

HCSDB Issue Brief

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Flu Vaccination Trends Among Military Beneficiaries

The Centers for Disease Control and Prevention (CDC) recommends that everyone 6 months and older get a flu vaccination every season, with only rare exceptions (CDC 2020a). Flu shots are particularly vital for people at high risk of developing complications from the flu, including adults who are 65 years or older; have chronic health conditions such as asthma, heart disease, stroke, diabetes, and chronic kidney disease; or are morbidly obese (CDC 2020b). However, during the 2018–2019 flu season, only 45 percent of Americans ages 18 and older got a flu shot (USA Facts 2020). And according to a 2019 survey from the American Academy of Family Physicians (AAFP), 55 percent of millennials did not get a flu shot that season. Of those millennials, 33 percent did not plan to get a flu shot, making them the least likely age group to get vaccinated (MedicineNet 2020).

A potential contributor to this situation are several misconceptions about the flu and flu vaccine. Millennials are the least informed about the flu; 86 percent got at least one factual question about the flu wrong, and 31 percent got all of them wrong, on the AAFP's 2019 survey. The anti-vaccination movement may be playing a role in millennials' reluctance to get a yearly flu shot, given that 61 percent who were familiar with the anti-vaccination movement agreed with at least some of its beliefs (MedicineNet 2020).

Low rates of flu vaccination are more worrisome in 2020 than in past years, given the strain on health care resources as a result of the COVID-19 pandemic. Although the flu vaccine does not protect against COVID-19, it does reduce the risk of flu-related illness, hospitalization, and death, thus saving our health care resources for patients with COVID-19 (CDC 2020c).

This issue brief explores time trends for flu vaccination rates among military health care beneficiaries, using data from the 2015–2020 Health Care Survey of Department of Defense Beneficiaries. We examine flu vaccination rates across age groups, beneficiary categories, health care plans, and the presence or absence of pre-existing conditions or morbid obesity. Understanding which groups are less likely to get a flu shot could help the Defense Health Agency (DHA) tailor its campaigns to increase flu vaccinations, as well as predict which groups are less likely to get a COVID-19 vaccination when it becomes available.

This issue brief explores time trends for flu vaccination rates among military health care beneficiaries.

- Overall, almost three-quarters of beneficiaries got a flu shot each year, compared to about 45 percent of U.S. adults.
- Beneficiaries ages 65 years and older were the most likely age group to get a yearly flu shot. Beneficiaries ages 25 to 34 and 18 to 24 had the second and third highest rates of yearly vaccination, respectively
- Almost all service members got a mandatory flu shot each year; however, their family members were significantly less likely to get a yearly flu shot.
- Beneficiaries who reported a pre-existing condition were significantly more likely to get a flu shot in 2015 through 2017 relative to those who reported no pre-existing conditions. But in 2018 and 2019, both groups were equally likely to get a flu shot.
- Beneficiaries who were morbidly obese were less likely to get a flu shot in 2019 and 2020, compared with those who were not morbidly obese.

Overall Rates of Flu Vaccination

From 2015 to 2020, almost three-fourths of military health care beneficiaries received the flu vaccine in the past 12 months (Figure 1), compared to 45 percent U.S. adults ages 18 years or older (Figure 2). Vaccination rates fell significantly in 2016 and 2017

but recovered by 2020, with no significant differences between 2015, 2018, 2019, and 2020. This drop and subsequent recovery is consistent with trends in the civilian population (USA Facts 2020).

Figure 1. Overall percentage of beneficiaries who received a flu vaccination in the last 12 months, by year

