

# NMCPHC Workplace Health Risk Assessment, CY 2016

## Executive Summary

The NMCPHC Workplace Health Risk Assessment (HRA) is a 22-question anonymous survey of the most common health risk behaviors. It supports preventive health screening and counseling by healthcare providers when used during the annual Periodic Health Assessment (PHA), provides individual members with credible sources of electronic health information, provides data to health educators to plan and implement workplace and community interventions, and provides commanding officers with summaries of the health risks among their workforce.

The tool is web-based, but there is also a stand-alone MS Access-based version that is used on ships with poor Internet connectivity. Completion of the assessment takes about three minutes and provides personalized reports to each individual. A total of 210,031 assessments of active duty and reserve members from the United States Navy (USN), USN Reserves (USNR), United States Marine Corps (USMC), USMC Reserves (USMCR), United States Coast Guard (USCG), and USCG Reserves (USCGR) were completed from 01 January 1 to 31 December 2016 and were analyzed.

This report utilizes both descriptive and analytic methods to report the results on the total responses as well as by service component and specific characteristics. Demographic variables that were examined included age, sex, race, rank, and service component. Analyses utilized one of two measures: 1) ‘healthy’ or ‘unhealthy’ risk ratings or 2) a risk score based on the total number of risk behaviors reported by an individual.

The prevalence of specific risk factors remained fairly constant from the previous year, with the following leading health risks: consumption of high fat foods, low fruit and vegetable consumption, not flossing, and not getting enough restful sleep. The mean number of risk factors showed that more USMC members qualified as “high risk” (27.6%), followed by the USMCR (25.4%), USN (22.5%), USNR (12.5%), USCG (9.4%), and USCGR (7.1%). The data also indicated that, in general, Navy and Coast Guard service members were more likely to be classified as overweight than Marines.



## Table of Contents

Background .....	3
Methods.....	4
Results.....	6
Demographic Results .....	6
HRA Risk Factor Analysis .....	14
BMI Status .....	14
Distribution of Healthy Responses .....	15
Distribution of Risk Categories .....	22
Change in Healthy Responses.....	23
Perception of Health .....	25
Mean Risk by Demographic Variables .....	28
Days Away from Home Station.....	32
Days Away from Home Station and Risk Score.....	35
Days Away from Home Station and Unhealthy Behaviors .....	36
Discussion .....	44
Strengths and Limitations.....	44
Demographics.....	44
Risk Factors .....	44
Days Away from Home.....	45
Conclusion .....	45



## Background

Health Risk Assessments (HRAs) became widely used in both military and civilian settings beginning in the mid-1980s. HRAs are tools that can be used to educate patients, to assist healthcare professionals in counseling patients, and to inform decision makers of the overall health status of their populations. Different versions of HRAs are available to assess a range of conditions and risk behaviors. They are also often used to assess health concerns of specific age groups. The 2016 NMCPHC Workplace HRA is a 22-question, anonymous, self-reported, web-based assessment tool specifically designed to assess risk behaviors common to military members.

The questions were based on other validated tools, such as the Alcohol Use Disorders Identification Test (AUDIT), the DoD Survey of Health Related Behaviors Among Military Personnel, and the National Health and Nutrition Examination Survey (NHANES), or input from subject matter experts. The questions address 10 risk categories that provide a snapshot of leading health indicators. The categories include: tobacco use, alcohol use, safety, stress management, sexual health, physical activity, nutrition, supplement use, dental health, and sleep problems.

More information on the HRA can be found at: <http://www.med.navy.mil/sites/nmcphc/health-promotion/Pages/hra.aspx>.



## Methods

### *Data Collection and Analyses*

After excluding 4,390 records, a total of 210,031 assessments were completed between 01 January and 31 December 2016. The data were analyzed by the EpiData Center (EDC) at the Navy and Marine Corps Public Health Center (NMCPHC). Surveys were excluded from the analysis for the following reasons:

- a. If they were completed before 01 January or after December 31 (n=832)
- b. If they were completed by civilian or contractor personnel (n=3,014)
- c. If they were completed by Army or Air Force service members (n=544).

The total number of surveys included in the analysis was 210,031.

All analyses utilized one of two measures: 1) ‘healthy’ or ‘unhealthy’ risk ratings or 2) a risk score. The 22 risk assessment questions were categorized healthy or unhealthy (see Appendix B).

A risk score was tabulated based on the total number of risk behaviors in which one or more of the answers were reported as unhealthy. Risk behavior scores ranged from 0-10 and were categorized into risk levels low, medium, and high.

0-2 risk behaviors = low risk

3-4 risk behaviors = medium risk

5 or more risk behaviors = high risk

Risk scores do not predict early morbidity or mortality; rather, higher risk scores indicate a greater likelihood that members will utilize more healthcare services in the future than lower risk members.

Descriptive analyses, frequencies, and percentages were used to describe survey respondents. Logistic regression examined the relationship between days away from home station and risk number.

The following demographic variables were collected: age, sex, race, rank and service. Service member age was categorized into the following categories: 17-19, 20-29, 30-39, 40-49, and 50 years and older. Race was categorized as Caucasian, African Americans, Asian and Pacific



Islanders, Hispanics or Other. Rank was categorized into five categories: enlisted service members (E1-E5 or E6-E9), officers, (O1-O3 or O4-O9), and warrant officers (W1-W5).

Body mass index (BMI) was calculated from self-reported height and weight data, according to current Centers for Disease Control and Prevention (CDC) guidelines ( $[\text{weight in pounds} \div (\text{height in inches})^2] \times 703$ )<sup>1</sup>. According to the CDC, BMI values that exceed healthy levels have been shown in published studies to be an independent risk factor for certain diseases and all-cause mortality.

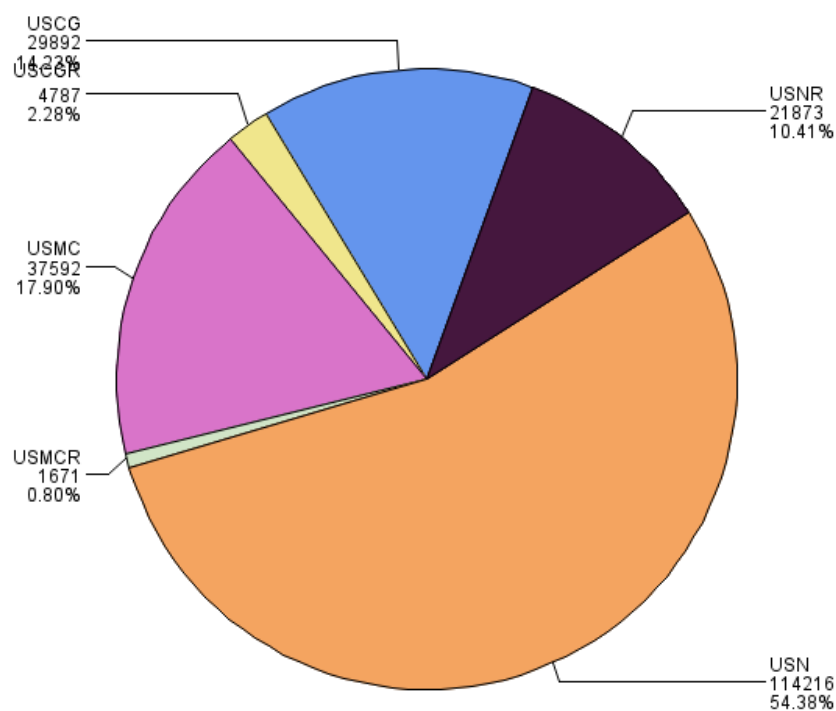


## Results

### Demographic Results

The majority of survey respondents (54%) were active duty Navy service members (USN), while 10% were Navy Reserves (USNR), 19% were active duty and reserve Marines (USMC and USMCR, respectively), and 17% were active duty and reserve Coast Guard members (USCG and USCGR, respectively) (Figure 1).

**Figure 1:**  
**Distribution of Completed HRAs by Service Component**  
210,031 records

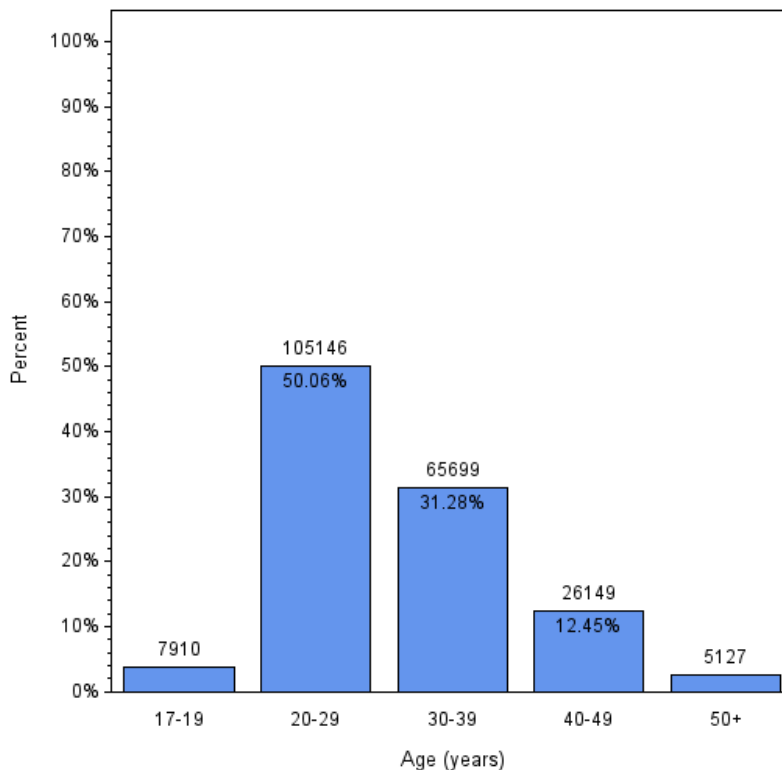


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Age distribution of survey respondents indicated 50% of the respondents were in the 20-29 year old age group (Figure 2).

**Figure 2:**  
**Age Distribution of Completed HRA Survey**  
210,031 records

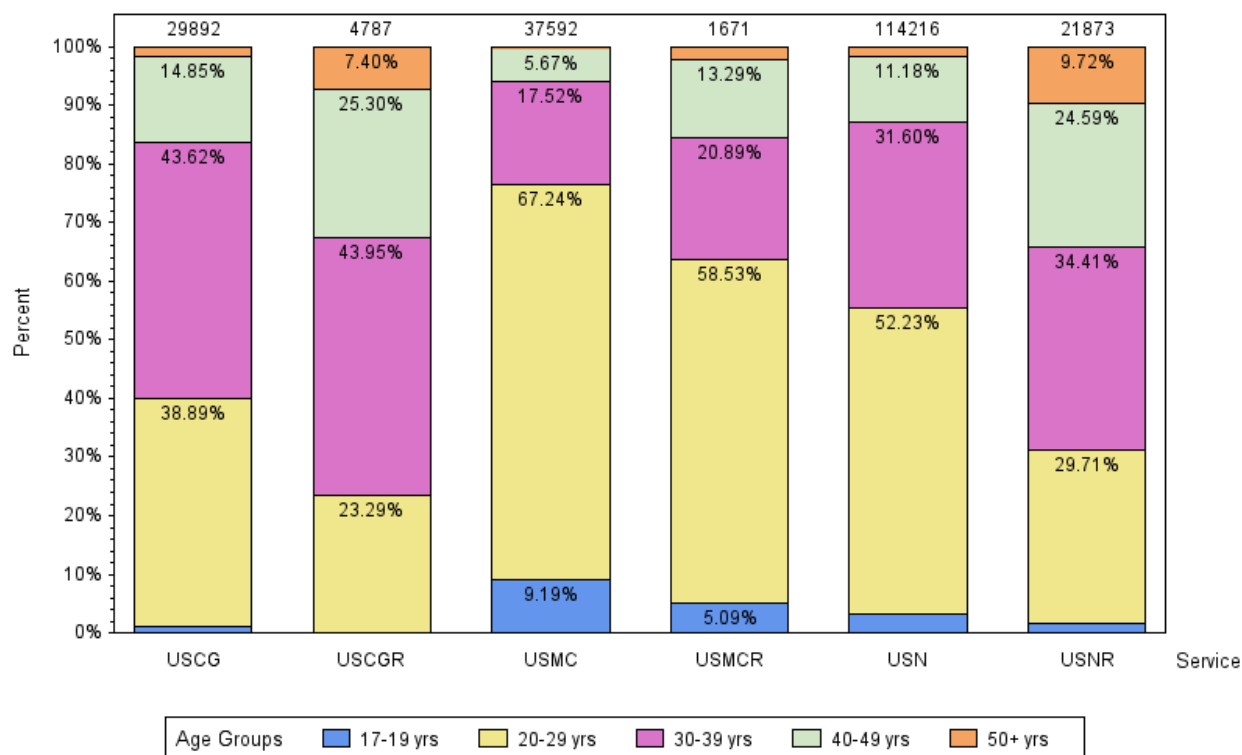


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Overall, Navy and Coast Guard service member respondents were older than the Marine survey respondents (Figure 3). The mean age of service member respondents was 29.9 years of age (USN), 35.6 years of age (USNR), 25.9 years of age (USMC), 29.1 years of age (USMCR), 32.2 years of age (USCG), and 36.2 years of age (USCGR).

**Figure 3:**  
**Age Distribution of Completed HRAs by Service Component**  
210,031 records



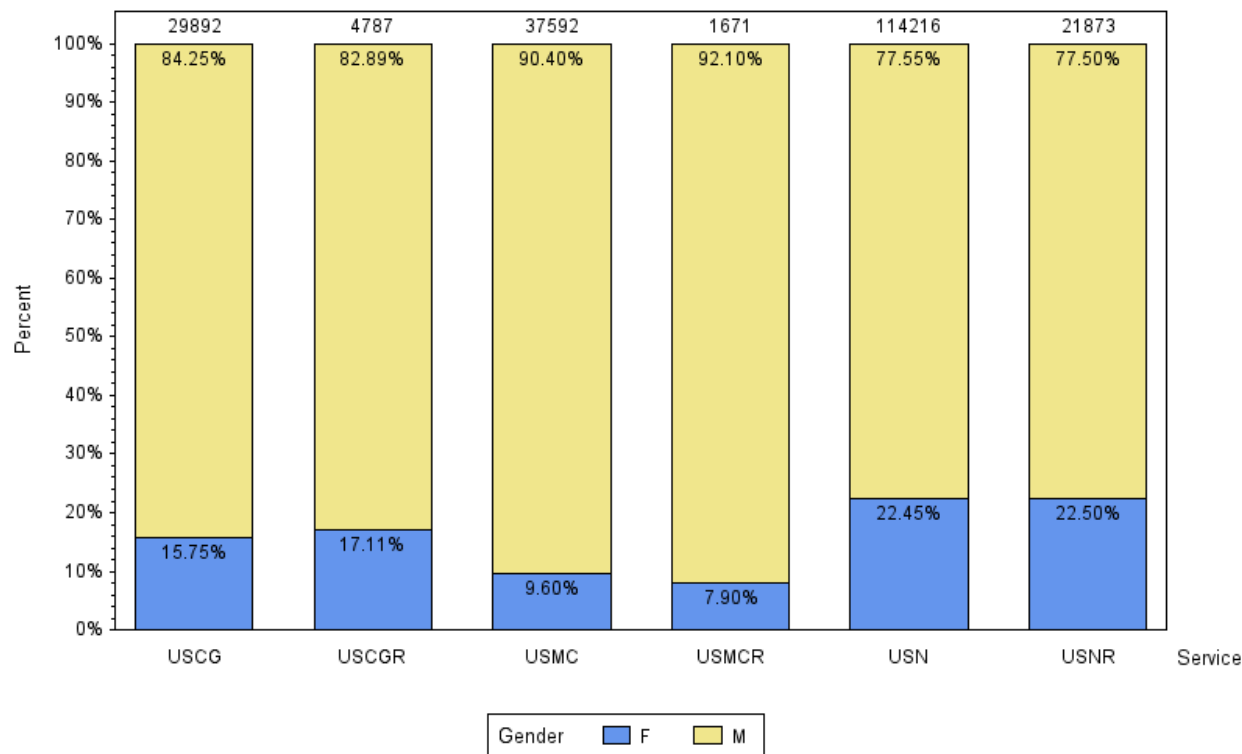
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With respect to gender, more males completed the HRA (81%), which reflects the general male-to-female ratio of military service members. The gender difference was most evident in the USMC and USMCR, with fewer than 10% of the HRAs completed by females compared to fewer than 23% in the USN and USNR and fewer than 17% in the USCG and USCGR.

