

AD-A256 603



2

U.S. NAVY HEALTH SURVEILANCE:
PART 2. RESPONSES TO A HEALTH PROMOTION
TRACKING SURVEY

S DTIC
ELECTE
OCT 28 1992
A **D**

S. I. Woodruff

T. L. Conway

92-28071

Report No. 92-5

Approved for public release distribution unlimited

NAVAL HEALTH RESEARCH CENTER
P.O. BOX 85122
SAN DIEGO, CALIFORNIA 92186-5122

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND



U.S. Navy Health Surveillance:

Part 2. Responses to a Health Promotion Tracking Survey

Susan I. Woodruff

Terry L. Conway

DTIC QUALITY INSPECTED 3

Naval Health Research Center

Health Sciences and Epidemiology Department

P.O. Box 85122

San Diego, California 92186-5122

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution	
Availability	
A-1	

Report No. 92-5, supported by the Bureau of Naval Personnel (PERS-60) and the Naval Medical Research and Development Command, Department of the Navy, under Work Order No. N0002292WRWW578 and Research Work Unit 63706N.M0095.005-6106. The views expressed in this report are those of the authors and do not reflect the official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government. Approved for public release, distribution unlimited.

Summary

Problem

At present, no systematic monitoring procedure is in place that can provide health information on an ongoing basis about the successes or deficiencies in Navy health promotion. In response to the need for health surveillance, the Naval Health Research Center developed a system consisting of a brief survey, the Health Promotion Tracking Form (HPTF), used during the routine physical examination periodically required of all personnel. The purpose of this study was to explore the feasibility and usefulness of the system by presenting the responses to the HPTF and comparing them to results of other Navy studies.

Method

Navy medical facilities representing the northwest, southwest, northeast, and southeast regions of the U.S. used the HPTF in their physical examination clinics for a one-month period. Patients undergoing routine examinations ($n=747$) were asked to complete HPTF items addressing tobacco and alcohol use, back problems, physical readiness, exercise, body fat, dietary habits, and basic demographics. Medical personnel completed items related to the patient's blood pressure, cholesterol and triglyceride levels, and body fat. The health promotion tracking (HPT) sample was weighted to reflect demographic distributions of the Navy at large and responses of the HPT sample were compared, when possible, to those reported in other Navy samples.

Results

Overall, health indicators collected during the physical examination setting using the HPTF were very similar to results from other more extensive one-time studies. Smoking prevalence, amount of cigarettes smoked, smokeless tobacco use, back problem prevalence, height, weight, body fat composition, hypertension prevalence, cholesterol levels, and elevated cholesterol rates resembled those obtained in recent studies. Mean systolic blood pressure among the HPT sample differed slightly from a comparison sample. Further, seat belt use, several dietary habits, alcohol consumption, exercise behavior, and physical readiness test performance showed some differences in that the HPT sample reported somewhat more positive health status and practices in these areas than did comparison samples.

Conclusions

The comparison studies were conducted 2-3 years prior to the present study, therefore some differences between the HPT and comparison samples are reasonable because of continuing Navy health promotion efforts and general societal trends toward improved health. Overall, the proposed health promotion tracking system, consisting of a brief survey given at the time of the periodic routine examination, appears to be a workable option for providing accurate and timely Navy health promotion data on a continuing basis.

U.S. Navy Health Surveillance:

Part 2. Responses to a Health Promotion Tracking Survey

Introduction

Reflecting public health concerns similar to the nation's, the U.S. Navy has established large-scale health promotion programs aimed at preventing disease and fostering positive health practices among its members (1). At present, however, no systematic monitoring procedure is in place that can provide health information on an ongoing basis to policy makers about the successes or deficiencies in Navy health promotion.

In response to the need for health surveillance, the Naval Health Research Center (NHRC) was tasked with developing and testing the feasibility of an automatic, standardized system to collect the information needed to track progress in meeting Navy health promotion goals. The proposed system consisted of a brief yet comprehensive survey, the Health Promotion Tracking Form (HPTF), that was designed to be used during the routine physical examination periodically required of all Navy active duty members.

In earlier stages, the HPTF was pilot tested and modified to enhance understandability and utility of the survey (2). The revised version of the HPTF, shown in Appendix A, was then tested in an expanded feasibility study that included a broader sample of physical examination clinics. The adequacy of the revised HPTF was assessed by examining amounts of missing data on individual items. In addition, the suitability of the routine physical examination setting was evaluated by examining the degree to which data collected from routine physical examination patients are representative of the Navy at large.

In an initial report, Woodruff and Conway (3) presented results of the feasibility/adequacy study, concluding that the proposed health promotion tracking system was a viable and workable health surveillance option. Further, recommendations were made for assuring the collection of reliable, accurate health promotion information for the Navy. With respect to demographic representativeness of the physical examination patient sample, the authors concluded that weighting procedures should be employed to adjust sample distributions so that they would more accurately reflect the Navy population.

The purpose of this companion report was to explore further the usefulness of the HPTF by presenting survey responses subsequent to the application of recommended weighting procedures.

Where possible, comparisons with other Navy studies are made to judge the validity of the HPTF and the data collection setting.

Method

Procedure and Measures

Navy medical facilities representing the northwest, southwest, northeast, and southeast geographic regions of the continental U.S. used the HPTF for one month in their field clinics and departments responsible for conducting routine physicals. Clinic staff instructed all Navy active duty personnel visiting the clinic for routine examinations to complete the "Patient" section of the HPTF, a single-page, machine-scannable survey consisting of 28 items considered important health/risk indicators (see Woodruff and Conway (3), for a complete description). The "Patient" section of the survey contained items assessing eating habits, seat belt use, back problems, tobacco and alcohol use, exercise behavior, Physical Readiness Test (PRT) scores, and demographic characteristics. Clinic personnel furnished patients' medical data in the "Medical Examiner" portion of the HPTF, including information related to the patient's physical characteristics, blood pressure, and lipid profile.

