RESEARCH BRIEF

2018 Health Related Behaviors Survey

Summary Findings and Policy Implications for the Reserve Component

The Health Related Behaviors Survey (HRBS) is the U.S. Department of Defense's (DoD's) flagship survey for understanding the health, health-related behaviors, and well-being of service members. Fielded periodically for more than 30 years, the HRBS includes content areas that might affect military readiness or the ability to meet the demands of military life. The Defense Health Agency asked the RAND Corporation to revise and field the 2018 HRBS among members of both the active component and the reserve component. This brief discusses findings for the reserve component.

This brief presents high-level summary results for broad topics of the HRBS, as well as policy implications of key findings. The results for the reserve component are compared with Healthy People 2020 (HP2020) objectives established by the U.S. Department of Health and Human Services for the general U.S. population and with findings for the active component. Because the military differs notably from the general population (for example, military populations are more likely to be young and male than is the general population), the HP2020 comparisons are offered only as a benchmark of interest. Ways of improving future iterations of the HRBS are also suggested.

Key Findings

Health Promotion and Disease Prevention

The HRBS examined weight status, physical activity, annual physical assessments, and sleep.

- 31.4 percent (confidence interval [CI]: 30.2–32.5) of the reserve component were normal weight based on their body mass index (BMI), and 19.0 percent (CI: 18.1–20.0) were obese. The rate of obesity in the reserve component was below that for the general population (31.4 percent) and the HP2020 goal (30.5 percent or less).
- Reserve component members met or exceeded HP2020 targets for moderate physical activity, vigorous physical activity, and strength training.
- 71.6 percent (CI: 70.4–72.7) reported receiving a routine medical checkup in the past 12 months, falling short of the current military standard for annual checkups.
- 8.0 percent (CI: 7.2–8.9) had no health insurance. This is below the HP2020 goal that 100 percent of people have health insurance but comparable to the 8.5 percent of the general population without health insurance.

- 45.4 percent (CI: 44.2–46.6) met HP2020 guidelines for adequate sleep; 10.4 percent (CI: 9.7–11.1) reported using over-the-counter or prescription medications at least once weekly to sleep over the past 30 days.
- To stay awake in the past 30 days, 11.4 percent (CI: 10.6–12.2) reported consuming energy drinks at least three times weekly, 1.2 percent (CI: 0.9–1.5) reported using over-the-counter medications at least three times weekly, and 2.0 percent (CI: 1.6–2.3) reported using prescription medications at least three times weekly.

Substance Use

The HRBS examined use of alcohol, tobacco and nicotine products, marijuana and synthetic cannabis, other drugs, and prescription drugs.

- 29.0 percent (CI: 27.9–30.1) of reservists were binge drinkers, defined as five or more drinks on the same occasion for men or four or more for women in the past 30 days, and 7.4 percent (CI: 6.8–8.1) were heavy drinkers, defined as binge drinking at least one day per week in the past 30 days. In the 2018 National Survey of Drug Use and Health (NSDUH), 26.5 percent of U.S. adults were binge drinkers, and 8.9 percent were heavy drinkers.
- 4.8 percent (CI: 4.2–5.3) reported serious consequences (for example, getting into a fight) from drinking in the past 12 months, 6.1 percent (CI: 5.5–6.7) reported risky drinking and driving (either as a driver or as a passenger of an inebriated driver), and 5.3 percent (CI: 4.8–5.9) reported work-related productivity loss from drinking.
- 20.2 percent (CI: 19.2–21.2) agreed that military culture was supportive of drinking (for example, that it is hard to "fit in" with one's command if not drinking).
- 30.5 percent (CI: 29.3–31.6) reported currently using tobacco or nicotine products. The

Methods

RAND fielded the 2018 HRBS among active component and reserve component U.S. military service members between October 2018 and March 2019. The survey of the reserve component included five reserve branches—Air Force, Army, Marine Corps, Navy, and Coast Guard—and two National Guard branches—Air National Guard and Army National Guard. The 2018 HRBS was a web-based confidential survey, which allowed researchers to target reminders to nonresponders and to reduce survey burden by linking responses to administrative data.

