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Food Insecurity Among Members of the Armed Forces and Their Dependents



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About This Report

Section 656 of the National Defense Authorization Act for Fiscal Year 2020 (Pub. L. 116-92) directed the Secretary of Defense to report on food insecurity among service members and their dependents. The directive includes several different elements related to food insecurity, including an assessment of the current extent of food insecurity among members of the armed services and their dependents; participation in food assistance programs; an assessment of the feasibility and advisability of a basic needs allowance for low-income members; and recommendations for policies, programs, and activities to address food insecurity among military families. The Office of the Secretary of Defense asked the RAND National Defense Research Institute to provide analytic support to the U.S. Department of Defense (DoD) as input for its report to Congress, and this report documents the RAND Corporation team's research. This report should be of interest to policymakers and researchers who are concerned about food insecurity, the quality of life for military families, and the adequacy of military compensation.

RAND National Security Research Division

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Summary

Section 656 of the National Defense Authorization Act for fiscal year (FY) 2020 (Pub. L. 116-92) directed the Secretary of Defense to report on food insecurity among members of the armed forces. 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, healthy life” (Economic Research Service, 2021b). However, as we discuss in this report, there is no *singular* definition of food insecurity. The directive has several elements: an assessment of the current extent of food insecurity among not only service members and their dependents but also those living on post and presumably not receiving the basic allowance for housing (BAH); participation in food assistance programs; barriers to accessing this assistance; a description of other sources of income to meet basic needs; an assessment of the feasibility and advisability of a basic needs allowance (BNA) for low-income members; and three sets of recommendations (for policies, programs, and activities) to address food insecurity among military families.

The Office of the Secretary of Defense (OSD) asked the RAND National Defense Research Institute to provide analytic support to the U.S. Department of Defense (DoD) as input for its report to Congress, and this report documents that research and support. Our analysis relied on a mixed-method approach and focused on active duty personnel. We drew information from the available relevant literature, held structured discussions with knowledgeable stakeholders at the national level and at military installations in eight locations, and analyzed the 2016 and 2018 DoD Status of Forces Surveys of Active Duty Members (SOFS-As) as well as Defense Manpower Data Center (DMDC) pay and personnel data for 2015–2020.¹ Although we are unable to analyze the more recent 2020 SOFS-A data, the 2018 SOFS-A data have the advantage of providing information from before the coronavirus disease 2019 pandemic. To address the congressional elements, we supplemented these analyses with analysis of other relevant data sources, such as material from the National Center of Education Statistics and from the DoD Education Activity (DoDEA) and DMDC data on usage of the Supplemental Nutrition Assistance Program (SNAP). The focus of these different methods was on informing the elements of the congressional directive that required specific answers, but the analyses also indirectly provided some information related to the root causes of food insecurity among military families or factors that may relate to food insecurity—although, for the most part, the analysis raised more questions that require answers before specific policies can be recommended. We included this additional information and described the areas requiring additional analysis.

¹ See Office of People Analytics (OPA) (2017, 2020a). The 2020 SOFS-A includes questions on food insecurity but was not made available to us by OSD.

Findings

Assessment of Current Extent of Food Insecurity

Using the USDA six-item short-form assessment of food insecurity (Economic Research Service, 2012), we found that 25.8 percent of Army, Navy, Marine Corps, Air Force, and Coast Guard personnel were food insecure in 2018 (Table S.1). The responses to the 2016 and 2018 SOFS-As suggested that members who were food insecure varied in the extent of their food insecurity. We found that 15.4 percent of all active duty personnel (or 60 percent of the 25.8 percent who were food insecure in the 2018 survey) would be classified by the USDA as having low food security, meaning that service members responded in the affirmative for two to four questions. The remaining 40 percent of those who were food insecure would be classified by the USDA as having very low food security, meaning they responded affirmatively to five or six questions.² Unlike the 2018 survey, which followed the USDA approach for defining food insecurity, the 2016 SOFS-A asked only four of the six required USDA questions but provided more-granular response categories. For example, unlike the 2018 survey, members could answer that they “almost never” experienced the issue in question related to food insecurity. We found that 40 percent of those categorized as food insecure in the 2016 survey are in this “almost never” category, indicating a lower level of food insecurity; the remaining 60 percent responded “sometimes,” “often,” or “very often.”

TABLE S.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 (OPA, 2020a).

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. $N = 15,240$.

² For details on the USDA definition we followed, see Economic Research Service, 2012.

Perhaps reflecting the heterogeneity in the extent of food insecurity, stakeholders disagreed on the prevalence of food insecurity. Most installation representatives said that they saw food insecurity as a problem among members, with some expressing the thought that it was a long-standing pervasive problem; others said they thought that it was rare. Among OSD and national advocacy groups, most agreed that there was a lack of good data on military food insecurity at the time of the interviews.

We also investigated the characteristics of food insecure service members using survey data and input from stakeholder discussions. Unlike other surveys, the SOFS-A is designed to be representative of the active duty population, and we used sample weights in our analysis to improve representativeness. Two-thirds of food insecure members in the 2018 survey were in the grades of E-4 to E-6—that is, they are in the early to middle stages of their career, in contrast with statements from stakeholders and findings from other surveys that typically show that food insecure members are junior enlisted. It is possible that stakeholders at installations primarily interacted with junior enlisted members applying for food assistance, which might explain the difference between the stakeholders' statements and the SOFS-A findings.³ The higher share of E-4 to E-6's could also be attributable to the fact that, across the active force, more personnel are in the grades of E-4 to E-6 than in the grades of E-1 to E-3. We also found that food insecure members were more likely to be a racial or ethnic minority and were disproportionately in the Army and, to a lesser extent, in the Navy.

We found that the food insecurity rate was higher among those who reported living on post in 2018—30 percent versus 23 percent for members living off post. About three-quarters of members who lived on post reported receiving BAH. Among this group (those living on post and receiving BAH), the rate of food insecurity was higher (32 percent) than the rate among those living off post who received BAH (23 percent). The reason for this difference is unclear, but the result is somewhat surprising given that those living on post and receiving BAH likely had lower transportation costs and were closer to the commissary; thus, we would expect their expenditures to be lower and their resources for food to be higher. The 32-percent rate of food insecurity among those on post and receiving BAH was also higher than the rate for those who were on post but not receiving BAH, which was 25 percent. We did not fully examine why the rate was lower for those on post who were not BAH recipients, but it could be related to differences in the characteristics of those who do and do not receive the allowance. In addition to potential differences in grade composition and number of dependents, we found that those who did not receive BAH and lived on post were more likely to receive SNAP than those on post receiving BAH, thereby reducing their food insecurity. Some of the stakeholders mentioned that junior enlisted members without dependents

³ Analysis by Golfin, Kambic, and Horvath (2020) for the Thirteenth Quadrennial Review of Military Compensation (QRMC) found that SNAP participation among military personnel was concentrated among junior enlisted personnel, but SNAP usage does not measure the extent of food insecurity among military members because not all members may qualify for SNAP and members may have different propensities to seek SNAP benefits.

who live on post may choose to eat out too often, given their pay, and fail to use the dining facilities available to them, contributing to their food insecurity. Tabulations using the 2016 SOFS-A suggest some validity to this observation; we found that junior enlisted personnel who lived on post and were food insecure ate fewer meals on average in the dining facilities than similar personnel who were food secure.

Use of Food Assistance, School Meal Programs, and Food Banks

Only 14 percent of those classified as food insecure in 2018 reported using food assistance in the past 12 months in the form of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), food banks, SNAP, or the DoD program called the Family Subsistence Supplemental Allowance (FSSA).⁴ Very few of those classified as food insecure made use of food assistance programs. Both the stakeholder discussions and the 2018 SOFS-A indicated that WIC and food pantries were more commonly used than either SNAP or FSSA. Among the food insecure in the 2018 SOFS-A, 9 percent used WIC;⁵ 6 percent had used a food bank in the past 12 months, compared with 1.8 percent using SNAP and 0.6 percent using FSSA. Regarding SNAP, only 6 percent reported having ever *applied* for SNAP while on active duty, approximately 33 percent of those applications were accepted, and only 7 percent of that number reported that they were *currently* receiving SNAP in 2018. The most common reason that respondents reported for no longer receiving SNAP was that their household income increased. We investigated eligibility for free and reduced-price lunch (FRPL) programs among military children and found that in the 2018–2019 school year, schools near military bases had a lower share of students eligible for FRPL than schools in all but six states: Arizona, Arkansas, Connecticut, Idaho, Kentucky, and Montana. Including DoDEA schools on selected military bases in the United States, we estimated the rate of eligibility for FRPL in these schools and public schools near military installations as being 10.0 percent nationwide compared with a 9.8-percent eligibility rate for all schools. We found that FRPL eligibility was higher in DoDEA schools than public schools near military installations.

Regarding FSSA, across all four services and across the five-year period of FY 2015 to FY 2019, only 92 members used FSSA. The total cost across the five years was \$247,456 in then-year (nominal) dollars. Using the 2018 SOFS-A, we found that only 0.6 percent of those stationed overseas who were food insecure used FSSA, in contrast to 3.0 percent of overseas members who used a food bank. We queried stakeholders regarding the use of FSSA and

⁴ As we describe in more detail in the main report, FSSA is a DoD benefit intended to provide low-income military members with an additional allowance to enable them to buy food for themselves and their families. Since 2015, members are eligible only if they are serving outside the United States, Puerto Rico, the U.S. Virgin Islands, or Guam. Members serving overseas are not eligible for SNAP. In addition, income definitions for the purposes of determining eligibility differ for FSSA and for SNAP.

⁵ This 9-percent figure is the percentage of food insecure personnel. Restricting the sample to members with children under the age of 5 in the household, the percentage of food insecure members using WIC in the past 12 months is 24 percent.

obstacles that prevent members from using it. They were less familiar with FSSA than other food assistance programs, but those stakeholders who responded reiterated the understanding that FSSA continues to have the potential to create social and career stigma given the continued need for some members to work through their chain of command. This was a conclusion of the 2015 report of the Military Compensation and Retirement Modernization Commission that assessed FSSA before eligibility was restricted to only members who were stationed overseas.

Regarding congressional questions related to SNAP, consistent with the findings of the Thirteenth QRMC in 2020, we found that DoD coordinates with the U.S. Department of Health and Human Services' Administration for Children and Families to produce estimates of the number of members participating in SNAP, making use of the Public Assistance Reporting Information System (PARIS) matching program (U.S. Department of Health and Human Services, Office of Planning, Research and Evaluation, undated). 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 analysis, summarized in Golfin, Kambic, and Horvath (2020), examined SNAP participation from 33 and 34 states in May and August 2019, respectively. Extrapolating from the states for which they had data to the larger active duty force, they estimated that 0.08–0.42 percent of service members stationed in the United States (or approximately 880–4,620) were enrolled in SNAP per month. State participation increased from 33–34 states in 2019 to 42 as of February 2021. Using the data provided from those 42 states, we extrapolated with a similar approach as used by the Thirteenth QRMC, estimating that 0.7 percent of active duty members in the United States participated in SNAP in February 2021, higher than the QRMC estimates for 2019. This estimate may 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.

We also examined potential adverse consequences for personal financial management (another query of Congress regarding SNAP), and found that members who are food insecure were more likely to report personal finance issues, although these issues were not specifically tied to SNAP. Twenty-two percent of food insecure members in the 2018 SOFS-A data reported that it was tough to make ends meet, while 3.4 percent of food insecure members reported being in over their heads. Food insecure members were significantly more likely to experience adverse financial events, such as having personal relationship problems regarding finances, paying overdraft fees, and falling behind on bills. Finally, food insecure members also were more likely to have recently provided unplanned financial support to family outside their immediate household, a finding that was echoed in the stakeholder discussions. Although providing financial support for family is not an adverse outcome in and of itself, the unexpected need to provide support may have created challenges for some service members' budgets.

Barriers to Access to Food Assistance

Stakeholders noted that stigma—social, career, or both—was a barrier to accessing food assistance, including SNAP. Stakeholders reported that members are concerned that seeking help for food insecurity or for general financial problems could negatively affect their military career. They reported that members were afraid of being seen by their commanders as being unable to control their finances. Respondents commented that the military culture of self-sufficiency and pride has kept members from seeking help for food or financial insecurity. Other barriers to accessing resources cited by respondents are a lack of knowledge of the resources available to members and their families that can help with financial problems and food insecurity, a lack of knowledge of the eligibility requirements for these support resources, and long or arduous application processes that reduce the likelihood that members would seek assistance. Some stakeholders noted that pantries have limited access because of food bank restrictions on frequency of use and/or limited days or times when they are open.

With respect to SNAP, many stakeholders mentioned that including BAH in the definition of household income when determining SNAP eligibility was a barrier to participation, and stakeholders at military installations noted that they have encountered few, if any, members who were eligible for SNAP. Although it was unclear from our stakeholder discussions whether there is a career stigma specific to seeking SNAP benefits, the U.S. Government Accountability Office (GAO) reported in 2016 that most of the officials they interviewed cited societal stigma of food assistance as a factor in military members applying for SNAP (GAO, 2016). In contrast to what we heard from stakeholders, we found no statistically significant difference in the share of members who report receiving BAH among the food insecure members versus the food secure members in the 2018 SOFS-A data—for both groups, the share receiving BAH was around 80 percent. Thus, we find no evidence that food insecure members are more or less likely to receive BAH.

Some stakeholders also mentioned that members were concerned that seeking help for food insecurity or for general financial problems would negatively affect their continued access to a security clearance. In the 2018 SOFS-A data, we found that food insecure members were more likely than food secure members to report that their security clearance was affected by their financial situation, but the shares were quite small—1.8 percent of food insecure members versus 0.9 percent of food secure members. One stakeholder mentioned that hiding financial difficulties was a greater threat to keeping a security clearance than having financial problems. Thus, although food insecure members are more likely to report that their security clearance was affected by their financial situation, few members in general report this issue, regardless of food security status.

Other Support Available to Meet Basic Needs

Members who are food insecure had household income sources outside their military pay. In the 2018 SOFS-A data, they were more likely to report having a second job or a spouse with a part-time job than food secure members. We also found that 25.4 percent of food insecure

members borrowed money from family or friends and 15.0 percent reported taking money out of retirement and investment accounts. This pattern is consistent with stakeholder discussions that revealed that a lack of spousal employment is often a factor in food insecurity. A high share of food insecure members (69 percent) reported having savings for emergency expenses, although they typically reported having savings for three or fewer months. We found that 29 percent of food insecure members reported being “very comfortable and secure” or “able to make ends meet without much difficulty.” Of the remaining 71 percent responding about their discomfort regarding their financial situation, nearly two-thirds reported that their difficulties were “occasional” versus “tough” or “in over your head.” The high proportion of those with “occasional” difficulties suggests that although some food insecure members are clearly in a dire or tough situation, a significant fraction have less frequent problems with food, again pointing to the heterogeneous nature of food insecurity in the military.

Assessment of a Basic Needs Allowance

Congress requested an assessment of a monthly BNA that would bring members’ household income to 130 percent of the federal poverty line. Congress requested that the assessment consider two alternative ways of defining income for the purposes of eligibility for the BNA: including BAH and excluding it. We summarize key elements of our assessment in Table S.2. We find that far more members would qualify for the BNA if BAH is excluded from the income definition—23,911 active duty members versus 1,135. We estimate that the monthly BNA to bring members to 130 percent of the federal poverty line, on average, would need to be \$415 if the mean is used and \$300 if the median is used as the metric of average. Annual costs vary from \$5.7 million if BAH is included to \$115.1 million if BAH is excluded, using the mean BNA. Although the difference in these figures is substantial, the costs in both cases would be a small fraction of the roughly \$135 billion price tag for active duty personnel costs in FY 2020 (Office of the Under Secretary of Defense (Comptroller), 2020).

We determined that most members who would be eligible for the BNA would be in the Army, with Fort Hood accounting for the largest share (9.9 percent) of all eligible members

TABLE S.2
Summary of BNA Results, 2020 Dollars

Subelements of Consideration	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.

across the services. The top five states with the highest share of members eligible for the BNA would be Texas, Georgia, California, North Carolina, and Virginia. Although the BNA would represent an increase in cash income for service members, we expect any improvement in recruitment and retention to be smaller than the effects of an increase in military pay or bonuses estimated by past studies. This is because the BNA would not be paid regularly; it would be paid only for 12 months (if the member were found eligible) because it would not be associated with a service obligation, like bonuses are, and because eligibility is not predictable.

Stakeholders disagreed on how much a BNA would help food insecurity. Advocate representatives, community providers, and some installation representatives said that a BNA would help with food insecurity; OSD representatives and other installation representatives said that it would not fully solve the problem. 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. Although not mentioned by stakeholders, the available literature suggests that automatic notification could reduce the administrative and paperwork burden on members (Herd and Moynihan, 2019).

Other Policies, Programs, and Activities

Although the focus of our analyses was on addressing the main elements of the congressional request, we produced findings related to “root causes” that could begin to provide information relevant to the formulation of additional policies, programs, and activities. That said, these findings tended to lead to additional questions that were outside the scope of our study.

The stakeholder discussions revealed that food insecurity among service members reflected both chronic issues and acute (or temporary) ones. Some of the acute issues mentioned by stakeholders included loss of spouse employment because of a permanent change of station (PCS) move and unreimbursed expenses related to these moves, unexpected expenses, delays in changes to BAH because of a change in location or the acquisition of dependents, and cost-of-living changes between duty locations that were not adequately reflected in geographic differences in military compensation. Another source of compensation changes could occur because of changes in special and incentive pay; for example, when members return from deployment, they no longer receive family separation pay and the combat zone tax exclusion. One stakeholder mentioned that members experience more variability in pay than civilians. Regarding PCS moves, we did not find a positive association between food insecurity and ever having made a PCS move; food insecure members were actually less likely to report ever having had a PCS move. Chronic issues mentioned included financial mismanagement, lack of financial literacy, chronic spouse unemployment, and support of extended family outside the household.

Although more research is needed to understand the root causes of food insecurity among active duty members, our analysis indicates that food insecurity is not an isolated event but is intertwined with a variety of other factors. The implication is that targeted “fixes” focusing only on food insecurity might not be as effective as approaches that recognize the related array of financial and other factors.

Areas Requiring Additional Data and Analyses

The following additional questions, for which analysis would be fruitful, emerged from our research:

- Why is the food insecurity rate for members receiving BAH higher for those living on post versus off post?
- Why do food insecure members living on post eat fewer meals in the dining facilities than food secure ones? Why do some members who are being provided “in-kind” meals on post fail to take full use of that benefit, and what can be done to encourage better usage?
- Given that 69 percent of food insecure members have savings for emergency expenses, why has this emergency buffer not alleviated food insecurity, especially when the reason for lack of food is because of acute or temporary factors?
- Given that many stakeholders mentioned financial literacy and management as a factor contributing to food insecurity, to what extent do DoD’s financial literacy efforts reduce food insecurity among military members, and how can those efforts be improved?
- To what extent does variability of income—especially variability resulting from changes in circumstances, such as a return from deployment or a PCS move—result in greater food insecurity?
- To what extent would improvements in food assistance programs (such as WIC, SNAP, and FSSA) reduce food insecurity among military families?
- To what extent are financial problems and food insecurity related to unhealthy eating among military families, and, if prevalent, how does unhealthy eating affect service member readiness?
- Do changes in the pool of people being recruited and changes in service waiver policy contribute to higher food insecurity rates? Has the enlistment of older recruits resulted in more members having preexisting debt or having larger families? Are these outcomes creating higher rates of food insecurity? Has service waiver policy that allows the enlistment of members with larger families resulted in greater food insecurity rates among members?
- Have societal changes occurred that may have contributed to food insecurity in the military? For example, are the pool of young people from which the military recruits more likely to “live at home” and less likely to be financially independent and financially literate when they enter service? More generally, to what extent have societal trends, rather

than specific circumstances related to military service, contributed to food insecurity in the military?

- What is the best way of measuring food insecurity for military personnel from the standpoint of setting policy? Recent SOFS-As use the USDA approach, thereby allowing comparisons of food insecurity among military personnel with food insecurity among the general population. But analysis of the 2016 survey, which did not use the USDA approach, indicated that a significant fraction of food insecure members are in the “almost never” category. To the extent that the reasons differ for reporting “almost never” versus “sometimes” or “often”—and to the extent that the DoD policy response would differ—DoD should investigate whether the USDA approach should be revised or additional questions should be added to the SOFS-A to measure food insecurity.

More broadly, our research suggests that more information is needed on the root causes of food insecurity and, specifically, the rank order of causes. Is it primarily because of spouse employment issues and/or lack of child-care options? To what extent is it because of financial management issues, and which financial issues, specifically?

Another puzzle that emerged from our research is how enlisted personnel can earn more than their civilian counterparts but still be food insecure. Comparing the pay of early-career enlisted personnel in the first ten years of service with that of civilians with similar characteristics indicates that military pay is at the 90th percentile of comparable civilians. We investigated whether food insecurity is less prevalent or more prevalent among military personnel than among comparable civilians. According to the USDA website, 10.5 percent of U.S. households were food insecure at some time during the year in 2020 (Coleman-Jensen et al., 2020). However, because the military population is younger and more likely to be male than the civilian population, and because the education distribution of military personnel differs from that of the civilian population, these figures are not estimates of food insecurity of civilians with similar characteristics to those of military personnel. Using the SOFS-A weights, we find that 9.0 percent of civilians with similar characteristics as military personnel are food insecure compared with 25.8 percent of active duty members who are food insecure in the 2018 SOFS-A, nearly triple the amount. The higher rate of food insecurity among military personnel is surprising, given that military members earn more than comparable civilians. A key question is why that is the case. More analysis is needed to address this question.

Finally, DoD should assess the ways in which its data collection might be improved to address these questions. Given the additional questions for which additional analysis would be fruitful, including how food insecurity should best be measured, DoD requires improved data so that targeted and effective policies and procedures can be developed to address the high degree of food insecurity among military personnel.

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Introduction

Section 656 of the National Defense Authorization Act (NDAA) for fiscal year (FY) 2020 (Pub. L. 116-92) directed the Secretary of Defense to report on food insecurity among service members and their dependents. The directive, replicated in Figure 1.1, has several elements: an assessment of the current extent of food insecurity not only among service members and their dependents but also among those living on post and presumably not receiving the basic allowance for housing (BAH); participation in food assistance programs; barriers to accessing this assistance; a description of other sources of income to meet basic needs; an assessment of the feasibility and advisability of a basic needs allowance (BNA) for low-income members; and recommendations for policies, programs, and activities to address food insecurity among military families.

Although the U.S. Department of Agriculture (USDA) annually assesses food insecurity among the U.S. population using data from the December Food Security Supplement (FSS) to the March Current Population Survey (CPS), the CPS is designed to be representative of the civilian, noninstitutionalized population in the United States. Active duty service members are excluded from the survey, unless they are included incidentally as a household member of a civilian adult. Blue Star Families (BSF) and the Military Family Advisory Network (MFAN) regularly conduct surveys that provide information on food insecurity among military families, but these surveys use convenience samples, meaning that samples are not randomly drawn from the population of military personnel and thus are not representative of the active duty military population. Consequently, although these surveys provide important indicators of potential issues of concern (such as food insecurity among military families), they do not provide adequate information to address the questions posed by Congress.¹

Furthermore, additional data sources are required to address some of the elements in the congressional directive. For example, to provide an assessment of the feasibility of a BNA, military pay and personnel data from the Defense Manpower Data Center (DMDC) are required. In addition, available data may be incomplete for addressing some of the elements because of the complexity of the food insecurity issue. In these cases, quantitative data must be supplemented with qualitative information, garnered from discussions with key stakeholders.

¹ Chapter Two provides a review of the literature, including findings regarding food insecurity from the CPS and from BSF, MFAN, and other sources.

FIGURE 1.1
Section 656 of the FY 2020 NDAA

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.

SOURCE: Pub. L. 116-92.

The Office of the Secretary of Defense (OSD) asked the RAND National Defense Research Institute to provide analytic support to the U.S. Department of Defense (DoD) as input for its report to Congress, and this report documents that research. This report describes the analysis conducted to inform the items in the congressional directive and to support the Secretary of Defense's report to Congress.

Our analysis relied on a mixed-method approach and focused on active duty personnel. Table 1.1 indicates which approach informed each element (and the accompanying sub-elements) of the congressional directive. Specifically, we drew information from the avail-

TABLE 1.1

Summary of Elements of Section 656 of the FY 2020 NDAA and Methods

Directive Element	Description	Methods and Sources
1	Assessment of current extent of food insecurity	SOFS-A data; stakeholder discussions
A	Use of food assistance	SOFS-A data; stakeholder discussions
B	Use of FRPL	DoDEA data, DoD data
C	Use of food banks or similar assistance	SOFS-A data; stakeholder discussions
2	Description and assessment of barriers to qualification or access	Literature review; stakeholder discussions
3	Overseas enrollment and cost of FSSA	DoD data
4	Assessment of effectiveness of FSSA	Literature review
5	Description and assessment of participation in SNAP	Literature review; SOFS-A data; stakeholder discussions
A	Coordination between DoD and the USDA	Literature review, PARIS update from DMDC
B	Career stigma resulting from participation	Literature review; stakeholder discussions
C	Adverse consequences for personal financial management	Literature review
D	Support available to meet basic needs requirements	SOFS-A data; stakeholder discussions
6	Assessment of food insecurity among on-post members	SOFS-A data; stakeholder discussions
7	Assessment of the feasibility and advisability of BNA	DMDC pay and personnel data
A	Maximum member gross household income for eligibility for BNA	DMDC pay and personnel data
B	Number of members who would be eligible for BNA	DMDC pay and personnel data
C	Optimal average annual amount of allowance	DMDC pay and personnel data
D	Total annual cost of paying allowance	DMDC pay and personnel data
E	Whether particular locations include large numbers	DMDC pay and personnel data
F	Effects of BNA on recruiting and retention and morale	Literature review
8	Any other recommendations for policies, programs, and activities	SOFS-A data; stakeholder discussions

NOTE: FRPL = free and reduced-price lunch; PARIS = Public Assistance Reporting Information System; SOFS-A = DoD Status of Forces Survey of Active Duty Members.

able relevant literature, held structured discussions with knowledgeable stakeholders at the national level and at military installations in eight locations, and analyzed SOFS-As (Office of People Analytics [OPA], 2017; OPA, 2020a) as well as DMDC pay and personnel data. We supplemented these analyses with analysis of other relevant data sources to address the congressional elements. For example, we made use of data from the National Center of Education Statistics (2020) and from the DoD Education Activity (DoDEA) to analyze usage of FRPL by military children (element 1B). We also obtained data related to element 3 from DoD on enrollment in the Family Subsistence Supplemental Allowance (FSSA) and data related to element 5A (coordination of data on SNAP between DoD and the USDA) from DMDC. Although the focus of these different methods was on informing elements 1–7 of the congressional directive, the analyses also indirectly provided information related to (1) the root causes of food insecurity among military families or (2) factors that may be related to food insecurity. This additional information, together with the findings related to elements 1–7, enabled us to provide input related to element 8 (other recommendations for policies, programs, and activities to address food insecurity).

Organization of This Report

The next chapter discusses the definition of food insecurity and how it is measured, especially for military personnel; the data available to measure food insecurity; and the eligibility criteria for food assistance programs and how these criteria apply to military personnel. In Chapter Three, we review the available literature that is relevant to the elements of the congressional directive.

Chapter Four discusses the key themes that emerged from the stakeholder discussions. The chapter describes the discussions we held with national stakeholders, such as advocacy groups and OSD subject-matter experts, and local stakeholders. In the latter discussions, we conducted sessions with military representatives and community providers across eight locations, two each for the Army, Navy, Marine Corps, and Air Force. As we describe in the chapter, the specific locations were selected because of their larger shares of junior enlisted and early career enlisted personnel within each service. Results from BSF and MFAN surveys suggested that junior personnel were the most likely to be among those responding that they were food insecure.

In Chapter Five, we summarize our analysis of food insecurity among those responding to the 2016 and 2018 SOFS-As. The SOFS-A includes weights that allow us to provide an estimate of food insecurity among active duty members. We use the 2018 data because they provide the most current assessment of food insecurity, given that the 2020 data were not made available to us. The 2018 data have the advantage of presenting a picture of food insecurity before the confounding effects of the coronavirus disease 2019 (COVID-19) pandemic. We also analyzed selected elements of the 2016 SOFS-A because it included elements not included in the 2018 survey that are potentially relevant to the information mandated by Congress.

Chapter Six presents analysis of other data sources relevant to usage of FRPL, overseas enrollment and cost of FSSA, and coordination between DoD and other agencies on SNAP usage by military personnel. Chapter Seven provides an assessment of the BNA, drawing on DMDC pay and personnel data and from the available literature to estimate how a BNA might affect recruiting and retention. Chapter Eight provides a discussion of our findings, drawing together the information from Chapters Two through Seven to provide specific responses to each element of the congressional directive. In addition, we provide a discussion of additional data collection and analysis that would be fruitful.

Defining Food Insecurity, Data Sources, and Food Assistance Program Eligibility

Given the congressional directive for OSD to report on food insecurity among military families and the usage of food assistance programs, such as SNAP, it is important to understand the definition of food insecurity and how it is measured, especially for military personnel. It is also important to understand the eligibility criteria for food assistance and how these criteria apply to military personnel. This chapter provides a review of this material.

USDA Definition of Food Insecurity

The USDA defines *food security* as “access by all people at all times to enough food for an active, healthy life” (Economic Research Service, 2012). However, there is no single definition of food insecurity. The USDA measures food insecurity using a battery of 18 survey questions administered to a nationally representative sample of Americans in the CPS FSS (Economic Research Service, 2021b). Three questions focus on the household’s ability to afford food during the past 12 months; seven questions are about whether adults in the household have reduced or skipped meals during the past 12 months; and eight questions are about whether children in the household, if present, have reduced or skipped meals during the past 12 months. As a result, households without children only respond to ten of the 18 questions in the battery. Questions are answered either as “yes” or “no” or on a scale of “never,” “sometimes,” “often,” or “don’t know.” USDA practice is to translate the responses to these questions into a binary distinction with the item being affirmed if the response is “sometimes” or “often” or not affirmed if the response is “never” (Arteaga and Wilde, 2021).

The text box lists the questions included in the battery (Coleman-Jensen et al., 2021). Households are classified as food insecure if they respond in the affirmative to least three of the 18 questions if children are present and three of ten questions if no children are present. Using the most recent estimates, approximately 89.5 percent of all U.S. households were food secure during all of 2020 with a slightly lower rate of food security among households with children of 85.2 percent (Coleman-Jensen et al., 2021).

The USDA also provides a “short form” six-item scale for surveys that are unable to implement the full 18-item measure, deeming it an “acceptable substitute” (Economic

Items Included in the Food Security Scale in the CPS FSS

Household items

- Worried food would run out before (I/we) got money to buy more
- Food bought didn't last and (I/we) didn't have money to get more
- Couldn't afford to eat balanced meals

Adult items

- Adult(s) cut size of meals or skipped meals
- Respondent ate less than felt he/she should
- Adult(s) cut size or skipped meals in three or more months
- Respondent hungry but didn't eat because couldn't afford food
- Respondent lost weight
- Adult(s) did not eat for a whole day
- Adult(s) did not eat for whole day in three or more months

Child items

- Relied on few kinds of low-cost food to feed child(ren)
- Couldn't feed child(ren) balanced meals
- Child(ren) were not eating enough
- Cut size of child(ren)'s meals
- Child(ren) were hungry
- Child(ren) skipped meals
- Child(ren) skipped meals in three or more months
- Child(ren) did not eat for whole day

SOURCES: Economic Research Service, 2021a; 2021c.

Research Service, 2012, p. 1). Respondents are classified as food insecure if they respond in the affirmative to two of the six questions on the short form. The six questions are provided in Appendix A. This short form does not capture the severity of food insecurity as well as the full ten- or 18-question battery does, nor does it ask about children's food insecurity. Nevertheless, it has been found to identify food insecure households with relatively low error and bias (Blumberg et al., 1999).

The USDA six-item set of questions was adopted in the 2018 and 2020 SOFS-As and has been adopted by military family advocacy groups, such as the 2020 BSF Military Family Lifestyle Survey (BSF and the Institute for Veterans and Military Families [IVMF], 2021). This consistency between the USDA approach and the SOFS-A approach allows the food insecurity metric for military personnel to be compared with that for the civilian population.

Potential Data Sources for Assessing Food Insecurity Among Military Personnel

An assessment of food insecurity among military personnel requires data. This subsection reviews the available surveys of the general population that could be used to assess food insecurity among military families, along with surveys that directly target military personnel. We argue that none of the surveys of the general population are adequate for the purposes of our analyses and that surveys fielded by two military family advocacy groups, while important for providing indicators of potential areas of concern related to food insecurity, are also

insufficient for the purposes of our study. Because the SOFS-As target a representative sample of the active duty military population, we find that they are useful inputs to our study.

