

# 2018 Health Related Behaviors Survey

## Sexual Behavior and Health Among the Active Component

**T**he 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 active component.

In this brief, results for sexual behavior and health are reviewed. Some results 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. Because the military differs notably from the general population (for example, service members are more likely to be young and male than is the general population), these comparisons are offered only as a benchmark of interest.

### Sexual Risk Behaviors and Outcomes

Among all HRBS respondents, 19.3 percent (confidence interval [CI]: 18.3–20.4) reported having

more than one sex partner in the past 12 months. In addition, 34.9 percent (CI: 33.7–36.0) reported having sex with a new partner in the past 12 months without using a condom. Respondents in the Marine Corps were more likely to report having sex without a condom with a new partner than respondents in any other service (see Figure 1).

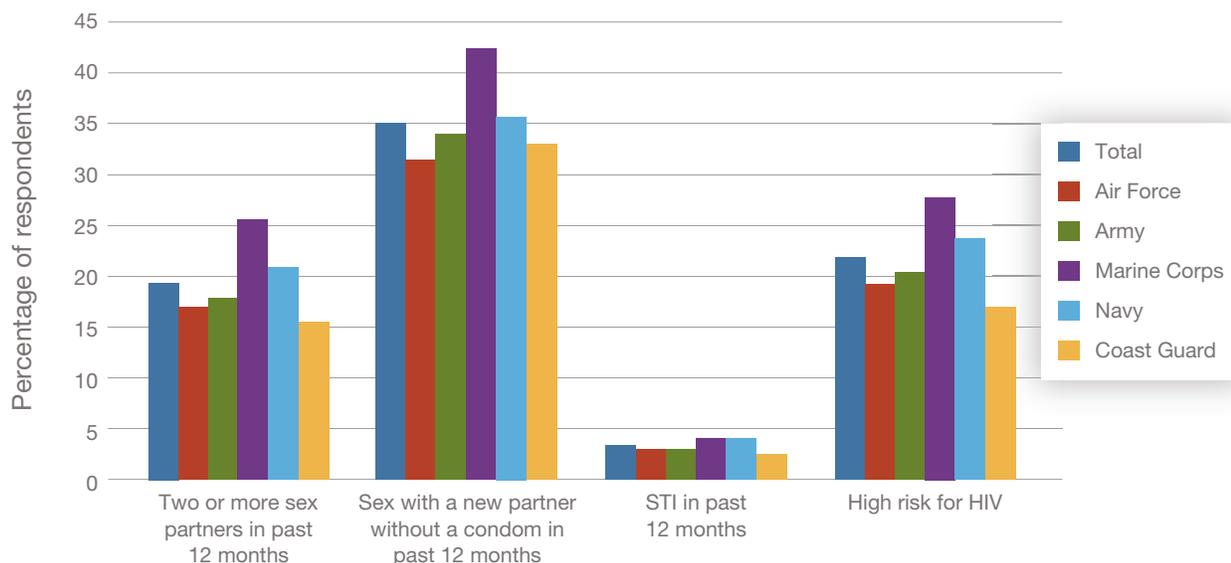
The HRBS found that 3.4 percent (CI: 2.9–3.8) of active component members reported a sexually transmitted infection (STI) in the past 12 months. Although there were no significant differences between the services in the proportion who reported an STI, there was a significant difference between the proportion of women (7.0 percent, CI: 5.8–8.1) and men (2.7 percent, CI: 2.2–3.2) who reported one. Furthermore, regression analyses comparing results of the 2015 HRBS with those of the 2018 HRBS indicated a significant increase in the proportion of respondents reporting an STI in the past 12 months.

The HRBS defined service members at high risk for human immunodeficiency virus (HIV) infection to include men 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. It found that 21.8 percent (CI: 20.7–22.9) were at high risk for HIV.

Among all respondents, 2.9 percent (CI: 2.5–3.3) reported causing or having an unintended

FIGURE 1

Sexual Risk Behaviors and Outcomes in Past 12 Months, by Service Branch



**Methods**

RAND fielded the 2018 HRBS among active component and reserve component U.S. military service members in the Air Force, Army, Marine Corps, Navy, and Coast Guard between October 2018 and March 2019. 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 9.6 percent, yielding a final analytic sample of 17,166 responses. Imputation was used to address missing data, a statistical procedure that uses the available data to predict missing values. To represent the active component population, RAND researchers weighted responses to account for the oversampling of service members in certain strata. In this research brief, point estimates and 95-percent CIs are reported.\*

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 active component final report at [www.rand.org/t/rr4222](http://www.rand.org/t/rr4222).