The sampling frame used a random sampling strategy stratified by service branch, pay grade, and gender. The overall weighted response rate for the survey was 9.4 percent, yielding a final analytic sample for the reserve component of 16,475 responses. To address missing data, RAND researchers used imputation, a statistical procedure that uses available data to predict missing values. To represent the reserve component population, they weighted responses to account for the oversampling of service members in certain strata. This research brief reports point estimates and 95-percent CIs.*

RAND researchers tested differences in each outcome across levels of key factors or by subgroups—service branch, pay grade, gender, race/ethnicity, and age group—using a two-stage procedure based on a Rao-Scott chi-square test for overall differences across levels within a single factor and, if the overall test was statistically significant, two-sample *t*-tests that explored all possible pairwise comparisons between levels of the factors (for example, men versus women). Readers interested in these differences should consult the full 2018 HRBS reserve component final report at www.rand.org/t/rr4228.

This brief is one of eight on the reserve component; each of the other seven corresponds to a different chapter in the full report. A similar series of eight briefs discusses findings for the active component.

* CIs provide a range in which the true population value is expected to fall. They account for sampling variability when calculating point estimates but do not account for problems with question wording, response bias, or other methodological issues that, if present in the HRBS, might bias point estimates.

National Health Interview Survey suggests that 19.3 percent of the total population currently uses tobacco, though this estimate is not directly comparable with the HRBS estimate.

- 9.9 percent (CI: 9.1–10.7) reported e-cigarette use. Data from the 2017 Behavioral Risk Factor Surveillance System suggest that 4.6 percent of U.S. adults are current e-cigarette smokers.
- 2.7 percent (CI: 2.2–3.2) reported drug use in the past 12 months (for example, using nonprescription cough or cold medicine to get high, nonprescription anabolic steroids, marijuana or synthetic cannabis, or drugs such as cocaine or methamphetamines); 1.4 percent (CI: 1.1–1.8) reported drug use in the past 30 days.
- HRBS reserve component respondents reported lower rates of use in the past 12 months for stimulants, sedatives, and pain relievers than civilians have reported, as well as lower rates of misuse.

Mental and Emotional Health

The HRBS examined mental health, social and emotional factors associated with mental health, perceived unmet treatment needs, barriers to mental health service use, and concerns that mental health treatment would damage one's military career.

- 6.5 percent (CI: 5.8–7.1) of reserve component members reported serious psychological distress in the past 30 days, and 10.5 percent (CI: 9.8–11.1) reported symptoms in the past 30 days indicating probable posttraumatic stress disorder (PTSD). Among the general population, 2.9 to 5.2 percent reported serious psychological distress in the past 30 days, and 3.5 percent met PTSD criteria in the past 12 months.
- 46.9 percent (CI: 45.7–48.1) reported angry or aggressive behavior in the past 30 days.
- 7.8 percent (CI: 7.3–8.3) indicated experiencing unwanted sexual contact since joining the military, and 1.6 percent (CI: 1.2–1.9) indicated experiencing such contact in the past 12 months. It is important to keep in mind that the Workplace and Gender Relations Survey of Reserve Component Members (WGRR) and the HRBS measure different constructs. The WGRR measures *sexual assault*. The HRBS measures *unwanted sexual contact*, which is a broader construct. The HRBS defined *unwanted sexual contact* as "times when someone has touched you in a sexual way, had sex with you, or attempted to have sex with you when you did not consent or could not consent. By sexual contact we mean any sexual touching as well as oral, anal or vaginal penetration." Thus, results are not comparable across the two surveys.
- 3.8 percent (CI: 3.4–4.2) indicated experiencing physical assault since joining the military, and 0.7 percent (CI: 0.5–0.9) indicated experiencing physical assault in the past 12 months. Among the general population at least 12 years of age, 1.7 percent reported experiencing a physical assault in the past 12 months.
- 6.0 percent (CI: 5.4–6.6) of reservists reported having thoughts of suicide in the past 12 months, 2.0 percent (CI: 1.6–2.4) reported suicide plans, and 0.9 percent (CI: 0.6–1.3) reported a suicide attempt. Among adults 18 or older in the general population, 4.3 percent reported having thoughts of suicide in the past 12 months, 1.3 percent reported having suicide plans, and 0.6 percent reported a suicide attempt.
- 21.0 percent (CI: 20.1–21.9) of reservists reported using mental health services in the past 12 months; this rate is about 5 percentage points higher than population proportions at similar ages in the NSDUH.
- Reserve component personnel were about as likely to see a specialty mental health provider (13.5 percent, CI: 12.7–14.2) as they were to see a general medical provider (12.7 percent, CI: 12.6–14.3) for mental health services. By contrast, the general population is more likely to see a general medical provider for mental health services. Reserve component members seeking mental health services had 9.7 visits (CI: 9.0–10.5) on average in the past 12 months.
- 8.2 percent (CI: 7.6–8.8) of reserve component members reported using a medication for a mental health condition in the past 12 months; among U.S. adults at least 18 years of age, 12.2 percent did so.
- 4.6 percent (CI: 4.1–5.0) of reservists reported needing but not receiving mental health services in the past 12 months. The most common reason cited for not receiving services was not realizing they were needed at the time, a

