However, there are relatively few large, population-based comparisons of the experience of symptoms and health conditions of relatively young men and women. There are also very few studies with sample sizes

large enough to describe gender differences within different racial/ethnic groups. Data from the National Health Interview Survey suggests there may be substantial variations (Wingard, D.L., *Patterns and Puzzles: the distribution of health and illness among women in the U.S.*)

One possible exception to the female excess of morbidity is that more men than women have reported injuries in several national samples (National Center for Health Statistics, 1994; Cherpitel, C.I., 1993). However, among intercollegiate athletes the only gender difference in injuries was a female excess among gymnasts (Lanese, R.R., Strauss, R.H., Leizman, D.J., Rotondi, A.M., 1990), while two studies of military trainees have reported a female excess of injuries (Jones, B.H., Bovee, M.W., Harris, J.M.3d, Cowan, D.N., 1993; Ross, J., Woodward, A., 1994). Thus, it appears that given equal exposure to risk (either sports or occupational), women may experience more injuries than men.

BIBLIOGRAPHY:

1. Corney, R.H. (1990). Sex differences in general practice, attendance, and help seeking for minor illness. *J Psychosomatic Res*, 34. 524-534.
2. Kendrack, M.A., Grant, K.R., Segall, A. (1991). Gender differences in health related behaviour: some unanswered questions. *Soc Sci Med*, 32. 579-90.
3. Wingard, D.L. (1984). The sex differential in morbidity, mortality, and lifestyle. *Annual Rev of Pub Health*, 5. 433-458.
4. Celentano, D.D., Linet, M.S., Stewart, W.F. (1990). Gender differences in the experience of headache. *Soc Sci Med*, 30. 1289-1295.
5. Gijsbers van Wijk, C.M., Van Vliet, K.P., Kolk, A.M., Everaerd, W.T. Symptom sensitivity and sex differences in physical morbidity: a review of health surveys in the United States and The Netherlands. *Women and Health*, 17. 91-124.
6. Klonoff, E.A., Landrine, H. (1992). Sex roles, occupational roles, and symptom reporting: a test of competing hypotheses on sex differences. *J Behav Med*, 15. 355-364.
7. Harris, R.B., Weissfeld, L.A. (1991). Gender differences in the reliability of reporting symptoms of angina pectoris. *J Clin epidemiol*, 44. 1071-1078.
8. Wool, C.A., Barsky, A.J. Do women somatize more than men? Gender differences in somatization. *Psychosomatics*, 35. 445-452.
9. Lipton, R.B., Stewart, W.F. (1994). The epidemiology of migraine. *European Neurology*, 34. Suppl 2. 6-11.
10. Migraine prevalence. (1994). A review of population-based studies. *Neurology*, 44. 6 Suppl 4. S17-23.
11. Wingard, D.L. (Accepted for publication). Patterns and puzzles: the distribution of health and illness among women in the United States. Chapt in Rusez, S., Olesen, V., Clarke, A (eds.). *Women's Health: The Dynamics of Diversity*. Ohio State University Press.
12. National Center for Health Statistics. (1994). Current estimates from the National Health Interview Survey: United States, 1991. *Vital and Health Statistics, Series 10, Number 180*. Public Health Service, Washington DC:US Government Printing Office.

13. Cherpitel, C.J. (1993). Alcohol, injury, and risk-taking behavior: data from a national sample. *Alcoholism, Clinical and Experimental Research*, 17. 762-66.
14. Lanese, R.R., Strauss, R.H., Leizman, D.J., Rotondi, A.M. (1990). Injury and disability in matched men's and women's intercollegiate sports. *Amer J Public Health*, 80. 1459-62.
15. Jones, B.H., Bovee, M.W., Harris J.M.3d, Cowan, D.N. (1993). Intrinsic risk factors for exercise-related injuries among male and female army trainees, 21. 705-10.
16. Ross, J., Woodward, A. (1994). Risk factors for injury during basic military training. Is there a social element to injury pathogenesis? *J Occup Med*, 36. 1120-26.
17. Honkasalo, M.L., Kaprio, J., Heikkila, K., Silanpaa, M., Koskenvuo, M. (1993). A population-based survey of headache and migraine in 22,809 adults. *Headache*, 33. 403-12.
18. Stewart, W.F., Lipton, R.B., Celentano, D.D., Reed, M.L. (1992). Prevalence of migraine headache in the United States. Relation to age, income, race, and other sociodemographic factors. *JAMA*, 267. 64-69.
19. Sanborn, C.F., Jankowski, C.M. (1994). Physiologic considerations for women in sport. *Clinics in Sports Med*, 13. 315-27.

APPENDIX C

SHIPBOARD HEALTH SURVEYS

C.1 SURVEY TOPIC DISTRIBUTION TABLE

C.2 SURVEY 123

C.3 SURVEY 456

C.4 SURVEY 78

C.5 SURVEY 90

C.6 ANONYMOUS QUESTIONNAIRE

APPENDIX C.1
SURVEY TOPIC DISTRIBUTION TABLE

U.S. Navy Shipboard Health Survey

Dimension	Questionnaire Form			
	123	456	78	90
Demographics	X	X	X	X
Health conditions	X	X	X	X
Medical history	X	X	X	X
Recent medical care	X	X	X	X
Occupational exposures	X	X	X	X
Protective gear	X	X	X	X
Lifestyle	X			
Medical care satisfaction aboard ship	X			
Medical care use off-ship	X			
Medical care avoidance	X			
Medical visits (medical care use)	X			
Health promotion services	X			
Aerobic exercise and work	X			
Weight change and sleep	X			
Health benefits	X	X		
Quality of life		X	X	
Mood (CES-D) (depression scale)		X	X	
Stress (Martin)		X	X	
Family composition		X	X	
Family and friends (social network scale)		X	X	
Sources of help		X	X	
Brief symptom inventory			X	
Military history			X	
Casualty events		X	X	
Health care (Merrill)				X
Mood assessment I (Merrill)				X
Mood assessment II (Merrill)				X
Mood assessment III (Merrill)				X
Your health I (Merrill)				X
Your health II (Merrill)				X
Your health III (Merrill)				X

U.S. Navy Shipboard Health Survey

Patient satisfaction I (Merrill)				X
Patient satisfaction II (Merrill)				X
Patient satisfaction III (Merrill)				X
Women's health conditions	X	X	X	X
Pregnancy history	X	X	X	X
OB/GYN availability	X	X	X	X
Pre-deployment OB/GYN/visit	X	X	X	X

APPENDIX C.2

SURVEY 123

U.S. Navy Shipboard Health Survey

Naval Health Research Center, San Diego

Information to participants

You are being asked to voluntarily complete this survey giving candid responses and opinions about health-related issues and to become part of a study that will involve one or more additional questionnaires. Your answers are for research use only and will be kept strictly confidential. Data will be reported so that no individual participant can be identified and the information you provide will not become part of anyone's official records. If you have any questions about this survey, please contact Dr. Frank C. Garland, Naval Health Research Center, San Diego, CA 92186-5122/DSN: 553-6881; Commercial (619) 553-6881.

Privacy Act Statement

1. **Authority.** 5 USC 301, 10 USC 1071. OPNAV Control Symbol 6000-13C 2. **Purpose.** Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion. 3. **Routine use.** Medical research information will be used in statistical analyses by the Departments of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. 4. **Voluntary disclosure.** I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding paragraph, and I have been informed that failure to agree to its disclosure to agencies or individuals identified in the preceding paragraph. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.

A. Name (please print):

Last First Middle Initial

B. Social security number: _____

C. Date of birth: Month: _____ Day: _____ Year: 19 _____



Shipboard Form 123 Questionnaire

**THIS PAGE IS TO BE COMPLETED BY ALL STUDY PARTICIPANTS
AND WILL BE REMOVED BEFORE PROCESSING.**

Note: Questionnaires may be distributed by active-duty, reserve, or civilian personnel.

Rev. 7.0 (31 May 95)

Voluntary Consent to Participate in the U.S. Navy Shipboard Health Survey

1. I am being asked to volunteer to participate in a research study titled, "Health Aboard Navy Ships: A Comprehensive Health and Readiness Research Project" The purpose of this study is to enhance basic medical knowledge concerning the provision of medical care and health promotion. I am being asked to participate now, and can expect to receive a follow-up questionnaire in about 1 year if I am still on active duty.
2. I understand that my participation in this study is completely voluntary. If I do not choose to participate there are no penalties, and I will not lose any benefits to which I am otherwise entitled. I may discontinue my participation in this study at any time I choose without fear of penalty or loss of benefits to which I am otherwise entitled.
3. The benefit that I may expect from my participation in this research study is the knowledge that I will be helping the Navy to provide the best possible medical services to men and women serving aboard Navy ships. There is no direct personal benefit to me from participation in this research study.
4. The investigators believe that there are no direct physical or psychological risks to me as a participant in this research study, with the possible exception of a very unlikely accidental breach of confidentiality and loss of anonymity. Specific measures to ensure my anonymity are outlined in paragraph 5.
5. Confidentiality during this research study will be ensured by restricting access to all data collected to personnel working on this research study who have taken an oath of confidentiality. The confidentiality of the information related to my participation in this research study will be ensured at all times by use of an arbitrary number to identify me. I also understand that none of my responses will become a part of my medical or military record and that no information that might identify me personally will be included in results from reports of this study. Thank you! the anonymous portion of this contains no personal identifiers and cannot be linked to me in any way.
6. If I have questions about this research study I should contact the principal investigator, Dr. Frank C. Garland at the Naval Health Research Center (NHRC), San Diego, CA 92186-5122, phone (619) 553-6881; DSN 553-6881. If I have questions about the ethical aspects of this study, my rights as a volunteer, or any concerns relating to protection of research volunteers, I can contact Dr. Tamsin Kelly at NHRC, phone (619) 553-8443; DSN 553-8443. Additionally, I may contact Dr. Lisa Meyer at NHRC if I have any questions about medical aspects of this study. Dr. Meyer may be contacted at NHRC, phone (619) 553-8376; DSN: 553-8376.
7. I have been informed that Dr. Frank C. Garland is responsible for the storage of my consent form and the research records related to my participation in this study. These records are stored at the Naval Health Research Center, San Diego, CA 92186-5122.
8. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. All my questions have been answered to my satisfaction. By my signature below, I give my voluntary informed consent to participate in this research study as it has been explained to me and acknowledge receipt of a copy of this form for my own personal records.

(Last name, first name, middle initial)

(Signature)

Date (DD/MM/YY)

--This page will be removed and stored separately to protect your confidentiality--

DEMOGRAPHIC DATA

1. Today's date: Month: ____ ____ Day: ____ ____ Year: 199 ____
2. What is your gender?
 - 1 ☐ Male
 - 2 ☐ Female
3. What is your age in years? ____ ____ years
4. What is your race?
(Check one box)
 - 1 ☐ White, non-Hispanic
 - 2 ☐ White, Hispanic
 - 3 ☐ Black/African-American, non-Hispanic
 - 4 ☐ Black/African-American, Hispanic
 - 5 ☐ Asian/Pacific Islander
 - 6 ☐ Native American
 - 9 ☐ Other (Please specify): _____
5. What is the highest level of education you have completed?
(Check one box)
 - 1 ☐ Some high school
 - 2 ☐ Graduate equivalency degree (GED)
 - 3 ☐ High school graduate
 - 4 ☐ Trade or technical school graduate
 - 5 ☐ Some college or AA degree
 - 6 ☐ 4-year college degree
 - 7 ☐ Graduate or professional degree
6. Marital status
 - a. What is your current marital status?
(Check one box)
 - 1 ☐ Never married
 - 2 ☐ Married (Please skip to question 7)
 - 3 ☐ Separated
 - 4 ☐ Divorced
 - 5 ☐ Widowed
 - b. Do you plan to marry during the next 12 months?
(Check one box)
 - 1 ☐ No
 - 2 ☐ Yes
 - 3 ☐ Don't know

7. What is your paygrade? (Circle one)

<u>Enlisted</u>		<u>Warrant officer</u>	<u>Officer</u>	
E-1	E-6	W-1	O-1	O-6
E-2	E-7	W-2	O-2	
E-3	E-8	W-3	O-3	
E-4	E-9	W-4	O-4	
E-5			O-5	

8. If you are Navy enlisted, what is your rating (e.g., SN, FN, BT, HM, ASM)? _____

9. If you are Marine enlisted, what is your M.O.S. number? _____

10. What is your total number of years on active duty? _____ years

11. Times aboard ship(s)

a. What is the approximate total time you have served aboard ship counting all time on all ships on which you have served?

_____ years and _____ months

b. What is the approximate total time time you served aboard this ship?

_____ years and _____ months

12. Where do you live when your ship is in your home port?
(Check one box)

- | | |
|---|------------------------------------|
| 1 ☐ Aboard ship | 3 ☐ BEQ/BOQ |
| 2 ☐ Navy Housing | 9 ☐ Other |

13. To what ship (or command) are you currently assigned? _____

14. If you are currently aboard ship, what is your ship's current status?
(For purposes of this questionnaire, deployment shall be defined as:
"Ship scheduled at sea for 30 days or more")
(Check one box)

- | | |
|--|---|
| 1 ☐ In home port | 3 ☐ In port other than home port |
| 2 ☐ At sea | 4 ☐ In shipyard |
| 9 ☐ Other (Please specify): _____ | |

15. Are you currently deployed (30 days or more)?
(Check one box)

- 1 ☐ No (Please skip to question 18)
2 ☐ Yes

16. What date did you begin this deployment? Mo.: _____ Day: _____ Year: 199 _____

17. If you are out of your home port, what is the expected length of time between today and the date you return to your home port?
(Check one box)
- 1 ☐ Less than 1 week
 - 2 ☐ 1 week to less than 1 month
 - 3 ☐ 1 month to less than 3 months
 - 4 ☐ 3 months to less than 6 months
 - 5 ☐ 6 months to less than 12 months
 - 6 ☐ 12 months to less than 18 months
 - 7 ☐ 18 months or longer
18. How many times have you deployed aboard Navy ships (30 days or more), not counting present deployment? (Check one box)
- 0 ☐ Never ☐ _____ times

HEALTH CONDITIONS

This section is to report all conditions that you had during the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider.

19. Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider?
(Please check either "no" or "yes" for every condition)
- | | | |
|----------------------------------|--------------------------------|--|
| a. 1 ☐ No | 2 ☐ Yes | Common cold symptoms |
| b. 1 ☐ No | 2 ☐ Yes | Dizziness |
| c. 1 ☐ No | 2 ☐ Yes | Chills |
| d. 1 ☐ No | 2 ☐ Yes | Cough |
| e. 1 ☐ No | 2 ☐ Yes | Sore throat |
| f. 1 ☐ No | 2 ☐ Yes | Fever |
| g. 1 ☐ No | 2 ☐ Yes | Flu |
| h. 1 ☐ No | 2 ☐ Yes | Diarrhea lasting at least 3 days |
| i. 1 ☐ No | 2 ☐ Yes | Stomach problems |
| j. 1 ☐ No | 2 ☐ Yes | Constipation |
| k. 1 ☐ No | 2 ☐ Yes | Indigestion |
| l. 1 ☐ No | 2 ☐ Yes | Nausea/vomiting |
| m. 1 ☐ No | 2 ☐ Yes | Sinus trouble |
| n. 1 ☐ No | 2 ☐ Yes | Hay fever |
| o. 1 ☐ No | 2 ☐ Yes | Shortness of breath |
| p. 1 ☐ No | 2 ☐ Yes | Hoarseness |
| q. 1 ☐ No | 2 ☐ Yes | Skin problems |
| r. 1 ☐ No | 2 ☐ Yes | Muscle sprain or strain |
| s. 1 ☐ No | 2 ☐ Yes | Back problems |
| t. 1 ☐ No | 2 ☐ Yes | Hearing problems |
| u. 1 ☐ No | 2 ☐ Yes | Irritated eyes |
| v. 1 ☐ No | 2 ☐ Yes | Trouble seeing with one or both eyes even if wearing glasses or contacts |

19. — *Continued*— Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider?
(Please check either "no" or "yes" for every condition)

w. 1 ☐ No 2 ☐ Yes Pain in stomach or abdominal area
x. 1 ☐ No 2 ☐ Yes Heat stress or heat stroke
y. 1 ☐ No 2 ☐ Yes Headache:

If yes, was it accompanied by: (Please check either "no" or "yes" for every condition)

1 ☐ No 2 ☐ Yes Visual disturbances
1 ☐ No 2 ☐ Yes Numbness or tingling
1 ☐ No 2 ☐ Yes Sensitivity to noise
1 ☐ No 2 ☐ Yes Sensitivity to light
1 ☐ No 2 ☐ Yes Nausea
z. 1 ☐ No 2 ☐ Yes Psychological condition(s) or personal problem(s) severe enough to interfere with daily activities
aa. 1 ☐ No 2 ☐ Yes Other condition or injury

Please specify : _____

bb. 1 ☐ No 2 ☐ Yes (Women) Menstrual conditions (premenstrual syndrome, menstrual cramps, irregular or absent periods)

20. During the past 30 days:

- a. Did you receive a doctor's diagnosis of any of these from a health care provider not on this ship?

(Please check either "no" or "yes" for every condition)

1. 1 ☐ No 2 ☐ Yes Cold or acute nasopharyngitis
2. 1 ☐ No 2 ☐ Yes Sore throat, viral
3. 1 ☐ No 2 ☐ Yes Cough, viral
4. 1 ☐ No 2 ☐ Yes Flu

- b. Have you been unable to perform your military duties for 1 or more days because of the reasons below?

(Please check either "no" or "yes" for every condition)

1. 1 ☐ No 2 ☐ Yes Health problem
2. 1 ☐ No 2 ☐ Yes Emotional problem
3. 1 ☐ No 2 ☐ Yes Personal problem
4. 1 ☐ No 2 ☐ Yes Family problem
5. 1 ☐ No 2 ☐ Yes Other (Please specify :) _____

MEDICAL HISTORY

21. Has a doctor *ever* told you that you had any of the following?

(Please check one box on each line.

If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Asthma	☐	☐	_____
b. Migraine headache	☐	☐	_____
c. Anemia	☐	☐	_____
d. Depression	☐	☐	_____
e. Gonorrhea	☐	☐	_____
f. Syphilis	☐	☐	_____
g. Chlamydia	☐	☐	_____
h. Urinary tract infection	☐	☐	_____
i. Kidney infection	☐	☐	_____
j. Hernia (other than hiatal)	☐	☐	_____

RECENT MEDICAL CARE

22. Approximately how many months or days ago was your:

(Fill in number of months or days for each item)

	Number of months	Number of days <i>(if less than 1 month)</i>
a. Most recent visit to a medical doctor?	_____	_____
b. Most recent visit to another health care professional? <i>(Please specify type of provider, e.g., psychologist, dentist, nurse-practitioner):</i>	_____	_____
c. Most recent visit to a hospital corpsman?	_____	_____

23. If you are currently deployed (30 days or more), were you medically screened preceding this deployment?
(Check one box)

1 ☐ No

2 ☐ Yes

9 ☐ Not applicable, since I am not currently deployed.

24. In what month and year were you last screened? Month: _____ Year: 199 _____

OCCUPATIONAL EXPOSURES

25. Have you been exposed to any of the factors listed below?

Exposure	No (1)	Yes (2)	Not sure (9)	If yes: During the			
				Past 30 days		Past 36 months	
(Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)				No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
a. Adhesives or gluing compounds	☐	☐	☐				
b. Asbestos (loose)	☐	☐	☐				
c. Carbon monoxide	☐	☐	☐				
d. Diesel exhaust within 50 feet	☐	☐	☐				
e. Diesel fuel within 50 feet	☐	☐	☐				
f. Dry cleaning solvent	☐	☐	☐				
g. Exhaust from gasoline engine	☐	☐	☐				
h. Gasoline (liquid or vapor)	☐	☐	☐				
i. Guided missile fuel	☐	☐	☐				
j. High temperature (above 95°F)	☐	☐	☐				
k. Hypodermic needles (used)	☐	☐	☐				
l. Insecticides	☐	☐	☐				
m. Jet exhaust within 50 feet	☐	☐	☐				
n. Jet fuel within 50 feet	☐	☐	☐				
o. Lifting 25 - 49 pounds	☐	☐	☐				
p. Lifting 50 or more pounds	☐	☐	☐				
q. Loud noise (such as jets)	☐	☐	☐				
r. Low temperature (below 32° F)	☐	☐	☐				
s. Metal scrapings or filings	☐	☐	☐				
t. Microwave oven within 3 feet	☐	☐	☐				
u. Paint (oil based), or thinner	☐	☐	☐				
v. Paint, other or unknown type	☐	☐	☐				
w. Paint scrapings or paint sanding	☐	☐	☐				
x. Radar antenna or array within 50 feet	☐	☐	☐				
y. Solvent or degreaser	☐	☐	☐				
z. Torpedo fuel	☐	☐	☐				

25. —Continued—Have you been exposed to any of the factors listed below?

				If yes: During the			
				Past 30 days		Past 36 months	
Exposure (Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)	No (1)	Yes (2)	Not sure (9)	No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
aa. Other chemicals (Please specify):	☐	☐	☐				
bb. Transmitting antennas within 50 feet	☐	☐	☐				
cc. Nuclear reactor within 50 feet	☐	☐	☐				
dd. Nuclear fuel within 50 feet	☐	☐	☐				
ee. Nuclear ordnance within 50 feet	☐	☐	☐				
ff. Nuclear medicines (radioisotopes)	☐	☐	☐				
gg. Video display terminal (VDT, CRT)	☐	☐	☐				
hh. Welding fumes	☐	☐	☐				
ii. Dust or particles	☐	☐	☐				
jj. Explosives (nonnuclear) within 50 feet	☐	☐	☐				
kk. Nitrous oxide	☐	☐	☐				
ll. Ethylene dibromide (EDB)	☐	☐	☐				
mm. Perchloroethylene (PERC)	☐	☐	☐				
nn. Anthrax vaccine	☐	☐	☐	Year first received 19 ____		Year last received 19 ____	
oo. Antimalaria pills	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
pp. Pyridostigmine	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
qq. Other anti-CBW pills or agents (Please specify):	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	

PROTECTIVE GEAR

26. Is protective gear available for use in your current job?
(Please check one box in each of the four columns)

Item	Is this item available?			Does it fit you properly?			Do you wear it when needed?			Does it seriously interfere with your ability to do your work?		
	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)
a. Gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b. Respirator or mask	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c. Protective gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d. Boots	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e. Ear plugs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f. Film badges	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g. Hazardous materials suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h. Fire fighting suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

LIFESTYLE

27. Have you smoked at least 100 cigarettes in your entire life? (Check one box)

- 1 ☐ No (Please skip to question 30)
2 ☐ Yes

28. On how many of the past 30 days did you smoke cigarettes? (Check one box)

- 0 ☐ None
1 ☐ 1-4 days
2 ☐ 5-9 days
3 ☐ 10-14 days
4 ☐ 15-19 days
5 ☐ 20-24 days
6 ☐ 25-29 days
7 ☐ Every day
9 ☐ Not sure

29. On average, about how many cigarettes did you smoke per day during the past 30 days?
(Check one box)

- 0 ☐ None
- 1 ☐ Fewer than 1 cigarette a day, on the average
- 2 ☐ 1-4 cigarettes
- 3 ☐ 5-9 cigarettes
- 4 ☐ 10-19 cigarettes
- 5 ☐ 20-29 cigarettes
- 6 ☐ 30-39 cigarettes
- 7 ☐ 40-49 cigarettes
- 8 ☐ 50 or more cigarettes
- 9 ☐ Not sure

30. 1 year from now, how do you see yourself with regard to cigarette smoking?
(Check one box)

- 1 ☐ Definitely a non-smoker
- 2 ☐ Probably a non-smoker
- 3 ☐ Maybe a smoker, maybe not
- 4 ☐ Probably a smoker
- 5 ☐ Definitely a smoker

31. During the past 30 days, have you been exposed to tobacco smoke for 1 hour or more per day in your immediate work area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

32. During the past 30 days, have you been exposed to tobacco smoke for 1 hour or more per day in your sleeping area or other non-working area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

33. Sleeping area

a. Approximately how many people occupy your sleeping quarters aboard ship when you are sleeping (not counting yourself)?

_____ people

b. Where is your bunk/bed?

Deck or floor designation: _____

Room or compartment number: _____

34. Working area

a. Approximately how many people occupy your work area when you are working?

_____ people

b. Where is your work area?

Deck or floor designation: _____

Room or compartment number: _____

Multiple areas (*Please specify areas*): _____

35. During the **past 7 days**, on how many days did you have any alcoholic beverages?
(*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦

(*If 0, please skip to question 38*)

36. On the days you drank any alcoholic beverage during the **past 7 days**, how many drinks did you usually have per day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

37. During the **past 7 days**, what was the largest number of alcoholic drinks you had in 1 day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

38. (*Unmarried men and women*) When you are ashore, do you live with a significant other person in a marital-like relationship?
(*Check one box*)

- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know

39. My current: a. Weight is _____ pounds

b. Height is _____ feet and _____ inches

MEDICAL CARE SATISFACTION ABOARD SHIP

40. If your most recent medical care visit was aboard ship, how satisfied were you with the:
(Check one box on each line)

	Very satisfied (1)	Satisfied (2)	Neither satisfied nor dissatisfied (3)	Dissatisfied (4)	Very dissatisfied (5)	Not applicable (6)
a. Quality of medical services provided	☐	☐	☐	☐	☐	☐
b. Amount of privacy you had during the visit	☐	☐	☐	☐	☐	☐
c. Amount of time you waited at the facility to see a health-care provider	☐	☐	☐	☐	☐	☐
d. Availability of medications (Please specify medications that were unavailable)	☐	☐	☐	☐	☐	☐

e. Availability of medical supplies (Please specify supplies that were unavailable)	☐	☐	☐	☐	☐	☐

MEDICAL CARE USE OFF SHIP

41. If you obtained medical care from a source other than your ship's medical department, what were the reasons? (Check as many as apply)

- 1 ☐ It was more convenient because the other source of medical care was closer to my home
- 2 ☐ I needed speciality care that was not available aboard this ship
- 3 ☐ I had an established medical care relationship with a health-care provider ashore
- 4 ☐ I preferred to be seen by a health-care provider whom I do not see on a daily basis aboard ship
- 5 ☐ I needed more privacy than was available in facilities aboard this ship

MEDICAL CARE AVOIDANCE

42. Have you avoided going to the medical department aboard this ship during the past 30 days when you felt you needed medical care or advice?

1 ☐ No

2 ☐ Yes (Specify reason(s):

MEDICAL VISITS

43. During the past 30 days, how many times did you visit sick call, a medical doctor or other health care provider to obtain care for yourself? (Check one box)

0 ☐ I did not visit sick call or a health-care provider during the past 30 days.
(If you checked this box, please skip to question 45)

1 ☐ I visited sick call or a health-care provider(s): _____ time(s) during the past 30 days.