Figure 4:  
**Gender Distribution of Completed HRAs by Service Component**  
210,031 records



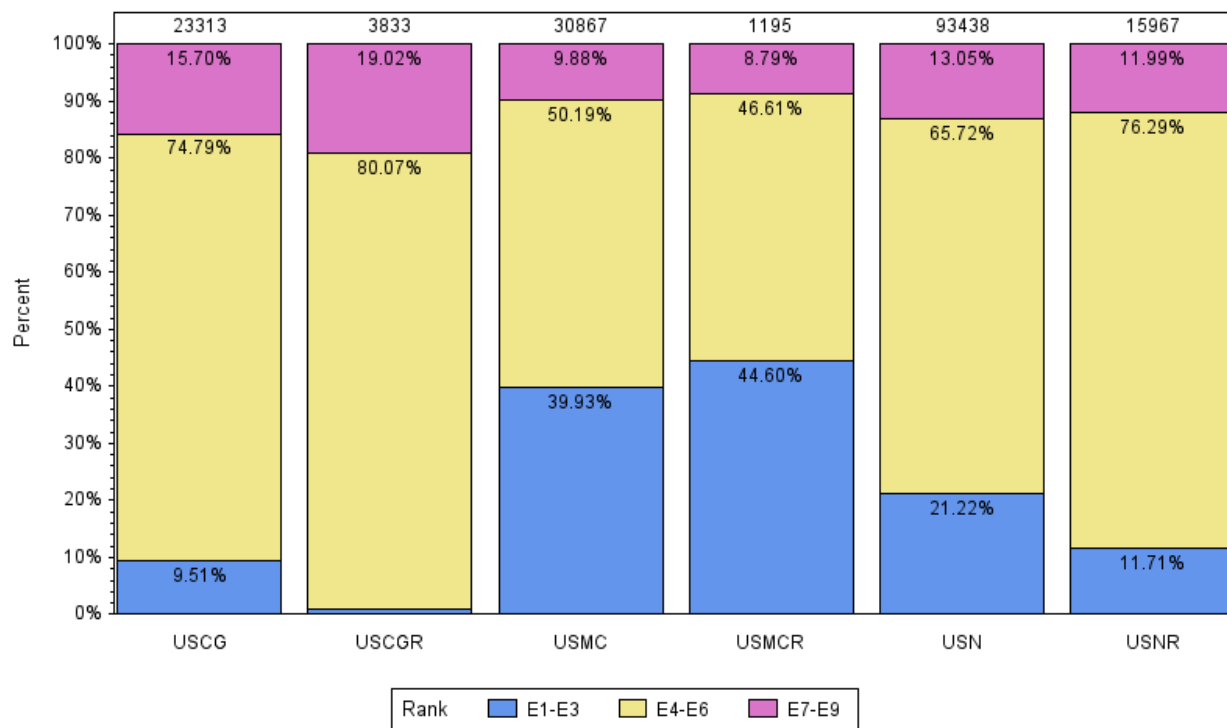
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Distribution by rank of survey respondents indicated that 80% were completed by enlisted members, 18% by officers, and 1% by warrant officers. Figures 5-7 display the distribution of respondents' rank by service.

The USMC and USMCR had the largest percentage of lower-ranking enlisted members (40% and 45%, respectively). The USCG (75% E4-E6 and 16% E7-E9) and USCGR (80% E4-E6 and 19% E7-E9) had the largest percentage of senior-ranking enlisted members.

**Figure 5:**  
**Rank (Enlisted Personnel) Distribution of Completed HRAs by Service Component\***  
168,613 records

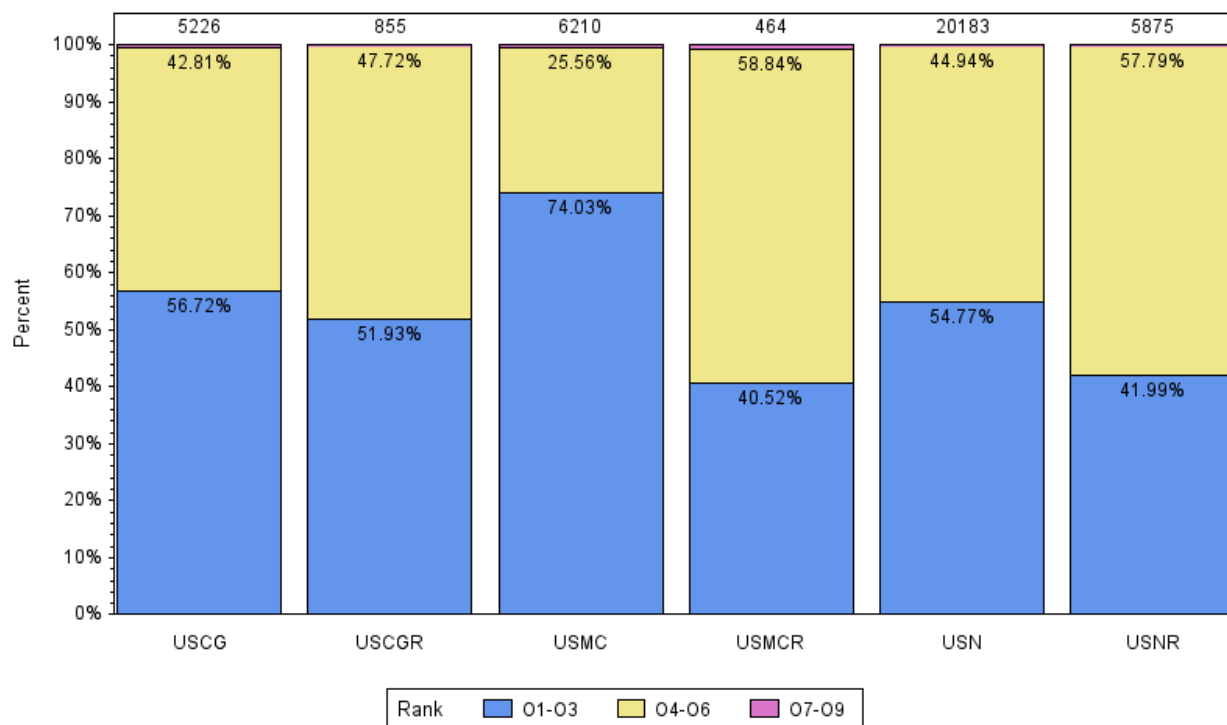


Prepared by the EpiData Center Department, Navy and Marine Corps Public Health Center on 19 April 2017  
\*Does not include people who indicated a rank of E10



Among service members who completed the HRA, the USMCR had the highest percentage of officers in the O4-O6 range (59%) out of all reserve components while the USN had the highest percentage among all active duty components (45%). The USMC had the highest percentage of officers in the O1-O3 range (74%) who completed the HRA among active duty components, whereas the USCGR had the highest percentage among reserve components (52%) (Figure 6).

**Figure 6:**  
**Rank (Officer Personnel) Distribution of Completed HRAs by Service Component\***  
38,813 records

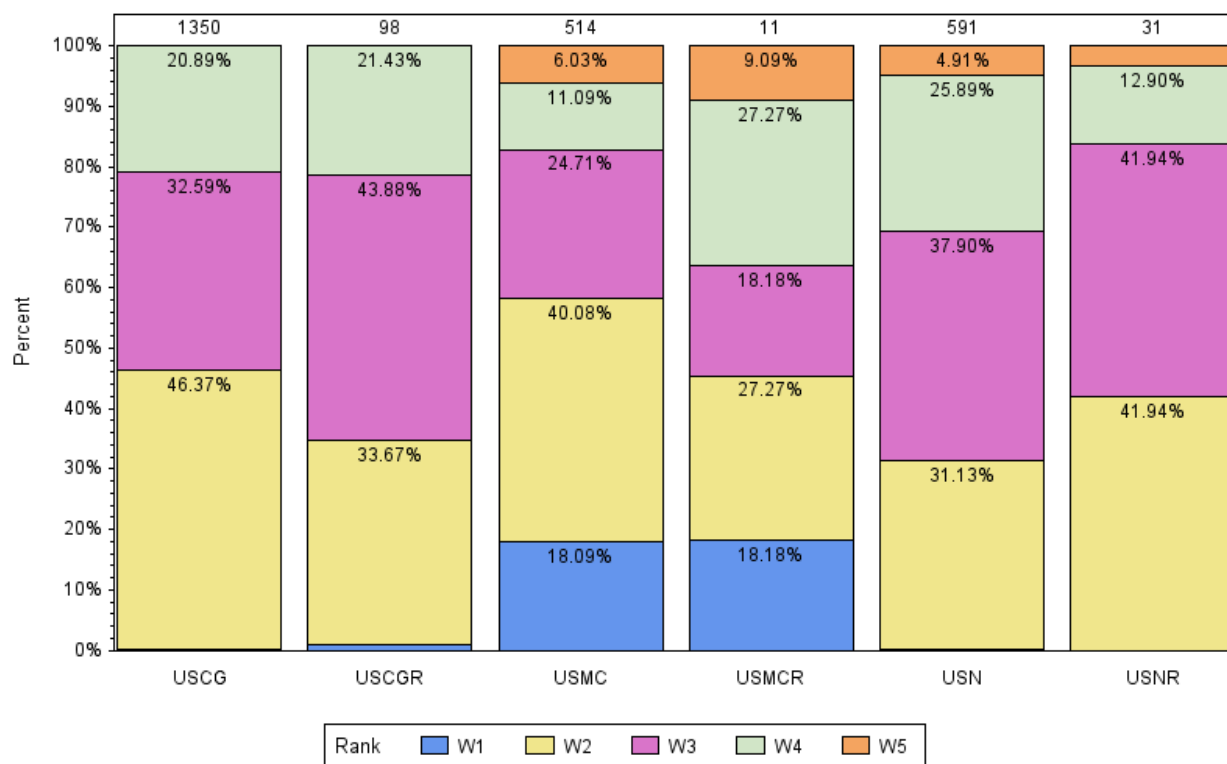


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\*Does not include people who indicated a rank of O10



The USMCR had the highest percentage of warrant officers in the W5 category (9%) and in the W4 category (27%) who completed the 2016 HRA. The USCGR and the USNR had the two highest percentages of warrant officers in the W3 category (44% and 42%, respectively) (Figure 7).

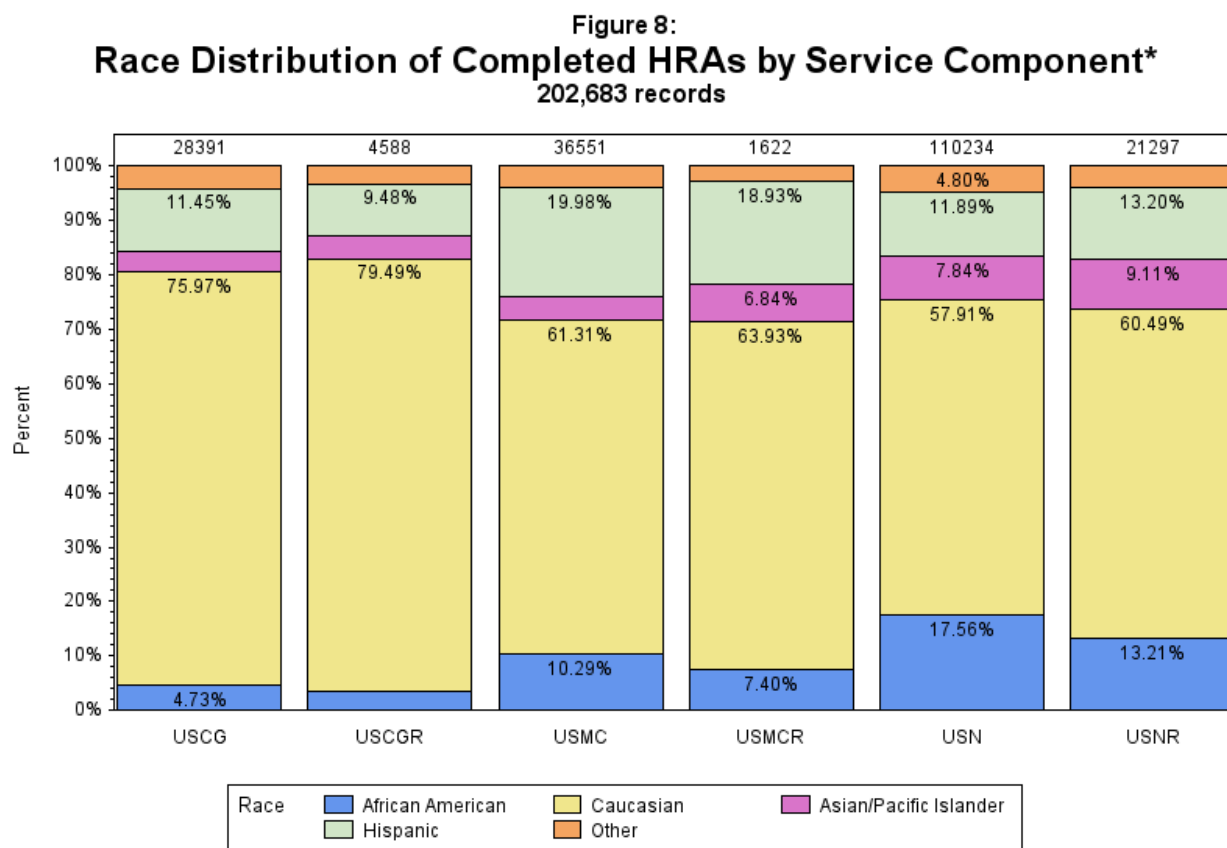
**Figure 7:**  
**Rank (Warrant Officer) Distribution of Completed HRAs by Service Component**  
2,595 records



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Across services, survey respondents were predominantly Caucasian. USCG and USCGR had the highest proportion (76% and 80%, respectively) of Caucasians. Asian/Pacific Islanders were most prominent among USN and USNR service members (7% and 9%, respectively). The largest percentage of Hispanics who completed the survey was among USMC service members (20%), whereas the largest percentage of African Americans were among USN service members (18%) (Figure 8).