finding consistent with research on the civilian population.
- 29.9 percent (CI: 28.8–30.9) of reserve component respondents suggested that seeking mental health services damages one's military career.

Physical Health and Functional Limitations

The HRBS examined chronic health conditions, physical symptoms, pain, mild traumatic brain injury (mTBI) and postconcussive symptoms, and self-reported health.

- 36.6 percent (CI: 35.5–37.7) of reserve component members reported being told by a health care provider in the past 12 months that they had at least one chronic condition. The most common conditions were bone, joint, or muscle injury and back pain.
- The most common physical symptoms reserve component members reported experiencing in the past 30 days were bodily pain including headache (21.1 percent, CI: 20.2–22.0), trouble sleeping (13.7 percent, CI: 12.9–14.5), and feeling tired or having low energy (11.9 percent, CI: 11.2–12.7).
- 4.3 percent (CI: 3.8–4.8) of reserve component members had screened positive for mTBI.
- 57.4 percent (CI: 56.2–58.5) reported that their health was very good or excellent.
- On average over the prior 30 days, reservists reported missing 0.53 days (CI: 0.47–0.59) of work because of mental or physical symptoms and experiencing 1.50 days (CI: 1.39–1.61) of reduced productivity because of mental or physical symptoms.

Sexual Behavior and Health

The HRBS examined sexual risk behaviors, sexually transmitted infections (STIs) and unintended pregnancies, use of and access to contraception, and human immunodeficiency virus (HIV) testing in the past 12 months.

- 15.9 percent (CI: 14.9–16.8) of reserve component members reported having more than one sex partner in the past 12 months, 33.2 percent (CI: 32.0–34.3) did not use condoms with new sex partners, and 17.7 percent (CI: 16.7–18.7) were at high risk for HIV infection.
- 1.9 percent (CI: 1.6–2.1) reported having an STI in the past 12 months.
- 3.2 percent (CI: 2.5–3.9) of women in the reserve component reported having an unintended pregnancy in the past year, while 2.3 percent (CI: 1.8–2.7) of men reported causing one. Less than 1 percent (0.02, CI: 0.00–0.05) of all reservists experienced an unintended pregnancy during deployment in the past year.
- 19.1 percent (CI: 18.2–20.0) of reservists reported that they did not use any contraception at the time of their most-recent vaginal sex in the past 12 months. Among service women at risk for unintended pregnancy, 73.8 percent (CI: 71.4–76.1) used contraception during their most-recent vaginal sex in the past 12 months, below the HP2020 goal of 91.6 percent.
- 25.5 percent (CI: 24.5–26.4) of reservists reported using highly effective contraception at the time of their most-recent vaginal sex in the past 12 months.
- Most reservists who deployed in the past 12 months did not receive contraceptive counseling before doing so. Males (15.2 percent, CI: 13.1–17.3) were less likely to receive such counseling than females (33.4 percent, CI: 29.3–37.5).
- 71.4 percent (CI: 70.2–72.5) of reservists reported HIV testing in the past 12 months, including 84.2 percent (CI: 77.8–90.6) of male reservists who had sex with other men. Among those most at risk for HIV (male service members who had sex with one or more men in the past 12 months, service members who had vaginal or anal sex with more than one partner in the past 12 months, and service members who had an STI in the past 12 months), 79.1 percent (CI: 76.3–81.9) reported HIV testing in the past 12 months.