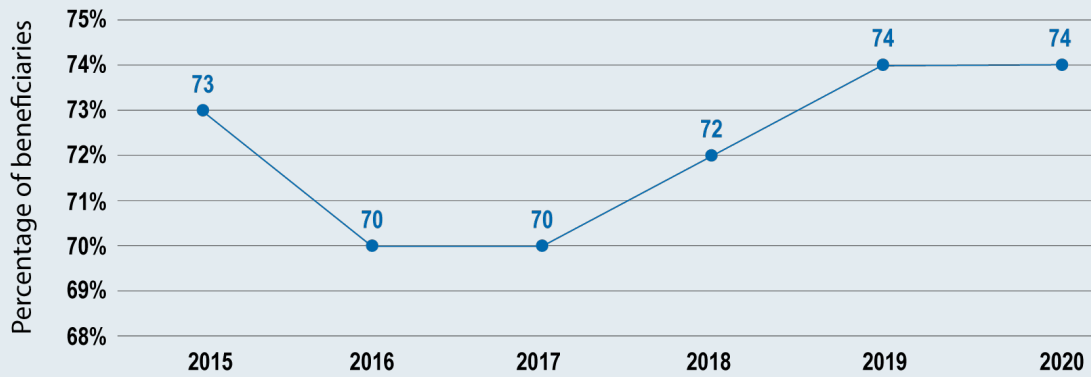
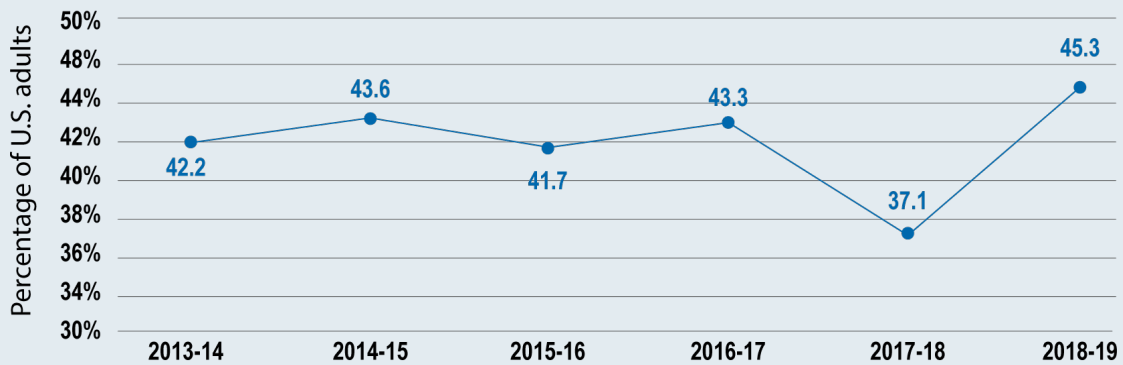


Figure 2. Percentage of U.S. adults 18 years and older who received a flu vaccination, by flu season



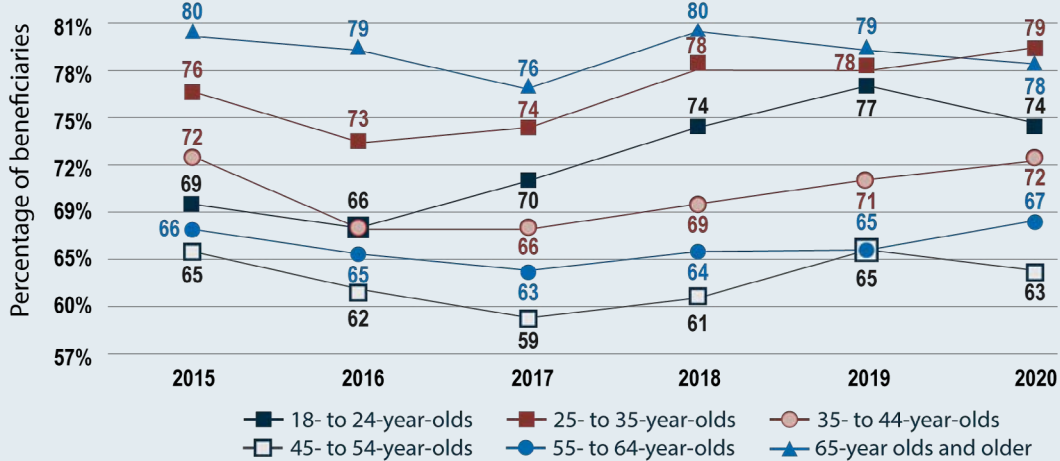
Source: Centers for Disease Control and Prevention, 2019

Flu Vaccination Rates by Demographics

In every year, beneficiaries ages 65 years and older were the most likely age group to get a yearly flu shot, except for beneficiaries ages 18 to 24 in 2019 and 2020 and beneficiaries ages 35 to 44 in 2020. But despite the high rates of flu vaccination in the oldest age group, vaccination rates do not necessarily increase with age. Beneficiaries ages 25 to 34 and