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\*7,361 did not answer race question

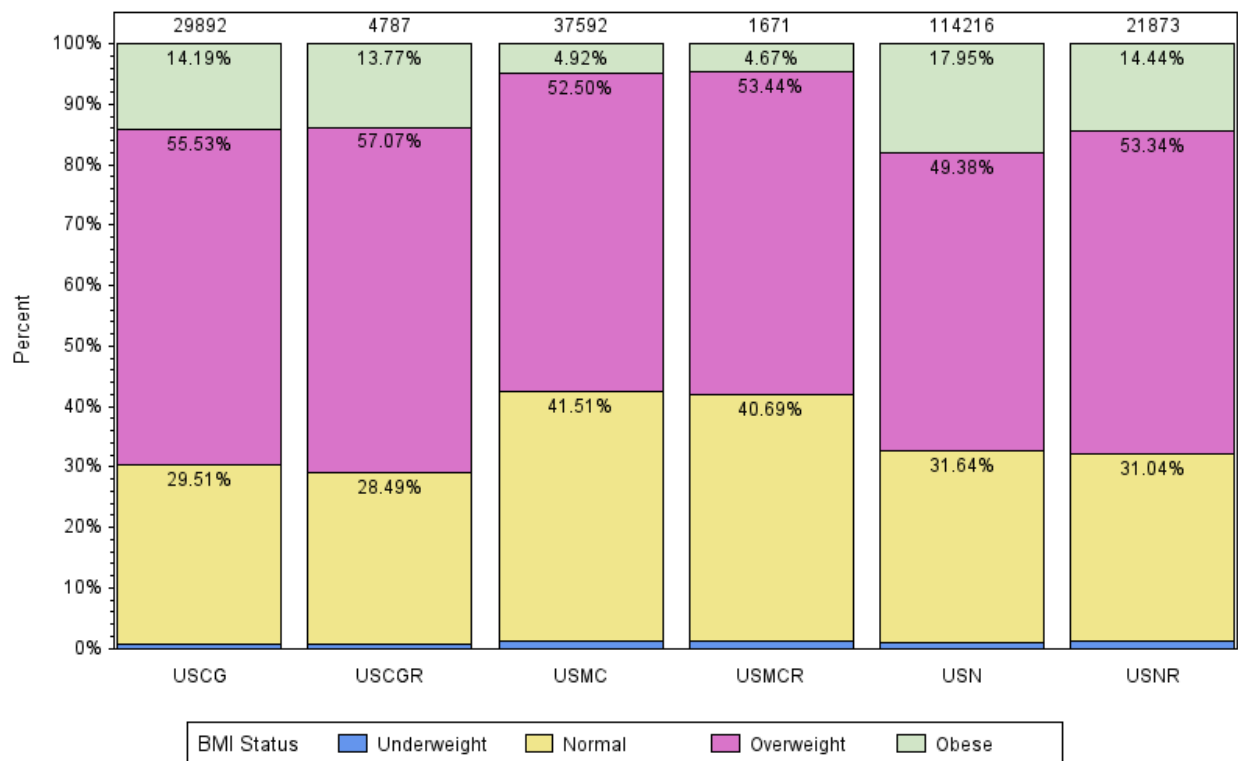


## HRA Risk Factor Analysis

### BMI Status

Overall, 66% of service members were classified as overweight or obese according to the Centers for Disease Control and Prevention BMI standards for healthy adults. The analysis indicated that, in general, USN, USNR, USCG, and USCGR service members were more likely than USMC and USMCR service members to be classified as overweight or obese. Among all service components, Active Duty and Reserves had similar BMI levels (Figure 9).

**Figure 9:**  
**Distribution of BMI Category for Completed HRAs by Service Component**  
210,031 records



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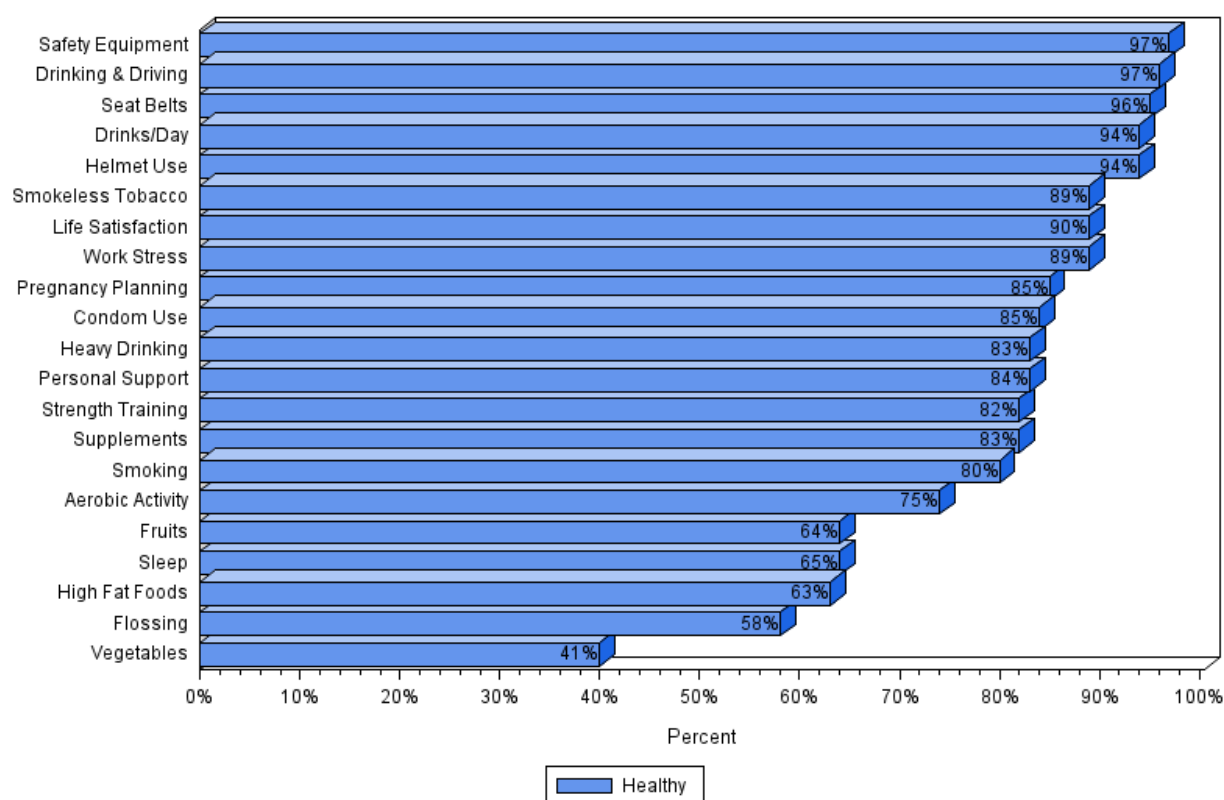
### *Distribution of “Healthy” Responses*

As shown in Appendix B, each HRA question was classified as ‘healthy’ or ‘unhealthy’ based on responses to the question.

Figures 10-16 show the percentages of healthy responses by service component.

The behaviors with the lowest percentages of healthy responses were daily intake of vegetables (41%), lack of flossing (58%), daily intake of high fat foods (63%), and daily intake of fruit (64%). Other significant areas of concern included lack of sleep (65%) and aerobic activity (75%). Overall, the most common healthy behaviors reported by members included use of safety equipment (97%), avoiding drinking and driving (97%), and safety belt use (96%) (Figure 10).

**Figure 10:  
Distribution of Healthy Responses on HRA Questions for All Service Components**

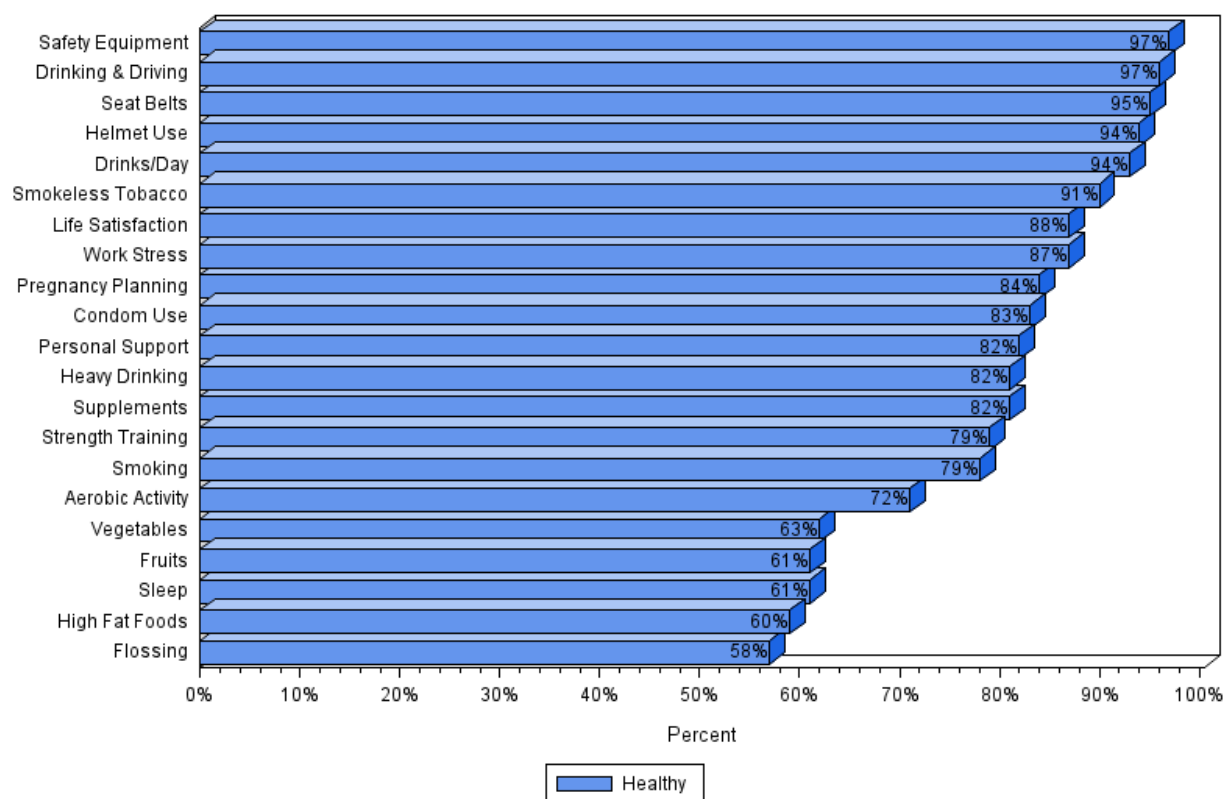


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USN and USNR response distributions closely resembled one another (Figures 11 & 12). In addition, 58% of USN and 65% of USNR members reported healthy flossing behaviors; 60% of USN and 70% of USNR members reported eating fatty foods rarely or once or twice a day. The majority of USN and USNR service members (97% and 99%, respectively) reported using safety equipment, as well as never drinking and driving (reported by 97% of USN and USNR). A larger proportion of USNR service members were more likely to report staying in the daily and weekly alcoholic drink limits than USN service members (96% and 94%, respectively). USNR members reported a higher percentage of healthier smoking behaviors (88%) than did USN members (79%) and smokeless tobacco use (95% and 90%, respectively).

**Figure 11:**  
**USN Distribution of Healthy Responses on HRA Questions**

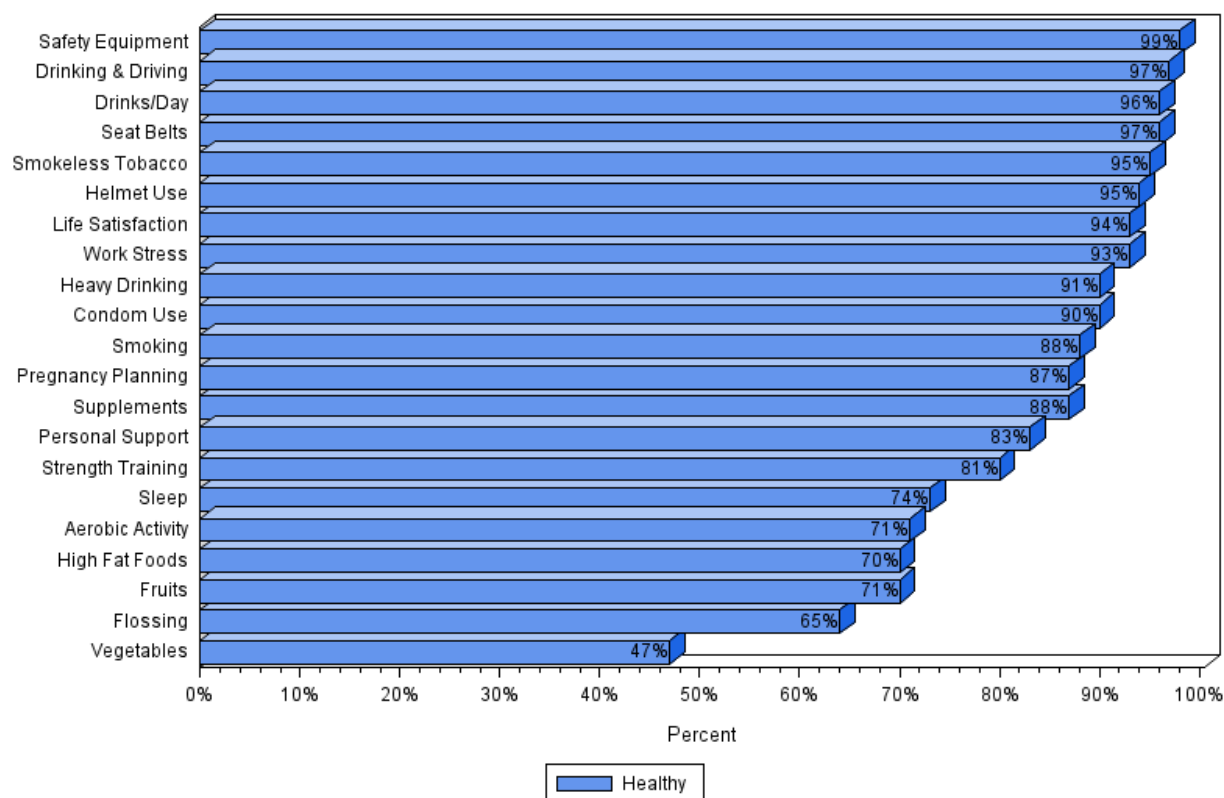


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**Figure 12:**  
**USNR Distribution of Healthy Responses on HRA Questions**

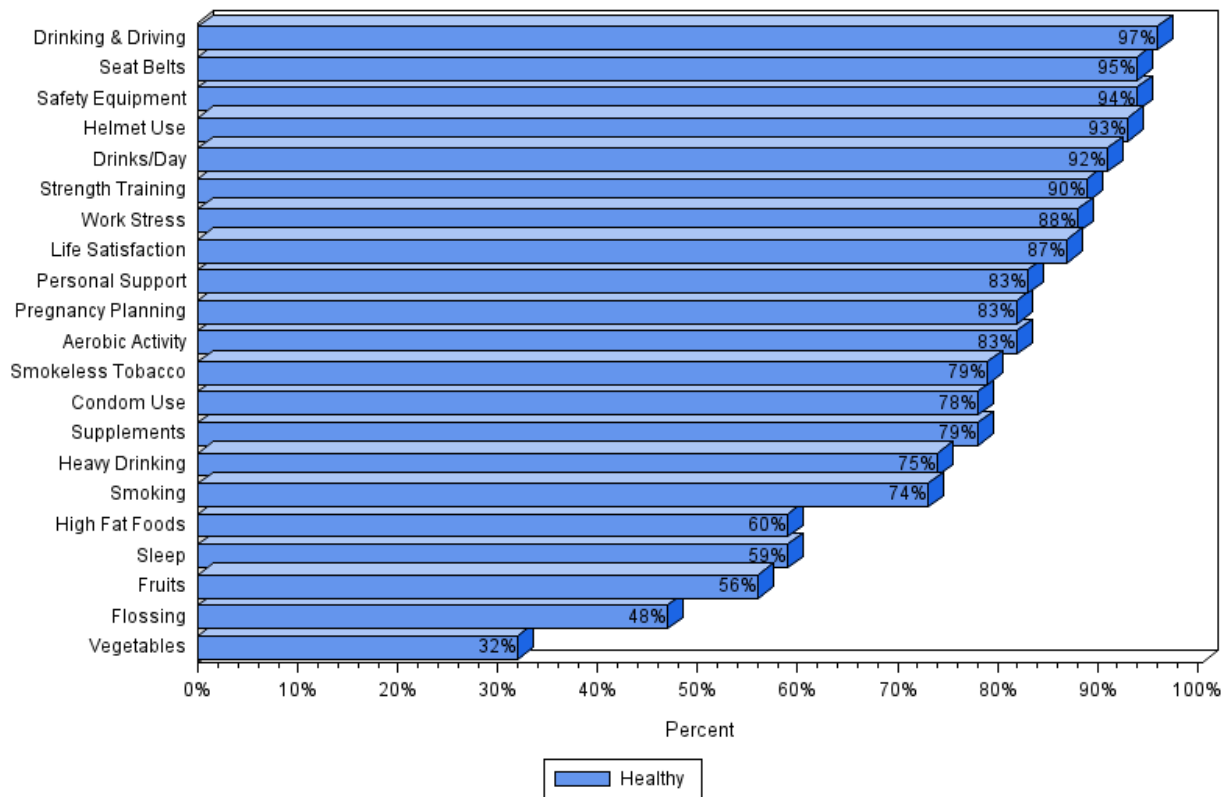


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The USMC and USMCR followed similar trends based on reported risks (Figures 13 & 14). The highest healthy responses among USMC and USMCR HRA respondents were for abstaining from drinking and driving (97% and 94%, respectively), seat belt use (95% and 92%, respectively), and safety equipment use (94% and 97%, respectively). The lowest reported healthy behaviors were for daily intake of vegetables, (32% and 36%, respectively), flossing (48% among USMC and 50% among USMCR), intake of fruits (56% and 58%, respectively) and sleeping behaviors (59% and 65%, respectively).