Sexual Orientation and Health

The HRBS estimated the percentage of servicemen and servicewomen who are lesbian, gay, or bisexual (LGB) and identified key information about the health-related behavior and health status of LGB service members.

- 2.8 percent (CI: 2.3–3.3) of male reservists and 9.8 percent (CI: 8.6–11.0) of female reservists reported one or more same-sex partners in the past 12 months.

- 6.1 percent (CI: 5.6–6.7) of reservists identified as LGB, including 3.8 percent (CI: 3.2–4.4) of men and 15.4 percent (CI: 13.9–16.9) of women. Among both men and women, about half of LGB reservists are bisexual.
- LGB reservists were less likely than other reservists to be overweight or obese but also less likely to have had a routine checkup in the past 12 months and less likely to have had good or fairly good sleep quality in the past 30 days.
- LGB reservists were more likely than their non-LGB counterparts to engage in binge and heavy drinking, to use regular cigarettes or e-cigarettes, and to use any illicit drug. LGB reservists were less likely to use smokeless tobacco than non-LGB reservists.
- LGB reservists were more likely than others in the past 12 months to have had sex with a new partner without a condom, to have had more than one sex partner, and to have had an STI. They were also more likely than others to have had an HIV test in the past six months.
- LGB reservists were more likely than their non-LGB peers to report serious psychological distress or suicidal thoughts in the past 12 months, as well as probable PTSD and angry or aggressive behavior in the past 30 days. They were also more likely to use mental health services and medication for a mental health problem. They were more likely to report a perceived unmet need for mental health services and to report a belief that mental health treatment would damage one's military career.
- LGB reservists were also more likely than their non-LGB peers to indicate experiencing unwanted sexual contact and to have been physically assaulted, both since joining the military and in the past 12 months.

Deployment Experiences and Health

The HRBS examined the frequency and duration of deployments (both combat and noncombat), combat trauma experience, and deployment experiences and health.

- 52.9 percent (CI: 51.7–54.1) of reservists reported that they had deployed at least once.
- 19.7 percent (CI: 18.5–20.8) of reservists who reported ever having deployed did not report a combat deployment.
- 66.7 percent (CI: 65.4–68.0) of reservists who reported ever having deployed had not done so in the past 12 months.
- 41.2 percent (CI: 39.9–42.5) of reservists who reported that they had deployed also reported one or more traumatic combat experiences. The most common traumatic experiences were knowing someone killed in combat (25.2 percent; CI: 24.1–26.3), witnessing members of one's unit or an ally being seriously wounded or killed (23.1 percent; CI: 22.0–24.2), and witnessing civilians being seriously wounded or killed (23.1 percent; CI: 22.0–24.2).

Comparisons with HP2020

DoD policy seeks to "[s]upport the achievement of the Department of Health and Human Services' vision for improving the health of all Americans as outlined in Healthy People 2020." As such, it is important to be able to compare results from the HRBS with HP2020 goals. Again, readers should consider such comparisons cautiously because they ignore differences in demographic indicators (e.g., gender, age) related to health outcomes and health behaviors. At the same time, members of the reserve component might look more like civilian peers than members of the active component do.

Table 1 shows comparisons between HP2020 goals and findings from the 2018 HRBS. Green cells indicate where the reserve component is doing as well or better than the relevant HP2020 goal; red cells indicate where it is doing worse.

The reserve component is doing well with respect to several HP2020 goals: obesity, physical activity, strength training, high blood pressure, high cholesterol, and HIV testing among men who have sex with men. It falls short of HP2020 goals for alcohol use, tobacco use, sleep health, and contraceptive use.

