

Food Insecurity in the U.S. Military

Responses to Eight Topics Raised by Congress

Food insecurity among service members and their families is a long-standing concern in the armed forces, in Congress, and among advocacy groups. The extent of the problem and whether any level of food insecurity is acceptable in the U.S. military are widely debated topics—perhaps because a comprehensive analysis of the problem has yet to be conducted.

In the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020, Congress directed the Secretary of Defense to report on food insecurity among members of the armed forces and their dependents. The directive has eight elements (Figure 1) that include an assessment of the extent of food insecurity, participation in food assistance programs, and the advisability of a basic needs allowance. It also asks for recommendations for other policies, programs, and activities to address food insecurity.

The Office of the Secretary of Defense asked the RAND National Defense Research Institute to provide analytic support to the Department of Defense (DoD) as input to its report to Congress. This research brief summarizes analysis conducted by a RAND Corporation research team in response to the congressional query.

healthy life” (Economic Research Service, 2021). However, there is *no singular definition of food insecurity*.

The USDA measures food insecurity using a battery of 18 survey questions administered to a nationally representative group of Americans. The questions cover household ability to afford food during the preceding 12 months and whether adults or children (if present) in the household have reduced or skipped meals during the preceding 12 months. According to the most-recent estimates, approximately 89.5 percent of all U.S. households were food secure during all of 2020.

The USDA also has a shorter, six-item version of the survey (see Figure 2) that is deemed an “acceptable substitute” (Economic Research Service, 2012). Respondents who reply to this short form are classified as food insecure if they respond in the affirmative to two of the six questions. Even though the short form does not have the same degree of fidelity as the full survey, nor does it specifically ask about children, it has been found to identify food insecure households with relatively low error.

This six-item set of questions has been adopted by DoD and was included in the Status of Forces Survey of Active Duty Members (SOFS-A) in 2018 and 2020.

What Is Food Insecurity and How Is It Measured?

According to the U.S. Department of Agriculture (USDA), *food security* is defined as “access by all people at all times to enough food for an active,

Responses to the Eight NDAA Elements

The research team used results of the 2016 and 2018 SOFS-As (OPA 2017; 2020) as the primary sources of data for its analysis of the eight elements in the NDAA. These data were supplemented by other

FIGURE 1
Section 656 of the NDAA for FY 2020

Section 656. Report on Food Insecurity Among Members of the Armed Forces and Their Dependents. a) Report Required.—Not later than May 1, 2020, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on food insecurity among members of the Armed Forces and their dependents. b) Elements.—The report required by subsection (a) shall include the following: (1) An assessment of the current extent of food insecurity among members of the Armed Forces and their dependents, including a description and analysis of the following: (A) Use of food assistance by members and their dependents, as revealed in data of the Department of Defense and other data available to the Department. (B) Use of free and reduced-price school meals by dependents. (C) Use of food banks or similar assistance by members and their dependents. (2) A description and assessment of the barriers, if any, to qualification for or access to adequate food assistance of any type by members of the Armed Forces and their dependents. (3) A description of the number of members of the Armed Forces overseas who enrolled in the Family Supplemental Subsistence Allowance (FSSA) program under section 402a of title 37, United States Code, during the five-fiscal year period ending with fiscal year 2019, and of the cost to the Department of such enrollment during each fiscal year concerned. (4) An assessment of the effectiveness of the Family Supplemental Subsistence Allowance program for members of the Armed Forces overseas. (5) A description and assessment of the participation of members of the Armed Forces in the Supplemental Nutrition Assistance Program (SNAP), including with respect to the following: (A) Coordination between the Department of Defense and the Department of Agriculture for purposes of determining the numbers of members currently participating in the program. (B) Career stigma for members resulting from participation in the program. (C) Adverse consequences for member personal financial management resulting from participation in the program. (D) Other support available to and used by members to meet basic needs requirements. (6) An assessment of food insecurity among members of the Armed Forces who reside in on-post housing (and thus do not receive basic allowance for housing (BAH)) and their dependents, including eligibility of such members for and participation of such members in the Supplemental Nutrition Assistance Program. (7) An assessment of the feasibility and advisability of a basic needs allowance for low-income members of the Armed Forces (including an allowance calculated both with and without basic allowance for housing included in the determination of member gross household income), including with respect to the following: (A) The maximum member gross household income for eligibility for the allowance. (B) The number of members who would be eligible for the allowance. (C) The optimal average annual amount of the allowance. (D) The total annual cost of paying the allowance. (E) Whether particular geographic locations would include large number of members eligible for the allowance. (F) The effects of payment of the allowance on recruitment and retention of members, and on member morale and conduct. (8) Any other recommendations for policies, programs, and activities to address food insecurity among members of the Armed Forces and their dependents that the Secretary considers appropriate.
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SOURCE: Pub. L. 116-92.