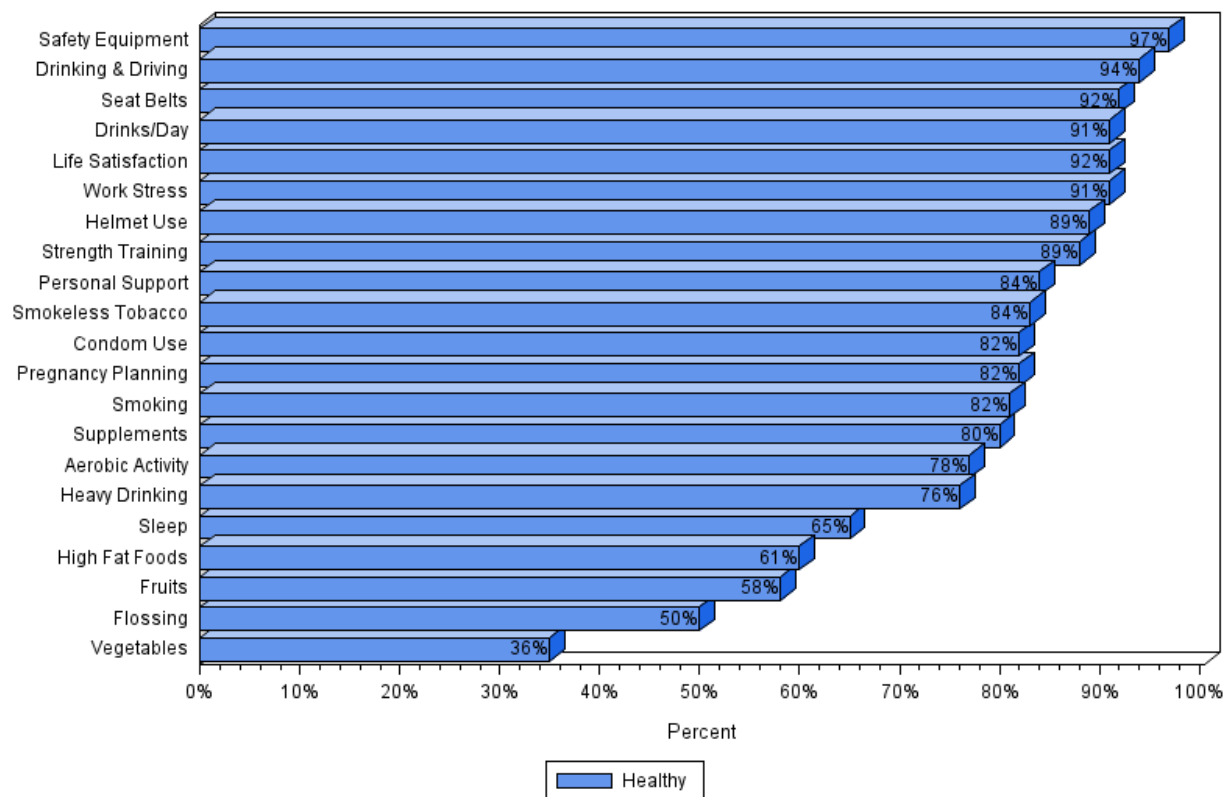
**Figure 13:**  
**USMC Distribution of Healthy Responses on HRA Questions**



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Figure 14:  
**USMCR Distribution of Healthy Responses on HRA Questions**

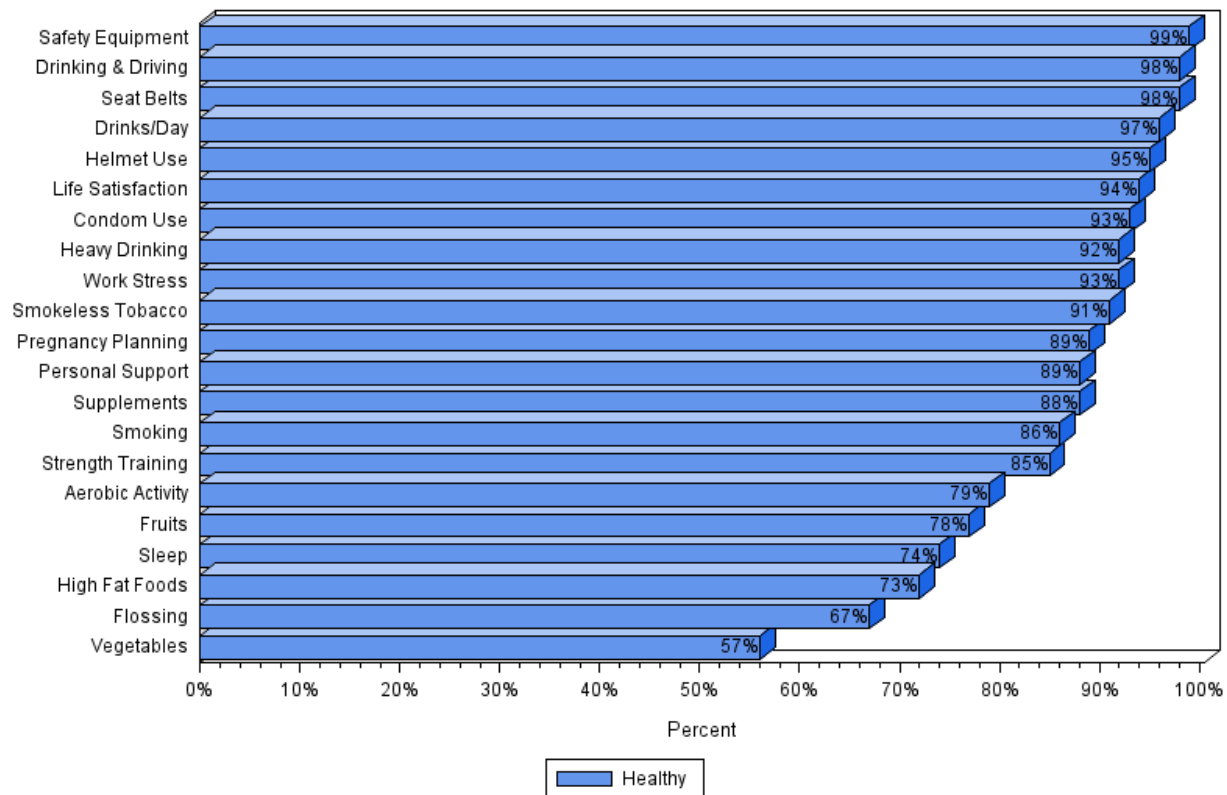


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The USCG and USCGR showed similar results of healthy behaviors (Figures 15 & 16). The lowest healthy responses for both groups were reported vegetable consumption (57% for USCG and 59% for USCGR), flossing (67% for USCG and 74% for USCGR) and intake of high fat foods (73% among USCG compared to 74% among USCGR). USCG and USCGR members reported extremely high percentages of the following healthy behaviors: safety equipment (99% and 100%, respectively), seat belt use, (98% and 97%, respectively), drinking and driving (98% and 97%, respectively) and drinks per day (97% for both).

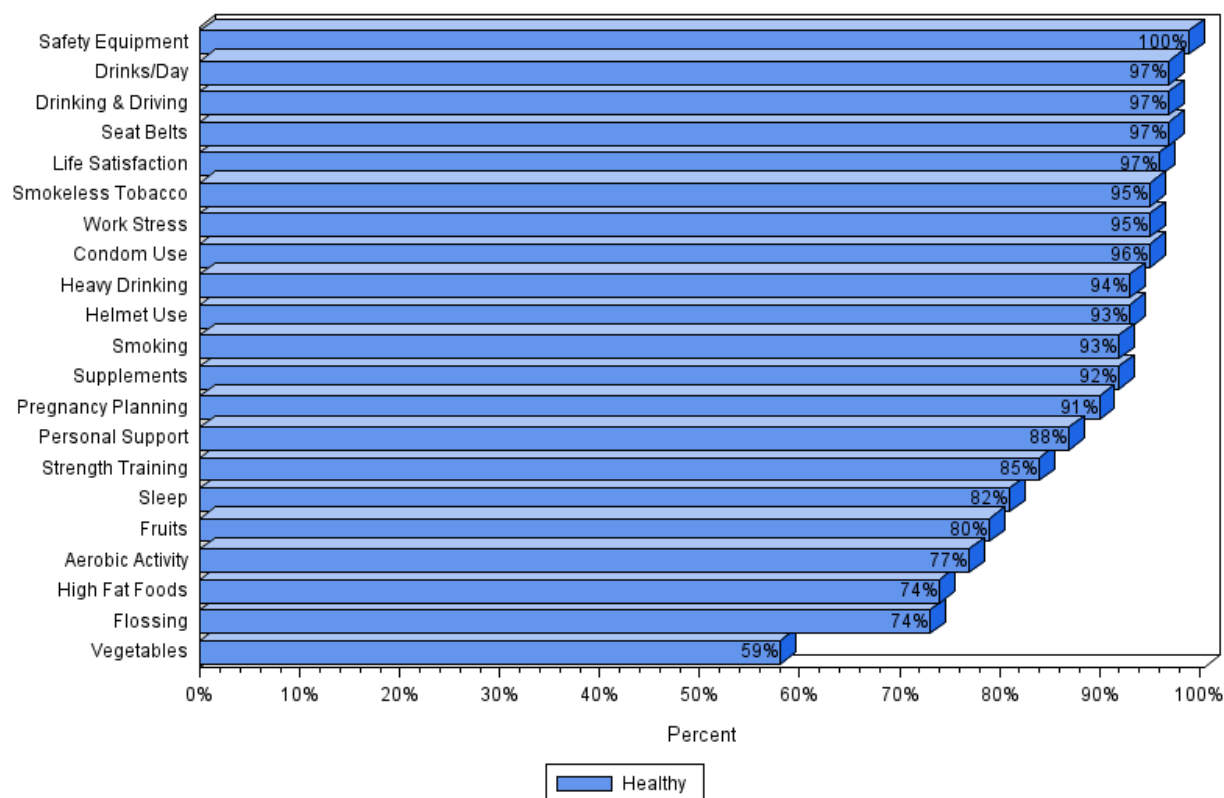
**Figure 15:**  
**USCG Distribution of Healthy Responses on HRA Questions**



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Figure 16:  
**USCGR Distribution of Healthy Responses on HRA Questions**



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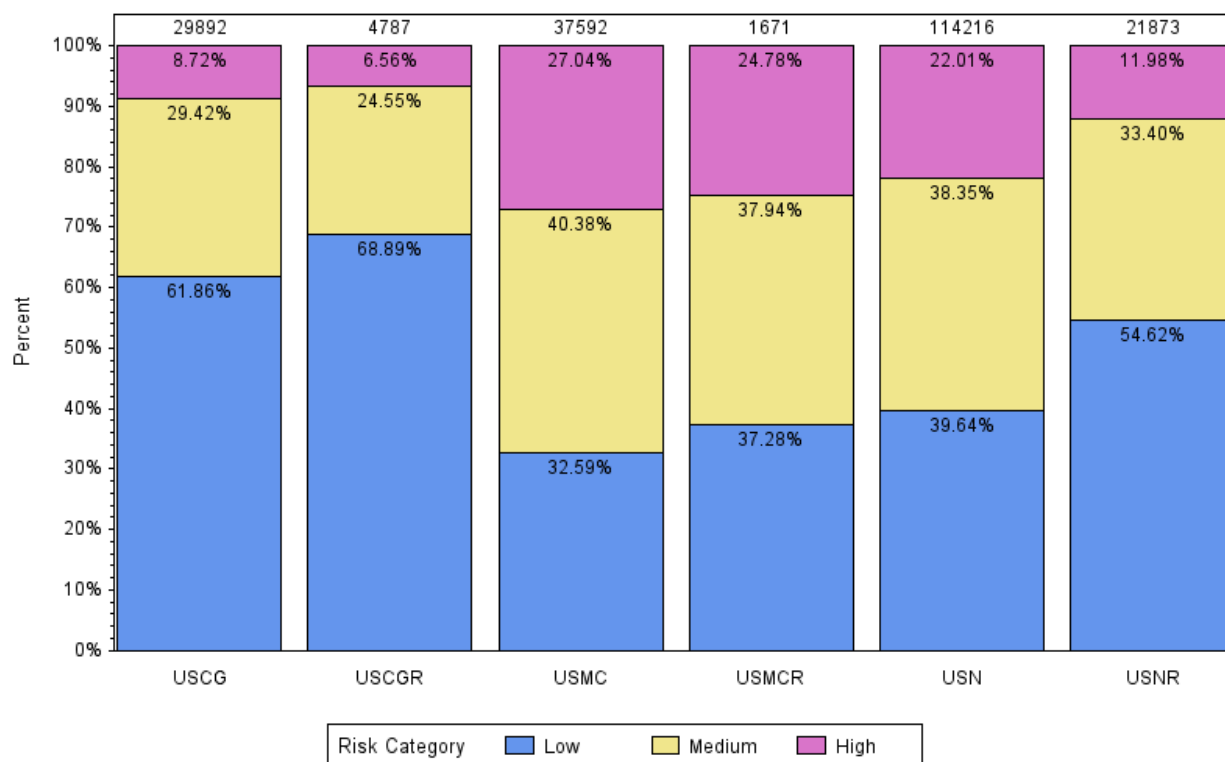


### *Distribution of Risk Categories*

Figure 17 displays risk categories for each service component, based on the number of members falling within each risk category. Each service member was categorized as low, medium, or high risk based on the number of reported unhealthy responses. Members in higher risk categories are considered more likely to utilize healthcare services in the future.

Based on the mean number of risk factors, USMC members were most often scored as “high risk” (27%), followed by the USMCR (25%), USN (22%), USNR (12%), USCG (9%), and USCGR (7%). Members of the USCGR most often scored in the low risk category (69%).

**Figure 17:**  
**Distribution of Risk Categories for Completed HRAs by Service Component**  
210,031 records



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### *Change in Healthy Responses*

Table 1 displays the percent of respondents that were classified healthy for both 2016 and the previous year, 2015. Percent change in the healthy response was calculated and appears in the last column; increases in values indicate healthier behaviors. Overall, most healthy responses remained similar or slightly improved, with the exception of high fat food consumption, which had a 1.3% decrease and aerobic activity, which had a 0.4% decrease in healthy responses. Consumption of vegetables, heavy drinking and smoking improved in 2016, with an increase of 1.3%, 1.2% and 1.2% in healthy responses, respectively.



**Table 1.** Percent Change in Healthy HRA Responses, Total, 2016  
HRA<sup>a</sup>

Health Behavior	2015 (N=238,431)	2016 (N=210,031)	Percent Change
Aerobic Activity	75.1	74.8	-0.4
Condom Use	84.0	84.9	1
Dipping	89.0	89.1	0.1
Drinking & Driving	96.6	96.9	0.3
Drinks per Day	94.0	94.2	0.2
Flossing	57.9	58.5	1
Fruits	63.9	64	0.2
Heavy Drinking	82.1	83.1	1.2
Helmet Use <sup>b</sup>	94.0	94.1	0.1
High Fat Foods	63.3	63	-1.3
Life Satisfaction	89.4	89.6	0.2
Personal Support	83.2	83.6	0.4
Pregnancy Planning	84.9	85.1	0.3
Safety Equipment <sup>b</sup>	97.2	97.3	0.1
Seat Belts	96.0	95.9	-0.1
Sleep	64.5	64.7	0.3
Smoking	79.2	80.2	1.2
Strength Training	82.2	82.4	0.2
Supplements	82.7	82.9	0.3
Vegetables	40.2	40.7	1.3
Work Stress	88.6	89	0.5

<sup>a</sup>Percent Change calculation = [(2016 Value - 2015 Value)/2015 Value]\*100

<sup>a</sup> May not exactly total 100 due to rounding error.