Comparisons with the Active Component

Demographic differences between the active and reserve components make direct comparisons inadvisable. To consider differences between the two components in assessing HRBS results, RAND researchers used a regression model approach that accounted for demographic and other differences. Table 2 summarizes the results of comparisons using this regression

TABLE 1

Comparison of 2018 HRBS Reserve Component with HP2020 Goals for Select Outcomes

Topic	HP2020 Goal	2018 HRBS
Health promotion and disease prevention		
Obesity (ages 20+)	30.5% (or less)	19.0%
Normal weight (ages 20+)	(at least) 33.9%	31.4%
Moderate physical activity at least 150 minutes/week or vigorous physical activity 75 minutes/week	(at least) 47.9%	67.2%
Moderate physical activity for more than 300 minutes/week or vigorous physical activity for at least 150 minutes/week	(at least) 31.3%	41.6%
Muscle-strengthening activities on 3+ days/week[a]	(at least) 24.1%	43.1%
Sleep: 8 hours/24-hour period for those 18–21 years of age, 7 hours/24-hour period for those older than 21	(at least) 72.8%	45.4%
Substance use		
Binge drinking	24.2% (or less)	29.0%
Current cigarette smoking	12.0% (or less)	13.3%
Current cigar smoking	0.3% (or less)	8.0%
Current smokeless tobacco use	0.2% (or less)	11.0%
Physical health and functional limitations		
High blood pressure	26.9% (or less)	9.3%
High cholesterol	13.5% (or less)	6.8%
Sexual behavior and health		
Use of contraceptive at most-recent sex (ages 15–44)	91.6% (or higher)	73.8%[b]
Use of moderately or most-effective contraceptive (ages 20–44)	69.3% (or higher)	60.3%
Annual HIV testing among men who have sex with men	68.4% (or higher)	84.2%

[a] The HP2020 goal is for two or more days per week, but the HRBS measure cannot be disaggregated in this way. Instead, the HRBS value represents strength training of three or more days per week, which thus underestimates the percentage of service members meeting the HP2020 goal.

[b] The HRBS estimate is for women ages 17 to 44 because women under age 17 are not eligible to join the military.

TABLE 2

Significant Differences Between the Active and Reserve Components for Select Outcomes

Health Promotion and Disease Prevention	Substance Use	Mental and Emotional Health	Physical Health and Functioning	Sexual Behavior and Health
Obesity (HP2020 goal)	Binge drinking	Past-month and past-year serious psychological distress	Physician-diagnosed chronic conditions: high blood pressure; back pain; bone, joint, or muscle injury (including arthritis)	2+ sex partners in past year
Normal weight (HP2020 goal)	Heavy drinking	Probable PTSD	Physician-diagnosed chronic conditions: diabetes, high cholesterol, asthma, angina or coronary heart disease, heart attack	New partner sex without condom use past year
Medium activity level (HP2020 goal)	Any alcohol consequences	Any angry or aggressive behavior in past 30 days	No medical condition diagnosed in past year	Condom use during most-recent vaginal sex
High activity level (HP2020 goal)	Risky drinking and driving behavior	Unwanted sexual contact in past 12 months and since joining the military	Physical conditions: stomach or bowel problems, back pain, arm/leg/joint pain, headaches, chest pain or shortness of breath, tired or low energy	STI in past year
Strength training 3+ days per week	Any productivity loss due to drinking	Physically assaulted in past 12 months and since joining the military	Physical conditions: dizziness	No contraceptive use at most-recent sex
Less than one hour of screen time per day	Military culture supportive of drinking	Past-year gambling problem	Any bodily pain (including headache)	Used highly effective contraceptive at most-recent sex
Routine annual physical exam	Current cigarette smoker	Past-year suicidal thoughts, suicide plans, and suicide attempts	Any bodily pain (excluding headache)	Used moderately or most effective birth control method at last sex (women 20–44 years old)
Hours of sleep (HP2020 goal)	Current e-cigarette use	Perceived unmet need for mental health services	High physical symptom severity	HIV test in past year
Very good and fairly good self-rated sleep quality	Current smokeless tobacco user	Past-year mental health care service utilization	Excellent and very good self-rated health	High risk for HIV
Moderate to severe lack of energy due to poor sleep	Any past-12-month and past-30-day drug use (including marijuana)	Total mental health visits in past year	Absenteeism	High risk for HIV tested in past year
Frequent use of medication to sleep (3+ times per week)	Any past-12-month and past-30-day drug use (excluding marijuana)	Use of medication for mental health problem in past year	Presenteeism	Unintended pregnancy in past year