Surveys of the General Population

Although the CPS FSS offers the most widely used source of data on food security, active duty military personnel are included only if a civilian spouse responds to the survey. The CPS definition of a *household* explicitly excludes individuals residing in military barracks, thereby eliminating many junior enlisted members from the survey (U.S. Census Bureau, 2021b). That said, the questions from the CPS FSS have been integrated into several other nationally representative surveys, including the Survey on Income and Program Participation (SIPP), Panel Study of Income Dynamics (PSID), National Health Interview Survey (NHIS), and National Health and Nutrition Examination Survey (NHANES) (Economic Research Service, 2021a). Other surveys, such as the American Community Survey (ACS), provide nationally representative information about food assistance program use but not food insecurity.

Table 2.1 provides an overview of the information included in each of these surveys and in the CPS FSS and the CPS Annual Social and Economic Supplement (ASEC), whether each survey includes active duty service members or their households, and whether each survey is representative of the active duty military population. (Appendix B details how each of the surveys assesses food insecurity and their methods for handling active duty military personnel or military households.) Each survey uses a different methodology to attain a sample of households that are nationally representative along several dimensions (such as income level, race or ethnicity, age, or geography).

Although each of these surveys may include households with active duty members, even when the members themselves are excluded from answering the survey, there are several issues that limit each survey's ability to provide information that is representative of active

TABLE 2.1
Food Security and Food Program Use Components in Nationally Representative Surveys

Component	December CPS FSS	March CPS ASEC	NHIS	ACS	NHANES	PSID	SIPP
Food insecurity?	X		X		X	X	X
Food assistance?	X	X	X	X	X	X	X
Include active duty service members?				X	X ^a	X ^a	X
Include active duty households?		X	X	X	X ^a	X ^a	X
Representative of the military?							

SOURCES: Economic Research Service, 2021a; U.S. Census Bureau, 2021b; University of Michigan, undated.

^a Survey does not distinguish active duty members from veterans.

duty members or their families. First, none of the surveys specifically sample active duty members or their households. It is unknown whether the member households that are included in these surveys are representative of the military population. For example, the member samples could be made up of mainly enlisted members or mainly officers, or respondents could be disproportionately from a given service, meaning that members from other services could be underrepresented or left out of the sample completely. Second, those surveys that do include active duty members or their households may not be a representative sample of these households. Each survey places restrictions on the eligibility of members (such as living in barracks) that exclude some members from participating. Finally, none of the surveys provide enough service-related information, such as pay grade and whether respondents are enlisted or officers, to allow for the assessment of their representativeness of the population.

Surveys of the Military Population

Two military family advocacy groups have fielded surveys to quantify levels of food insecurity among active duty members: the 2019 MFAN Military Family Support Programming Survey and the 2020 BSF Military Family Lifestyle Survey.

MFAN

MFAN uses the USDA's six-question short form for its battery of food insecurity questions. The survey is intended to "provid(e) deep insight into the support needs of families living military lives" and includes mostly open-ended questions that provide for qualitative exploration of military family needs (MFAN, 2019b; p. ii). Although the description of identification, sampling, and recruitment of participants is sparse, it is clear that the MFAN survey employs a convenience-based sample rather than a probability-based random sample of service members and their families. The sample population is the universe of military-affiliated members and their spouses, including active duty service members, but also veterans, retirees, Guard and Reserve members, surviving spouses, and divorced spouses. Respondent military status seems to be self-identified on the survey (that is, respondents are not recruited through records documenting their status and their status does not seem to be verified by matching respondents to administrative records).

Survey respondents are recruited through social media and through "many partners in the military family space who are also hoping to learn from the data" (MFAN, 2019b, p. 2). It is unclear how respondents are recruited through social media (such as through advertisements or posts in military-affiliated groups). The identities of the partners who help with recruitment and how those partners solicit participation in the survey are also unclear. Recruitment also takes place via snowball sampling, in which "participants invite others who are also connected to military life to join in" (MFAN, 2019b, p. 2). The methodology does not clarify whether MFAN recruits unmarried members to participate in the survey (MFAN, 2019a), which could mean that this population is potentially unrepresented or underrepresented in the data.

BSF Military Family Lifestyle Survey

BSF conducts an annual Military Family Lifestyle Survey in collaboration with the IVMF at Syracuse University (Sonethavilay et al., 2018) as well as brief “pulse” surveys on an ongoing basis. The 2016 and 2018 versions of the Military Family Lifestyle Survey appear to have included a one-item measure of food insecurity: “Has anyone in your household faced food insecurity (the state of being without reliable access to a sufficient quantity of affordable, nutritious food) within the past year?”¹ According to this measure, 7 percent of active duty–affiliated respondents reported experiencing food insecurity in 2016 and 2018.

Like the MFAN survey, the BSF survey employs a convenience-based sample rather than a probability-based random sample of service members and their families, and thus has the same limitations. Respondents are recruited through BSF and IVMF email lists, social media, and partner military family and veteran organizations (Sonethavilay et al., 2018). These methods create similar risks for bias as the MFAN survey, although BSF attempts to minimize respondent bias by instructing potential respondents in the general purpose of the survey to “minimize self-selection bias toward any single focal issue and, thus, mitigating the respondents’ propensity to participate based upon any specific, issue-based self-interest (e.g., benefits, employment, wellness, etc.)” (Sonethavilay et al., 2018, p. 60). It is unclear whether such instructions help minimize bias in survey respondents.

Convenience-Based Versus Probability-Based Samples

The methods used by the MFAN and BSF surveys result in convenience-based samples that are not designed to provide information that is representative of the population studied. Military members and their spouses can be difficult to recruit for surveys. As the name suggests, convenience-based military samples are identified and recruited through means that are convenient for the researcher to implement. This is the main advantage of such samples, and the data generated by these types of samples are useful for exploring the experiences (such as that of food insecurity) of at least some military families. However, because the method is not designed to generate data that are representative of the sampled population, it cannot provide a valid indication of how many military families are experiencing food insecurity or the characteristics that typify families experiencing food insecurity. The MFAN report admits that the results of the survey “are not meant to predict behaviors or perceptions of all military families” (MFAN, 2019a, p. 2 [emphasis ours]), and the 2018 BSF survey report acknowledges that the “sample cannot necessarily be considered a direct representation of the entire military and veteran family populations” (Sonethavilay et al., 2018, p. 59).

Furthermore, data from convenience-based samples can be systematically biased. Respondents may be different in important ways from the active duty population. The most obvious bias of the MFAN survey is that unmarried service members are not a target of the survey. This population is excluded from the sample by design, even though unmarried service members make up approximately 48.5 percent of the active duty population (Office of the

¹ Correspondence between Blue Star Families and the authors, January 13, 2021.

Under Secretary of Defense for Personnel and Readiness, 2020b). Perhaps more problematic, the reliance on partner groups, social media, and snowball sampling could result in a set of respondents who are very different from the population of all military families. For example, compared with the population of military families, military members and their spouses who join military social media groups or advocacy organizations might be more active in military family advocacy and more attuned to problems that military families experience.

In addition to recruitment concerns, it is difficult to assess the bias engendered in convenience-based samples because the relation between the sampled respondents and the population along relevant dimensions is unknown. For example, it is unclear whether the proportion of respondents to the MFAN survey are similar to active duty families in terms of time in the military, pay grade, living situation (for example, on- or off-post housing), and cost of living in their local community. The BSF survey reports the composition of the sample along some of these dimensions, and it reports that the sample is similar to the active duty military as a whole in terms of service branch. However, the BSF sample is older, of higher rank, and more likely to be female than the active duty military as a whole (Sonethavilay et al., 2018). In addition, for some topics, the MFAN and BSF reports combine data from active duty respondents with veterans and Guard or Reserve members. This is not the case with these groups' latest reports of food insecurity; in these reports, they reported separate results for active duty-affiliated respondents.

Probability-based random sampling ensures that every member of the target population has a chance of being selected for the survey and that the probability of being selected is known and can be accounted for in the resulting data analysis through statistical weighting. This approach reduces the bias in recruiting respondents—all respondents come from the population, and their sampled characteristics (such as pay grade) are known and accounted for during survey recruitment and analysis. For example, researchers who want to ensure that junior enlisted service members are represented in survey results will specifically sample members of this group to receive an invitation to the survey, and those junior enlisted members who respond to the survey can be evaluated on how well they match the overall junior enlisted population with regard to service, gender, location, race or ethnicity, and other factors. If the differences between the survey respondents and the population are large, researchers would conclude that the sample is biased. But if the differences are relatively small (that is, the sampling error is small), then they can be corrected in the data analysis by statistical weighting, producing results that are representative of the population along the characteristics selected by the sampling procedures. Thus, probability-based survey samples are best for drawing conclusions about the characteristics of the population of military members and their families, while convenience-based samples provide targeted information about a select group of military members and their families.

The implications are that although the MFAN and BSF surveys are useful for understanding the experiences of some military families, the survey methodology—particularly the use of convenience sampling rather than probability-based random sampling—means that we

cannot rely on the results of these surveys to provide an assessment of food insecurity among military personnel.

Status of Forces Survey of Active Duty Personnel

The SOFS-As conducted by OSD OPA are designed to be representative of active duty members in the Army, Navy, Marine Corps, Air Force, and Coast Guard and members of the Public Health Service and National Oceanic and Atmospheric Administration who are in pay grades between E-1 and O-6 (OPA, 2017).² The SOFS-A is fielded annually and covers a wide variety of topics, such as satisfaction with the military, readiness, deployments, family situation and demographics, and service member mental health. Recently, the survey has included questions every other year (in 2016, 2018, and 2020) about members' food security and use of food assistance programs.

The SOFS-As in 2018 and 2020 measure food insecurity using the USDA six-question short form. The September 2016 SOFS-A includes some similar questions, but they differ in two important ways. First, the 2016 SOFS-A only includes four of the six questions from the short form. Appendix C lists the 2016 SOFS-A food assistance–related questions and highlights in bold the four that are consistent with the USDA short form. Second, the response options in the 2016 SOFS-A are more granular than the response options in the six-option form: respondents may choose from “never,” “almost never,” “sometimes,” “often,” and “very often,” instead of “never,” “sometimes,” and “often.” Because the USDA does not use the “almost never” response category, there is ambiguity about whether to count the “almost never” category as affirmative or not affirmative, as we discuss in more detail in Chapter Five. Because of these two differences in the 2016 questions, there is some ambiguity in how to compare responses to that survey with those in the 2018 and 2020 surveys or with USDA estimates. We provide tabulations in Chapter Five using both the 2016 and 2018 surveys; the 2020 data were not available for this study.

Food Assistance Program Eligibility

Several of the congressional elements require information regarding usage of food assistance programs. In this section, we review the different USDA food assistance programs (*main programs*) and both their eligibility criteria in general and the criteria specifically for military personnel. We then briefly review other support programs, such as the Child Tax Credit, that can assist military families that are food insecure.

² For more information on statistical methodology for sampling and weighting in the surveys, see OPA, 2017; and OPA, 2020a.

Overview of Main Food Assistance Programs

The Food and Nutrition Service (FNS) of the USDA has 15 food assistance programs (FNS, 2021). The largest programs in terms of expenditures and participants are SNAP; the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); and the National School Lunch and Breakfast Programs. FNS also offers nutrition assistance programs through farmer's markets, other child nutrition programs, and programs assisting with food distribution. Among these programs, only SNAP is broadly available to working-age adults who do not have dependents. The other programs are typically targeted toward children and families or senior citizens. In addition to the food assistance programs offered by the USDA, DoD established the FSSA in 2001 to offer service members an alternative to SNAP (Golfin et al., 2019).

Eligibility Criteria

Table 2.2 summarizes the key eligibility criteria for each of the main food assistance programs. Each program has income limits and specific criteria for family structure or dependents. Some programs have additional eligibility criteria, such as asset limits or recertification requirements. Here, we describe the eligibility criteria for each program, drawing on the USDA website, Golfin et al. (2019), Golfin, Kambic, and Horvath (2020), U.S. Government Accountability Office (GAO) (2016), and Hoynes and Schanzenbach (2016).

Eligibility Criteria for SNAP. For a household to be eligible for SNAP, gross monthly household income cannot exceed 130 percent of the Federal Poverty Level (FPL), and net income cannot exceed 100 percent of the FPL.³ Net income is determined by deducting 20 percent of gross income, a standard deduction based on household size, dependent care expenses, medical expenses for elderly or disabled household members, excess shelter costs, and, in some states, child support costs (Golfin, Kambic, and Horvath, 2020; FNS, undated-a). A household is determined to have excess shelter costs if their shelter costs exceed half of their remaining income after other deductions are applied, subject to a cap of \$586 per month in 2021. Alaska, Hawaii, and Guam have higher excess shelter caps. SNAP program rules set a maximum benefit based on household size, and this benefit amount is updated each year to account for inflation. A household's benefit is equal to the maximum benefit if the household has no income, and the benefit phases out at a rate of 30 percent of net income (Hoynes and Schanzenbach, 2016). The benefit is provided on a debit card via Electronic Benefit Transfer and can be used to purchase most food items. In addition to the income limits, households must have no more than \$2,250 in countable resources (or \$3,500 if at least one household member is over age 60), excluding the value of the home. SNAP households must recertify their eligibility every six to 24 months, depending on their state.

The household size for SNAP is based on the number of people who live and eat food together. In practice, this is a less stringent definition of a household than is used in many other programs, including the definition of dependents in DoD's Defense Enrollment Eligi-

³ In 2021, the FPL for a household of four was \$26,500. See U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (2021) for more details.

TABLE 2.2
Food Assistance Program Eligibility Criteria

Program	Income Limit	Resource Limit	Family Requirements	Additional Criteria	Phaseout	Recertification Requirements	Treatment of Housing Allowances
SNAP (federal guidelines)	130% FPL (gross); 100% FPL (net)	\$2,250 (\$3,500 for households with people over age 60)	Household unit is determined by the number of people who live and prepare food together	Able-bodied adults without dependents must work or are limited to 3 months of benefits within 3 years; adult noncitizens must have been in the country for at least 5 years	30% of net income	Every 6–24 months, depending on the state	BAH is counted as income; in-kind housing is not counted as income
WIC	185% FPL	None	Pregnant or postpartum women, infants, and children under age 5 are eligible	Participants must be determined to be at “nutritional risk”	None	Every 6 months	BAH is not counted as income
National School Lunch Program	185% FPL (reduced price); 130% FPL (free)	None	School-age children are eligible	None	None	None	BAH is counted as income; in-kind housing is not counted as income
School Breakfast Program	185% FPL (reduced price); 130% FPL (free)	None	School-age children are eligible	None	None	None	BAH is counted as income; in-kind housing is not counted as income
FSSA	130% FPL (gross income)	None	Military personnel must have at least one dependent and live overseas	None	Benefit increases household income to 130% of the FPL, capped at \$1,100 per month	Annually	BAH and cash equivalent of in-kind housing are counted as income

SOURCES: Golfin, Kambic, and Horvath, 2020; Hoynes and Schanzenbach, 2016; GAO, 2016; FNS, undated-b.

bility Reporting System (DEERS). Adults without dependents (known as *able-bodied adults without dependents*) are eligible for benefits, unlike many other programs that base eligibility on the presence of dependents. However, eligibility for this group is restricted to three months within a three-year period unless the individual works for at least 20 hours per week (GAO, 2016). Legal adult noncitizens who have been in the United States for at least five years and noncitizen children are also eligible to receive benefits.

There are some exceptions to these eligibility rules. First, households that participate in Supplemental Security Income (SSI), Temporary Assistance for Needy Families (TANF), or General Assistance are automatically eligible because the means-tested requirements for these other programs imply that most of these households would likely meet the income requirements for SNAP regardless of their participation in other programs. Additionally, 43 states have adopted Broad-Based Categorical Eligibility with more-generous gross income limits or asset limits as of May 2020 (USDA, 2021). However, households in these states must still meet the net income requirement of 100 percent of the FPL to receive SNAP benefits.

Eligibility Criteria for WIC. To qualify for WIC, households must have gross income at or below 185 percent of the FPL or participate in another program with an income eligibility limit of 185 percent of the FPL (Hoynes and Schanzenbach, 2016). Additionally, only women who are pregnant or postpartum, infants, and children under age 5 are eligible to receive benefits. These household members must be determined to be “at nutritional risk” by a physician. Benefits are provided in the form of a voucher that can be reimbursed for a specific set of nutritional food items, such as infant formula, fruits and vegetables, dairy products, and breakfast cereal (Hoynes and Schanzenbach, 2016). Families must recertify for WIC every six months. WIC is also available for members who are serving overseas (TRICARE, 2021).

Eligibility Criteria for School Lunch and School Breakfast Programs. Children are eligible to receive *reduced-price* school lunch if they live in households with gross income at or below 185 percent of the FPL and are eligible to receive *free* school lunch if they live in households with gross income at or below 130 percent of the FPL. Children may also be categorically eligible if their household receives benefits from SNAP or TANF or if they participate in Head Start, are a foster child, or are homeless. Children meeting the eligibility criteria either pay a reduced price or do not pay for their lunch or breakfast at school, and the school is subsidized for the cost of the meals, provided that the meals meet specific nutritional standards (Golfin et al., 2019).

Eligibility Criteria for FSSA. Service members are eligible for FSSA if their gross monthly income is at or below 130 percent of the FPL and if they have at least one dependent (DoD Instruction [DODI] 1341.11). There are no additional resource requirements or net income limits. The monthly benefit amount is designed to bring the monthly income up to the level of 130 percent of the FPL, subject to a max of \$1,100 per month. Because SNAP has been found to be more generous than FSSA in most cases (Military Compensation and Retirement Modernization Commission [MCRMC], 2015), the eligibility requirements for FSSA changed in 2016 so that only members serving where SNAP is not available (such as outside the United States or in Washington, D.C.; Guam; or the U.S. Virgin Islands) are eligible.

How Military Pay Gets Counted Toward Income for Determining Eligibility for Assistance Programs

The various allowances provided to service members mean that military compensation has some unique considerations when counting gross income for the purposes of eligibility in various food assistance programs. Furthermore, not all programs count the allowances in the same way. To determine eligibility for SNAP, basic pay and all allowances (including BAH), basic allowance for subsistence (BAS), and the cost-of-living adjustment (COLA) are counted as income. In-kind benefits, including government-provided housing and meals, are not counted toward income for SNAP, and neither is the tax advantage to service members associated with receiving allowances tax-free.

In practice, SNAP caseworkers determine eligibility by examining income received during the past 30 days and projecting what share of this income is expected to be received on a regular basis in the future (Golfin, Kambic, and Horvath, 2020). As a result, one-time payments (such as bonuses) may not be counted toward income if they are not received on a regular basis. On the other hand, special payments that are paid on a regular basis should be counted as income—although, in practice, the exact treatment of these special pays is left up to the caseworker (Golfin, Kambic, and Horvath, 2020; GAO, 2016). Special payments that are received only while a service member is deployed are not counted toward income (Golfin, Kambic, and Horvath, 2020).

The treatment of the housing allowance in the income calculation varies by program and introduces variability in eligibility for different programs. FSSA and SNAP count all the same components as income, with one addition for FSSA: Unlike SNAP, in-kind housing benefits are counted toward income when determining FSSA eligibility (DoDI 1341.11) and are imputed to equal BAH. This is done by estimating a cash equivalent value of the in-kind housing benefit (DoDI 1341.11). As a side note, WIC does not count in-kind housing or BAH toward income, meaning that, all else equal, it is easier for service members to qualify for WIC (GAO, 2016).

Other Support Programs

Military families may qualify for other programs offering financial assistance. First, families may receive assistance from military aid societies, such as Army Emergency Relief, Navy-Marine Corps Relief Society, Air Force Aid Society, or Coast Guard Mutual Assistance. Additionally, several new programs were created and others were revised in the wake of the COVID-19 pandemic in 2020. First, the Child Tax Credit was expanded in several ways in 2021. The maximum payment was increased from \$2,000 per child to \$3,600 for children under age 6 and \$3,000 for children ages 6–17. The amount of the increase (either \$1,000 or \$1,600 per child) is phased out for single households earning more than \$75,000 per year, or \$150,000 per year for married households (Internal Revenue Service, 2021a; Internal Revenue Service, 2021b). Furthermore, the credit was made fully refundable, so if families have a tax liability that is lower than the amount of their eligible credit, they will receive the balance in their refund check. Finally,

half of the credit is available to families in advance payments made monthly over the second half of 2021. Although it is unclear whether the changes to the Child Tax Credit will be made permanent after the effects of the COVID-19 pandemic subside, the Child Tax Credit offers a potentially significant source of financial assistance to families, particularly those with multiple children.

Second, three rounds of Economic Impact Payments were made over the course of the pandemic through the Coronavirus Aid, Relief and Economic Security (CARES) Act in March 2020, the COVID-19–related Tax Relief Act in December 2020, and the American Rescue Plan Act in 2021. Each of these offered one-time cash payments to single households earning up to \$75,000 per year, or \$150,000 per year for married households. The value of these payments ranged from \$1,200 per adult and \$500 per child in the CARES Act to \$1,400 for each adult and qualifying dependent in the household in the American Rescue Plan Act (U.S. Department of the Treasury, undated). These payments are not expected to continue, but they offered significant support for families experiencing financial hardship as a result of the pandemic (for example, see Ruffini and Wozniak, 2021).

Finally, households may qualify for assistance that is not specific to the pandemic. Spouses may qualify for unemployment insurance; in some unique cases, families may qualify for assistance programs, such as TANF and SSI. Although eligibility for the Child Tax Credit and Economic Impact Payments were quite universal (subject to income constraints), eligibility for TANF or SSI is likely rare because the programs have additional eligibility criteria. For example, TANF has low-income limits (on average a limit of \$900 per month in 2019⁴), and SSI is targeted to low-income households in which one member of the household experiences a significant disability.

Measuring Food Assistance Program Usage

In addition to the measures of food insecurity, the CPS contains measures about use of food programs—most importantly, SNAP. We note that measurement of use of food programs is distinct from measurement of food insecurity: It is possible and likely common that individuals who are not considered to be food insecure may still qualify for and use food programs, such as SNAP. On the other hand, use of food programs may *reduce* food insecurity among households that otherwise would have been found to be food insecure in the absence of food assistance programs (Ratcliffe, McKernan, and Zhang, 2011). Furthermore, the definition of *household* for the purposes of the CPS does not necessarily correspond to the household unit used to determine SNAP eligibility, a point we return to later. Use of food programs—including SNAP and WIC—is covered in both the CPS FSS and the March CPS ASEC. The USDA estimates that 49.7 percent of households that received SNAP benefits were food insecure. For an alternative perspective, the USDA also estimates that 43.2 and 47.8 percent of households with low food security

⁴ For details on income eligibility limits across states, see Shantz et al., 2020.

and very low food security, respectively, participated in SNAP during the month in which they were surveyed for the FSS (Coleman-Jensen et al., 2021).

Summary

In this chapter, we reviewed the definition of food insecurity, described available data sources for measuring food insecurity among military families, and summarized the main eligibility criteria for qualifying for food assistance programs and other sources of support. Although there is no single definition of food insecurity, the USDA measures food insecurity using a battery of questions included in an annual supplement to the CPS (Economic Research Service, 2021b). People who respond to at least three of the 18 questions for households with children, three of the ten questions for households without children, or two of six questions in the USDA short form (Economic Research Service, 2012) are categorized as food insecure. No survey of the general population that queries respondents about food insecurity includes a representative sample of active duty military personnel. Instead, special-purpose surveys administered to military personnel must be used. Two military advocacy groups field surveys to quantify levels of food insecurity among active duty members; these surveys provide useful information about the experiences of military families, but the survey methods do not result in representative samples of the military population. The SOFS-A conducted by DoD provides a representative sample, but results on food insecurity have not been publicly available to date. The eligibility criteria for food assistance programs differ in important ways, especially in how they treat elements of military pay. SNAP includes BAH in the definition of income for determining eligibility, as do FSSA and FRPL programs; WIC does not. However, FSSA is available only to overseas members and WIC is restricted to people with small children and infants.

Insights from the Literature

We scanned the available literature to identify past studies that provide information relevant to the elements listed by the congressional directive. We found studies relevant to element 1 (assessment of food insecurity and program usage), element 2 (description of barriers to food assistance), and element 5B (career stigma resulting in participation). We review these studies in this chapter. Before presenting this material, we first review the available literature on the adequacy of military compensation, including recent analyses conducted for the Thirteenth Quadrennial Review of Military Compensation (QRMC) on how military pay compares with the pay of civilians who have similar demographic characteristics. We consider this literature because of the congressional directive to study a potential BNA and because a key theme that emerged from the stakeholder discussions (discussed in the next chapter) is that food insecurity among military families is often viewed as a financial issue.

Evidence on the Adequacy of Military Compensation

Military compensation is an important resource for military families to meet their basic needs, including food security. Compensation is a complex system of pays, allowances, and benefits.¹ Every active duty service member is entitled to basic pay, with the particular amount depending on the member's pay grade and length of service. Every member is also entitled to receive the BAH (or quarters in kind) and BAS (or subsistence in kind). These three elements of basic pay, BAH, and BAS—along with the federal tax advantage associated with receiving BAH and BAS tax-free—make up regular military compensation (RMC), a metric of military compensation used as a benchmark for comparing military compensation with civilian compensation. Basic pay is about 60 percent of RMC. The services are authorized to use more than 60 special and incentive pays to address specific manning needs or force-management issues—although any given service member is unlikely to qualify for more than a handful of these pays, which are targeted to personnel in specific circumstances, such as having consistently strong civilian alternatives (for example, military pilots who can pursue opportunities with the major airlines).

¹ This discussion draws from Asch (2019).

Military compensation has a dual role. It recompenses members for their service, and it assists the armed services in meeting their readiness objectives, including attracting and retaining personnel; motivating effort; inducing members to sort to the ranks, positions, and jobs for which they are best suited; and, eventually, separating personnel at the end of their career. Because the U.S. military is an all-volunteer force, members voluntarily enter service and those in good standing can choose to continue to serve or leave when their service obligations are completed. The voluntary nature of military service means that discussions about the adequacy of military compensation tend to focus on how compensation can be used to induce people to choose the military; to attract and retain high-quality personnel in sufficient quantity; and, more broadly, to help the services meet readiness objectives.² The ability of the military compensation system to meet these objectives has been subject to extensive study; an ongoing topic of study by recent QRMCs has been the competitiveness of military compensation and how military compensation compares with the compensation of civilians who have similar educations, are of similar age, and have other similar demographic characteristics. Comparability with civilian pay for the same work is one of the guiding principles for setting military pay. We review some of that recent work here, especially analysis contained in the Thirteenth QRMC (Office of the Under Secretary of Defense for Personnel and Readiness, 2020a), which is the most recent review, and summarized in Asch et al. (2020).

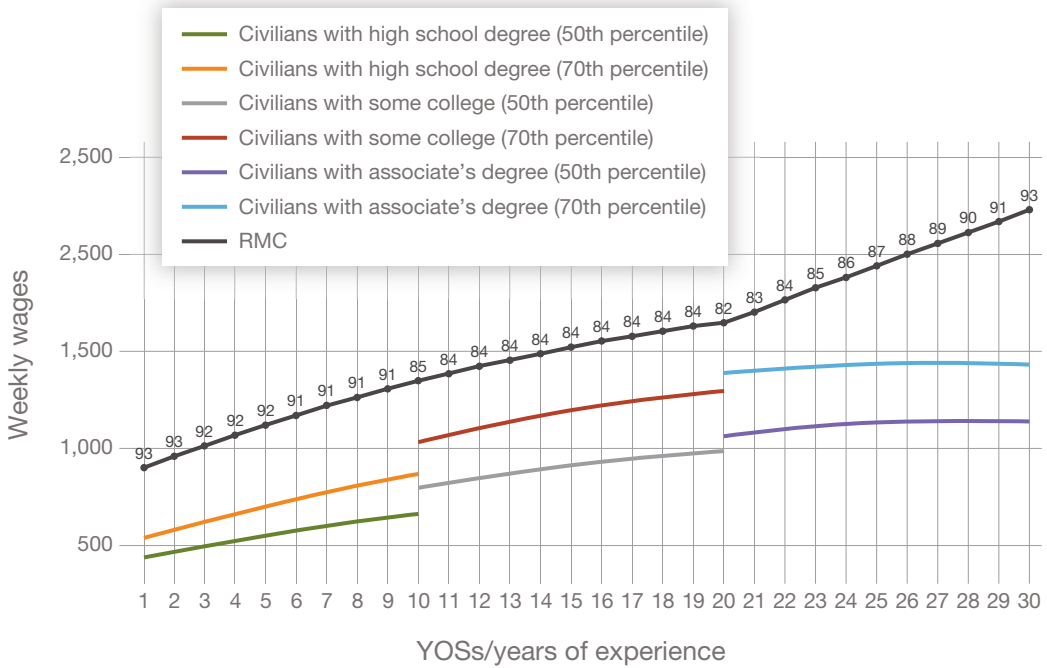
Analyzing data from the 1990s, the report of the Ninth QRMC in 2002 concluded, “Pay at around the 70th percentile of comparably educated civilians has been necessary to enable the military to recruit and retain the quantity and quality of personnel it requires” (Office of the Under Secretary of Defense for Personnel and Readiness, 2002, p. xxiii). The 70th-percentile benchmark (rather than the average 50th percentile) reflected the unique nature of military life. Comparisons of enlisted RMC with the pay of civilians with similar demographics show that, over time, the weighted average of RMC across all enlisted personnel has exceeded the 70th percentile since 2004 (Asch et al., 2020, Figure 3.3) and was around the 85th percentile of the civilian wage distribution for enlisted personnel between 2010 and 2018 for those with fewer than 20 years of service (YOSs).³

Figure 3.1 shows enlisted RMC in 2017 for a given year of service and compares RMC with civilian wages for a comparable year of experience at the 50th (median) and 70th percentiles for the levels of education noted. This figure replicates Figure 2.1a in Smith, Asch, and Mattock (2020) and in the Thirteenth QRMC. The civilian-wage and RMC lines have been smoothed with quadratic regressions on the raw data. Compared with civilians who hold a

² The objectives or guiding principles for setting military compensation are stated in the 2018 Military Compensation Background Papers and in the reports of the Fifth QRMC (Office of the Secretary of Defense, 1984), Seventh QRMC (Office of the Assistant Secretary of Defense, Force Management and Personnel, 1992), and Eleventh QRMC (Office of the Under Secretary of Defense for Personnel and Readiness, 2012). The report of the Defense Advisory Committee on Military Compensation (2006) also reviewed the objectives of military compensation.

³ We focus on enlisted personnel because these are the individuals most likely to be food insecure, given tabulations shown in Chapter Five and discussions with stakeholders described in Chapter Four.

FIGURE 3.1
Enlisted Regular Military Compensation, Civilian Wages, and Regular Military Compensation Percentiles for Full-Time, Full-Year Workers with High School, Some College, or Bachelor’s Degrees, 2017



SOURCE: Smith, Asch, and Mattock (2020, Figure 2.1a).

NOTES: RMC percentile varies by YOSs (1–9 = high school, 10–19 = some college, and 20–30 = a bachelor’s degree or higher). We weighted civilian-wage data by enlisted military gender mix. Colored lines are smoothed wage curves for the 50th and 70th percentiles of the given level of education. The black line is enlisted RMC, and the number above the black line is the percentile in the wage distribution for high school, some college, and a bachelor’s degree.

high school degree, enlisted pay is around the 90th percentile of the civilian pay distribution in the first part of the career (one to ten YOSs).⁴

⁴ The RMC computations used to generate the comparisons in Figure 3.1 are based on military pay data from Directorate of Compensation, Office of the Under Secretary of Defense for Personnel and Readiness (2017), also known as the Greenbook. These Greenbook computations impute a housing allowance for those who receive in-kind government-provided housing. The imputed housing allowance equals the housing allowance received by members in the same grade and with the same zip code and dependents’ status. The imputation will result in an overstatement of RMC to the extent that those who receive in-kind housing, especially those who live in barracks, value in-kind housing by less than the housing allowance paid to those who live off post or in privatized housing. Asch et al. (2020) tabulated RMC percentiles but computed RMC using the Active Duty Pay Files provided by DMDC in which those in barracks or otherwise living on base receive “partial BAH,” a relatively small dollar amount. Because partial BAH is substantially lower than full BAH, it is likely to understate the value of housing to junior members, thereby resulting in an understatement of RMC. Using this alternative methodology—as shown in Asch et al. (2020)—we still find that enlisted RMC for junior members substantially exceeds the 70th percentile.

Although these tabulations do not provide direct evidence about food insecurity, they show that enlisted personnel have more earnings on average than similar civilians, even among early-career enlisted personnel. Given these findings, an important question is, why do we observe food insecurity among enlisted personnel? One explanation might be related to spouse employment and earnings and the frequent moves of military members affecting spouses' labor market opportunities. Research by Burke and Miller (2018) indicates that permanent change of station (PCS) moves cause a substantial (about 14 percent) decline in spouse earnings in the year of the move, an increased likelihood that the spouse has zero earnings for the year, and persistently lower earnings relative to nonmoving spouses two years after the move (Burke and Miller, 2018). Hosek and Wadsworth (2013) estimated that military spouses were 9 percent less likely to participate in the labor force, 10 percent less likely to work 30 or more hours per week, and 14 percent less likely to work at least 32 weeks per year. They also found that weekly wages of military spouses were 19 percent lower than the weekly wages of civilian spouses.