44. If you had one or more visits to sick call or a health-care provider during the past 30 days, answer items a and b, below.

a. Which of these health-care providers did you visit? (Check box and write in visits)

1 ☐ Hospital corpsman No. of visits: ① ② ③ ④ ⑤ or more

2 ☐ Medical doctor (MD/DO) No. of visits: ① ② ③ ④ ⑤ or more

9 ☐ Other health-care professional
(Please specify: _____) No. of visits: ① ② ③ ④ ⑤ or more

b. Where did the visit(s) occur? (Check box and write in number of visit(s))

1 ☐ Aboard my ship No. of visits: ① ② ③ ④ ⑤ or more

2 ☐ Aboard another ship No. of visits: ① ② ③ ④ ⑤ or more

3 ☐ Navy emergency room No. of visits: ① ② ③ ④ ⑤ or more

4 ☐ Other military emergency room No. of visits: ① ② ③ ④ ⑤ or more

5 ☐ Navy clinic ashore No. of visits: ① ② ③ ④ ⑤ or more

6 ☐ Other military clinic or facility No. of visits: ① ② ③ ④ ⑤ or more

7 ☐ Community hospital emergency room No. of visits: ① ② ③ ④ ⑤ or more

8 ☐ Private M.D. office No. of visits: ① ② ③ ④ ⑤ or more

9 ☐ Hospital as an inpatient overnight or longer No. of visits: ① ② ③ ④ ⑤ or more

10 ☐ Other
(Please specify: _____) No. of visits: ① ② ③ ④ ⑤ or more

HEALTH PROMOTION SERVICES

Please rate your agreement or disagreement with the following statements concerning the availability to you of Navy health-promotion services.

45. During the past 30 days the following were readily available to me:

(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	Not applicable (5)
a. Adequate exercise space	☒	☐	☐	☐	☐	☐
b. Adequate exercise time	☐	☐	☐	☐	☐	☐
c. Birth control supplies (such as condoms)	☒	☐	☐	☐	☐	☐

46. During the past 30 days I felt counseling was readily available to me on:

(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	Not applicable (5)
a. Alcohol abuse	☒	☐	☐	☐	☐	☐
b. Birth control methods	☐	☐	☐	☐	☐	☐
c. Drug abuse	☒	☐	☐	☐	☐	☐
d. Family planning	☐	☐	☐	☐	☐	☐
e. Medical concerns	☒	☐	☐	☐	☐	☐
f. Quitting smoking	☐	☐	☐	☐	☐	☐
g. Stress management	☒	☐	☐	☐	☐	☐
d. Weight control	☐	☐	☐	☐	☐	☐

AEROBIC EXERCISE AND WORK

47. In an average 7 days, on how many days do you engage in exercise or sports that lasts at least 20 minutes without stopping, and that is hard enough to make you breathe heavier and your heart beat faster?:

(Fill in one circle)

① ① ② ③ ④ ⑤ ⑥ ⑦ days

48. In an average 7 days, on how many days do you engage in work that is hard enough to make you breathe heavier and your heart beat faster that lasts at least 20 minutes without stopping?:

(Fill in one circle)

① ① ② ③ ④ ⑤ ⑥ ⑦ days

WEIGHT CHANGE AND SLEEP

49. During the **past 30 days** have you:
(Check one box)

- 1 ☐ Gained weight, pounds _____
- 2 ☐ Lost weight, pounds _____
- 3 ☐ Stayed the same

50. During the **past 30 days**, on the average, how many hours of sleep did you get **per 24 hours**?
(Fill in one circle)

- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ hours

HEALTH BELIEFS

51. Questions about your health beliefs

- a. The following items are about your health beliefs.

(Check one box on each line)

	Not at all (1)	Somewhat (2)	Frequently (3)	Very much so (4)
a. How often do you think about your health?	☐	☐	☐	☐
b. How concerned are you about your health?	☐	☐	☐	☐
c. How important do you think it is that people take special care of their health?	☐	☐	☐	☐
d. How likely is it that you will try to do a better job of taking care of your health in the future?	☐	☐	☐	☐
e. Compared to other people of your age, would you say you get ill much more often?	☐	☐	☐	☐
f. Compared to other people of your age, when you do get ill would you say you get ill much more often?	☐	☐	☐	☐
g. I seem to resist illness better than other people.	☐	☐	☐	☐
h. In general, when you get ill, how much does it interfere with your usual activities?	☐	☐	☐	☐
i. When I'm ill I try to keep going on as usual.	☐	☐	☐	☐
j. When I'm ill I cut back on whatever I'm doing in order to get well.	☐	☐	☐	☐

51. b. How likely do you feel, it is that you will develop any of the following problems in the next 12 months?

(Check one box on each line)

	Very unlikely (1)	Unlikely (2)	Likely (3)	Very likely (4)
a. Weight problems	☐	☐	☐	☐
b. High blood pressure	☐	☐	☐	☐
c. Cancer	☐	☐	☐	☐
d. Heart disease	☐	☐	☐	☐
e. Stroke	☐	☐	☐	☐
f. Heart attack	☐	☐	☐	☐

51. c. How serious a health problem do you think the following would be if you were to develop them?
(Check one box on each line)

	Not at all severe (1)	Not severe (2)	Severe (3)	Very severe (4)
a. Weight problems	☐	☐	☐	☐
b. High blood pressure	☐	☐	☐	☐
c. Cancer	☐	☐	☐	☐
d. Heart disease	☐	☐	☐	☐
e. Stroke	☐	☐	☐	☐
f. Heart attack	☐	☐	☐	☐

51. d. Use this scale to answer the question:

(Check one box)

	Not at all effective (1)	Not effective (2)	Effective (3)	Very effective (4)
How effective do you think health screening is in reducing your chances of getting a serious illness?	☐	☐	☐	☐

51. e. Which of the following reasons would stop you from going to sick call?

(Check one box on each line)

	Very untrue (1)	Untrue (2)	True (3)	Very true (4)
a. It would take up a lot of my spare time.	☐	☐	☐	☐
b. I would have problems getting to an appointment.	☐	☐	☐	☐
c. It would be too much effort.	☐	☐	☐	☐
d. I have other more important things to do.	☐	☐	☐	☐
e. I'm uninterested.	☐	☐	☐	☐
f. I'm too lazy.	☐	☐	☐	☐
g. I might be "told off".	☐	☐	☐	☐
h. I already feel healthy.	☐	☐	☐	☐
i. I don't know enough about it.	☐	☐	☐	☐
j. I'm already seeing the doctor a lot.	☐	☐	☐	☐
k. Fear of the results of screening -- of what they might find.	☐	☐	☐	☐
l. It would be embarrassing.	☐	☐	☐	☐
m. Would you be worried about any aspects of a screening appointment?	☐	☐	☐	☐

WOMEN'S SECTION

HEALTH CONDITIONS (WOMEN)

52. Reproductive system health

Condition	a. Did you have this condition in the past 90 days? (Check one box on each line)			b. If yes, did you first notice the condition, or did it get worse, since you came aboard this ship? (Check one box on each line if answer to the condition is "yes")		
	No (1)	Yes (2)	Not sure (3)	First noticed (1)	Got worse (2)	Not sure (3)
a. Bleeding between periods	☐	☐	☐	☐	☐	☐
b. Cramps or pain during menstrual period requiring medication or time off work	☐	☐	☐	☐	☐	☐
c. Excessive frequency of periods (time between periods too short)	☐	☐	☐	☐	☐	☐
d. Heavy periods (excessive menstrual flow)	☐	☐	☐	☐	☐	☐
e. Period lasting longer than 1 week	☐	☐	☐	☐	☐	☐
f. Scanty menstrual flow	☐	☐	☐	☐	☐	☐
g. Abdominal pain (from known cysts)	☐	☐	☐	☐	☐	☐
h. Abdominal pain (from known endometriosis)	☐	☐	☐	☐	☐	☐
i. Abdominal pain (from other or unknown cause) (Specify:)	☐	☐	☐	☐	☐	☐
j. Discharge from breast	☐	☐	☐	☐	☐	☐
k. Breast lump	☐	☐	☐	☐	☐	☐
l. Other symptoms related to menstrual period (Specify:)	☐	☐	☐	☐	☐	☐

53. Did any of the conditions listed above (a through l) require you to:

- a. Take 2 or more hours off from work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes
- b. Miss 1 or more days of work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes

54. During the **past 12 months** have you had regular menstrual periods?
(*Check one box*)

- 1 ☐ No
(Please explain: _____)
- 2 ☐ Yes, about 1 per month.
- 3 ☐ Yes, but not 1 per month.
(Please explain: _____)

If you missed one or more periods during the past 12 months, please check one box below:

- 1 ☐ I missed my period approximately _____ time(s) during the **past 12 months**.
0 ☐ I had no periods at all during the **past 12 months**.
9 ☐ I'm not sure of the number of periods I missed during the **past 12 months**.

55. During the **past 90 days** have you taken birth control pills to regulate your period?
(*Check one box*)

- 1 ☐ No 2 ☐ Yes

56. During the **past 90 days** have you taken replacement estrogens?
(*Check one box*)

- 1 ☐ No
2 ☐ Yes, hormone pills
3 ☐ Yes, hormone creams or other hormone preparations

57. Did you have any of these during **past 90 days**?
(*Please check either "no" or "yes" for every condition listed*)

- a. 1 ☐ No 2 ☐ Yes Urinary tract infection
b. 1 ☐ No 2 ☐ Yes Vaginal rash, discharge, or other vaginal disorder except yeast
infection, not including sexually transmitted diseases
c. 1 ☐ No 2 ☐ Yes Yeast infection
d. 1 ☐ No 2 ☐ Yes Pelvic or lower abdominal pain
e. 1 ☐ No 2 ☐ Yes Gonorrhea
f. 1 ☐ No 2 ☐ Yes Other sexually-transmitted disease
g. 1 ☐ No 2 ☐ Yes Other genitourinary system condition

(*Please specify*): _____

58. Did any of the conditions listed above (a through g) require you to:

a. Take 2 or more hours off from work during the **past 90 days**?
(Check one box)

1 ☐ No 2 ☐ Yes

b. Miss 1 or more days of work during the **past 90 days**?
(Check one box)

1 ☐ No 2 ☐ Yes

59. During the past 12 months have you usually had regular menstrual periods?
(Check one box)

1 ☐ No (Please specify): _____

2 ☐ Yes, about one per month

3 ☐ Yes, but not one per month

60. Has a doctor *ever* told you that you had any of the following?

(Please check one box on each line.
If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Abnormal Pap smear (test for cervical cancer)	☐	☐	_____
b. Breast lump diagnosed as benign breast cyst or fibrocystic disease (Please specify):	☐	☐	_____
c. Benign breast lump, exact diagnosis unknown	☐	☐	_____
d. Breast cancer	☐	☐	_____

PREGNANCY HISTORY

61. How many times have you been pregnant?
(Check one box)

0 ☐ Never (Please skip to question 65)

1 ☐ I have been pregnant _____ times.

62. Have you been pregnant during the **past 12 months**?
(Check one box)

1 ☐ No

2 ☐ Yes

63. Are you pregnant now?
(Check one box)

- 1 ☐ No
2 ☐ Yes
3 ☐ Not sure

64. How many babies (live births) have you had?
(Fill in one circle)

- ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ or more

65. What is your best estimate of the likelihood that you will become pregnant in the next 12 months?

(Fill in a number between 0 and 100, with 0 representing *no chance* that the event will occur, and 100 representing that the event *definitely* will occur):

_____ percent

66. Please provide the following information in chronological order. For multiple outcomes, make each a separate entry (e.g., two entries for twins). Indicate only one "outcome" per pregnancy. If you are uncertain of a detail, provide your best estimate.

Pregnancy

	Outcome	What was the approximate date of this outcome?	Were you in the Navy at the time?	What was your duty station type at the time of:		Was this pregnancy planned?
				Concep- tion	Out- come	
a. Most recent	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
b. Prior preg- nancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
c. Prior preg- nancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
d. Prior preg- nancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
e. Prior preg- nancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No

OB/GYN AVAILABILITY

67. During the past 30 days the following were readily available to me from this ship's medical department, if I needed them:
(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	I did not need this item (9)
a. Birth control pills	☐	☐	☐	☐	☐	☐
b. Depo-Provera, Norplant	☐	☐	☐	☐	☐	☐
c. Condoms	☐	☐	☐	☐	☐	☐
d. Diaphragm	☐	☐	☐	☐	☐	☐
e. Pregnancy testing or test kit	☐	☐	☐	☐	☐	☐
f. Family planning information	☐	☐	☐	☐	☐	☐
g. Appropriately staffed and equipped OB/GYN medical support	☐	☐	☐	☐	☐	☐

68. Approximately how many months or days ago was your most recent:
(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Pap smear (test for cervical cancer)?	_____	_____
d. Pelvic examination?	_____	_____
e. Breast examination by a physician or nurse	_____	_____

OB/GYN QUESTIONS FOR CURRENTLY DEPLOYED WOMEN

69. Did you request a pre-deployment appointment with a gynecologist or obstetrician from a Navy medical facility prior to this deployment?? (For purposes of this questionnaire, deployment shall be defined as: "Ship scheduled at sea for 30 days or more")
(Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

70. Were you given a gynecological or obstetrical appointment? (Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

a. Did you keep the appointment? (Check one box)

- 1 ☐ No
2 ☐ Yes

ADDITIONAL COMMENTS AND SUGGESTIONS

Additional comments you would like to add:

Suggestions for topics that should be added, changed, or deleted:

THANK YOU!

Please return to your shipboard coordinator or:

Naval Health Research Center
Code 233
P.O. Box 85122
San Diego CA 92186-5122
Telephone (619) 553-6881; DSN 553-6881

APPENDIX C.3

SURVEY 456

U.S. Navy Shipboard Health Survey

Naval Health Research Center, San Diego

Information to participants

You are being asked to voluntarily complete this survey giving candid responses and opinions about health-related issues and to become part of a study that will involve one or more additional questionnaires. Your answers are for research use only and will be kept strictly confidential. Data will be reported so that no individual participant can be identified and the information you provide will not become part of anyone's official records. If you have any questions about this survey, please contact Dr. Frank C. Garland, Naval Health Research Center, San Diego, CA 92186-5122/DSN: 553-6881; Commercial (619) 553-6881.

Privacy Act Statement

1. **Authority.** 5 USC 301, 10 USC 1071, OPNAV Control Symbol 6000-13C. 2. **Purpose.** Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion. 3. **Routine use.** Medical research information will be used in statistical analyses by the Departments of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. 4. **Voluntary disclosure.** I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding paragraph, and I have been informed that failure to agree to its disclosure to agencies or individuals identified in the preceding paragraph. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.

A. Name (please print):

Last

First

Middle Initial

B. Social security number: _____

C. Date of birth: Month: _____ Day: _____ Year: 19 _____



Shipboard Form 456 Questionnaire

**THIS PAGE IS TO BE COMPLETED BY ALL STUDY PARTICIPANTS
AND WILL BE REMOVED BEFORE PROCESSING.**

Note: Questionnaires may be distributed by active-duty, reserve, or civilian personnel.

Rev. 7.0 (31 May 95)

Voluntary Consent to Participate in the U.S. Navy Shipboard Health Survey

1. I am being asked to volunteer to participate in a research study titled, "Health Aboard Navy Ships: A Comprehensive Health and Readiness Research Project" The purpose of this study is to enhance basic medical knowledge concerning the provision of medical care and health promotion. I am being asked to participate now, and can expect to receive a follow-up questionnaire in about 1 year if I am still on active duty.
2. I understand that my participation in this study is completely voluntary. If I do not choose to participate there are no penalties, and I will not lose any benefits to which I am otherwise entitled. I may discontinue my participation in this study at any time I choose without fear of penalty or loss of benefits to which I am otherwise entitled.
3. The benefit that I may expect from my participation in this research study is the knowledge that I will be helping the Navy to provide the best possible medical services to men and women serving aboard Navy ships. There is no direct personal benefit to me from participation in this research study.
4. The investigators believe that there are no direct physical or psychological risks to me as a participant in this research study, with the possible exception of a very unlikely accidental breach of confidentiality and loss of anonymity. Specific measures to ensure my anonymity are outlined in paragraph 5.
5. Confidentiality during this research study will be ensured by restricting access to all data collected to personnel working on this research study who have taken an oath of confidentiality. The confidentiality of the information related to my participation in this research study will be ensured at all times by use of an arbitrary number to identify me. I also understand that none of my responses will become a part of my medical or military record and that no information that might identify me personally will be included in results from reports of this study. Thank you! the anonymous portion of this contains no personal identifiers and cannot be linked to me in any way.
6. If I have questions about this research study I should contact the principal investigator, Dr. Frank C. Garland at the Naval Health Research Center (NHRC), San Diego, CA 92186-5122, phone (619) 553-6881; DSN 553-6881. If I have questions about the ethical aspects of this study, my rights as a volunteer, or any concerns relating to protection of research volunteers, I can contact Dr. Tamsin Kelly at NHRC, phone (619) 553-8443; DSN 553-8443. Additionally, I may contact Dr. Lisa Meyer at NHRC if I have any questions about medical aspects of this study. Dr. Meyer may be contacted at NHRC, phone (619) 553-8376; DSN: 553-8376.
7. I have been informed that Dr. Frank C. Garland is responsible for the storage of my consent form and the research records related to my participation in this study. These records are stored at the Naval Health Research Center, San Diego, CA 92186-5122.
8. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. All my questions have been answered to my satisfaction. By my signature below, I give my voluntary informed consent to participate in this research study as it has been explained to me and acknowledge receipt of a copy of this form for my own personal records.

(Last name, first name, middle initial)

(Signature)

Date (DD/MM/YY)

--This page will be removed and stored separately to protect your confidentiality--

DEMOGRAPHIC DATA

1. Today's date: Month: ____ ____ Day: ____ ____ Year: 199 ____
2. What is your gender?
 - 1 ☐ Male
 - 2 ☐ Female
3. What is your age in years? ____ ____ years
4. What is your race?
(Check one box)
 - 1 ☐ White, non-Hispanic
 - 2 ☐ White, Hispanic
 - 3 ☐ Black/African-American, non-Hispanic
 - 4 ☐ Black/African-American, Hispanic
 - 5 ☐ Asian/Pacific Islander
 - 6 ☐ Native American
 - 9 ☐ Other (Please specify): _____
5. What is the highest level of education you have completed?
(Check one box)
 - 1 ☐ Some high school
 - 2 ☐ Graduate equivalency degree (GED)
 - 3 ☐ High school graduate
 - 4 ☐ Trade or technical school graduate
 - 5 ☐ Some college or AA degree
 - 6 ☐ 4-year college degree
 - 7 ☐ Graduate or professional degree
6. Marital status
 - a. What is your current marital status?
(Check one box)
 - 1 ☐ Never married
 - 2 ☐ Married (Please skip to question 7)
 - 3 ☐ Separated
 - 4 ☐ Divorced
 - 5 ☐ Widowed
 - b. Do you plan to marry during the next 12 months?
(Check one box)
 - 1 ☐ No
 - 2 ☐ Yes
 - 3 ☐ Don't know

7. What is your paygrade? (Circle one)

<u>Enlisted</u>		<u>Warrant officer</u>	<u>Officer</u>	
E-1	E-6	W-1	O-1	O-6
E-2	E-7	W-2	O-2	
E-3	E-8	W-3	O-3	
E-4	E-9	W-4	O-4	
E-5			O-5	

8. If you are Navy enlisted, what is your rating (e.g., SN, FN, BT, HM, ASM)? _____

9. If you are Marine enlisted, what is your M.O.S. number? _____

10. What is your total number of years on active duty? _____ years

11. Times aboard ship(s)

a. What is the approximate total time you have served aboard ship counting all time on all ships on which you have served?

_____ years and _____ months

b. What is the approximate total time time you served aboard this ship?

_____ years and _____ months

12. Where do you live when your ship is in your home port?
(Check one box)

- | | |
|---|------------------------------------|
| 1 ☐ Aboard ship | 3 ☐ BEQ/BOQ |
| 2 ☐ Navy Housing | 9 ☐ Other |

13. To what ship (or command) are you currently assigned? _____

14. If you are currently aboard ship, what is your ship's current status?
(For purposes of this questionnaire, deployment shall be defined as:
"Ship scheduled at sea for 30 days or more")
(Check one box)

- | | |
|--|---|
| 1 ☐ In home port | 3 ☐ In port other than home port |
| 2 ☐ At sea | 4 ☐ In shipyard |
| 9 ☐ Other (Please specify): _____ | |

15. Are you currently deployed (30 days or more)?
(Check one box)

- | |
|--|
| 1 ☐ No (Please skip to question 18) |
| 2 ☐ Yes |

16. What date did you begin this deployment? Mo.: _____ Day: _____ Year: 199 _____

17. If you are out of your home port, what is the expected length of time between today and the date you return to your home port?

(Check one box)

- 1 ☐ Less than 1 week
- 2 ☐ 1 week to less than 1 month
- 3 ☐ 1 month to less than 3 months
- 4 ☐ 3 months to less than 6 months
- 5 ☐ 6 months to less than 12 months
- 6 ☐ 12 months to less than 18 months
- 7 ☐ 18 months or longer

18. How many times have you deployed aboard Navy ships (30 days or more), not counting present deployment? (Check one box)

- 0 ☐ Never ☐ _____ times

HEALTH CONDITIONS

This section is to report all conditions that you had during the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider.

19. Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider?

(Please check either "no" or "yes" for every condition)

- | | | | |
|----|-------------------------------|--------------------------------|--|
| a. | 1 ☐ No | 2 ☐ Yes | Common cold symptoms |
| b. | 1 ☐ No | 2 ☐ Yes | Dizziness |
| c. | 1 ☐ No | 2 ☐ Yes | Chills |
| d. | 1 ☐ No | 2 ☐ Yes | Cough |
| e. | 1 ☐ No | 2 ☐ Yes | Sore throat |
| f. | 1 ☐ No | 2 ☐ Yes | Fever |
| g. | 1 ☐ No | 2 ☐ Yes | Flu |
| h. | 1 ☐ No | 2 ☐ Yes | Diarrhea lasting at least 3 days |
| i. | 1 ☐ No | 2 ☐ Yes | Stomach problems |
| j. | 1 ☐ No | 2 ☐ Yes | Constipation |
| k. | 1 ☐ No | 2 ☐ Yes | Indigestion |
| l. | 1 ☐ No | 2 ☐ Yes | Nausea/vomiting |
| m. | 1 ☐ No | 2 ☐ Yes | Sinus trouble |
| n. | 1 ☐ No | 2 ☐ Yes | Hay fever |
| o. | 1 ☐ No | 2 ☐ Yes | Shortness of breath |
| p. | 1 ☐ No | 2 ☐ Yes | Hoarseness |
| q. | 1 ☐ No | 2 ☐ Yes | Skin problems |
| r. | 1 ☐ No | 2 ☐ Yes | Muscle sprain or strain |
| s. | 1 ☐ No | 2 ☐ Yes | Back problems |
| t. | 1 ☐ No | 2 ☐ Yes | Hearing problems |
| u. | 1 ☐ No | 2 ☐ Yes | Irritated eyes |
| v. | 1 ☐ No | 2 ☐ Yes | Trouble seeing with one or both eyes even if wearing glasses or contacts |

19. — *Continued*— Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider ?
(Please check either "no" or "yes" for every condition)

- | | | | |
|-----|--|--------------------------------|---|
| w. | 1 ☐ No | 2 ☐ Yes | Pain in stomach or abdominal area |
| x. | 1 ☐ No | 2 ☐ Yes | Heat stress or heat stroke |
| y. | 1 ☐ No | 2 ☐ Yes | Headache: |
| | If yes, was it accompanied by: (Please check either "no" or "yes" for every condition) | | |
| | 1 ☐ No | 2 ☐ Yes | Visual disturbances |
| | 1 ☐ No | 2 ☐ Yes | Numbness or tingling |
| | 1 ☐ No | 2 ☐ Yes | Sensitivity to noise |
| | 1 ☐ No | 2 ☐ Yes | Sensitivity to light |
| | 1 ☐ No | 2 ☐ Yes | Nausea |
| z. | 1 ☐ No | 2 ☐ Yes | Psychological condition(s) or personal problem(s) severe enough to interfere with daily activities |
| aa. | 1 ☐ No | 2 ☐ Yes | Other condition or injury |
| | Please specify : _____ | | |
| bb. | 1 ☐ No | 2 ☐ Yes | (Women) Menstrual conditions (premenstrual syndrome, menstrual cramps, irregular or absent periods) |

20. During the past 30 days:

- a. Did you receive a doctor's diagnosis of any of these from a health care provider not on this ship ?

(Please check either "no" or "yes" for every condition)

- | | | | |
|----|-------------------------------|--------------------------------|-------------------------------|
| 1. | 1 ☐ No | 2 ☐ Yes | Cold or acute nasopharyngitis |
| 2. | 1 ☐ No | 2 ☐ Yes | Sore throat, viral |
| 3. | 1 ☐ No | 2 ☐ Yes | Cough, viral |
| 4. | 1 ☐ No | 2 ☐ Yes | Flu |

- b. Have you been unable to perform your military duties for 1 or more days because of the reasons below?

(Please check either "no" or "yes" for every condition)

- | | | | |
|----|-------------------------------|--------------------------------|--------------------------------|
| 1. | 1 ☐ No | 2 ☐ Yes | Health problem |
| 2. | 1 ☐ No | 2 ☐ Yes | Emotional problem |
| 3. | 1 ☐ No | 2 ☐ Yes | Personal problem |
| 4. | 1 ☐ No | 2 ☐ Yes | Family problem |
| 5. | 1 ☐ No | 2 ☐ Yes | Other (Please specify :) _____ |
-
-
-

MEDICAL HISTORY

21. Has a doctor *ever* told you that you had any of the following?
 (Please check one box on each line.
 If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Asthma	☐	☐	_____
b. Migraine headache	☐	☐	_____
c. Anemia	☐	☐	_____
d. Depression	☐	☐	_____
e. Gonorrhea	☐	☐	_____
f. Syphilis	☐	☐	_____
g. Chlamydia	☐	☐	_____
h. Urinary tract infection	☐	☐	_____
i. Kidney infection	☐	☐	_____
j. Hernia (other than hiatal)	☐	☐	_____

RECENT MEDICAL CARE

22. Approximately how many months or days ago was your:

(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Most recent visit to a medical doctor?	_____	_____
b. Most recent visit to another health care professional? (Please specify type of provider, e.g., psychologist, dentist, nurse-practitioner):	_____	_____
c. Most recent visit to a hospital corpsman?	_____	_____

23. If you are currently deployed (30 days or more), were you medically screened preceding this deployment?
 (Check one box)

- 1 ☐ No
 2 ☐ Yes
 9 ☐ Not applicable, since I am not currently deployed.