sources: pay and personnel data from the Defense Manpower Data Center, discussions with stakeholders, and a review of relevant literature. The team was unable to analyze the more recent 2020 SOFS-A data, but the 2018 SOFS-A data have the advantage of providing pre-COVID-19 information. Here, we examine the eight elements from the congressional query in turn.

Element 1. Current Extent of Food Insecurity

“(1) An assessment of the current extent of food insecurity among members of the Armed Forces and their dependents, including a description and analysis of . . . (A) Use of food

assistance . . . (B) Use of free and reduced-price school meals . . . (C) Use of food banks or similar assistance . . . ”

Estimates of food insecurity in the armed forces showed that 25.8 percent of Army, Navy, Marine Corps, Air Force, and Coast Guard personnel were food insecure.^A But further examination shows that not all reports of food insecurity are the same: 11.7 percent of members overall (or 45 percent of the 25.8 percent who reported being food insecure) in the 2018 survey answered yes to only two or three of the six questions; the remaining 55 percent indicated a

^A This 25.8-percent estimate is based on service member responses to the 2018 SOFS-A survey (OPA, 2020).

FIGURE 2

The U.S. Department of Agriculture's Six-Item Short Form

The USDA developed a series of six items, reproduced here, that can be used to determine whether households are experiencing food insecurity.

HH3. "The food that we bought just didn't last and we didn't have money to get more." Was that *often*, *sometimes*, or *never* true for (you/your household) in the last 12 months?

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true
- ☐ DK or Refused^a

HH4. "(I/we) couldn't afford to eat balanced meals." Was that *often*, *sometimes*, or *never* true for (you/your household) in the last 12 months?

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true
- ☐ DK or Refused

AD1. In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

- ☐ Yes
- ☐ No (Skip AD1a)
- ☐ DK (Skip AD1a)

AD1a. [If yes to question AD1] How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

- ☐ Almost every month
- ☐ Some months but not every month
- ☐ Only 1 or 2 months
- ☐ DK

AD2. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?

- ☐ Yes
- ☐ No
- ☐ DK

AD3. In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?

- ☐ Yes
- ☐ No
- ☐ DK

^a DK = don't know.

higher level of food insecurity (answered yes to four to six questions) (Table 1). These responses aligned with results from the 2016 survey, in which 40 percent of those categorized as food insecure were “almost never” insecure and the remaining 60 percent responded “sometimes,” “often,” or “very often.”

Conventional wisdom would have it that most food insecure members are junior enlisted with large families, and the research team heard this view from many stakeholders. As reported in the 2018 survey, however, the preponderance of food insecure members (67 percent) was early to mid-career enlisted personnel in grades E-4 to E-6; 21 percent were in grades E-1 to E-3. Across the active force, there are more personnel in the grades of E-4 to E-6 than in the grades of E-1 to E-3.