These results suggest that, from a household perspective, military pay including both the member and the spouse may not exceed the pay of comparable households or may not exceed it by much. Unfortunately, DMDC does not have administrative data on spouse earnings, precluding an analysis of the percentiles of civilian household earnings using administrative data. Social Security Administration data or data from the Internal Revenue Service could provide such administrative data, but establishing data access agreements among these agencies, DMDC, and the research team would have been time-consuming and burdensome. That said, the services have generally met, or even exceeded, their recruiting and end-strength objectives, albeit with some notable exceptions—such as 2005 and 2018 for the Army—suggesting that, by and large, the level of military compensation has been adequate from a force management perspective (Asch, 2019). Given that military pay is higher, another question of interest is whether food insecurity is less prevalent than among comparable civilians. We explore this issue in our concluding chapter, where we present an estimate of food insecurity among comparable civilians.

Available Past Evidence Related to Food Insecurity and Food Assistance Program Usage by Military Families

We next turn to evidence from the existing literature related to the elements in the congressional directive. We begin with studies that provide information related to element 1.

Food Insecurity Among Military Personnel from Past Studies (Element 1)

BSF reports that 14 percent of enlisted active duty family respondents in its 2020 Military Family Lifestyle Survey reported food insecurity, 9 percent reported low food security, and

5 percent reported very low food security (BSF and IVMF, 2021). In a 2019 MFAN survey, 9 percent of active duty respondents reported experiencing very low food security, meaning that they answered five of the six questions on the USDA food insecurity short form in the affirmative (MFAN, 2019b).

Wax and Stankorb (2016) implemented a small-scale survey to measure food insecurity among military households with children ages 0–5. The authors sampled 248 households enrolled at the Joint Base San Antonio Child Development Center (CDC) in spring 2015 and asked participants the food insecurity battery from the CPS FSS. They found that approximately one in seven households included in their survey were food insecure, similar to the findings of the BSF survey. However, this small sample from one location is not representative of all military households with children. Furthermore, because the authors only sampled households enrolled in the CDC, the results may not represent all military households with children in this particular location.

More recently, Beymer et al. (2021) administered an online survey through the U.S. Army Public Health Center at one Army installation. The survey included two items related to food insecurity selected from the CPS FSS battery, enabling the researchers to identify marginal food insecurity. The authors describe this measure as “a broader measure of food insecurity that captures individuals who report any indications of compromised economic access to food among themselves and their families” (Beymer et al., 2021, p. 2052). The included statements are as follows:

- “Within the past 12 months, we worried whether our food would run out before we got money to buy more.”
- “Within the past 12 months, the food we bought just didn’t last and we didn’t have money to get more.”

Using these items, the authors estimate that approximately 33 percent of active duty Army members at the installation where the survey was administered were marginally food insecure. The authors discuss several reasons why this number may be an upper bound, including their finding that more-junior personnel were more likely to respond to the survey (Beymer et al., 2021). Furthermore, because this survey was only administered in one installation for one service, it is not representative of all military personnel.

In sum, available estimates of food insecurity in the military vary substantially, but these available estimates are based on samples that are not representative of the active duty military population. The SOFS-A would enable an assessment of food insecurity that is representative of the active duty military population, but those SOFS-A results have not been publicly released in recent years. In Chapter Five, we present tabulations from the 2018 SOFS-A.

SNAP Usage by Military Personnel (Element 1A)

The Thirteenth QRMC was mandated to provide an estimate of SNAP usage by military personnel. These estimates are shown in the QRMC (Office of the Under Secretary of Defense

for Personnel and Readiness, 2020b) and summarized in Golfin, Kambic, and Horvath (2020) and in Golfin, Angers, and Gonzales (2020). Several techniques are used to estimate how many service members are eligible for SNAP and how many use SNAP.

To estimate eligibility, Golfin, Angers, and Gonzalez (2020) used DMDC data on military pay to calculate the share of households with incomes meeting the thresholds for SNAP. Military pay is computed as the sum of basic pay, BAH, BAS, and the COLA. The study assumes that married service members' spouses have no income, that there are no special pays or bonuses, and that the household has no child-care expenses. It also assumes that the household meets all other income eligibility, including resource limits. Both these assumptions could lead to an overestimate of the number of service members who would qualify for SNAP. The final main assumption is that the only dependents that would be counted for the household unit are the dependents observed in DEERS. Because the SNAP household unit may include dependents who live or share food with the member but would not be counted as dependents in DEERS, this could lead to an underestimate.

Using data from FY 2018, Golfin, Angers, and Gonzalez (2020) estimated that approximately 1,900 service members would be eligible for SNAP each month. The majority would be junior enlisted members, with more than half being in grades E-1 through E-3 and with no members in grades above E-6. Furthermore, no service members without dependents were estimated to be eligible for SNAP. The researchers also found that service members without BAH are more likely to qualify for SNAP because BAH is counted as income in the SNAP eligibility criteria but in-kind housing benefits are not.

GAO did a similar analysis of hypothetical SNAP eligibility in its 2016 report (GAO, 2016). GAO estimated the monthly income for an E-4 living in four different installations in California, Texas, and Oklahoma and also estimated what the service member's household size would need to be to qualify for SNAP, under the assumption that the E-4's income was the only income in the household and that the household met all other eligibility criteria. The researchers found that an E-4 would need to have a household size of six or seven members to be eligible for SNAP.

For their analysis for the Thirteenth QRMC, Golfin, Kambic, and Horvath (2020) estimated enrollment in SNAP by linking administrative data on program use from the PARIS program to DMDC data. The PARIS data extract that was used featured data from 33–34 states on use of public assistance programs, including SNAP, TANF, and Medicaid (U.S. Department of Health and Human Services, Office of Planning, Research and Evaluation, undated). As we discuss in Chapter Six, state participation in the PARIS database is voluntary for SNAP, and the database notably misses select key states with large numbers of military personnel and high costs of living, such as California, Texas, and Hawaii. As a result, the exclusion of these states may lead to a lower-bound estimate of SNAP use. The Golfin et al. study also find some anomalies with the data whereby service members who are in the PARIS data are no longer in households receiving SNAP and so may no longer be eligible for SNAP. The authors used the data from the linked states to extrapolate a range of estimates for SNAP use among all military personnel, accounting for the limitation in the number of states and other data limitations, including the data anomalies, in developing the range.

Using data from May and August 2019, Golfin, Kambic, and Horvath (2020) estimated that 0.08–0.42 percent of service members stationed in the United States (or approximately 880–4,620) were enrolled in SNAP per month.

Furthermore, Golfin, Kambic, and Horvath (2020) found that approximately two-thirds of service members who use SNAP are junior enlisted members in pay grades E-1 through E-6. They also found that it is most common for enrolled service members to have three or more dependents and that the most likely type of service member to be enrolled in SNAP is an E-2 with three or more dependents. However, the authors note some discrepancy between the number of dependents reported in DEERS and the number of dependents observed in PARIS. Some of this discrepancy could be explained by the more liberal definition of a dependent for the purposes of determining the SNAP eligibility. Nevertheless, the authors note that, in many cases, it is unusual for service members of such junior ranks to have so many dependents, given that military accession standards limit the number of dependents that a recruit can have (in the absence of a waiver). The authors explore two possible explanations for the large number of dependents among these junior members: Either members quickly gained dependents through marriage or childbirth after accession, or members with higher ranks had been demoted. The authors conclude that neither possibility would fully explain the number of service members observed with large numbers of dependents in these low ranks. Some service members of low rank with many dependents may have entered the military with an accession waiver.

A handful of other recent estimates of SNAP use among service members find slightly higher estimates. The 2015 MCRMC report cites statistics from the USDA that, in FY 2012, between 2,000 and 22,000 service members (or 0.1–1.6 percent) were enrolled in SNAP. However, this estimate is based on data from the ACS, which (as discussed in Chapter Two) does not yield a representative sample of service members. London and Heflin (2015) also used the ACS and found that approximately 2 percent of active duty personnel used SNAP during the Great Recession. In addition to the same data limitations in use of the ACS, SNAP usage during the poor economic conditions of the Great Recession would likely present an upper bound. Hosek and Wadsworth (2013) cite USDA numbers estimating that “in 2010 fewer than 1,000 service members participated in [SNAP],” but the number increased to 5,000 by 2012, likely because of the Great Recession. As noted in Chapter Two, the USDA figures are drawn from the CPS FSS; the CPS does not have a representative sample of active duty members.

FSSA Usage (Elements 3 and 4)

Few studies have estimated FSSA use among service members. The MCRMC (2015) estimated that 285 service members used FSSA in FY 2013, and GAO (2016) reports that 224 and 188 service members received FSSA in 2014 and 2015, respectively. These low participation numbers, particularly from the MCRMC, motivated the recommendation to suspend eligibility for FSSA for members serving in the United States or territories where SNAP is available (Guam and the U.S. Virgin Islands). Golfin et al. (2019) estimated how many members would be eligible if FSSA were reinstated for service members in the United States, using a

similar methodology as was used to estimate SNAP eligibility. The authors estimated that 578 service members would have been eligible for FSSA in 2018.

Food Bank Usage (Element 1C)

Data on food bank usage are available from the 2017 and 2019 Surveys of Active Duty Spouses (Dorvil 2017; OPA, 2020b). Tabulations by OPA indicate that 2 percent of spouses reported using a food bank in the past 12 months in the 2017 survey; 5 percent reported food bank usage in the 2019 survey (OPA, 2020b). Other estimates of food bank usage come from the surveys administered by the advocacy groups already discussed. Although neither survey provides a direct estimate of food bank use, MFAN estimates that 47.3 percent of respondents who lack food also seek assistance, and food pantries are one of the most common forms of assistance that they seek (MFAN, 2019b). The 2018 BSF survey found that 9 percent of military families sought emergency food assistance through a food bank or charitable organization. We discuss estimates of food bank usage among active duty personnel using data from the SOFS-A in Chapter Five.

WIC Usage (Element 1A)

WIC has a higher income limit than SNAP (185 percent of the FPL) and does not count BAH as income, so military households are more likely to meet WIC income requirements (FNS, 2021). However, unlike SNAP, only pregnant and postpartum women and young children are eligible to receive vouchers from the program. We found only one study reporting on WIC eligibility among military personnel. In 2016, GAO estimated hypothetical household sizes under which an E-4 would qualify for various food assistance programs and estimated that households with as few as two or three people could qualify for WIC in the example installations considered in the report (GAO, 2016). As described already, the same exercise estimated that the minimum household size required to qualify for SNAP would be six or seven people.

Evidence on Stigma Resulting from Participation in SNAP (Element 5B) and on Barriers to Qualification or Usage of Food Assistance Programs by Military Personnel and/or Families (Element 2)

We also scanned the literature to identify any studies that could yield insights regarding the stigma that could be attached to qualification for usage of food assistance programs (element 5B) or the barriers to qualification or such usage (element 2). Although stigma is not a separate component of element 2 in the congressional directive, we include it because stigma could become a barrier to program participation.

Although there has been some research into the barriers to applying for and using food assistance programs (such as SNAP and WIC), little research has focused on the specific barriers experienced by military members and their families. The existing research mirrors that of findings for the civilian population, so we will review the civilian research along with the research on military members and their families. Furthermore, food assistance is one type of public assistance, and there has been considerable research on the general barriers to accessing public assistance for low-income families. These barriers include stigma; confusing requirements and application processes; a lack of awareness and knowledge of programs, benefits, and eligibility; and the fact that some families meet their needs through means other than public programs—for example, through their social networks or private sources, such as food banks (Wu and Eamon, 2010).

Stigma (Element 5B)

Stigma is the negative value, or perceived negative value, that society places on an attribute possessed by an individual or group (Goffman, 1963). Researchers have explored the impact of negative perceptions of receiving public benefits on benefit take-up and use, referred to as *welfare stigma* and defined as the “the negative sociopsychological consequences or ‘psychic costs’ of” receiving public benefits (Besley and Coate, 1992, p. 165). People who believe that receiving a public benefit is viewed negatively by others—including their family, peers, or society in general—might be less willing to apply for and receive the benefit (Besley and Coate, 1992; Stuber and Kronebusch, 2004). People may also avoid applying for benefits if they perceive that they will be negatively treated during the application process or by others when they use their benefits (Stuber and Kronebusch, 2004). Researchers have explored the impact of stigma on program take-up through indirect methods (for example, see Moffitt, 1983; and Currie et al., 2001) or direct measures of perceived stigma (Stuber and Kronebusch, 2004) and have found that stigma has a measurable effect on take-up of public benefits, including food assistance.

The stigma of using food assistance was one reason why physical food stamps—paper coupons that those receiving federal food assistance exchanged for food at a store—were replaced with electronic benefit transfer (EBT) cards that other shoppers cannot identify as food assistance (Institute of Medicine National Research Council, 2013). Research has shown that states that implemented EBT experienced higher take-up of food assistance compared with those that continued to use physical food stamps, suggesting that stigma played a role in the suppression of applying for food assistance (Currie et al., 2001).

Qualitative research suggests that feelings of embarrassment and the perception of being negatively judged by cashiers or other shoppers are also barriers to using WIC vouchers and that WIC users can have negative interactions when using the benefit (Bertmann et al., 2014). Another qualitative study found that women who have high food insecurity are more likely to cite stigma as a reason for not applying for food stamps (Kaiser, 2008).

Although there is substantial evidence of stigma for seeking treatment for mental health issues among military members (for example, see Acosta et al., 2014; and Ben-Zeev et al., 2012), there has been limited research into stigma of receiving food benefits among military members and their families. GAO reported that most of the officials they interviewed cited societal stigma of food assistance as a factor in military members applying for SNAP but less of a factor for use of food banks (GAO, 2016). According to GAO, military officials did not view stigma as a barrier to receiving WIC benefits, noting that WIC is well advertised to military members and that members are encouraged to apply for WIC if they have children. GAO suggested that, among military members, “WIC is seen as more of a health and nutrition benefit rather than a program for those with financial and food assistance needs” (GAO, 2016, p. 21). In addition, it has been suggested that limited enrollment in FSSA was partly because of the stigma of having to apply for the program through the member’s chain of command (Wax and Stankorb, 2016; MCRMC, 2015). A small qualitative study of enlisted Army spouses and soldiers found that involving the chain of command in benefit decisions (such as loans) discouraged soldiers from applying for these benefits, and soldiers felt that command was not aware of food insecurity within units (Van Voorhis, 2019). In addition, participants perceived a stigma in the military community for receiving food assistance, with one soldier noting that “military people are really prideful. Like, it’s not like a bad kind of prideful, but they don’t want to be seen as weak by others in the community” (Van Voorhis, 2019, p. 81).

Burdensome Application Process (Element 2)

In addition to stigma, the literature indicates that the application process for public food assistance programs can be burdensome and inconvenient. These barriers to enrollment are called transaction costs and are the “time and money spent establishing and maintaining eligibility for the program” (Stacy, Tiehen, and Marquardt, 2018, p. 4). The application process and requirements for SNAP benefits vary by state but can include requiring in-person applications (versus online), requiring more frequent recertification of program eligibility, and requiring participants to report all income changes rather than requiring them to report only periodically on changes that affect eligibility (Stacy, Tiehen, and Marquardt, 2018). In addition, requiring fingerprinting for applications increases both application burden and stigma (Stacy, Tiehen, and Marquardt, 2018). The time and costs of applying for food assistance can be quite high. One study found that, on average, the initial application process for food stamps required five hours of time, two trips to Social Services offices, and \$10 in out-of-pocket costs while reapplication took about 2.5 hours, one trip, and \$6 in out-of-pocket costs on average (Ponza et al., 1999). A study of households in Allegheny County, Pennsylvania, that were eligible for food assistance found that many of those who did not apply for assistance reported that they did not do so because it was “too big a hassle” or “it isn’t worth it”—especially if their benefit would be small—or planned to apply but had not done so yet (Daponte, Sanders, and Taylor, 1999, p. 625).

Studies have found that reducing the burdens of application improves enrollment in food assistance programs. States that have less burdensome application processes have better take-

up of SNAP among eligible populations (Stacy, Tiehen, and Marquardt, 2018; Murphy, 2021). Providing information about their prospective benefit and help with the application process increased participation in food assistance programs relative to a control group (Daponte, Sanders, and Taylor, 1999). Furthermore, experimental evidence with older adults demonstrated that the offer of assistance with SNAP application forms improves program take-up over simply making people aware of their eligibility, although making people aware of their potential eligibility also increased take-up (Finkelstein and Notowidigdo, 2019). States that require fingerprinting as part of the application process have lower take-up of SNAP compared with states that do not do so (Murphy, 2021; Burstein, 2009; Ratcliffe, McKernan, and Zhang, 2011). In addition, although having an online application is not significantly related to SNAP take-up, families with members who work 40 hours a week or more are less likely to access food security benefits when eligible, perhaps because of the need to access program offices for in-person applications during the workday (Zedlewski and Rader, 2005).

It is important to note that, in practice, it can be difficult to distinguish stigma from transaction costs because longer, more-complicated forms or additional verification or application requirements might make applicants feel more stigmatized (Stacy, Tiehen, and Marquardt, 2018). For example, having to apply for FSSA through one's command can be both an administrative burden and stigmatizing. This might be particularly so if applying through the chain of command triggers other, perhaps unwanted, requirements, such as financial counseling.

Awareness and Knowledge (Element 2)

Lack of awareness and knowledge about public assistance programs is a common barrier to accessing the associated benefits (Wu and Eamon, 2010; Nicoll, 2015). Surveys suggest that a substantial proportion of people who qualify for food assistance are unaware of the programs (Gorman, Horton, and Houser, 2006) or do not think they are eligible for the benefit (Bartlett, Burstein, and Hamilton, 2004; Kaiser, 2008; Daponte, Sanders, and Taylor, 1999). Even those who are already receiving public food assistance may leave the program because they are not aware that they continue to be eligible for assistance (Goerge et al., 2004). In addition, there is some evidence that program outreach across different modalities increases uptake of food assistance (Bartlett, Burstein, and Hamilton, 2004; Kaushal, Waldfogel, and Wight, 2013). This suggests that better informing eligible populations about the program and their eligibility for benefits could increase uptake of public food assistance.

Limited research with military populations suggests a similar lack of knowledge among military families. One study using focus groups with spouses of junior enlisted soldiers found that spouses knew that food assistance was available through the Army but did not think that they would qualify for the assistance, or they applied and found that they did not qualify (Kidd, Peters, and Holcomb, 2008). Spouses in these focus groups reported that accessing food assistance through a food pantry was thought to be easier than accessing public food assistance programs (Kidd, Peters, and Holcomb, 2008).

Military service officials interviewed for a GAO study of food insecurity reported that military personnel were generally unaware of food assistance programs, including SNAP, WIC, food pantries, and FSSA (GAO, 2016). Furthermore, some military service officials interviewed for the GAO study reported that they did not refer military families to government food assistance programs because they thought that the families would be ineligible because of income (GAO, 2016). Military service officials particularly cited BAH as a barrier to qualifying for food assistance programs.

Summary

This chapter reviews the available literature relevant to the congressional directive. It begins with a review of recent analysis related to the adequacy of compensation, showing that military pay for enlisted personnel in the first ten YOSs was at around the 90th percentile of the pay of civilians with similar demographics, above the 70th percentile benchmark set by the Ninth QRMC. We reviewed available estimates of food insecurity and of program usage. Available estimates are hampered by being based on data that are not representative of the active duty military population. We reviewed evidence from the Thirteenth QRMC, which considered SNAP usage and FSSA usage among military personnel. In both cases, the QRMC found that the number of personnel using these programs is relatively small (less than 1 percent of the active force) and that usage of SNAP is concentrated among junior enlisted personnel with many dependents. Analysis from a DoD survey of military spouses suggests that about 5 percent of spouses reported using a food bank in 2019. The most-recent analysis on WIC is from a 2016 GAO analysis of potential eligibility for WIC. GAO found that, relative to SNAP, more enlisted personnel with smaller families could qualify for WIC. Finally, we reviewed available evidence related to stigma and other barriers to qualification and usage of food assistance programs. The available evidence indicates that perceived stigma affects program take-up rates, although evidence is very limited on the relationship between stigma and program use in the military. Awareness of programs and transaction costs associated with the paperwork can also affect take-up rates and program participation.

Stakeholder Discussions: Approach and Key Themes

We sought perspectives from key stakeholders about food insecurity among military members and their families. To gain diverse perspectives on different aspects of the issue, we conducted interviews with national stakeholders, such as advocacy groups and OSD subject-matter experts, and with stakeholders at military installations and surrounding communities. At both the national and local levels, we sought input from military personnel and stakeholders who were not formally affiliated with the military (such as national advocacy groups and community food banks). In this chapter, we review our approach to selecting and interviewing stakeholders and review the key themes that emerged from the discussions.

Approach to Stakeholder Discussions

At the national level, we interviewed representatives from OSD and from military family or food insecurity advocacy groups. Within OSD, we spoke with subject-matter experts on compensation, financial readiness, and/or family policy. Advocacy groups were chosen according to whether they had recently surveyed military families, written articles, or given testimony regarding food insecurity of military families. We completed nine interviews with national level stakeholders: five representing OSD and four representing advocacy groups.

We selected eight military installations for local level discussions—two each for the Army, Navy, Marine Corps, and Air Force. Installations within each service branch were selected because of their larger shares of junior and midcareer enlisted personnel (E-1–E-6) within each service. Results from the BSF and MFAN surveys indicated that, among those responding that they were food insecure, junior personnel were more likely than any other group to do so.¹ At each installation selected, we held at least two discussion sessions: one with military representatives and one with a community provider (such as a local food bank). Installation respondent roles varied among installations but generally included one or more representatives from service member and family support programs (typically including financial

¹ Installations with large shares of junior and midcareer enlisted personnel in each service were identified from tabulations using the DMDC personnel data described in Chapter Seven.

counseling staff) and the installation's senior enlisted command noncommissioned officer. In addition to representatives from local food agencies, we spoke with installation representatives from the relevant service relief organization (for example, Army Emergency Relief, Navy-Marine Corps Relief Society).² To preserve the confidentiality of respondents, we do not provide the names of installations or organizations included in the study.

Discussions were largely unstructured and guided (but not limited) by the following general set of topic areas:

- prevalence and trends in food insecurity or food pantry usage among military families prior to COVID-19 and how the pandemic affected food insecurity
- characteristics of service members that experience food insecurity
- perceptions of the root causes of food insecurity among military members and their dependents
- perceptions of obstacles or barriers that prevent service members and their families from accessing food assistance programs (such as SNAP, FSSA, and food pantries).

One member of our research team reviewed discussion notes to identify common themes, which were confirmed through discussions with two other team members who attended the discussions and reviewed notes. The discussion findings reflect what respondents told us, and we do not comment on the accuracy of the statements that we heard or fact-check the responses. By having multiple discussions across two (national and local) tiers of respondents, we did hear differing statements of fact. The following section reports the main common themes across respondents.

Key Themes from Stakeholder Discussions

Most Respondents Viewed Food Insecurity as a Problem but Disagreed on Prevalence

Almost all respondents reported that food insecurity is a problem among active duty members, but there were wide disagreements on the prevalence of the problem. Most installation representatives saw food insecurity as a problem among members, with some saying it was a long-standing pervasive problem while others thought it was rare. One installation respondent noted that “food insecurity has always been something that’s come up.” A representative at a different installation perceived that the experience of food insecurity is

large and pervasive—bigger than we can even get our arms around because of the eligibility requirements and barriers to access [food programs].

² Service relief organizations provide confidential financial counseling to service members and their families with a financial need. The organizations also provide emergency grants and loans to relieve short-term financial burdens. (See Military OneSource, 2020.)

Other installation representatives acknowledged the problem but stated that “the majority of our soldiers are doing well.” One installation representative observed that,

As compared to the general population, certainly the poverty experience is very different. Service members aren’t living in poverty in the same way. But from the food insecurity perspective, it’s probably less than in the general population, but . . . it’s also the dirty little secret: that there are service members with families and children making the salary of an E-4 who need help getting food on the table.

A few installation representatives reported that they were not aware of food insecurity among their members:

[Food insecurity] hasn’t become an issue. We always have the one or two who have a financial bind, but numbers haven’t risen that we’re aware of. Food insecurity hasn’t been brought to our attention. . . . Because of news attention, some groups have brought food on base but that’s not a normal thing.

We don’t see a lot of folks reporting food insecurity. We hear about people living outside of their means.

Among OSD and national advocacy groups, most agreed that there was a lack of good data on military food insecurity at the time of the interviews. One OSD representative suggested that some military families experience food insecurity, but “there is a lack of good hard data on this issue. . . . There are a lot of anecdotes.” Advocacy groups reported that they have some data on military food insecurity but acknowledge that the information is incomplete and not representative of the active duty military population as a whole. Still, these groups reported that their data indicate that the number of military families reporting food insecurity grew with COVID-19. In addition, advocacy group representatives expressed an awareness of military families using food pantries and accessing SNAP, WIC, and FRPL, but they said they do not have good data on the prevalence or scope of use. One advocacy group representative noted that

we know that there are members who are going to pantries, who are accessing SNAP, but we don’t have good data. Often, pantries have tenuous relationships with bases. And because of the stigma, data collection and sharing has been a barrier.

Some OSD and military installation respondents were unsure of the accuracy of survey measures or data from requests for financial relief:

I know the USDA sets standards for how they define [food insecure]. But I wonder if members really understand what it means when they’re asked. I think they may be applying it more broadly than how it’s meant to be applied.

I think we see food on there for a request [for emergency relief] quite often. I'm not sure if it was a filler, that they were running short on money and so put food in there.

A couple of advocacy group representatives commented that the prevalence of the problem was not their main concern: They viewed food insecurity among military members as an issue of principle. One advocacy group representative stated,

We don't expect to find giant numbers [of service members experiencing food insecurity]. From our perspective, there should be no family who is struggling with this issue. We know that congressmen are looking for a large number because they want to do something that is impactful.

Many Respondents, Particularly Military Respondents, Viewed Food Insecurity as Part of a Broader Financial Well-Being Issue

When asked about the experience of food insecurity among military members and their families, respondents often discussed availability of and access to food in terms of the household's broader financial well-being. As one OSD respondent noted, "we see this as a multifaceted issue. It is not a pay and benefits only issue." One advocacy group representative called food insecurity "a symptom of the financial precariousness that military families find themselves in."

Several respondents noted that, when considering a member's monthly budget, spending on food is flexible compared with other financial commitments, such as rent—one can spend less on food but not on rent and other fixed costs. One senior enlisted installation commander commented,

It's more than just a food insecurity. It's service members having to make a decision about what they have to spend their funds on. Sometimes it's service members living outside of their means. Other times they just have to pay other costs from where they live off the installation, or those that use their available funds—who are spending their funds on living expenses, but food is getting less [of their spending].

In discussing how food insecurity fit with general financial readiness issues, one OSD respondent commented that food costs are

the one thing you can control. You can control what you buy, and where you buy it. It's also the products. It's part of the spectrum of food insecurity. It's how you're feeding yourself and your family. It's how and where you purchase food and making decisions about when you eat. Other things you can't decide as much—like where you get sent, and fixed bills.

An advocacy group representative described the trade-off between food and other expenses:

Which bill gets paid? Is it the credit card? The mortgage? Food isn't knocking on your door. Eating less, paying less for less nutritional food is often the trade-off.

The financial strains that respondents said affected these types of trade-offs between food and other spending generally fell into two categories: (1) sudden, unexpected, time-delimited financial setbacks that could lead to an acute shortage of funds to spend on food (such as a large car repair bill) and (2) longer-term issues with finances, such as a lack of financial literacy and limitations in the ability to pay, including BAH and BAS, to cover living expenses. We next discuss each of these types of issues reported by respondents.

Acute Causes of Financial and Food Insecurity

When discussing the possible causes of financial and food insecurity, respondents reported several acute factors that they have seen among military members and their families. For example, several respondents noted that one-time large, unexpected expenses (such as a car repair) can create financial strain that leaves members and their families short on funds for the month. This can lead them to experience food insecurity or seek food assistance that month to make up the deficit.

One commonly mentioned factor was a spouse's loss of employment. Loss of employment can be a long-term, chronic problem, but respondents often mentioned sudden employment loss—such as because of a PCS move or COVID-19's impact on the labor market—as a factor in acute instances of financial and food insecurity. One advocacy group respondent cited data showing that “families are twice as likely to experience food insecurity if a spouse isn't working.” Problems with spouses maintaining employment across PCS moves were mentioned by several respondents. As one OSD respondent put it, “military service does have a unique challenge with moves and spouse un- or underemployment.” One OSD respondent noted that

we're trying to do a lot of work on military spouse hiring, and on the child-care piece. I'm not telling you anything you don't know about the challenges of moving, spouse under- and unemployment. We're trying to make sure that spouses can work, and they can be dual income households.

Other OSD respondents reported that OSD is working on ways to alleviate the negative impact of PCS moves on spouse employment:

Dual-income families are taking a 30-percent hit on their budget each time they move. Do we really need to move them every two to three years? What do you get from having experience in one location versus across many? There is a big impact on the spouse, and an increasing number are unemployed. One of the things we can do is to make things more stable. I've given services the goal of increasing average time on station by six months every two years. If they were successful, it would be two fewer moves in ten years.

We're focusing on remote work. Because if you can carry a job with you, you can continue to provide for your family. As spouses build their expertise, it elevates their potential for earnings.

Expenses related to PCS moves were also cited as acute causes of financial problems that could result in food insecurity. Such expenses as paying double rent to secure an apartment at the new location, first and last months' rent as security deposits, and delayed or unreimbursed moving costs were cited as placing a strain on finances. These expenses were described as being exacerbated when moving to locations with a higher cost of living, where rents and other expenses are higher than expected, or moving from outside the continental United States to within the continental United States, where a family may have to purchase furniture or other items that were sold prior to moving (such as when moving to a smaller residence). One advocate also raised the issue of spouses and service members living in separate locations:

They are still married but living in different places. Seeing it more frequently and longer term. We refer to them as *geographical bachelors*. This creates financial strain because families are maintaining two households.

In addition to delayed reimbursements for PCS move expenses, respondents cited delays in other DoD-provided compensation as creating financial strain on families. For example, a few installation representatives noted that there can be a delay in receiving BAH after a service member marries, has a child, or moves off post:

When you get married you get authorized for a BAH. At this point, we're seeing some lag in BAH getting processed. . . . I've seen lots of cases where there are three to four months after they've been married and are still waiting for their BAH. . . . At that point they may be overextended or unable to cover their costs.

Sometimes your pay entitlements don't come on time. For example, if you just got married, you may not get your housing allowance right away.

Some installation representatives noted that these sorts of acute factors are a particular concern for members who live paycheck to paycheck:

Not speaking for the majority, but a lot of service members are living paycheck to paycheck. Any bump will put them in a minor or major financial bind, depending on the bump.

When something happens, they're paying a car bill, or their BAH isn't covering their rent, and are spending \$1,000 on rent and a family of four and an E-2 or E-3, there's just not enough funding there.

As discussed in the next section, respondents made varying statements on the extent to which inadequate military compensation for members with families or financial misman-

agement by members (for example, not setting aside enough savings to cover unexpected expenses) explained why some members lived paycheck to paycheck. However, many respondents noted that acute, short-term financial setbacks can turn into longer, more-chronic financial struggles if members deplete their savings or accumulate loans or credit card debt to cover acute expenses.

Chronic Causes of Financial and Food Insecurity

Respondents also reported more long-term issues related to financial and food insecurity. First, although loss of spouse employment can be an acute financial strain, many respondents also noted that chronic spouse unemployment creates more long-term financial problems. One OSD respondent noted that

it's hard with young families, especially with spouse unemployment. These young service members aren't always able to balance what comes in with what comes out.

An advocacy group representative characterized the problems of spouse employment as endemic to military life:

The biggest barrier to spouse employment is the uncertainty about their spouse's work schedule. There is enormous unpredictability in service members' work. And because service members are responding to governmental orders, there is nothing that they can do to ameliorate their situation [to cover child care or other costs]. If COVID came and changed their schedule, they couldn't negotiate with their employer. It's all off the table. It's only the military spouse that has to accommodate. Especially when child care was lost.

One installation representative noted that, although there were opportunities for spouse employment in communities around the installation, most opportunities were for hourly jobs that do not pay as well:

There are jobs, but having a variety of jobs, having high-level jobs for spouses coming with a degree. We don't have the plethora of high-quality jobs. We have a lot of jobs at the bottom of the wage scale getting paid by the hour. It's a tough environment.