24. In what month and year were you last screened? Month: _____ Year: 199 _____

OCCUPATIONAL EXPOSURES

25. Have you been exposed to any of the factors listed below?

Exposure	No (1)	Yes (2)	Not sure (9)	If yes: During the			
				Past 30 days		Past 36 months	
(Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)				No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
a. Adhesives or gluing compounds	☐	☐	☐				
b. Asbestos (loose)	☐	☐	☐				
c. Carbon monoxide	☐	☐	☐				
d. Diesel exhaust within 50 feet	☐	☐	☐				
e. Diesel fuel within 50 feet	☐	☐	☐				
f. Dry cleaning solvent	☐	☐	☐				
g. Exhaust from gasoline engine	☐	☐	☐				
h. Gasoline (liquid or vapor)	☐	☐	☐				
i. Guided missile fuel	☐	☐	☐				
j. High temperature (above 95°F)	☐	☐	☐				
k. Hypodermic needles (used)	☐	☐	☐				
l. Insecticides	☐	☐	☐				
m. Jet exhaust within 50 feet	☐	☐	☐				
n. Jet fuel within 50 feet	☐	☐	☐				
o. Lifting 25 - 49 pounds	☐	☐	☐				
p. Lifting 50 or more pounds	☐	☐	☐				
q. Loud noise (such as jets)	☐	☐	☐				
r. Low temperature (below 32° F)	☐	☐	☐				
s. Metal scrapings or filings	☐	☐	☐				
t. Microwave oven within 3 feet	☐	☐	☐				
u. Paint (oil based), or thinner	☐	☐	☐				
v. Paint, other or unknown type	☐	☐	☐				
w. Paint scrapings or paint sanding	☐	☐	☐				
x. Radar antenna or array within 50 feet	☐	☐	☐				
y. Solvent or degreaser	☐	☐	☐				
z. Torpedo fuel	☐	☐	☐				

25. —Continued—Have you been exposed to any of the factors listed below?

Exposure (Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)				If yes: During the			
				Past 30 days		Past 36 months	
	No (1)	Yes (2)	Not sure (9)	No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
aa. Other chemicals (Please specify):	☐	☐	☐				
bb. Transmitting antennas within 50 feet	☐	☐	☐				
cc. Nuclear reactor within 50 feet	☐	☐	☐				
dd. Nuclear fuel within 50 feet	☐	☐	☐				
ee. Nuclear ordnance within 50 feet	☐	☐	☐				
ff. Nuclear medicines (radioisotopes)	☐	☐	☐				
gg. Video display terminal (VDT, CRT)	☐	☐	☐				
hh. Welding fumes	☐	☐	☐				
ii. Dust or particles	☐	☐	☐				
jj. Explosives (nonnuclear) within 50 feet	☐	☐	☐				
kk. Nitrous oxide	☐	☐	☐				
ll. Ethylene dibromide (EDB)	☐	☐	☐				
mm. Perchloroethylene (PERC)	☐	☐	☐				
nn. Anthrax vaccine	☐	☐	☐	Year first received 19 ____		Year last received 19 ____	
oo. Antimalaria pills	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
pp. Pyridostigmine	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
qq. Other anti-CBW pills or agents (Please specify):	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	

PROTECTIVE GEAR

26. Is protective gear available for use in your current job?
(Please check one box in each of the four columns)

Item	Is this item available?			Does it fit you properly?			Do you wear it when needed?			Does it seriously interfere with your ability to do your work?		
	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)
a. Gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b. Respirator or mask	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c. Protective gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d. Boots	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e. Ear plugs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f. Film badges	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g. Hazardous materials suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h. Fire fighting suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

LIFESTYLE

27. Have you smoked at least 100 cigarettes in your entire life? (Check one box)

- 1 ☐ No (Please skip to question 30)
2 ☐ Yes

28. On how many of the past 30 days did you smoke cigarettes? (Check one box)

- 0 ☐ None
1 ☐ 1-4 days
2 ☐ 5-9 days
3 ☐ 10-14 days
4 ☐ 15-19 days
5 ☐ 20-24 days
6 ☐ 25-29 days
7 ☐ Every day
9 ☐ Not sure

29. On average, about how many cigarettes did you smoke per day during the **past 30 days**?
(Check one box)

- 0 ☐ None
- 1 ☐ Fewer than 1 cigarette a day, on the average
- 2 ☐ 1-4 cigarettes
- 3 ☐ 5-9 cigarettes
- 4 ☐ 10-19 cigarettes
- 5 ☐ 20-29 cigarettes
- 6 ☐ 30-39 cigarettes
- 7 ☐ 40-49 cigarettes
- 8 ☐ 50 or more cigarettes
- 9 ☐ Not sure

30. **1 year from now**, how do you see yourself with regard to cigarette smoking?
(Check one box)

- 1 ☐ Definitely a non-smoker
- 2 ☐ Probably a non-smoker
- 3 ☐ Maybe a smoker, maybe not
- 4 ☐ Probably a smoker
- 5 ☐ Definitely a smoker

31. During the **past 30 days**, have you been exposed to tobacco smoke for 1 hour or more per day in your immediate work area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

32. During the **past 30 days**, have you been exposed to tobacco smoke for 1 hour or more per day in your sleeping area or other non-working area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

33. Sleeping area

a. Approximately how many people occupy your sleeping quarters aboard ship when you are sleeping (not counting yourself)?

_____ people

b. Where is your bunk/bed?

Deck or floor designation: _____

Room or compartment number: _____

34. Working area

a. Approximately how many people occupy your work area when you are working?

_____ people

b. Where is your work area?

Deck or floor designation: _____

Room or compartment number: _____

Multiple areas (Please specify areas): _____

35. During the **past 7 days**, on how many days did you have any alcoholic beverages?
(Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦

(If 0, please skip to question 38)

36. On the days you drank any alcoholic beverage during the **past 7 days**, how many drinks did you usually have per day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

37. During the **past 7 days**, what was the largest number of alcoholic drinks you had in 1 day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

38. (Unmarried men and women) When you are ashore, do you live with a significant other person in a marital-like relationship?
(Check one box)

1 ☐ No

2 ☐ Yes

9 ☐ Don't know

39. My current: a. Weight is _____ pounds

b. Height is _____ feet and _____ inches

QUALITY OF LIFE

40. How do you feel about your:
(Check one box on each line)

	Terrible (1)	Unhappy (2)	Mostly dissatisfied (3)	Mixed (4)	Mostly satisfied (5)	Pleased (6)	Delighted (7)
a. Job?	☐	☐	☐	☐	☐	☐	☐
b. Personal life?	☐	☐	☐	☐	☐	☐	☐
c. Health and physical condition?	☐	☐	☐	☐	☐	☐	☐
d. Life as a whole?	☐	☐	☐	☐	☐	☐	☐
e. Family?	☐	☐	☐	☐	☐	☐	☐
f. (If married) Spouse?	☐	☐	☐	☐	☐	☐	☐
g. (If you have children) Children?	☐	☐	☐	☐	☐	☐	☐

MOOD

41. How many days during the past 7 days have you:
(Check one box on each line)

	No days (0)	One day (1)	Two days (2)	Three days (3)	Four days (4)	Five days (5)	Six days (6)	Seven days (7)
a. Felt you just couldn't get going?	☐	☐	☐	☐	☐	☐	☐	☐
b. Felt sad?	☐	☐	☐	☐	☐	☐	☐	☐
c. Had trouble getting to sleep or staying asleep?	☐	☐	☐	☐	☐	☐	☐	☐
d. Felt that everything was an effort?	☐	☐	☐	☐	☐	☐	☐	☐
e. Felt lonely?	☐	☐	☐	☐	☐	☐	☐	☐
f. Felt you couldn't shake the blues?	☐	☐	☐	☐	☐	☐	☐	☐
g. Had trouble keeping your mind on what you were doing?	☐	☐	☐	☐	☐	☐	☐	☐

STRESS

42. Think about your whole life over the past 2 weeks. On the whole, how much stress do you think is in your life right now?
(Check one box)

None at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)
☐	☐	☐	☐	☐

43. Of the stress that you experience,
how much comes from problems or
concerns with:

(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)	Not appli- cable (9)
a. Financial matters	☐	☐	☐	☐	☐	☐
b. My personal health	☐	☐	☐	☐	☐	☐
c. Personal or health matters of a family member	☐	☐	☐	☐	☐	☐
d. Being aboard ship	☐	☐	☐	☐	☐	☐
e. Crowded conditions aboard ship	☐	☐	☐	☐	☐	☐
f. My personal safety aboard ship	☐	☐	☐	☐	☐	☐
g. Maintaining personal hygiene aboard ship	☐	☐	☐	☐	☐	☐
h. My lack of privacy aboard ship	☐	☐	☐	☐	☐	☐
i. My inability to get enough exercise aboard ship	☐	☐	☐	☐	☐	☐
j. The lack of recreational activities aboard ship	☐	☐	☐	☐	☐	☐
k. My nutrition, the unavailability of desired foods aboard ship	☐	☐	☐	☐	☐	☐
l. The person I work for (my immediate supervisor)	☐	☐	☐	☐	☐	☐
m. The people I work with (my peers)	☐	☐	☐	☐	☐	☐
n. The people who work for me (those I supervise)	☐	☐	☐	☐	☐	☐
o. The way things are typically done aboard ship	☐	☐	☐	☐	☐	☐
p. The people with whom I share living space aboard ship	☐	☐	☐	☐	☐	☐
q. My ability to perform my duties	☐	☐	☐	☐	☐	☐
r. My career and chances for promotion	☐	☐	☐	☐	☐	☐
s. Being able to stay in the Navy because of downsizing or force reductions	☐	☐	☐	☐	☐	☐
t. My relationship with my spouse or boyfriend/girlfriend	☐	☐	☐	☐	☐	☐
u. Breaking up with my spouse or boyfriend/girlfriend because of being aboard ship	☐	☐	☐	☐	☐	☐

43. —Continued— Of the stress that you experience, how much comes from problems or concerns with:
(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)	Not applicable (9)
v. My ability to communicate with my family and friends	☐	☐	☐	☐	☐	☐
w. Adapting to life after I return from this deployment	☐	☐	☐	☐	☐	☐
x. Feeling confined or trapped	☐	☐	☐	☐	☐	☐
y. My personal future and the meaning of my life	☐	☐	☐	☐	☐	☐
z. My use of alcohol	☐	☐	☐	☐	☐	☐
aa. Feeling isolated and excluded	☐	☐	☐	☐	☐	☐
bb. Feeling out of touch with the rest of the world	☐	☐	☐	☐	☐	☐
cc. My life as a whole	☐	☐	☐	☐	☐	☐
dd. (If you have children) My children because of being aboard ship	☐	☐	☐	☐	☐	☐
ee. (If you have children) Discipline of children	☐	☐	☐	☐	☐	☐
ff. (If you have children) Child-care arrangements	☐	☐	☐	☐	☐	☐

44. During the past 2 weeks, the stresses listed above have affected my:
(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)
a. Personal life	☐	☐	☐	☐	☐
b. Performance in my job	☐	☐	☐	☐	☐

45. During the past 2 weeks, how well have you coped with these stresses?
(Check one box)

Not at all (1)	A little bit (2)	Moderately well (3)	Quite a bit (4)	Extremely well (5)
☐	☐	☐	☐	☐

FAMILY COMPOSITION

46. Family structure

a. How many of your children (natural, adopted, or stepchildren) under the age of 21 live in your household? (Fill in circles below)

0 ☐ No children under 21 currently live in my household

Age of children	No. of children				
a. Under 6 weeks	①	②	③	④	⑤
b. 6 weeks to under 1 year	①	②	③	④	⑤
c. 12 to 23 months	①	②	③	④	⑤
d. 24 to 35 months	①	②	③	④	⑤
e. 3 to 5 years	①	②	③	④	⑤
f. 6 to 9 years	①	②	③	④	⑤
g. 10 to 12 years	①	②	③	④	⑤
h. 13 to 15 years	①	②	③	④	⑤
i. 16 to 20 years	①	②	③	④	⑤

b. (Married men and women) Is your spouse currently employed?

- 0 ☐ No
 1 ☐ Yes, active-duty Navy
 2 ☐ Yes, active-duty other military
 3 ☐ Yes, civilian employment
 4 ☐ Yes, self employed
 9 ☐ Don't know

FAMILY AND FRIENDS

47. How many close friends do you have? (Please fill in one circle)

① ① ② ③ ④ ⑤ ⑥ or more

48. How many relatives do you have that you feel close to? (Please fill in one circle)

① ① ② ③ ④ ⑤ ⑥ or more

49. Altogether, how often do you see these people each month? (Check one box)

- 1 ☐ Almost every day
 2 ☐ Several times a month
 3 ☐ Not very often—maybe once or twice a month
 4 ☐ Seldom—a few times a year
 5 ☐ Almost never

50. Are you a member of any clubs or groups?
(Check one box)

- 1 ☐ No
2 ☐ Yes

51. Do you belong to a church, temple, or other religious organization?
(Check one box)

- 1 ☐ No
2 ☐ Yes

SOURCES OF HELP

52. If you experienced a personal problem, how helpful would the following individuals be to you?
(Check one box on each line)

	Very unhelpful (1)	Somewhat unhelpful (2)	Neutral (3)	Somewhat helpful (4)	Very helpful (5)	Not applicable (9)
a. Your family	☐	☐	☐	☐	☐	☐
b. Your friends on board ship	☐	☐	☐	☐	☐	☐
c. Other friends in the Navy	☐	☐	☐	☐	☐	☐
d. Other friends not in the Navy	☐	☐	☐	☐	☐	☐
e. Chaplains, ministers, or other clergy	☐	☐	☐	☐	☐	☐
f. Other Navy professionals	☐	☐	☐	☐	☐	☐
g. Your ship's leaders	☐	☐	☐	☐	☐	☐

HEALTH BELIEFS

53. Questions about your health beliefs

a. The following items are about your health beliefs.

(Check one box on each line)

	Not at all (1)	Somewhat (2)	Frequently (3)	Very much so (4)
a. How often do you think about your health?	☐	☐	☐	☐
b. How concerned are you about your health?	☐	☐	☐	☐
c. How important do you think it is that people take special care of their health?	☐	☐	☐	☐
d. How likely is it that you will try to do a better job of taking care of your health in the future?	☐	☐	☐	☐
e. Compared to other people of your age, would you say you get ill much more often?	☐	☐	☐	☐
f. Compared to other people of your age, when you do get ill would you say you get ill much more often?	☐	☐	☐	☐
g. I seem to resist illness better than other people.	☐	☐	☐	☐
h. In general, when you get ill, how much does it interfere with your usual activities?	☐	☐	☐	☐
i. When I'm ill I try to keep going on as usual.	☐	☐	☐	☐
j. When I'm ill I cut back on whatever I'm doing in order to get well.	☐	☐	☐	☐

53. b. How likely do you feel, it is that you will develop any of the following problems in the next 12 months?

(Check one box on each line)

	Very unlikely (1)	Unlikely (2)	Likely (3)	Very likely (4)
a. Weight problems	☐	☐	☐	☐
b. High blood pressure	☐	☐	☐	☐
c. Cancer	☐	☐	☐	☐
d. Heart disease	☐	☐	☐	☐
e. Stroke	☐	☐	☐	☐
f. Heart attack	☐	☐	☐	☐

53. c. How serious a health problem do you think the following would be if you were to develop them?
(Check one box on each line)

	Not at all severe (1)	Not severe (2)	Severe (3)	Very severe (4)
a. Weight problems	☐	☐	☐	☐
b. High blood pressure	☐	☐	☐	☐
c. Cancer	☐	☐	☐	☐
d. Heart disease	☐	☐	☐	☐
e. Stroke	☐	☐	☐	☐
f. Heart attack	☐	☐	☐	☐

53. d. Use this scale to answer the question:

(Check one box)

	Not at all effective (1)	Not effective (2)	Effective (3)	Very effective (4)
a. How effective do you think health screening is in reducing your chances of getting a serious illness?	☐	☐	☐	☐

53. e. Which of the following reasons would stop you from going to sick call?
(Check one box on each line)

	Very untrue (1)	Untrue (2)	True (3)	Very true (4)
a. It would take up a lot of my spare time.	☐	☐	☐	☐
b. I would have problems getting to an appointment.	☐	☐	☐	☐
c. It would be too much effort.	☐	☐	☐	☐
d. I have other more important things to do.	☐	☐	☐	☐
e. I'm uninterested.	☐	☐	☐	☐
f. I'm too lazy.	☐	☐	☐	☐
g. I might be "told off".	☐	☐	☐	☐
h. I already feel healthy.	☐	☐	☐	☐
i. I don't know enough about it.	☐	☐	☐	☐
j. I'm already seeing the doctor a lot.	☐	☐	☐	☐
k. Fear of the results of screening -- of what they might find.	☐	☐	☐	☐
l. It would be embarrassing.	☐	☐	☐	☐
m. Would you be worried about any aspects of a screening appointment?	☐	☐	☐	☐

CASUALTY EVENTS

Witnessing a disaster or violence can sometimes have long-term effects. The following questions will help to provide a baseline of history of exposure to disasters or violence that may help in studying the effects of combat.

54. Have you ever participated in a real mass casualty or a real disaster involving 5 or more major injuries or fatalities?
(Check one box)

1 ☐ No

2 ☐ Yes

(Please describe your participation and events)

When: _____

Where: _____

What happened: _____

Your role: _____

- a. What was your official status at the time you participated in this event?
(Check one box)

1 ☐ Active-duty military

2 ☐ Civilian

9 ☐ Other (Please describe): _____

- b. Have you ever seen a person die by violent means?
(Check one box)

1 ☐ No

2 ☐ Yes (Please describe your participation and events)

When: _____

Where: _____

What happened: _____

Your role: _____

WOMEN'S SECTION

HEALTH CONDITIONS (WOMEN)

55. Reproductive system health

Condition	a. Did you have this condition in the past 90 days? (Check one box on each line)			b. If yes, did you first notice the condition, or did it get worse, since you came aboard this ship? (Check one box on each line if answer to the condition is "yes")		
	No (1)	Yes (2)	Not sure (3)	First noticed (1)	Got worse (2)	Not sure (3)
a. Bleeding between periods	☐	☐	☐	☐	☐	☐
b. Cramps or pain during menstrual period requiring medication or time off work	☐	☐	☐	☐	☐	☐
c. Excessive frequency of periods (time between periods too short)	☐	☐	☐	☐	☐	☐
d. Heavy periods (excessive menstrual flow)	☐	☐	☐	☐	☐	☐
e. Period lasting longer than 1 week	☐	☐	☐	☐	☐	☐
f. Scanty menstrual flow	☐	☐	☐	☐	☐	☐
g. Abdominal pain (from known cysts)	☐	☐	☐	☐	☐	☐
h. Abdominal pain (from known endometriosis)	☐	☐	☐	☐	☐	☐
i. Abdominal pain (from other or unknown cause) (Specify:)	☐	☐	☐	☐	☐	☐
j. Discharge from breast	☐	☐	☐	☐	☐	☐
k. Breast lump	☐	☐	☐	☐	☐	☐
l. Other symptoms related to menstrual period (Specify:)	☐	☐	☐	☐	☐	☐

56. Did any of the conditions listed above (a through l) require you to:

- a. Take 2 or more hours off from work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes
- b. Miss 1 or more days of work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes

57. During the **past 12 months** have you had regular menstrual periods?
(*Check one box*)

- 1 ☐ No
(Please explain: _____)
- 2 ☐ Yes, about 1 per month.
- 3 ☐ Yes, but not 1 per month.
(Please explain: _____)

If you missed one or more periods during the past 12 months, please check one box below:

- 1 ☐ I missed my period approximately _____ time(s) during the **past 12 months**.
0 ☐ I had no periods at all during the **past 12 months**.
9 ☐ I'm not sure of the number of periods I missed during the **past 12 months**.

58. During the **past 90 days** have you taken birth control pills to regulate your period?
(*Check one box*)

- 1 ☐ No 2 ☐ Yes

59. During the **past 90 days** have you taken replacement estrogens?
(*Check one box*)

- 1 ☐ No
2 ☐ Yes, hormone pills
3 ☐ Yes, hormone creams or other hormone preparations

60. Did you have any of these during **past 90 days**?
(*Please check either "no" or "yes" for every condition listed*)

- a. 1 ☐ No 2 ☐ Yes Urinary tract infection
b. 1 ☐ No 2 ☐ Yes Vaginal rash, discharge, or other vaginal disorder except yeast infection, not including sexually transmitted diseases
c. 1 ☐ No 2 ☐ Yes Yeast infection
d. 1 ☐ No 2 ☐ Yes Pelvic or lower abdominal pain
e. 1 ☐ No 2 ☐ Yes Gonorrhea
f. 1 ☐ No 2 ☐ Yes Other sexually-transmitted disease
g. 1 ☐ No 2 ☐ Yes Other genitourinary system condition

(*Please specify*): _____

61. Did any of the conditions listed above (a through g) require you to:

a. Take 2 or more hours off from work during the **past 90 days**?
(Check one box)

1 ☐ No 2 ☐ Yes

b. Miss 1 or more days of work during the **past 90 days**?
(Check one box)

1 ☐ No 2 ☐ Yes

62. During the past 12 months have you usually had regular menstrual periods?
(Check one box)

1 ☐ No (Please specify): _____
2 ☐ Yes, about one per month
3 ☐ Yes, but not one per month

63. Has a doctor *ever* told you that you had any of the following?

(Please check one box on each line.
If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Abnormal Pap smear (test for cervical cancer)	☐	☐	_____
b. Breast lump diagnosed as benign breast cyst or fibrocystic disease (Please specify):	☐	☐	_____
c. Benign breast lump, exact diagnosis unknown	☐	☐	_____
d. Breast cancer	☐	☐	_____

PREGNANCY HISTORY

64. How many times have you been pregnant?
(Check one box)

0 ☐ Never (Please skip to question 68)
1 ☐ I have been pregnant _____ times.

65. Have you been pregnant during the **past 12 months**?
(Check one box)

1 ☐ No
2 ☐ Yes

66. Are you pregnant now?
(Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 3 ☐ Not sure

67. How many babies (live births) have you had?
(Fill in one circle)

- ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ or more

68. What is your best estimate of the likelihood that you will become pregnant in the next 12 months?

(Fill in a number between 0 and 100, with 0 representing *no chance* that the event will occur, and 100 representing that the event *definitely* will occur):

_____ percent

69. Please provide the following information in chronological order. For multiple outcomes, make each a separate entry (e.g., two entries for twins). Indicate only one "outcome" per pregnancy. If you are uncertain of a detail, provide your best estimate.

Pregnancy

	Outcome	What was the approximate date of this outcome?	Were you in the Navy at the time?	What was your duty station type at the time of:		Was this pregnancy planned?
				Concep- tion	Out- come	
a. Most recent	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
b. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
c. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
d. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
e. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No

OB/GYN AVAILABILITY

70. During the past 30 days the following were readily available to me from this ship's medical department, if I needed them:

(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	I did not need this item (9)
a. Birth control pills	☐	☐	☐	☐	☐	☐
b. Depo-Provera, Norplant	☐	☐	☐	☐	☐	☐
c. Condoms	☐	☐	☐	☐	☐	☐
d. Diaphragm	☐	☐	☐	☐	☐	☐
e. Pregnancy testing or test kit	☐	☐	☐	☐	☐	☐
f. Family planning information	☐	☐	☐	☐	☐	☐
g. Appropriately staffed and equipped OB/GYN medical support	☐	☐	☐	☐	☐	☐

71. Approximately how many months or days ago was your most recent:

(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Pap smear (test for cervical cancer)?	_____	_____
d. Pelvic examination?	_____	_____
e. Breast examination by a physician or nurse	_____	_____

OB/GYN QUESTIONS FOR CURRENTLY DEPLOYED WOMEN

72. Did you request a pre-deployment appointment with a gynecologist or obstetrician from a Navy medical facility prior to this deployment?? (For purposes of this questionnaire, deployment shall be defined as: "Ship scheduled at sea for 30 days or more")
(Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

73. Were you given a gynecological or obstetrical appointment? (Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

a. Did you keep the appointment? (Check one box)

- 1 ☐ No
2 ☐ Yes

ADDITIONAL COMMENTS AND SUGGESTIONS

Additional comments you would like to add:

Suggestions for topics that should be added, changed, or deleted:

THANK YOU!

Please return to your shipboard coordinator or:

Naval Health Research Center
Code 233
P.O. Box 85122
San Diego CA 92186-5122
Telephone (619) 553-6881; DSN 553-6881

APPENDIX C.4

SURVEY 78

U.S. Navy Shipboard Health Survey

Naval Health Research Center, San Diego

Information to participants

You are being asked to voluntarily complete this survey giving candid responses and opinions about health-related issues and to become part of a study that will involve one or more additional questionnaires. Your answers are for research use only and will be kept strictly confidential. Data will be reported so that no individual participant can be identified and the information you provide will not become part of anyone's official records. If you have any questions about this survey, please contact Dr. Frank C. Garland, Naval Health Research Center, San Diego, CA 92186-5122/DSN: 553-6881; Commercial (619) 553-6881.

Privacy Act Statement

1. Authority. 5 USC 301, 10 USC 1071. OPNAV Control Symbol 6000-13C. **2. Purpose.** Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion. **3. Routine use.** Medical research information will be used in statistical analyses by the Departments of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. **4. Voluntary disclosure.** I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding paragraph, and I have been informed that failure to agree to its disclosure to agencies or individuals identified in the preceding paragraph. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.

A. Name (please print):

Last _____ First _____ Middle Initial _____

B. Social security number: _____ - _____ - _____

C. Date of birth: Month: _____ Day: _____ Year: 19 _____



Shipboard Form 78 Questionnaire
THIS PAGE IS TO BE COMPLETED BY ALL STUDY PARTICIPANTS
AND WILL BE REMOVED BEFORE PROCESSING.

Note: Questionnaires may be distributed by active-duty, reserve, or civilian personnel.

Rev. 7.0 (31 May 95)

Voluntary Consent to Participate in the U.S. Navy Shipboard Health Survey

1. I am being asked to volunteer to participate in a research study titled, "Health Aboard Navy Ships: A Comprehensive Health and Readiness Research Project" The purpose of this study is to enhance basic medical knowledge concerning the provision of medical care and health promotion. I am being asked to participate now, and can expect to receive a follow-up questionnaire in about 1 year if I am still on active duty.
2. I understand that my participation in this study is completely voluntary. If I do not choose to participate there are no penalties, and I will not lose any benefits to which I am otherwise entitled. I may discontinue my participation in this study at any time I choose without fear of penalty or loss of benefits to which I am otherwise entitled.
3. The benefit that I may expect from my participation in this research study is the knowledge that I will be helping the Navy to provide the best possible medical services to men and women serving aboard Navy ships. There is no direct personal benefit to me from participation in this research study.
4. The investigators believe that there are no direct physical or psychological risks to me as a participant in this research study, with the possible exception of a very unlikely accidental breach of confidentiality and loss of anonymity. Specific measures to ensure my anonymity are outlined in paragraph 5.
5. Confidentiality during this research study will be ensured by restricting access to all data collected to personnel working on this research study who have taken an oath of confidentiality. The confidentiality of the information related to my participation in this research study will be ensured at all times by use of an arbitrary number to identify me. I also understand that none of my responses will become a part of my medical or military record and that no information that might identify me personally will be included in results from reports of this study. Thank you! the anonymous portion of this contains no personal identifiers and cannot be linked to me in any way.
6. If I have questions about this research study I should contact the principal investigator, Dr. Frank C. Garland at the Naval Health Research Center (NHRC), San Diego, CA 92186-5122, phone (619) 553-6881; DSN 553-6881. If I have questions about the ethical aspects of this study, my rights as a volunteer, or any concerns relating to protection of research volunteers, I can contact Dr. Tamsin Kelly at NHRC, phone (619) 553-8443; DSN 553-8443. Additionally, I may contact Dr. Lisa Meyer at NHRC if I have any questions about medical aspects of this study. Dr. Meyer may be contacted at NHRC, phone (619) 553-8376; DSN: 553-8376.
7. I have been informed that Dr. Frank C. Garland is responsible for the storage of my consent form and the research records related to my participation in this study. These records are stored at the Naval Health Research Center, San Diego, CA 92186-5122.
8. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. All my questions have been answered to my satisfaction. By my signature below, I give my voluntary informed consent to participate in this research study as it has been explained to me and acknowledge receipt of a copy of this form for my own personal records.