TABLE 2—CONTINUED

Health Promotion and Disease Prevention	Substance Use	Mental and Emotional Health	Physical Health and Functioning	Sexual Behavior and Health
Frequent use of other caffeinated beverages (e.g., tea, coffee), over-the-counter medications, and prescription medications to stay awake (3+ times per week)	Any prescription drug use (including stimulants, sedatives, and pain relievers)	Perceived career-related stigma associated with mental health care service utilization		Contraceptive counseling prior to deployment
	Any prescription drug misuse (including stimulants, sedatives, and pain relievers)			Able to get preferred birth control before and while deployed

NOTES: Green cells indicate that the reserve component did better than the active component on the outcome in question. Red indicates that the reserve component did worse on the outcome in question. Orange indicates no difference between the two components. Blue indicates an outcome where the reserve component prevalence rate was significantly smaller, but it is unclear whether this was a "better" outcome; these outcomes are primarily related to use of mental health care services.

approach. Green cells indicate where the reserve component did better than the active component, red where the reserve component did worse, and orange where there was no difference. "Better" could mean significantly higher or lower prevalence, depending on the outcome. Blue cells indicate where prevalence in the reserve component was significantly smaller than in the active component, but it is unclear whether this is "better." (For example, lower numbers of mental health care visits are not better if more mental health needs are going unmet.)

These results show that reservists were more likely to be obese and less likely to meet activity goals than active component members were. This could impact readiness should these reservists be called for active-duty service. At the same time, reservists appear to have better sleep health and to be less likely to binge drink and to use tobacco and nicotine products. Reservists were less likely to report mental health problems and less likely to indicate experiencing physical assault or unwanted sexual contact. Reservists also reported fewer chronic physical health conditions and were less likely to engage in risky sexual practices.

Implications and Recommendations for Readiness, Health, and Well-Being[1]

Health Promotion and Disease Prevention

DoD, the services, and the Coast Guard should address the low compliance rate for physical examinations. Annual exams are required. Many reservists also lack health insurance.

DoD, the services, and the Coast Guard should seek to educate reserve component service members and leaders on sleep health, using models that have been successful in similar populations. Most reservists did not get recommended amounts of sleep, and many rated their sleep as bad or reported being bothered by a lack of sleep, potentially impacting readiness.

Substance Use

DoD, the services, and the Coast Guard might wish to promote alcohol reduction and prevention programs that change cultural beliefs about alcohol use and promote self-care. Many reservists reported binge drinking, with some also reporting adverse consequences or lost productivity.

[1] Additional implications and recommendations can be found in the full report at www.rand.org/t/RR4228.

Reducing tobacco use in all forms should be a high priority for DoD, the services, and the Coast Guard, given the long-term health consequences of tobacco use. Use of tobacco and nicotine products was also higher than for the civilian population.

Mental and Emotional Health

DoD, the services, and the Coast Guard should continue to monitor, understand, and support mental health for reservists and to mitigate challenges associated with seeking mental health treatment. Symptoms of psychological distress were common among reservists. If untreated, distress could persist and cause functional impairment and reduce readiness.

DoD, the services, and the Coast Guard should explore the role of peers and commanders in mental health literacy training and efforts to increase awareness of mental health resources.

Physical Health and Functional Limitations

Pain was common among reservists. DoD, the services, and the Coast Guard should increase pain prevention and treatment efforts.