<sup>b</sup> Excludes non applicable answers.

Data source: 2016 HRA

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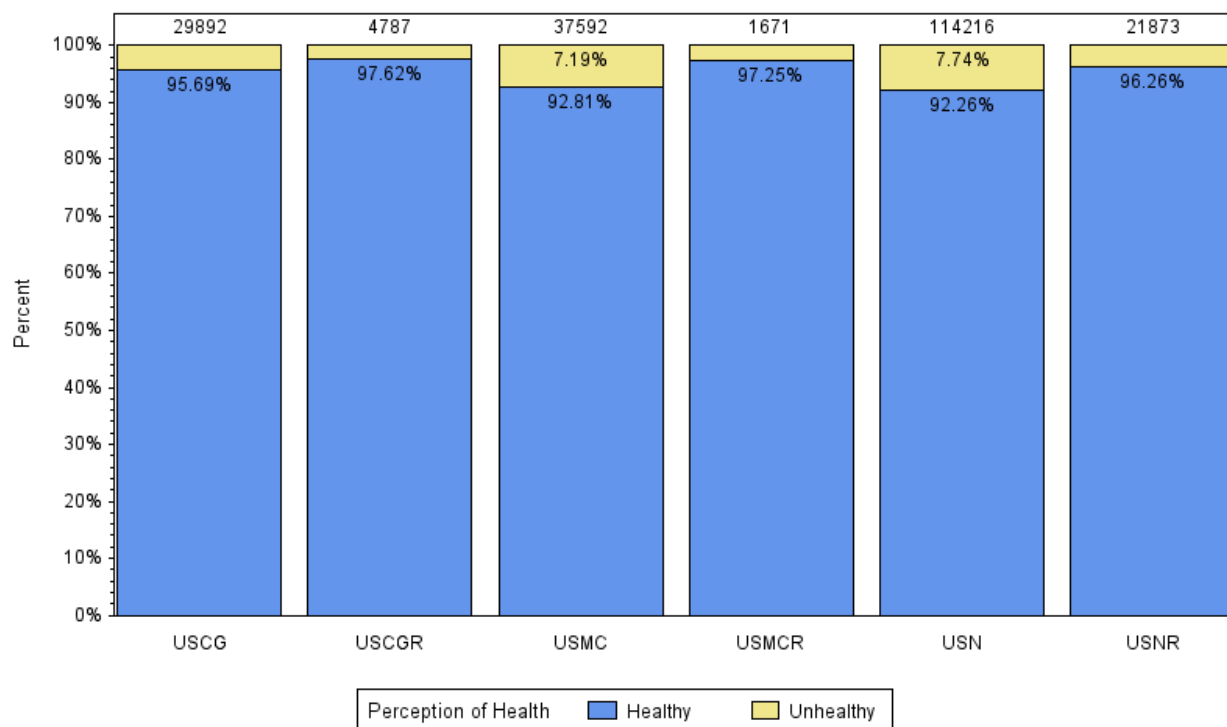




### Perception of Health

Perception of one's current state of health has been shown to be fairly accurate. However, perception of current good health may not accurately reflect future health for members who report significant risk factors that are major determinants of health outcomes. Of all service members, 93.4% rated their "health in general" as either good or excellent (Figure 18), even though the self-reported scoring of HRA data shows many members reported risk factors that placed them in medium and high risk categories (Figure 17).

**Figure 18:**  
**Distribution of Perception of Health Category**  
**for Completed HRAs by Service Component**  
210,031 records

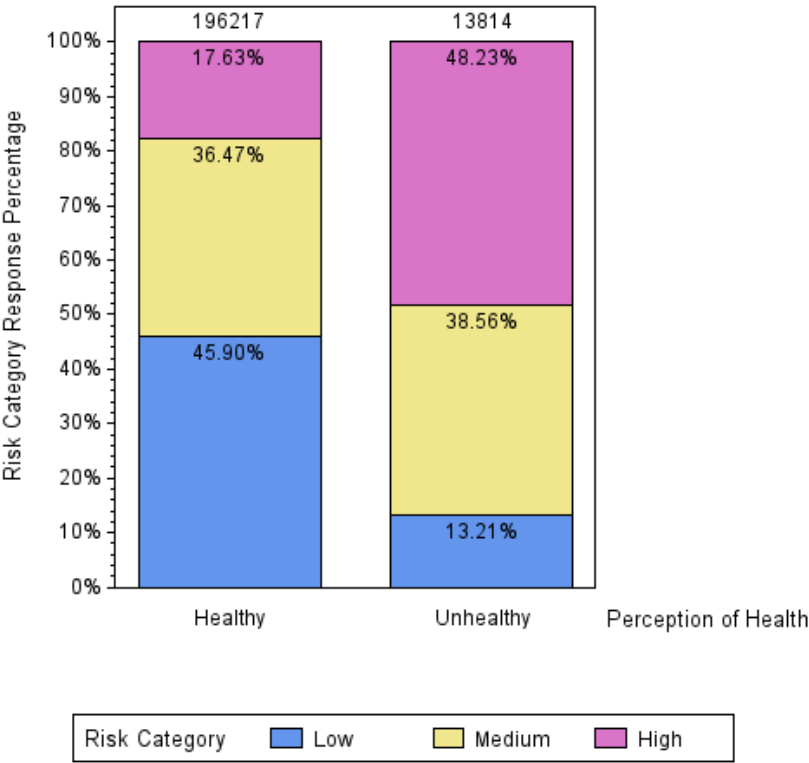


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The differences in perception of health and risk category demonstrated that those who perceived their health to be unhealthy (by rating that their health was either fair or poor), were more likely to be in the high risk category compared to those who perceived themselves to be “healthy”. Of the small percentage of respondents who indicated their health was generally unhealthy (6.6% of respondents), the majority had risk scores that fell into the medium to high risk categories (87%) (Figure 19).

**Figure 19:**  
**Distribution of Perception of Health Category**  
**Compared to Risk Category for Completed HRAs**  
210,031 records

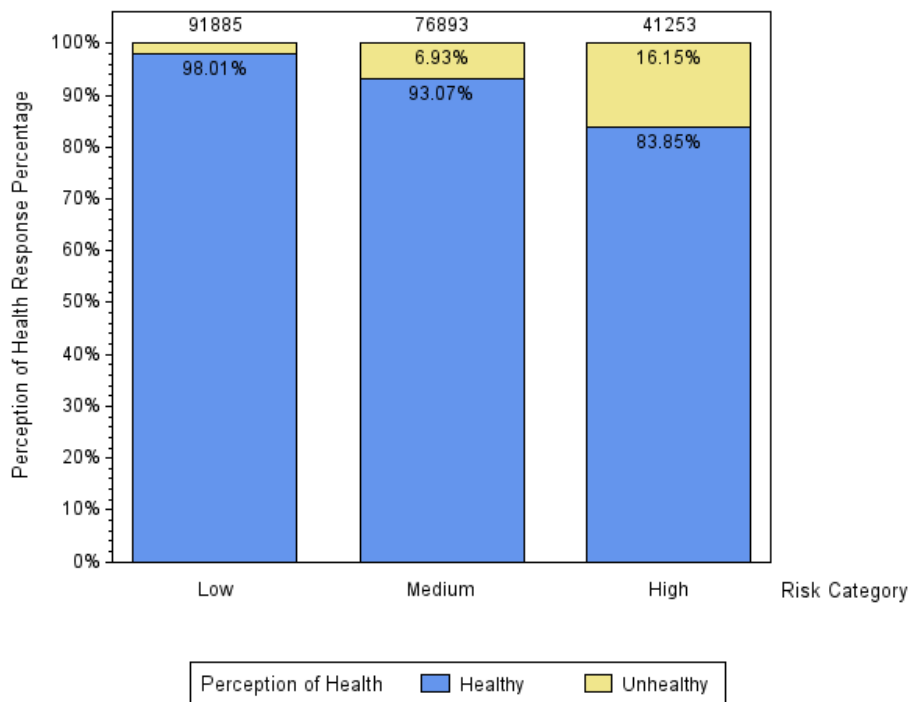


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The differences in perception of health and risk category were small but consistent, with lower risk groups having a higher perception of good health (98%) than the other two categories (Figure 20). However, high-risk individuals (84%) also perceived their health as good.

Figure 20:  
**Distribution of Perception of Health Category  
Compared to Risk Category for Completed HRAs**  
210,031 records



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### *Mean Risk by Demographic Variables*

A risk score for each individual was tabulated based on the total number of unhealthy answers. There were a total of 10 risk categories. Risk scores were grouped into risk levels of low (0-2 risk categories), medium (3-4 risk categories), and high (5 or more risk categories). More males were classified as high risk (21%) than females (15%) (Table 2).

**Table 2.** Risk Category by Gender, 2016 HRA<sup>a</sup>

Gender	Percent (%)	Percent (%)	Percent (%)
	Low Risk	Medium Risk	High Risk
Female (n=39,833)	50.0	35.1	15.0
Male (n=170,198)	42.3	37.0	20.7

<sup>a</sup> May not exactly total 100 due to rounding error.

Data source: 2016 HRA

Prepared by the EpiData Center Department, Navy and Marine Corps Public Health Center on 20 April 2017.



Age was also examined by risk category (Table 3). There were a decreasing number of individuals in the high risk category age after the age range 20-29. Approximately 46% of younger members (age 17-29) were in the high risk category. The decreasing percentage of members in the high risk category after the age of 29 may be due to survivor effect or healthy worker effect, indicating that those who remain in the military tend to be healthier than those who leave the service. It may also be that some individuals reduce their risky lifestyle behaviors as they mature.

**Table 3.** Risk Category by Age, 2016 HRA<sup>a</sup>

Age Group (Years)	Percent (%)	Percent (%)	Percent (%)
	Low Risk	Medium Risk	High Risk
17-19 (n=7,910)	35.7	41.5	22.8
20-29 (n=105,146)	38.7	37.4	23.9
30-39 (n=65,699)	47.7	36.1	16.3
40-49 (n=26,149)	52.4	35.1	12.5
50+ (n=5,127)	65.2	27.9	6.9

<sup>a</sup> May not exactly total 100 due to rounding error.

Data source: 2016 HRA

Prepared by the EpiData Center Department, Navy and Marine Corps Public Health Center on 20 April 2017.



The same association between age and percentage of high risk members was demonstrated by comparing rank with risk categories (Table 4). The E1-E5 group, which is generally comprised of younger service members, had a greater percentage of members in the high risk category compared to E6-E9 and officer ranks. Senior officers (O6-O9) had a lower percentage of members in the high risk category compared to other officers. Junior officers (O1-O5) and warrant officers (W1-W5) had a similar distribution between risk categories.

**Table 4.** Risk Category by Rank, 2016 HRA<sup>a</sup>

<b>Rank Group<sup>b</sup></b>	<b>Percent (%) Low Risk</b>	<b>Percent (%) Medium Risk</b>	<b>Percent (%) High Risk</b>
E1-E5 (n=114,885)	39.0	37.3	23.7
E6-E9 (n=53,728)	44.9	37.4	17.7
O1-O5 (n=36,134)	55.0	33.8	11.3
O6-O9 (n=2,679)	63.1	30.5	6.7
W1-W5 (n=2,595)	54.3	34.7	11.0

<sup>a</sup> May not exactly total 100 due to rounding error.

<sup>b</sup> Excludes individuals who indicated a rank of E10 or O10.

Data source: 2016 HRA

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Race was also examined by risk category (Table 5). There was not a substantial difference between race and risk category. This has been the case in previous years' reports.

**Table 5.** Risk Category by Race, 2016 HRA<sup>a</sup>

Race Group <sup>b</sup>	Percent (%)	Percent (%)	Percent (%)
	Low Risk	Medium Risk	High Risk
African American (n=27,554)	37.8	39.0	23.2
Caucasian (n=125,385)	46.2	35.8	18.0
Asian/Pacific Islander (n=13,603)	39.5	38.1	22.5
Hispanic (n=27,214)	41.6	37.7	20.7
Other (n=8,927)	40.5	36.7	22.8

<sup>a</sup> May not exactly total 100 due to rounding error.

<sup>b</sup> 7,348 service member respondents did not indicate race.

Data source: 2016 HRA

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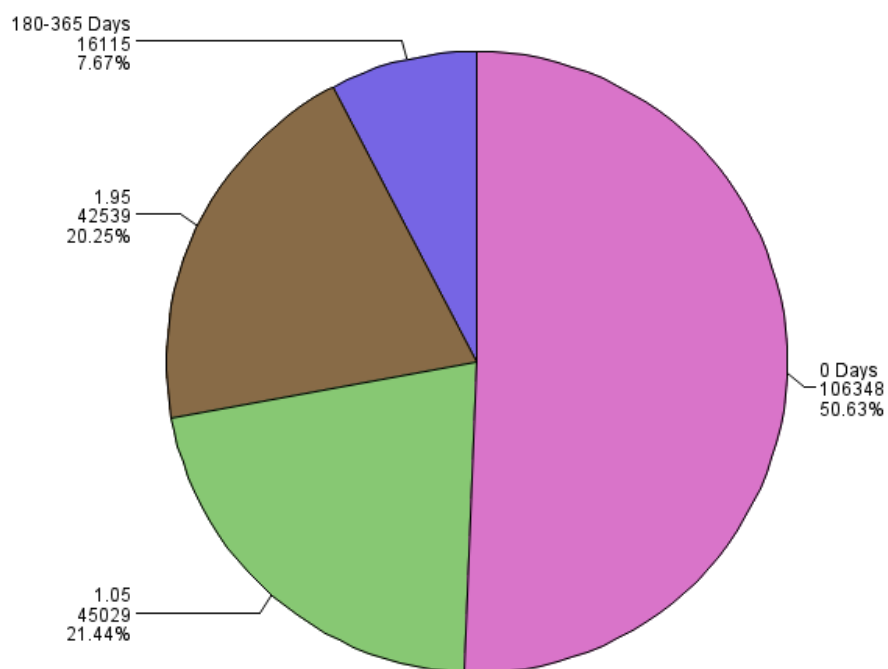


### *Days Away From Home Station*

The relationship between days away from home station and unhealthy behavior response was examined. Using the “days away” variable, four time points were created: 0 days, 1-29 days, 30-179 days, and 180-365 days.