Another installation representative linked chronic spouse unemployment with other issues, such as transportation and lack of child care:

We have a 9,000[-person] waiting list for child care, which means that, likely, a spouse is home with the children instead of working. And if they're a single car household, then it's hard to access work. Especially when sailors may have a 45-minute to two-hour commute, and public transportation isn't very good, it means that spouses can't go to work.

One advocacy group representative commented that an analysis of their data found that the main driver of spouse unemployment “really is the unavailability of affordable child care,

and service members' schedule and work needs." In addition, several respondents noted that COVID-19 restrictions had a negative impact on spouse employment and the availability of child care. As one installation representative noted,

I think that the pandemic did have an impact on some families. Those were the families where both spouses were working and the spouse was then unable to work because of lack of child care, or they lost their job. Absolutely, on some, that has made an impact. It's not necessarily widespread.

Still, several installation representatives noted that installation CDC child care fees are income-based, so "when you have a child, you can see how to budget, and what you have to spend on child care." If there is a waiting list, one installation representative said that "if you're an active duty with a spouse who works—you're going to be prioritized on the list." Spouses who live farther from a military installation or at an installation without a CDC can apply for an offset for civilian child care, but one installation representative observed that

they need to know that they can apply for it. We do a lot of marketing, but it's a pride thing. People don't always want to get the help.

However, one OSD respondent thought that, because military members earn more than similar civilians, the relationship between spouse unemployment and food insecurity is not clear and needs to be further explored:

When that sergeant is making more than the median household in the U.S., then I'm puzzled that even if a spouse loses income, how that then translates into food insecurity. I can see it translating into changes in lifestyle and other issues. If you're a dual-income household, you're likely living a lifestyle that you can afford. I'm not passing judgment. But it means you can get a better house, a better car. But then the question becomes, in a crisis, if one member of a couple loses their job, what happens? What is the extent of the financial damage that does, and does it lead to food insecurity?

Another longer-term factor that most military representatives discussed was member financial mismanagement or a lack of financial literacy. One installation representative characterized this factor as

people living beyond their means, typically enlisted, not budget savvy, not aware of resources available on base, married, with children—kids then have a lot of costs . . . they're just unaware. A lot of them don't have a sense of how to approach purchases.

Another installation representative commented that members "are not sure how to establish a budget." A typical installation representative response noted that when

service members come in and need help with food, this is usually because they mismanaged, and they didn't put funds there. It could have been that there was an emergency and

people divert their money away from food. In this case, sometimes they don't have the emergency fund. I've seen this all across the past 16 years.

One installation representative put military members' spending in the context of American society:

I think if you look at the cars that are on base, you know there are people who are overextending themselves. Some of it is the materialistic component of our society and keeping up with the Joneses. The same thing that happens outside the gates of the base happens here, too.

Several military respondents commented that some members take on a high debt load, which can contribute to financial and food insecurity. An OSD respondent commented that "once you're on that road of being in debt, it's almost impossible to build back from that." Installation representatives noted that military members are a particular target for unscrupulous lending practices:

There is a lot of predatory lending because [creditors] know military members are easy to get debt back from. These creditors know they can track people down in the military, and that their commanders will work to make sure loans are repaid.

Although several respondents commented that the typical image of military debt is young service members who "buy a car and then struggle to pay it off," respondents also noted that members take on debt for a variety of reasons. One installation representative noted that

[Y]ou also have families who are trying to make it on a single income and have multiple children. It's not like they're out blowing money, but they might be traveling home, and that costs money and they might find themselves in debt. Or just trying to make ends meet. They rob Peter to pay Paul. When families come into us, often we find it's just the first layer of the onion. There're immediate needs, and then there's long-term issues.

Installation representatives also commented that there are programs that help with controlling expenses and loans or grants for unexpected expenses, but members may not know about them:

Our sailors are perfect fodder for payday lenders and for outrageous interest rates. [The state] does not protect its citizens and service members. A lot of these people will go to the payday lenders or will buy a car with the interest that anyone could pay. And a lot of them don't know that they can go to the [service relief organization] to get a low-interest loan.

One senior enlisted installation commander commented,

I think a lot of families wait until it's too late. They wait until they're in too much debt and go see [financial counseling]. A lot of this needs to be done with chain of command.

We see this with housing when families go out and rent a house, when they could access a house on base. They don't know what they can get for less money, and they end up in situations where they can't pay for the things they need.

One OSD respondent noted that the military provides financial literacy training to members and their spouses (more detail on financial literacy training appears later in this chapter):

I think we try to teach people how to save and manage their money, but we stay out of telling people how to spend their money.

Another OSD respondent linked member debt to changes in the demographics of recruiting:

I think the more recent interest in the issue of food insecurity is a response to a couple demographic shifts we've seen. We're not bringing in the high school graduate who isn't bringing any other education or experience, or commitments. That type of individual is a declining portion of the force. Now we're seeing individuals who have been five years out of high school; who may have some college, and work experience; who have ready-made families. We're seeing members come in with significant debt load. And if they're not finding jobs [in the civilian world] that can cover their expenses, it's not surprising that they have increased debt load. Generally, for that standard, and that type of cohort, we're seeing these issues of debt. I don't know that many other individuals have the issues if they had a reasonable spending pattern.

However, many respondents, particularly advocacy group representatives, disputed the idea that financial mismanagement is a main driver of military food insecurity. One OSD respondent noted that “[food insecurity] is situational. It's not just financial mismanagement.” One advocacy group respondent provided the following example:

One of the people who struggled to feed his family was a financial literacy counselor. The crux of the issue is not about financial literacy, but this is how we've heard people rationalize this problem.

Several respondents, both from advocacy groups and military installation representatives, said they thought that BAH is insufficient for the living arrangements that members want, which leads them to spend much more on living expenses than is provided through BAH. BAH is based on a housing survey in Military Housing Areas (MHAs) around military installations that incorporates “housing standards that allow members to receive a BAH that correlates to what civilians who earn comparable amounts would pay for housing” (Office of the Under Secretary of Defense for Personnel and Readiness, 2021, p. 5).³ However, several respondents

³ Housing units included in the survey are selected via a “multi-tiered screening process” designed to “ensure units are suitable and appropriate” and exclude housing units “in high-crime areas so that BAH

commented that BAH calculations have not kept pace with the realities of military life. One advocacy group representative commented that, for members, their “child’s welfare and education are top concerns,” which influence choices of where to live:

Your property values have a lot to do with school quality. But military assesses BAH based on regional property values. So people end up spending more than the BAH to access better school districts. BAH doesn’t achieve the goals that DoD has for it. The military wants BAH to cover a certain proportion of housing costs, so that a family might have to spend another \$100–\$200 out of pocket on housing costs. But to live in a particular school district, a family might have to spend more than \$500 out of pocket a month on housing above the BAH. So, the BAH isn’t covering what it should.

A senior enlisted installation commander noted that

if you look around military bases, landlords know how much military members get for the BAH. If they want higher-ranking people in their home, they’ll charge rent accordingly. So many of these are just not available for lower enlisted folks. The cost of living to rent a three-bedroom home is generally going to cost them every cent of their BAH, if not more. Then you throw in renters’ insurance, the cost of fuel, vehicle maintenance. All of those add up. Especially if the spouse isn’t working. Something has to give.

And an installation representative suggested that, “with some of the families facing food insecurity, even a deficit of \$100–\$200 a month on their housing can really cause a problem.”

Although increasing BAH was one solution offered by some respondents, a service member who is a financial counselor at one installation made the following comment:

Personally, I’ve seen that every time we get a BAH increase, the rents go up by exactly the same amount. We’re not really getting any relief from that.

Other respondents noted that this might be a particular concern at installations that are more remote or surrounded by smaller “military towns,” while installations located closer to metropolitan areas have housing available in a wider variety of price ranges.

However, a few OSD respondents noted that BAH is compensation that members can spend however they wish and is not a subsidy for housing, the way that other federal housing programs are. Also, because BAH is tax-free, one OSD respondent commented that BAH is worth more than a similar increase in salary:

rates reflect the cost to live in safe neighborhoods” (Office of the Under Secretary of Defense for Personnel and Readiness, 2021, p. 3). Housing units and neighborhoods included in the survey are also selected or excluded according to the input of local housing authorities. See Office of the Under Secretary of Defense for Personnel and Readiness (2021) for additional information about the calculation of BAH.

It's cheaper for DoD to pay BAH with a tax advantage than what we would have to pay for [members] to get that same housing without the tax advantage.

In addition to concerns about the sufficiency of BAH, a few respondents brought up the idea that, although members who live off post receive BAS to pay for their food, BAS is not designed for family needs. Respondents commented that the amount of BAS that members receive is not enough to feed a family and that the BAS entitlement is taken away when the service member is on assignment away from their home base. One installation senior enlisted commander said that

[f]or a family of four, it's often that the family is spending \$400 more than their BAS. . . . When the soldier goes to the field, that BAS is taken to pay for soldiers' meals in the field. And so, that's not available for the family. If you're figuring that a soldier is gone for nine months to a year, that BAS goes away. Or if the soldier is going to a duty station, the family might not get the BAS. You may get some back by family separation pay, but that doesn't always cover the entitlements [that follow the soldier]. The second- and third-order effect is taking the money away from the family. The service member isn't going to the grocery store and buying food just for themselves.

Another aspect of food insecurity is the ability to purchase food for a healthy diet. The commander also pointed out that BAS is not sufficient to pay for healthy food for a family:

The BAS that we receive is for the service member; it's really not adequate enough to eat the right type of food that we want our service members to have. To stay within that budget you're not going to do it shopping at the commissary on the outer ring [that is, fruits and vegetables and meat]. It's not going to cover it because of the cost of those products.

Another installation representative put BAS in the context of other financial stressors:

The BAS is set up to take care of the soldier's needs, not the family. And so, when something happens, they're paying a car bill, or their BAH isn't covering their rent, and are spending \$1,000 on rent and a family of four and an E-2 or E-3, there's just not enough funding there.

A few respondents noted that some members are financially supporting extended family who are not dependents, and this puts a drain on their finances. One installation representative provided the following example:

You often see the soldier who is the cash cow for the family. I had a soldier whose parents and grandmother got evicted in Virginia and he was trying to find them help. But we couldn't do it because we can only support the ID card holder. The family had expected him to come in and help. But he was an E-4. You wouldn't believe how many parents are not sustainable on their own.

She also noted that she saw this issue often, as did a financial counselor at a different installation:

I'd say four of ten senior service members have preexisting responsibilities, especially sailors from other countries. This means that their income could be sent back to other countries to support villages. I'll give you an example of a service member we saw. He was becoming a new parent, eating every meal off the dollar menu and sending the rest of the pay home to mom, dad, and the rest of the village. You can't talk them out of obligating. This is often the reason they came into the service anyway. These are the hard, but quite frequent stories that we have to deal with.

Other respondents suggested that this was part of a demographic trend among members, which included more extended family members living in service members' households:

More military families are taking in other family members—older family members or extended family members—who are taking more people into their households. So there's more blended families of all types. These are more permanent. (installation representative)

We're seeing a significant increase in the number of parents who are residing with the service member and their families, or service members are providing for their parents. And the cost of care for the elderly can be substantial. (OSD respondent)

OSD representatives pointed out that the compensation system is designed under the assumption that junior members are single and do not have large families or other commitments:

For an E-1, we mainly expect them to be single. This is true especially in the Marine Corps. The system is not set up to support enlisted service members with large numbers of dependents. I think we all recognize that the entry-level salary is not going to support a large family. It's not designed to do that.

OSD respondents also noted that

[t]here is a policy about the number of dependents [that] newly enlisted members can have. The services do have waiver authority for [the number of dependents enlisted members have]. I've seen the waivers for this increasing. So, my question is, are we buying this problem? What is the correlation between the increase in waivers, and this issue of food insecurity? Is there an oversight mechanism to meter that? Is there something we can do smarter along those lines, to set people up for success? Something that works better for both the services and the service members?

Demographic Characteristics

We asked respondents about the demographic characteristics of the members who are most likely to experience financial or food insecurity. Almost all respondents indicated that junior enlisted members with families were most likely to experience financial or food insecurity. Typical responses were as follows:

It's a lot of new-to-military, married with large families. Or new-to-military who are supporting families back home, where a good portion of their pay is going back home. (installation representative)

Generally, E-1–E-2, possibly E-3 who come in with large families. They typically promote out of it very quickly. (OSD respondent)

The demographics hasn't really changed in terms of who experiences food insecurity. It's our lower enlisted population. Our E-1–E-4/5 service members. (installation senior enlisted commander)

A few respondents explained why they thought junior enlisted members and their families were more likely to experience food insecurity. They generally reported that junior enlisted members were young, not used to living on their own and making a budget, and not used to the rhythms of military life that can lead to financial problems. One installation chaplain said,

When you say food insecurity, what's causing the insecurity? 72 percent of soldiers in the army are under 26; they're new adults. We have an overwhelming young and junior force. So, you have people at the lower end of the pay scale. They're already living on the margins. And we live in an environment that constantly throws curveballs at people. We're going to move you across the country to a place you've never been before, with people you don't know, when you've never done this before.

An OSD representative noted,

I think initially, at least the first 2 years of service, there is a great degree of instability as we move people from basic training to advanced training. Some are collocated [with their spouses], but others are not. And then you have the [temporary duty travel]. We're talking about young individuals, who may not be mature enough to really understand and make all these decisions. It goes to their financial IQ. How well versed they are in handling finances, especially in more challenging circumstances. And these circumstances, and the mobility, are more challenging.

A senior enlisted installation commander emphasized the diversity in prior experiences of junior enlisted members and how that relates to financial and food insecurity:

We pull individuals from all walks of life. From our young soldiers who grew up with both parents in the home to soldiers who grew up in foster care in unstable upbringings. That is the great thing about our army—it gives us a true melting pot of what our nation is. But you can drive around any installation and there's more new cars. You see folks walking around with the most expensive phones and laptops. For the service members who didn't have anything growing up, it's a steady paycheck every two weeks. People aren't thinking about the future, and it's the first time they've had access to steady income. . . . It probably took me eight years to understand that I couldn't live like that.

This sentiment was echoed by other installation representatives:

They come in without a basic knowledge of how to manage their money. So many people look at the check, and they don't get beyond "I have money" instead of understanding the real costs of things.

Another installation representative suggested that young members are not prepared to deal with a financial crisis:

We get assistance with a PCS, but my experience is that the money was never more than what I put out. So, if anything goes wrong, a kid gets sick, a car breaks down, they face an emergency financial situation. Most of them have no real way to react to an emergency. They are in the age range that has never experienced this before. They're often newly married, or out of the house for the first time. They have no experience about how to manage a crisis.

Some installation representatives stated that some single junior enlisted members also deal with food insecurity:

For our single sailors, I think there is some food insecurity, but I think it's easier to hide. For example, getting food to go from the galley, or getting food from friends. We don't see as many single sailors in search of this. They are much quieter [than families] in their need for food resources. . . . We kind of hear about it, but they don't come to us. It's mostly families that we get information about.

Installation representatives also commented that they see single members who are not tracking their food expenses, eating out instead of using the dining facility, and spending too much of their monthly budget on food:

They're supposed to go to the [dining facility] but instead they'll go get something at a fast-food restaurant, but they're still getting charged for the [dining facility] meal that they didn't eat.

Food is the number one untracked expense. They don't know how much they're spending on food. Now, it's the norm to eat out, it's a treat to eat at home. Starbucks/Dunkin Donut habits are a big deal. They're not accounting for these. For example, an 18-year-old single airman saying they spend \$200 a month on food. When I see their expenses, I show them that they're spending more than \$200 on food. Little things, quick trips, eating out, they all add up.

A few installation respondents said that the nature of military work sometimes keeps single members from using the dining facility, and they end up using more-expensive options for food:

We do a lot of shift work, which means that you won't be eating in the [dining facility]. You get your BAS, and if you're buying microwave dinners or eating takeout all the time, it adds up quick.

In addition, most installation respondents noted that more-senior enlisted members and officers also experience financial difficulties that can lead to food insecurity:

[The need for food assistance] hits across levels—junior service members certainly, but ranking officers and senior enlisted, too. Especially in these times, it's everybody. And everybody needs help once in a while. (installation representative)

There are officers who are having issues meeting their obligations; for example, the officer who is divorced who is giving money to their children. . . . I think the highest rank I ever helped was a Major. (installation financial counselor)

Finally, one OSD respondent summed up the complexity of military food insecurity:

Every situation is going to be different. Every situation is going to involve the number of dependents, moves, financial education of the family. Are they making good financial decisions? All of those things need to be considered to help us understand this problem.

Respondents Documented the Different Types of Support Used by Members to Meet Financial or Food Needs

Respondents noted several types of support for members and their families to help them meet their financial or food needs. These included using direct food assistance from food banks or pantries, enrolling in WIC or SNAP, accessing grants or loans from a service relief organization, and seeking financial counseling or financial literacy training. Other, less frequently mentioned resources included receiving financial help from friends or family and spouse education and employment programs to help spouses gain more-reliable employment.

Use of Food Assistance

All representatives we interviewed from community food agencies near installations reported providing food assistance to active duty service members and their families. We were careful to specify that the study is focused on food assistance provided to active duty service members and their families and not on veterans or reserve component members. When asked about food assistance to active duty members, several food agencies reported holding food distributions on installations, at military housing, or at schools serving mostly military children. Some respondents reported coordinating on-installation food distributions through military chaplains or nongovernmental military organizations, such as the Armed Services YMCA. Community food agency and installation representatives reported that they track and verify the service member's active duty status at some food assistance activities. For example, food agencies that have income requirements "have to see their income. So, we'll see what their rank is, what their pay is. We do keep track of all of that." Or they might ask users to voluntarily report their military status:

We do have a software program, and we request—we can't require—[military status] information. Most people provide it. We track it on everyone who comes through our doors.

However, military status was not tracked or verified at all locations or for all activities (for example, members who receive food from a community-based food pantry), so data on the scope of food bank use by active duty members and their families are not available.

In addition, many respondents drew a distinction between experiencing food insecurity and accessing food assistance, and respondents did not always view the use of food pantries as a sign of food insecurity. Many of the community food assistance providers indicated that they provided food to anyone who asks for it. A few military respondents suggested that service members and their families access those resources, even if they do not need food:

There are people who go to pantries and giveaways and take advantage of that. It's inherent in the giveaway concept. (installation representative)

One thing I've seen is that there's not a means test at food banks. The fact that there's a long line may or may not be an indicator that there's an increased need. (OSD representative)

If someone is offering a free chicken without means testing, it might just be that they're showing up because there's free chicken. This is something that might cloud the issue. (OSD representative)

However, several installation financial counselors said that they referred members to local food pantries as a way of helping them meet their budgets so that they do not experience food insecurity:

We have a database of food banks in the area, resources to help [service members] stretch their dollar.

One OSD respondent commented that members might access food assistance “because [they] absolutely need it,” or they might access food assistance because “it enables you to shift some of your budget to other areas.”

Several advocacy group respondents said that food banks or pantries are not designed to be the primary source of food for a family—they are not a solution to the problem—but they can supplement other assistance:

We have to remember that you can't shop at a pantry. They're not set up in the way to be the primary source of food for families who are struggling with food insecurity. For us, it's also that the economies of scale argue for a more systemic response. We are skeptical that the charitable food network can be the solution.

Use of WIC or SNAP

Many installation representatives noted that WIC was well used among members with families but that SNAP was less well used because few qualify:

Not as many [members] use SNAP, but many use WIC—which provides more than just food, but most use it primarily for food security. Especially junior enlisted. This has been an enduring and persistent issue.

For WIC, I'd say it's a success story in a sense in that it's made itself pretty easy to get. And what you'll see is someone is young and having their first child, someone higher up will mention and encourage them to sign up for WIC. This is not something I see with SNAP or with FSSA.

We host WIC on site. I have the WIC income guidelines, and while I'm doing the budget, we'll look at those guidelines. I'll show you our budget tool. As we're developing the budget, we put in their pay grade and come up with the gross income. We then take that number and compare it to the WIC guidelines. And we compare what they're spending relative to the estimated amount from the USDA. We use all of this information to help them build a budget and get them connected to WIC.

Some provide WIC information during parent support training:

There are some who do well, have managed to [arrange a spending plan to] afford a baby. There is WIC, we do talk to them about WIC. We have a “Bundles for Babies” class. WIC representatives come in to present to them, family advocacy come in, dental come in. The most important piece of the briefing is the financial part.

Installation representatives also commented on members qualifying for SNAP:

I've never seen someone who qualifies for SNAP. But I've gotten to know which sailors are likely to qualify for WIC. If you're an E-5 who qualifies, with one or two children, you're going to qualify for WIC.

I think as long as we count BAH as income, it will disqualify a lot of people for SNAP. I'm very familiar with the eligibility calculation. One of the things that really hurts is that they look at where you live. If you don't live in housing, they count the BAH as income. If you do live in housing, some of it can be counted as income. Even if 40 percent of BAH is counted as income, then it's hard to access [benefits].

Advocacy group representatives commented that counting BAH as income for SNAP eligibility is the main issue around member ability to qualify for SNAP benefits. These representatives were strongly in favor of eliminating BAH from calculations of SNAP eligibility, citing three arguments:

- If BAH is considered a subsidy, then it should not be counted as income because other housing subsidies are not counted as income.
- BAH is not counted as income in establishing eligibility for WIC, so, “if we don't treat BAH as income in one place, why would we treat it differently in another place?”
- Many members do not get BAH as cash because it is automatically deducted from paychecks and given to landlords.

One advocacy representative noted that

the risk is very low around removing BAH as a disqualifying condition for receiving food assistance. First of all, there's precedent. Section 8 recipients can still get food assistance and a housing voucher is counted as income. Second, there's very little evidence that military families are seeking to defraud the system.

There was some disagreement among OSD representatives about whether removing BAH from income calculations makes sense. Some OSD representatives were opposed to the idea. Their arguments center on equating BAH with a federal housing subsidy—that the nontaxable nature of BAH is not the same as the taxability of federal housing subsidies. For example, they argue that “BAH is a fundamental component of compensation” and that

to equate this with a federal housing subsidy is disingenuous. It's disingenuous to try and make this comparison and to equate military income versus a public assistance benefit.

OSD representatives also cite the historical reasons for the nontaxability of BAH:

What's not obvious to a lot of people is the history of the BAH. It has nothing to do with the taxability, but instead is about the Third Amendment and not being allowed to quarter soldiers in people's homes. The fact that it's not taxable, you can track back to a court case. It was a court of claims case that said that if it's not taxable for Congress, then it shouldn't be taxable for the military. You'd be hard pressed to say that congressional allowance should be taxed. The definition defines compensation and its components. BAH is indeed part of regular military compensation.

Some OSD respondents expressed more openness to the idea:

It's something that we're looking at, but there are lot of second- and third-order effects. I think that there's a difference in benefits and entitlements.

I tell you truthfully: I am on the fence. . . . I don't fully appreciate what the delta would be and what the impact on the department would be. Other than having to defend an increased number of people on SNAP, I don't know what the downside is for the department. . . . [W]ith the rise in larger families, it seems like this is what SNAP is created for.

Use of FSSA

Not many respondents had knowledge about FSSA. Those who were aware of it perceived it as inadequate. One way it was perceived as inadequate is that the eligibility requirements were too restrictive. Installation representatives noted the following:

Unfortunately, [FSSA] wasn't successful. The requirements to be approved were even harder than SNAP. I recall that when SNAP came up they got rid of FSSA. To access FSSA, you really had to be very low ranking and maybe five or six kids. E-3 and above wouldn't meet requirements to access the benefit. It was just as hard for folks to access as it is SNAP. . . . It was a narrow group who was eligible for FSSA.

It was overseas and stateside, now it's only overseas. My whole career, I only had one family qualify for it. It was not easy to qualify. If that was brought back, then someone would have to do something about eligibility.

The other way in which FSSA was described as being inadequate was that service members had to go through their commanders to apply for the program, which was reported as discouraging members from applying—"because people have to go through the chain of command, most members didn't go through the process" of accessing the benefit.

Use of Service Relief Organizations for Grants or Loans

Many respondents noted that the service relief organizations are available to provide financial assistance or counseling for members or spouses (financial counseling is discussed in the next section). One representative from a service relief organization stated that

[f]ood is often a component of the financial assistance we provide. Half of the assistance we provide covers basic living expenses; included in this is food. This has been consistent for 13 years. Every budget that we do includes the amount people spend on food.

Respondents noted that the service relief organizations can provide low-interest loans for longer-term financial issues or grants for more-acute emergency financial issues (such as delayed compensation).

Use of Financial Counseling and Financial Literacy Training for Chronic Financial or Food Needs

Respondents from across the services noted that financial counseling is available for members and their spouses who are dealing with financial or food insecurity. DoD also has a financial readiness program that provides financial literacy training to members and their spouses, and the program has recently been revamped to provide training at key touchpoints. Several of the installation respondents were financial counselors, and they said that many of the members they see for financial help were referred to them by their commanders:

It's leadership becoming aware that they have a young sailor who is struggling with debt. Sometimes this happens through a debt collector. Command has then required them to sit down with a financial manager.

People think [financial issues are] not a problem until a debt collector comes and approaches command.

Financial counselors reported that they work with members or their spouses to establish a budget within their means and help them find resources to pay off their debt and meet their living expenses, including paying for food. An installation financial counselor noted that food is a part of the budget that members often have to compromise on:

Food ranks pretty high when I sit down and do budgeting with service members. The challenge is, having the resources there to meet those goals is hard. So, people are spending \$200 [on food] when they'd like to spend \$800. We have situations where 30 percent of income is spent on debt. Then you have basic needs, like diapers. So then it's a guessing game of how to make this happen, and where the cuts happen.

Another counselor noted that members often do not know how much they are spending on food:

We'll often ask sailors how much they're spending on food. Sometimes they'll estimate about \$300 a month on food for themselves, spouse, and two children. And we'll tell them that the USDA estimate is that it would cost \$800 to feed their family of four, so could it be that you're underestimating? Or are you overburdened with debt and this is the only disposable income you can allocate? Often it's both. People don't know what they spend on food, or they don't know what they spend on anything.

Respondents noted that counseling is often a reaction to financial difficulties experienced by members, but financial readiness training is intended to help members avoid financial difficulties, so it is more proactive. One installation respondent commented that this training

needs to happen at the right time and place—when people graduate from school or leave boot camp and get assigned to their first post. This is when they're making decisions and don't take advantage of programs that could help them. When we think about boot camp—this is something people are just trying to get through. It's an inopportune time to give information to someone. You have to get on the other end—or even before.

Respondents stated that financial readiness courses are mandatory for members, and this is codified in Title 10 of the U.S. Code. At the time of this report, the new course structure was in the process of implementation, but according to an OSD respondent, the training will involve

three key components: One, it specifies a body of knowledge that service members must be provided through trainings. Two, it requires that this be delivered over the life cycle of service and that it touch on some personal milestones as well, including marriage, birth of a child, death of a parent. It also requires that the training be available to military spouses. Finally, it requires that questions about financial literacy must be included in annual Status of Forces survey.

The touchpoints for training and training content were reported as intending to provide “information that is relevant and aligned to different points in a service member's career.” However, one respondent observed that

[y]ou can't rely strictly on the variable of providing more, better training [to solve member financial or food insecurity]. All that does is give someone knowledge. It doesn't necessarily address learned behaviors. There's also the reality of who we're bringing into our forces. When the DoD recruits someone at 18 or 22, its possible they've never had financial training. Or people come from families with different money-handling values.

Several respondents commented that commanders need to build on the training that members receive, be more aware of the financial issues that their members are experiencing, and intervene with counseling or additional training:

There's still the issue of leadership involvement who need to be involved and aware of their troops. There are signals that someone isn't making informed financial decisions. We can't just say "we trained them" and walk away from them. As a leader, I should look at a soldier's [Leave and Earning Statement]. You got to know your troops. You have to do it in a command climate where there's a feeling that "if you have a problem, come ask for help."

Stigma Seen as One Barrier (Among Others) to Food Assistance and Financial Counseling

When asked about the barriers preventing service members and their families from receiving food assistance or financial help or counseling, most people with whom we spoke responded that stigma was the largest barrier. Stigma was discussed as a concern that seeking help would affect one's military career or that pride kept members from seeking help. One advocacy group representative noted that

[t]here are all these places to seek help, but what we're hearing is that they don't want anyone within the command structure to know that they're experiencing financial hardship and can't potentially feed their families.

Installation representatives also reported that they saw stigma as a barrier to accessing financial counseling:

There can be a stigma with Fleet and Family Services. People feel that command is going to know all their business. In the financial realm, we do see a lot of them because debt collectors have really nailed the process of getting debt from sailors.

There is stigma. They don't want to signify that they need any help. One service member told me, "I'm better than this." It has a lot to do with their self-esteem. They'll avoid going down those avenues at all cost. The military culture prides itself on sufficiency. There is a feeling that I'm failing if I need to access these benefits.

Visits to [the service relief organization] are confidential. If it weren't confidential, 80–90 percent of the people we see would not come. . . . Most of the people we see because they're trying very desperately to keep their financial business private.

I think the issue is that people don't recognize they have a problem until it's too late. Or they're too worried to tell someone they have an issue. And at that point, we're trying to hose down the fire, but the house is gone.

One financial counselor observed that creating awareness of programs through word of mouth can also help reduce stigma:

The resources that are available help, but pride can get in the way of them accessing it. But word of mouth is a huge part of this. A soldier who received assistance, or knows about the assistance, might talk to their friends, and before you know it, you have a lot of people coming up and asking for assistance. Once that person sets the precedent, more people are more comfortable asking for help.

One OSD respondent commented that some of the concern about seeking help was unfounded:

There's a stigma that the moment you bounce a check, you'll lose your security clearance. And that's not true. Yes, the debt-to-income ratio matters, but if you're open and up front about it, it's not a secret someone can necessarily exploit.

Another barrier to accessing resources cited by respondents is a lack of knowledge of the resources available to members or the eligibility requirements for programs. Installation representatives commented,

I could run into a [noncommissioned officer] and talk with them, and they don't know about all the services and programs that we offer. And I'm thinking to myself, how do you not know that we're here? Even something as silly as going through promotion board, one of the questions is, "What is Army Relief or Army Community Services?" They have to answer that question, but that's all they know about us and never use us.

When I was a junior enlisted spouse, we needed food assistance. But it was hard to find. It was like a dirty little secret, who could I go to get assistance from?

Some don't know how the process [for accessing benefits] works, so we educate them on that.

A few respondents commented that, the more difficult a resource is to access, the less likely a member will be to use it:

There's a lot of time involved in the relief societies. Pawn shops, payday lenders are quick. They don't want to go through a long process. So, even if it might have been a better solution, they weren't willing to do it because of these reasons. (advocacy group representative)

The harder these benefits are to access, the less likely people are to try access them. Like, once you move and you have to figure out new state rules. Typically, they are moving two to three years, and sometimes even more frequently. There's a lack of transferability of benefits. Some are easier or harder to apply for. So, sometimes they'll figure something else out—which often looks like debt. (installation representative)

Other barriers to accessing food or financial resources cited by respondents included ineligibility for SNAP because of BAH (previously discussed) and limited access to food pantries because of restrictions on days of operation or the number of times that members or their families were provided access to food assistance each month.

Several Respondents Noted that Food Insecurity Affects Readiness

Respondents commented that experiencing food insecurity could have an impact on member readiness. Several respondents suggested that eating less food or saving money by eating less nutritious food could affect members' physical readiness:

No one wants anyone to be hungry, and it's key for readiness. If the military member is not well fed, they're going to have health and readiness issues. (OSD respondent)

Like, there's one guy that was eating canned chicken and rice every day, or others who are eating ramen every day because it's cheap. When you have people who are hungry that have a physically demanding job, like we do, it hurts you in the long run. It hurts your kids in the long run. (installation representative)

Unfortunately, I see too many soldiers who are making the decision to not spend as much money on food. The money that they are spending on food . . . is not necessarily the most healthy food. It's cheaper to buy that cheaper, processed food. (senior enlisted installation commander)

Respondents commented that worrying about financial issues and feeding their family could have an impact on members' psychological readiness:

If their family isn't healthy, it distracts the service member while they're deployed. (OSD respondent)

I think about mission readiness, as well. I think a sailor who might be ready to deploy, if he's worried about how his family is going to be eating at home, that's not a good thing. (installation representative)

When soldiers are worried about, “how am I going to pay bills? How am I going to feed my family?” instead of focusing on the job that they need to, that’s a readiness issue. (installation representative)

A couple of respondents mentioned that experiencing financial issues is a threat to members’ security clearance:

I think it’s an issue insofar that financial issues are a readiness issue for our members overall—80 percent of revoked security clearances are because of debt-to-income ratio issues. It is a significant issue that I don’t see going away. When you see financial issues in the household, when it affects the family, it affects the fleet. (installation representative)

We see a concern that people don’t want to let commanders know [about financial problems]. This is more about maintaining their security clearance and professional career than just about stigma. (advocacy representative)

However, as mentioned earlier, respondents noted that early assistance with financial issues can potentially keep those issues from getting worse and affecting security clearances.