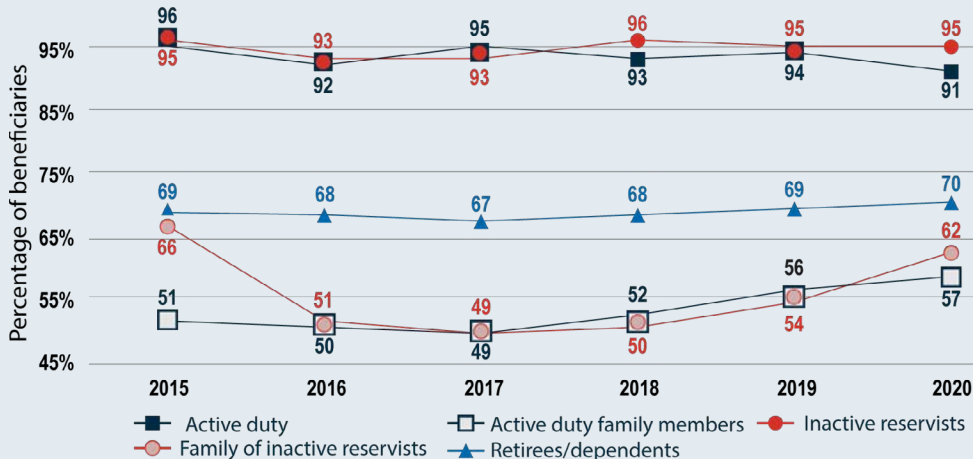
18 to 24 had the second- and third-highest rates of yearly vaccination, respectively (Figure 3), and the lowest vaccination rates occurred among those ages 45 to 54. The high vaccination rate among beneficiaries ages 18 to 34 is mostly driven by mandatory flu vaccinations each year for service members (Figure 4).

Figure 3. Yearly rates of flu vaccination among all beneficiaries, by age group (2015 to 2020)



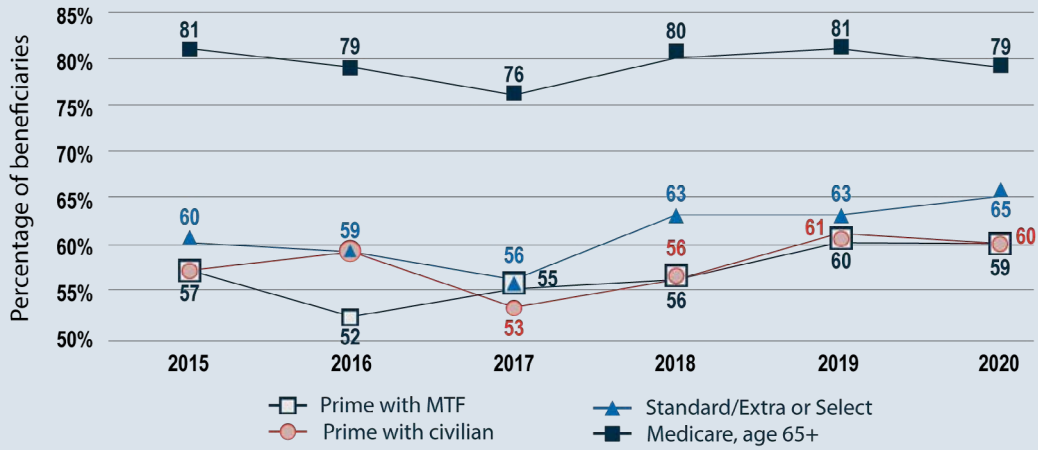
Almost all active duty service members and inactive reservists got a mandatory flu shot each year. But significantly fewer of their family members got the shot, with a little over half of both active duty and inactive reservist family members getting one each year. Retirees and their dependents were also significantly less likely to get a yearly flu shot compared with active duty service members and inactive reservists—but significantly more likely than the family members of active duty service members and inactive reservists (Figure 4).