Participants

The sample of 747 routine physical examination patients completing HPTFs was approximately 89% male and 11% female. Mean age was 29.1 years with a range of 18-60 years. The racial composition of the sample was approximately 78% white, 12% black, and 10% other. All but 2% had completed high school, and 47% had more than 12 years of education. About 80% were enlisted personnel, and 65% were shore-based individuals. Approximately 36% of the sample had never been married, 55% were currently married or living as married, and 9% were separated, divorced, or widowed.

Analysis

As described in Woodruff and Conway (3), relative to the Navy at large, the health promotion tracking (HPT) sample overrepresented shore-based personnel, married individuals, officers, more highly educated personnel, and persons belonging to other (versus white and black) racial/ethnic groups. Because health status and health behavior are known to vary with education and socioeconomic status (4), a statistical weighting procedure (5) was used to make the HPT sample as representative as possible of the entire Navy. Three variables thought to have

potentially important implications for health and health risks were used in the weighting procedure: officer versus enlisted status, education, and race. After weighting, the HPT sample resembled the overall Navy in terms of officer and enlisted proportions (13% are officer and 87% are enlisted), education (5.4% have less than 12 years, 73% have twelve years, and 22% have more than 12 years of education), and race (78% are white, 16% are black, and 6% are other).

The analyses conducted were descriptive in nature, mainly focusing on response distributions and means for HPTF items. In addition, means and percentages were compared to assess differences between the HPT sample findings and those reported in other recent Navy studies. Frequently, differences in item wording between surveys allowed only general comparisons between samples rather than close comparisons involving tests of statistical significance. When possible, however, *t*- and *z*-tests were conducted to test for differences between sample means and proportions. Because of the large sample sizes and the number of tests performed, all statistically significant differences were further assessed by examining the effect size. This was accomplished by computing the amount of variance accounted for by group (i.e., sample) membership. Those group effects accounting for at least 1% of the variance in the HPTF variable were considered of sufficient magnitude to report as indicating differences between the HPT and comparison samples.

Navy comparison samples extensively used in the present study included:

- (a) a 1988 Navywide sample ($n=4,288$) randomly selected to provide Physical Readiness Test (PRT) results and lifestyle information (6),
- (b) a Navy random sample ($n=4,797$) selected as part of the 1988 DoD worldwide study that examined the prevalence of substance use and health behaviors in military personnel (7),
- (c) a 1989 sample of Navy personnel ($n=10,866$) for whom blood pressure readings were collected in conjunction with the Navy's blood pressure screening program (8), and
- (d) a 1989 sample of Navy personnel ($n=5,487$) undergoing routine physical examinations for whom blood lipid profiles (e.g., total cholesterol) were obtained (9). In this final comparison sample, the original data were obtained and blood lipid estimates were recomputed after the sample was weighted to reflect Navy age distributions.

As a result, some of the data reported here for that sample may differ from estimates given in the original report by Trent (9).

Results

Eating Habits

Comparisons between the weighted HPT sample and the 1988 Navywide sample showed some similarities and some differences in dietary habits (Table 1). Over half of the individuals in both samples reported that they had frequently skipped breakfast (i.e., ate breakfast two times a week or less) and about 10% of individuals in both samples reported overeating three or more times during the past week. In addition, t-test/variance analyses showed that the frequency of eating eggs, low-fat meats, fruits, added salt, and high fiber grain was not significantly different in the two samples. However, considering other food choices, the HPT sample reported slightly more positive diet practices than the 1988 Navywide sample in that they reported less frequent consumption of high fat meats and high fat dairy products. Further, the eating of fish, vegetables, and low-fat dairy products was more frequent in the HPT sample than the 1988 Navywide sample.

Tobacco and Alcohol Use

Table 2 presents frequency distributions and mean responses for the HPT sample on tobacco and alcohol use items. Approximately 36% of the sample reported cigarette use, 42% reported to have never smoked, and 22% reported they were former smokers. Although exact comparisons with other survey results are not possible because tobacco use items were worded differently in the various surveys, a general comparison showed that 39% of individuals in the 1988 Navywide sample reported that they "smoke cigarettes now," a percentage quite similar to the 36% found in the HPT sample. The mean response among HPT smokers showed the average amount smoked was about 2 pack a day, an amount that closely corresponds to the 1988 Navywide estimate of 19.8 cigarettes a day.

Approximately 9% of the HPT sample reported using some smokeless tobacco once or more a month. This is very similar to that reported in the 1988 Navywide sample in which 10% reported smokeless tobacco use once or more per month during the previous 12 months. About 6% in both the HPT and 1988 Navywide samples reported **daily** use of smokeless tobacco.