Respondents Disagreed on How Much a Basic Needs Allowance Would Help Food Insecurity

Some respondents commented on whether they thought that a BNA would help alleviate food insecurity. Advocate representatives, community providers, and some installation representatives said that they thought that a BNA would help with food insecurity; OSD representatives and other installation representatives tended to say that it would not fully solve the problem.

There were two main arguments against implementing a BNA. One argument provided by some respondents was that military pay on average exceeds civilian pay, so compensation levels are not necessarily what is driving military food insecurity. These respondents argue that the underlying causes of military food insecurity have not been identified and that a lack of understanding of the underlying causes will limit the effectiveness of a BNA in alleviating food insecurity. As one OSD respondent put it,

My first question is what is [a BNA] trying to solve? The symptom or the cause? . . . To me, it’s that there’s been too much discussion about “how do we solve the optics of the problem” without saying, “why don’t you have enough to eat, and can we help solve the underlying issues?”

Part of this argument is that compensation is likely not the sole cause of food insecurity; consequently, according to these respondents, increased compensation without other mea-

asures to ensure that the compensation helps with financial and food insecurity will not necessarily help everyone:

My concern and worry is that we'll think that it's the solution and we won't do additional education about financial stability. Throwing money at a problem isn't the answer. It can help, but in and of itself it's not enough. (OSD respondent)

By and large, this isn't a compensation issue. Some of this is on us is that we bring in folks with large families who may have financial issues. We put them in this position to begin with, and we don't set them up for success. But the services have a recruiting mission to make. Some of this is shortsighted, and both the service member and the department is going to pay for that down the line. (OSD respondent)

It's a double-edged sword in some ways. I think that some would use the extra money properly—exactly what it's intended for. And others would use it as extra income and use it on whatever. I think it would come down to the individual in terms of if they use it correctly. Financial counseling could help. But unfortunately, if you look at just active duty, we're half a million folks; it would be hard to educate everybody and get everyone's buy-in. You can educate people, but they still have to put it into practice. And that's the frustrating part for me. We're giving you the tools, but it's how you use it. Some might take advantage of it, and use the education, and some may not. If you provide this extra compensation to our most in-need demographic, which I do believe are our lower enlisted, it's a question of what you do to make sure they use it on the right things. (installation senior enlisted commander)

The second argument raised by those opposing the BNA is that it is not part of normal compensation policies, and using BNA to address food insecurity is tantamount to providing public assistance to members and their families, which they said is not the purpose of compensation. One OSD respondent said,

I think [the BNA is] problematic. . . . [I]t's a substitute for public assistance, which isn't what we should be doing as an employer. We pay for the skills we need and the jobs we need done. I don't think the BNA serves the purpose of what military compensation needs to be. It's not predicated on attracting or retaining or motivating the people that we need.

Those respondents in favor of implementing a BNA thought that having enough money for food was the key issue and that additional compensation would help solve the problem, but some respondents were also open to including financial literacy training as part of the solution:

There is some number—tens of thousands, maybe into 100,000—who serve in the military who experience food insecurity. From our perspective, the opportunity to advocate

for more resources for families to buy groceries is pretty simple. Are there other things that could go into it, like around money management? Sure. But we're still trying to figure out what we're doing to help military members access food. Right now, people are hungry and we have an opportunity help get them fed now. (advocacy group representative)

We do find that there is a need. Overall, there is a dire need there for additional assistance. When a soldier does not know if they can feed their family, they can't focus as much on the job. If there is an opportunity for funds for food, then we won't find our soldiers going to outside resources, into the community, and can focus on their job too. Now we know when there's the word "free" we know that there are people who will take advantage. But if there were increased funds for food, I think it would be very helpful. (installation representative)

[A BNA] will definitely be a component [in addressing food insecurity]. It's that there's just not enough money coming in to cover all of these expenses. There's no way that we can avoid finances. What is it about the financial structure that makes it so difficult to afford housing, food? (advocacy group representative)

In addition, advocacy group representatives stated that members eligible for the BNA will be automatically notified of their eligibility, which should reduce the stigma of the benefit because commanders will not be notified of the member's eligibility.

We envision the DFAS [Defense Finance and Accounting Service] knows what the base pay is for each service member. They also know the number of dependents they're getting benefits for. We think that this would automatically trigger and notify members that they were eligible. They would also trigger communications about resources about other benefits, budgeting, etc. The DFAS piece is to bring it out of the chain of command. This would target probably E-1-E-4 with multiple dependents.

Summary

The discussions we held revealed that stakeholders viewed food insecurity as a problem but disagreed on its causes and prevalence and whether a BNA is the appropriate mechanism to address the problem. Among OSD and national advocacy groups, most agreed that there was a lack of good data on military food insecurity at the time of the interviews. Many respondents discussed availability and access to food in terms of the member household's broader financial well-being. For example, examining food expenses within a member's monthly budget, several respondents noted that spending on food is flexible compared with other financial commitments, and respondents reported that members will spend less on food, eat unhealthy food, or access food banks when other expenses (such as paying rent) are seen as more urgent.

The financial strains that respondents said affected these types of trade-offs between food and other spending generally fell into two categories: sudden, unexpected, time-delimited financial setbacks that could lead to an acute shortage of funds to spend on food (such as a large car repair bill) and longer-term issues with finances, such as a lack of financial literacy and limitations in the ability to pay, including BAH and BAS, to cover living expenses. When asked about the demographic characteristics of members most likely to experience financial or food insecurity, almost all respondents indicated that junior enlisted members with families were most at risk. Respondents noted several types of support for members and their families to help them meet their financial or food needs. These included using direct food assistance from food banks or pantries, enrolling in WIC or SNAP, accessing grants or loans from a service relief organization, and seeking financial counseling or financial literacy training. However, respondents cited two main barriers to accessing support services for financial or food needs: (1) stigma that seeking help would affect a service member's military career and pride and (2) a lack of knowledge of the resources available. Finally, respondents commented that experiencing food insecurity could have an impact on member readiness, affecting either physical readiness (through a poor diet) or psychological readiness (through worry about financial issues and feeding their family). Respondents disagreed on how much a BNA would help alleviate food insecurity among members and their families.

Analyses of Survey Data of Active Duty Members: Approach and Findings

This chapter presents tabulations that address several elements in the congressional directive using data from the 2016 and 2018 SOFS-As. The tabulations include members of the Army, Navy, Marine Corps, Air Force and Coast Guard, and all analyses use the survey weights to ensure that the data represent the active duty force, given how the weights are constructed.¹ The analyses from the 2018 SOFS-A provide a baseline picture of food insecurity among active duty members prior to the COVID-19 pandemic. The analyses from the 2016 SOFS-A offer additional insight into the assessment of food insecurity using some measures that were not asked in 2018.

Food Insecurity Among Military Members

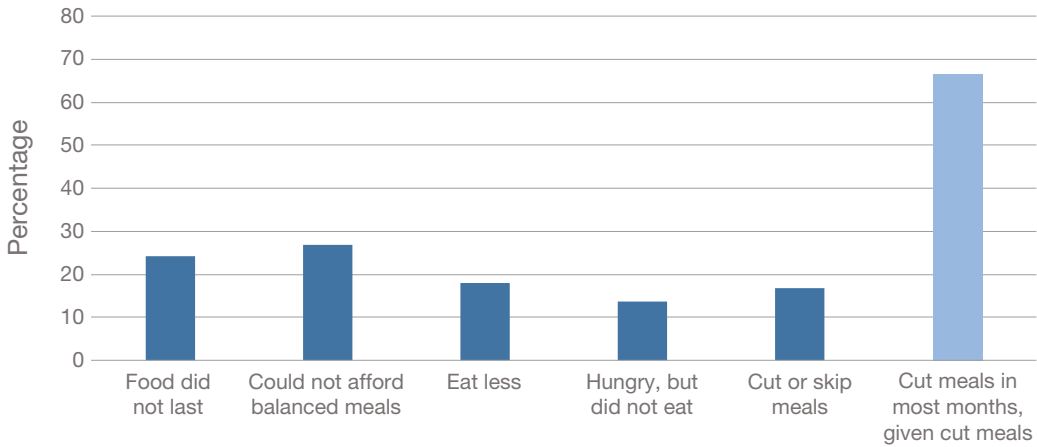
Food Insecurity in 2018

Figure 5.1 shows the share of service members responding affirmatively to each of the six food insecurity questions in the 2018 survey (see Appendix A). Between 13.5 and 26.7 percent of members responded affirmatively to each of the five food insecurity questions on the short form asked of all respondents. The final question asking about how often meals are cut is asked only of respondents who respond affirmatively that they have cut or skipped meals in the past 12 months. Among the 16 percent of members who reported having cut meals in the past 12 months, 66 percent of that number responded that they cut meals “almost every month” or “some months, but not every month”—the two response options that the USDA counts as an affirmative response.

Next, we summed the affirmative responses for each respondent to estimate the percentage of members who are classified as food insecure using the USDA definition (answering in the affirmative for at least two of the six questions). Table 5.1 shows the distribution of the

¹ Despite the survey goal to capture only active duty members, some individuals responded to the survey but were found to be ineligible (for example, they were no longer on active duty at the time they responded to the survey). We excluded ineligible respondents from our analysis sample. We also excluded a small minority of respondents who did not respond to any of the questions on food insecurity.

FIGURE 5.1
Percentage of Service Members with Affirmative Responses to Each Question in the Food Insecurity Short Form Module



SOURCE: 2018 SOFS-A (OPA, 2020a).

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. The USDA counts “sometimes” or “often” as affirmative responses to the first two food insecurity questions. The last question (“How often did you cut meals?”) is asked only if respondents answer affirmatively that they did cut meals. Survey questions ask about whether respondents have experienced these issues in the past 12 months.

TABLE 5.1
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 (OPA, 2020a).

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. Percentages do not sum exactly to 100 percent because of rounding.

number of affirmative responses among all members. Totaling the share of members with between two and six affirmative responses, we find that 25.8 percent of members were food insecure in 2018, according to the USDA definition.

Food Insecurity in 2016 and the “Almost Never” Response Category

The 2016 SOFS-A uses a more granulated set of response categories than the 2018 survey (as discussed in Chapter Two), and there is ambiguity about whether to categorize the “almost never” category as an affirmative response. Consequently, *food insecurity* could be defined in two alternative ways in the 2016 survey:

1. The answer is considered affirmative if the respondent says “almost never,” “sometimes,” “often,” or “very often.” That is, the statement is *not* affirmed only if the respondent says “never.”
2. The answer is considered affirmative if the respondent says “sometimes,” “often,” or “very often.” That is, the statement is *not* affirmed if the respondent says “almost never” or “never.”

In theory, either definition could be consistent with the USDA approach. Because the statement in the food security questions is not affirmed only if the respondent says “never,” the first definition is consistent with the USDA definition. On the other hand, because the USDA counts responses to statements as affirmative if they include “sometimes” and “often,” the second definition could also be considered consistent with the USDA approach.

Table 5.2 shows the weighted estimates of the share of members who are food insecure under each definition in the 2016 data. The share is 27.7 percent using the first definition and 16.0 percent (or 42 percent lower) using the second definition. There is a non-negligible share of service members who report being food insecure using either definition. However, the large difference in the estimates highlights the importance of the “almost never” category. The results indicate that 42 percent of the 27.7-percent estimate is attributable to the “almost never” response category. We provide additional analysis of the “almost never” group in Appendix D.

TABLE 5.2
Estimated Share of Active Duty Members in the 2016 SOFS-A Who Are Food Insecure (Two Definitions)

Definition	Percentage That Is Food Insecure
“Almost never” included as an affirmative response	27.7
“Almost never” included as a <i>not</i> affirmative response	16.0

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Following the practice used by the USDA, respondents are classified as food insecure if they respond affirmatively to at least two of the four food security questions. Members are included in the sample if they responded to at least one of the questions about food insecurity. Percentages are calculated using SOFS-A survey weights to be representative of the active duty military population. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. $N = 18,246$.

Demographic Characteristics by Whether Members Are Food Insecure, 2018

Table 5.3 compares service and demographic characteristics between the 25.8 percent of members who are food insecure and the remaining share who are food secure in 2018; differences that are statistically significant are italicized. Approximately 40 percent of food inse-

TABLE 5.3
Service and Demographic Characteristics of
Food Insecure and Food Secure Members, 2018

Characteristics	Food Insecure	Food Secure
Service characteristics		
<i>Army</i>	40%	33%
<i>Navy</i>	26%	24%
Marine Corps	14%	13%
<i>Air Force</i>	18%	26%
Coast Guard	3%	3%
<i>E-1–E-3</i>	21%	14%
<i>E-4–E-6</i>	67%	50%
Receiving BAH	81%	80%
Demographic characteristics		
Female	16%	16%
<i>Racial or ethnic minority</i>	50%	43%
<i>Age</i>	26.3	29.1
<i>Single with child(ren)</i>	5%	4%
Single without child(ren)	37%	39%
Married with child(ren)	37%	39%
<i>Married without child(ren)</i>	21%	19%
Number of dependents	1.5	1.5

SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages are calculated with survey weights and show the share of each category (food secure versus food insecure with the indicated service and demographic characteristic). 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. $N = 15,240$. Approximately 9 percent of the weighted sample did not respond to the question about receiving BAH and are not included in the denominator for that question. *Racial or ethnic minority* is defined as anyone who identified as a race other than non-Hispanic white. Italicized rows indicate characteristics for which the difference between food secure and food insecure members was statistically significant at the 5-percent level.

cure members are in the Army, while 33 percent of food secure members are in the Army. The Army has the largest active duty end-strength of the services. By contrast, only 18 percent of food insecure members are in the Air Force, compared with 26 percent of food secure members. Food insecure members are also disproportionately represented in lower ranks: 21 percent are E-1–E-3, compared with 14 percent of members who are food secure. However, most food insecure members were midcareer enlisted personnel, with pay grades between E-4 and E-6 (67 percent of food insecure members, compared with 50 percent of members who are not food insecure). This finding contrasts with what we heard from the stakeholders, who said that food insecure members were typically junior enlisted personnel. We discuss this finding more in Chapter Eight. We also find that the share of members who report receiving BAH is similar between the two groups (81 percent and 80 percent between food insecure and food secure members, respectively).

The share of women in the food secure and food insecure groups is the same as the proportion in the overall active duty force. Food insecure members are more likely to be a racial or ethnic minority (50 percent compared with 43 percent among members who are not food insecure) and, consistent with their lower rank, they are also younger (26 years compared with 29 years). Service members who are food insecure are slightly more likely to be single and have children (5 percent compared with 4 percent), although a relatively small share of all members fall into this group. Members who are food insecure are less likely to be single without children. Service members who are food insecure are also more likely to be married without children (21 percent compared with 19 percent). The difference in the share of members who are married with children is not statistically significant, and the average number of dependents is the same between members who are food insecure and food secure.

Food Insecurity Among On-Post Members, 2016 and 2018

The congressional directive also asked about food insecurity among members who live on post (and, by implication, do not receive BAH). Table 5.4 shows estimates of food insecurity rates separately by whether members live on post, using 2018 data. We define members as living on post if they report living aboard ship, in government-owned barracks or dorms, in government-owned family housing on post, or in privatized housing on post that is rented. We find that 30 percent of on-post members were food insecure in 2018, compared with 23 percent of off-post members, and the difference is statistically significant at the 5-percent level.

The congressional directive also requested information specifically about members who live on post and do not receive BAH. According to the 2018 SOFS-A, most people living on post receive BAH. Specifically, approximately 80 percent of food insecure members on post report receiving BAH, most likely because a large share of these people live in privatized

TABLE 5.4
Share of Food Insecure Members Living On Post or
Off Post, 2018

Characteristic	Percentage Food Insecure Members
Live on post	30
Receive BAH	32
Do not receive BAH	25
Live off post	23
Receive BAH	23

SOURCE: 2018 SOFS-A (OPA, 2020a).

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 and had a non-missing response for whether or not they received BAH. *N* = 13,357.

housing on post or because members living in barracks receive a partial BAH.² As a condition of living in privatized housing, members must file an allotment to pay the same amount as their BAH to the owner of the privatized housing. Given the high share of people who receive BAH, we find that less than 3 percent of active duty members in the 2018 survey who are food insecure live on post and do not receive BAH. That is, the group of interest to the congressional directive is small.

To consider food insecurity by BAH receipt, we further split the population of members living on post and off post into the subgroups who report receiving or not receiving BAH (Table 5.4). Among those living on post, rates of food insecurity are lower for those who do not receive BAH, approximately 25 percent compared with 32 percent for those who do receive BAH. It is unclear why food insecurity among those receiving BAH is higher among those living on post (32 percent) than those living off post (23 percent).

To better understand the characteristics of food insecure members on post who do and do not receive BAH, Table 5.5 shows selected characteristics for the two groups. Food insecure members who live on post and do not receive BAH are younger and are more likely to be junior enlisted personnel, single, and in either the Marine Corps or the Air Force than food insecure members who live on post and receive BAH. For example, those without BAH have an average age of 22, compared with age 25 among those who receive BAH. In addition, food insecure members who live on post and do not receive BAH were more likely to be currently deployed but less likely to have ever made a PCS move. These differences are statistically significant at the 5-percent level.

² The survey question does not distinguish between receipt of full versus partial BAH. Approximately 9 percent of members did not respond to the question about BAH receipt and were excluded from the 80-percent estimate.

TABLE 5.5
Characteristics of Food Insecure Members Living On Post, 2018

Characteristic	Receiving BAH	Not Receiving BAH
Demographics		
Racial or ethnic minority	49%	59%
Age	25	22
Single without children	46%	77%
Number of dependents	1.4	0.5
Service characteristics		
Army	56%	12%
Navy	26%	12%
Marine Corps	7%	50%
Air Force	11%	27%
Coast Guard	1%	0%
E-1–E-3	24%	59%
Deployment and transitions		
Currently deployed	8%	2%
More than one deployment in past 24 months	21%	6%
Ever made a PCS	61%	41%

SOURCE: 2018 SOFS-A (OPA 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. Sample limited to members who live on post and are classified as food insecure. $N = 852$. *Racial or ethnic minority* is defined as anyone who identified as a race other than non-Hispanic white. All differences except for the share of members in the Coast Guard are statistically significant at the 5-percent level.

Use of Dining Facilities, 2016

Tables 5.4 and 5.5 indicated that 25 percent of members living on post who do not receive BAH are food insecure, and these members are more likely to be younger and junior enlisted personnel and single. The finding that this many members are food insecure is surprising, given that such personnel typically receive meal-cards that allow them to use on-post dining facilities.

We investigated whether personnel who are food insecure are less likely to use the dining facilities by using the 2016 SOFS-A, which queried respondents about their use of the dining facilities. (The 2018 SOFS-A did not include these questions). These dining facility usage questions were only asked of members who lived on post and who were not deployed. We examined patterns in use of the dining facilities among members who lived on post parsed according to

whether they were identified as food insecure.³ For comparison with 2018, the rate of food insecurity among members on post was slightly higher in 2016; 29 percent of on-post members who did not receive BAH were food insecure compared with 27.7 percent overall in 2016.

We find that 63 percent of food insecure members living on post reported using the dining facilities for at least one meal during the week, compared with 73 percent of food secure members living on post. Table 5.6 shows the average number of times that members on post report eating breakfast, lunch, and dinner in the dining facilities. The table shows separate columns for members who are food insecure and food secure.

We find statistically different responses in the average number of times that the dining facilities were used for food insecure versus food secure members only for the grades E-1–E-2 and E-3–E-4. In these grades, food insecure members use the dining facilities fewer times on average than their food secure counterparts. For example, food insecure members in grades E-1–E-2 eat lunch 2.1 times per week in the dining facilities compared with 4.3 times per week on average for food secure members in these grades. As shown in Appendix D, the differences are largest for members who are single and do not have dependents. The rates of dining hall use are more similar for members who are married and/or who have children, although rates of use of the dining hall are still significantly higher among members in grades E-3 or E-4 who are food secure compared with members in grades E-3 or E-4 who are food insecure.

TABLE 5.6
Average Number of Meals That On-Post Food Secure and Food Insecure Members Reported Eating in the Dining Facility per Week, 2016

Member Rank	Breakfast		Lunch		Dinner	
	Food Insecure	Food Secure	Food Insecure	Food Secure	Food Insecure	Food Secure
<i>E-1–E-2</i>	1.4	4.0	2.1	4.3	1.8	3.9
<i>E-3–E-4</i>	1.8	2.7	2.2	3.0	1.9	2.6
E-5–E-6	1.7	2.4	2.0	2.6	1.4	2.0
E-7–E-9	0.9	0.7	1.2	1.3	1.0	0.8
Officer	0.9	1.0	1.6	1.1	0.9	0.8

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Means calculated with survey weights. Questions about dining facility use are only asked of respondents who live on post and are not deployed, answering Module A. *N* = 1,493. Members are included in the sample if they responded to at least one of the questions about food insecurity. Italicized rows indicate that the difference between food secure and food insecure groups is statistically significant at the 5-percent level. “Almost never” respondents are included in the food insecure group.

³ In these analyses, we used definition 1 in Table 5.2 to define members who are food insecure (i.e., we count “almost never” as an affirmative response).

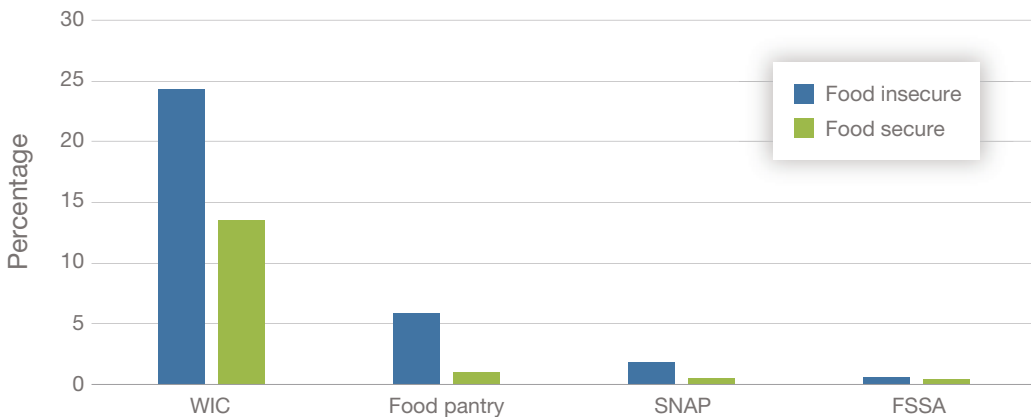
Use of Food Assistance, 2018

The congressional directive asked about the use of food assistance and food banks by members and their dependents. This subsection presents results from the 2018 SOFS-A.

Use of Food Assistance and Food Banks

Figure 5.2 shows the share of members who report using food banks or SNAP, WIC, or FSSA in the past 12 months.⁴ The most commonly used forms of assistance were WIC and food pantries: 24 percent of service members with children under age 5 in their household who are food insecure reported using WIC in the past 12 months, and about 6 percent of food insecure members reported visiting a food pantry in the past 12 months. As discussed earlier,

FIGURE 5.2
Share of Food Secure and Food Insecure Members Who Used Food Assistance Programs, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. $N = 15,240$. Members are included in the sample if they responded to at least one of the questions about food insecurity. WIC percentages are restricted to the population of service members with children age 5 and younger; SNAP percentages are restricted to members living in the United States or its territories; and FSSA percentages are restricted to members living overseas.

⁴ Recall that WIC is only available to families with children under age 5 or to households with pregnant or postpartum women. We estimate WIC usage as the share of members with children age 5 or younger who report using WIC rather than the share of all service members. The survey questions do not allow us to identify members with children under age 5. There is also no way to identify pregnant women or pregnant spouses in the survey, so this is a proxy for WIC eligibility. For reference, if we instead estimate WIC participation as a percentage of the entire population of service members, approximately 9 percent of food insecure members report using WIC and 4 percent of food secure members report using WIC. We also excluded members living overseas from the percentages for SNAP usage and excluded members living in the United States from the estimates for FSSA usage, although these restrictions do not change the estimated percentage of members using these programs.

food insecurity and use of food assistance are not one and the same: It is possible for members to be food secure and still use food assistance programs, or to be food secure *because* they use food assistance programs. Approximately 14 percent of members who were identified as food secure reported using WIC in the past 12 months, and 2 percent of members who were food secure reported using food pantries.

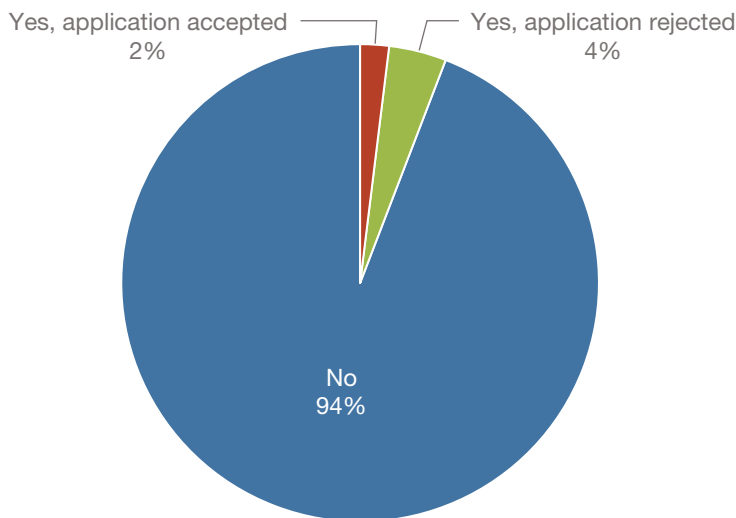
The share of members using SNAP or FSSA, however, is significantly lower. Approximately 1.8 percent of food insecure members in the United States report using SNAP, and less than 1 percent of food insecure members based overseas report using FSSA. About one-half of 1 percent of food secure members report using either SNAP or FSSA. Recall that WIC has a higher gross income limit for eligibility (185 percent of the FPL instead of 130 percent of the FPL) and does not have additional net income limits or other requirements. The more generous eligibility requirements are likely to be one reason why WIC usage is so much higher than SNAP usage. In total, 14 percent of food insecure members report using any of the forms of food assistance listed, compared with 5 percent of food secure members.

SNAP Usage

Element 5 in the congressional directive requested a description and assessment of the participation of members of the armed forces in SNAP. In addition to the tabulations shown in Figure 5.3, which concern SNAP use in the past 12 months, the SOFS-A asks a series of questions about SNAP use at any time during a member's active duty career. Figure 5.3 shows that

FIGURE 5.3

Share of Members Who Reported Ever Having Applied for SNAP, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

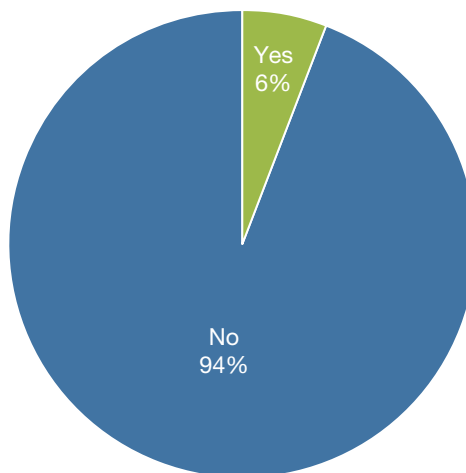
NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. $N = 12,923$. SNAP percentages are restricted to members who responded to SNAP questions and live in the United States or its territories.

approximately 6 percent of service members based in the United States reported in 2018 ever having applied for SNAP while on active duty and that 33 percent of those who applied (or 2 percent of the overall sample) reported that their application was accepted. As a result, the share who have participated in SNAP during the past 12 months is similar to the share who have participated at any point in their active duty career.

However, the data suggest that most members who participate in SNAP do not participate continuously over their careers. Among the 2 percent of all members who reported that they had an accepted application for SNAP, only 6 percent report that they were receiving SNAP at the time they responded to the survey (Figure 5.4). Among the remainder of respondents who were no longer receiving SNAP but had received it in the past, 81 percent reported that they no longer received SNAP because their household income had increased. Nearly 15 percent reported that they no longer wanted to receive SNAP. Approximately 4 percent reported that they no longer received SNAP because their household size had decreased, and the remaining fraction (less than 1 percent) reported moving overseas (Figure 5.5).

Overall, these figures are consistent with the conclusions of other research analyzing SNAP usage in the military population (for example, see Golfin, Kambic, and Horvath, 2020; and GAO, 2016) and with the opinions expressed in stakeholder discussions—with the finding that SNAP usage is rare among active duty members.

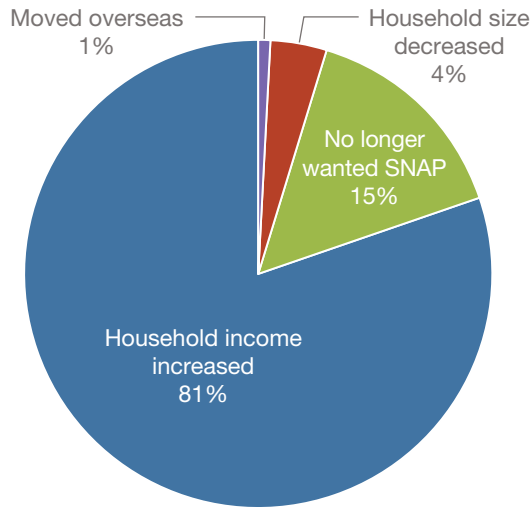
FIGURE 5.4
Share of Members with an Accepted Application Who Reported Currently Using SNAP, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. $N = 313$. Percentages are restricted to members who have had an application to SNAP accepted and are living in the United States or its territories. We exclude an extremely small minority of respondents who reported “don’t know.”

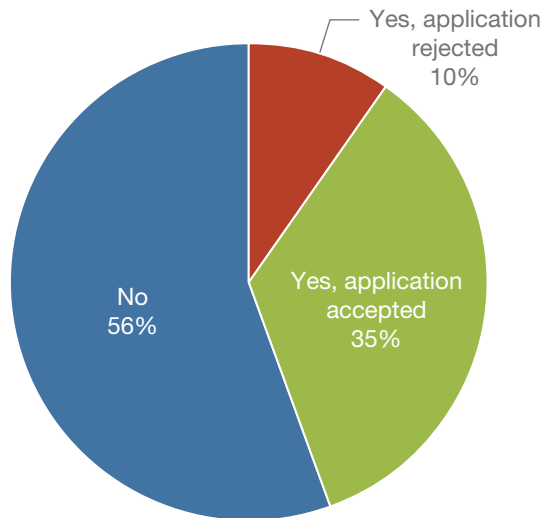
FIGURE 5.5
Share of Members with an Accepted Application Who Reported No Longer Using SNAP, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. *N* = 253. Percentages are restricted to members who received SNAP in the past but were no longer receiving SNAP and were living in the United States or its territories. We exclude an extremely small minority of respondents with a missing response.

FIGURE 5.6
Share of Members Who Reported Ever Having Applied for WIC, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

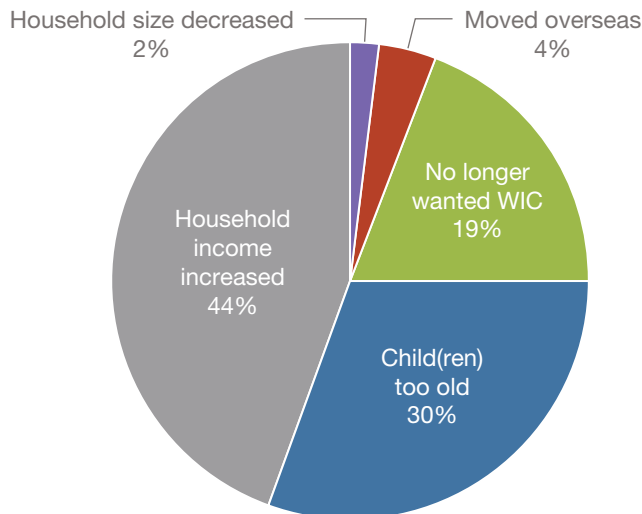
NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. *N* = 4,670. Sample is restricted to members with children age 5 and younger as a proxy for WIC eligibility. Numbers do not sum to 100 because of rounding.

WIC Usage

Patterns of WIC usage differ from those for SNAP. Nearly 45 percent of members with children under age 5 report having applied for WIC while on active duty (Figure 5.6). More than 75 percent of those who applied (or 35 percent of all members with children under age 5) reported that their application was successful.

Among those who reported having submitted an application while on active duty, 37 percent reported that they were receiving WIC at the time of the survey, a significantly higher share than those who reported that they were receiving SNAP. We find that 59 percent reported that they were no longer receiving WIC, and 4 percent responded that they did not know their WIC status. Figure 5.7 shows that among those who were no longer receiving WIC, the two most common reasons for no longer receiving WIC were that household income increased (44 percent) and that children in the household were too old to continue receiving WIC (30 percent). An additional 19 percent of respondents indicated that they no longer wanted to receive WIC.⁵

FIGURE 5.7
Share of Members with an Accepted Application Who Reported No Longer Using WIC, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. $N = 761$. Percentages are restricted to members who have received WIC in the past but are no longer receiving it. We exclude an extremely small minority of respondents with no response.