(Last name, first name, middle initial)

(Signature)

Date (DD/MM/YY)

--This page will be removed and stored separately to protect your confidentiality--

DEMOGRAPHIC DATA

1. Today's date: Month: ____ ____ Day: ____ ____ Year: 199 ____
2. What is your gender?
 - 1 ☐ Male
 - 2 ☐ Female
3. What is your age in years? ____ ____ years
4. What is your race? (*Check one box*)
 - 1 ☐ White, non-Hispanic
 - 2 ☐ White, Hispanic
 - 3 ☐ Black/African-American, non-Hispanic
 - 4 ☐ Black/African-American, Hispanic
 - 5 ☐ Asian/Pacific Islander
 - 6 ☐ Native American
 - 9 ☐ Other (*Please specify*): _____
5. What is the highest level of education you have completed?
(*Check one box*)
 - 1 ☐ Some high school
 - 2 ☐ Graduate equivalency degree (GED)
 - 3 ☐ High school graduate
 - 4 ☐ Trade or technical school graduate
 - 5 ☐ Some college or AA degree
 - 6 ☐ 4-year college degree
 - 7 ☐ Graduate or professional degree
6. Marital status
 - a. What is your current marital status?
(*Check one box*)
 - 1 ☐ Never married
 - 2 ☐ Married (*Please skip to question 7*)
 - 3 ☐ Separated
 - 4 ☐ Divorced
 - 5 ☐ Widowed
 - b. Do you plan to marry during the next 12 months?
(*Check one box*)
 - 1 ☐ No
 - 2 ☐ Yes
 - 3 ☐ Don't know

7. What is your paygrade? (Circle one)

<u>Enlisted</u>		<u>Warrant officer</u>	<u>Officer</u>	
E-1	E-6	W-1	O-1	O-6
E-2	E-7	W-2	O-2	
E-3	E-8	W-3	O-3	
E-4	E-9	W-4	O-4	
E-5			O-5	

8. If you are Navy enlisted, what is your rating (e.g., SN, FN, BT, HM, ASM)? ____

9. If you are Marine enlisted, what is your M.O.S. number? ____

10. What is your total number of years on active duty? ____ years

11. Times aboard ship(s)

a. What is the approximate total time you have served aboard ship counting all time on all ships on which you have served?
____ years and ____ months

b. What is the approximate total time time you served aboard this ship?
____ years and ____ months

12. Where do you live when your ship is in your home port?
(Check one box)

- | | |
|---|------------------------------------|
| 1 ☐ Aboard ship | 3 ☐ BEQ/BOQ |
| 2 ☐ Navy Housing | 9 ☐ Other |

13. To what ship (or command) are you currently assigned? _____

14. If you are currently aboard ship, what is your ship's current status?
(For purposes of this questionnaire, deployment shall be defined as:
"Ship scheduled at sea for 30 days or more")
(Check one box)

- | | |
|--|---|
| 1 ☐ In home port | 3 ☐ In port other than home port |
| 2 ☐ At sea | 4 ☐ In shipyard |
| 9 ☐ Other (Please specify): _____ | |

15. Are you currently deployed (30 days or more)?
(Check one box)

- | |
|--|
| 1 ☐ No (Please skip to question 18) |
| 2 ☐ Yes |

16. What date did you begin this deployment? Mo.: ____ Day: ____ Year: 199 ____

17. If you are out of your home port, what is the expected length of time between today and the date you return to your home port?
(Check one box)

- 1 ☐ Less than 1 week
2 ☐ 1 week to less than 1 month
3 ☐ 1 month to less than 3 months
4 ☐ 3 months to less than 6 months
5 ☐ 6 months to less than 12 months
6 ☐ 12 months to less than 18 months
7 ☐ 18 months or longer

18. How many times have you deployed aboard Navy ships (30 days or more), not counting present deployment? (Check one box)

- 0 ☐ Never ☐ _____ times

HEALTH CONDITIONS

This section is to report all conditions that you had during the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider.

19. Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider?
(Please check either "no" or "yes" for every condition)

- | | | |
|----------------------------------|--------------------------------|--|
| a. 1 ☐ No | 2 ☐ Yes | Common cold symptoms |
| b. 1 ☐ No | 2 ☐ Yes | Dizziness |
| c. 1 ☐ No | 2 ☐ Yes | Chills |
| d. 1 ☐ No | 2 ☐ Yes | Cough |
| e. 1 ☐ No | 2 ☐ Yes | Sore throat |
| f. 1 ☐ No | 2 ☐ Yes | Fever |
| g. 1 ☐ No | 2 ☐ Yes | Flu |
| h. 1 ☐ No | 2 ☐ Yes | Diarrhea lasting at least 3 days |
| i. 1 ☐ No | 2 ☐ Yes | Stomach problems |
| j. 1 ☐ No | 2 ☐ Yes | Constipation |
| k. 1 ☐ No | 2 ☐ Yes | Indigestion |
| l. 1 ☐ No | 2 ☐ Yes | Nausea/vomiting |
| m. 1 ☐ No | 2 ☐ Yes | Sinus trouble |
| n. 1 ☐ No | 2 ☐ Yes | Hay fever |
| o. 1 ☐ No | 2 ☐ Yes | Shortness of breath |
| p. 1 ☐ No | 2 ☐ Yes | Hoarseness |
| q. 1 ☐ No | 2 ☐ Yes | Skin problems |
| r. 1 ☐ No | 2 ☐ Yes | Muscle sprain or strain |
| s. 1 ☐ No | 2 ☐ Yes | Back problems |
| t. 1 ☐ No | 2 ☐ Yes | Hearing problems |
| u. 1 ☐ No | 2 ☐ Yes | Irritated eyes |
| v. 1 ☐ No | 2 ☐ Yes | Trouble seeing with one or both eyes even if wearing glasses or contacts |

19. — *Continued*— Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider ?
(Please check either "no" or "yes" for every condition)

- | | | | |
|--|-------------------------------|--------------------------------|---|
| w. | 1 ☐ No | 2 ☐ Yes | Pain in stomach or abdominal area |
| x. | 1 ☐ No | 2 ☐ Yes | Heat stress or heat stroke |
| y. | 1 ☐ No | 2 ☐ Yes | Headache: |
| If yes, was it accompanied by: (Please check either "no" or "yes" for every condition) | | | |
| | 1 ☐ No | 2 ☐ Yes | Visual disturbances |
| | 1 ☐ No | 2 ☐ Yes | Numbness or tingling |
| | 1 ☐ No | 2 ☐ Yes | Sensitivity to noise |
| | 1 ☐ No | 2 ☐ Yes | Sensitivity to light |
| | 1 ☐ No | 2 ☐ Yes | Nausea |
| z. | 1 ☐ No | 2 ☐ Yes | Psychological condition(s) or personal problem(s) severe enough to interfere with daily activities |
| aa. | 1 ☐ No | 2 ☐ Yes | Other condition or injury |
| Please specify : _____ | | | |
| bb. | 1 ☐ No | 2 ☐ Yes | (Women) Menstrual conditions (premenstrual syndrome, menstrual cramps, irregular or absent periods) |

20. During the past 30 days:

- a. Did you receive a doctor's diagnosis of any of these from a health care provider not on this ship ?
(Please check either "no" or "yes" for every condition)

- | | | | |
|----|-------------------------------|--------------------------------|-------------------------------|
| 1. | 1 ☐ No | 2 ☐ Yes | Cold or acute nasopharyngitis |
| 2. | 1 ☐ No | 2 ☐ Yes | Sore throat, viral |
| 3. | 1 ☐ No | 2 ☐ Yes | Cough, viral |
| 4. | 1 ☐ No | 2 ☐ Yes | Flu |

- b. Have you been unable to perform your military duties for 1 or more days because of the reasons below?
(Please check either "no" or "yes" for every condition)

- | | | | |
|----|-------------------------------|--------------------------------|--------------------------------|
| 1. | 1 ☐ No | 2 ☐ Yes | Health problem |
| 2. | 1 ☐ No | 2 ☐ Yes | Emotional problem |
| 3. | 1 ☐ No | 2 ☐ Yes | Personal problem |
| 4. | 1 ☐ No | 2 ☐ Yes | Family problem |
| 5. | 1 ☐ No | 2 ☐ Yes | Other (Please specify :) _____ |
-
-
-

MEDICAL HISTORY

21. Has a doctor *ever* told you that you had any of the following?
 (Please check one box on each line.
 If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Asthma	☐	☐	_____
b. Migraine headache	☐	☐	_____
c. Anemia	☐	☐	_____
d. Depression	☐	☐	_____
e. Gonorrhea	☐	☐	_____
f. Syphilis	☐	☐	_____
g. Chlamydia	☐	☐	_____
h. Urinary tract infection	☐	☐	_____
i. Kidney infection	☐	☐	_____
j. Hernia (other than hiatal)	☐	☐	_____

RECENT MEDICAL CARE

22. Approximately how many months or days ago was your:

(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Most recent visit to a medical doctor?	_____	_____
b. Most recent visit to another health care professional? (Please specify type of provider, e.g., psychologist, dentist, nurse-practitioner):	_____	_____
c. Most recent visit to a hospital corpsman?	_____	_____

23. If you are currently deployed (30 days or more), were you medically screened preceding this deployment?
 (Check one box)

- 1 ☐ No
 2 ☐ Yes
 9 ☐ Not applicable, since I am not currently deployed.

24. In what month and year were you last screened? Month: _____ Year: 199 _____

OCCUPATIONAL EXPOSURES

25. Have you been exposed to any of the factors listed below?

Exposure <i>(Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)</i>	No (1)	Yes (2)	Not sure (9)	If yes: During the			
				Past 30 days		Past 36 months	
				No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
a. Adhesives or gluing compounds	☐	☐	☐				
b. Asbestos (loose)	☐	☐	☐				
c. Carbon monoxide	☐	☐	☐				
d. Diesel exhaust within 50 feet	☐	☐	☐				
e. Diesel fuel within 50 feet	☐	☐	☐				
f. Dry cleaning solvent	☐	☐	☐				
g. Exhaust from gasoline engine	☐	☐	☐				
h. Gasoline (liquid or vapor)	☐	☐	☐				
i. Guided missile fuel	☐	☐	☐				
j. High temperature (above 95°F)	☐	☐	☐				
k. Hypodermic needles (used)	☐	☐	☐				
l. Insecticides	☐	☐	☐				
m. Jet exhaust within 50 feet	☐	☐	☐				
n. Jet fuel within 50 feet	☐	☐	☐				
o. Lifting 25 - 49 pounds	☐	☐	☐				
p. Lifting 50 or more pounds	☐	☐	☐				
q. Loud noise (such as jets)	☐	☐	☐				
r. Low temperature (below 32° F)	☐	☐	☐				
s. Metal scrapings or filings	☐	☐	☐				
t. Microwave oven within 3 feet	☐	☐	☐				
u. Paint (oil based), or thinner	☐	☐	☐				
v. Paint, other or unknown type	☐	☐	☐				
w. Paint scrapings or paint sanding	☐	☐	☐				
x. Radar antenna or array within 50 feet	☐	☐	☐				
y. Solvent or degreaser	☐	☐	☐				
z. Torpedo fuel	☐	☐	☐				

25. —Continued— Have you been exposed to any of the factors listed below?

				If yes: During the			
				Past 30 days		Past 36 months	
Exposure	No (1)	Yes (2)	Not sure (9)	No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
aa. Other chemicals (Please specify):	☐	☐	☐				
bb. Transmitting antennas within 50 feet	☐	☐	☐				
cc. Nuclear reactor within 50 feet	☐	☐	☐				
dd. Nuclear fuel within 50 feet	☐	☐	☐				
ee. Nuclear ordnance within 50 feet	☐	☐	☐				
ff. Nuclear medicines (radioisotopes)	☐	☐	☐				
gg. Video display terminal (VDT, CRT)	☐	☐	☐				
hh. Welding fumes	☐	☐	☐				
ii. Dust or particles	☐	☐	☐				
jj. Explosives (nonnuclear) within 50 feet	☐	☐	☐				
kk. Nitrous oxide	☐	☐	☐				
ll. Ethylene dibromide (EDB)	☐	☐	☐				
mm. Perchloroethylene (PERC)	☐	☐	☐				
nn. Anthrax vaccine	☐	☐	☐	Year first received 19 ____		Year last received 19 ____	
oo. Antimalaria pills	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
pp. Pyridostigmine	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
qq. Other anti-CBW pills or agents (Please specify):	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	

PROTECTIVE GEAR

26. Is protective gear available for use in your current job?
(Please check one box in each of the four columns)

Item	Is this item available?			Does it fit you properly?			Do you wear it when needed?			Does it seriously interfere with your ability to do your work?		
	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)
a. Gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b. Respirator or mask	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c. Protective gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d. Boots	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e. Ear plugs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f. Film badges	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g. Hazardous materials suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h. Fire fighting suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

LIFESTYLE

27. Have you smoked at least 100 cigarettes in your entire life? (Check one box)

- 1 ☐ No (Please skip to question 30)
2 ☐ Yes

28. On how many of the past 30 days did you smoke cigarettes? (Check one box)

- 0 ☐ None
1 ☐ 1-4 days
2 ☐ 5-9 days
3 ☐ 10-14 days
4 ☐ 15-19 days
5 ☐ 20-24 days
6 ☐ 25-29 days
7 ☐ Every day
9 ☐ Not sure

29. On average, about how many cigarettes did you smoke per day during the past 30 days?
(Check one box)

- 0 ☐ None
- 1 ☐ Fewer than 1 cigarette a day, on the average
- 2 ☐ 1-4 cigarettes
- 3 ☐ 5-9 cigarettes
- 4 ☐ 10-19 cigarettes
- 5 ☐ 20-29 cigarettes
- 6 ☐ 30-39 cigarettes
- 7 ☐ 40-49 cigarettes
- 8 ☐ 50 or more cigarettes
- 9 ☐ Not sure

30. 1 year from now, how do you see yourself with regard to cigarette smoking?
(Check one box)

- 1 ☐ Definitely a non-smoker
- 2 ☐ Probably a non-smoker
- 3 ☐ Maybe a smoker, maybe not
- 4 ☐ Probably a smoker
- 5 ☐ Definitely a smoker

31. During the past 30 days, have you been exposed to tobacco smoke for 1 hour or more per day in your immediate work area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

32. During the past 30 days, have you been exposed to tobacco smoke for 1 hour or more per day in your sleeping area or other non-working area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

33. Sleeping area

a. Approximately how many people occupy your sleeping quarters aboard ship when you are sleeping (not counting yourself)?

_____ people

b. Where is your bunk/bed?

Deck or floor designation: _____

Room or compartment number: _____

34. Working area

a. Approximately how many people occupy your work area when you are working?

_____ people

b. Where is your work area?

Deck or floor designation: _____

Room or compartment number: _____

Multiple areas (*Please specify areas*): _____

35. During the **past 7 days**, on how many days did you have any alcoholic beverages?
(*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦

(*If 0, please skip to question 38*)

36. On the days you drank any alcoholic beverage during the **past 7 days**, how many drinks did you usually have per day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

37. During the **past 7 days**, what was the largest number of alcoholic drinks you had in 1 day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (*Fill in one circle*)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

38. (*Unmarried men and women*) When you are ashore, do you live with a significant other person in a marital-like relationship?
(*Check one box*)

- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know

39. My current: a. Weight is _____ pounds

b. Height is _____ feet and _____ inches

QUALITY OF LIFE

40 How do you feel about your:
(Check one box on each line)

	Terrible (1)	Unhappy (2)	Mostly dissatisfied (3)	Mixed (4)	Mostly satisfied (5)	Pleased (6)	Delighted (7)
a. Job?	☐	☐	☐	☐	☐	☐	☐
b. Personal life?	☐	☐	☐	☐	☐	☐	☐
c. Health and physical condition?	☐	☐	☐	☐	☐	☐	☐
d. Life as a whole?	☐	☐	☐	☐	☐	☐	☐
e. Family?	☐	☐	☐	☐	☐	☐	☐
f. (If married) Spouse?	☐	☐	☐	☐	☐	☐	☐
g. (If you have children) Children?	☐	☐	☐	☐	☐	☐	☐

MOOD

41. How many days during the past 7 days have you:
(Check one box on each line)

	No days (0)	One day (1)	Two days (2)	Three days (3)	Four days (4)	Five days (5)	Six days (6)	Seven days (7)
a. Felt you just couldn't get going?	☐	☐	☐	☐	☐	☐	☐	☐
b. Felt sad?	☐	☐	☐	☐	☐	☐	☐	☐
c. Had trouble getting to sleep or staying asleep?	☐	☐	☐	☐	☐	☐	☐	☐
d. Felt that everything was an effort?	☐	☐	☐	☐	☐	☐	☐	☐
e. Felt lonely?	☐	☐	☐	☐	☐	☐	☐	☐
f. Felt you couldn't shake the blues?	☐	☐	☐	☐	☐	☐	☐	☐
g. Had trouble keeping your mind on what you were doing?	☐	☐	☐	☐	☐	☐	☐	☐

STRESS

42. Think about your whole life over the past 2 weeks. On the whole, how much stress do you think is in your life right now?
(Check one box)

None at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)
☐	☐	☐	☐	☐

43. Of the stress that you experience,
how much comes from problems or
concerns with:

(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)	Not appli- cable (9)
a. Financial matters	☐	☐	☐	☐	☐	☐
b. My personal health	☐	☐	☐	☐	☐	☐
c. Personal or health matters of a family member	☐	☐	☐	☐	☐	☐
d. Being aboard ship	☐	☐	☐	☐	☐	☐
e. Crowded conditions aboard ship	☐	☐	☐	☐	☐	☐
f. My personal safety aboard ship	☐	☐	☐	☐	☐	☐
g. Maintaining personal hygiene aboard ship	☐	☐	☐	☐	☐	☐
h. My lack of privacy aboard ship	☐	☐	☐	☐	☐	☐
i. My inability to get enough exercise aboard ship	☐	☐	☐	☐	☐	☐
j. The lack of recreational activities aboard ship	☐	☐	☐	☐	☐	☐
k. My nutrition, the unavailability of desired foods aboard ship	☐	☐	☐	☐	☐	☐
l. The person I work for (my immediate supervisor)	☐	☐	☐	☐	☐	☐
m. The people I work with (my peers)	☐	☐	☐	☐	☐	☐
n. The people who work for me (those I supervise)	☐	☐	☐	☐	☐	☐
o. The way things are typically done aboard ship	☐	☐	☐	☐	☐	☐
p. The people with whom I share living space aboard ship	☐	☐	☐	☐	☐	☐
q. My ability to perform my duties	☐	☐	☐	☐	☐	☐
r. My career and chances for promotion	☐	☐	☐	☐	☐	☐
s. Being able to stay in the Navy because of downsizing or force reductions	☐	☐	☐	☐	☐	☐
t. My relationship with my spouse or boyfriend/girlfriend	☐	☐	☐	☐	☐	☐
u. Breaking up with my spouse or boyfriend/girlfriend because of being aboard ship	☐	☐	☐	☐	☐	☐

43. —Continued— Of the stress that you experience, how much comes from problems or concerns with:
(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)	Not applicable (9)
v. My ability to communicate with my family and friends	☐	☐	☐	☐	☐	☐
w. Adapting to life after I return from this deployment	☐	☐	☐	☐	☐	☐
x. Feeling confined or trapped	☐	☐	☐	☐	☐	☐
y. My personal future and the meaning of my life	☐	☐	☐	☐	☐	☐
z. My use of alcohol	☐	☐	☐	☐	☐	☐
aa. Feeling isolated and excluded	☐	☐	☐	☐	☐	☐
bb. Feeling out of touch with the rest of the world	☐	☐	☐	☐	☐	☐
cc. My life as a whole	☐	☐	☐	☐	☐	☐
dd. (If you have children) My children because of being aboard ship	☐	☐	☐	☐	☐	☐
ee. (If you have children) Discipline of children	☐	☐	☐	☐	☐	☐
ff. (If you have children) Child-care arrangements	☐	☐	☐	☐	☐	☐

44. During the past 2 weeks, the stresses listed above have affected my:
(Check one box on each line)

	Not at all (1)	A little bit (2)	Moderate amount (3)	Quite a bit (4)	Extreme amount (5)
a. Personal life	☐	☐	☐	☐	☐
b. Performance in my job	☐	☐	☐	☐	☐

45. During the past 2 weeks, how well have you coped with these stresses?
(Check one box)

	Not at all (1)	A little bit (2)	Moderately well (3)	Quite a bit (4)	Extremely well (5)
	☐	☐	☐	☐	☐

FAMILY COMPOSITION

46. Family structure

a. How many of your children (natural, adopted, or stepchildren) under the age of 21 live in your household? (Fill in circles below)

0 ☐ No children under 21 currently live in my household

Age of children	No. of children				
a. Under 6 weeks	①	②	③	④	⑤
b. 6 weeks to under 1 year	①	②	③	④	⑤
c. 12 to 23 months	①	②	③	④	⑤
d. 24 to 35 months	①	②	③	④	⑤
e. 3 to 5 years	①	②	③	④	⑤
f. 6 to 9 years	①	②	③	④	⑤
g. 10 to 12 years	①	②	③	④	⑤
h. 13 to 15 years	①	②	③	④	⑤
i. 16 to 20 years	①	②	③	④	⑤

b. (Married men and women) Is your spouse currently employed?

- 0 ☐ No
 1 ☐ Yes, active-duty Navy
 2 ☐ Yes, active-duty other military
 3 ☐ Yes, civilian employment
 4 ☐ Yes, self employed
 9 ☐ Don't know

FAMILY AND FRIENDS

47. How many close friends do you have? (Fill in one circle)

① ② ③ ④ ⑤ ⑥ or more

48. How many relatives do you have that you feel close to? (Fill in one circle)

① ② ③ ④ ⑤ ⑥ or more

49. Altogether, how often do you see these people each month? (Check one box)

- 1 ☐ Almost every day
 2 ☐ Several times a month
 3 ☐ Not very often—maybe once or twice a month
 4 ☐ Seldom—a few times a year
 5 ☐ Almost never

50. Are you a member of any clubs or groups?
(Check one box)

- 1 ☐ No
2 ☐ Yes

51. Do you belong to a church, temple, or other religious organization?
(Check one box)

- 1 ☐ No
2 ☐ Yes

SOURCES OF HELP

52. If you experienced a personal problem, how helpful would the following individuals be to you?
(Check one box on each line)

	Very unhelpful (1)	Somewhat unhelpful (2)	Neutral (3)	Somewhat helpful (4)	Very helpful (5)	Not applicable (9)
a. Your family	☐	☐	☐	☐	☐	☐
b. Your friends on board ship	☐	☐	☐	☐	☐	☐
c. Other friends in the Navy	☐	☐	☐	☐	☐	☐
d. Other friends not in the Navy	☐	☐	☐	☐	☐	☐
e. Chaplains, ministers, or other clergy	☐	☐	☐	☐	☐	☐
f. Other Navy professionals	☐	☐	☐	☐	☐	☐
g. Your ship's leaders	☐	☐	☐	☐	☐	☐

BRIEF SYMPTOM INVENTORY

53. Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the box that best describes how much **DISCOMFORT** that problem has caused you **DURING THE PAST WEEK**.

(Check one box on each line)

	None (1)	A little bit (2)	Moderate (3)	Quite a bit (4)	Extreme (5)
a. Nervousness or shakiness inside	☐	☐	☐	☐	☐
b. Repeated unpleasant thoughts	☐	☐	☐	☐	☐
c. Faintness or dizziness	☐	☐	☐	☐	☐
d. Loss of sexual interest or pleasure	☐	☐	☐	☐	☐
e. Feeling critical of others	☐	☐	☐	☐	☐
f. The idea that someone else can control your thoughts	☐	☐	☐	☐	☐
g. Feeling others are to blame for most of your troubles	☐	☐	☐	☐	☐
h. Trouble remembering things	☐	☐	☐	☐	☐
i. Feeling easily annoyed or irritated	☐	☐	☐	☐	☐
j. Pains in heart or chest	☐	☐	☐	☐	☐
k. Feeling afraid in open spaces	☐	☐	☐	☐	☐
l. Feeling low in energy or slowed down	☐	☐	☐	☐	☐
m. Thoughts of ending your life	☐	☐	☐	☐	☐
n. Feeling that most people cannot be trusted	☐	☐	☐	☐	☐
o. Poor appetite	☐	☐	☐	☐	☐
p. Crying easily	☐	☐	☐	☐	☐
q. Suddenly scared for no reason	☐	☐	☐	☐	☐
r. Temper outbursts that you could not control	☐	☐	☐	☐	☐
s. Feeling lonely even when you are with people	☐	☐	☐	☐	☐
t. Feeling blocked in getting things done	☐	☐	☐	☐	☐
u. Feeling lonely	☐	☐	☐	☐	☐
v. Feeling blue	☐	☐	☐	☐	☐

53. —Continued— Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the box that best describes how much **DISCOMFORT** that problem has caused you **DURING THE PAST WEEK**.

(Check one box on each line)

	None (1)	A little bit (2)	Moderate (3)	Quite a bit (4)	Extreme (5)
w. Worrying too much about things	☐	☐	☐	☐	☐
x. Feeling no interest in things	☐	☐	☐	☐	☐
y. Feeling fearful	☐	☐	☐	☐	☐
z. Your feelings are easily hurt	☐	☐	☐	☐	☐
aa. Feeling others do not understand you or are unsympathetic	☐	☐	☐	☐	☐
bb. Feeling that people are unfriendly or dislike you	☐	☐	☐	☐	☐
cc. Feeling inferior to others	☐	☐	☐	☐	☐
dd. Nausea or upset stomach	☐	☐	☐	☐	☐
ee. Feeling that you are watched or talked about by others	☐	☐	☐	☐	☐
ff. Trouble falling asleep	☐	☐	☐	☐	☐
gg. Having to check and double-check what you do	☐	☐	☐	☐	☐
hh. Difficulty making decisions	☐	☐	☐	☐	☐
ii. Feeling afraid to travel	☐	☐	☐	☐	☐
jj. Trouble getting your breath	☐	☐	☐	☐	☐
kk. Hot or cold spells	☐	☐	☐	☐	☐
ll. Having to avoid certain things, places or activities because they frighten you	☐	☐	☐	☐	☐
mm. Your mind going blank	☐	☐	☐	☐	☐
nn. Numbness or tingling in parts of your body	☐	☐	☐	☐	☐
oo. The idea that you should be punished for your sins	☐	☐	☐	☐	☐
pp. Feeling hopeless about the future	☐	☐	☐	☐	☐
qq. Trouble concentrating	☐	☐	☐	☐	☐

53. —Continued— Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the box that best describes how much **DISCOMFORT** that problem has caused you **DURING THE PAST WEEK**.