This brief is one of eight on the active component; this brief and six of the other seven each correspond to a different chapter in the full report, with the eighth presenting an overview of all findings and policy implications. A similar series of eight briefs discusses findings for the reserve 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.

pregnancy in the past year. Women (5.5 percent, CI: 4.4–6.5) were more likely to report this than men (2.4 percent, CI: 1.9–2.9). This difference is probably a result of men having incomplete information about the unintended pregnancies. The percentage of military women who reported experiencing an unintended pregnancy was slightly higher than among U.S. women of reproductive age (4.5 percent, CI: 4.1–4.9).<sup>1</sup>

## Contraceptive Use

In 2016, DoD issued a memorandum (DHA-IPM 16-003) establishing comprehensive standards of care regarding methods of contraception and counseling on methods of contraception. These standards adopt the practice recommendations of the Centers for Disease Control and Prevention (CDC) as the clinical practice guidelines for the military. The HRBS focused on service members' contraceptive use in the past 12 months at the time of their most-recent vaginal sex and at the time they experienced or caused an unintended pregnancy.

The most commonly used methods among HRBS respondents were condoms and birth control pills (see Table 1). Long-acting contraception, such as an intrauterine device (IUD), has been associated with substantially lower unintended pregnancy rates. Long-acting methods are more effective, in part, because they do not require users to remember to use them or to use them correctly, as do some other methods. The most commonly used long-acting method was an IUD.

The HP2020 target for the proportion of women 15 to 44 years of age at risk of unintended pregnancy who used (or whose partners used) contraception at most-recent sexual intercourse is 91.6 percent. The most-recent civilian estimate available, based on 2015–2017 data from the National Survey of Family Growth, is 79.6 percent (CI: 76.7–82.2). The HRBS found that among servicewomen 17 to 44 years of age at risk of unintended pregnancy, 77.0 percent (CI: 75.0–79.1) used contraception at most-recent vaginal sex.

HP2020 has a goal that 69.3 percent of women 20 to 44 years of age use a most effective or moderately effective method of contraception (sterilization or use of a contraceptive implant; IUD; birth control pills, shots, patch, or ring; or a diaphragm). Data from the National

Survey of Family Growth indicate that between 2015 and 2017, among all U.S. women ages 20–44 who were not already pregnant or trying to become pregnant, 60.2 percent (CI: 57.4–63.0) used a most-effective or moderately effective method of contraception. The HRBS found that among servicewomen 20 to 44 years of age, 65.0 percent (CI: 62.8–67.2) used such a method at their most-recent vaginal sex in the past 12 months.

## Deployment-Related Unintended Pregnancy, Contraceptive Access and Counseling

An unintended pregnancy while deployed presents challenges for servicewomen and operational difficulties that can be a threat to force lethality and readiness. The 2016 National Defense Authorization Act required that servicewomen have access to comprehensive counseling on the full range of contraceptive methods at medical visits before deployment and during deployment. The 2017 National Defense Authorization Act directed that information be obtained on the experiences of service members in accessing family planning services and counseling. DoD also requires that contraceptive counseling be delivered at annual physical health assessments as well as at predeployment and during-deployment health care visits.

The HRBS found that 0.08 percent (CI: 0.01–0.15) of service members experienced an unintended pregnancy during a past-year deployment. Overall, 39.0 percent of women (CI: 34.7–43.4) and 14.5 percent of men (CI: 12.7–16.3) reported receiving contraceptive counseling prior to deployment. Prior to deployment, 86.4 percent (CI: 82.1–90.7) of women and 13.5 percent (CI: 8.7–18.3) of men reported that they were able to get or refill their preferred birth control method. During deployment, 77.7 percent (CI: 71.3–84.1) of women and 19.0 percent (CI: 12.2–25.7) of men reported that they were able to get or refill their preferred birth control.

## HIV Testing

The CDC recommends annual testing for HIV among those at high risk and suggests that men who have sex with men consider testing every three to six months. DoD requires HIV screening at least every two years, and an HIV test result within the past 24 months must be on file for a service member to deploy.

<sup>1</sup> L. B. Finer and M. R. Zolna, "Declines in Unintended Pregnancy in the United States, 2008–2011," *New England Journal of Medicine*, Vol. 374, No. 9, March 3, 2016, pp. 843–852.