Table 1

Comparison of HPT Sample and 1988 Navywide Sample on Dietary Items

	%								
	0	1	2	3	4	5	6		
How many times during the past week did you eat:	Never this week	1 or 2 times this wk	3 or 4 times this wk	5 or 6 times this wk	Once a day this wk	Twice a day this wk	3+ times a day this wk	Mean	SD
Breakfast									
HPT Sample	17	34	21	10	19	-	-	1.80	1.38
Navywide Sample	19	34	17	11	19	-	-	1.79	1.38
Eggs									
HPT Sample	39	43	10	2	5	0.4	0	0.91	1.03
Navywide Sample	30	41	15	6	5	0	1	1.21	1.22
Fish									
HPT Sample	55	36	7	1	1	0.2	0	0.59*	0.80
Navywide Sample	37	45	12	3	2	0	1	0.92	0.99
Low-fat meats									
HPT Sample	16	37	31	7	6	2	1	1.64	1.26
Navywide Sample	16	38	30	9	4	1	2	1.60	1.23
High-fat meats									
HPT Sample	19	39	28	8	4	1	0.4	1.44*	1.11
Navywide Sample	6	36	32	12	8	2	3	2.00	1.33
Fruits									
HPT Sample	11	25	22	15	15	8	5	2.41	1.66
Navywide Sample	14	26	25	14	13	4	4	2.12	1.55
Vegetables									
HPT Sample	4	13	24	22	21	11	5	2.96*	1.47
Navywide Sample	12	22	26	18	14	5	3	2.25	1.52
Salt (added)									
HPT Sample	33	20	16	10	9	6	6	1.84	1.86
Navywide Sample	30	22	14	7	11	7	8	2.02	1.98
High fiber grain									
HPT Sample	22	31	21	9	12	4	1	1.76	1.48
Navywide Sample	27	26	22	10	10	3	2	1.67	1.51
Low-fat dairy									
HPT Sample	17	28	19	11	13	8	4	2.17*	1.71
Navywide Sample	48	21	13	7	7	2	2	1.20	1.54
High-fat dairy									
HPT Sample	36	33	16	8	7	1	0.5	1.23*	1.31
Navywide Sample	13	30	26	13	9	4	5	2.07	1.58
Too much food (overate)									
HPT Sample	65	24	6	1	4	-	-	0.56	1.01
Navywide Sample	60	31	6	2	2	-	-	0.54	0.82

Note. Weighted \bar{n} for the HPT sample ranged from 1,273-1,329. \bar{n} for the Navywide sample ranged from 3,023-3,973.

* HPT sample significantly different than Navywide sample: % of variance accounted for by group was 2.5% for Fish, 3.9% for High-fat meats, 4.4% for Vegetables, 7.2% for Low-fat dairy, and 6.1% for High-fat dairy.

Table 2
Tobacco and Alcohol Use in HPT Sample

	%				Mean	SD	n
	0	1	2	3			
Never Smoked		Former Smoker	< 1 pack per day	1-1.9 packs per day			
	4			2+ packs per day			
Smoking Tobacco Use	42	22	21	14	1.12	1.14	1,331
	0	1	2	3			
		Former User	1-4 times a month	4-6 times a week			
			1-4 times a month	2-3 times a day			
Smokless Tobacco Use	77	12	2	2	0.61	1.53	1,292
	0	1	2	3			
		Non-drinker	1-3 drinks per year	4-15 drinks per wk.			
			1-3 drinks per mo.	16-35 drinks per wk.			
				36+ drinks per wk.			
Alcohol Use	20	12	19	27	2.24	1.51	1,323
	1	2	3	4			
		3-6 months	7-11 months	1-2 years			
Time Since Quitting [Former Smokers Only]	13	8	7	22	3.91	1.42	262
	24	13	5	19	3.35	1.65	120
Time Since Quitting [Former Drinkers Only]							

Consumption of alcohol in the HPT sample was considerably lower than that reported elsewhere, with 78% of the HPT sample consuming three or fewer alcoholic drinks per week, compared to 57% in the 1988 Navywide sample. While 12% of the 1988 Navywide sample reported drinking 16 or more drinks per week, only 5% of the HPT sample reported such consumption. In addition, 20% of individuals in the HPT sample considered themselves abstainers compared to 15% of Navy respondents in the DoD survey. Those in the HPT sample that drank consumed, on average, around 1-3 drinks per week, substantially less than the average amount of 0.96 ounces a day (about 2 drinks) reported in the DoD-Navy survey.

As mentioned earlier, 22% of the HPT sample considered themselves former smokers, a percentage that corresponds closely with the 21% reported in the DoD-Navy study. Considering the time since quitting smoking, about half of the former smokers in the HPT sample had quit over two years ago, and an additional 28% had quit fairly recently (within the last 11 months). The 13% that considered themselves former drinkers likewise varied in terms of the time since quitting drinking: 38% had quit over 2 years ago while 42% had quit within the last 11 months.

Exercise and Physical Readiness Test (PRT) Performance

Table 3 presents frequency distributions and mean responses to items on the HPTF addressing exercise and physical readiness. About 86% of HPT personnel reported exercising twice a week or more, compared to 70% in the DoD-Navy study. Expressed in terms of mean values, the HPT group reported exercising 3.3 times per week, a higher frequency than the twice-weekly average reported in the 1988 Navywide study. Over a third of HPT respondents indicated that they were spending one-half to a full hour in each exercise session.

PRT information provided on the HPTF suggested that the HPT sample is in a state of good fitness. Practically all of those medically cleared to take all exercise components of the PRT passed; about 4% failed the PRT compared to 8% in the 1988 Navywide study. The average overall classification score for those performing the complete PRT was 2.37, a value between Good and Excellent. This value exceeded the 1.92 average reported in the 1988 Navywide study. Injuries on the PRT were rare among the HPT sample, but when they occurred, they usually took place during the 1.5-mile run versus other exercise components.

One final exercise/fitness item provided by the HPT sample was body fat category. Percentages of the HPT sample within normal, overfat, and obese categories were similar to those

Exercise and Physical Readiness Test Performance in HPT Sample

11

reported in the 1988 Navywide study, which were based on participants' official PRT/body fat results. The 1988 Navywide study indicated that 6% and 3% of the Navy was overfat and obese, respectively, compared to 8% and 3% self-reported in the HPT sample.

Seat Belt Use and Back Problems

A full 72% of the HPT sample reported that they wore seat belts almost all of the time (96-100% of the time). Although no Navy comparison data could be found, this percentage contrasts sharply with a 1985 national survey in which 34% of U.S. adults reported wearing seat belts all or most of the time (10). Approximately 12% of the HPT sample wore seat belts half the time, or less.