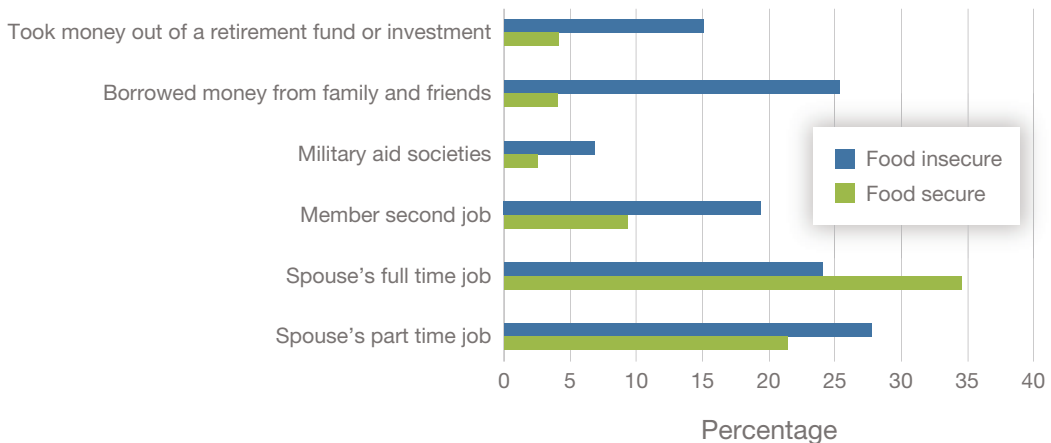
⁵ Note that although the survey offered an option for respondents to say they are no longer receiving WIC because they moved overseas, WIC is available to members overseas through the WIC Overseas program. Members are required to contact a WIC Overseas office after transferring abroad in order to participate. See TRICARE, 2021, for more information.

Other Sources Used to Meet Basic Needs

Element 5D of the congressional directive requested information on other support available to and used by members to meet basic needs. The SOFS-A asks many questions about financial well-being and financial management that provide an opportunity to understand other sources of income and support.

Figure 5.8 shows that a significant share of members reported in 2018 that they received income from military aid societies and other employment sources in the past 12 months. Approximately 7 percent of food insecure members reported income from military aid societies,⁶ compared with 2.5 percent of food secure members. Additionally, 19 percent of food insecure members reported receiving income from a second job, and 28 percent who were married reported receiving income from a spouse's part-time job. In contrast, among food secure members, a smaller share (9 percent) received income from a second job in 2018 or received income from a spouse's part-time job (22 percent). On the other hand, the share of food secure members reporting income from a spouse's full-time job (almost 35 percent) was higher than the share of food insecure members reporting such income (24 percent). These figures highlight the importance of spousal employment as a source of income for military families, and the higher share of full-time employment among food secure members could reflect that a spouse's job stability is an important factor in maintaining food security. A

FIGURE 5.8
Share of Food Secure and Food Insecure Members Reporting Other Sources of Household Income, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. *N* = 15,240 (10,666 for questions related to spousal employment). Members are included in the sample if they responded to at least one of the questions about food insecurity.

⁶ The survey question listed the following military aid societies as examples: Army Emergency Relief, Navy-Marine Corps Relief Society, Air Force Aid Society, and Coast Guard Mutual Assistance.

related factor could be child care: Nearly 32 percent of food insecure members reported that they needed child care for their spouse to work, compared with 20 percent of members who are food secure.

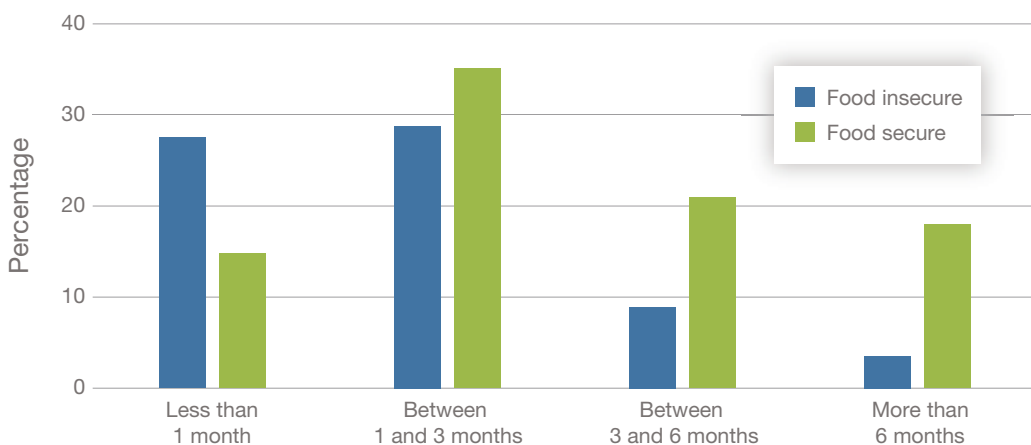
Members who are food insecure were significantly more likely to report two other sources of income. Approximately 25 percent of food insecure members reported borrowing money from family and friends in the past 12 months; 15 percent of food insecure members reported taking money out of a retirement or investment fund to pay for living expenses. By comparison, only 4 percent of food secure members reported receiving income from either of these sources.

The 2018 SOFS-A also asked members about saving habits and whether they had any emergency savings. Approximately 69 percent of food insecure members reported having emergency savings. This share is even higher, nearly 89 percent, for food secure members. Figure 5.9 shows that among members who report having funds in a savings account, food insecure members tend to have smaller amounts of emergency savings. Approximately 28 percent of food insecure members reported less than one month of emergency savings, compared with 15 percent of food secure members.

Other Financial Considerations

The 2018 SOFS-A provides additional context regarding the financial management and well-being of food insecure members. Figure 5.10 compares members' responses to a question regarding their overall financial condition in 2018 for food insecure service members

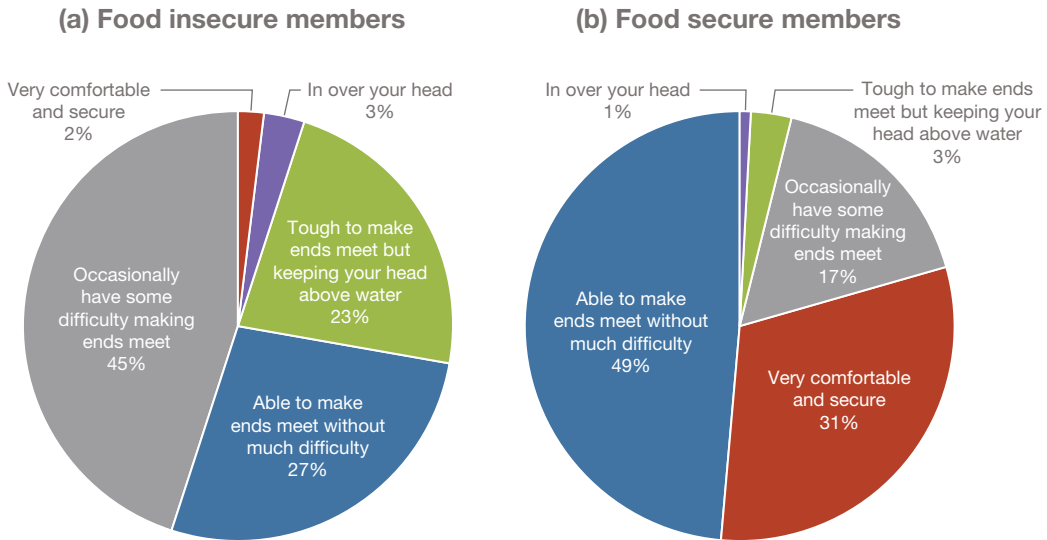
FIGURE 5.9
Share of Food Secure and Food Insecure Members with Emergency Savings Reporting a Given Amount of Monthly Expenses in Emergency Savings, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

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

FIGURE 5.10
Share of Food Secure and Food Insecure Members Reporting a Given Overall Financial Condition, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

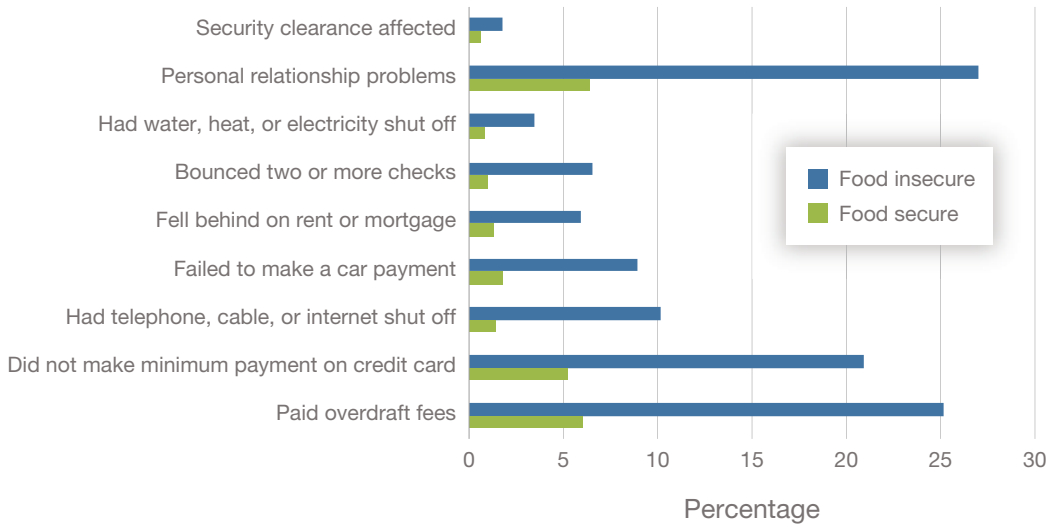
NOTES: Percentages calculated with survey weights. Analyses include members of the Army, Navy, Marine Corps, Air Force, and Coast Guard. *N* = 15,240. The left pie chart shows the distribution of responses for food insecure members; the right pie chart shows the distribution for food secure members. Members are included in the sample if they responded to at least one of the questions about food insecurity. Numbers might not sum to 100 because of rounding.

(left) versus food secure service members (right). Approximately 29 percent of food insecure members reported being “very comfortable and secure” or “able to make ends meet without much difficulty,” compared with 80 percent of food secure members. By contrast, 45 percent of food insecure members reported occasionally having difficulty making ends meet, compared with 17 percent of food secure members. Twenty-two percent of food insecure members reported that it was tough to make ends meet but that they were able to keep their heads above water; 3.4 percent of food insecure members reported being in over their heads. Only 2.5 and 0.6 percent of food secure members selected either of the last two response categories.

Perhaps related to the fact that 71 percent of food insecure members reported experiencing at least occasional difficulty making ends meet (Figure 5.10), food insecure members were significantly more likely to experience adverse financial events. As shown in Figure 5.11, 27 percent of food insecure members reported having personal relationship problems in the past 12 months with a partner because of finances; 25 percent reported having to pay overdraft fees; and 21 percent reported failing to meet the minimum payment on their credit card. Food insecure members also reported higher rates of other adverse financial events, such as having utilities shut off; falling behind on rent, mortgage, or car payments; or having checks bounced.

FIGURE 5.11

Share of Food Secure and Food Insecure Members Reporting Adverse Financial Events in the Past 12 Months, 2018



SOURCE: 2018 SOFS-A (OPA, 2020a).

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.

TABLE 5.7

Share of Food Insecure and Food Secure Members Who Provided Unplanned Support for Family Members Outside the Household, 2018

Characteristic	Percentage of Food Insecure	Percentage of Food Secure
Provided unplanned financial support to a family member who did not live with you	22.3	12.9

SOURCE: 2018 SOFS-A (OPA, 2020a).

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. Difference between food secure and food insecure groups is statistically significant at the 5-percent level.

Finally, a higher share of food insecure members reported that they provided financial support to family members living outside the household. Table 5.7 shows that 22 percent of food insecure members reported providing unplanned financial support to family outside their immediate household, compared with almost 13 percent of food secure members. It is unclear whether these family members are children, parents, or other relatives.

Summary

The SOFS-A data provide an understanding of what food insecure service members look like and illuminate some broad themes in program use and financial management among this group. We estimate that 25.8 percent of active duty members were food insecure in the 2018 SOFS-A. In exploring the demographics of members who are food insecure, the data show that 40 percent of these members are in the Army, approximately 66 percent are in the grades of E-4 to E-6, and 81 percent receive BAH. We find that 30 percent of members living on post are food insecure, but the figure is lower, 26 percent, for on-post members who do not receive BAH. Junior enlisted members living on post eat fewer meals in the dining facilities if they are food insecure than if they are food secure.

Next, the data enable us to document use of food assistance among service members overall and among those who are food insecure. Across all programs, the overall rate of members using food assistance is quite low. The most commonly used forms of food assistance for all members are WIC and food pantries, although the rates of use are significantly higher among members who are food insecure. All service members use SNAP and FSSA less frequently; less than 2 percent of eligible food insecure members use either of these programs, and rates of use are even lower among members who are food secure. Even those who use SNAP or WIC tend not to stay on the program over their full careers; many members who had used these programs in the past indicated that they no longer use the programs because of increases in their household income or changes in household status.

The data also show that food insecurity is associated with other financial difficulties. To meet their basic needs, food insecure members most often turn to borrowing from friends and family and relying on part-time employment of their spouse. Many food insecure members have emergency savings, though most have savings to cover only three or fewer months of expenses. Nearly 30 percent of food insecure members report being financially comfortable or able to make ends meet without much difficulty; 45 percent say they have occasional problems making ends meet. The 2018 survey indicates that food insecurity takes a toll on personal relationships and on financial credit status, with 27 percent of food insecure members reporting that they have personal relationship problems with a partner because of finances and 21 percent failing to meet the minimum on their credit card.

Additional Data Analyses

In this chapter, we present additional analysis on three food assistance programs beyond what we were able to analyze in the SOFS-A data. First, we analyze the eligibility of military children for FRPL, a potentially important source of food assistance for military dependents. Information on eligibility is not available in the 2018 SOFS-A, so we constructed an analysis file using several data sources to assess eligibility. We summarize the analysis of FRPL eligibility in this chapter. Another source of food assistance is the FSSA, and Congress requested information on enrollment in FSSA by members stationed overseas and on the cost of FSSA to DoD. In this chapter, we summarize data we received from DoD to respond to this request. Finally, Congress requested information on the data coordination between DoD and the USDA with respect to SNAP, and this chapter both summarizes what we learned about this coordination and provides updated estimates of the share of military personnel who received SNAP in 2021.

Analysis of FRPL (Element 1B)

Data Sources and Creation of the Analysis File

To provide an assessment of the use of FRPL among military dependents, we created a data set containing information on the share of children who qualified for FRPL at each public school and at each DoDEA school in the United States during the 2018–2019 school year. Although we were unable to identify exactly where all military children attend school or what their eligibility status would be, we identified public schools that were on or near military bases and then assessed the rates of eligibility among children at these schools. Thus, we estimated eligibility for FRPL off post as the share of students at schools on or near military installations that were eligible for FRPL.¹ DoDEA provided estimates of the share of students in DoDEA schools who are eligible for FRPL at each installation where DoDEA schools are located. To create this data set, we integrated multiple data sources, described in this chapter. Appendix E provides details on the construction of the analysis files.

¹ We call these *off-post* or *near military installations* because these schools are primarily off post, although we were able to identify public schools on installations using some of the data sources listed below.

National Center for Education Statistics, Common Core of Data

The National Center for Education Statistics (NCES) Common Core of Data is an annually updated database of all public elementary and secondary schools and districts in the United States (NCES, 2020). It is the Department of Education's primary database on public elementary and secondary education. From this database, we used data on the lunch program eligibility for the 2018–2019 school year, thereby providing school-level data on the number of students eligible for FRPL programs. Using unique school identifiers, we also linked NCES data on school location (such as street address, zip code, and state) and total school enrollment so that we could calculate the percentage of students in each school who are eligible for FRPL.

Military Community and Family Policy Data on Schools

The Office of Military Community and Family Policy within the Office of the Undersecretary of Defense for Personnel and Readiness oversees quality-of-life programs for the military community, including the Child and Youth Behavioral Military and Family Life Counselor Program (CYB-MFLC). CYB-MFLCs are assigned to public schools that have military children in their student population and where installation representatives requested such support (Correspondence between Military Community and Family Policy and authors, 2021). Military Community and Family Policy provided us with a list of all public schools that had CYB-MFLCs in 2020, thereby enabling us to identify schools serving the military population. We supplemented this list by using the Schools Available to Children on Military Installations resource from Military OneSource (Military OneSource, 2020).

DMDC 2018 Demographic Report: Profile of the Military Community

The *Military Community Demographics Report* is published annually using data from DMDC to provide detailed information on active duty and reserve members and their spouses and children (DoD, DMDC, and OPA, 2020). Included in the FY 2018 report is a reference table on the U.S. Installation Population by State. This table presents the service branch, zip code, and number of dependent children by age (0–5, 6–11, 12–18, and 19+), among other things, for each military installation with 100 or more active duty members with dependents. Bases with fewer than 100 members are grouped at the state level and reported as “other.” We used these data to match installations to the public schools serving kindergarten through 12th grade that serve them to understand the geographic distribution of school-age military dependents.

Military OneSource 2018 Public Schools on Military Installations

The prioritized list of 2018 Public Schools on Military Installations (PSMI) provides information on the 161 public schools located on military installations as of 2018 (Military OneSource, 2019). It lists the corresponding installation, service, and state for each of these schools as well as information on school condition, capacity, and current enrollment. For schools 1–38 of the 2011 PSMI list, only 2011 information was provided. The remaining schools, 39–161, have 2018 data on condition, capacity, and enrollment (Military OneSource, 2019). The PSMI data were supplemented with the list of schools with CYB-MFLCs,

which may not necessarily be located on installations but still serve military families and their school-age children.

Department of Defense Education Activity Schools

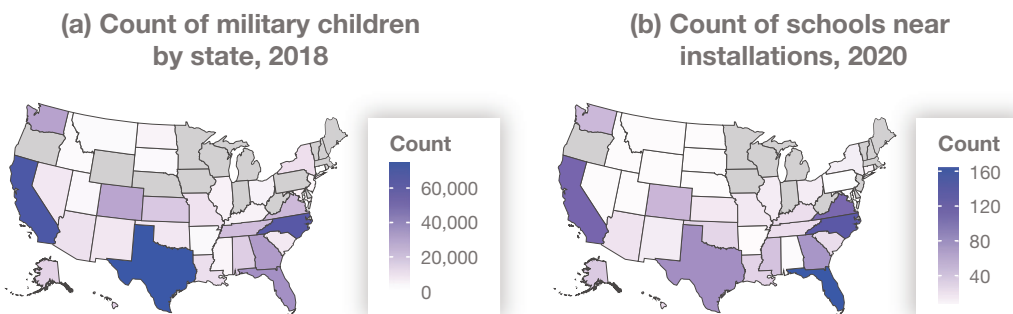
In addition to public schools, school-age children of military families may attend a DoDEA school. DoDEA is a federally operated school system serving military dependents. DoDEA provided our team with a list of active DoDEA schools as well as FRPL eligibility rates for DoDEA schools, aggregated to the installation-level average. These data supplemented our information on public schools serving military families.

Results

As contextual background, we first show the distribution of military children and the schools that serve them across states (Figure 6.1). The left panel depicts the number of military children in each state in 2018, and the right panel shows the number of schools near installations as of 2020. California, Texas, and North Carolina have the highest counts of military children in the country, with more than 65,000 military children in each of these states. Correspondingly, these states also have some of the highest counts of schools near military installations, ranging from 80 to 140 public or DoDEA schools. Florida stands out with the highest count of schools (165) located near military installations.

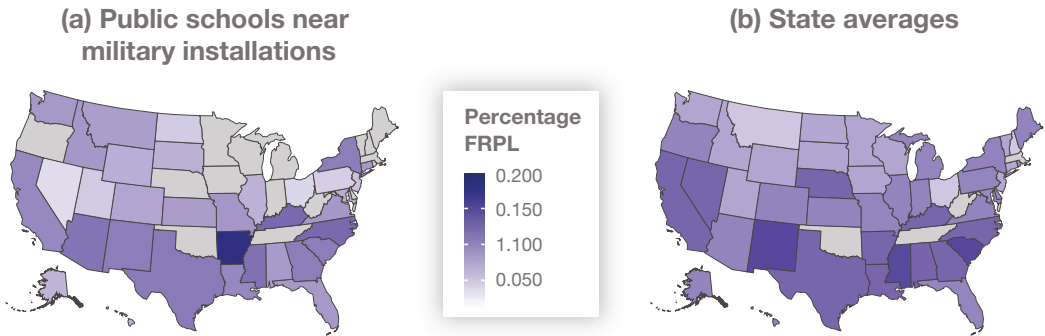
Turning to our results on FRPL eligibility, Figure 6.2 shows the rate of eligibility in each state for FRPL for public schools near military installations and compares those rates with state averages of eligibility rates across all schools. DoDEA schools are excluded from the tabulations but are discussed later in this chapter (see Figure 6.4 later in this chapter). Eligibility rates among public schools near military installations are often similar to the state averages, although states in the southern part of the United States tend to have higher rates of FRPL eligibility than the statewide average of 13.6 percent. We also find that FRPL state eligibility

FIGURE 6.1
Geographic Distribution of Military Children and Schools Serving Military Children



SOURCES: DMDC, 2018; Military Community and Family Policy, 2020.

FIGURE 6.2
Percentage of Student Population Eligible for FRPL in Public Schools Near Military Installations vs. State Averages, 2018



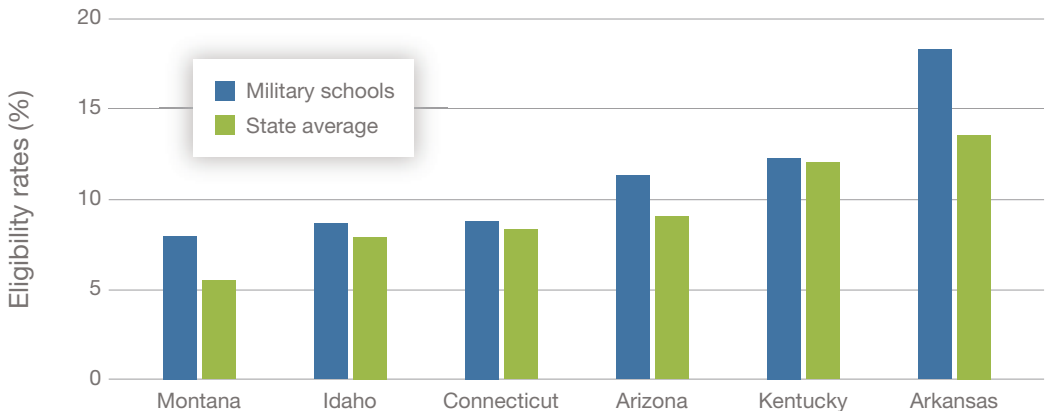
SOURCES: Military Community and Family Policy, 2020; NCES, 2020; Military OneSource, 2019.

NOTE: Excludes DoDEA schools.

rates are higher among schools near military installations than among all schools (regardless of proximity to military installations) in six states: Arkansas, Montana, Arizona, Idaho, Connecticut, and Kentucky. These cases are examined in Figure 6.3. In some states, including Nevada, New Mexico, and Pennsylvania, the FRPL eligibility rates are significantly below the state average. For example, the eligibility rate for Nevada is 3.5 percent. For more information on eligibility rates by state and branch of service, see Appendix E (Table E.1).

Among states where eligibility rates are higher near military installations, we estimate the largest difference in Arkansas, where the rate is 18.4 percent versus a statewide average

FIGURE 6.3
Six States Where FRPL Eligibility Rates Are Higher in Schools Near Military Installations Than the State Average, 2018



SOURCES: Military Community and Family Policy, 2020; NCES, 2020; Military OneSource, 2019.

NOTE: Excludes DoDEA schools.

of 13.6 percent. We see smaller but still notable gaps in Montana (8.0 percent military vs. 5.5 percent statewide) and in Arizona (11.3 percent vs. 9.1 percent), and even smaller differences in Idaho (8.6 percent vs. 7.9 percent), Connecticut (8.8 percent vs. 8.3 percent), and Kentucky (12.3 percent vs. 11.9 percent).

Figure 6.4 shows the share of children eligible for FRPL at DoDEA schools in the United States.² U.S.-based DoDEA schools are located in only a few states in the Southeast, including North Carolina, South Carolina, Georgia, Tennessee, and Kentucky. As shown in the figure, the rate of FRPL eligibility in DoDEA schools is significantly higher than in public schools shown in Figure 6.2, ranging from 35 to 50 percent. One possible reason is that all children who attend DoDEA schools live on post and their families likely do not receive BAH. However, BAH is counted as income for determining FRPL eligibility. As a result, household incomes for children attending DoDEA schools appear lower for the purposes of determining eligibility, meaning a higher share of children would qualify. In Appendix E, we explore the relationship between BAH receipt and FRPL eligibility; the analysis, based on an analysis of state-level FRPL eligibility rates, suggests that receipt of BAH is not predictive of the share of children eligible for FRPL.

Table 6.1 shows the mean rate of children eligible for FRPL nationwide (and standard deviation) by service. Because the rates of FRPL eligibility at DoDEA schools vary, we present results including and excluding DoDEA schools. The first two columns include DoDEA schools in the calculation of average eligibility rates, and the second two columns exclude them. Across all services, one in ten children attending schools near military installations

FIGURE 6.4
FRPL Eligibility Rates at DoDEA Schools in the United States



SOURCE: DoDEA database.

² The large number of DoDEA schools located outside the United States are excluded in this analysis.

TABLE 6.1
Rate of Children Eligible for FRPL, by Service

Branch of Service	Including DoDEA		Excluding DoDEA	
	Mean	<i>N</i>	Mean	<i>N</i>
Army	12.2%	383	9.5%	350
Navy	9.2%	355	9.2%	355
Air Force	8.2%	240	8.2%	240
Marine Corps	11.7%	92	10.4%	86
Joint bases				
Army–Air Force	7.0%	69	7.0%	69
Navy–Air Force	7.8%	26	7.8%	26
Army–Navy	5.9%	14	5.9%	14
Total	10.0%	1,179	9.0%	1,140

SOURCES: Correspondence between Military Community and Family Policy and authors, 2021; NCES, 2020; Military OneSource, 2019.

are eligible for FRPL when DoDEA schools are included (see the last row). This number falls to 9.0 percent when we exclude DoDEA schools, compared with a national average of 9.8 percent. The average rate for Navy installations is 9.2 percent; the average rate for Air Force installations is 8.2 percent. The proportion of children eligible for FRPL is lower for joint bases than for installations operating under a single branch of service. At Navy–Air Force joint bases, 7.8 percent of military children are eligible for FRPL, compared with 7.0 percent at Army–Air Force installations and 5.9 percent at Army–Navy installations.

Of the 39 DoDEA schools in our data, 33 are located on Army installations, contributing to a relatively high proportion (12.2 percent) of FRPL eligibility for the Army. Although some of this high rate may be because of differences in measurement of income among children in DoDEA schools, the relatively high proportion of FRPL eligibility in the Army is consistent with the relatively high share of members in the Army who report food insecurity, as shown in Chapter Five. This number drops to 9.5 percent when we exclude DoDEA schools. Similarly, FRPL eligibility among children attending schools near Marine Corps installations is 11.7 percent when we include DoDEA schools and 10.4 percent when we exclude them.

Limitations

An important limitation of our analysis is that we do not directly observe schools attended by military children; we are assuming that most children will attend public schools with a CYB-MFLC or schools physically located on posts (either DoDEA or public). Some military children may attend private schools that are not captured by the NCES data, or they may attend schools farther away, where a CYB-MFLC is not present. Another limitation is that the rates of FRPL eligibility provided by the NCES data are schoolwide averages (that is, they reflect

eligibility among both military and nonmilitary children). Although we may be able to compare rates for schools serving military children with rates for schools presumably not serving military children, we cannot compare rates among military children with rates among nonmilitary children within any given school. Finally, the NCES data do not provide information on FRPL eligibility rates for five states: Oklahoma, West Virginia, Massachusetts, Tennessee, and Delaware.

A final note, the NCES data and DoDEA data provide *eligibility* rates rather than participation rates in FRPL programs. Based on conversations with individuals at DoDEA, our understanding is that participation among those who are eligible is quite high, but not complete. This distinction should be kept in mind when interpreting the findings of this analysis.

Analysis of FSSA (Element 3)

Element 3 of the congressional directive requested a description of the number of members overseas who were enrolled in FSSA during the five-year period ending with FY 2019, and the cost during each of those years. DFAS provided us with this information for the Army, Navy, and Air Force (Table 6.2). The Marine Corps was excluded because that service uses a different pay service than DFAS. We requested the FSSA information directly from the Marine Corps (Table 6.3). Both tables show the cost of the payouts to service members in then-year (nominal) dollars.

Across the Army, Navy, Air Force, and Marine Corps and across the five-year period of FYs 2015–2019, a total of 92 members used FSSA. This figure does not necessarily represent 92 different members because the same member could have used FSSA in multiple years. The total cost across the five years was \$247,456.

Coordination Between DoD and Other Agencies for Determining SNAP Participation (Element 5A)

To determine SNAP participation among military members, DoD matches data from state public assistance agencies to its own personnel data using the PARIS matching program. As noted in the literature review in Chapter Three, Golfin, Kambic, and Horvath (2020) used PARIS data for 2019 for analysis in support of the Thirteenth QRMC. PARIS is a federal-state partnership on the reporting of public assistance, managed by the Department of Health and Human Services' Office of the Administration for Children and Families (U.S. Department of Health and Human Services, Office of Planning, Research and Evaluation, undated). This arrangement has been in place since 1999. Participation is only required for Medicaid, however; states supply information about SNAP and TANF on a voluntary basis. As a result, the database historically has missed select key states with large numbers of military personnel and high costs of living. As described in Chapter Three, Golfin, Kambic, and Hor-

TABLE 6.2
Number of Army, Navy, and Air Force Members
Receiving FSSA and Cost (in Nominal Dollars)

FY	Service	Number of Members	Cost
2015	Army	2	\$7,768
2015	Navy	0	
2015	Air Force	0	
2015	All	2	\$7,768
2016	Army	4	\$28,127
2016	Navy	2	\$16,980
2016	Air Force	1	\$20,129
2016	All	7	\$65,236
2017	Army	15	\$50,128
2017	Navy	0	
2017	Air Force	3	\$7,299
2017	All	17	\$57,426
2018	Army	9	\$46,586
2018	Navy	0	
2018	Air Force	1	\$385
2018	All	10	\$46,972
2019	Army	12	\$12,304
2019	Navy	36	\$18,008
2019	Air Force	5	\$11,321
2019	All	53	\$41,633
Total		89	\$219,034

SOURCE: Tabulations provided by DFAS.

NOTE: The U.S. Marine Corps uses a different pay system than the other services. Tabulations for the Marine Corps are shown in Table 6.3.

vath (2020) used PARIS data for 2019 and found that 33–34 states supplied data on SNAP to PARIS. DMDC receives files quarterly from the states, the District of Columbia, and Puerto Rico; DMDC also receives a variety of other data feeds that are used to build the PARIS, including data from the Department of Veterans Affairs and interstate linkages (Health Systems Research Inc., 2007). Based on DMDC’s match with military personnel data, the Golfin, Kambic, and Horvath (2020) study estimated that 0.08–0.42 percent of service members stationed in the United States (or approximately 880–4,620 individuals) were enrolled in SNAP per month using data from May and August of 2019 after addressing some data anomalies related to service members in the PARIS data no longer in eligible households. It produced

TABLE 6.3
Number of Marine Corps Members
Receiving FSSA and Cost (in Nominal
Dollars)

FY	Number of Members	Cost
2015	1	\$6,944
2016	1	\$20,865
2017	0	
2018		
2019	1	\$613
Total	3	\$28,422

SOURCE: Tabulations provided by U.S. Marine Corps.

NOTE: USMC uses a different pay system than the other services. Tabulations for the other services are shown in Table 6.2.

this estimate by extrapolating the percentage of active duty members who use SNAP in the states where SNAP participation information was available to an overall force size of 1.1 million members (where the 1.1 million figure is the number of members with a duty location in the United States). Implicit in this extrapolation is that SNAP usage in the states that do not report data to PARIS is similar to usage in the states that do.