For the entire population, 51% of individuals did not spend any time away from the home station, 21% spent 1-29 days away, 20% spent 30-179 days away, and 8% spent 180-365 days away from the home station (Figure 21)

**Figure 21:**  
**Percentage of Days Spent Away from Home Station**  
210,031 records



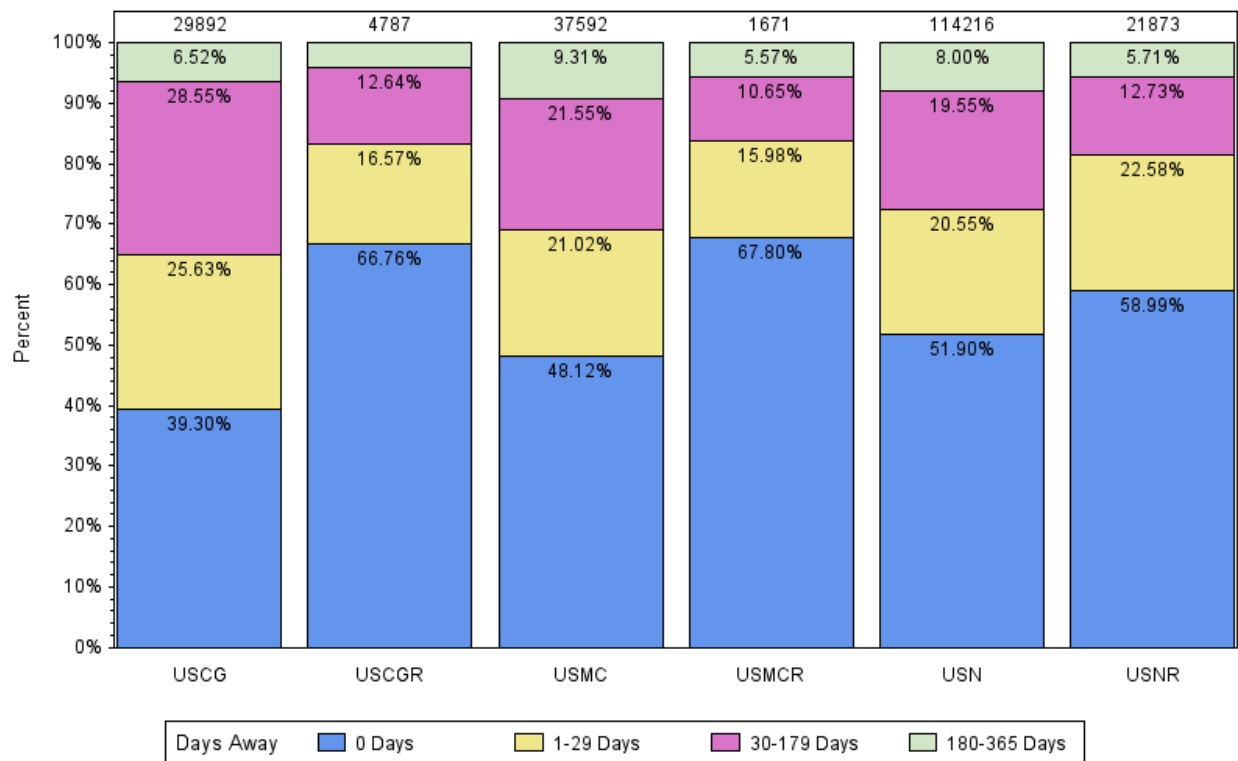
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Time away from home station was examined by service component (Figure 22). At least 52% of all USN and USNR members reported zero days away from home station. Among reservists, 59-68% of all reserve branches reported spending zero days away from home station. The USCG and USMC had the highest percentages of total days away with at least 52% of members reporting at least one day away from home station. USMC members reported having the greatest percentage of members away from home station for 180-365 days (9%), while the USCGR members only had 4% of individuals away from home station for 180-365 days.

**Figure 22:**  
**Days Away From Home Station by Service**  
210,031 records

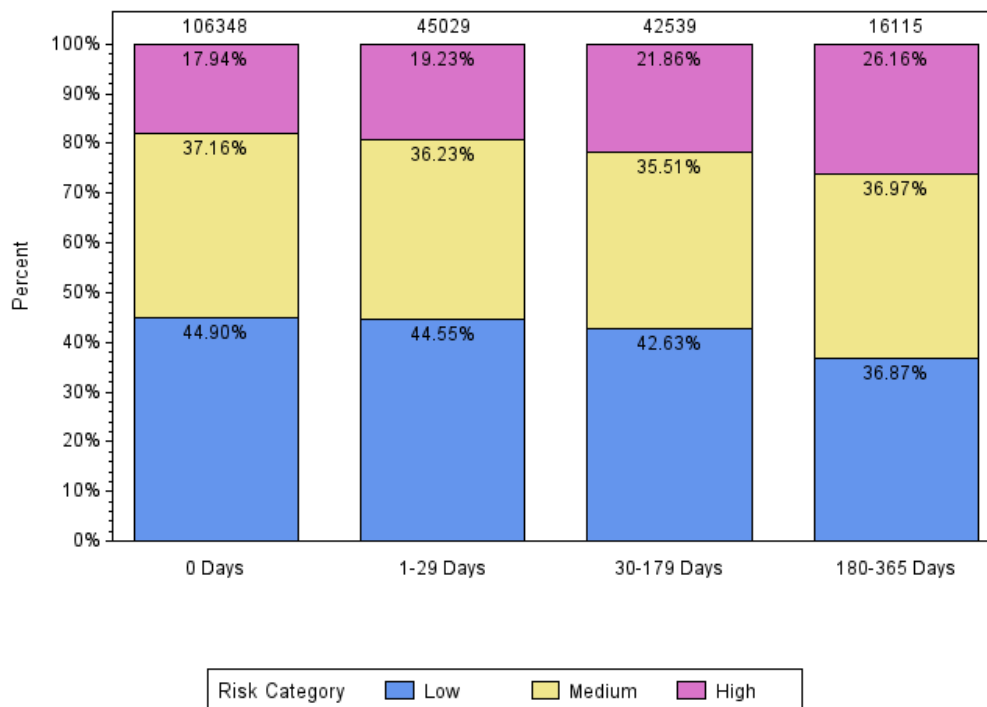


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Total HRA risk score was examined in relation to the four “Days Away from Home Station” categories using frequency distribution and logistic regression. People classified as a ‘medium’ risk were within two percent across all days away time periods. Both the ‘low’ risk and ‘high’ risk categories changed with longer time away from home station. The percent of members in the ‘low’ risk category decreased from 45% at 0 days away to 37% at 180-365 days away. The percentage of members in the ‘high’ risk category increased from 18% at 0 days away to 26% at 180-365 days away (Figure 23).

**Figure 23:**  
**Distribution of Risk Categories for Completed HRAs for Days Away from Home Station**  
210,031 records



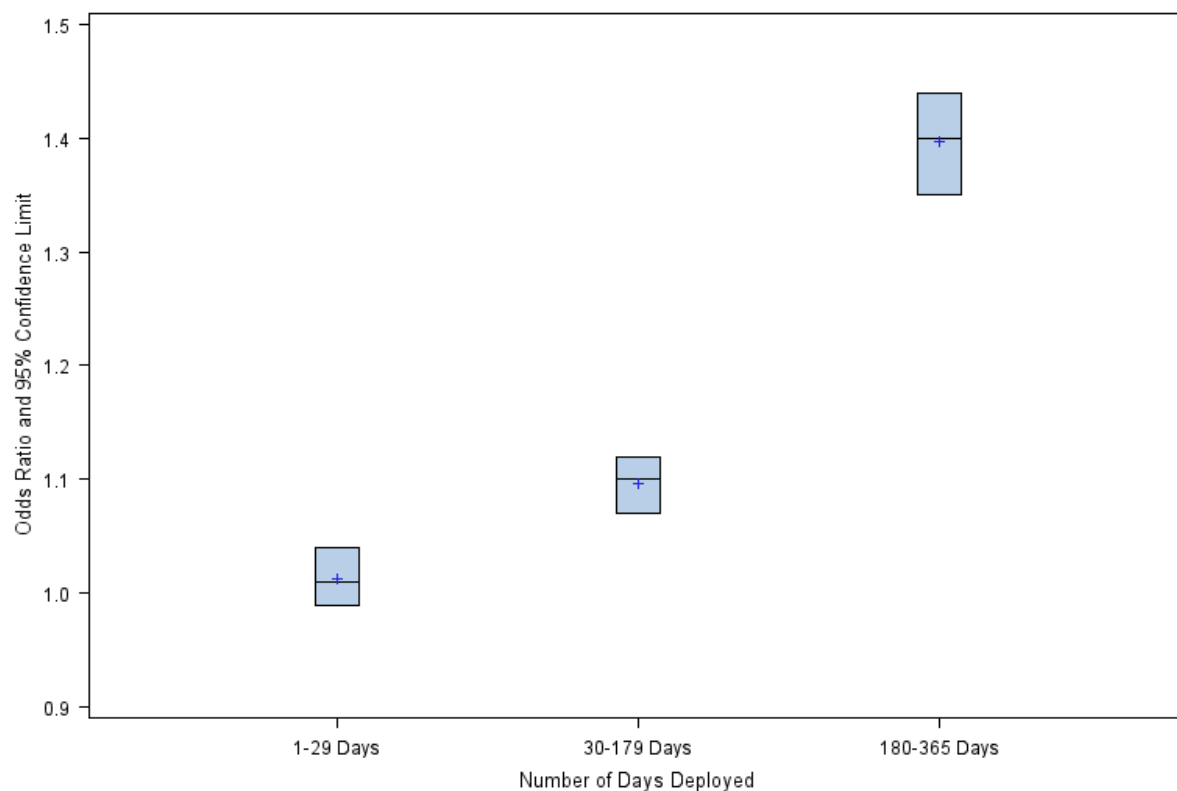
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### *Days Away From Home Station and Risk Score*

To evaluate the relationship between length of days away from home station and risk score, a logistic regression model was used. A risk score greater than two (i.e., medium and high categories) was set as the dependent variable, while days away from home station was used as the predictive variable divided into four groups: 0 days away from home station, 1-29 days away from home station, 30-179 days away from home station, and 180-365 days away from home station. The model was found to be significant with the odds ratio increasing in each of the days away categories when compared to not leaving home station (Figure 24): OR [1-29 days] 1.01 (95% CI 0.99-1.04), OR [30-179 days] 1.10 (95% CI 1.07-1.12), and OR [180-365days] 1.40 (95% CI 1.35-1.44).

**Figure 24:**  
**Relationship Between Risk Number and Different Days Away Categories**  
210,031 records



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**Table 6.** Relationship Between Days Away from Home Station and Risk Scores, 2016 HRA

Days Away from Home Station	Odds Ratio (95% CI)	p-value
0 Days (n=106,348)	1 (Reference)	Reference
1-29 Days (n=45,029)	1.01 (0.99-1.04)	0.2122
30-179 Days (n=42,539)	1.10 (1.07-1.12)	<.0001
180-365 Days (n=16,115)	1.40 (1.35-1.44)	<.0001

Data source: 2016 HRA

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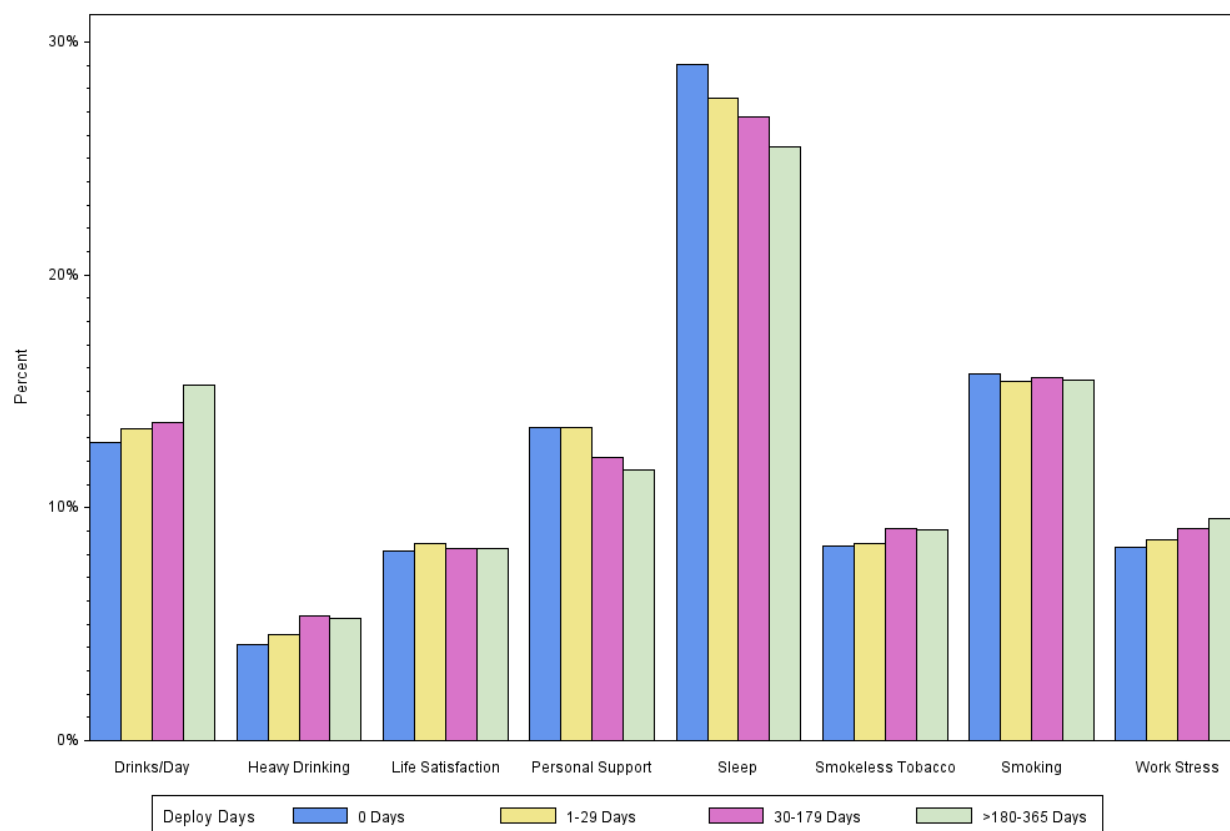
#### *Days Away from Home Station and Unhealthy Behaviors*

Responses to questions about tobacco use, smokeless tobacco, drinks per day, heavy drinking, life satisfaction, work stress, personal support, and sleep were examined over the four time periods away from home station. The eight questions were examined to determine any time-related differences in reporting of unhealthy behaviors.

The next seven graphs (Figures 25-31) display the results of ‘unhealthy’ responses by self-reported time away from home station. Self-reported unhealthy behaviors, such as drinks per day, heavy drinking, smokeless tobacco, and work stress all increased as time away from station increased for all service components combined. However, life satisfaction and smoking remained unchanged, while restful sleep decreased as time away from home station increased.



Figure 25:  
**Distribution of 'Unhealthy' Behaviors by Time Away from Home Station, All Service Components**  
210,031 records



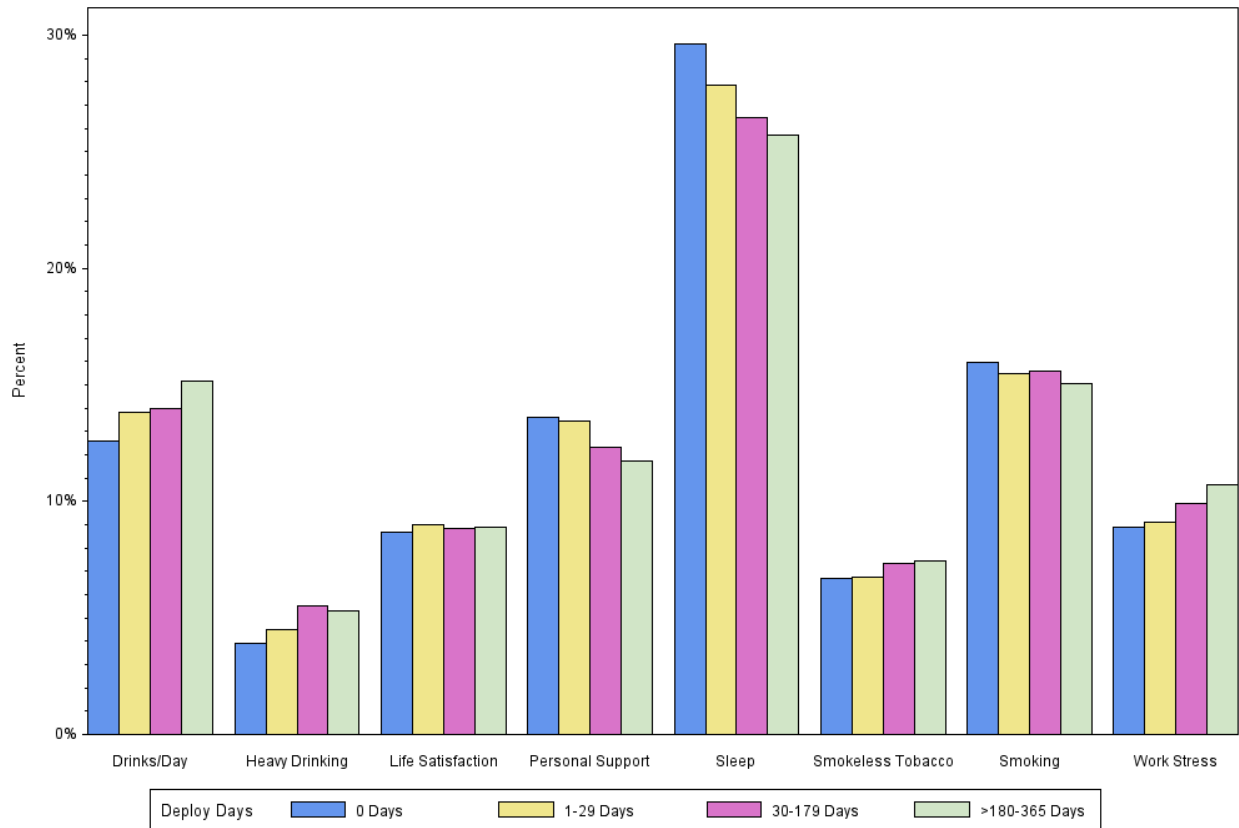
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Frequency of 'unhealthy' responses increased or stayed relatively stable for all risk factors for USN members as days away from home station increased (Figures 26 and 27), with the exception of personal support and sleep. USNR members had similar self-reported heavy drinking, sleep and smokeless tobacco unhealthy behaviors across time away from home station



periods. Self-reported behaviors were relatively similar between USN and USNR members.