(Check one box on each line)

	None (1)	A little bit (2)	Moderate (3)	Quite a bit (4)	Extreme (5)
rr. Feeling weak in parts of your body	☐	☐	☐	☐	☐
ss. Feeling tense or keyed up	☐	☐	☐	☐	☐
tt. Thoughts of death or dying	☐	☐	☐	☐	☐
uu. Having urges to beat, injure or harm someone	☐	☐	☐	☐	☐
vv. Sleep that is restless or disturbed	☐	☐	☐	☐	☐
ww. Having urges to break or smash things	☐	☐	☐	☐	☐
xx. Feeling very self-conscious with others	☐	☐	☐	☐	☐
yy. Feeling uneasy in crowds	☐	☐	☐	☐	☐
zz. Never feeling close to another person	☐	☐	☐	☐	☐
aaa. Spells of terror or panic	☐	☐	☐	☐	☐
bbb. Getting into frequent arguments	☐	☐	☐	☐	☐
ccc. Feeling nervous when you are alone	☐	☐	☐	☐	☐
ddd. Others not giving you proper credit for your achievements	☐	☐	☐	☐	☐
eee. Feeling so restless you couldn't sit still	☐	☐	☐	☐	☐
fff. Feeling of worthlessness	☐	☐	☐	☐	☐
ggg. Feeling that people will take advantage of you if you let them	☐	☐	☐	☐	☐
hhh. Thoughts and images of a frightening nature	☐	☐	☐	☐	☐
iii. Feelings of guilt	☐	☐	☐	☐	☐
jjj. The idea that something is wrong with your mind	☐	☐	☐	☐	☐
kkk. Spending less time with peers and friends	☐	☐	☐	☐	☐

MILITARY HISTORY

54. Did you serve in any of the following areas?

(Please check "no" or "yes" on each line. If yes, please check whether you were aboard ship, ashore, or both.)

Area	Did you serve in this area?		Were you aboard ship or ashore? <i>(Check both boxes if both)</i>	
	No (1)	Yes (2)	Aboard ship (1)	Ashore (2)
a. Persian Gulf—Operation Desert <i>Shield</i>	☐	☐	☐	☐
b. Persian Gulf—Operation Desert <i>Storm</i>	☐	☐	☐	☐
c. Somalia—Operation Restore Hope	☐	☐	☐	☐
d. Bangladesh	☐	☐	☐	☐
e. Haiti	☐	☐	☐	☐
f. Other foreign area <i>(Please specify):</i>	☐	☐	☐	☐

CASUALTY EVENTS

Witnessing a disaster or violence can sometimes have long-term effects. The following questions will help to provide a baseline of history of exposure to disasters or violence that may help in studying the effects of combat.

55. Have you ever participated in a real mass casualty or a real disaster involving 5 or more major injuries or fatalities?
(Check one box)

- 1 ☐ No
2 ☐ Yes

(Please describe your participation and events)

When: _____

Where: _____

What happened: _____

Your role: _____

55. —*Continued*— Have you ever participated in a real mass casualty or a real disaster involving 5 or more major injuries or fatalities?

a. What was your official status at the time you participated in this event?
(Check one box)

1 ☐ Active-duty military

2 ☐ Civilian

9 ☐ Other (*Please describe*): _____

b. Have you ever seen a person die by violent means?
(Check one box)

1 ☐ No

2 ☐ Yes (*Please describe your participation and events*)

When: _____

Where: _____

What happened: _____

Your role: _____

WOMEN'S SECTION

HEALTH CONDITIONS (WOMEN)

56. Reproductive system health

Condition	a. Did you have this condition in the past 90 days? (Check one box on each line)			b. If yes, did you first notice the condition, or did it get worse, since you came aboard this ship? (Check one box on each line if answer to the condition is "yes")		
	No (1)	Yes (2)	Not sure (3)	First noticed (1)	Got worse (2)	Not sure (3)
a. Bleeding between periods	☐	☐	☐	☐	☐	☐
b. Cramps or pain during menstrual period requiring medication or time off work	☐	☐	☐	☐	☐	☐
c. Excessive frequency of periods (time between periods too short)	☐	☐	☐	☐	☐	☐
d. Heavy periods (excessive menstrual flow)	☐	☐	☐	☐	☐	☐
e. Period lasting longer than 1 week	☐	☐	☐	☐	☐	☐
f. Scanty menstrual flow	☐	☐	☐	☐	☐	☐
g. Abdominal pain (from known cysts)	☐	☐	☐	☐	☐	☐
h. Abdominal pain (from known endometriosis)	☐	☐	☐	☐	☐	☐
i. Abdominal pain (from other or unknown cause) (Specify:)	☐	☐	☐	☐	☐	☐
j. Discharge from breast	☐	☐	☐	☐	☐	☐
k. Breast lump	☐	☐	☐	☐	☐	☐
l. Other symptoms related to menstrual period (Specify:)	☐	☐	☐	☐	☐	☐

57. Did any of the conditions listed above (a through l) require you to:

- a. Take 2 or more hours off from work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes
- b. Miss 1 or more days of work during the **past 90 days**? (*Check one box*)
1 ☐ No 2 ☐ Yes

58. During the **past 12 months** have you had regular menstrual periods?
(*Check one box*)

1 ☐ No

(Please explain: _____)

2 ☐ Yes, about 1 per month.

3 ☐ Yes, but not 1 per month.

(Please explain: _____)

If you missed one or more periods during the past 12 months, please check one box below:

1 ☐ I missed my period approximately _____ time(s) during the **past 12 months**.

0 ☐ I had no periods at all during the **past 12 months**.

9 ☐ I'm not sure of the number of periods I missed during the **past 12 months**.

59. During the **past 90 days** have you taken birth control pills to regulate your period?
(*Check one box*)

1 ☐ No 2 ☐ Yes

60. During the **past 90 days** have you taken replacement estrogens?
(*Check one box*)

1 ☐ No

2 ☐ Yes, hormone pills

3 ☐ Yes, hormone creams or other hormone preparations

61. Did you have any of these during **past 90 days**?
(*Please check either "no" or "yes" for every condition listed*)

a. 1 ☐ No 2 ☐ Yes Urinary tract infection

b. 1 ☐ No 2 ☐ Yes Vaginal rash, discharge, or other vaginal disorder except yeast infection, not including sexually transmitted diseases

c. 1 ☐ No 2 ☐ Yes Yeast infection

d. 1 ☐ No 2 ☐ Yes Pelvic or lower abdominal pain

e. 1 ☐ No 2 ☐ Yes Gonorrhea

f. 1 ☐ No 2 ☐ Yes Other sexually-transmitted disease

g. 1 ☐ No 2 ☐ Yes Other genitourinary system condition

(*Please specify*): _____

62. Did any of the conditions listed above (a through g) require you to:

a. Take 2 or more hours off from work during the **past 90 days?**
(Check one box)

1 ☐ No 2 ☐ Yes

b. Miss 1 or more days of work during the **past 90 days?**
(Check one box)

1 ☐ No 2 ☐ Yes

63. Has a doctor *ever* told you that you had any of the following?

(Please check one box on each line.
If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Abnormal Pap smear (test for cervical cancer)	☐	☐	_____
b. Breast lump diagnosed as benign breast cyst or fibrocystic disease (Please specify):	☐	☐	_____
c. Benign breast lump, exact diagnosis unknown	☐	☐	_____
d. Breast cancer	☐	☐	_____

PREGNANCY HISTORY

64. How many times have you been pregnant?
(Check one box)

0 ☐ Never (Please skip to question 62)
1 ☐ I have been pregnant _____ times.

65. Have you been pregnant during the **past 12 months?**
(Check one box)

1 ☐ No
2 ☐ Yes

66. Are you pregnant now?
(Check one box)

1 ☐ No
2 ☐ Yes
3 ☐ Not sure

67. How many babies (live births) have you had?
(Fill in one circle)

① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ or more

68. What is your best estimate of the likelihood that you will become pregnant in the next 12 months?

(Fill in a number between 0 and 100, with 0 representing **no chance** that the event will occur, and 100 representing that the event **definitely** will occur):

_____ percent

69. Please provide the following information in chronological order. For multiple outcomes, make each a separate entry (e.g., two entries for twins). Indicate only one "outcome" per pregnancy. If you are uncertain of a detail, provide your best estimate.

Pregnancy

	Outcome	What was the approximate date of this outcome?	Were you in the Navy at the time?	What was your duty station type at the time of: Concep- Out- tion come	Was this pregnancy planned?
a. Most recent	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 1 ☐ 2 Aviation SQD ☐ 2 ☐ 3 Industrial type shore ☐ 3 ☐ 4 Other shore ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
b. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 1 ☐ 2 Aviation SQD ☐ 2 ☐ 3 Industrial type shore ☐ 3 ☐ 4 Other shore ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
c. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 1 ☐ 2 Aviation SQD ☐ 2 ☐ 3 Industrial type shore ☐ 3 ☐ 4 Other shore ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
d. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 1 ☐ 2 Aviation SQD ☐ 2 ☐ 3 Industrial type shore ☐ 3 ☐ 4 Other shore ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
e. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 1 ☐ 2 Aviation SQD ☐ 2 ☐ 3 Industrial type shore ☐ 3 ☐ 4 Other shore ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No

OB/GYN AVAILABILITY

70. During the **past 30 days** the following were readily available to me from this ship's medical department, if I needed them:
(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	I did not need this item (9)
a. Birth control pills	☐	☐	☐	☐	☐	☐
b. Depo-Provera, Norplant	☐	☐	☐	☐	☐	☐
c. Condoms	☐	☐	☐	☐	☐	☐
d. Diaphragm	☐	☐	☐	☐	☐	☐
e. Pregnancy testing or test kit	☐	☐	☐	☐	☐	☐
f. Family planning information	☐	☐	☐	☐	☐	☐
g. Appropriately staffed and equipped OB/GYN medical support	☐	☐	☐	☐	☐	☐

71. Approximately how many months or days ago was your most recent:
(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Pap smear (test for cervical cancer)?	_____	_____
d. Pelvic examination?	_____	_____
e. Breast examination by a physician or nurse	_____	_____

OB/GYN QUESTIONS FOR CURRENTLY DEPLOYED WOMEN

72. Did you request a pre-deployment appointment with a gynecologist or obstetrician from a Navy medical facility prior to this deployment?? (For purposes of this questionnaire, deployment shall be defined as: "Ship scheduled at sea for 30 days or more")
(Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

73. Were you given a gynecological or obstetrical appointment? (Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

a. Did you keep the appointment? (Check one box)

- 1 ☐ No
2 ☐ Yes

ADDITIONAL COMMENTS AND SUGGESTIONS

Additional comments you would like to add:

Suggestions for topics that should be added, changed, or deleted:

THANK YOU!

Please return to your shipboard coordinator or:

Naval Health Research Center
Code 233
P.O. Box 85122
San Diego CA 92186-5122
Telephone (619) 553-6881; DSN 553-6881

APPENDIX C.5

SURVEY 90

U.S. Navy Shipboard Health Survey

Naval Health Research Center, San Diego

Information to participants

You are being asked to voluntarily complete this survey giving candid responses and opinions about health-related issues and to become part of a study that will involve one or more additional questionnaires. Your answers are for research use only and will be kept strictly confidential. Data will be reported so that no individual participant can be identified and the information you provide will not become part of anyone's official records. If you have any questions about this survey, please contact Dr. Frank C. Garland, Naval Health Research Center, San Diego, CA 92186-5122/DSN: 553-6881; Commercial (619) 553-6881.

Privacy Act Statement

1. Authority. 5 USC 301, 10 USC 1071, OPNAV Control Symbol 6000-13C **2. Purpose.** Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion. **3. Routine use.** Medical research information will be used in statistical analyses by the Departments of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. **4. Voluntary disclosure.** I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding paragraph, and I have been informed that failure to agree to its disclosure to agencies or individuals identified in the preceding paragraph. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.

A. Name (please print):

Last First Middle Initial

B. Social security number: _____

C. Date of birth: Month: _____ Day: _____ Year: 19 _____



Shipboard Form 90 Questionnaire

**THIS PAGE IS TO BE COMPLETED BY ALL STUDY PARTICIPANTS
AND WILL BE REMOVED BEFORE PROCESSING.**

Note: Questionnaires may be distributed by active-duty, reserve, or civilian personnel.

Rev. 7.0 (31 May 95)

**Voluntary Consent to Participate
in the U.S. Navy Shipboard Health Survey**

1. I am being asked to volunteer to participate in a research study titled, "Health Aboard Navy Ships: A Comprehensive Health and Readiness Research Project" The purpose of this study is to enhance basic medical knowledge concerning the provision of medical care and health promotion. I am being asked to participate now, and can expect to receive a follow-up questionnaire in about 1 year if I am still on active duty.
2. I understand that my participation in this study is completely voluntary. If I do not choose to participate there are no penalties, and I will not lose any benefits to which I am otherwise entitled. I may discontinue my participation in this study at any time I choose without fear of penalty or loss of benefits to which I am otherwise entitled.
3. The benefit that I may expect from my participation in this research study is the knowledge that I will be helping the Navy to provide the best possible medical services to men and women serving aboard Navy ships. There is no direct personal benefit to me from participation in this research study.
4. The investigators believe that there are no direct physical or psychological risks to me as a participant in this research study, with the possible exception of a very unlikely accidental breach of confidentiality and loss of anonymity. Specific measures to ensure my anonymity are outlined in paragraph 5.
5. Confidentiality during this research study will be ensured by restricting access to all data collected to personnel working on this research study who have taken an oath of confidentiality. The confidentiality of the information related to my participation in this research study will be ensured at all times by use of an arbitrary number to identify me. I also understand that none of my responses will become a part of my medical or military record and that no information that might identify me personally will be included in results from reports of this study. Thank you! the anonymous portion of this contains no personal identifiers and cannot be linked to me in any way.
6. If I have questions about this research study I should contact the principal investigator, Dr. Frank C. Garland at the Naval Health Research Center (NHRC), San Diego, CA 92186-5122, phone (619) 553-6881; DSN 553-6881. If I have questions about the ethical aspects of this study, my rights as a volunteer, or any concerns relating to protection of research volunteers, I can contact Dr. Tamsin Kelly at NHRC, phone (619) 553-8443; DSN 553-8443. Additionally, I may contact Dr. Lisa Meyer at NHRC if I have any questions about medical aspects of this study. Dr. Meyer may be contacted at NHRC, phone (619) 553-8376; DSN: 553-8376.
7. I have been informed that Dr. Frank C. Garland is responsible for the storage of my consent form and the research records related to my participation in this study. These records are stored at the Naval Health Research Center, San Diego, CA 92186-5122.
8. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. All my questions have been answered to my satisfaction. By my signature below, I give my voluntary informed consent to participate in this research study as it has been explained to me and acknowledge receipt of a copy of this form for my own personal records.

(Last name, first name, middle initial)

(Signature)

Date (DD/MM/YY)

--This page will be removed and stored separately to protect your confidentiality--

DEMOGRAPHIC DATA

1. Today's date: Month: ____ ____ Day: ____ ____ Year: 199 ____
2. What is your gender?
 - 1 ☐ Male
 - 2 ☐ Female
3. What is your age in years? ____ ____ years
4. What is your race? (*Check one box*)
 - 1 ☐ White, non-Hispanic
 - 2 ☐ White, Hispanic
 - 3 ☐ Black/African-American, non-Hispanic
 - 4 ☐ Black/African-American, Hispanic
 - 5 ☐ Asian/Pacific Islander
 - 6 ☐ Native American
 - 9 ☐ Other (*Please specify*): _____
5. What is the highest level of education you have completed?
(*Check one box*)
 - 1 ☐ Some high school
 - 2 ☐ Graduate equivalency degree (GED)
 - 3 ☐ High school graduate
 - 4 ☐ Trade or technical school graduate
 - 5 ☐ Some college or AA degree
 - 6 ☐ 4-year college degree
 - 7 ☐ Graduate or professional degree
6. Marital status
 - a. What is your current marital status?
(*Check one box*)
 - 1 ☐ Never married
 - 2 ☐ Married (*Please skip to question 7*)
 - 3 ☐ Separated
 - 4 ☐ Divorced
 - 5 ☐ Widowed
 - b. Do you plan to marry during the next 12 months?
(*Check one box*)
 - 1 ☐ No
 - 2 ☐ Yes
 - 3 ☐ Don't know

7. What is your paygrade? (*Circle one*)

<u>Enlisted</u>		<u>Warrant officer</u>	<u>Officer</u>	
E-1	E-6	W-1	O-1	O-6
E-2	E-7	W-2	O-2	
E-3	E-8	W-3	O-3	
E-4	E-9	W-4	O-4	
E-5			O-5	

8. If you are Navy enlisted, what is your rating (e.g., SN, FN, BT, HM, ASM)? _____

9. If you are Marine enlisted, what is your M.O.S. number? _____

10. What is your total number of years on active duty? _____ years

11. Times aboard ship(s)

a. What is the approximate total time you have served aboard ship counting all time on all ships on which you have served?
_____ years and _____ months

b. What is the approximate total time time you served aboard this ship?
_____ years and _____ months

12. Where do you live when your ship is in your home port?
(*Check one box*)

- | | |
|---|------------------------------------|
| 1 ☐ Aboard ship | 3 ☐ BEQ/BOQ |
| 2 ☐ Navy Housing | 9 ☐ Other |

13. To what ship (or command) are you currently assigned? _____

14. If you are currently aboard ship, what is your ship's current status?
(*For purposes of this questionnaire, deployment shall be defined as:*
"Ship scheduled at sea for 30 days or more")
(*Check one box*)

- | | |
|---|---|
| 1 ☐ In home port | 3 ☐ In port other than home port |
| 2 ☐ At sea | 4 ☐ In shipyard |
| 9 ☐ Other (<i>Please specify</i>): _____ | |

15. Are you currently deployed (30 days or more)?
(*Check one box*)

- | |
|---|
| 1 ☐ No (<i>Please skip to question 18</i>) |
| 2 ☐ Yes |

16. What date did you begin this deployment? Mo.: _____ Day: _____ Year: 199 _____

17. If you are out of your home port, what is the expected length of time between today and the date you return to your home port?
(Check one box)
- 1 ☐ Less than 1 week
 - 2 ☐ 1 week to less than 1 month
 - 3 ☐ 1 month to less than 3 months
 - 4 ☐ 3 months to less than 6 months
 - 5 ☐ 6 months to less than 12 months
 - 6 ☐ 12 months to less than 18 months
 - 7 ☐ 18 months or longer
18. How many times have you deployed aboard Navy ships (30 days or more), not counting present deployment? (Check one box)
- 0 ☐ Never ☐ _____ times

HEALTH CONDITIONS

This section is to report all conditions that you had during the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider.

19. Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider?
(Please check either "no" or "yes" for every condition)
- | | | |
|----------------------------------|--------------------------------|--|
| a. 1 ☐ No | 2 ☐ Yes | Common cold symptoms |
| b. 1 ☐ No | 2 ☐ Yes | Dizziness |
| c. 1 ☐ No | 2 ☐ Yes | Chills |
| d. 1 ☐ No | 2 ☐ Yes | Cough |
| e. 1 ☐ No | 2 ☐ Yes | Sore throat |
| f. 1 ☐ No | 2 ☐ Yes | Fever |
| g. 1 ☐ No | 2 ☐ Yes | Flu |
| h. 1 ☐ No | 2 ☐ Yes | Diarrhea lasting at least 3 days |
| i. 1 ☐ No | 2 ☐ Yes | Stomach problems |
| j. 1 ☐ No | 2 ☐ Yes | Constipation |
| k. 1 ☐ No | 2 ☐ Yes | Indigestion |
| l. 1 ☐ No | 2 ☐ Yes | Nausea/vomiting |
| m. 1 ☐ No | 2 ☐ Yes | Sinus trouble |
| n. 1 ☐ No | 2 ☐ Yes | Hay fever |
| o. 1 ☐ No | 2 ☐ Yes | Shortness of breath |
| p. 1 ☐ No | 2 ☐ Yes | Hoarseness |
| q. 1 ☐ No | 2 ☐ Yes | Skin problems |
| r. 1 ☐ No | 2 ☐ Yes | Muscle sprain or strain |
| s. 1 ☐ No | 2 ☐ Yes | Back problems |
| t. 1 ☐ No | 2 ☐ Yes | Hearing problems |
| u. 1 ☐ No | 2 ☐ Yes | Irritated eyes |
| v. 1 ☐ No | 2 ☐ Yes | Trouble seeing with one or both eyes even if wearing glasses or contacts |

19. — *Continued*— Have you had any of these health conditions during the past 30 days whether or not it resulted in a visit to sick call or a health care provider ?
(Please check either "no" or "yes" for every condition)

- w. 1 ☐ No 2 ☐ Yes Pain in stomach or abdominal area
x. 1 ☐ No 2 ☐ Yes Heat stress or heat stroke
y. 1 ☐ No 2 ☐ Yes Headache:
If yes, was it accompanied by: (Please check either "no" or "yes" for every condition)
1 ☐ No 2 ☐ Yes Visual disturbances
1 ☐ No 2 ☐ Yes Numbness or tingling
1 ☐ No 2 ☐ Yes Sensitivity to noise
1 ☐ No 2 ☐ Yes Sensitivity to light
1 ☐ No 2 ☐ Yes Nausea
z. 1 ☐ No 2 ☐ Yes Psychological condition(s) or personal problem(s) severe enough to interfere with daily activities
aa. 1 ☐ No 2 ☐ Yes Other condition or injury
Please specify : _____
bb. 1 ☐ No 2 ☐ Yes (Women) Menstrual conditions (premenstrual syndrome, menstrual cramps, irregular or absent periods)

20. During the past 30 days:

- a. Did you receive a doctor's diagnosis of any of these from a health care provider not on this ship ?
(Please check either "no" or "yes" for every condition)

1. 1 ☐ No 2 ☐ Yes Cold or acute nasopharyngitis
2. 1 ☐ No 2 ☐ Yes Sore throat, viral
3. 1 ☐ No 2 ☐ Yes Cough, viral
4. 1 ☐ No 2 ☐ Yes Flu

- b. Have you been unable to perform your military duties for 1 or more days because of the reasons below?
(Please check either "no" or "yes" for every condition)

1. 1 ☐ No 2 ☐ Yes Health problem
2. 1 ☐ No 2 ☐ Yes Emotional problem
3. 1 ☐ No 2 ☐ Yes Personal problem
4. 1 ☐ No 2 ☐ Yes Family problem
5. 1 ☐ No 2 ☐ Yes Other (Please specify :) _____
-
-

MEDICAL HISTORY

21. Has a doctor *ever* told you that you had any of the following?
 (Please check one box on each line.
 If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Asthma	☐	☐	_____
b. Migraine headache	☐	☐	_____
c. Anemia	☐	☐	_____
d. Depression	☐	☐	_____
e. Gonorrhea	☐	☐	_____
f. Syphilis	☐	☐	_____
g. Chlamydia	☐	☐	_____
h. Urinary tract infection	☐	☐	_____
i. Kidney infection	☐	☐	_____
j. Hernia (other than hiatal)	☐	☐	_____

RECENT MEDICAL CARE

22. Approximately how many months or days ago was your:

(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Most recent visit to a medical doctor?	_____	_____
b. Most recent visit to another health care professional? (Please specify type of provider, e.g., psychologist, dentist, nurse-practitioner):	_____	_____
c. Most recent visit to a hospital corpsman?	_____	_____

23. If you are currently deployed (30 days or more), were you medically screened preceding this deployment?
 (Check one box)

- 1 ☐ No
 2 ☐ Yes
 9 ☐ Not applicable, since I am not currently deployed.

24. In what month and year were you last screened? Month: _____ Year: 199 _____

OCCUPATIONAL EXPOSURES

25. Have you been exposed to any of the factors listed below?

Exposure <i>(Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)</i>	No (1)	Yes (2)	Not sure (9)	If yes: During the			
				Past 30 days	Past 36 months	Past 36 months	Total no. of mos. ex- posed
a. Adhesives or gluing compounds	☐	☐	☐				
b. Asbestos (loose)	☐	☐	☐				
c. Carbon monoxide	☐	☐	☐				
d. Diesel exhaust within 50 feet	☐	☐	☐				
e. Diesel fuel within 50 feet	☐	☐	☐				
f. Dry cleaning solvent	☐	☐	☐				
g. Exhaust from gasoline engine	☐	☐	☐				
h. Gasoline (liquid or vapor)	☐	☐	☐				
i. Guided missile fuel	☐	☐	☐				
j. High temperature (above 95°F)	☐	☐	☐				
k. Hypodermic needles (used)	☐	☐	☐				
l. Insecticides	☐	☐	☐				
m. Jet exhaust within 50 feet	☐	☐	☐				
n. Jet fuel within 50 feet	☐	☐	☐				
o. Lifting 25 - 49 pounds	☐	☐	☐				
p. Lifting 50 or more pounds	☐	☐	☐				
q. Loud noise (such as jets)	☐	☐	☐				
r. Low temperature (below 32° F)	☐	☐	☐				
s. Metal scrapings or filings	☐	☐	☐				
t. Microwave oven within 3 feet	☐	☐	☐				
u. Paint (oil based), or thinner	☐	☐	☐				
v. Paint, other or unknown type	☐	☐	☐				
w. Paint scrapings or paint sanding	☐	☐	☐				
x. Radar antenna or array within 50 feet	☐	☐	☐				
y. Solvent or degreaser	☐	☐	☐				
z. Torpedo fuel	☐	☐	☐				

25. —Continued— Have you been exposed to any of the factors listed below?