For the purposes of our study, we requested updated information from DMDC on SNAP usage, drawn from its data merge with the PARIS data. As of February 2021, DMDC was able to find matches for 40 states (plus the District of Columbia and Puerto Rico) that supplied data on SNAP to PARIS. Although this reflects an improvement since 2019, the database is still missing data from select key states, including California, Hawaii, and South Carolina. Table 6.4 shows tabulations on SNAP usage among these 42 states. In February 2021, 6,151 members participated in SNAP, with 48 percent of participants in the Army. The 6,151 figure is 33 percent higher than the 4,620 figure for 2019. That said, 6,151 is still only 0.7 percent of the service members with U.S. duty locations in the states for which we have SNAP data, more than the 0.08–0.42 percent of service members estimated by the Thirteenth QRMC (summarized in Golfin, Kambic, and Horvath, 2020). Extrapolating to all active duty members stationed in the United States, given the same assumption as was used by the Thirteenth QRMC that SNAP participation in states that do not report to PARIS is the same as for states that do, we estimate that 0.7 percent of all service members with a duty location in the United States used SNAP in February 2021. We note that we did not have the data to allow us to identify anomalies related to service members in the PARIS data who were no longer in a household receiving SNAP and therefore no longer eligible. Consequently, we may overstate SNAP usage in our analysis.

Of the 6,151 SNAP participants, 93 percent were in grades E-1 to E-4. This finding contrasts with Golfin, Kambic, and Horvath (2020), who found that only 28 percent of members were in these grades, with those in grade E-4 representing the largest share of those partici-

TABLE 6.4
Number of Active Duty Members in the
PARIS Data Set by Service, February 2021

Service	SNAP Participation
Army	2,943
Navy	1,355
Marine Corps	1,088
Air Force	695
Coast Guard	70
Total	6,151

SOURCE: DMDC, using PARIS (U.S. Department of Health and Human Services, Office of Planning, Research and Evaluation, undated).

pating in SNAP. In contrast, the DMDC match with PARIS data for February 2021 indicates that E-1s represented the largest share of participants (28.5 percent).

DoD coordinates with other federal agencies in computing SNAP usage among military members. However, its ability to report SNAP usage for all states is hampered by the fact that reporting SNAP usage to PARIS is voluntary for states. In contrast, states are required to report Medicaid usage to PARIS.

Summary

In this chapter, we showed analyses related to elements 1B, 3, and 5A. The analyses for these elements provide additional information on use of three food assistance programs (FRPL, FSSA, and SNAP). Across these three programs, we again find that overall rates of use are low, which is consistent with the findings discussed in Chapters Four and Five. First, we find that, except for six states, the average share of children eligible for FRPL is lower in schools near military installations (likely to have large military populations) than across all schools in the state. We find that the average share of children eligible for FRPL in schools near military bases varies from 3.5 percent (in Nevada) to 18.3 percent (in Arkansas). These computations exclude DoDEA schools that are on post. Looking at DoDEA schools in the United States, we find that the share of children eligible for FRPL is higher than in schools in general.

We also find low rates of use of FSSA and SNAP, according to other administrative data sources. Using tabulations provided by DFAS and the Marine Corps, we found that 92 members used FSSA between 2015 and 2019 at a cost of \$247,456 (in then-year dollars). Finally, we asked DMDC to update the figures produced by Golfin, Kambic, and Horvath (2020) and produced for the Thirteenth QRMC to provide an update on use of SNAP among military personnel. The new figures are as of February 2021 and show that more states volunteered to participate in PARIS, 42 versus 34 in August 2019, with 6,151 members participating in SNAP

in these states—or 0.7 percent of service members with duty assignments in these states. This figure of 0.7 percent is higher than the 0.08–0.42 percent of service members estimated by the Thirteenth QRMC. If we assume that SNAP usage is similar in the states that do not report data to PARIS, we can extrapolate that 0.7 percent of all service members with a duty location in the United States used SNAP as of February 2021. Like the Thirteenth QRMC, an important caveat to our study is that SNAP usage could be higher or lower in the states that were not included in the PARIS data, although more states were included in our analysis than in the Thirteenth QRMC analysis. Unlike the QRMC, we were unable to address some data anomalies related to service members in the PARIS data who are no longer in eligible households. Consequently, we may overstate the extent of SNAP usage in the more recent data.

Despite these low rates, better data quality could improve the tracking of these metrics. For example, the findings on FRPL use are limited by the facts that we do not directly observe the schools attended by military children and that we only observe schoolwide averages (meaning we cannot distinguish between military children and civilian children in the same school). Finally, we only observe FRPL eligibility, and not use of the program, although there is reason to believe that use is very high among those who are eligible. A survey tracking the use of FRPL among military children could provide a more direct answer to confirm the findings presented here. Finally, measurement of SNAP use in the PARIS data set misses several key states with large military populations. Mandatory or more widespread data collection in PARIS would improve measurement of SNAP use.

Analysis of a Basic Needs Allowance

The seventh item on the DoD directive in Section 656 of the FY 2020 NDAA concerns an analysis of a BNA. Specifically, this item dictates that DoD provide an assessment of the feasibility and advisability of a BNA for low-income members of the armed forces (including an allowance calculated both with and without the BAH in the determination of member gross household income). We examine the following directive elements:

- 7A: the maximum gross household income that would make a member eligible for the allowance
- 7B: the number of members who would be eligible for the allowance
- 7C: the optimal average annual amount of the allowance
- 7D: the total annual cost of paying the allowance
- 7E: whether particular geographic locations would include large numbers of members eligible for the allowance
- 7F: the effects that payment of the allowance would have on recruitment and retention of members and on members' morale and conduct.

This chapter begins with a description of how we defined the BNA and alternative definitions we considered. Next, we describe the data we use. We then present results pertaining to elements 7A–7E, including sensitivity analyses in which we consider alternative definitions of the BNA. After that, we draw from previous studies of recruiting and retention to give insight regarding how a BNA might affect recruitment and retention. We conclude with a summary of our findings.

Defining the BNA

The congressional directive provides few details about how the BNA should be defined, other than that the analysis should consider definitions that both include and exclude the BAH in the definition of gross income. However, the versions of both the FY 2020 and FY 2021 NDAs from the U.S. House of Representatives provide specific details regarding the BNA, and we use those details to guide the definition of the BNA in our analysis (U.S. House of Representatives, 2019; U.S. House of Representatives, 2020). Both versions defined the BNA as the monthly amount that would be paid for 12 months and that would allow a

member's annual gross household income to reach 130 percent of the Federal Poverty Guidelines of the Department of Health and Human Services (Shantz et al., 2020) for the location and number of persons in the household of the covered member for the year, divided by 12 to put it on a monthly basis (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, 2021). Although both House versions excluded BAH from the definition of gross income, the study directed by the final FY 2020 NDAA (Pub. L. 116-92) requires the analysis to alternatively exclude and include BAH.¹ Importantly, both House versions left it up to the Secretary of Defense to specify the income to be included in and excluded from the gross household income of individuals for the purposes of defining the BNA. This is important because it means that there is some ambiguity about what elements of cash compensation to include in gross income.

In June 2019, the Congressional Budget Office (CBO) provided an estimate of the BNA, notably of 7C and 7D (CBO, 2019, pp. 4–5). For the purposes of its computations, CBO stated that it

expects that, given the clear instruction to exclude the basic allowance for housing from gross income and the lack of guidance on what other compensation to exclude, DoD would choose a narrow definition of gross pay and only include basic pay. (CBO, 2019, p. 5)

Given the definition of gross income as basic pay, CBO estimated an average allowance of \$400 each month, which would cost over \$175 million over the 2021–2024 period (CBO, 2019). CBO then stated that if DoD used a broader definition of gross income, the cost of the allowance would be lower because few service members would qualify.

In defining a member's gross income, we broadly follow the guidelines for defining income eligibility under SNAP. The exception is the treatment of BAH. Although SNAP includes BAH, Congress directed analysis both including and excluding BAH. With few exceptions, all cash military compensation is included in the income definition for determining SNAP eligibility, and we follow that guideline with one exception: the treatment of bonuses (such as reenlistment bonuses). Under SNAP, a bonus is included in the income definition if it is paid out in regular installments but is excluded if it is paid as a lump sum (Golfin, Kambic, and Horvath, 2020). Whether it is paid as a lump sum is driven by the bonus policy of each service. We lack data on whether bonuses that members received were paid in installments, so we exclude bonuses from the definition of a member's gross income for the purpose of eligibility for the BNA. Thus, our definition of a member's income includes basic pay, allowances, and special pays. It excludes bonuses—and the tax advantage associated with receiving allowances, such as BAH, tax-free.

¹ Both House versions included other details, such as the requirements that (1) an eligible member would receive the allowance for 12 months and (2) an eligible member may elect not to receive the allowance. Section 602 of H.R. 6395 of NDAA 2021 also required that a member must complete initial entry training to be eligible.

Handling BAS

One aspect of the congressional directive that was left open was the treatment of the BAS. BAS is a monthly food allowance to cover the cost of a member's meals. BAS rates differ for officers and enlisted personnel, but they do not vary by pay grade or presence of dependents. The enlisted BAS rate is linked to the monthly cost of a "liberal" food plan for males ages 20–50, as defined by the USDA. BAS rates in 2021 were \$386.50 for enlisted personnel and \$266.18 per month for officers. SNAP considers BAS as income for determining benefit eligibility.

The issue for our analysis is that the military pay data we use indicate that some members do not receive BAS—and, specifically, the full BAS rate. This could occur if they are getting food "in kind." For example, single enlisted members who typically reside in military barracks will receive a meal card for use at on-base facilities. Similarly, members who are in the field and fed by their unit do not receive BAS.² Thus, the intention of BAS is to reduce the cost of a member's meals, but not the meals of family members.

For our main analysis, we impute BAS using a member's enlisted or officer status for those who do not receive it. The implicit assumption is that the value of the food provided in-kind by the military equals the member's corresponding BAS. This approach recognizes that members who do not receive BAS are provided food, a benefit that has some value and contributes to food security for the member. Under this approach, BAS or imputed BAS is considered income for determining the BNA eligibility.

Because we recognize that other approaches are possible for handling BAS for those who do not receive it, we also conducted two sensitivity analyses in which we varied how we handled BAS:

- We assumed that BNA eligibility would require receipt of BAS. That is, we excluded from eligibility members not receiving BAS. This is the same criterion used for eligibility for FSSA; members must receive BAS to be eligible for FSSA.
- We assumed that BNA eligibility would not require receipt of BAS, and we did not impute BAS for those not receiving it. This assumption is consistent with how income is defined for SNAP eligibility; BAS is included for those who receive it and excluded for those who do not.

Data and Assumptions

For this analysis, we used DMDC data on all active duty personnel in the months of September from 2015 through 2020. To create the analysis file, we merged variables from three data sources: the active duty master file, the active pay file, and DEERS. We limit the analysis to

² In the data we use to analyze the BNA, over 95 percent of those who did not receive BAH were in the grades of E-1 to E-3.

personnel with duty assignments in the 50 U.S. states and the District of Columbia—that is, we exclude overseas personnel and those assigned to U.S. territories. We also exclude members who served only a partial month in September in these years because they either are recent accessions or separated during the month.

To respond to elements 7A–7E, we used this analysis file to compute descriptive statistics, such as the mean and median (average) amount of the allowance (that is, 7C) and the average number of members who would be eligible for the allowance (element 7B). To compute annual amounts, such as the maximum annual gross household income (element 7A), we multiplied the average monthly income across Septembers in FYs 2015–2020 by 12. To compute annual cost (element 7D), we multiplied the average number of eligible members by the average annual allowance. Finally, to identify particular geographic locations (element 7E), we used the installation and state of the members’ duty assignment and ranked installations and states in terms of those with the largest number of members who would be eligible for the BNA.

For the purposes of defining BNA eligibility, we made other assumptions with respect to how income is computed:

- Household income includes only the member’s income; that is, spouse income is ignored.
- Household size equals the number of dependents indicated in DEERS plus the service member.
- Federal assistance—such as SNAP, the earned income tax credit, and the federal Child Tax Credit—were excluded from consideration of income for BNA eligibility.

The first assumption means that we will understate household income for households with an employed spouse. The implication is that our tabulations of BNA eligibility will overstate eligibility because some households that would qualify based on our income metric would not do so if spouse income were included. The second assumption means that we will exclude people in the household who are not considered dependents from the standpoint of access to military benefits, particularly health care. The implication is that our tabulations of BNA eligibility will understate eligibility to the extent that military households include individuals not included in DEERS. The third assumption is consistent with how SNAP treats the Child Tax Credit and other forms of assistance.

Summary of Cases We Consider

Because income can be defined in alternative ways for the purposes of determining eligibility for the BNA, we show results for an array of alternative cases. Specifically, we consider two cases in our main analysis and then conduct sensitivity analyses and show results for these other cases. The alternative cases vary how BAS is treated and whether members without dependents are excluded. Because FSSA requires that members have dependents whereas

SNAP does not, we consider alternative cases in which the BNA also requires the presence of dependents.

The cases we considered are summarized in Table 7.1. The main cases are 1a and 2a, using the definitions of income described in the previous subsection. As noted, in both these cases, the analysis includes members who do not receive BAS and imputes BAS for these members. Furthermore, cases 1a and 2a allow members who are single without dependents to be eligible for the BNA, similar to SNAP. Cases 1a and 2a differ in terms of how BAH is treated: Consistent with the congressional directive, BAH is included in the income definition for those who receive it under case 1a but is excluded for those who receive it under case 2a.

Cases 1b and 2b differ from 1a and 2a because they exclude members who do not receive BAS, similar to how BAS is treated under FSSA. That is, members without BAS would not be considered eligible for the BNA under these cases. Under cases 1c and 2c, members without BAS are included for determining eligibility, but, unlike cases 1a and 2a, we do not impute BAS for those who do not receive it. This is similar to how SNAP treats those without BAS. Case 1d treats BAS the same as case 1a, but it both includes BAH in the income definition for those who receive it and imputes BAH for those who do not. For example, a member may live on post and not receive BAH. Because on-base housing has a positive value, this alternative imputes the BAH that the member would have received—given their grade, dependent status, and location—had they been off post. This approach is similar to how FSSA treats those who do not receive BAH—it imputes BAH. Because this case includes BAH in the income defi-

TABLE 7.1
Cases We Consider

Case	BAH Included in Income Definition?	Include Members Who Do Not Receive BAS?	Impute BAS for Those Who Do Not Receive It?	Exclude Members Without Dependents?
Gross income includes BAH				
1a	Yes	Yes	Yes	No
1b	Yes	No	N/A	No
1c	Yes	Yes	No	No
1d	Yes, and impute BAH if not received	Yes	Yes	No
1e	Yes	Yes	Yes	Yes
Gross income excludes BAH				
2a	No	Yes	Yes	No
2b	No	No	N/A	No
2c	No	Yes	No	No
2d	N/A	N/A	N/A	N/A
2e	No	Yes	Yes	Yes

NOTE: N/A = not applicable.

dition, it is not relevant for consideration when BAH is excluded; that is, there is no case 2d because it is not defined. Finally, cases 1e and 2e are the same as cases 1a and 2a, except that members without dependents are excluded from eligibility for the BNA.

Main Results on Elements 7A–7E

This section shows results for cases 1a and 2a for elements 7A through 7E as requested by Congress. Results for element 7F are discussed later in the chapter.

Figure 7.1 shows the maximum gross monthly income that would make a member eligible for the allowance, as required by element 7A, under cases 1a and 2a. When BAH is included in the income definition, the maximum monthly amount is \$8,400, compared with \$8,600 when BAH is excluded from the definition. On an annualized basis, these figures translate to \$100,800 and \$103,200, respectively, or over \$100,000 per year. Members with six-figure incomes must have a significant number of dependents to qualify for the BNA. As we show later in this chapter, we find that members who would qualify for the BNA have over five people in their households on average. Although the congressional directive did not require information on the average income of members who would qualify for the BNA, we calculated that under case 1a, the median monthly income would be \$3,153, or \$37,800 annually; it would be \$2,750 under case 2a, or \$33,000 annually.³

The number of members who would qualify for the BNA (element 7B) depends on whether BAH is excluded from the definition of income for the purposes of qualifying for the allow-

FIGURE 7.1
Maximum Gross Monthly Compensation That Would Make a Member Eligible for the BNA, 2020 Dollars (element 7A)



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

³ The mean monthly income would be \$3,126 and \$2,876 under cases 1a and 2a, respectively.

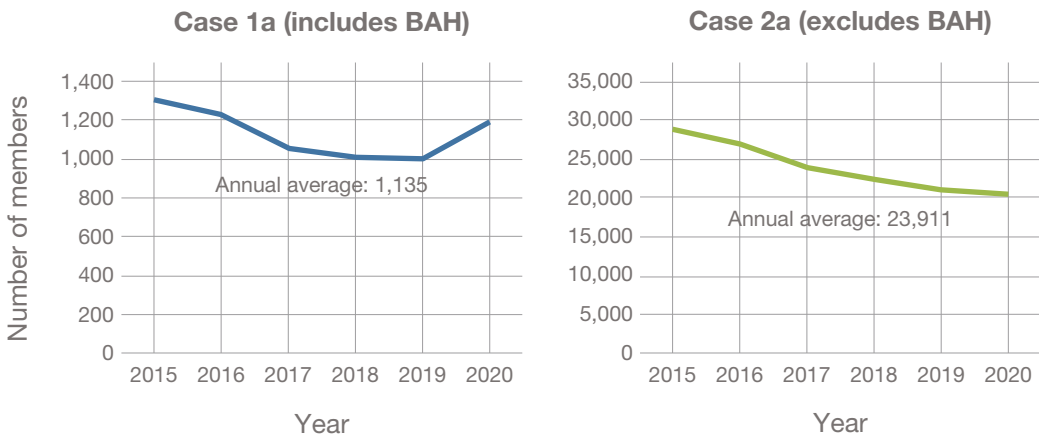
ance. Under the definition including BAH, an average of 1,135 members would have qualified over the period from 2015 to 2020 (left panel of Figure 7.2). Under the definition excluding BAH, the average is much higher: 23,911 over the same period (right panel). The number is higher because members who would have been disqualified because their income was too high when BAH is included in the income definition are qualified when BAH is excluded.

Figure 7.2 also provides estimates of the number of members that would qualify by year, as well as the annual average. We find that the number who would qualify each year declines over time, except for the increase in 2020 shown in the left panel. In general, the number who would qualify declined over time because the federal poverty threshold grew at a slower rate each year than the growth in military basic pay over the 2015–2020 period.

Using the 2015–2020 data, we also computed the optimal amount of the allowance in 2020 dollars for each member who would qualify for the allowance and computed the average (element 7C). The optimal monthly amount is the amount that would bring an eligible member’s monthly income to 130 percent of the federal poverty line given the member’s household size and location. Table 7.2 shows the results for cases 1a and 2a, where the average is computed as the mean optimal amount and as the median optimal amount. Including BAH in the income definition, the mean optimal monthly allowance would be \$419, and it would be \$401 if BAH were excluded from the definition. Surprisingly, the amount is lower, not higher, when BAH is excluded, meaning the difference between income and 130 percent of the FPL is lower when BAH is excluded.

An examination of the average household size of those who would qualify when BAH is excluded shows that the average household size is smaller when BAH is excluded versus included, as shown in Table 7.3 (5.2 versus 5.8, respectively). This means that those who qualify for the BNA when BAH is excluded will have higher income on average, implying that the

FIGURE 7.2
Number of Active Duty Members Qualifying for the BNA by Year (element 7B)



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

TABLE 7.2**Average Optimal Monthly Amount of the BNA, 2020 Dollars (element 7C)**

Case	Average Defined by Mean	Average Defined by Median
1a (include BAH)	\$419	\$292
2a (exclude BAH)	\$401	\$315

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 FPL, 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.

average BNA is lower. Conversely, it also means that those who qualify for the BNA when BAH is included would have lower income. Consistent with this observation that average income will be higher for those qualifying for the BNA when BAH is excluded, Table 7.3 shows that 65.5 percent of eligible members would be in grades E-4 to E-6 when BAH is excluded compared with 46.3 percent when BAH is included. That is, members in higher grades would be more likely to qualify for the BNA when BAH is excluded.

We also consider the optimal median allowance in Table 7.2. We find an optimal average amount that is smaller using the median than when we use the mean. The optimal median allowance is \$292 when BAH is included in the income definition, compared with \$315 when BAH is excluded. The mean amounts exceed the medians in both cases because, unlike the median, the mean is influenced by outlier cases. In particular, the mean is increased by the relatively small number of members with a large optimal amount because they have unusually large households.

Element 7D of the congressional list required an estimate of the predicted annual cost to DoD of providing the BNA. We show these estimates in Table 7.4, in thousands of 2020 dollars. These figures are computed using the average annual number of eligible active duty members, shown in Figure 7.2, and the average optimal monthly amounts (multiplied by 12 months) shown in Table 7.2. If BAH is included in the income definition, the predicted annual cost ranges from \$4.0 million to \$5.7 million (depending on the use of the median versus the mean optimal amount). In contrast, the range is \$90.3 million to \$115.1 million if BAH is excluded in the definition. The cost is higher when BAH is excluded because far more members would qualify for the BNA.

We considered whether particular geographic locations would include large numbers of members eligible for the allowance (element 7E) in two ways. First, we tabulated the geographic distribution of eligible members by duty installation, conditional on being in the 50 states and the District of Columbia. We then tabulated the distribution of eligible members by state. Some locations may have disproportionate numbers of members because of geographic differences in the grades and YOSs of members in a given location (affecting the level of basic pay), family size, occupation distribution (affecting eligibility for special and incentive pays that tend to be occupation-specific), and BAH rates. As described in earlier chapters, BAH rates differ by location and whether the member has dependents. They are set according to a housing survey conducted for DoD examining the rental rates for different housing types in

TABLE 7.3

Characteristics of Active Duty Members Who Would Be Eligible for the BNA and of All Active Duty Members

Case	Average Household Size	Percentage in Grades E1–E3	Percentage in Grades E4–E6	Percentage Army	Percentage Navy	Percentage Air Force	Percentage Marine Corps
All active duty members	2.4	23.4%	50.3%	36.9%	21.3%	25.1%	13.3%
Eligible for BNA when gross income							
1a (includes BAH)	5.8	52.1%	46.4%	70.4%	7.4%	11.1%	6.9%
2a (excludes BAH)	5.2	32.8%	65.5%	63.6%	14.0%	14.7%	6.1%

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

TABLE 7.4
Predicted Annual Cost to DoD of Providing the BNA, in Thousands of 2020 Dollars (element 7D)

Case	Average Defined by Mean	Average Defined by Median
1a (includes BAH)	\$5,711	\$3,972
2a (excludes BAH)	\$115,076	\$90,327

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

NOTE: The predicted annual cost equals the average annual number of eligible active duty members (shown in Figure 7.2) x 12 x the average optimal monthly amount (shown in Table 7.2).

places where military members typically live within a predefined MHA. An MHA will typically be a city or installation; for example, Phoenix and San Antonio are each an MHA, as is Fort Rucker, Alabama.

We conducted the analysis both ways because a given geographic region could include multiple installations. For example, the San Diego region includes the San Diego Naval Station, Marine Corps Air Station (MCAS) Miramar, the Marine Corps Recruit Depot San Diego, and Marine Corps Camp Pendleton. To cut down on the number of regions, we focused on states. Table 7.5 shows the top ten duty installations; Table 7.6 shows the top ten states.

We find that, when the income definition includes BAH, the top ten installations are in the Army, with Fort Hood taking the top spot, accounting for 9.9 percent of eligible members. Fort Hood is also in the top spot when the income definition excludes BAH, and the

TABLE 7.5
Percentage of Members Who Would Qualify for the BNA in the Top Ten Installations (element 7E)

1a. Gross Income Includes BAH		2a. Gross Income Excludes BAH	
Duty Location	Percentage of All Members Eligible for BNA	Duty Location	Percentage of All Members Eligible for BNA
Fort Hood (TX)	9.9	Fort Hood (TX)	7.3
Fort Bliss (TX)	5.2	Fort Bragg (NC)	4.5
Fort Bragg (NC)	5.2	Fort Campbell (KY)	5.1
Fort Riley (KS)	4.3	Fort Lewis (WA)	5.1
Fort Campbell (KY)	3.8	Fort Bliss (TX)	4.9
Fort Sill (OK)	3.7	Fort Carson (CO)	4.6
Fort Leonard Wood (MO)	3.5	Fort Stewart (GA)	4.3
Fort Carson (CO)	3.1	Fort Riley (KS)	3.2
Fort Benning (GA)	2.9	Fort Drum (NY)	2.6
Fort Stewart (GA)	2.9	Norfolk Naval Base (VA)	2.6

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

TABLE 7.6
Percentage of Members Who Would Qualify for the BNA in the
Top Ten States (element 7E)

1a. Gross Income Includes BAH		2a. Gross Income Excludes BAH	
State	Percentage of All Members Eligible for BNA	State	Percentage of All Members Eligible for BNA
Texas	20.0	Texas	15.8
North Carolina	8.5	Georgia	8.5
Georgia	8.2	Virginia	8.4
California	6.9	North Carolina	8.4
Virginia	6.0	California	8.0
Kansas	5.7	Washington	6.4
Kentucky	4.8	Kentucky	5.4
Oklahoma	4.3	Colorado	5.0
Missouri	4.2	Kansas	3.5
Colorado	4.0	Florida	3.1

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

Army accounts for nine of the top ten installations. The tenth installation is Norfolk Naval Base. More generally, as shown in Table 7.3, only 36.9 percent of active duty members in our data are in the Army, but 70.4 percent and 63.6 percent of those who would be eligible for the allowance when BAH is included and excluded, respectively, are in the Army. The table shows that the eligible members in the other services would be underrepresented relative to their overall shares in the active duty force. For example, the Navy accounts for 21.3 percent of the active duty force in our data but only 7.4 percent and 14.0 percent of eligible members when BAH is included and excluded, respectively, from the income definition.

In terms of the top ten states with the highest share of members eligible for the BNA, Texas takes the top spot. The other states are primarily in areas that the U.S. Census Bureau designates as being in the South (Georgia, Florida, Kentucky, North Carolina, Oklahoma, and Virginia) and, to a lesser extent, in the West (California, Colorado, and Washington) and the lower Midwest (Kansas and Missouri). None of the Northeast states are among the top ten, regardless of whether the income definition includes BAH.

Sensitivity Analyses

Because income can be defined in alternative ways for the purposes of determining eligibility for the BNA, we show results for the alternative cases listed in Table 7.1, specifically

cases 1b–1e and 2b–2e (although case 2d is not relevant and is not considered). Table 7.7 shows results for these cases and for cases 1a and 2a, as comparison for elements 7A–7D.

The first takeaway from the sensitivity analysis is that the differences and similarities in results between cases 1a and 2a that we observed in the main analysis continue to hold for the other case comparisons, such as 1b versus 2b, 1c versus 2c, and so forth. As with cases 1a and 2a, the maximum gross income eligible for the allowance (element 7A) would range from \$8,400 to \$8,600, or over \$100,000 annually. The number of members who would be eligible for the allowance (element 7B) would exceed 23,000 when BAH is excluded from the income definitions in cases 2a–2e but would be far smaller in cases 1a–1e when BAH is included—as few as 631 members in case 2d.

As with cases 1a and 2a, the median optimal allowance (element 7C) is less than the mean, typically around \$300 when BAH is excluded from the income definition in cases 2a–2e and around \$275 per month when BAH is included in cases 1a–1e. The mean is typically around \$400 per month in all cases, regardless of whether BAH is included in the income definition. Also similar to the difference between cases 1a and 2a, the annual cost to DoD of the BNA (element 7D) is estimated to be much larger when BAH is excluded from the income definition, over \$110 million in 2020 dollars in cases 2a–2e, compared with a cost of less than \$8 million when BAH is included in the definition.

Although the sensitivity analysis shows qualitatively similar results when we compare cases that include BAH with those that exclude BAH from the income definition, we observe some notable differences within the 1a–1e group. Consider first the cases in which we include BAH in the income definition (cases 1a–1e). In case 1d, we impute BAS and BAH for members who do not receive it (and include BAH in the income definition when they do receive it). Imputing BAH for those who do not receive it is similar to how the FSSA program defines income eligibility. We find that far fewer members would qualify for the allowance (631 versus 1,135 in case 1a) and the average household size would be much larger, 7.4 versus 5.8, with fewer members in the grades of E-1–E-3.

In contrast, under case 1c, we do not impute BAS or BAH for members who do not receive them, although we continue to include both for those who do. We find that more members would qualify (1,563 versus 1,113) and the average household size would be smaller: 4.7. Because members who do not receive BAH are typically junior enlisted who live in barracks or members in the field, members who qualify for the allowance under case 1c are more likely to be junior and single. Table 7.7 shows that 64.3 percent of eligible members under case 1c would be junior enlisted. These patterns are similar with those observed for 2c.

TABLE 7.7
Summary of Sensitivity Analyses Results

Case	7a. Maximum Monthly Gross Income	7b. Annual Average Number of Eligible Members	7c. Median (mean) Monthly Allowance (2020 dollars)	7d. Estimated Annual Cost in 2020 Dollars (assume mean)	Average Household Size	Percentage E-1–E-3	Percentage Army
Gross income includes BAH							
1a Imputes BAS	\$8,400	1,135	\$292 (\$419)	\$5.7 million	5.8	52.1%	70%
1b Excludes those without BAS	\$8,400	897	\$272 (\$396)	\$4.7 million	6.1	45.8%	72%
1c Includes those without BAS, but no imputation	\$8,400	1,563	\$242 (\$387)	\$7.3 million	4.7	64.3%	74%
1d Imputes BAS and BAH	\$8,400	631	\$266 (\$409)	\$3.1 million	7.4	36.8%	80%
1e Imputes BAS, excludes those without dependents	\$8,400	1,071	\$286 (\$416)	\$5.3 million	6.1	50.0%	73%
Gross income excludes BAH							
2a Imputes BAS	\$8,600	23,911	\$315 (\$401)	\$115.1 million	5.2	32.8%	64%
2b Excludes those without BAS	\$8,600	23,148	\$305 (\$398)	\$110.5 million	5.3	30.9%	63%
2c Includes those without BAS, but no imputation	\$8,600	24,895	\$305 (\$405)	\$121.0 million	5.1	35.2%	64%
2d N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2e Imputes BAS, excludes those without dependents	\$8,600	23,838	\$315 (\$401)	\$114.7 million	5.2	32.7%	64%

Effects on Recruiting and Retention (Element 7F)

Past research shows that enlistment of high-quality recruits and the retention of personnel are associated with increases in military pay and bonuses.⁴ For example, using data from FYs 2000–2008, Asch et al. (2010) estimated that if the level of military pay increased by 10 percent relative to civilian wage opportunities, Army enlistment of high-quality youth would increase by 11.5 percent. Simulations from estimated dynamic retention models for military personnel show that retention is responsive to changes in military compensation (for example, see Asch et al., 2008; Mattock, Asch, and Hosek, 2014; and Asch, Hosek, and Mattock, 2014).

Although the BNA would represent an increase in cash income for service members, there are several reasons why we might expect any associated improvement in recruitment and retention to be smaller than the effects of an increase in military pay or bonuses estimated by past studies. First, increases in military pay persist over time; an increase in military pay in one year raises the base pay used in following years when future pay raises are applied. In contrast, the BNA would not be paid regularly; it would extend only for 12 months if the member were found eligible. Second, increases in military pay affect other elements of compensation, magnifying the recruitment and retention effects of increases in pay. For example, under the Blended Retirement System, DoD contributions to the Thrift Savings Plan on behalf of members are a multiple of basic pay. As basic pay increases, so do the contributions. Similarly, under the part of the military retirement system that is defined by a formula, retired pay is a multiple of basic pay, and the retirement annuity for those who qualify for these benefits increases as basic pay increases. That would not be the case with the BNA. Third, although the actual amount of the annual military pay raises is not predictable, members can generally anticipate that they will receive a raise.⁵ A member will not be able to anticipate whether they will be eligible for the BNA until DFAS determines eligibility, although members with unusually large households will likely expect eligibility. The BNA would also differ from enlistment and reenlistment bonuses. Bonuses are typically either paid as a lump sum to eligible members or paid partially up front as a lump sum with the remaining amount paid as future anniversary payments. Bonuses typically require a service obligation. Past research shows that the service obligation feature of bonuses increases the retention effects of bonuses if they are accompanied by a higher bonus amount (Mattock et al., 2016). In contrast, the BNA would not require a service obligation, so the retention effects would be more muted.

Because the BNA does not exist, there is no source of data or evidence that can be brought to bear on how the allowance would affect recruiting, retention, and members' morale.

⁴ A review of recent literature on the relationship between military recruiting and retention and military compensation can be found in Asch (2019).

⁵ According to the *Military Compensation Background Papers* report (Office of the Under Secretary of Defense for Personnel and Readiness, 2018), military personnel have received an annual basic pay increase in every year since the beginning of the all-volunteer force in 1973, except in 1979, 1980, and 1983. For recent pay raises, see Congressional Research Service (2021).

Analysis of FSSA might inform the question of how the BNA would affect those things, but such analysis has focused to date on usage of FSSA and not its force management effects (MCRMC, 2015). If and when the BNA is created, future research should assess its impact on force management and morale.