Considering history of back problems, 49% of the HPT sample said they had never had a back problem, 23% reported one isolated episode, 13% reported one episode with continuing pain, and 15% said they had experienced two or more back problems. Approximately 15% of the HPT sample reported that they **currently** had back pain. Although ideal comparison data were not available to validate this finding, the 15% lies between the percentage of 1988 Navywide respondents reporting at least some back symptoms (21%) and those reporting moderate or worse back symptoms (11%) during the last seven days.

Physical Characteristics, Blood Pressure and Lipid Profile

Medical examiners provided additional information about the physical examination patient's physical attributes and health, the majority of which was related to blood pressure and blood lipid levels. Table 4 presents mean values for the HPT group for most of the examiner-provided items, and presents comparisons with other recent Navy studies.

Mean height and weight were comparable for the HPT sample and the 1988 Navywide sample. Medical examiners reported that 92% of the HPT sample were within normal body fat range, 6% were overfat, and 2% were obese. These percentages correspond closely to the official PRT/body fat results reported in the 1988 Navywide study and to the body fat assessments self-reported by the HPT sample.

As shown in Table 4, mean systolic blood pressure was significantly higher in the HPT sample than in the 1989 blood pressure comparison sample, although diastolic blood pressure did not differ significantly between the two samples. In addition to mean blood pressure comparisons, hypertension prevalence was also examined. Elevated blood pressure was defined

Table 4

Comparison of HPT Sample and Other Navy Samples on Blood Pressure and Cholesterol Items

Medical Examiner-Provided Item	HPT Sample			Comparison Samples	
	Mean	SD	Range	Mean	SD
Weight (in pounds)	175.1	31.3	95-302	172.5 ^a	29.2
Height (in inches)	69.5	3.8	54-80	69.5	3.3
Systolic Blood Pressure (mmHg)	121.6 ^a	12.4	90-176	118.3 ^b	13.0
Diastolic Blood Pressure (mmHg)	74.2	10.5	20-134	71.6	10.2
Total Cholesterol (mg/dL)	196.2	43.0	74-421	196.0 ^c	42.1
LDL Cholesterol (mg/dL)	125.2	37.8	19-317	120.7	37.4
HDL Cholesterol (mg/dL)	48.1	14.5	22-200	49.7	12.7
Triglycerides (mg/dL)	113.7	70.5	20-575	119.6	88.4
Total:HDL Ratio	4.3	1.4	1.5-10.6	4.1	1.3
Risk Prevalences (i.e., percent at risk)					
Hypertension (%)	9.6	-	-	8.9	-
Hypercholesterolemia (%)	31.0	-	-	30.0	-

^a Height/weight values based on official PRT results of a subset of Navywide study participants (n=2,700), 1988.^b Blood pressure values based on readings from 10,866 active duty Navy personnel, 1989.^c Cholesterol values based on lipid profiles of 5,487 active duty Navy personnel, 1989.

* HPT sample significantly different than comparison sample: % of variance accounted for by group was 6.2%.

in accordance with the Navy instruction that specifies acceptable blood pressure level as a diastolic pressure of less than 90 mmHg and a systolic pressure of less than 140 mmHg. Based on these cutpoints, 9.6% of the HPT sample had elevated blood pressure, a percent not significantly different from the 8.9% reported in the 1989 comparison study, and also very similar to the 9.4% reported by Cohen and Curly (11).

As shown in Figure 1, half of the HPT hypertension cases demonstrated an elevation in systolic blood pressure alone. Approximately 29% showed an elevation in diastolic blood pressure only, and about 21% were elevated on both systolic and diastolic blood pressure. These systolic and diastolic contributions to the overall hypertension rate were similar to those reported for the 1989 comparison sample. Comparisons shown in Figure 2 indicated that the percent of hypertensives in the HPT sample and the 1989 comparison sample were not significantly different by sex.

One final blood pressure-related variable provided by medical personnel addressed methods of blood pressure control. Specific methods were indicated for about two percent of the total HPT sample. Among this small group, the most common methods of blood pressure control indicated by the medical examiners were medication (30%) and diet (30%), followed by exercise (25%). These results provided by medical personnel for the HPT individuals contrast somewhat with those reported by participants in the 1988 Navywide study in which exercise (54%), diet (46%), and weight control (31%) were most prevalent.

As shown in Table 4, blood lipid values were quite similar between the HPT sample and a 1989 sample of routine physical examination patients weighted to represent Navy age groups accurately. Mean total cholesterol for the two samples was virtually the same (196 mg/dL). Other risk indicators including LDL cholesterol, HDL cholesterol, triglyceride level, and total cholesterol:HDL-cholesterol ratios did not differ significantly between the two samples.

The Navy's recommended cutpoints for cholesterol risk were used (>200 mg/dL for ages 18-24, >220 mg/dL for ages ≥ 25) to determine the percent at risk on total cholesterol. About 31% of the HPT sample overall were at risk compared to 30% in the 1989 sample, a nonsignificant difference. Comparison of prevalence of risk by sex for the HPT sample and the weighted 1989 sample showed that, in both samples, about equal proportions (30%) of men and women were at risk (Figure 3).