Sexual Behavior and Health

DoD, the services, and the Coast Guard should consider ways to increase the proportion of personnel who receive predeployment contraceptive counseling. Educational efforts should make clear to both reservists and military health care providers that directives to provide contraceptive counseling are relevant for all personnel.

To prevent STIs and unintended pregnancies, DoD, the services, and the Coast Guard should ensure that condoms are easily available to reservists at no or reduced cost.

Sexual Orientation and Health

Broadly targeted health promotion efforts by DoD, the services, and the Coast Guard should include LGB-specific considerations as appropriate.

Given high LGB personnel use of tobacco and nicotine products, DoD, the services, and the Coast Guard might wish to use targeted clinical screening and intervention to assist with smoking cessation.

DoD, the services, and the Coast Guard could reduce sexual health disparities for LGB personnel through education of military health providers. Incorrect assumptions about bisexual service members based on the sex of their current partners might lead to incomplete or incorrect counseling.

Recommendations for Future Iterations of the HRBS

Consider the Use of Survey Incentives

Even though the survey is now administered completely by internet, HRBS response rates remain a continuing concern. Research has shown that incentives can increase response rates. DoD policy permits federal contractors to compensate service members, who are considered federal employees, for survey participation. The next iteration of the HRBS should explore the use of targeted incentives to increase participation among groups with low response rates.

Shorten the Survey and Focus Survey Content

Though the 2018 HRBS took less time to complete than the 2015 version, it was still a lengthy survey that can become tedious for respondents, especially if they have recently answered similar items in other surveys. DoD might consider what overlap there is between the HRBS and other data it already collects. For example, some of the content in the Periodic Health Assessment (PHA) overlaps with HRBS topics. DoD should consider whether this duplication is necessary, perhaps by first exploring whether the PHA and the confidential HRBS differ.

An alternative approach would involve the use of modules. Modules might, for example, focus on tobacco use or musculoskeletal injuries. In this approach, not every service member would receive every set of items on the survey but would instead be selected to receive certain modules.

Explore the Use of a Service Member Panel for Tracking Risky Behaviors over Time

As a supplement to the HRBS, DoD could consider a service member panel to gather information about certain health outcomes and health-related behaviors

on a real-time basis. Panels are groups of individuals who agree to participate in a series of surveys for a period of time and are replaced at regular intervals. Panels do require constant maintenance to ensure that they remain representative of the population of interest, and they are not efficient for assessing prevalence of rare outcomes. They could, however, reduce the overall scope of the HRBS and thereby improve its response rates.

Conclusion

HRBS data provide an overview of health outcomes and health-related behaviors across multiple domains affecting force well-being and readiness. The HRBS faces some challenges in the future—decreasing response rates, overlapping content, and competition for resources—but it remains an important source of data for tracking trends, informing policy, and making programmatic decisions.

Limitations

The response rate is considered low for survey research. Although low response rates do not automatically mean that survey data are biased, they do increase the possibility of bias. As with any self-report survey, social desirability bias is a possibility, especially for sensitive questions and topics. For some groups that make up a small percentage of the overall DoD population, survey estimates might be imprecise and should be interpreted with caution.

This brief describes research conducted in the Forces and Resources Policy Center of the RAND National Defense Research Institute and documented in *2018 Department of Defense Health Related Behaviors Survey (HRBS): Results for the Reserve Component*, by Sarah O. Meadows, Charles C. Engel, Rebecca L. Collins, Robin L. Beckman, Joshua Breslau, Erika Litvin Bloom, Michael Stephen Dunbar, Mary Lou Gilbert, David Grant, Jennifer Hawes-Dawson, Stephanie Brooks Holliday, Sarah MacCarthy, Eric R. Pedersen, Michael W. Robbins, Adam J. Rose, Jamie Ryan, Terry L. Schell, and Molly M. Simmons, RR-4228-OSD, 2021 (available at www.rand.org/t/RR4228). To view this brief online, visit www.rand.org/t/RB10117z1. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.
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This brief was updated in July 2026 to correct a coding error that impacted calculations of the prevalence of probable PTSD.

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