Exposure (Check one box on each line. If you answer "yes" to any question, please complete all items on that line.)				If yes: During the			
				Past 30 days		Past 36 months	
	No (1)	Yes (2)	Not sure (9)	No. of hours exposed per day	No. of days exposed per week	No. of days exposed per week	Total no. of mos. ex- posed
aa. Other chemicals (Please specify):	☐	☐	☐				
bb. Transmitting antennas within 50 feet	☐	☐	☐				
cc. Nuclear reactor within 50 feet	☐	☐	☐				
dd. Nuclear fuel within 50 feet	☐	☐	☐				
ee. Nuclear ordnance within 50 feet	☐	☐	☐				
ff. Nuclear medicines (radioisotopes)	☐	☐	☐				
gg. Video display terminal (VDT, CRT)	☐	☐	☐				
hh. Welding fumes	☐	☐	☐				
ii. Dust or particles	☐	☐	☐				
jj. Explosives (nonnuclear) within 50 feet	☐	☐	☐				
kk. Nitrous oxide	☐	☐	☐				
ll. Ethylene dibromide (EDB)	☐	☐	☐				
mm. Perchloroethylene (PERC)	☐	☐	☐				
nn. Anthrax vaccine	☐	☐	☐	Year first received 19 ____		Year last received 19 ____	
oo. Antimalaria pills	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
pp. Pyridostigmine	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	
qq. Other anti-CBW pills or agents (Please specify):	☐	☐	☐	Year first taken 19 ____		Year last taken 19 ____	

PROTECTIVE GEAR

26. Is protective gear available for use in your current job?
(Please check one box in each of the four columns)

Item	Is this item available?			Does it fit you properly?			Do you wear it when needed?			Does it seriously interfere with your ability to do your work?		
	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)	No (1)	Yes (2)	Sometimes (3)
a. Gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b. Respirator or mask	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c. Protective gloves	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d. Boots	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e. Ear plugs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f. Film badges	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g. Hazardous materials suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h. Fire fighting suit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

LIFESTYLE

27. Have you smoked at least 100 cigarettes in your entire life? (Check one box)

- 1 ☐ No (Please skip to question 30)
2 ☐ Yes

28. On how many of the past 30 days did you smoke cigarettes? (Check one box)

- 0 ☐ None
1 ☐ 1-4 days
2 ☐ 5-9 days
3 ☐ 10-14 days
4 ☐ 15-19 days
5 ☐ 20-24 days
6 ☐ 25-29 days
7 ☐ Every day
9 ☐ Not sure

29. On average, about how many cigarettes did you smoke per day during the **past 30 days**?
(Check one box)

- 0 ☐ None
- 1 ☐ Fewer than 1 cigarette a day, on the average
- 2 ☐ 1-4 cigarettes
- 3 ☐ 5-9 cigarettes
- 4 ☐ 10-19 cigarettes
- 5 ☐ 20-29 cigarettes
- 6 ☐ 30-39 cigarettes
- 7 ☐ 40-49 cigarettes
- 8 ☐ 50 or more cigarettes
- 9 ☐ Not sure

30. **1 year from now**, how do you see yourself with regard to cigarette smoking?
(Check one box)

- 1 ☐ Definitely a non-smoker
- 2 ☐ Probably a non-smoker
- 3 ☐ Maybe a smoker, maybe not
- 4 ☐ Probably a smoker
- 5 ☐ Definitely a smoker

31. During the **past 30 days**, have you been exposed to tobacco smoke for 1 hour or more per day in your immediate work area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

32. During the **past 30 days**, have you been exposed to tobacco smoke for 1 hour or more per day in your sleeping area or other non-working area? (Check one box)

- 1 ☐ No
- 2 ☐ Yes
- 9 ☐ Not sure

33. Sleeping area

a. Approximately how many people occupy your sleeping quarters aboard ship when you are sleeping (not counting yourself)?

_____ people

b. Where is your bunk/bed?

Deck or floor designation: _____

Room or compartment number: _____

34. Working area

a. Approximately how many people occupy your work area when you are working?

_____ people

b. Where is your work area?

Deck or floor designation: _____

Room or compartment number: _____

Multiple areas (Please specify areas): _____

35. During the **past 7 days**, on how many days did you have any alcoholic beverages?
(Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦

(If 0, please skip to question 38)

36. On the days you drank any alcoholic beverage during the **past 7 days**, how many drinks did you usually have per day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

37. During the **past 7 days**, what was the largest number of alcoholic drinks you had in 1 day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as 1 drink.) (Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ More, please give no. _____

38. (Unmarried men and women) When you are ashore, do you live with a significant other person in a marital-like relationship?
(Check one box)

1 ☐ No

2 ☐ Yes

9 ☐ Don't know

39. My current: a. Weight is _____ pounds

b. Height is _____ feet and _____ inches

HEALTH CARE

Please help us to further evaluate the Navy's health care program by answering some questions about the services you have received at sick call. We are interested in your honest opinions, whether they are positive or negative.

40. How many weeks have you been at your present duty station? *(Fill in one circle)*

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ or more

41. How many times have you been to sick call for medical care in the **past 3 months**?
(Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ or more

42. Where do you usually go for medical care? *(Check one box)*

- ☐ 1 A civilian doctor
- ☐ 2 Navy sick call *(Specify):* _____
- ☐ 3 Other *(Specify):* _____

43. How many prescriptions have you received at sick call in the **past 3 months**?
(Fill in one circle)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ or more

44. When you go to sick call who is the primary person who treats you?
(Check one box)

- ☐ 1 Doctor
- ☐ 2 Physician's Assistant
- ☐ 3 Corpsman
- ☐ 4 Other *(Specify):* _____

45. Which of the following have you been treated by (gave you a diagnosis, a prescription, talked to you about your problem) at sick call in the **past 3 months**?
(Check one box)

- ☐ 1 Doctor
- ☐ 2 Physician's Assistant
- ☐ 3 Corpsman
- ☐ 4 Other *(Specify):* _____

46. Where did you receive your last performance evaluation (or fitness report)?
(Check one box)

- ☐ 1 Present command
- ☐ 2 Previous command
- ☐ 3 Other *(Specify):* _____

47. If you are enlisted what was your overall performance evaluation mark on your last evaluation report?
(Check one box)

- ☐ 1.0
- ☐ 2.0
- ☐ 2.6
- ☐ 2.8
- ☐ 3.0
- ☐ 3.2
- ☐ 3.4
- ☐ 3.6
- ☐ 3.8
- ☐ 4.0

48. If you are an officer, what was your ranking among your peer group on your last officer fitness report?

I was number _____ out of _____.

MOOD ASSESSMENT 1

The next questions are about how you feel and how things have been with you within the past month.

49. For each question, please check the box for the one answer that comes closest to the way you have been feeling.

(Check one box on each line)

	Always (1)	Very often (2)	Fairly often (3)	Some- times (4)	Almost never (5)	Never (6)
a. How often did you become nervous or jumpy when faced with excitement or unexpected situations, during the past month?	☐	☐	☐	☐	☐	☐
b. When you got up in the morning, this past month, about how often did you expect to have an interesting day?	☐	☐	☐	☐	☐	☐
c. During the past month, how often did your hands shake when you tried to do something?	☐	☐	☐	☐	☐	☐
d. During the past month, how often did you feel that you had nothing to look forward to?	☐	☐	☐	☐	☐	☐
e. How often have you felt like crying, during the past month?	☐	☐	☐	☐	☐	☐
f. During the past month, how often did you feel that others would be better off if you were dead?	☐	☐	☐	☐	☐	☐
g. How often, during the past month, did you feel that nothing turned out for you the way you wanted it to?	☐	☐	☐	☐	☐	☐
h. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐	☐	☐
i. During the past month, how often did you get rattled, upset, or flustered?	☐	☐	☐	☐	☐	☐
j. How often, during the past month, did you find yourself having difficulty trying to calm down?	☐	☐	☐	☐	☐	☐

MOOD ASSESSMENT II

The next questions also are about how you feel and how things have been with you within the past month.

50. For each question, please check the box for the one answer that comes closest to the way you have been feeling.

(Check one box on each line)

	All of the time (1)	Most of the time (2)	A good bit of the time (3)	Some of the time (4)	A little of the time (5)	None of the time (6)
a. How much of the time have you felt lonely, during the past month?	☐	☐	☐	☐	☐	☐
b. During the past month, how much of the time have you felt that the future looks hopeful and promising?	☐	☐	☐	☐	☐	☐
c. How much of the time, during the past month, has your daily life been full of things that were interesting to you?	☐	☐	☐	☐	☐	☐
d. How much of the time, during the past month, did you feel relaxed and free of tension?	☐	☐	☐	☐	☐	☐
e. During the past month, how much of the time have you generally enjoyed the things you do?	☐	☐	☐	☐	☐	☐
f. During the past month, how much of the time have you felt loved and wanted?	☐	☐	☐	☐	☐	☐
g. How much of the time, during the past month, have you been a very nervous person?	☐	☐	☐	☐	☐	☐
h. During the past month, how much of the time have you felt tense or "high-strung"?	☐	☐	☐	☐	☐	☐
i. How much of the time, during the past month, have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐
j. How much of the time, during the past month, have you felt emotionally stable?	☐	☐	☐	☐	☐	☐
k. How much of the time, during the past month, have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐
l. How much of the time, during the past month, were you able to relax without difficulty?	☐	☐	☐	☐	☐	☐

50. — *Continued*— For each question, please check the box for the one answer that comes closest to the way you have been feeling.

	All of the time (1)	Most of the time (2)	A good bit of the time (3)	Some of the time (4)	A little of the time (5)	None of the time (6)
(Check one box on each line)						
m. During the past month, how much of the time did you feel that your love relationships, loving and being loved, were full and complete?	☐	☐	☐	☐	☐	☐
n. During the past month, how much of the time has living been a wonderful adventure for you?	☐	☐	☐	☐	☐	☐
o. During the past month, how much of the time have you felt restless, fidgety, or impatient?	☐	☐	☐	☐	☐	☐
p. During the past month, how much of the time have you been moody or brooded about things?	☐	☐	☐	☐	☐	☐
q. How much of the time, during the past month, have you felt cheerful, lighthearted?	☐	☐	☐	☐	☐	☐
r. During the past month, how much of the time were you a happy person?	☐	☐	☐	☐	☐	☐
s. During the past month, how much of the time have you been in low or very low spirits?	☐	☐	☐	☐	☐	☐

MOOD ASSESSMENT III

51. How happy, satisfied, or pleased have you been with your personal life during the past month? (*Circle one*)

Extremely happy, could not have been more satisfied or pleased.....1
 Very happy most of the time 2
 Generally satisfied, pleased.....3
 Sometimes fairly satisfied, sometimes fairly unhappy.....4
 Generally dissatisfied, unhappy.....5
 Very dissatisfied, unhappy most of the time.....6

52. How often do you eat too much? (*Circle one*)

Very often.....1
 Fairly often.....2
 Sometimes.....3
 Almost never.....4
 Never.....5

53. During the **past month**, have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel, or of your memory?
(Circle one)
- No, not at all.....1
Maybe a little.....2
Yes, but not enough to be concerned or worried about it.....3
Yes, and I have been a little concerned.....4
Yes, and I am quite concerned..... 5
Yes, and I am very much concerned about it.....6
54. Did you feel depressed during the **past month**?
(Circle one)
- Yes, to the point that I did not care about anything for days at a time.....1
Yes, very depressed almost every day.....2
Yes, quite depressed several times.....3
Yes, a little depressed now and then.....4
No, never felt depressed at all.....5
55. How often have there been times in your life when you felt you acted like a coward?
(Circle one)
- Very often.....1
Fairly often.....2
Sometimes.....3
Almost never.....4
Never.....5
56. During the **past month**, have you been in firm control of your behavior, thoughts, emotions, feelings?
(Circle one)
- Yes, very definitely.....1
Yes, for the most part.....2
Yes, I guess so.....3
No, not too well.....4
No, and I am somewhat disturbed.....5
No, and I am very disturbed.....6
57. Would you say that you give every penny you can to charity?
(Circle one)
- Yes, definitely.....1
Yes, for the most part.....2
Yes, I try.....3
No.....4

58. In choosing your friends, how important to you are things like their race, their religion, or their political beliefs?
(Circle one)
- Always very important.....1
 Almost always important.....2
 Usually important 3
 Not too important 4
 Hardly ever important 5
 Not important at all.....6
59. How much have you been bothered by nervousness, or your "nerves," during the past month? (Circle one)
- Extremely so, to the point where I could not take care of things.....1
 Very much bothered.....2
 Bothered quite a bit by nerves.....3
 Bothered some, enough to notice.....4
 Bothered just a little by nerves.....5
 Not bothered at all by this.....6
60. If it is more convenient for you to do so, how often will you tell a lie?
(Circle one)
- Very often tell a lie.....1
 Fairly often..... 2
 Sometimes tell a lie.....3
 Almost never.....4
 Never tell a lie.....5
61. During the past month, did you ever think about taking your own life?
(Circle one)
- Yes, very often.....1
 Yes, fairly often.....2
 Yes, a couple of times.....3
 Yes, at one time.....4
 No, never.....5
62. Are your table manners at home just as good as they are when you are invited out to dinner?
(Circle one)
- Yes, always just as good.....1
 Yes, with rare exceptions.....2
 Yes, usually just as good.....3
 No, usually worse at home.....4
 No, quite a bit worse at home.....5
 No, very bad at home.....6

63. During the **past month**, have you been anxious or worried?
(Circle one)

Yes, extremely so, to the point
of being sick or almost sick.....1
Yes, very much so.....2
Yes, quite a bit.....3
Yes, some, enough to bother me.....4
Yes, a little bit.....5
No, not at all.....6

64. How often, during the **past month**, have you been waking up feeling fresh and rested?
(Circle one)

Always, every day.....1
Almost every day.....2
Most days.....3
Some days, but usually not.....4
Hardly ever.....5
Never wake up feeling rested.....6

65. During the **past month**, have you been under or felt you were under any strain, stress, or pressure?
(Circle one)

Yes, almost more than I could stand or bear.....1
Yes, quite a bit of pressure.....2
Yes, some, more than usual.....3
Yes, some, but about normal.....4
Yes, a little bit.....5
No, not at all.....6

YOUR HEALTH I

66. Please read each of the following statements, and then check one of the boxes to indicate your opinion about your health.

- a. In general, would you say that your health is excellent, good, fair, or poor?
(Check one)

☐ 1 Excellent ☐ 2 Good ☐ 3 Fair ☐ 4 Poor

- b. During the **past 3 months**, how much pain have you had?
(Check one)

☐ 1 A great deal of pain ☐ 2 Some pain ☐ 3 A little pain ☐ 4 No pain at all

- c. During the **past 3 months**, how much has your health worried or concerned you?
(Check one)

☐ 1 A great deal ☐ 2 Somewhat ☐ 3 A little ☐ 4 Not at all

YOUR HEALTH II

67. Please read each of the following statements, and then check one of the boxes to indicate whether the statement is true or false for you. There are no right or wrong answers. Some of the statements may look or seem like others but each statement should be rated by itself.

<i>(Check one box on each line)</i>	Definitely false (1)	Mostly false (2)	Don't know (3)	Mostly true (4)	Definitely true (5)
a. According to doctors (or corpsmen) I've seen, my health is now excellent.	☐	☐	☐	☐	☐
b. I seem to get sick a little easier than other people.	☐	☐	☐	☐	☐
c. I feel better now than I ever have before.	☐	☐	☐	☐	☐
d. I will probably be sick a lot in the future.	☐	☐	☐	☐	☐
e. I never worry about my health.	☐	☐	☐	☐	☐
f. Most people get sick a little easier than I do.	☐	☐	☐	☐	☐
g. I am somewhat ill.	☐	☐	☐	☐	☐
h. In the future, I expect to have better health than other people I know.	☐	☐	☐	☐	☐
i. I was so sick once I thought I might die.	☐	☐	☐	☐	☐
j. I'm not as healthy now as I used to be.	☐	☐	☐	☐	☐
k. I worry about my health more than other people worry about their health.	☐	☐	☐	☐	☐
l. My body seems to resist illness very well.	☐	☐	☐	☐	☐
m. Getting sick once in a while is a part of my life.	☐	☐	☐	☐	☐
n. I'm as healthy as anybody I know.	☐	☐	☐	☐	☐
o. I think my health will be worse in the future than it is now.	☐	☐	☐	☐	☐
p. I've never had an illness that lasted a long period of time.	☐	☐	☐	☐	☐
q. Others seem more concerned about their health than I am about mine.	☐	☐	☐	☐	☐
r. My health is excellent.	☐	☐	☐	☐	☐

67. — *Continued*— Please read each of the following statements, and then check one of the boxes to indicate whether the statement is true or false for you. There are no right or wrong answers. Some of the statements may look or seem like others but each statement should be rated by itself.

<i>(Check one box on each line)</i>		Definitely false (1)	Mostly false (2)	Don't know (3)	Mostly true (4)	Definitely true (5)
s.	I expect to have a very healthy life.	☐	☐	☐	☐	☐
t.	My health is a concern in my life.	☐	☐	☐	☐	☐
u.	I accept that sometimes I'm just going to be sick.	☐	☐	☐	☐	☐
v.	I have been feeling bad lately.	☐	☐	☐	☐	☐
w.	I have never been seriously ill.	☐	☐	☐	☐	☐
x.	When there is something going around, I usually catch it.	☐	☐	☐	☐	☐
y.	Doctors (or corpsmen) say that I am now in poor health.	☐	☐	☐	☐	☐
z.	I feel about as good now as I ever have.	☐	☐	☐	☐	☐

PATIENT SATISFACTION I

68. Please take a moment to recall your visit(s) to sick call. Then check the one box that describes the strength of your agreement or disagreement with the following statements.

(Check one box on each line)	Very strongly agree (1)	(2)	(3)	(4)	(5)	(6)	Very strongly disagree (7)
a. The doctor (or corpsman) gave a poor explanation of my illness.	☐	☐	☐	☐	☐	☐	☐
b. The doctor (or corpsman) told me just what my trouble is.	☐	☐	☐	☐	☐	☐	☐
c. After talking with the doctor (or corpsman), I knew just how serious my illness is.	☐	☐	☐	☐	☐	☐	☐
d. The doctor (or corpsman) told me all I wanted to know about my illness.	☐	☐	☐	☐	☐	☐	☐
e. I was not really certain about how to follow the doctor's (or corpsman's) advice.	☐	☐	☐	☐	☐	☐	☐
f. After talking with the doctor (or corpsman), I had a good idea of how long it would be before I would be well again.	☐	☐	☐	☐	☐	☐	☐
g. The doctor (or corpsman) seemed interested in me as a person.	☐	☐	☐	☐	☐	☐	☐
h. The doctor (or corpsman) seemed warm and friendly to me.	☐	☐	☐	☐	☐	☐	☐
i. I felt that the doctor (or corpsman) did not treat me as an equal.	☐	☐	☐	☐	☐	☐	☐
j. The doctor (or corpsman) seemed to take my problems seriously.	☐	☐	☐	☐	☐	☐	☐
k. I felt embarrassed while talking with the doctor (or corpsman).	☐	☐	☐	☐	☐	☐	☐
l. I felt free to talk with the doctor (or corpsman) about private matters.	☐	☐	☐	☐	☐	☐	☐
m. The doctor (or corpsman) gave me a chance to say what was really on my mind.	☐	☐	☐	☐	☐	☐	☐
n. I really felt understood by the doctor (or corpsman).	☐	☐	☐	☐	☐	☐	☐

68. — *Continued* — Please take a moment to recall your visit(s) to sick call. Then check the one box that describes the strength of your agreement or disagreement with the following statements.

(Check one box on each line)	Very strongly agree (1)	(2)	(3)	(4)	(5)	(6)	Very strongly disagree (7)
o. The doctor (or corpsman) did not allow me to say everything I had wanted about my problems.	☐	☐	☐	☐	☐	☐	☐
p. The doctor (or corpsman) did not really understand my main reason for coming.	☐	☐	☐	☐	☐	☐	☐
q. I would trust my life with the doctor (or corpsman) that treated me.	☐	☐	☐	☐	☐	☐	☐
r. I would hesitate to recommend the doctor (or corpsman) I saw to my friends.	☐	☐	☐	☐	☐	☐	☐
s. The doctor (or corpsman) seemed to know what she/he was doing.	☐	☐	☐	☐	☐	☐	☐
t. After talking with the doctor (or corpsman), I felt much better about my problems.	☐	☐	☐	☐	☐	☐	☐
u. The doctor (or corpsman) relieved my worries about my illness.	☐	☐	☐	☐	☐	☐	☐
v. Talking with the doctor (or corpsman) did not at all help my worries about my illness.	☐	☐	☐	☐	☐	☐	☐
w. The doctor (or corpsman) came up with a good plan for helping me.	☐	☐	☐	☐	☐	☐	☐
x. The doctor (or corpsman) visit did not at all help me.	☐	☐	☐	☐	☐	☐	☐
y. The doctor (or corpsman) seemed to know just what to do for my problem.	☐	☐	☐	☐	☐	☐	☐
z. It was easy for me to follow the doctor's (or corpsman's) advice.	☐	☐	☐	☐	☐	☐	☐
aa. I followed the doctor's (or corpsman's) instructions.	☐	☐	☐	☐	☐	☐	☐
bb. It was difficult for me to do exactly what the doctor (or corpsman) told me to do.	☐	☐	☐	☐	☐	☐	☐
cc. I'm not sure the doctor's (or corpsman's) treatment was worth the trouble it took.	☐	☐	☐	☐	☐	☐	☐

PATIENT SATISFACTION III

69. Please help us evaluate your health care program by answering the following questions. Please check only one box for each question.

a. When you first came to sick call, were you seen as promptly as you felt necessary?
(Check one)

- ☐ 4 Yes, very promptly ☐ 3 Yes, promptly ☐ 2 No, there was some delay ☐ 1 No, it seemed to take forever

b. In general, how satisfied are you with the comfort and attractiveness of your sick call facility? (Check one)

- ☐ 1 Quite dissatisfied ☐ 2 Indifferent or mildly dissatisfied ☐ 3 Mostly satisfied ☐ 4 Very satisfied

c. Did the characteristics of the building or ship detract from the services you have received at sick call? (Check one)

- ☐ 1 Yes, very much ☐ 2 Somewhat ☐ 3 No, not much ☐ 4 No, not at all

d. How satisfied are you with the amount of help you have received at sick call? (Check one)

- ☐ 1 Quite dissatisfied ☐ 2 Indifferent or mildly dissatisfied ☐ 3 Mostly satisfied ☐ 4 Very satisfied

e. Considering your particular needs, how appropriate are the services you have received at sick call? (Check one)

- ☐ 4 Highly appropriate ☐ 3 Generally appropriate ☐ 2 Generally inappropriate ☐ 1 Highly inappropriate

f. Have the services you received at sick call helped you to deal more effectively with your problems? (Check one)

- ☐ 4 Yes, they helped a great deal ☐ 3 Yes, they helped somewhat ☐ 2 No, they really didn't help ☐ 1 No, they seemed to make things worse

g. When you talked to the doctor (or corpsman) at sick call, how closely did he or she listen to you? (Check one)

- ☐ 1 Not at all closely ☐ 2 Not too closely ☐ 3 Fairly closely ☐ 4 Very closely

h. Did you get the kind of service you wanted at sick call? (Check one)

- ☐ 1 No, definitely not ☐ 2 No, not really ☐ 3 Yes, generally ☐ 4 Yes, definitely

i. Are there other services you need but have not received at sick call? (Check one)

- ☐ 1 Yes, there definitely were ☐ 2 Yes, I think there were ☐ 3 No, I don't think there were ☐ 4 No, there definitely were not

69. —Continued—Please help us evaluate your health care program by answering the following questions. Please check only one box for each question.

j. How clearly did the doctor (or corpsman) at sick call understand your problem and how you felt about it? (*Check one*)

- ☐ 4 Very clearly ☐ 3 Clearly ☐ 2 Somewhat unclearly ☐ 1 Very unclearly

70. How competent and knowledgeable was the doctor (or Corpsman) at sick call? (*Check one*)

- ☐ 1 Poor abilities at best ☐ 2 Only of average ability ☐ 3 Competent and knowledgeable ☐ 4 Highly competent and knowledgeable

71. How would you rate the quality of the service you have received at sick call? (*Check one*)

- ☐ 4 Excellent ☐ 3 Good ☐ 2 Fair ☐ 1 Poor

72. In an overall, general sense, how satisfied are you with the service you have received at sick call? (*Check one*)

- ☐ 4 Very satisfied ☐ 3 Mostly satisfied ☐ 2 Indifferent or mildly dissatisfied ☐ 1 Quite dissatisfied

73. If a friend were in need of similar help, would you recommend they go to your sick call? (*Check one*)

- ☐ 1 No, definitely not ☐ 2 No, I don't think so ☐ 3 Yes, I think so ☐ 4 Yes, definitely

74. Have the people in your sick call generally understood the kind of help you wanted? (*Check one*)

- ☐ 1 No, they misunderstood almost completely ☐ 2 No, they seemed to misunderstand ☐ 3 Yes, they seemed to generally understand ☐ 4 Yes, they understood almost perfectly

75. To what extent has the Navy's health care program (at sick call) met your needs? (*Check one*)

- ☐ 1 Almost all of my needs have been met ☐ 2 Most of my needs have been met ☐ 3 Only a few of my needs have been met ☐ 4 None of my needs have been met

76. Have your rights as an individual been respected at sick call?
(Check one)

☐ 1 No,
almost
never
respected

☐ 2 No,
sometimes
not
respected

☐ 3 Yes,
generally
respected

☐ 4 Yes,
almost
always
respected

77. If you were to seek help again (and had a choice), would you go back to sick call?
(Check one)

☐ 1 No,
definitely
not

☐ 2 No,
I don't
think so

☐ 3 Yes,
I think so

☐ 4 Yes,
definitely

78. Which of the following do you prefer to be seen by at sick call?
(Check one)

☐ 1 Female
doctor

☐ 2 Male
doctor

☐ 3 Female
Corpsman

☐ 4 Male
Corpsman

☐ 5 Other _____

WOMEN'S SECTION

HEALTH CONDITIONS (WOMEN)

79. Reproductive system health

Condition	a. Did you have this condition in the past 90 days? (Check one box on each line)			b. If yes, did you first notice the condition, or did it get worse, since you came aboard this ship? (Check one box on each line if answer to the condition is "yes")		
	No (1)	Yes (2)	Not sure (3)	First noticed (1)	Got worse (2)	Not sure (3)
a. Bleeding between periods	☐	☐	☐	☐	☐	☐
b. Cramps or pain during menstrual period requiring medication or time off work	☐	☐	☐	☐	☐	☐
c. Excessive frequency of periods (time between periods too short)	☐	☐	☐	☐	☐	☐
d. Heavy periods (excessive menstrual flow)	☐	☐	☐	☐	☐	☐
e. Period lasting longer than 1 week	☐	☐	☐	☐	☐	☐
f. Scanty menstrual flow	☐	☐	☐	☐	☐	☐
g. Abdominal pain (from known cysts)	☐	☐	☐	☐	☐	☐
h. Abdominal pain (from known endometriosis)	☐	☐	☐	☐	☐	☐
i. Abdominal pain (from other or unknown cause) (Specify:)	☐	☐	☐	☐	☐	☐
j. Discharge from breast	☐	☐	☐	☐	☐	☐
k. Breast lump	☐	☐	☐	☐	☐	☐
l. Other symptoms related to menstrual period (Specify:)	☐	☐	☐	☐	☐	☐

80. Did any of the conditions listed above (a through l) require you to:

a. Take 2 or more hours off from work during the **past 90 days**? (*Check one box*)

1 ☐ No 2 ☐ Yes

b. Miss 1 or more days of work during the **past 90 days**? (*Check one box*)

1 ☐ No 2 ☐ Yes

81. During the **past 12 months** have you had regular menstrual periods?
(*Check one box*)

1 ☐ No

(Please explain: _____)

2 ☐ Yes, about 1 per month.

3 ☐ Yes, but not 1 per month.

(Please explain: _____)

If you missed one or more periods during the past 12 months, please check one box below:

1 ☐ I missed my period approximately _____ time(s) during the **past 12 months**.

0 ☐ I had no periods at all during the **past 12 months**.

9 ☐ I'm not sure of the number of periods I missed during the **past 12 months**.