Figure 1

**Systolic and Diastolic Contributions to Overall Hypertension Rate
in HPT Sample (9.6%) and Navy Comparison Sample (8.9%)**

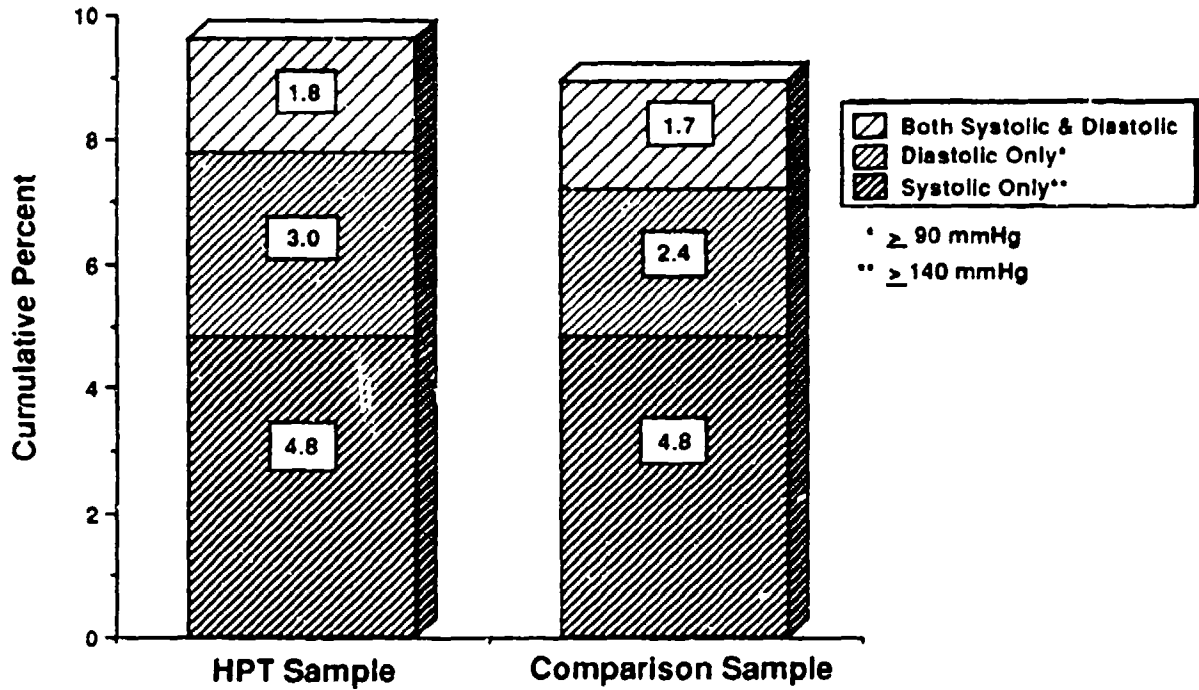


Figure 2

**Percent of Hypertensive Men and Women in HPT
Sample and Navy Comparison Sample**

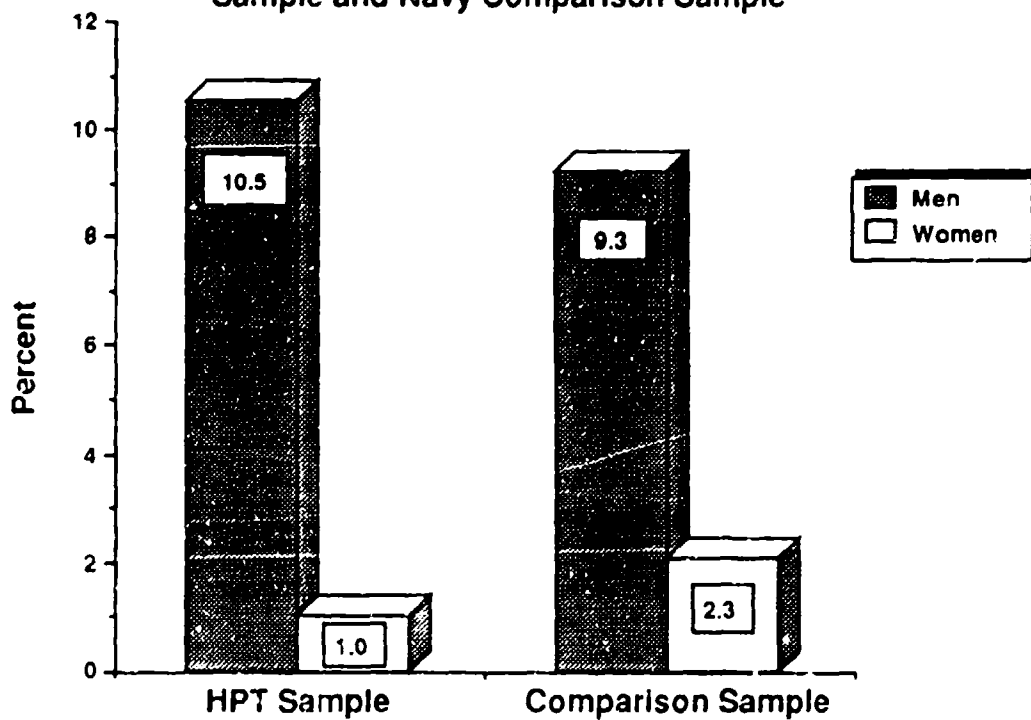
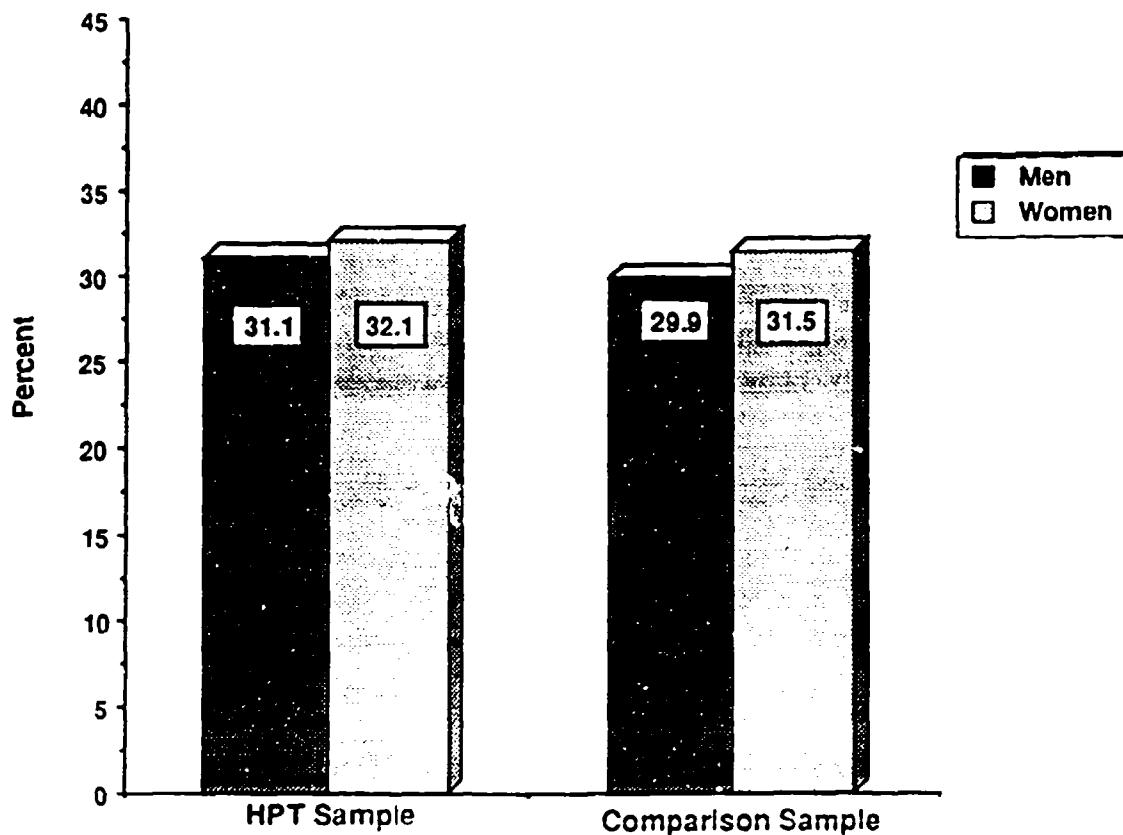