Although survey data do not support conventional wisdom, recent analyses of the Thirteenth Quadrennial Review of Military Compensation (QRMC) found that military members who used the Supplemental Nutrition Assistance Program (SNAP) were primarily junior enlisted members with large families—an outcome that might be fueling overall perceptions of food insecurity and creating an important disconnect between perception and reality.

Food insecure members were more likely than food secure members to report being single with children or married without children. They also were more likely to be a racial or ethnic minority and were disproportionately in the Army, to a lesser extent in the Navy, and rarely in the Air Force. Finally, the likelihood of receiving the basic allowance for housing (BAH) was virtually the same—around 80 percent—for food insecure members and for food secure members, according to the 2018 survey.

Use of Food Assistance

The use of key food assistance programs by food insecure members of the military is relatively low. Only 14 percent of those classified in 2018 as food insecure in the past 12 months used food assistance in the form of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), food banks, SNAP, or Family Subsistence Supplemental Allowance (FSSA)—with WIC and food banks being the most commonly used programs by active duty members. Among the food insecure in 2018, 9.0 percent used WIC (24 percent among those who also had children ages 5 and younger), 6.0 percent used a food bank in the preceding 12 months, 1.8 percent used SNAP, and

TABLE 1

Distribution of Affirmative Responses Among Service Members in 2018

Number of Affirmative Responses	Weighted Percentage
0	65.8
1	8.5
2	7.6
3	4.1
4	3.7
5	3.8
6	6.7
Share of active duty members who are food insecure (2–6 affirmative responses)	25.8

SOURCE: 2018 SOFS-A.

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. Members are included in the sample if they responded to at least one of the questions about food insecurity. *N* = 15,240.

0.6 percent of those overseas used FSSA. Food assistance programs were also used by food secure members, although to a lesser extent (4 percent used WIC and 1 percent reported using a food bank in the preceding 12 months).

Looking further at users of SNAP, few members who are food insecure (6 percent) reported ever applying for SNAP while on active duty. Approximately 33 percent of those who applied were accepted and only 7 percent of that number currently receive benefits. Service members most commonly reported that they stopped receiving SNAP because of an increase in household income.

Congress asked about the use of free and reduced-price lunch (FRPL) programs among military children. Assessments showed that eligibility for FRPL is higher in U.S. Department of Defense Education Activity (DoDEA) schools *on* military installations than it is in schools *near* military installations. Across all states, 9 percent of children in schools near military bases are eligible for FRPL programs. This estimate is lower than schools in general in all but six states: Arizona, Arkansas, Connecticut, Idaho, Kentucky, and Montana. The rate of eligibility for FRPL programs in DoDEA schools and schools near military bases combined is 10.0 percent nationwide, compared with a 9.8-percent eligibility for all schools—reflecting comparable experiences between military and civilian communities.

Element 2. Barriers to Accessing Food Assistance

“(2) A description and assessment of the barriers, if any, to qualification for or access to adequate food assistance of any type . . . ”

Stigma—both social and career stigma—is a barrier to accessing food assistance. Military members are concerned that asking for help with food insecurity or general financial problems will negatively affect their military careers, even potentially leading to a loss of their security clearance. Relatedly, the military culture of self-sufficiency and pride also prevents members from seeking help. With respect to loss of a security clearance, although food insecure members are more likely to report that their security clearance was affected by their financial situation in the 2018 survey, few members in general report this issue, regardless of food security status.

Lack of knowledge about support resources and about eligibility for those resources, as well as the difficulty of accessing them, is another class of barrier. During interviews with the research team, respondents suggested that the more difficult it is to access support programs, the less likely military members and their families are to use them; instead, those individuals would turn to other, potentially more costly assistance. Respondents reported that food pantries, for example, have restrictions on frequency of use, limiting the times and days when they are open. Respondents also said that SNAP eligibility tends to be low because that program includes the BAH in its definition of family income.

The research literature on barriers is limited, so it is difficult to assess the extent to which these barriers affect members’ access to food or financial resources. More research is needed to untangle how encouragement, eligibility, and ease of access affect use of food assistance programs.