82. During the **past 90 days** have you taken birth control pills to regulate your period?
(*Check one box*)

1 ☐ No 2 ☐ Yes

83. During the **past 90 days** have you taken replacement estrogens?
(*Check one box*)

1 ☐ No

2 ☐ Yes, hormone pills

3 ☐ Yes, hormone creams or other hormone preparations

84. Did you have any of these during **past 90 days**?
(*Please check either "no" or "yes" for every condition listed*)

a. 1 ☐ No 2 ☐ Yes Urinary tract infection

b. 1 ☐ No 2 ☐ Yes Vaginal rash, discharge, or other vaginal disorder except yeast infection, not including sexually transmitted diseases

c. 1 ☐ No 2 ☐ Yes Yeast infection

d. 1 ☐ No 2 ☐ Yes Pelvic or lower abdominal pain

e. 1 ☐ No 2 ☐ Yes Gonorrhea

f. 1 ☐ No 2 ☐ Yes Other sexually-transmitted disease

g. 1 ☐ No 2 ☐ Yes Other genitourinary system condition

(*Please specify*): _____

85. Did any of the conditions listed above (a through g) require you to:

a. Take 2 or more hours off from work during the past 90 days?
(Check one box)

1 ☐ No 2 ☐ Yes

b. Miss 1 or more days of work during the past 90 days?
(Check one box)

1 ☐ No 2 ☐ Yes

86. During the past 12 months have you usually had regular menstrual periods?
(Check one box)

1 ☐ No (Please specify): _____

2 ☐ Yes, about one per month

3 ☐ Yes, but not one per month

87. Has a doctor *ever* told you that you had any of the following?

(Please check one box on each line.

If you check "Yes," please write your age at first diagnosis)

	No (1)	Yes (2)	If yes, what was your age in years at first diagnosis
a. Abnormal Pap smear (test for cervical cancer)	☐	☐	_____
b. Breast lump diagnosed as benign breast cyst or fibrocystic disease (Please specify):	☐	☐	_____
c. Benign breast lump, exact diagnosis unknown	☐	☐	_____
d. Breast cancer	☐	☐	_____

PREGNANCY HISTORY

88. How many times have you been pregnant?
(Check one box)

0 ☐ Never (Please skip to question 92)

1 ☐ I have been pregnant _____ times.

89. Have you been pregnant during the past 12 months?
(Check one box)

1 ☐ No

2 ☐ Yes

90. Are you pregnant now?
(Check one box)

- 1 ☐ No
2 ☐ Yes
3 ☐ Not sure

91. How many babies (live births) have you had?
(Fill in one circle)

- ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ or more

92. What is your best estimate of the likelihood that you will become pregnant in the next 12 months?

(Fill in a number between 0 and 100, with 0 representing no chance that the event will occur, and 100 representing that the event definitely will occur):

_____ percent

93. Please provide the following information in chronological order. For multiple outcomes, make each a separate entry (e.g., two entries for twins). Indicate only one "outcome" per pregnancy. If you are uncertain of a detail, provide your best estimate.

Pregnancy

	Outcome	What was the approximate date of this outcome?	Were you in the Navy at the time?	What was your duty station type at the time of:		Was this pregnancy planned?
				Concep- tion	Out- come	
a. Most recent	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
b. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
c. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
d. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No
e. Prior pregnancy	☐ 1 Live Birth ☐ 2 Stillbirth ☐ 3 Miscarriage/ spontaneous abortion ☐ 4 Ectopic pregnancy ☐ 5 Elective induced abortion	Year 1 9 ____ Month ____	☐ 1 Yes ☐ 2 No	☐ 1 Afloat ☐ 2 Aviation SQD ☐ 3 Industrial type shore ☐ 4 Other shore	☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ 1 Yes ☐ 2 No Were you using birth control? ☐ 1 Yes ☐ 2 No

OB/GYN AVAILABILITY

94. During the **past 30 days** the following were readily available to me from this ship's medical department, if I needed them:
(Check one box on each line)

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)	I did not need this item (9)
a. Birth control pills	☐	☐	☐	☐	☐	☐
b. Depo-Provera, Norplant	☐	☐	☐	☐	☐	☐
c. Condoms	☐	☐	☐	☐	☐	☐
d. Diaphragm	☐	☐	☐	☐	☐	☐
e. Pregnancy testing or test kit	☐	☐	☐	☐	☐	☐
f. Family planning information	☐	☐	☐	☐	☐	☐
g. Appropriately staffed and equipped OB/GYN medical support	☐	☐	☐	☐	☐	☐

95. Approximately how many months or days ago was your most recent:
(Fill in number of months or days for each item)

	Number of months	Number of days (if less than 1 month)
a. Pap smear (test for cervical cancer)?	_____	_____
d. Pelvic examination?	_____	_____
e. Breast examination by a physician or nurse	_____	_____

OB/GYN QUESTIONS FOR CURRENTLY DEPLOYED WOMEN

96. Did you request a pre-deployment appointment with a gynecologist or obstetrician from a Navy medical facility prior to this deployment?? (For purposes of this questionnaire, deployment shall be defined as: "Ship scheduled at sea for 30 days or more")
(Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

95. Were you given a gynecological or obstetrical appointment? (Check one box)

- 1 ☐ No (Please skip to Comments and Suggestions on the last page)
2 ☐ Yes

- a. Did you keep the appointment? (Check one box)

- 1 ☐ No
2 ☐ Yes

ADDITIONAL COMMENTS AND SUGGESTIONS

Additional comments you would like to add:

Suggestions for topics that should be added, changed, or deleted:

THANK YOU!

Please return to your shipboard coordinator or:

Naval Health Research Center
Code 233
P.O. Box 85122
San Diego CA 92186-5122
Telephone (619) 553-6881; DSN 553-6881

APPENDIX C.6

ANONYMOUS QUESTIONNAIRE

U.S. NAVY SHIPBOARD HEALTH SURVEY

ANONYMOUS SUPPLEMENTAL HEALTH AND BEHAVIORAL SURVEY

INFORMATION TO PARTICIPANTS

You are being asked to voluntarily complete this anonymous survey giving candid responses about behavioral issues which may affect health. Your answers are for research use only and cannot be linked to you in any way.

Privacy Act Statement

1. Authority. 5 USC 301, 10 USC 1071. OPNAV Control Symbol 6000-13C. **2. Purpose.** Medical research information will be collected to enhance basic medical knowledge or to develop tests, procedures, and equipment to improve the diagnosis, treatment, or prevention of illness, injury, or performance impairment. **3. Use.** This medical research anonymous information will be used in statistical analyses by the Departments of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. **4. Disclosure.** All information derived from this anonymous survey will be retained at the Naval Health Research Center, San Diego.

If you have any questions about this survey, please contact Dr. Frank C. Garland, Naval Health Research Center, San Diego CA 92186-5122/DSN: 553-6881; Commercial (619) 553-6881.

Version 0.11 20 Jun 95

DEMOGRAPHIC DATA

1. What is your gender?
(Check one box)
 - 1 ☐ Male
 - 2 ☐ Female
2. How old were you on your last birthday?
(Check one box)
 - 1 ☐ 17-19 years
 - 2 ☐ 20-24 years
 - 3 ☐ 25-29 years
 - 4 ☐ 30-34 years
 - 5 ☐ 35+ years
3. Are you of Spanish/Hispanic origin or descent?
(Check one box)
 - 1 ☐ No (not Spanish/Hispanic)
 - 2 ☐ Yes, Mexican, Mexican-American, Chicano
 - 3 ☐ Yes, Puerto Rican
 - 4 ☐ Yes, Cuban
 - 5 ☐ Yes, other Spanish/Hispanic
4. What race do you consider yourself to be?
(Check one box)
 - 1 ☐ White
 - 2 ☐ Black (African-American)
 - 3 ☐ American Indian, Eskimo, or Aleut
 - 4 ☐ Asian or Pacific Islander
 - 9 ☐ Other race (Specify: _____)
5. How much education have you completed?
(Check the one box that describes the highest grade or academic degree that you have completed.)
 - 1 ☐ Some high school
 - 2 ☐ High school graduate or Graduate Equivalency Degree (GED)
 - 3 ☐ Trade or technical school graduate
 - 4 ☐ Some college or AA degree
 - 5 ☐ 4-year college degree or above
6. What is your current marital status?
(Check one box)
 - 1 ☐ Never married
 - 2 ☐ Married
 - 3 ☐ I am not currently married, but I live as married when I am ashore
 - 4 ☐ Separated
 - 5 ☐ Divorced
 - 6 ☐ Widowed

7. How many natural children do you have? (Natural does not include adopted or step-children)
(Fill in one circle)
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ or more
8. When you are ashore, how many of your children (natural, adopted, and step-) live with you?
(Fill in one circle)
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ or more
9. What is your paygrade?
(Check one box)
- 1 ☐ E-1 to E-3
2 ☐ E-4 to E-6
3 ☐ E-7 to E-9
4 ☐ Warrant Officer
5 ☐ O-1 to O-3
6 ☐ O-4 and above
10. How many years have you served in the military?
(Check one box)
- 1 ☐ Less than 1
2 ☐ 1 - 2
3 ☐ 3 - 4
4 ☐ 5 - 9
5 ☐ 10 - 14
6 ☐ 15+
9 ☐ Don't know
11. If you are Navy enlisted, what is your rate (e.g., SN, FN, BT, HM, ASM)? _____
12. If you are Marine enlisted, what is your M.O.S. number? _____
13. Where do you live when your ship is in your home port?
(Check one box)
- 1 ☐ Aboard ship
2 ☐ Navy Housing
3 ☐ BEQ/BOQ
4 ☐ Private residence
9 ☐ Other
14. If you are currently aboard ship, what is your ship's current status?
(Check one box)
- 1 ☐ In home port
2 ☐ At sea
3 ☐ In port other than home port
4 ☐ In shipyard
9 ☐ Other (Please specify): _____

15. What is today's date?

Month: Day: Year: 19 9
 m m d d y y

16. Are you currently deployed? (Deployment is defined as an assignment where your ship has been scheduled to be at sea for **30 or more days**)
(Check one box)

- 1 ☐ No (*Skip to question 20*)
2 ☐ Yes

17. What date did you **begin** this deployment? Month: _m _m Day: _d _d Year: 19 9_y _y

18. What date are you due to return to your home port?

Mo.: Day: Year: 19 9
 m m d d y y

- ☐ Don't know

19. Is this your first deployment?

- 1 ☐ No (*Skip to question 20*)
2 ☐ Yes (*Skip to question 21*)

20. How many times have you deployed aboard Navy ships, **not counting present deployment?**
(Check one box)

- 1 ☐ 1 time
2 ☐ 2 times
3 ☐ 3 times
4 ☐ 4 times
5 ☐ 5-9 times
6 ☐ 10-19 times
7 ☐ 20 or more times
9 ☐ Don't know

21. Overall, how satisfied are you with living conditions aboard this ship?
(Check one box)

- 1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied

BIRTH CONTROL

22. During the past 90 days, were you trying to get pregnant (or cause a partner to become pregnant)?
(Check one box)
- 1 ☐ Yes
2 ☐ No
9 ☐ Don't know
23. Do you believe that you are fertile (capable of having a baby) or capable of making a partner pregnant?
(Check one box)
- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know
24. Who do you believe is responsible for birth control?
(Check one box)
- 1 ☐ Me
2 ☐ Partner
3 ☐ Both of us
9 ☐ Don't know

STD PREVENTION

Note: These questions should not be construed as condoning or promoting any behavior.

25. How many partners have you had sex with during the past 90 days?
(Please fill in one circle on each line)

a. Female partners	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ or more 99 ☐ Don't know
b. Male partners	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ or more 99 ☐ Don't know

26. If you are currently deployed, did you have sex with a local resident from a port you visited?
(Check one box)
- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know

27. During the **past 90 days**, how often did you use a condom while having sex with a person who was not your spouse or someone with whom you have a long-term (lasting at least 6 months) relationship?
(Check one box)

- 1 ☐ Never
- 2 ☐ About one-quarter of the time
- 3 ☐ About half of the time
- 4 ☐ About three-quarters of the time
- 5 ☐ Always
- 6 ☐ I did not have sex during the past 90 days
- 7 ☐ I did not have sex with someone who was not my spouse or long-term partner during the past 90 days

28. (*This question is for Men only*) During the **past 90 days**, when you had sexual intercourse, how often did you (or your partner) use any of the following types of birth control?

- 0 ☐ I did not have sex during the past 90 days
- 1 ☐ I have had a vasectomy (skip comments section)

(Check one box on each line)

	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)	Always (5)	Don't know (9)
a. No birth control method	☐	☐	☐	☐	☐	☐
b. Condom	☐	☐	☐	☐	☐	☐
c. Partner used birth control	☐	☐	☐	☐	☐	☐

**MEN PLEASE STOP HERE
AND GO TO COMMENTS SECTION AT THE END.**

WOMEN ONLY SECTION
BIRTH CONTROL, PREGNANCY TESTING, AND MOTIVATION

29. During the **past 90 days**, when you had sexual intercourse, how often did you (or your partner) use any of the following types of birth control?

- 0 ☐ I did not have sex during the **past 90 days**
 1 ☐ I have had a tubal ligation (skip to question 37).

(Check one box on each line)

	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)	Always (5)	Don't know (9)
a. No birth control method	☐	☐	☐	☐	☐	☐
b. Birth control pills	☐	☐	☐	☐	☐	☐
c. Condom	☐	☐	☐	☐	☐	☐
d. Spermicidal foam or jelly	☐	☐	☐	☐	☐	☐
e. Depo Provera, Norplant	☐	☐	☐	☐	☐	☐
f. Interuterine device (IUD)	☐	☐	☐	☐	☐	☐
g. Diaphragm	☐	☐	☐	☐	☐	☐
h. Rhythm method	☐	☐	☐	☐	☐	☐
i. Partner had a vasectomy	☐	☐	☐	☐	☐	☐

30. Have you had a pregnancy test during the **past 90 days**?
 (Check one box)

- 1 ☐ No (Please skip to question 34)
 2 ☐ Yes
 9 ☐ Don't know

31. What type of test was it? (Check as many boxes as apply).

- 1 ☐ Home pregnancy test (EPT, etc.)
 2 ☐ Pregnancy test by this ship's medical department
 3 ☐ Pregnancy test by another Navy medical facility
 4 ☐ Pregnancy test by another medical facility
 9 ☐ Don't know

32. What was the result of the pregnancy test?
 (Check one box)

- 1 ☐ Negative (Please skip to question 34)
 2 ☐ Positive
 9 ☐ Don't know (Please skip to question 34)

33. Did you inform your Commanding Officer (or appropriate person in your chain of command) of the result of the pregnancy test?

(Check one box)

- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know

34. Have you suspected that you may have been pregnant during the past 90 days?

(Check one box)

- 1 ☐ No
2 ☐ Yes
9 ☐ Don't know

35. Are you pregnant now?

(Check one box)

- 1 ☐ No (Skip to question 37)
2 ☐ Yes
9 ☐ Don't know (Skip to question 37)

36. The reason(s) I became pregnant were:

(Check one box on each line)

- 1☐ Yes 2☐ No This pregnancy was unintentional/unplanned
1☐ Yes 2☐ No I wanted a child (or another child)
1☐ Yes 2☐ No I wanted a brother or sister for a child (or children) I already have
1☐ Yes 2☐ No I wanted to strengthen a relationship
1☐ Yes 2☐ No I wanted to get reassigned to shore
1☐ Yes 2☐ No I wanted to avoid a deployment
1☐ Yes 2☐ No I did not want to wait until I am too old to have children
1☐ Yes 2☐ No The child's father wanted me to have this child
1☐ Yes 2☐ No Other (Specify:) _____

ADDITIONAL COMMENTS AND SUGGESTIONS

37. What could be done during the next deployment to improve your living conditions?
(Please be as detailed as possible)

38. Additional comments

THANK YOU!

Please return to your shipboard coordinator in the envelope provided or to the:
Naval Health Research Center, Code 233
P.O. Box 85122
San Diego CA 92186-5122
Telephone (619) 553-6881; DSN 553-6881

APPENDIX D

MEDICAL DEPARTMENT STRUCTURED DISCUSSIONS

NAVAL HEALTH SHIPBOARD RESEARCH

DEPARTMENT OF HEALTH SCIENCES AND EPIDEMIOLOGY

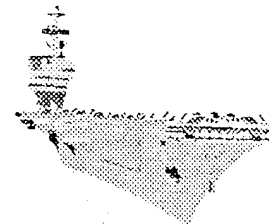
NAVAL HEALTH RESEARCH CENTER, CODE 233

PO BOX 85122

SAN DIEGO, CA 92186-5122

PHONE (619) 553-6896/1224 (DSN 553)

FAX (619) 553-6891



SHIPBOARD HEALTH CARE DISCUSSION GUIDELINES

NAME OF SHIP

LOCATION OF SHIP

NHRC PROJECT COORDINATOR

DATE

NOTES

SECTION ONE SHOULD BE DISCUSSED WITH
SENIOR MEDICAL DEPT REPRESENTATIVE (SMDR)

SECTION TWO SHOULD BE DISCUSSED WITH
THE SENIOR MEDICAL OFFICER (SMO) MO OR
DESIGNATED HEALTH CARE PROVIDER

KR/RS

4/95

REVISION 1

SHIPBOARD HEALTH CARE
DISCUSSION GUIDELINES

SECTION ONE

- PART A: HUMAN RESOURCES
PART B: FISCAL AND EQUIPMENT RESOURCES
PART C: AUTOMATED DATA PROCESSING (ADP) RESOURCES
PART D: LOGS AND RECORDS
PART E: MORBIDITY AND INCIDENCE DATA

<u>NAME</u>	<u>RANK/RATE</u>	<u>TITLE</u>
-------------	------------------	--------------

PERSONNEL IN ATTENDANCE DURING DISCUSSION

Discussion started: _____
(TIME AND DATE)

Discussion ended: _____
(TIME AND DATE)

NOTE

1. SECTION ONE SHOULD BE DISCUSSED WITH SMDR
OR DESIGNATED REPRESENTATIVE

NAVAL HEALTH SHIPBOARD RESEARCH
SHIPBOARD HEALTH CARE

SECTION ONE, PART A: HUMAN RESOURCES

MEDICAL DEPARTMENT BILLET PROFILE

**AUTHORIZED
BILLETS:**

MC MSC PA IDC NC HM

**FILLED
BILLETS:**

MC MSC PA IDC NC HM

1. If there are medical officer's assigned, what NOBC's are represented? _____

2. Within the Hospital Corps community, how many assigned are:

(Male) (Female)

A: What NEC's are represented?

3. Do you feel your human resources are
adequate to meet mission requirements? YES NO

4. Additional comments and concerns regarding human resources:

SECTION ONE, PART B: FISCAL AND EQUIPMENT RESOURCES

1. Do you feel your budget is adequate to support mission requirements? YES NO
2. Is your AMAL adequate to support women's health care needs? YES NO
3. Do you have an AMAL designed specifically for Women at Sea? YES NO
4. Do you have adequate supplies for pregnancy testing? YES NO
(IF NO, IDENTIFY YOUR NEEDS.) _____

5. What, if any, recommendations have you made for AMAL changes to enhance your ability to diagnosis and treat women more effectively?

SECTION ONE, PART C: AUTOMATED DATA PROCESSING (ADP) RESOURCES

1. What type of ADP equipment is being used by medical?

2. Is SAMS (Shipboard Non-Tactical ADP Program (SNAPS) Automated Medical System) being used by medical.

YES NO

3. What version of SAMS is being used? _____

SECTION ONE, PART C: ADP RESOURCES (CONTINUED)

4. Which of the following modules of SAMS are being used:

MODULE

☐ Master Tickler	☐ Medical Encounters
☐ Radiation Health	☐ Occ\Env Health
☐ Supply Management	☐ Training Management
☐ Schedule Management	☐ System Management

(X = BEING USED)

4A. Do you use the following sub-modules of SAMS?

☐ Pharmacy (Supply Management) ☐ Lab (Medical Encounters)

5. What is your primary use of SAMS?

6. If you are not using the Medical Encounter module of SAMS, are you capturing medical encounter information on any type of ADP? YES NO (IF YES, EXPLAIN)

SECTION ONE, PART D: LOGS AND RECORDS

1. What type of information is being recorded in your sick call log?

2. Is a separate log maintained for:

☐ Pharmacy	☐ Lab
☐ X-Ray	☐ Physical Exams
☐ STD	☐ Pregnancy Testing

(X=LOG IS MAINTAINED)

3. What type of information is recorded in these logs?

SECTION ONE, PART E: MORBIDITY AND INCIDENCE DATA

1. How many women have been transferred, since 01 January, 1995, due to pregnancy? _____

2. Can you provide incidence data on the STD's listed below?

<u> / </u> HIV	<u> / </u> Herpes	<u> / </u> Chlamydia	<u> / </u> Gonorrhea	<u> / </u> V-Warts
---------------------	------------------------	---------------------------	---------------------------	-------------------------

(USE JAN 01 1995 AS REFERENCE DATE) male/female

3. Approximately, how many patients are seen by medical on a daily basis? _____

4. Approximately, how many female patients are seen by medical on a daily basis? _____

5. How many Medical Evacuations have been conducted since 01 January, 1995. _____

SECTION ONE, PART E: MORBIDITY AND INCIDENCE DATA (continued)

6. Were any of these Medical Evacuations due to pregnancy?
YES NO (HOW MANY) _____
7. What was the total number of pregnancy tests conducted aboard this ship beginning 01 January, 1995? _____ (TESTS)
8. How many women took **more than one** pregnancy test aboard this ship during the period beginning 01 January, 1995? _____ (WOMEN)
9. How many women were confirmed pregnant by a pregnancy test aboard this ship beginning 01 January, 1995? _____ (WOMEN)
10. Has there been a increase in the number of women requesting pregnancy testing prior to deployment? YES NO
11. Since 01 January, 1995, how many days has this ship been:
_____ (AT SEA) _____ (IN PORT)

SENIOR MEDICAL DEPARTMENT REPRESENTATIVE (SMDR) COMMENTS, CONCERNS AND OR RECOMMENDATIONS:

SENIOR MEDICAL DEPARTMENT REPRESENTATIVE (SMDR) COMMENTS,
CONCERNS AND OR RECOMMENDATIONS: (continued)

OBSERVATIONS BY PROJECT COORDINATOR:

SHIPBOARD HEALTH CARE
DISCUSSION GUIDELINES

SECTION TWO

PART A: HEALTH CARE PROVIDER ISSUES
PART B: TRAINING AND EDUCATION / HEALTH AWARENESS

<u>NAME</u>	<u>RANK/RATE</u>	<u>TITLE</u>
-------------	------------------	--------------

PERSONNEL IN ATTENDANCE DURING DISCUSSION

Discussion started: _____
(TIME AND DATE)

Discussion ended: _____
(TIME AND DATE)

NOTE

1. SECTION TWO SHOULD BE DISCUSSED WITH
SENIOR MEDICAL OFFICER (SMO) OR DESIGNATED
HEALTH CARE PROVIDER

SECTION TWO, PART A: HEALTH CARE PROVIDER ISSUES

1. When examining female patients, does the layout of your facility allow for adequate privacy? YES NO
2. Is your staff able to provide female stand-by's for female patients? YES NO
3. Are non-medical females routinely used as stand-by's? YES NO
4. As a provider, do you feel you have been adequately trained to perform GYN exams and treat common female specific problems? YES NO

5. As a provider, do you have the diagnostic equipment that you need to diagnosis illnesses in women? YES NO
(IF NO, WHAT ARE YOUR SHORTFALLS?) _____

6. Do you have adequate supplies to conduct PAP Smears? YES NO
(IF NO, WHAT ARE YOUR SHORTFALLS?) _____

7. Have there been occasions, while deployed, that you have had to medically transfer female patients to an increased echelon of care? YES NO
8. In these cases of medical transfers, were there any female patients transferred because of inadequate supplies, equipment or medical expertise? YES NO

SECTION TWO, PART A: HEALTH CARE PROVIDER ISSUES (CONTINUED)

9. With reference to the number of confirmed pregnancies, are you aware of how many were unplanned? YES NO
-

10. With reference to any unplanned pregnancies, do you know if contraceptives were being used? YES NO

11. Which of the following contraceptives are available to your crew?

____ Condoms ____ BCP's ____ Diaphragms
____ Depo Provera ____ Foam ____ IUD
____ Norplant ____ Surgical Intervention

(X=AVAILABLE)

12. Is your supply of these contraceptives adequate? YES NO
(IF NO, WHAT ARE YOUR SHORTFALLS?) _____
-

13. Of the available contraceptives, rank the top three by demand.

____ Condoms ____ BCP's ____ Diaphragms
____ Depo Provera ____ Foam ____ IUD
____ Surgical Intervention

(NUMBER 1 = MOST DEMANDED)

14. Once a pregnancy has been confirmed, is the confirmation verified by a shore facility? YES NO

15. When women report aboard, on PCS, is pregnancy testing a routine part of the check-in procedure. YES NO

SECTION TWO, PART A: HEALTH CARE PROVIDER ISSUES (CONTINUED)

16. Are women tested for pregnancy, prior to an extended deployment, as routine protocol? YES NO

SECTION TWO, PART B: TRAINING AND EDUCATION / HEALTH AWARENESS

1. Aboard this ship, which of the following in-services are conducted on routine basis: (X=BEING CONDUCTED)

____ Birth control methods ____ Health promotion

____ STD ____ Navy pregnancy policy ____ Other

2. Aboard this ship, which of the following handouts / pamphlets are readily available?

____ Birth control methods ____ Health promotions

____ STD ____ Navy pregnancy policy

____ Other (X=READILY AVAILABLE)

3. Concerning the Navy's policy on pregnancy, how is the policy explained to your personnel?

4. What do you feel are the major issues are facing women aboard this ship?

SENIOR MEDICAL OFFICER (SMO) OR HEALTH CARE PROVIDER COMMENTS,
CONCERNS AND OR RECOMMENDATIONS:

OBSERVATIONS BY PROJECT COORDINATOR:

APPENDIX E

**DEPARTMENT OF THE NAVY (DoN)
PREGNANCY POLICY**

CO	
XD	
AO	
SD	
CPOC	

DEPARTMENT OF THE NAVY
Office of the Secretary
1000 Navy Pentagon
Washington DC 20350-1000

SECNAVINST 1000.10
ASN(M&RA)
6 February 1995

SECNAV INSTRUCTION 1000.10

From: Secretary of the Navy
To: All Ships and Stations

Subj: DEPARTMENT OF THE NAVY
(DON) POLICY ON PREGNANCY

Ref: (a) DOD 4165.63-M of SEP 93
(DOD HOUSING MANAGEMENT
MANUAL) (NOTAL)
(b) U.S. Code, Title 10

1. Purpose

a. To provide a DON policy for all military personnel on pregnancy and issues related to pregnant servicewomen that will build positively on existing programs in the Navy and Marine Corps to ensure equality of opportunity while maintaining operational readiness;

b. To expand the requirements for education and training;

c. To establish a requirement for the collection of objective data, and analysis of information for use in evaluation of DON pregnancy policies;

d. To help guide the department's future efforts in this area.

2. Applicability. This instruction applies to all DON military personnel, both Regular and Reserve, except midshipmen.

3. Background

a. The mission of the DON requires the highest level of operational readiness to meet the nation's strategic goals. A full complement of highly trained personnel is essential to maintaining operational readiness in deployable units.

b. Women are full participating members of the Navy-Marine Corps Team. DON leadership recognizes that pregnancy is a natural event that can occur in the lives of Navy and Marine Corps servicewomen, and is not a presumption of medical incapability. Pregnancy could affect a command's operational readiness by temporarily limiting a servicewoman's ability and availability to perform all assigned tasks. Consideration of this reality requires establishment of policies and procedures which accord due regard to the demands of parenting in the Service and address career and health issues.