Figure 4. Yearly rates of flu vaccination among all beneficiaries, by beneficiary category (2015 to 2020)



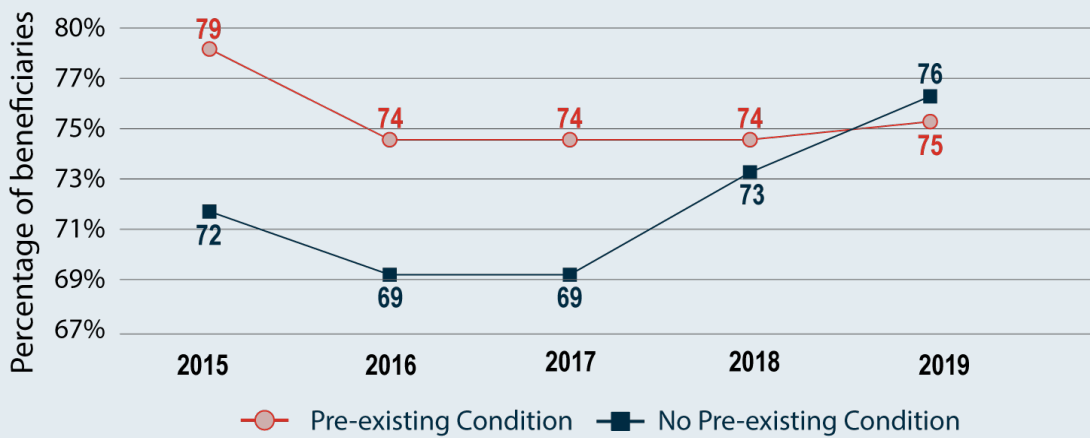
We excluded active duty beneficiaries from the health plan analysis because they are required to receive the flu vaccination, and most are enrolled in Prime and receive care at military treatment facilities (MTFs). There was no difference in flu vaccination rates among non-active duty beneficiaries who have Prime—whether they received care at MTFs or civilian facilities—or beneficiaries with Standard/Extra and Select. However, beneficiaries ages 65 or older who have Medicare were significantly more likely to receive a yearly flu vaccination compared with other non-active duty beneficiaries (Figure 5).

Figure 5. Yearly rates of flu vaccination among non-active duty beneficiaries, by health plan (2015 to 2020)



Note: In 2018, TRICARE merged its fee-for-service health plans, Standard and Extra, into a single plan: TRICARE Select.

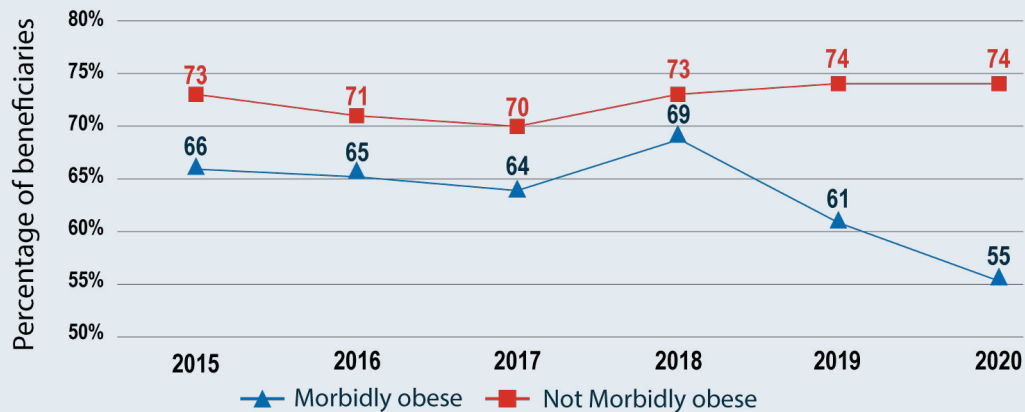
Figure 6. Yearly rates of flu vaccination among all beneficiaries with and without pre-existing conditions (2015 to 2019)



Beneficiaries who reported a pre-existing condition¹ were significantly more likely to get a flu shot in 2015 through 2017 relative to those who reported no pre-existing conditions. But in 2018 and 2019, both groups were equally likely to get a flu shot (Figure 6).

Beneficiaries who were morbidly obese² were just as likely as those who were not to get a flu shot in 2015 to 2018. But this was not the case in 2019 and 2020, when those who were morbidly obese were less likely to get a flu shot (Figure 7).

Figure 7. Yearly rates of flu vaccination among all beneficiaries with and without morbid obesity (2015 to 2020)



Discussion

Most military health care beneficiaries (over 90 percent of service members and about 60 percent of service members’ families and retirees and their dependents) get a yearly flu shot. This is partly because these vaccinations are mandatory for service members; however, even the family members of active duty service members and inactive reservists, along with retirees and their dependents, are more likely to get their annual flu vaccination than are civilians.