Figure 3
Percent of Men and Women in HPT Sample and
Navy Comparison Sample with Total Cholesterol Levels at Risk



Discussion

In general, results presented in this report lent further support for the feasibility and usefulness of giving a brief health survey during routine physicals for the purpose of collecting needed information to track Navy health promotion progress. Health-related measures that were collected during physical examinations using the Health Promotion Tracking Form were, overall, very similar to results from other more extensive one-time surveys. For example, smoking prevalence, amount of cigarettes smoked, smokeless tobacco use, back problem prevalence, height, weight, body fat composition, hypertension prevalence, cholesterol levels, and elevated cholesterol rates resembled those obtained in recent studies. Although mean systolic blood pressure differed slightly between the HPT and comparison sample, other blood pressure measures (i.e., diastolic blood pressure, overall hypertension risk prevalence, and systolic and diastolic contributions to overall hypertension risk prevalence) were similar to those reported in the comparison study.

There were some differences between the HPT sample and comparison samples, particularly in the areas of several food choices, alcohol consumption, exercise behavior, physical readiness test performance, and seat belt use. Although tests of statistical significance could not always be performed, a reliable pattern emerged in which more positive health status and practices were reported in the HPT sample than in comparison studies. These differences may be due in part to the fact that the Navy comparison studies were conducted 2-3 years prior to the present study, and health indicators may have changed during that time. The Navy has intensified its efforts to promote good dietary habits, support tobacco abstinence, deglamorize and prevent the misuse of alcohol and other drugs, and encourage physical exercise and fitness. Indeed, during the 1980's, positive trends among Navy personnel in several health promotion areas have been documented (6,7). Continued improvement within the last few years, attributable to both Navy health promotion efforts and general societal trends, is reasonable.

The widely divergent finding between the HPT sample and civilian norms related to seat belt use deserves mention. The U.S. adult data were collected in 1985, six years prior to the present study. During that time, seat belt usage is likely to have increased due to greater public awareness and seat belt legislation. Another factor that could partially explain the large difference is the fact that Navy personnel are required to wear seat belts on all Navy bases.

Although the health promotion tracking system seems to be a suitable method for providing accurate and timely data on a continuing basis, additional information is needed and important issues remain. For example, improvements to the HPTF and the data collection procedure that were suggested in Woodruff and Conway (3) should be implemented and tested in a larger, random sample of physical examination clinics including ships. Also, alternatives need to be investigated regarding the periodicity of survey administration and duration of data collection (e.g., one month annually, continuously, intermittently) to determine an appropriate data-capture schedule. Related to this is the question of whether all physical examination clinics should participate in health promotion tracking or if sampling procedures should be used to collect data from a subset of clinics. Finally, computerized systems are being developed to collect patients' physical examination data (e.g., Report of Physical Examination using Micro 88 developed at Naval Aerospace Medical Institute) by attending medical personnel. This technology may also provide a useful method for routinely collecting the information needed to monitor progress in meeting Navy health promotion goals.

References

1. Secretary of the Navy. Health promotion program (SECNAV Instruction 6100.5). Washington, DC: Department of the Navy, 1986.
2. Hoiberg A, White JF. Tracking Health Promotion in the U.S. Navy. San Diego, CA: Naval Health Research Center, Report No. 91-24.
3. Woodruff SI, Conway TL. U.S. Navy Health Surveillance: Part 1. Feasibility of a Health Promotion Tracking System. San Diego, CA: Naval Health Research Center, Report No. 91-25.
4. Public Health Service. Healthy people 2000: National health promotion and disease prevention objectives. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, 1990; DHHS publication no. (PHS) 90-50212.
5. SPSS Inc. SPSS-X User's Guide (3rd ed.). Chicago: SPSS Inc., 1988.
6. Conway TL, Trent LK, Conway SI. Physical Readiness and Lifestyle Habits among U.S. Navy Personnel during 1986, 1987, and 1988. San Diego, CA: Naval Health Research Center, Report No. 89-24, 1989.
7. Bray RM, Marsden ME, Guess LL, Wheelless SC, Iannacchione VG, Keesling SR. 1988 Worldwide Survey of Substance Abuse and Health Behaviors among Military Personnel. Research Triangle Park, NC: Research Triangle Institute, 1988.
8. Nice DS, Trent LK. Prevalence of Hypertension among Active Duty Navy Personnel. San Diego, CA: Naval Health Research Center, Report No. 90-5, 1990.
9. Trent LK. Prevalence of elevated serum cholesterol in personnel of the U.S. Navy. Public Health Reports 1991, 106:167-175.
10. Public Health Service. Health promotion and disease prevention: United States, 1985. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, 1988; DHHS publication no. (PHS) 88-1591.
11. Cohen ME, Curley M. Hypertension rates in Navy and Marine Corps personnel from dental exam blood pressure records. Paper presented at the Twenty-Eighth Navy Occupational Health and Preventive Medicine Workshop, Navy Environmental Health Center, Norfolk, VA, 1986.