4. Policy. It is DON policy that:

a. Pregnancy and parenthood are compatible with a naval career. The DON will ensure the health care needs of pregnant servicewomen are met and will accommodate the career and welfare needs of pregnant servicewomen to the greatest extent possible, consistent with the needs of the naval service.

b. Military responsibilities, including the expeditionary nature of our Navy and Marine Corps, often add factors for serious consideration for our servicemen and servicewomen. Appropriate and thorough family planning information will be made available to our servicemen and servicewomen throughout our training establishment and at the unit level. Our goal is to ensure all personnel are aware of the broad range of medical, legal, financial, chaplain and other services available to assist and encourage our men and women in making family planning decisions that are supportive of both their naval service and their parental responsibilities.

c. Advice concerning personal decisions, including issues of faith, character, parental responsibilities, individual core values and medical concerns, will be readily available to those who seek it.



d. Services will provide detailed guidance for the assignment and management of pregnant servicewomen.

e. A servicewoman who is transferred from her unit because of pregnancy will be returned to the same billet, or an equivalent billet in a command of the same type duty, whenever possible to the same command, following her pregnancy and any related convalescent leave and period of deferment.

f. A servicewoman who suspects she is pregnant is responsible for promptly confirming her pregnancy through testing by an appropriate medical provider and informing her commanding officer of confirmation.

g. Regarding the requirement for appropriate housing for pregnant servicewomen, a pregnant active duty servicewoman with no family members may reside in Bachelor Quarters for her full term. If the servicewoman requests, the host commander may authorize a pregnant servicewoman to occupy off-base housing and be paid a basic allowance for quarters (BAQ) up to her twentieth week of pregnancy. From the twentieth week forward, the host commander must approve such a request. Reference (a) outlines the policy for application to government family housing. Payment of BAQ will be in accordance with applicable pay and entitlement regulations.

h. Active duty servicewomen will be given priority in receiving routine obstetric/gynecologic (OB/GYN) care in all DON medical facilities. Further, it is DON policy that active duty servicewomen assigned to imminently deploying units or positions (within 3 months) will be given priority over other active duty servicewomen receiving routine OB/GYN care in all DON medical facilities. Under Chapter 55 of reference (b), active duty servicemembers have a statutory entitlement to care in medical facilities of the uniformed services. Such care is authorized for other categories of beneficiaries on a space available basis.

i. Medical limitations and/or assignment restrictions, or periods of absence because of pregnancy or associated medical care shall not be the basis for downgrading marks or adverse comments. As always, evaluations and fitness reports shall be based on demonstrated performance.

j. A pregnant servicewoman may request separation from active duty. Requests for separation will not normally be approved unless there are extenuating circumstances or the request otherwise complies with criteria for separation promulgated by the Services.

k. The chain of command shall ensure that servicemembers will be afforded the opportunity to take advantage of available legal assistance for advice regarding their options in establishing paternity.

5. Action. The Chief of Naval Operations (CNO) and Commandant of the Marine Corps (CMC) shall:

a. Implement policies of this instruction no later than 60 days from date of signature.

b. Notify the Assistant Secretary of the Navy (Manpower and Reserve Affairs) of substantive changes to Service policies not less than 30 days prior to implementation of those changes.

c. Provide appropriate training as necessary to ensure consistency with the goals of paragraph 4b.

d. Ensure command support for all servicewomen to obtain OB/GYN care while on active duty. Reinforce current policy to ensure active duty servicewomen are afforded priority for routine OB/GYN care consistent with paragraph 4h.

e. Within 1 year of the issuance of this instruction and biennially thereafter, provide a report to ASN(M&RA) on the following:

(1) Service analyses concerning the effect of pregnancy and other medical, administrative, and disciplinary factors on deployability of servicewomen and servicemen.

(2) Assessment of health care risks associated with pregnancy and other types of medical conditions that may exist for servicewomen and servicemen assigned to operational/deployable commands and support commands with significant occupational health considerations (e.g., ship and airplane construction/repair facilities, etc).

(3) Assessment of the training provided to officers and enlisted personnel to achieve the goals of paragraph 4b.

(4) Assessment of the impact of the policy and actions ensuring priority for routine OB/GYN care for active duty servicewomen and, within that category, first priority for servicewomen assigned to imminently deploying units or positions.

(5) Assessment of the worldwide availability of and access to appropriately staffed and equipped military OB/GYN medical support. This assessment should include the possible impact of

mobilization and assignment of pregnant reserve servicemembers to stations within the continental U.S.

6. Report. The reporting requirement contained in this instruction is assigned Report Control Symbol SECNAV 1000-1 and is approved for 3 years from the date of this instruction.

JOHN H. DALTON
Secretary of the Navy

Distribution:
SNDL Parts 1 and 2
MARCORPS Codes PCN 71000000000 and
71000000100

SECNAV/OPNAV Directives Control Office
Washington Navy Yard Building 200
901 M Street SE
Washington DC 20374-5074 (30 copies)

Stocked:
Naval Aviation Supply Office
ASO Code 103
5801 Tabor Avenue
Philadelphia PA 19120-5099 (300 copies)

*in 1. must be able to provide
support on a long distance
basis.*

APPENDIX F
CONGRESSIONAL RECOMMENDATIONS

CONGRESSIONAL ACTIONS ON FY 1994 BUDGET
TABLE 1

PRESIDENT'S BUDGET	HASC Report 103-200, 7/30/93	SASC	HAC Report 103-254, 9/22/93	SAC Report 103-153, 10/04/93	JOINT AUTHORIZATION Report 103-357, 11/10/93	JOINT APPROPRIA- TION
No request	+20M Page 181 - Committee is concerned with the dearth of medical research and study of the unique medical problems related to female members of the armed forces as well as other women eligible for medical services from the department. ...recognizes that women in the military continue to face a host of health issues, related to combat and other in-line-of-duty situations, including stress, exposure to toxins, reproductive health, menopause, mental health and sexual violence. Many issues are of unique concern to women in the military, but have been overlooked by the military medical research and service provider community. The expanding population of women in the military offers a distinctive and reliable number of potential subjects for long-term, gender-specific research studies. Studying this cohort and monitoring the military medical care system for gender-specific issues will provide the military with valuable clinical data for both military and civilian women. To address this problem...recommends the establishment of a Defense Women's Health Research Center. These provisions would further require that clinical medical research conducted or supported by the department shall include women and members of minority groups, and that data collected by such research be coded to allow for analysis of gender or racial differences among subjects.	None	+40M Page 192 - The Committee has recommended \$40,000,000 only to be used for research on women's health issues related to service in the armed forces.	None	+20M Page 375 - The Committee directs the Department to provide a report evaluating the provision of preventive and primary health care services through military medical treatment facilities and the Civilian Health and Medical Program of the uniformed services to female members of the uniformed services and female covered beneficiaries eligible for health care under chapter 55 of title 10, United States Code. This report shall include a description of the demographics of the population, the leading categories of morbidity and mortality, a description of the numbers and types of health care providers employed in providing health care, and descriptions of programs the Department has in place or plans to implement to assess the health needs of women.	+40M - special interest Page 110 - DD Form 1414 for fiscal year 1994 shall show the items marked with an asterisk ("*") as Congressional interest items, a change to which requires prior approval.

Table 1 - Page 1

CONGRESSIONAL ACTIONS ON FY 1995 BUDGET
TABLE 2

PRESIDENT'S BUDGET	HASC Report 103-449, 5/10/94	SASC Report 103-282, 6/14/94	HAC Report 103-562, 6/27/94	SAC Report 103-321, 7/29/94	JOINT AUTHORIZATION Report 103-701, 8/12/94	JOINT APPROPRI- ATION Report 103-747, 9/26/94
No Request	+ \$40M	+ \$40M to PE 63002D	+ \$40.0M	+ \$40M	+ \$40M	+ \$40M
	Page 145 - At a time of women's growing presence and new role in the military, the committee is concerned with the dearth of medical research and study of the unique medical problems relating to female members of the armed forces and other women eligible for medical services from the Department. The Department of Defense has established a tri-service research program with the Army acting as the executive agency for implementation of this research. The committee commends the Department and the ... (USAMRDALC) for its development of a strong program that focuses on: epidemiological research and data base development; policies and standards issues; and solutions-oriented research. The committee applauds the Department and the Army for its rapid development of a program that minimizes overhead costs and will, if sustained, add significantly to the quality of life of women service members, add to the readiness of the forces, and add to women's medical care. This section would authorize \$40.0 million in PE 603002A to continue this program.	Page 104 - The committee supports the decision ... to carry out medical research relating to the service of women in the military in a decentralized fashion rather than through... a center... supports the proposed tri-service research program on women's health with the Army ... as the executive agency. ... recommends a provision that would provide a statutory charter for the program... adds \$40.0 million to PE 63002D to continue the program... clear to the committee that the increasing participation of women in the military... created new requirements for medical research. These requirements span the military services and are insufficiently addressed by the much larger medical research programs of the Department of Health and Human Services (HHS), which focus on the general health care needs of the American population. Requirements include research on combat stress and trauma, on exposure to toxins and environmental and occupational hazards associated with military service, and on patterns of illness in military servicewomen.	Page 273 - The Committee has included \$40,000,000 for the Defense Women's Health Program. The Committee notes that Magee-Women's Hospital in Pittsburgh is a national leader in addressing women's health problems and encourages the Department of the Army to work with the hospital as it develops and implements this program.	Page 238 - ...the Committee approves \$40,000,000 to continue the Defense Women's Health Program. Page 355 - The Committee directs that a portion of the funding for the Defense Women's Health Program be used for a comprehensive preventive research program on Paget's disease, osteoporosis, osteogenesis imperfecta, and related bone diseases.	Page 41 - (Note: Statutory basis for program continuation) Sec. 241. Defense Women's Health Research Program. (a) ...The program shall continue to serve as the coordinating agent for multi-disciplinary and multi-institutional research within the Department of Defense on women's health issues related to service in the Armed Forces. The program shall continue to coordinate with research supported by other Federal agencies that is aimed at improving the health of women. (b)... The Departments of the Army, Navy and Air Force shall each participate in the activities under the program. (c)... The Secretary of Defense shall designate the Secretary of the Army to be the executive agent for administering the program.	CONTINUED

Table 2 - Page 1

TABLE 2 CONTINUED

PRESIDENT'S BUDGET	HASC Report 103-449, 5/10/94	SASC Report 103-282, 6/14/94	HAC Report 103- 562, 6/27/94	SAC Report 103-321, 7/29/94	JOINT AUTHORIZATION Report 103-701, 8/12/94	JOINT APPROPRI- ATION
		The key to the defense women's health program, as it is for the rest of the DoD medical research program, is to focus limited DoD resources on the specialized needs of service members related to their military service and to leverage, not duplicate, the \$11.5 billion annual research program of the National Institutes of Health and the \$2.0 billion annual investment of the Centers for Disease Control and Prevention. The Committee is especially concerned, for example, that DOD conduct adequate research into the possible mental and physical threats that women may face if they become prisoners of war.		Page 355 - The Committee urges the Defense Women's Health Program to work closely with the National Institute of Arthritis, the lead Institute on bone diseases. Page 356 - The Committee instructs the Department of Defense to ensure that the Women's Health Research Program support at least two research centers within schools of social work in communities with large concentrations of military families (including the University of Hawaii). The centers would conduct research on the impact on the health functioning of women in the military of psychosocial factors resulting from family violence, military deployment, and downsizing, with special attention to research on intervention strategies undertaken by social workers as primary providers of health care to military families.	Sec 241 (continued) (d) ... If the Secretary of Defense intends to change the plan for the implementation of the program previously submitted to the Committees on Armed Services of the Senate and House of Representatives, the amended plan shall be submitted to such committees before implementation. (e) ... The program shall include the following activities regarding health risks and health care for women in the Armed Forces: (1) The coordination and support activities described in section 251 of Public Law 103-160. (2) Epidemiologic research regarding women deployed for military operations, including research on patterns of illness and injury, environmental and occupational hazards (including exposure to toxins), side-effects of pharmaceuticals used by women so deployed, psychological stress associated with military training, deployment, combat and other traumatic incidents, and other conditions of life, and human factor research regarding women so deployed. (3) Development of a data base to facilitate long-term research studies on issues related to the health of women in military service, and continued development and support of a woman's health information clearinghouse to serve as an information resource for clinical, research, and policy issues affecting women in the Armed Forces. (4) Research on policies and standards issues, including research supporting the development of military standards relating to training, operations, deployment, and retention and the relationship between such activities and factors affecting women's health. (5) Research on interventions having a potential for addressing conditions of military service that adversely affect the health of women in the Armed Forces. (f) ... Of the amount authorized to be appropriated pursuant to section 201, \$40,000,000 shall be available for the Defense Women's Health Research Program referred to in subsection (a).	

Table 2 - Page 2

APPENDIX G
SICK CALL LOG



Instructions for Filling Out Sick Call Log

General Instructions. Please:

- ▶ Fill out one section of this form for every person seen, both genders, including persons who are picking up prescriptions, birth control pills, etc.
- ▶ Fill in every box for every person seen. Leave no blanks.
- ▶ Print legibly. Use check marks to clearly mark only one box at a time.
- ▶ If in doubt about how to fill in an item, fill it in as completely as possible and explain the problem in the margin.

Detailed Instructions:

- ▶ Date and ship status: Print full date at top of sheet, for example ▶ 22 NOV 96. Check ▶ At sea or ▶ In port. Start new page daily or if status changes.

▶ Patient Information:

- ▶ Time-in: Print time patient entered treatment area, not time that diagnosis or treatment started, e.g., if patient arrived at 14:25 but was not seen until 15:00, print 14:25.
- ▶ Time-out: Print the time the patient left the treatment area.

- 1. Name: Print the patient's last name and first initial. Use all capital block letters, e.g. ▶ JONES, J.

- 2. SSN: Print the patient's full SSN using this format ▶ 123-45-6789.

- 4. Unit: Check the appropriate category. If none of the categories applies, check "Other" and describe, e.g. ▶ ARMY.

- 5. Paygrade: Print paygrade, such as ▶ E - 6.

- 7. Rate: Use three-letter rate code when applicable, otherwise use two-letter rate code, e.g. ▶ MM (Machinist's Mate).

- 8. Division: Print division of ship where patient is assigned to work.

- 9. Complaint: Print patient's complaint, such as ▶ ACUTE ABDOMINAL PAIN, or ▶ DIARRHEA X 2 DAYS.

- 10. Diagnosis: This item is very important for accurate scientific analyses. Provide the most specific diagnosis possible in this facility, with sufficient detail for ICD-9 coding. If there are two or more diagnoses, list the most important diagnosis first, followed by others in order of importance.

- Check all services and procedures performed and prescriptions provided to the patient during this visit.

- Check the number of prescriptions and print the names of all drugs and supplies provided. Many procedures will not be listed.

- If a procedure is not listed, use the "Other" category and print the name of the procedure. Be as specific as possible.

- For example, print "TYPHOID IMMUNIZATION" (not "immunization").

▶ Service/procedure:

▶ Treatment status:

- 1. Senior provider: Check only the most senior provider seen. For example, if the patient is seen by a hospital corpsman and by a medical officer, check ▶ M.O.

- 2. Visit status: If this is the patient's first visit for this diagnosis during this episode of illness or for this injury, check ▶ Initial.

- If this is the patient's second or later visit for this diagnosis during this episode of illness or for this injury, check ▶ Follow-up.

- 3. Duty status: Check the duty status assigned at the end of this visit.

- 4. Disposition: Check the appropriate category. If other, describe in the space provided.

- ▶ If you have any questions or problems with this sick call log, please contact: Dr. F. C. Garland, Head, Department of Health Sciences and Epidemiology, Naval Health Research Center, P. O. Box 85122, San Diego CA 92186-5122. Telephone: Commercial: (619) 553-6881; Fax: (619) 553-6891 (Vers. 1.4, 2 Nov 94)

Acceptable Abbreviations for Diagnoses

If an abbreviation not listed below is used, print out all words clearly the first time used.

ALWAYS GIVE THE MOST SPECIFIC DIAGNOSIS POSSIBLE

► **Acceptable abbreviations**

BCPR . . . Birth control pill refill only
 CMP . . . Chondromalacia of patella
 CXP . . . Chest pain
 DJD . . . Degenerative joint disease
 DT . . . Delirium tremens
 F/B . . . Foreign body
 Flu . . . (specify site, e.g., eye)
 Influenza
 FX . . . Fracture (specify site)
 GC . . . Gonorrhea
 GU . . . Gonococcal urethritis
 HCG NEG . . . Negative pregnancy test
 HCG POS . . . Positive pregnancy test
 HNP . . . Herniated nucleus pulposis
 HTN . . . Hypertension, essential
 INH F/U . . . INH follow-up only
 IBS . . . Irritable bowel syndrome
 K/S . . . Kidney stone
 LAC . . . Laceration
 LBP . . . Lower back pain
 Migr HA . . . Migraine headache
 Mono . . . Mononucleosis
 M/S trau . . . Musculoskeletal trauma (specify site)
 NGU . . . Non-gonococcal urethritis
 NSU . . . Non-specific urethritis
 NV . . . Nausea and vomiting
 O/D . . . Overdose (specify drug)

PFB . . . Pseudofolliculitis barba
 PID . . . Pelvic inflammatory disease (use only when a more specific diagnosis is not possible)
 PUD . . . Peptic ulcer disease
 SOB . . . Shortness of breath
 ST . . . Sore throat, organism not cultured
 STI . . . Soft tissue injury, not severe (specify site)
 Strep . . . Streptococcal sore throat
 TB . . . Tuberculosis, active (do not use for inactive TB or positive PPD)
 Tens HA . . . Tension headache
 TM perforation . . . Tympanic membrane perforation
 URI . . . Upper respiratory infection due to common cold virus (if other type, specify)
 UTI . . . Urinary tract infection, nonspecific, not gonococcal

► Abbreviations for use when no diagnosis is made

Admin . . . Administrative visit only
 N/S . . . No show
 LBE . . . Left before examination
 Pap . . . Pap smear only
 PE . . . Physical examination only
 Pelvic . . . Normal pelvic exam

► **Acceptable qualifiers**

ETOH . . . Associated with alcohol
 R/O . . . Rule out (specify, e.g., R/O strep throat) (use only if it is not feasible to provide a final shipboard diagnosis)
 S/P . . . Status post (specify, e.g., S/P tx radius) (use for follow-up visits only)

► **Anatomic sites. Any common medical abbreviation for site is acceptable, e.g.: OD, OS, RUQ, etc.**

► **Unacceptable abbreviations**
 ► **Note: The following are unacceptable abbreviations in the diagnosis area.**

F/U Follow-up (not a diagnosis) Always give the diagnosis, e.g., S/P FX RADIUS.
 HCG Do not use unless result is given, e.g., HCG NEG.
 L/S Limited service (not a diagnosis).
 R/S Restricted service (not a diagnosis).
 RX Prescription refill (not a diagnosis).

Acceptable Abbreviations for Services and Procedures

If an abbreviation not listed below is used, print out all words clearly the first time used.

ALWAYS BE AS SPECIFIC AS POSSIBLE

► Acceptable abbreviations for reference to tests, services, procedures, and medications only (the following are not acceptable in the diagnosis area, except as noted):

ASA	Aspirin	HCG	pregnancy test (Always give result in diagnosis area)
BCP	Birth control pills	hs	At bedtime
bld	Twice a day	Hct	Hematocrit
C & S	Culture and sensitivity	I & D	Incise and drain
CBC	Complete blood count	O & P	Ova and parasites
CXR	Chest x-ray	Pap	Papanicolaou smear
FBS	Fasting blood sugar	Pcn	Penicillin
Gtts	Drops	PPD	Skin test for tuberculosis
HCG	HCG pregnancy test (Always give result in diagnosis area)	PRN	As needed
qld	Four times a day	Sx	Symptoms
T/C	Throat culture	Tcn	Tetracycline
tlid	Three times a day	Tx	Treatment
UA	Urinalysis	WNL	Within normal limits

SICK CALL LOG

NHRC WILL TRANSFORM DIAGNOSIS INTO AN ICD-9 CODE
PLEASE PROVIDE SUFFICIENT, LEGIBLE INFORMATION

DATE: _____ SHIP STATUS: ☐ 1 AT SEA ☐ 2 IN PORT

PATIENT INFORMATION				COMPLAINT & DIAGNOSIS		SERVICE / PROCEDURE		TREATMENT STATUS						
TIME IN:	1. NAME:	2. SSN:	3. SEX: ☐ 1 MALE ☐ 2 FEMALE	4. ATTACHED TO: ☐ 1 SHIP'S CREW ☐ 2 AIRWING ☐ 3 CRUDESORU ☐ 4 OTHER:	5. PAYOR: E: _____ O: _____ W: _____	6. AGE:	7. RATE: E: _____ O: _____ W: _____	8. COMPLAINT	9. DIAGNOSIS	10. PHARMACY ☐ 1 PHARMACY ☐ 2 X-RAY ☐ 3 LAB TEST ☐ 4 PHYSICAL EXAM ☐ 5 PREGNANCY TEST ☐ 6 PRESCRIPTIONS Number: ☐ 1 ☐ 2 ☐ 3+ Name(s): _____	11. SENIOR PROVIDER SEEN ☐ 1 H.M. ☐ 2 M.O. ☐ 3 PA/NP ☐ 4 OTHER:	12. VISIT STATUS ☐ 1 INITIAL ☐ 2 FOLLOWUP	13. DUTY STATUS ☐ 1 FULL DUTY ☐ 2 LIGHT DUTY ☐ 3 NO DUTY/SIO	14. DISPOSITION ☐ 1 RESOLVED ☐ 2 RETURN PRN ☐ 3 RETURN VISIT ☐ 4 REFERRED ☐ 5 HOSPITALIZED ☐ 6 MEDEVAC
TIME IN:	1. NAME:	2. SSN:	3. SEX: ☐ 1 MALE ☐ 2 FEMALE	4. ATTACHED TO: ☐ 1 SHIP'S CREW ☐ 2 AIRWING ☐ 3 CRUDESORU ☐ 4 OTHER:	5. PAYOR: E: _____ O: _____ W: _____	6. AGE:	7. RATE: E: _____ O: _____ W: _____	8. COMPLAINT	9. DIAGNOSIS	10. PHARMACY ☐ 1 PHARMACY ☐ 2 X-RAY ☐ 3 LAB TEST ☐ 4 PHYSICAL EXAM ☐ 5 PREGNANCY TEST ☐ 6 PRESCRIPTIONS Number: ☐ 1 ☐ 2 ☐ 3+ Name(s): _____	11. SENIOR PROVIDER SEEN ☐ 1 H.M. ☐ 2 M.O. ☐ 3 PA/NP ☐ 4 OTHER:	12. VISIT STATUS ☐ 1 INITIAL ☐ 2 FOLLOWUP	13. DUTY STATUS ☐ 1 FULL DUTY ☐ 2 LIGHT DUTY ☐ 3 NO DUTY/SIO	14. DISPOSITION ☐ 1 RESOLVED ☐ 2 RETURN PRN ☐ 3 RETURN VISIT ☐ 4 REFERRED ☐ 5 HOSPITALIZED ☐ 6 MEDEVAC
TIME IN:	1. NAME:	2. SSN:	3. SEX: ☐ 1 MALE ☐ 2 FEMALE	4. ATTACHED TO: ☐ 1 SHIP'S CREW ☐ 2 AIRWING ☐ 3 CRUDESORU ☐ 4 OTHER:	5. PAYOR: E: _____ O: _____ W: _____	6. AGE:	7. RATE: E: _____ O: _____ W: _____	8. COMPLAINT	9. DIAGNOSIS	10. PHARMACY ☐ 1 PHARMACY ☐ 2 X-RAY ☐ 3 LAB TEST ☐ 4 PHYSICAL EXAM ☐ 5 PREGNANCY TEST ☐ 6 PRESCRIPTIONS Number: ☐ 1 ☐ 2 ☐ 3+ Name(s): _____	11. SENIOR PROVIDER SEEN ☐ 1 H.M. ☐ 2 M.O. ☐ 3 PA/NP ☐ 4 OTHER:	12. VISIT STATUS ☐ 1 INITIAL ☐ 2 FOLLOWUP	13. DUTY STATUS ☐ 1 FULL DUTY ☐ 2 LIGHT DUTY ☐ 3 NO DUTY/SIO	14. DISPOSITION ☐ 1 RESOLVED ☐ 2 RETURN PRN ☐ 3 RETURN VISIT ☐ 4 REFERRED ☐ 5 HOSPITALIZED ☐ 6 MEDEVAC
TIME IN:	1. NAME:	2. SSN:	3. SEX: ☐ 1 MALE ☐ 2 FEMALE	4. ATTACHED TO: ☐ 1 SHIP'S CREW ☐ 2 AIRWING ☐ 3 CRUDESORU ☐ 4 OTHER:	5. PAYOR: E: _____ O: _____ W: _____	6. AGE:	7. RATE: E: _____ O: _____ W: _____	8. COMPLAINT	9. DIAGNOSIS	10. PHARMACY ☐ 1 PHARMACY ☐ 2 X-RAY ☐ 3 LAB TEST ☐ 4 PHYSICAL EXAM ☐ 5 PREGNANCY TEST ☐ 6 PRESCRIPTIONS Number: ☐ 1 ☐ 2 ☐ 3+ Name(s): _____	11. SENIOR PROVIDER SEEN ☐ 1 H.M. ☐ 2 M.O. ☐ 3 PA/NP ☐ 4 OTHER:	12. VISIT STATUS ☐ 1 INITIAL ☐ 2 FOLLOWUP	13. DUTY STATUS ☐ 1 FULL DUTY ☐ 2 LIGHT DUTY ☐ 3 NO DUTY/SIO	14. DISPOSITION ☐ 1 RESOLVED ☐ 2 RETURN PRN ☐ 3 RETURN VISIT ☐ 4 REFERRED ☐ 5 HOSPITALIZED ☐ 6 MEDEVAC
TIME IN:	1. NAME:	2. SSN:	3. SEX: ☐ 1 MALE ☐ 2 FEMALE	4. ATTACHED TO: ☐ 1 SHIP'S CREW ☐ 2 AIRWING ☐ 3 CRUDESORU ☐ 4 OTHER:	5. PAYOR: E: _____ O: _____ W: _____	6. AGE:	7. RATE: E: _____ O: _____ W: _____	8. COMPLAINT	9. DIAGNOSIS	10. PHARMACY ☐ 1 PHARMACY ☐ 2 X-RAY ☐ 3 LAB TEST ☐ 4 PHYSICAL EXAM ☐ 5 PREGNANCY TEST ☐ 6 PRESCRIPTIONS Number: ☐ 1 ☐ 2 ☐ 3+ Name(s): _____	11. SENIOR PROVIDER SEEN ☐ 1 H.M. ☐ 2 M.O. ☐ 3 PA/NP ☐ 4 OTHER:	12. VISIT STATUS ☐ 1 INITIAL ☐ 2 FOLLOWUP	13. DUTY STATUS ☐ 1 FULL DUTY ☐ 2 LIGHT DUTY ☐ 3 NO DUTY/SIO	14. DISPOSITION ☐ 1 RESOLVED ☐ 2 RETURN PRN ☐ 3 RETURN VISIT ☐ 4 REFERRED ☐ 5 HOSPITALIZED ☐ 6 MEDEVAC

000003

000054