TABLE 1  
 Method of Contraception Used During Most-Recent  
 Vaginal Sex in Past 12 Months

Method of Contraception	Percentage Reporting Use
<b>Highly effective methods</b>	
Male sterilization (vasectomy)	7.5% (CI: 7.0–7.9)
IUD	9.9% (CI: 9.2–10.6)
Female sterilization (e.g., tubal ligation, hysterectomy)	3.9% (CI: 3.5–4.3)
Contraceptive implant (e.g., Implanon)	6.0% (CI: 5.4–6.6)
<b>Other methods</b>	
Condom	23.8% (CI: 22.7–24.9)
Birth control pill	20.3% (CI: 19.3–21.3)
Birth control shots, patch, contraceptive ring, or diaphragm	6.2% (CI: 5.5–6.9)
Some other method	4.8% (CI: 4.3–5.3)
<b>No contraception or not applicable</b>	
Did not use any form of birth control	16.8% (CI: 15.9–17.7)
No vaginal sex in past 12 months	14.3% (CI: 13.3–15.3)
I/my partner was trying to get pregnant	6.9% (CI: 6.3–7.4)
I/my partner was already pregnant	4.1% (CI: 3.6–4.6)

NOTE: Unless indicating no vaginal sex in past 12 months, current pregnancy, or trying to get pregnant, respondents could endorse more than one method.

The HRBS found that 75.8 percent (CI: 74.7–76.9) of service members reported being tested for HIV in the past 12 months, and 38.3 percent (CI: 37.1–39.4) reported being tested in the past six months. Among personnel at high risk for HIV, 81.2 percent (CI: 78.9–83.5) were tested within the past 12 months. Among men who reported having sex with men, 78.6 percent (CI: 71.0–86.2) reported having an HIV test in the past 12 months, with 50.7 percent (CI: 42.1–59.4) reporting such a test in the past six months. The HP2020 goal is for at least 68.4 percent of men who have sex with men to have annual HIV testing.

## Conclusions and Policy Implications<sup>2</sup>

Substantial proportions of service members engage in each of several sexual risk behaviors, including sex with multiple partners and, especially, sex with a new partner without use of a condom. In addition, the HRBS indicates a significant increase in recent years in STI prevalence. DoD and the Coast Guard should ensure that condoms are easily available to service members regardless of location and at no or reduced cost. Evidence from school-based condom availability programs indicates that these programs result in increased use of condoms and decreased rates of STIs without promoting sexual activity or increasing numbers of sex partners. DoD and the Coast Guard should also consider implementing regular testing for STIs, especially among women. Servicewomen were significantly more likely than men to report an STI in the past 12 months, and there are links between untreated chlamydia and infertility among women.

DoD and the Coast Guard should consider expanding efforts to provide contraceptive counseling to men. The National Survey of Family Growth indicates that 60 percent of men could benefit from planning services, with the highest need among men 20 to 29 years of age, but only 10 percent receive counseling about contraception.<sup>3</sup> Research is ongoing to develop effective

contraceptive counseling strategies that target men. Such strategies include counseling men on condom use and how to support their partners in using other methods.

DoD and the Coast Guard should also seek to increase the consistent and effective use of contraception. Under the new contraceptive guidelines adopted by DoD, IUDs and implants are to be considered first-line methods of contraception. Providers and service members, however, might need additional training and education about the benefits of the most-effective contraceptive methods, with the caveat that these methods may not be appropriate for all women.

Efforts are particularly needed to increase the proportion of personnel who receive predeployment contraceptive counseling. Although we cannot be certain why many service members do not report receiving contraceptive counseling prior to deployment, it is possible that these members and their providers see the counseling as less relevant to their situations. Educational efforts should make clear that DoD directives to provide contraceptive counseling are relevant for all personnel, including those who are not currently sexually active or do not intend to be during deployment; those who identify as lesbian, gay or bisexual; and those who intend to have children in the near future. Sexual activity may be unplanned, hormonal contraceptives can be used for reasons other than birth control, and long-acting methods of contraception, such as IUDs and implants, are reversible.

Finally, DoD and the Coast Guard could increase annual testing for HIV infection among those at high risk through better screening during the annual Periodic Health Assessment (PHA). Although the current form for the PHA asks pertinent questions, it is not clear whether information on various contributors to risk is combined to detect those in the highest risk category, nor is it clear whether certain risks (e.g., men who have sex with men) or combinations of risks should consistently trigger more frequent (annual or biannual) testing for HIV infection.

<sup>2</sup> Additional implications and recommendations can be found in the full report at [www.rand.org/t/RR4222](http://www.rand.org/t/RR4222).

<sup>3</sup> A. V. Marcell, S. E. Gibbs, I. Choiryyah, F. L. Sonenstein, N. M. Astone, J. H. Pleck, and J. K. Dariotis, “National Needs of Family

Planning Among U.S. Men Aged 15 to 44 Years,” *American Journal of Public Health*, Vol. 106, No. 4, April 2016, pp. 733–739.

**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.

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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 Active 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-4222-OSD, 2021 (available at [www.rand.org/t/RR4222](http://www.rand.org/t/RR4222)). To view this brief online, visit [www.rand.org/t/RB10116z6](http://www.rand.org/t/RB10116z6). 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. **RAND**® is a registered trademark.

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