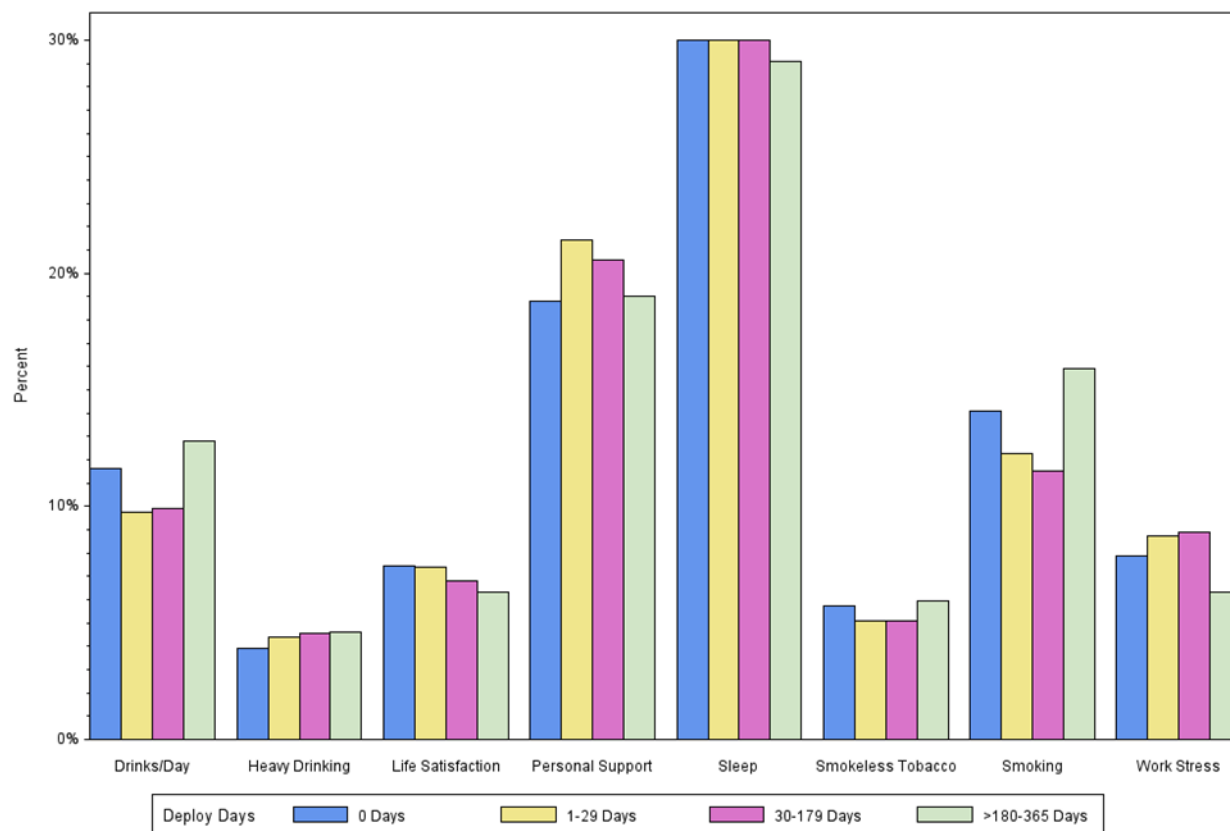
Figure 26:  
**USN Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records



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Figure 27:  
**USNR Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records

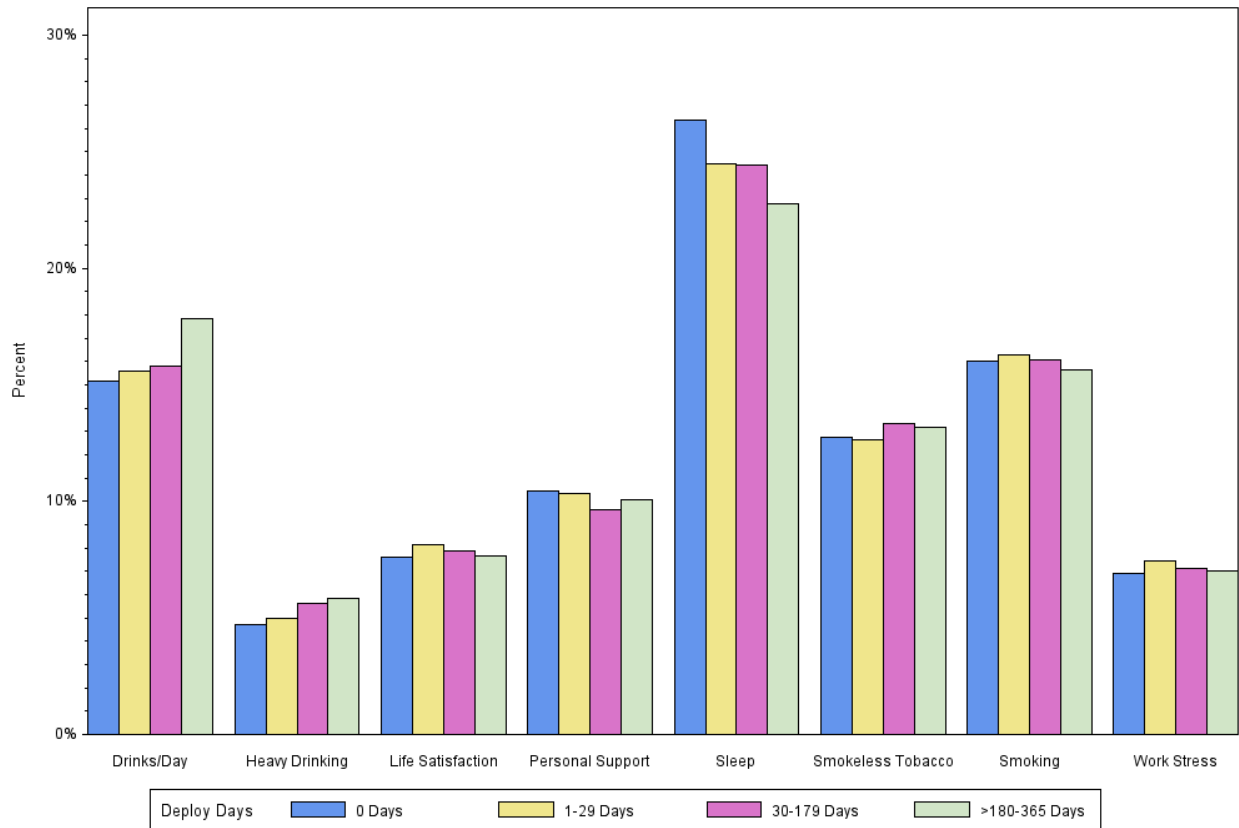


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Compared to Navy and Coast Guard members, Marines tended to report higher percentages of drinks per day, which generally increased as days away from home station increased (Figures 28 and 29). Frequency of ‘unhealthy’ responses increased or stayed relatively stable for all risk factors for USMC members as days away from home station increased, with the exception of sleep.

Figure 28:  
**USMC Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records

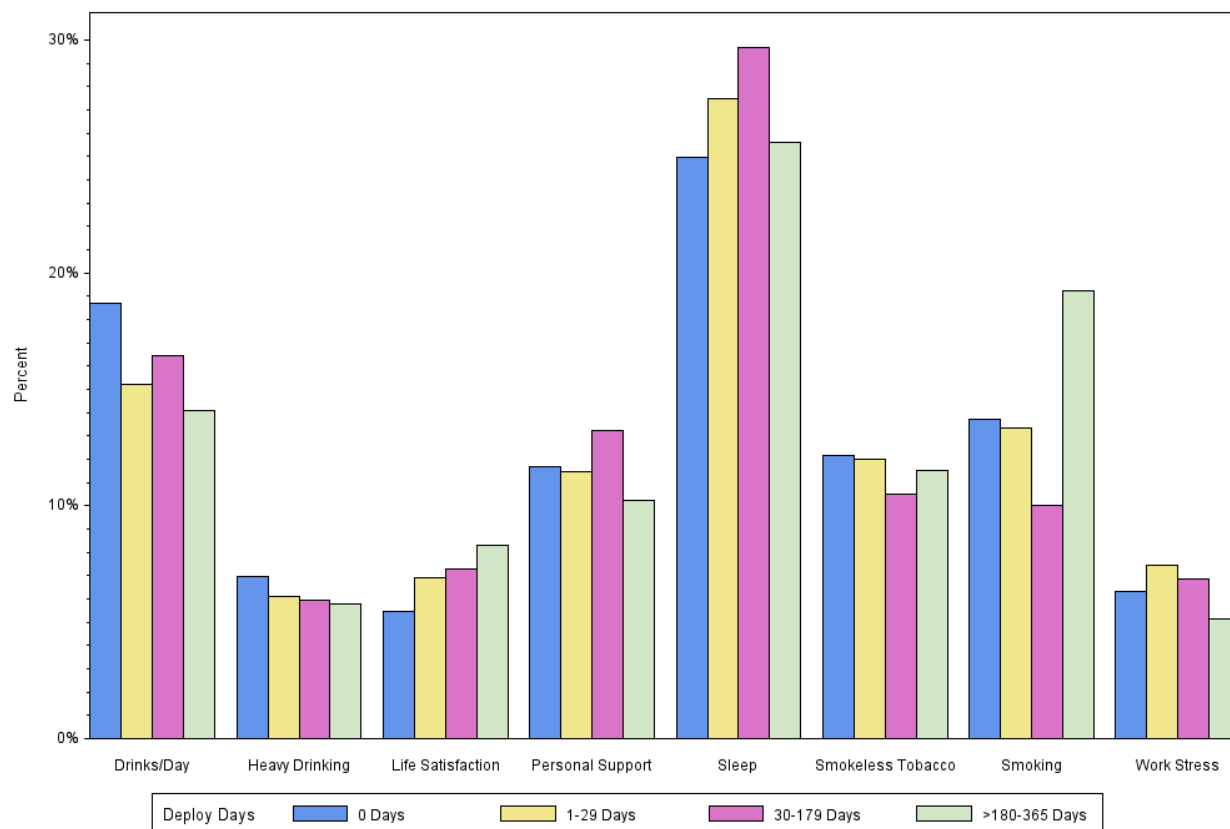


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Figure 29:  
**USMCR Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records

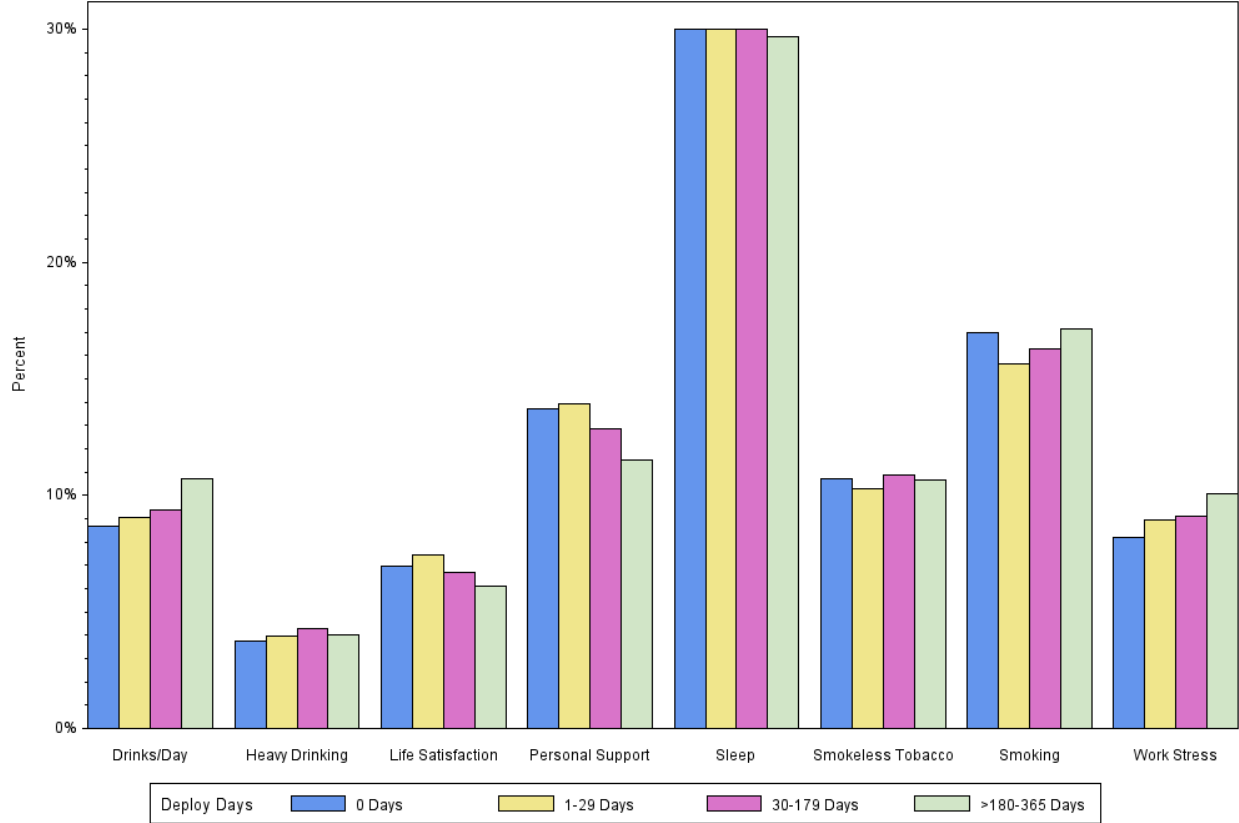


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USCG members reported slightly higher levels of smoking than USCGR members. However, USCGR members reported higher percentages of lack of personal support. Other behavior changes were relatively similar between the two groups (Figures 30 and 31).