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 March 1992		3. REPORT TYPE AND DATE COVERED Interim
4. TITLE AND SUBTITLE U.S. Navy Health Surveillance: Part 2. Responses to a Health Promotion Tracking Survey			5. FUNDING NUMBERS Program Element: 63706N Work Unit Number: M0095. 005-6106	
6. AUTHOR(S) Woodruff, S.I. and Conway, T.L.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Health Research Center P. O. Box 85122 San Diego, CA 92186-5122			8. PERFORMING ORGANIZATION Report No. 92-5	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Naval Medical Research and Development Command National Naval Medical Center Building 1, Tower 2 Bethesda, MD 20889-5044			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) No systematic monitoring procedure is in place that can provide information about successes or deficiencies in Navy health promotion efforts. This study tested the feasibility and usefulness of a brief Health Promotion Tracking Form (HPTF) used at the time of the periodic physical examination required of all Navy personnel. Clinics in four geographic regions used the HPTF for a 1-month period. Patients undergoing routine physicals were asked to complete HPTF items addressing health-related and demographic items. Medical examiners completed HPTF items related to blood pressure, cholesterol, and triglyceride levels. Responses made by the health promotion tracking (HPT) sample were compared to other recent Navy studies. Overall HPT health indicators were very similar to results from other more extensive one-time studies. Smoking prevalence, amount of cigarettes smoked, smokeless tobacco use, back problem prevalence, body fat, hypertension prevalence, cholesterol levels, and elevated cholesterol rates resembled those obtained in recent studies. Mean systolic blood pressure among the HPT sample differed slightly from a comparison sample. Further, seatbelt use, several dietary habits, alcohol consumption, exercise behavior, and physical readiness test performance showed some differences in that the HPT sample reported more positive health status and practices in these areas than did comparison samples. Overall, the proposed system appears to be a workable option for providing accurate and timely Navy health promotion data on a continuing basis.				
14. SUBJECT TERMS Health Surveillance Health Promotion			15. NUMBER OF PAGES 24	
Health Survey Navy Personnel			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	

SUPPLEMENTARY

INFORMATION

TRACKING HEALTH PROMOTION DATA

EXRATA
AD A 256 603

To the Navy Active Duty Member Receiving a Routine Physical Examination:

You are being asked to participate in a project evaluating the usefulness of a health promotion tracking form. Please read the Privacy Act and Consent Statements. If you consent to participate, please: (1) print and sign your name on the lines below and (2) answer the items "For the Patient" by completely darkening the circles with a NO. 2 pencil. Thank you for your participation!

PRIVACY ACT STATEMENT

1. **Authority.** 5 USC 301. 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.** Medical research information will be used for statistical analyses and reports by the Departments of Navy, Defense, and other U.S. Government agencies, provided this use is compatible with the purpose for which the information was collected. Use of the information may be granted to non Government agencies or individuals by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. 4. **Disclosure.** I understand that all information contained in the Consent Statement or derived from the study described therein 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 mentioned in the preceding paragraph, and I have been informed that failure to agree to such disclosure may negate the purposes for which the study is being conducted.

CONSENT STATEMENT

This research, which is part of the "Health and Physical Readiness Program (HAPR) Evaluation," will be used to develop an effective means of collecting health promotion and physical readiness data. Your participation also involves having your medical examiner complete items pertaining to your cholesterol and blood pressure levels. All of the data gathered will be stored at the Naval Health Research Center and will be used for research purposes only. The data will not become part of anyone's official records and will be reported in such a way that no individual can be identified. You are asked to participate voluntarily, and we hope that you will consent to have the requested information provided to us. There will be no direct benefits to you nor any risks or discomfort. By signing this form, you are indicating that you understand the purpose of this study, and that you are free to withdraw your consent at any time without prejudice to you or your naval career. Should questions arise, please contact Susan Woodruff, Naval Health Research Center, P.O. Box 85122, San Diego, CA 92186-5122, Autovon 553-8466 or Commercial (619) 553-8466.

Name (please print) _____ Signature _____ Date _____

For the Patient

Is this visit for a ...