Elements 3 and 4. Use, Cost, and Effectiveness of FSSA

“(3) A description of the numbers of members . . . enrolled in the [FSSA] program . . . during the five-fiscal year period ending with fiscal year 2019, and the cost . . .

(4) An assessment of the effectiveness of the . . . [FSSA] program . . . ”

In 2001, DoD established the FSSA to offer service members an alternative to SNAP. Service members are

eligible for FSSA if they are stationed overseas, their gross monthly income is at or below 130 percent of the Federal Poverty Level, and they have at least one dependent.^B

According to 2018 survey responses, members stationed overseas were less likely to be food insecure—23 percent compared with 26 percent for those stationed in the United States. Few service members overseas used FSSA. Between FYs 2015 and 2019 and across the Army, Navy, Air Force, and Marine Corps, a total of 92 members used FSSA at a total cost of \$247,456. Only 0.6 percent of those stationed overseas who were food insecure used FSSA—far lower than the 3.0 percent of overseas members who used a food bank. Much like the obstacles to assistance for service members stationed in the United States, stigma and career impact may be the most significant obstacles to using FSSA, particularly because some service members must work through their chain of command to apply for benefits.

Data limitations prevented the research team from conducting a formal assessment of effectiveness, but usage rates provide a reasonable picture of how the program is currently working.

Element 5. Participation in SNAP

“(5) A description and assessment of the participation . . . in [SNAP], including with respect to the following: (A) Coordination between the Department of Defense and the Department of Agriculture for purposes of determining the numbers of members currently participating . . . (B) Career stigma for members . . . (C) Adverse consequences for member personal financial management . . . (D) Other support available . . . to meet basic needs and requirements.”

To estimate the number of members participating in SNAP, DoD coordinates with the Office of the Administration for Children and Families, making use of the Public Assistance Reporting Information System (PARIS) matching program. Reporting SNAP participation in PARIS is voluntary. Consequently, analysis of SNAP participation by military personnel is limited to those states that participate in PARIS. The Thirteenth QRMC examined SNAP participation from 33 and 34 states in May and August 2019, respectively. Extrapolating from these states, the Thirteenth QRMC estimated that 0.08–0.42 percent of service members stationed in

^B Members stationed overseas include those serving outside the United States, Puerto Rico, the U.S. Virgin Islands, or Guam.

the United States (or approximately 880–4,620 members) were enrolled in SNAP each month. Following a similar extrapolation method for the 42 states that reported SNAP usage in February 2021, RAND estimated that 0.7 percent of active members in the United States participated in SNAP in February 2021, higher than the QRMC estimates for 2019. This estimate might overstate SNAP usage in 2021 because we were unable to address some data anomalies that arose in the QRMC analysis that might affect our estimate.

According to the 2018 survey results, food insecure members are more likely to report financial problems: 22 percent report that it is tough to make ends meet (compared with 2.5 percent of food secure members), and 3.4 percent report being in over their heads. Conversely, 29 percent of food insecure members reported being “very comfortable and secure” or “able to make ends meet without much difficulty.”

Food insecure members were significantly more likely to report that they have experienced adverse financial events, such as having personal relationship problems regarding finances, paying overdraft fees, and falling behind on bills. Members who are food insecure are more likely to have a second job. Approximately 25 percent of food insecure members borrowed money from family or friends; 15 percent took money out of retirement and investment accounts. Food insecure members were more likely to report that their spouse had a part-time job; food secure members were more likely to report that their spouse had a full-time job.

Although some food insecure members are clearly in tough situations, a significant fraction have less frequent problems with food. Of the 71 percent of food insecure members who reported that they were not financially comfortable, nearly 66 percent reported that their difficulties were “occasional”—not “tough” or “in over your head.” And although food insecure members typically reported having three or fewer months of savings, 69 percent reported having savings for emergency expenses. Furthermore, food insecure members were more likely to report that they provided financial support to family members living outside the household.