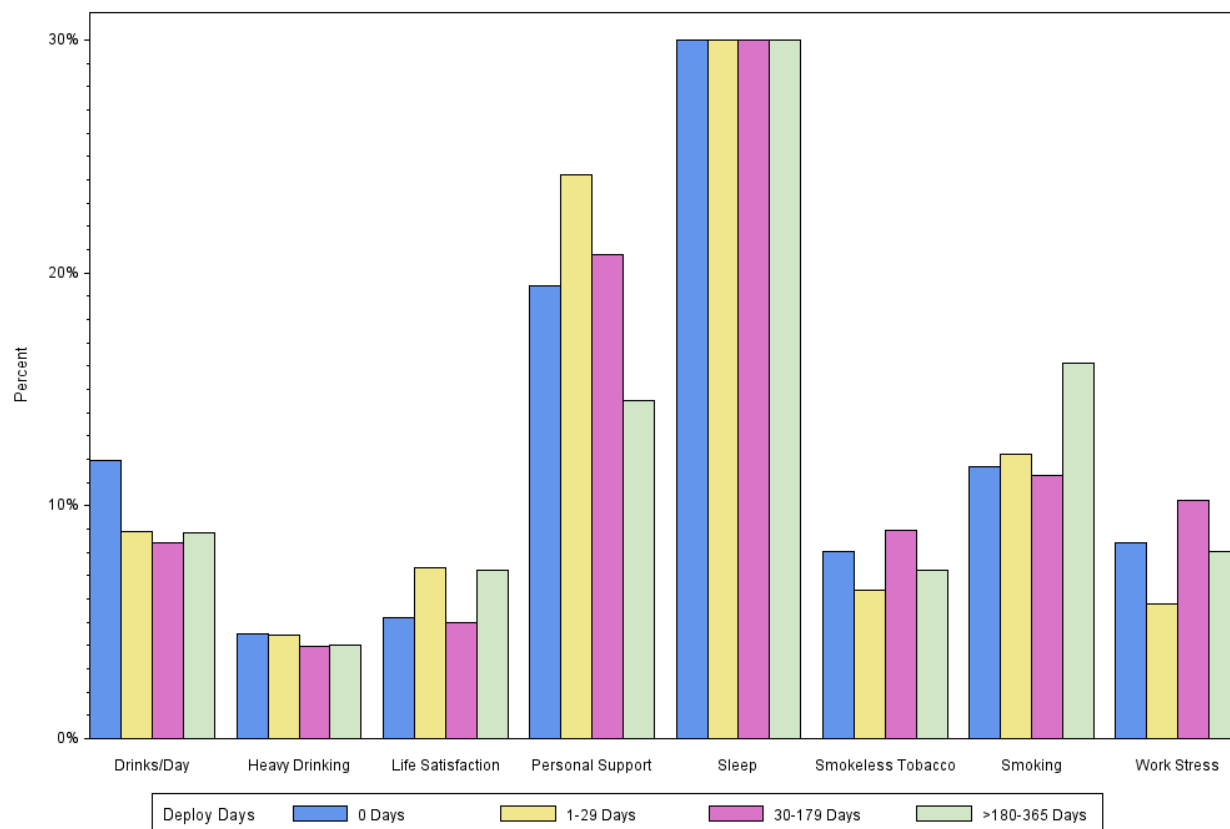
Figure 30:  
**USCG Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records



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Figure 31:  
**USCGR Distribution of 'Unhealthy' Behaviors by Time Away from Home Station**  
210,031 records



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## Discussion

### *Strengths and Limitations*

Anonymity is a key strength of the survey, making it more likely that participants will answer honestly about risky behaviors in which they engage. Taking the assessment is a matter of a commands' voluntary implementation of the HRA process, in addition to fact that completing the questionnaire is voluntary for every individual.

Self-reported data can be biased due to participant recall or by socially desirability bias. As such, some overestimation of positive behaviors and underestimation of negative behaviors may occur. It is possible for an individual to complete the questionnaire multiple times, as there is no way to block or detect duplicate entries, although there is little individual incentive to do this. It is also difficult to directly compare service components because the demographic characteristics that influence health behavior, as described earlier, vary significantly. Records collected by commands using the stand-alone version may not have all been sent to NMCPHC and, consequently, were not included in the master data set.

### *Demographics*

The use of the tool declined for most service components in 2016 compared to 2015: USN (-12,551), USNR (-4,333), USMC (-5,752), USMCR (-390), USCG (-4,550), and USCGR (-814).

When interpreting the results, it is important to use caution if comparing groups that are dissimilar. For example, the Marine Corps is comprised of significantly younger members whose mission and environment may affect the results. It would be expected that younger members would report different types and levels of risk behaviors compared to older members. Similar differences in results could be attributed to gender differences. Although specific risk behaviors were not analyzed in this report by age or gender, the total number of risk behaviors, the risk number category, was examined for both of these variables. Not surprisingly, increasing age was inversely associated with the percentage of individuals who fell into the medium and high risk number category. In addition, female members had a lower mean risk number than male members.

### *Risk Factors*

The tool uses Body Mass Index (BMI), which is a fairly reliable indicator of body fatness for most people, is based on self-reported height and weight and is an inexpensive and easy-to-perform method of screening for weight categories that may lead to health problems.<sup>1</sup> Military height-weight tables use this approach but are more lenient for establishing official standards. BMI can also overestimate body fat in lean, muscular individuals. Therefore, these data should



not necessarily lead to the conclusion that all individuals exceeding healthy levels are either overweight or obese. Rather, the data may support some general observations about weight across the services.

The decreasing percentage of members in the high risk category after the age of 29 may be due to survivor effect or healthy worker effect, indicating that those who remain in the military tend to be healthier than those who leave the service. It may also be that some individuals reduce their risky lifestyle behaviors as they mature.

### *Days Away From Home*

The largest number of individuals that completed the HRA did not deploy at all last year (51%). When added to the number of members that were away from home for fewer than 30 days, the total percentage was approximately 72%. USCG members were away from home for more days than members of other service components. As stated earlier, as time away from home station increased, the mean risk and the proportion of members in the high risk category increased. Therefore, implementing health promotion activities may be even more important in populations that experience more separations.

## Conclusion

When compared to previous surveys, the prevalence of specific risk factors has remained fairly constant, with the leading health risks being low fruit and vegetable consumption, high fat foods consumption, not flossing teeth, and lack of restful sleep. These results should be used to plan health promotion interventions that target priority areas. Although comparing individual service results to the total of all services may be tempting, it may be more appropriate to seek realistic and incremental percentages improvements when setting goals for the future.

The NMCPHC Workplace HRA can be a valuable tool for tailoring health messages to individuals. Participant feedback and referral to credible health websites on each of the topics for more detailed information provides participants with the knowledge and skills to better manage their personal health.

From a more global, population health approach, the aggregate data in this HRA report provides each of the service components with valuable information that can be incorporated into comprehensive workplace or community health assessments, which is a first step in planning effective health promotion programs. Local HRA administrators have the ability to generate additional reports in even greater detail at the individual unit level.



Decision-makers can use the data in this report for strategic planning. The results of this report can have a bearing on recruitment, retention, readiness, and quality of military life.



## Appendix A

Fleet and Marine Corps HEALTH RISK QUESTIONNAIRE					
Age:	<input type="text"/>	Sex:	<input type="text"/>	Rank/Rate:	<input type="text"/>
Race/Ethnicity:	<input type="text"/>	Height:	FEET <input type="text"/> INCHES <input type="text"/>	Weight:	POUNDS <input type="text"/>
				women select non-pregnant weight	
Number of days spent away from home station in the past 12 months:				<input type="text"/>	
1. Would you say that your health in general is ....  <input type="radio"/> a. Excellent <input type="radio"/> b. Good <input type="radio"/> c. Fair <input type="radio"/> d. Poor		2. Do you <u>currently</u> smoke cigarettes, cigars, pipes, hookah, or electronic products (e.g. e-cigarettes, e-hookah, etc.)?  <input type="radio"/> a. Every day <input type="radio"/> b. Most days <input type="radio"/> c. Some days <input type="radio"/> d. Never smoked <input type="radio"/> e. I quit		3. Do you <u>currently</u> use smokeless tobacco (e.g., chew, dip snuff, snus)?  <input type="radio"/> a. Every day <input type="radio"/> b. Most days <input type="radio"/> c. Some days <input type="radio"/> d. Never used smokeless tobacco <input type="radio"/> e. I quit	
4. Do you consume more than 4 alcoholic drinks on any day or 14 alcoholic drinks per week (for men), or more than 3 alcoholic drinks on any day or 7 alcoholic drinks per week (for women)?  <input type="radio"/> a. Yes <input type="radio"/> b. No		5. How often do you typically drink 5 or more alcoholic drinks on one occasion? ("One Occasion" refers to an event or period when drinking exceeds one drink per hour)  <input type="radio"/> a. Daily <input type="radio"/> b. Weekly <input type="radio"/> c. Monthly <input type="radio"/> d. Once or twice per year <input type="radio"/> e. Never		6. How often do you drive when perhaps you have had too much to drink?  <input type="radio"/> a. Often (i.e., more than once during the past 6 months) <input type="radio"/> b. Sometimes (i.e., once during the past 6 months) <input type="radio"/> c. Rarely (i.e., not in the past 6 months, but at least once during the past year) <input type="radio"/> d. Never (i.e., not during the past year)	
7. Do you use a seat belt when you drive or ride as a passenger?  <input type="radio"/> a. Always <input type="radio"/> b. Most of the time <input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never		8. How often do you wear a helmet when you ride a motorcycle, all-terrain vehicle, or bicycle?  <input type="radio"/> a. Always <input type="radio"/> b. Most of the time <input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never <input type="radio"/> f. Does not apply to me / I do not ride these vehicles		9. How often do you use the safety equipment recommended for your job? (e.g., hearing and vision protection, respirators, barriers, and other safety devices)  <input type="radio"/> a. Always <input type="radio"/> b. Most of the time <input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never <input type="radio"/> f. Does not apply to me / None recommended	
10. In general, how satisfied are you with your life? (e.g., work situation, social activity, accomplishing what you set out to do)  <input type="radio"/> a. Very satisfied		11. How often do you feel that your work situation is putting you under too much stress?  <input type="radio"/> a. Always <input type="radio"/> b. Most of the time		12. If you are feeling lonely, depressed, angry, stressed, or in need of help, do you have someone to talk to?  <input type="radio"/> a. Not applicable. I do not experience these feelings and have no need to talk about them.	





<input type="radio"/> b. Mostly satisfied <input type="radio"/> c. Somewhat satisfied <input type="radio"/> d. Not satisfied	<input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never	<input type="radio"/> b. Always <input type="radio"/> c. Most of the time <input type="radio"/> d. Sometimes <input type="radio"/> e. Rarely <input type="radio"/> f. Never
13. In the past 12 months, how often did you or your partner(s) use a condom when you had sex? <i>(read all choices below carefully before responding)</i>  <input type="radio"/> a. Does not apply to me because I am in a long-term relationship where we only have sex with each other - OR - does not apply to me and my partner(s) for other reasons. <input type="radio"/> b. Currently I am not sexually active <input type="radio"/> c. Always <input type="radio"/> d. Most of the Time <input type="radio"/> e. Sometimes <input type="radio"/> f. Rarely or Never	14. On average, how many weeks per month do you engage in a total of at least 150 minutes of <b>moderate-intensity</b> aerobic activity (moderate-intensity physical activity means working hard enough to raise your heart rate and break a sweat, yet still being able to carry on a conversation. I.e., brisk walking, swimming leisurely, or leisurely biking) OR at least 75 minutes of <b>vigorous-intensity</b> aerobic activity (vigorous-intensity means you will not be able to say more than a few words without pausing for a breath, i.e., jogging/running, swimming laps, or jumping rope)?  <input type="radio"/> a. 4 weeks per month <input type="radio"/> b. 3 weeks per month <input type="radio"/> c. 2 weeks per month <input type="radio"/> d. 1 week per month <input type="radio"/> e. I do not participate in aerobic training	15. On average, how many days per week do you engage in muscle-strengthening activities that work all muscle groups (legs, hips, back, abdomen, chest, shoulders and arms).  <input type="radio"/> a. 4 or more days a week <input type="radio"/> b. 3 days a week <input type="radio"/> c. 2 days a week <input type="radio"/> d. 1 day a week <input type="radio"/> e. I do not participate in strength training
16. How often do you usually eat high-fat foods? <i>(e.g., fried foods; high-fat dairy products such as butter, cheese, or whole milk; regular salad dressing or mayonnaise; or packaged foods high in fats)</i>  <input type="radio"/> a. At most or every meal <input type="radio"/> b. At least once a day <input type="radio"/> c. 3-5 times per week <input type="radio"/> d. 1-2 times per week <input type="radio"/> e. Rarely or never	17. About how many cups of fruit do you eat each day? <i>(One cup of fruit = one small piece of fruit, one cup of cut-up fruit, one cup of 100% fruit juice, or 1/2 cup of dried fruit)</i>  <input type="radio"/> a. Four or more <input type="radio"/> b. Three <input type="radio"/> c. Two <input type="radio"/> d. One <input type="radio"/> e. Less than one	18. How often do you use over the counter (OTC) drugs, dietary supplements, or herbal products to help you manage your weight, enhance athletic performance, or treat depression?  <input type="radio"/> a. Daily <input type="radio"/> b. Weekly <input type="radio"/> c. Monthly <input type="radio"/> d. Seldom <input type="radio"/> e. Never
19. How frequently do you floss your teeth?  <input type="radio"/> a. Daily <input type="radio"/> b. Most days <input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never	20. About how many cups of vegetables do you eat each day? <i>(One cup of vegetables = one cup of raw or cooked vegetables, 1 cup of 100% vegetable juice, or 2 cups of raw leafy greens)</i>  <input type="radio"/> a. Four or more <input type="radio"/> b. Three <input type="radio"/> c. Two <input type="radio"/> d. One <input type="radio"/> e. Less than one	21. How often do you get enough restful sleep to function well in your job and personal life?  <input type="radio"/> a. Always <input type="radio"/> b. Most of the time <input type="radio"/> c. Sometimes <input type="radio"/> d. Rarely <input type="radio"/> e. Never
22. For both men and women,		





<p>pregnancy is a life-changing event for mother and father. Regarding your actions related to possible pregnancy:</p> <p><input type="radio"/> a. I am not having sexual intercourse at this time in my life</p> <p><input type="radio"/> b. Either my partner or I cannot become pregnant</p> <p><input type="radio"/> c. My partner and I are pregnant, we are trying to have a baby now, or we would welcome a pregnancy if it occurred now</p> <p><input type="radio"/> d. My partner or I are correctly and consistently using birth control ALL the time</p> <p><input type="radio"/> e. My partner or I are correctly using birth control MOST of the time</p> <p><input type="radio"/> f. My partner or I are correctly using birth control SOME of the time</p> <p><input type="radio"/> g. My partner and I are not using birth control</p>		
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FINISHED



## Appendix B

### CO Report Scoring Grid

Health Indicator	Health Behavior	Unhealthy Rating	Healthy Rating
<b>Perception</b>	1. Perception of health	c-d	a-b
<b>Tobacco Use</b>	2. Smoking	a-c	d-e
	3. Smokeless Tobacco	a-c	d-e
<b>Alcohol Use</b>	4. Drinks Per Day	a	b
	5. Heavy Drinking	a-c	d-e
	6. Drinking and Driving	a-c	d
<b>Injury Prevention</b>	7. Seat Belt	b-e	a
	8. Vehicle Helmets	b-e	a, f
	9. Safety Equipment	c-e	a, b, f
<b>Stress Mngt</b>	10. Life Satisfaction	c-d	a-b
	11. Work Stress	a-b	c-e
	12. Personal Support	d-f	a-c
<b>Sexual Health</b>	13. Condom Use	d-f	a-c
	22. Pregnancy Prevention	e-g	a-d
<b>Physical Activity</b>	14. Aerobic Activity	c-e	a-b
	15. Strength Training	d-e	a-c
<b>Nutrition</b>	16. High Fat Foods	a-c	d-e
	17. Fruits	d-e	a-c
<b>Supplements</b>	18. Supplements	a-c	d-e
<b>Dental</b>	19. Flossing	c-e	a-b
<b>Nutrition</b>	20. Vegetables	c-e	a-b
<b>Sleep</b>	21. Sleep	c-e	a-b
<b>BMI</b>		BMI $\geq$ 25	BMI < 25



**Reference:**

1. Centers for Disease Control and Prevention BMI Web Site. Available at:  
[https://www.cdc.gov/healthyweight/assessing/bmi/adult\\_bmi/#Interpreted](https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/#Interpreted).  
Accessed April 24, 2017.

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