- ☐ Routine physical examination
☐ Follow-up to routine physical examination
☐ Other _____

EATING HABITS DURING THE PAST WEEK

How many times during the past week did you eat:

	Never	1-2	3-4	5-6	Once	Twice	3 or more times a day
Breakfast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eggs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low-fat meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High-fat meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salt (added to food)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High fiber (grains, cereal)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low-fat dairy products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High-fat dairy products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too much food (overeating)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Patient:

Please continue on other side

RANK/
PAY
GRADE

<input type="radio"/> E1
<input type="radio"/> E2
<input type="radio"/> E3
<input type="radio"/> E4
<input type="radio"/> E5
<input type="radio"/> E6
<input type="radio"/> E7
<input type="radio"/> E8
<input type="radio"/> E9
<input type="radio"/> W1
<input type="radio"/> W2
<input type="radio"/> W3
<input type="radio"/> W4
<input type="radio"/> O1
<input type="radio"/> O2
<input type="radio"/> O3
<input type="radio"/> O4
<input type="radio"/> O5
<input type="radio"/> O6
<input type="radio"/> O7
<input type="radio"/> O8
<input type="radio"/> O9
<input type="radio"/> O10

YEARS OF
EDUCATION

<input type="radio"/> 0
<input type="radio"/> 1
<input type="radio"/> 2
<input type="radio"/> 3
<input type="radio"/> 4
<input type="radio"/> 5
<input type="radio"/> 6
<input type="radio"/> 7
<input type="radio"/> 8
<input type="radio"/> 9

SOCIAL SECURITY
NUMBER

<input type="radio"/> 0
<input type="radio"/> 1
<input type="radio"/> 2
<input type="radio"/> 3
<input type="radio"/> 4
<input type="radio"/> 5
<input type="radio"/> 6
<input type="radio"/> 7
<input type="radio"/> 8
<input type="radio"/> 9

AGE

<input type="radio"/> 0
<input type="radio"/> 1
<input type="radio"/> 2
<input type="radio"/> 3
<input type="radio"/> 4
<input type="radio"/> 5
<input type="radio"/> 6
<input type="radio"/> 7
<input type="radio"/> 8
<input type="radio"/> 9

SEX

- ☐ Male ☐ Female

MARITAL
STATUS

- ☐ Never married
☐ Married or living as married
☐ Separated/
 Divorced
☐ Widowed

RACE
ETHNICITY

- ☐ Caucasian
☐ Black
☐ Hispanic
☐ American Indian/
 Alaskan Native
☐ Asian
☐ Pacific Islander
☐ Filipino
☐ Other

SEAT BELT USAGE

How much do you wear your seatbelt?

- ☐ 10% of the time or less
☐ 11 - 50% of the time
☐ 51 - 75% of the time
☐ 76% - 95% of the time
☐ 96% - 100% of the time

PRESENT BACK STATUS

- ☐ Currently have no back pain
☐ Currently have back pain

BACK PROBLEMS

- ☐ Never experienced
☐ Once but no further pain
☐ Once with lingering pain
☐ Two or more separate back problems

SMOKING TOBACCO USE

- 1 Never smoked
- 2 Less than 1 pack per day
- 3 1-1.9 packs per day
- 4 2 or more packs per day

Former Smokers Only

- 1 Time Since Quitting
- 2 Less than 3 months
- 3 3 to 6 months
- 4 7 to 11 months
- 5 1 to 2 years
- 6 More than 2 years

SMOKELESS TOBACCO USE

- 0 Never used
- 1 Former user
- 2 Less than once a month
- 3 1-4 times per month
- 4 2-6 times per week
- 5 Once a day
- 6 2-3 times per day
- 7 4 or more times per day

ALCOHOL USE

- 0 Nondrinker
- 1 About 12 drinks per year
- 2 2-3 drinks per month
- 3 1-3 drinks per week
- 4 4-15 drinks per week
- 5 16-35 drinks per week
- 6 More than 36 drinks per week

Former Drinkers Only

- 1 Time Since Quitting
- 2 Less than 3 months
- 3 3 to 6 months
- 4 7 to 11 months
- 5 1 to 2 years
- 6 More than 2 years

Exercise

- 0 No. of times per week
- 1 1
- 2 2
- 3 3
- 4 4
- 5 5
- 6 6
- 7 7

Average time spent per exercise session

- 0 None
- 1 Less than 15 min.
- 2 15-30 min.
- 3 31-60 min.
- 4 61-120 min.
- 5 Over 120 min.

OVERALL PRT CLASSIFICATION SCORE

(From last PRT)

- 1 Outstanding
- 2 Excellent
- 3 Good
- 4 Satisfactory
- 5 Fail
- 6 Pass
- 7 Total medical waiver

ANY INJURIES DURING OFFICIAL PRT?

- 0 Never injured
- 1 Injured during:
 - 0 Curl-up
 - 1 Push-up
 - 2 Sit-reach
 - 3 1.5 mile run
 - 4 500 yd. swim

BODY FAT

(From last PRT)

- 1 Normal
- 2 Over fat
- 3 Obese

STOP HERE!

THANK YOU FOR
COMPLETING THIS SURVEY!

For the Medical Examiner

To the Medical Examiner:

- o For the next few weeks, have every Navy active duty member receiving a routine physical examination complete the consent form and the "Patient" section using a No. 2 pencil. **Please check the patient-provided information for completeness.**
- o Fill in this "Medical Examiner" section yourself using a No. 2 pencil. If necessary, please retain the Form and complete it when laboratory results are received.
- o Return completed Forms in the provided envelopes to: Naval Health Research Center, P.O. Box 85122, Code 240, San Diego, CA 92186-5122.
- o Your assistance is crucial and greatly appreciated.



DEPARTMENT OF THE NAVY
NAVAL HEALTH RESEARCH CENTER
P.O. BOX 85122
SAN DIEGO, CA 92186-5122

POC: Susan Woodruff AV 553-8466

WEIGHT

in lbs

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

HEIGHT

in inches

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

BLOOD PRESSURE

SYSTOLIC mmHg

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

DIASTOLIC mmHg

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

TOTAL

CHOLESTEROL mm/dL

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

HDL

CHOLESTEROL mm/dL

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

CHOLESTEROL TRIGLYCERIDES

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

BLOOD PRESSURE

CONTROL

- 0 N/A
- 1 Medication
- 2 Diet
- 3 Exercise
- 4 Weight control
- 5 Other

BODY FAT

- 1 Normal
- 2 Over fat
- 3 Obese

**END
FILMED**

DATE:

11-93

DTIC