These findings point to the complex nature of food insecurity problems in the military. They underscore the need for additional information on why food insecure members do not use emergency savings to address their needs or also report that they are comfortable and secure financially.

Element 6. Food Insecurity Among Those Who Live on Base

“(6) An assessment of food insecurity among members of the Armed Forces who reside in on-post housing . . . including eligibility of such members for and participation of such members in [SNAP].”

Thirty percent of members who report living on base were food insecure, 7 percent more than members living off base who are categorized as food insecure. A surprising result of this analysis, however, is how BAH factored into food insecurity of members living on base. About 75 percent of members who live on base receive BAH. Food insecurity was higher among those members (32 percent) than among those living off base who receive BAH (23 percent). Moreover, members living on base and receiving BAH were more likely to be food insecure (32 percent) than those living on base who do not receive BAH (25 percent).

The research team did not examine why these results occurred—whether grade composition, number of dependents, or competing expenses (such as child care or transportation costs) factored in. One observation among stakeholders that aligns with reporting in the 2016 SOFS-A suggests that eating out too frequently may be a contributor. Enlisted personnel living on base who are food insecure eat fewer meals on average in the dining facilities than similar personnel who are not food insecure.

Element 7. Basic Needs Allowance

“(7) An assessment of the feasibility and advisability of a basic needs allowance for low-income members . . . including with respect to the following: (A) The maximum member gross household income for eligibility . . . (B) The number of members who would be eligible . . . (C) The optimal average annual amount of the allowance. (D) The total annual cost . . . (E) Whether particular geographic locations would include large number of [eligible] members . . . (F) The effects . . . on recruitment and retention . . . , and on member morale and conduct.”

The seventh item raised by Congress concerns an analysis of a basic needs allowance (BNA)—specifically, whether such an allowance for low-income members of the armed forces would be advisable. The specifics of how a BNA is defined have a measurable effect on eligibility and cost—most importantly, whether BAH should be included or excluded in the definition of

gross income. At Congress’s request, the research team analyzed BNA for both definitions.

The NDAA for FY 2020 included few specifics on how to define the BNA, but the versions of the FY 2020 and FY 2021 NDAs from the U.S. House of Representatives defined the BNA as a monthly allowance to be paid for 12 months that would allow a member’s annual gross income to reach 130 percent of the federal poverty guidelines—a definition adopted by the research team. Gross income was otherwise determined in line with guidelines used for SNAP eligibility.

As expected, the results of this analysis differ markedly depending on whether BAH was included or excluded from gross income (Table 2). Eligible members ranged from 1,135 with BAH included to 23,911 with it excluded. Using the median BNA, the monthly allowance would be \$292 with BAH included in gross income and \$315 with BAH excluded. Using the mean, the monthly allowance would be considerably higher—\$419 with BAH included and \$401 with BAH excluded. Annual costs similarly range from \$5.7 million (with BAH) to \$115.1 million (without BAH, assuming mean BNA). But even the highest estimates are a small fraction of the FY 2020 costs of active-duty personnel of about \$135 billion.

Congress was also interested in whether certain geographic locations would include large numbers of members eligible for the allowance and the implications of the payment of the allowance on recruiting, retention, morale, and conduct. As far as location, the research team found that the ten installations with the highest share of members eligible for BNA are Army installations when the income definition includes BAH. Of eligible members in all services, the largest share, 9.9 percent, is located at Fort Hood. The largest share of BNA-eligible members is also located at Fort Hood when BAH is excluded from gross income. The five states with the highest share of members eligible for BNA are Texas, Georgia, California, North Carolina, and Virginia.

The effects on recruiting and retention that are related to paying a BNA are likely to be small, primarily because the allowance would be paid only for a limited time—12 months if the service member is eligible—and would have no effect on other elements of compensation, such as retirement income. More-rigorous analysis of impacts on recruiting, retention, or morale cannot be conducted because data are unavailable (because the allowance does not exist).