Some of the most vulnerable beneficiaries, including those ages 65 and older and those with pre-existing conditions, are heeding CDC’s advice, getting yearly flu shots at higher rates than their less-vulnerable peers do. But over the last two years, a trend has emerged for one vulnerable group: beneficiaries who are morbidly obese have been less likely to get a yearly flu shot compared with those who are not morbidly obese. Although the former group is more likely to develop flu complications, a 2017 study showed that flu vaccinations may not be as effective for them (Neidich et al 2017), which may help explain the decrease in their flu vaccination rates in 2019 and 2020.

DHA should continue to encourage its beneficiaries to get a flu shot each year, particularly service members’ families and retirees and their dependents. The agency can do this by making access easy for all beneficiaries and continuing to educate them about the benefits to themselves and the greater community. Debunking myths might also encourage beneficiaries to get vaccinated. To facilitate this, future research could focus on why beneficiaries did not get an annual flu shot and their beliefs about the efficacy and safety of vaccines.

Commands can also play a role in educating service members about where their families can get vaccinated (for example, at military clinics, TRICARE network pharmacies, civilian facilities, pharmacies, and urgent care centers) and fostering a culture of widespread vaccination. Widespread flu vaccination is an important strategy for conserving health care resources during the COVID-19 pandemic and for debunking vaccine myths. Educating beneficiaries could also increase receipt of the COVID-19 vaccine when it becomes available.

References

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USA Facts. "How Many Americans Get Flu Shots?" 2020. Available at <https://usafacts.org/articles/how-many-americans-get-flu-shots-vaccine-cdc/>. Accessed November 16, 2020.

Sources

FY2015 Health Care Survey of Department of Defense Beneficiaries. N = 28,611. The response rate was 9.6 percent. The Q1 survey was fielded from December 2, 2014, to February 2, 2015. The Q2 survey was fielded from January 6 to March 2, 2015. The Q3 survey was fielded from April 1 to June 28, 2015.

FY2016 Health Care Survey of Department of Defense Beneficiaries. N = 28,548. The response rate was 9.6 percent. The Q1 survey was fielded from October 7, 2015, to January 19, 2016. The Q2 survey was fielded from January 7 to March 31, 2016. The Q3 survey was fielded from March 15 to June 15, 2016.

FY2017 Health Care Survey of Department of Defense Beneficiaries. N = 44,218. The response rate was 12.3 percent. The Q1 survey was fielded from October 12, 2016, to January 31, 2017. The Q2 survey was fielded from January 9 to March 31, 2017. The Q3 survey was fielded from March 1 to May 15, 2017. The HEDIS survey was fielded from February 6 to April 24, 2017.

FY2018 Health Care Survey of Department of Defense Beneficiaries. N = 45,456. The response rate was 12.3 percent. The Q1 survey was fielded from October 18, 2017, to January 31, 2018. The Q2 survey was fielded from January 3 to March 30, 2018. The Q3 survey was fielded from March 1 to May 18, 2018. The HEDIS survey was fielded from February 14 to April 30, 2018.

FY2019 Health Care Survey of Department of Defense Beneficiaries. N = 26,917. The response rate was 8.9 percent. The Q1 survey was fielded from October 5, 2018, to January 31, 2019. The Q2 survey was fielded from January 4 to March 29, 2019. The Q3 survey was fielded from March 5 to May 21, 2019.

FY2020 Health Care Survey of Department of Defense Beneficiaries. N = 27,521. The response rate was 9.2 percent. The Q1 survey was fielded from October 9, 2019, to January 31, 2020. The Q2 survey was fielded from December 6, 2019, to February 28, 2020. The Q3 survey was fielded from April 9 to June 3, 2020.

Endnotes

¹In 2015, we considered a pre-existing condition to be present if a doctor ever told respondents that they had a heart attack, angina or coronary heart disease, a stroke, or any kind of diabetes or high blood sugar. In 2016 through 2019, this list was expanded to include high cholesterol, asthma, chronic obstructive pulmonary disease, emphysema, cancer, osteoporosis, and autoimmune disease. This question on pre-existing conditions was not included in the 2020 questionnaire.

²We calculated body mass index (BMI) based on self-reported height and weight. Morbid obesity is a BMI of 40 or higher.