Stakeholders disagree over whether a BNA would help food insecurity. Those in favor of a BNA said that having enough money for food was the key issue and that additional compensation would help solve the problem. Some also argued that policymakers could increase participation in the BNA by reducing stigma (and taking decisionmaking out of the chain of command) if DoD automatically notified members of their eligibility for the BNA. The research literature also suggests that automatic notification could reduce the administrative paperwork burden on members.

Those against a BNA argued that the Thirteenth QRM and earlier QRMs indicate that military pay on average exceeds civilian pay, so compensation levels are not necessarily what is driving military food insecurity. These respondents argued that the underlying causes of military food insecurity have not been identified and that a lack of understanding of the underlying causes would limit the effectiveness of a BNA in alleviating food insecurity.

Element 8. Other Policies, Programs, and Activities: A Glimpse into Root Causes

“(8) Any other recommendations for policies, programs, and activities . . .

The research discussed in this brief was focused on responding to the main question posed in the congress-

TABLE 2
Summary of BNA Results, 2020 Dollars

Factors of Congressional Directive Element 7	Gross Income Includes BAH	Gross Income Excludes BAH
Maximum monthly gross income	\$8,400	\$8,600
Annual average number of eligible members	1,135	23,911
Median (mean) monthly allowance (2020 dollars)	\$292 (\$419)	\$315 (\$401)
Estimated annual cost in 2020 dollars (assume mean)	\$5.7 million	\$115.1 million

SOURCE: DMDc pay and personnel data for September 2015–2020.

NOTES: The optimal amount for each member is the difference between the member’s monthly gross income and 130 percent of the federal poverty line, given the member’s household size and location. The average optimal amount is computed two ways: using the mean across all eligible members and using the median across all eligible members.

sional request. But in the course of the work, information related to the root causes of food insecurity emerged. Understanding root causes is an important underpinning for determining the best policies, programs, and activities to address food insecurity among military families.

Stakeholders suggest that the root causes of food insecurity among service members are both acute and chronic. On the one hand, changes in household income play a role. Such factors include loss of spouse income and unreimbursed expenses when families move to new assignments, delays in changes to BAH related to a change in location or a new dependent, cost-of-living expenses that are not covered by geographic differences in military compensation, and changes in special and incentive pays (such as those that stop when members return from deployment). On the other hand, chronic issues mentioned during discussions include financial mismanagement, lack of financial literacy, chronic spouse unemployment, and support of extended family.

These indicators suggest that food insecurity is intertwined with a variety of factors affecting household finances. Thus, solutions that target food insecurity alone may not be as effective as approaches that recognize the array of financial and other factors related to food insecurity.

What Comes Next?

The questions posed by Congress are not the only questions that need to be asked to fully understand food insecurity in the U.S. military and to identify root causes with confidence. Thus, the findings of this analysis are just a beginning. They provide some insights but also raise more questions that call for additional data and analyses into root causes.

The topics that need to be addressed are wide-ranging and include such areas as better understanding of service member behavior and eating habits, the

role of financial literacy, potential impacts of societal changes, how military household earnings compare with those of civilians, whether household earnings should be the basis for analysis, and how best to measure food insecurity. More information is also needed on the extent to which the reasons for food insecurity are attributable to acute versus chronic matters and the extent to which acute problems become chronic. DoD also should consider additional and more-informative metrics when surveying military personnel about food insecurity.

Perhaps one of the most interesting questions left unanswered is how enlisted personnel can earn more than their civilian counterparts but still be food insecure. While food insecurity is a problem for approximately 25 percent of military active duty service members, a much lower 9 percent of civilians with similar characteristics to those military personnel are food insecure. The higher rate of food insecurity among military personnel is surprising and needs to be better understood. The topics raised for further research will help answer this question.

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