Summary

We estimate that approximately 1,100 members would be eligible for the BNA annually if BAH were included in the income definition for eligibility, and approximately 24,000 would be eligible if the BAH were excluded. Our definition of income includes only the member's income, meaning basic pay, allowances (except where BAH is excluded), and special pays. We excluded bonuses. The optimal mean allowance would be \$415; the optimal median would be about \$300. The mean is higher because of the influence of outliers affecting the computation of the mean but not the median. The outliers represent the relatively few members who have unusually large families and thus would qualify for a large BNA. The computation of the annual costs depends on whether the mean or median determines the BNA and whether BAH is included or excluded from the income definition. If the mean is used (that is, the \$415 per month figure), the annual cost ranges from \$5.7 million to \$115.1 million when BAH is included or excluded, respectively, in the income definition. We estimate that the maximum monthly income that would qualify for the BNA would be about \$8,500 (or \$102,000 over 12 months), although the average monthly income of those who would qualify would be around \$3,000 (or about \$36,000 annually). The maximum is much higher than the average income among those who would qualify because members in the former group have unusually large households among those who would qualify. We also find that BNA eligibility would be concentrated among Army installations and in the states of Texas, North Carolina, California, Georgia, and Virginia. We conducted sensitivity analyses to consider how the results would change under alternative definitions of income for the purposes of BNA eligibility. The analyses showed qualitatively similar results when we compared cases that include BAH in the income definition with those that exclude it.

Because we have no data on how a BNA would affect recruiting and retention, we turned to past studies; these indicate that increases in military pay relative to civilian pay improve recruiting and retention, but there are several reasons why this literature may not be appropriate to apply to the BNA. One important reason is that military pay increases persist over time while the BNA would not be paid regularly. If and when the BNA is created, future research should assess its impact on force management and morale using actual data on the BNA and outcomes.

Summary of Findings and Areas of Future Research

The previous chapters summarized results in the context of the different methodologies we used. This chapter brings information from these different analyses to address each element of the congressional directive, listed in Figure 1.1. We conclude with a discussion of areas requiring additional data and analysis.

Element 1: Assessment of Current Extent of Food Insecurity

Using the 2018 SOFS-A data, we find that 25.8 percent of Army, Navy, Marine Corps, Air Force, and Coast Guard personnel were food insecure. Members are classified as food insecure if they answer affirmatively to two or more of the six food insecurity questions on the USDA short-form questionnaire (Economic Research Service, 2012).

The responses to the 2018 SOFS-A, as well as the 2016 SOFS-A, suggest that members who are food insecure are heterogeneous in their extent of food insecurity. We found that 11.7 percent of members overall (or 45 percent of the 25.8 percent who reported being food insecure) in the 2018 survey answered only two or three of the six questions in the affirmative, indicating a lower level of food insecurity among a significant fraction of the food insecure group. On the other hand, the remaining 55 percent of those who reported being food insecure answered four to six questions affirmatively, indicating a higher level of food insecurity. Unlike the 2018 survey, which followed the USDA approach for defining food insecurity, the 2016 SOFS-A asked only four questions but permitted more-granulated response categories. For example, unlike the 2018 survey, members could answer “almost never” to questions related to food insecurity. We find that 40 percent of those categorized as food insecure in the 2016 survey are in this “almost never” category, indicating a lower level of food insecurity; the remaining 60 percent responded “sometimes,” “often,” or “very often.” Although most of the stakeholders saw food insecurity as a problem among active duty members, there was wide disagreement regarding the extent of the problem, with some installation representatives saying it was a long-standing pervasive problem and others saying it was rare.

Food insecure members are disproportionately represented in lower ranks: 21 percent are in pay grades E-1–E-3, compared with 14 percent of food secure members. That said, most

food insecure members were early- to midcareer enlisted personnel, with pay grades between E-4 and E-6 representing 67 percent of food insecure members. The higher share of E-4s to E-6s could be attributable to the fact that, across the active force, more personnel are in the grades of E-4 to E-6 than in the grades of E-1 to E-3. That said, the preponderance of midcareer enlisted personnel among the food insecure members contrasts with information gathered from the stakeholder discussions. Stakeholders often mentioned that food insecure members were most likely to be junior enlisted members with large families—a pattern not borne out in the survey data. Some noted that most junior enlisted had not lived on their own before and had limited knowledge of how to manage a household. Others mentioned that some junior members married into “ready-made” families with children and were not prepared for the expenses associated with a large family. It is possible that stakeholders at installations primarily interacted with members applying for food assistance, explaining the difference between the stakeholders’ statements and the survey findings. The Thirteenth QRMC found that SNAP users were most likely to be junior enlisted members with large families, but SNAP usage does not measure the extent of food insecurity among military members because not all members may qualify for SNAP and members may have different propensities to seek SNAP benefits. The tabulations from the SOFS-A also indicated that the average number of dependents is not statistically different between food insecure members and food secure members. This suggests that members with larger families may be more likely to qualify for food assistance, but food insecurity also occurs in smaller families. Food insecure members were also more likely to report being single with children or married without children than food secure members. We also find that food insecure members are more likely to be a minority race or ethnicity. Food insecure members are disproportionately in the Army and, to a lesser extent, the Navy. They are less likely to be in the Air Force.

Elements 1A–1C: Use of Food Assistance, School Meal Programs, and Food Banks

We find that usage of key food assistance programs by food insecure members of the military is relatively low. Only 14 percent of those classified as food insecure in 2018 used food assistance in the form of WIC, food banks, SNAP, or FSSA. Compared with SNAP and FSSA, WIC and food pantries are the more commonly used food assistance programs for active duty members. Among the food insecure members in the 2018 SOFS-A, 9 percent had used WIC (or 24 percent among those who also had children ages 5 and below) and 6 percent had used a food bank in the past 12 months, compared with 1.8 percent for SNAP and 0.6 percent of overseas members for FSSA. We also find food assistance usage among those classified as food secure, although to a lesser extent. For example, 4 percent of those classified as food secure in the 2018 SOFS-A reported using WIC in the past 12 months while 1 percent reported using a food bank in the same period. With respect to SNAP, we found that few (6 percent) reported having ever applied for SNAP while on active duty; only 33 percent of those applications were accepted; and, among those members whose

applications were accepted, only 7 percent reported currently receiving SNAP. The most common reason that respondents reported no longer receiving SNAP was that their household income increased. Overall, 14 percent of those classified as food insecure used food assistance in the form of WIC, food banks, SNAP, or FSSA. In short, many respondents who were food insecure did not make use of food assistance programs.

The findings of the survey accorded with what we heard from stakeholders. Most reported that food pantries and WIC were well used; SNAP and FSSA were not as well used. As will be discussed under element 2, stakeholders discussed barriers to participation in food assistance programs while noting that use of food pantries or other food assistance programs was not always an indicator of food insecurity. That is, they drew a distinction between experiencing food insecurity and accessing food assistance.

To investigate eligibility for FRPL programs among military children, we made use of multiple data sources, notably information from NCES and DoDEA. We found that schools near military bases had a lower share of students eligible for FRPL than schools in general in all but six states: Arizona, Arkansas, Connecticut, Idaho, Kentucky, and Montana. Across all states, the average share of children eligible for FRPL in schools near military bases (excluding DoDEA schools) is 9.0 percent. In contrast, we found that FRPL eligibility is higher in DoDEA schools on installations than it is in schools near military installations. Including DoDEA schools, we estimate that the rate of eligibility for FRPL in public schools near military installations and in DoDEA schools is 10.0 percent nationwide, compared with a 9.8-percent eligibility rate for all schools. We note that our analysis of FRPL among military children has several limitations, so the results should be interpreted with caution. Importantly, we do not directly observe the schools attended by military children, only schools on or near military bases; we are missing data for five states; and the data provide information on eligibility rates rather than participation in FRPL programs.

Element 2: Description and Assessment of Barriers

Stakeholders noted that stigma—social, career, or both—was a barrier to accessing food assistance, including SNAP. Stakeholders reported that members are concerned that seeking help for food insecurity or for general financial problems would negatively affect their military career. Respondents also commented that the military culture of self-sufficiency and pride has kept members from seeking help for food or financial insecurity. Another barrier to accessing resources cited by respondents is a lack of knowledge of the resources available to help members and their families with financial problems and food insecurity or a lack of knowledge of the eligibility requirements for these support resources. A few respondents also noted that the more difficult these supports were to access (such as through a long or arduous application process), the less likely members and their families were to access the support and the more likely they were to instead seek assistance through other means that could leave them in debt. Some stakeholders noted that pantries have limited access because of restrictions on frequency of use and/or limited days or times when they are open. With respect to

SNAP, many stakeholders mentioned that the inclusion of BAH in the definition of household income for SNAP eligibility was a barrier to participation, and respondents noted that they have encountered few, if any, members who were eligible for SNAP.

Judging from our stakeholder discussions, it is difficult to assess how much each of these barriers affects members' access to food or financial resources, and the literature on barriers to seeking assistance for food or financial insecurity among service members is very limited. The rate at which members take up benefits from WIC, which does not include BAH as household income, was cited by some stakeholders as evidence that members with families need food assistance and are willing to enroll in food assistance programs when eligible. But respondents also said that WIC is easy to access, with WIC offices sometimes located on military installations. Furthermore, stakeholders said that members are encouraged to apply for WIC after having a child because it is viewed as being easier to qualify for than SNAP. That is, WIC and SNAP are not offered in an equivalent way to service members. Consequently, it is unclear whether the higher take-up rate of WIC versus SNAP stems from ease of access and encouragement or from the exclusion of BAH in the eligibility criteria. More research is needed to assess the extent to which WIC and SNAP affect access to food and the extent to which ease of access and encouragement versus eligibility criteria affect access.

Finally, some stakeholders also mentioned that members were concerned that seeking help for food insecurity or for general financial problems would negatively affect their continued access to a security clearance, affecting readiness. In the 2018 SOFS-A data, we found that food insecure members were more likely to report having their security clearance affected by their financial situation relative to food secure members, but the shares were quite small: 1.8 percent versus 0.9 percent. One stakeholder mentioned that hiding financial difficulties was a greater threat to keeping a security clearance than not having financial problems per se.

Elements 3 and 4: Description of Number of Members Using FSSA and Cost and Effectiveness of FSSA

As discussed in Chapter Five, members stationed overseas were less likely to be food insecure in the 2018 SOFS-A: 23 percent versus 26 percent for those stationed in the United States. Because of a lack of data, we were unable to estimate a causal model of the effects of FSSA on food insecurity among members stationed overseas, so we are unable to provide a quantitative assessment of the effectiveness of FSSA in reducing food insecurity.¹ Instead, we examined indicators of program usage by considering the number of members using FSSA (element 3 of the congressional directive), survey results regarding usage rates, and insights from

¹ Causal estimates require data from either (1) a randomized control trial in which members are randomly assigned to a control cell or an FSSA cell or (2) a natural experiment in which the FSSA program is varied in a way that is exogenous or external to members' choices regarding FSSA usage. We lacked such data.

the stakeholder discussions. These indicators do not measure effectiveness, but they do provide a picture of how the program is working.

Across the Army, Navy, Air Force, and Marine Corps and across the five-year period of FYs 2015–2019, a total of 92 members used FSSA. This figure does not necessarily represent 92 different members—a single member could have used FSSA in multiple years. The total cost across the five years was \$247,456 in then-year (nominal) dollars. Furthermore, only 0.6 percent of those stationed overseas who were food insecure used FSSA; in contrast, 3.0 percent used a food bank. Thus, it appears that barely any food insecure members overseas are accessing food assistance programs, including FSSA. As noted in Chapter Three, the MCRMC provided an assessment in 2015 of the FSSA, before it was restricted to overseas members in 2016, and found that few members used FSSA. The MCRMC concluded that FSSA was duplicative (and, in many cases, less generous than SNAP) and potentially created social and career stigma because members could be required to work within their chain of command when they applied for benefits. We queried stakeholders regarding the use of FSSA and obstacles that prevent members from using it. The stakeholders at local installations were less familiar with FSSA, but those stakeholders, along with the national stakeholders who responded to our query, reiterated the understanding that FSSA continues to have the potential to create social and career stigma given the continued need for some members to work through their chain of command.

Element 5: Description and Assessment of Participation in SNAP

Element 5A: Coordination Between DoD and the USDA

DMDC matches data from states with DoD personnel data using the PARIS matching program. PARIS is managed by the U.S. Department of Health and Human Services' Administration for Children and Families. These data represent the most authoritative source on SNAP usage by military members. Although all states are required to report Medicaid enrollment, state participation in PARIS is voluntary for SNAP. Consequently, DMDC cannot report on SNAP participation by military personnel unless states participate in PARIS. This issue affected the Thirteenth QRMC estimate of active duty members participating in SNAP, and the QRMC extrapolated SNAP participation for all active duty personnel stationed in the United States from participation in the states for which it had data. State participation increased from 33 states in August 2019 (when the Thirteenth QRMC examined SNAP participation) to 42 states in February 2021 (when our tabulations took place). Using the same approach, we estimate, given the states that reported SNAP usage in February 2021, that 0.7 percent of active duty members were enrolled in SNAP. This estimate is higher than the 0.08–0.42 percent of service members estimated by the Thirteenth QRMC as of August 2019. For better estimates, more states must participate in SNAP reporting. Because we lacked the data to address some data anomalies, we may overstate the extent of SNAP usage in the more recent data.

Element 5B: Career Stigma

As noted for element 2, stakeholders reported that members are concerned that seeking help for food insecurity or for general financial problems would negatively affect their military career. As reported by stakeholders, part of the concern was being seen by their commanders as someone who could not control their finances, and part of the concern was that financial problems might negatively affect their security clearance status. Because of eligibility restrictions, few stakeholders thought that SNAP was a viable resource for most members, so it is unclear from our stakeholder discussions whether there is a career stigma that is specific to seeking SNAP benefits. However, GAO reported that societal stigma of food assistance was cited by most of the officials they interviewed as a factor in deterring military members from applying for SNAP (GAO, 2016). This fits with our general finding that members might experience career stigma from seeking food assistance, with WIC enrollment serving as an instructive counterpoint (GAO and the study did not find evidence for career stigma associated with enrollment in WIC).

Element 5C: Adverse Consequences for Personal Financial Management

Members who are food insecure were more likely to report other issues with personal finances. Twenty-two percent of food insecure members reported that it was tough to make ends meet, compared with only 2.5 percent of food secure members. An additional 3.4 percent of food insecure members reported being in over their heads, compared with 0.6 percent of food secure members. Food insecure members were significantly more likely to experience adverse financial events, such as having personal relationship problems because of finances, paying overdraft fees, and falling behind on bills.

Food insecure members also were more likely to have recently provided unplanned financial support to family outside their immediate household, a finding that was echoed in the stakeholder discussions. Although providing financial support for family is not an adverse outcome in and of itself, the unexpected need to provide support may have created challenges for some service members' budgets.

Element 5D: Other Support Available to Meet Basic Needs

Members who are food insecure had household income sources outside their military pay. In the 2018 SOFS-A data, they were more likely to report having a second job or a spouse with a part-time job than food secure members. We also found that 25.4 percent of food insecure members borrowed money from family or friends and 15.0 percent reported taking money out of retirement and investment accounts. This pattern is consistent with stakeholder discussions, which revealed that a lack of spousal employment is often a factor in food insecurity. A high share (69 percent) of food insecure members reported having savings for emergency expenses, although they typically reported having three or fewer months' worth of savings. Only 27.8 percent of food insecure members reported that they were in a financially comfortable position.

Among the remaining 71 percent, nearly 66 percent of that number reported that their difficulties were “occasional” versus “tough” or “in over your head.” The high proportion of those with “occasional” difficulties suggests that, although some food insecure members are clearly in a tough situation, a significant fraction have less frequent problems with food.

Element 6: Assessment of Food Insecurity Among Those Who Live On Post

Using the 2018 SOFS-A, we find that 30 percent of members who reported living on post were food insecure, a higher rate than the 23 percent of members living off post who were categorized as food insecure. About three-quarters of members who live on post receive BAH. Among this group, the rate of food insecurity was higher, 32 percent, than the rate among those living off post who receive BAH, 23 percent. We did not examine why those receiving BAH and living on post have a higher rate of food insecurity than those living off post. It is possible that the grade composition or the number of dependents of those on post differs from that of those living off post; it is also possible that types of housing or other expenditures that can affect the resources available for food (such as child care or transportation) may differ. That said, this is a surprising result because we would expect those on post to have lower transportation expenses and, possibly, lower food expenses (by being closer to the commissary), implying that we would expect food insecurity among those receiving BAH to be lower for those living on post.

Among those living on post, the rate of food insecurity for those receiving BAH is also higher than the rate for those who do not receive BAH, 32 percent versus 25 percent. We did not examine why the rate is lower for those who are not BAH recipients. In addition to potential differences in grade composition and number of dependents, it is possible that those who do not receive BAH are more likely to receive SNAP, thereby reducing their food insecurity.

Some stakeholders mentioned that junior enlisted members living on post may choose to eat out too often, given their pay, and fail to use the dining facilities available to them, contributing to their food insecurity. Tabulations using the 2016 SOFS-A suggest that there is some validity to this observation; we find that junior enlisted personnel living on post who are food insecure eat fewer meals on average in the dining facilities than similar personnel who are not food insecure.

Element 7: Assessment of a BNA

We summarize our assessment of the BNA in Table 8.1 for elements 7A–7D. The table shows that the results differ markedly in some cases, depending on whether gross income includes or excludes BAH. Excluding BAH, we estimate that 23,911 active duty members would be eligible for the BNA, while including BAH leads to an estimate of 1,135 members. The results also differ if we use the mean BNA or the median; the mean is influenced by a handful of

TABLE 8.1
Summary of BNA Results, 2020 Dollars

Factors of Congressional Directive Element 7	Gross Income Includes BAH	Gross Income Excludes BAH
7a Maximum monthly gross income	\$8,400	\$8,600
7b Annual average number of eligible members	1,135	23,911
7c Median (mean) monthly allowance (2020 dollars)	\$292 (\$419)	\$315 (\$401)
7d 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 FPL, 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.

influential outliers (families with unusually large numbers of dependents), while the median is not. We estimate a monthly BNA of \$415 if the mean is used and of \$300 if the median is used. Annual costs vary from \$5.7 million if BAH is included to \$115.1 million if BAH is excluded, using the mean BNA. Although the difference in these figures is substantial, the costs in both cases would be a small fraction of the roughly \$135 billion in active duty personnel costs in FY 2020 (Office of the Under Secretary of Defense (Comptroller), 2020).

We find that the top ten installations with the highest share of BNA-eligible members are in the Army when the income definition includes BAH. Fort Hood would account for the largest share of those who would be eligible for the BNA, accounting for 9.9 percent of eligible members. Fort Hood is also in the top spot when the income definition excludes BAH. The top five states with the highest share of members eligible for the BNA are Texas, Georgia, California, North Carolina, and Virginia. Although the BNA would represent an increase in cash income for service members, there are several reasons why we might expect any associated improvement in recruitment and retention to be smaller than the effects of an increase in military pay or bonuses estimated by past studies. First, increases in military pay persist over time while the BNA would be paid only for 12 months if the member was found eligible. Second, increases in military pay affect other elements of compensation, such as retirement benefits, but that would not be the case with the BNA. Third, although the actual amount of the annual military pay raises is not predictable, members can generally anticipate that they will receive a raise. The BNA would also differ from enlistment and reenlistment bonuses because it would not require a service obligation. Because the BNA does not exist, there is no source of data or evidence that can be brought to bear on how the allowance would affect recruiting, retention, and members' morale. If and when the BNA is created, future research should assess its impact on force management and morale.

Stakeholders disagreed on how much a BNA would help food insecurity. Advocate representatives, community providers, and some installation representatives said that a BNA would help with food insecurity; OSD representatives and other installation representatives said that it would not fully solve the problem. 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 eligibility for the BNA. Although not mentioned by stakeholders, the available literature suggests that automatic notification could reduce the administrative and paperwork burden on members (Herd and Moynihan, 2019).

Element 8: Other Policies, Programs, and Activities

Although the focus of our analyses was on addressing the main elements of the congressional request, we produced findings related to root causes that could provide information relevant to the formulation of additional policies, programs, and activities. That said, these findings tend to lead to additional questions that were outside the scope of our study.

The stakeholder discussions suggested that the root causes of food insecurity among service members reflected acute or temporary issues and chronic issues. Some of the acute issues mentioned by stakeholders were loss of spouse employment and unreimbursed expenses related to a PCS move, unexpected expenses, delays in changes to BAH because of a change in location or the acquisition of dependents, and cost-of-living changes between duty locations that were not adequately reflected in geographic differences in military compensation. Another source of compensation changes can be changes in special and incentive pays; for example, when members return from deployment, they no longer receive the family separation allowance and the combat zone tax exclusion. One stakeholder mentioned that members experience more variability in pay than civilians. With respect to PCS moves, we did not find a positive association between food insecurity and ever having made a PCS move; food insecure members were less likely to report ever having had a PCS move. Chronic issues mentioned included financial mismanagement, lack of financial literacy, chronic spouse unemployment, and support of extended family.

Although more research is needed to understand the root causes of food insecurity among active duty members, our analysis indicates that food insecurity is not an isolated event; rather, it is intertwined with a number of other factors. The implication is that measures targeted at addressing food insecurity by itself might not be as effective as approaches that recognize the array of financial and other factors related to food insecurity.

Areas Requiring Additional Data and Analyses

In the process of addressing the elements of the congressional directive, the following additional questions emerged from our research for which analysis would be fruitful:

- Why is the food insecurity rate for members receiving BAH higher for those living on post than for those living off post?

- Why do food insecure members living on post eat fewer meals in the dining facilities than food secure ones? Why are some members failing to make full use of that benefit, and what can be done to encourage better usage?
- Given that 69 percent of food insecure members have savings for emergency expenses, why are these members not using those savings for food, especially when the reason for lack of food is because of acute (temporary) factors?
- Given that many of the stakeholders mentioned financial literacy and management as a factor contributing to food insecurity, to what extent do DoD's financial literacy efforts reduce food insecurity among military members, and how can those efforts be improved?
- To what extent do improvements in food assistance programs, such as WIC and SNAP, reduce food insecurity among military families?
- To what extent are financial problems and food insecurity related to unhealthy eating among military families, and, if prevalent, how does unhealthy eating affect service member readiness?
- Do changes in the pool of people being recruited and changes in service waiver policy contribute to higher food insecurity rates? Has the enlistment of older recruits resulted in more members having preexisting debt or having larger families? Are these outcomes creating higher rates of food insecurity? Has service waiver policy that allows the enlistment of members with larger families resulted in greater food insecurity rates among members?²
- Have societal changes occurred that may have contributed to food insecurity in the military? For example, are the pool of young people from which the military recruits more likely to live at home and less likely to be financially independent and financially literate? More generally, to what extent have societal trends, rather than specific circumstances related to military service, contributed to food insecurity in the military?
- What is the best way of measuring food insecurity for military personnel from the standpoint of setting policy? Recent SOFS-As use the USDA approach, thereby allowing comparisons of food insecurity of military personnel with food insecurity among the general population. But analysis of the 2016 survey, which did not use the USDA approach, indicated that a significant fraction of food insecure members are in the "almost never" category. To the extent that the reasons differ for reporting "almost never" versus "sometimes" or "often"—and to the extent that the DoD policy response would differ—DoD should investigate whether the USDA approach should be revised or additional questions should be added to the SOFS-A to measure food insecurity.

More broadly, our research suggests that more information is needed on the root causes of food insecurity and, specifically, the rank order of causes. Is it primarily because of spouse

² Although we found no study of fraudulent enlistment in terms of misrepresenting the number of dependents at entry, it is possible that a recruit could knowingly hide information regarding minor dependents and acknowledge them later. Future analysis of accessions of recruits with dependents should consider this possibility.

employment issues and/or lack of child-care options? To what extent is it because of financial management issues, and which issues, specifically? More information is also needed on the extent to which the reasons are attributable to acute issues versus chronic ones and the extent to which acute issues become chronic issues.

Another question that emerged from our research is how enlisted personnel can earn more than their civilian counterparts but still be food insecure. As we discussed in Chapter Two, the military pay of early-career enlisted personnel is at around the 90th percentile of comparable civilians. A relevant question in this context is whether food insecurity is less prevalent than among comparable civilians. According to the USDA website, 10.5 percent of U.S. households were food insecure at least some time during the year in 2020 (Coleman-Jensen et al., 2020). However, because the military population is younger and more likely to be male than the civilian population, and because the education distribution of military personnel differs from that of the civilian population, these figures are not estimates of food insecurity of civilians with similar characteristics to those of military personnel. Because these characteristics are correlated with the incidence of food insecurity, it is important that we consider the right group of civilians when comparing them with military personnel.

To address this question, we estimated the extent of food insecurity among civilians working full time with similar age, education, sex, marital status, and number of children as military personnel.³ Using the SOFS-A weights,⁴ we find that 9.0 percent of civilians with characteristics that are similar to military personnel are food insecure, compared with 25.8 percent of active duty members who are food insecure in the 2018 SOFS-A—nearly triple the amount.

³ Our computations using the CPS FSS include only households with at least one member reporting working “usually full-time (35+ hours).” This restriction reduces the CPS sample by about 33 percent and, in addition to using different weights, accounts for the differences between food insecurity among our military look-alike sample in the CPS and other estimates of food insecurity among civilians in the CPS, such as the 10.5-percent figure for 2019 from the USDA website.

We substitute the CPS sampling weights included with the CPS FSS data—which assign to individual respondents numbers that allow computation of statistics that are representative of the U.S. population—with weights we calculate using DoD administrative and survey data on active duty service members. For this analysis, we use the following criteria to develop our weighting: age (divided into the following grouped categories: 18–24, 25–29, 30–34, 35–40, 41–50, and 51+), sex, education (less than a high school degree, high school graduate or equivalent, some college or associate’s degree, bachelor’s degree, and master’s degree or higher), marital status, and number of children (no children, one child, and two or more children).

We compute the military weights using DMDC personnel data and OPA SOFS-A data. We use two sources because recent research has identified discrepancies between measures of educational attainment in military administrative data and self-reported data from service members, where the direction of the measurement error is toward the underreporting of educational attainment in the administrative data (Asch et al., 2020).

A similar methodology was used for computing RMC percentiles (discussed in Chapter Three) and for computing an index of civilian wage growth relevant to the military population (described in Asch et al. [2020]), which describes how we compute the weights and apply them to the CPS data).

⁴ Thus, civilians with similar characteristics to military personnel are more likely to be food insecure than the general civilian population (10.5 percent for 2020). The difference stems from the differences in age and education between the military-weighted population and the general one and our condition that civilians must be working full time.

The higher rate of food insecurity among military personnel is surprising, given that military members earn more than comparable civilians. A key question is why that is the case. As noted in Chapter Two, one explanation could be the lower employment and earnings of military spouses, so that household earnings of military families no longer exceed the household earnings of comparable civilians or exceed them by less. But it is unclear why this would lead to a higher rate of food insecurity. Future research should compare military household earnings with the percentiles of household earnings for comparable civilians, using administrative data sources.

Another potential explanation is that members experience more variability in their earnings because of changes in their circumstances. Such circumstances might include returning from deployment and no longer receiving the combat zone tax exclusion and other special and incentive pays. We heard from stakeholders that members experience BAH-related delays when they get married, and the 2016 SOFS-A indicated that those in the “almost never” group were likely to have experienced a deployment in the past 12 months. Although research has examined how military pay levels compare with civilian pay levels, more analysis is needed to understand the extent to which military pay varies more than civilian pay and the implications of that variability for food insecurity.

Finally, DoD should assess the ways in which its data collection might be improved to address these questions. The SOFS-As provide an excellent resource for measuring food insecurity among military members in a way that is comparable with how the USDA computes food insecurity for the general population. But, given the additional questions for which further analysis is needed, it is clear that DoD requires improved data so that targeted and effective policies and procedures can be developed to address the high degree of food insecurity among military personnel.

USDA Six-Item Short Form

Below, we reproduce the six questions of the short form. See Bickel et al. (2000) for details.

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 Refused¹

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

¹ DK = don’t know.

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

Overview of Surveys of General Population That Include Food Insecurity Questions

The National Health Interview Survey

The NHIS is a nationally representative survey assessing a wide array of health topics. Conducted annually by the National Center for Health Statistics, which is part of the U.S. Centers for Disease Control and Prevention, the NHIS has included the USDA-ERS (U.S. Department of Agriculture–Economic Research Service) ten-item measure of food insecurity since 2011 (Economic Research Service, 2021a). The target population of the NHIS is noninstitutionalized civilians in the United States.

Inclusion of Active Duty Service Member Households

Like the CPS-ASEC, the NHIS excludes active duty service members from participating, but civilians who have active duty service members living in their household can be included in the survey as long as they do not reside in on-base military housing (National Center for Health Statistics, 2020).

The American Community Survey

The ACS is an annual survey administered by the U.S. Census Bureau that provides information on employment, income, housing, and other social and economic topics at the national, state, and local levels (U.S. Census Bureau, 2021a). Although food insecurity is not assessed by the ACS, household participation rates in SNAP can be obtained from the data.

Inclusion of Active Duty Service Member Households

Unlike the CPS and NHIS, active duty service members are eligible to participate in the ACS, both as individual respondents and as members of a sampled household (U.S. Census Bureau, undated-b). Active duty service members who live in military barracks are also eligible to participate in the ACS (U.S. Census Bureau, undated-a). One limitation to the ACS for estimating SNAP use by active duty service members and their families is that the survey does

not distinguish active duty service members from those who are in the National Guard or Military Reserves and have been activated for service (for example, the ACS asks whether the respondent or household member is “now on active duty in the Armed Forces”). In addition, service members who are away from the household on deployment or temporary duty assignment for more than two months are excluded from the household information collected by the ACS (U.S. Census Bureau, undated-b).

National Health and Nutrition Examination Survey

The NHANES is a comprehensive health study that combines survey data with in-person health assessments (National Center for Health Statistics, 2017b). Like the ACS, it is fielded annually by the National Center for Health Statistics within the CDC, but the NHANES includes a battery of questions assessing nutritional intake, including the USDA-ERS scale assessing household food insecurity (available through 2016). Although the NHANES is intended to be nationally representative of the noninstitutionalized civilian U.S. population, the sample size is small compared with other national surveys, with 60 study locations across the United States and around 20,000 individuals participating in the study (Chen et al., 2020).

Inclusion of Active Duty Service Member Households

The NHANES does not exclude active duty military members from participating in the study, but survey questions do not distinguish active duty service members from those in the reserve component or the National Guard or from veterans: The survey simply asks whether the individual “ever served on active duty in the U.S. armed forces, military reserves, or national guard” (National Center for Health Statistics, 2017a). Even if active duty service members could be distinguished from other military-affiliated respondents, the small national sample size makes the presence of large numbers of active military households in the data unlikely.

Panel Study of Income Dynamics

Initiated by the Census Bureau in 1968 and now administered by the Institute for Social Research at the University of Michigan, the PSID is an ongoing study following a nationally representative set of families over time (Institute for Social Research, 2019). The members of the original samples and their children remain in the study sample, and additional sample households are recruited over time. The sample size, as of 2017, was 9,607 households comprising 26,445 individuals (Institute for Social Research, 2019). The family surveys include the USDA-ERS 18-item U.S. Household Food Security Survey Module (Economic Research Service, 2021b).

Inclusion of Active Duty Service Member Households

Although the PSID does not exclude active duty military members from participating in the survey (either as part of the family sample or as family members who join the military over time), the questions on the PSID do not distinguish veterans from active or guard/reserve military members, asking, “(Have/Has) (you/she) ever been in the United States military service?” As of 2017, 1,212 household members in the PSID had been affiliated with the military (University of Michigan, undated).

Survey on Income and Program Participation

Administered by the U.S. Census Bureau, the SIPP is a nationally representative annual survey that follows households over four years, allowing researchers to track changes in a variety of outcomes over time (U.S. Census Bureau, 2014). In addition to questions about income, health, marital status, and other factors, the SIPP includes a six-question short version of the USDA-ERS U.S. Food Security Survey Module (Economic Research Service, 2012). The most-recent data available from the SIPP are from 2018.

Inclusion of Active Duty Service Member Households

Active duty military members are eligible to participate in the SIPP, either as individuals or as members of a household. The exceptions are those service members who reside in military barracks or whose households are only composed of active service members and no civilians.

Food Assistance Questions in 2016 Status of Forces Survey of Active Duty Members

Here, we list food insecurity questions included in the 2016 SOFS-A. See OPA (2017) for additional details. Items in bold (items b–e) are consistent with the USDA six-item short form. Item a is similar to the first question in the USDA short form but not exactly the same.

In the past 12 months, how often:

- a. Have you been worried that your food would run out before you had money to buy more?
- b. **Has the food you purchased not lasted and you did not have money to buy more?**
- c. **Have you (and/or your family) cut the size of your meals or skipped meals because there was not enough money for food?**
- d. **Have you (and/or your family) not been able to eat balanced meals because you could not afford to?**
- e. **Have you (and/or your family) been hungry but did not eat because there was not enough money for food?**
- f. Have you (and/or your family) used an off-base food pantry?
- g. Have you (and/or your family) used an on-base food pantry?

The five permitted response categories for these questions are as follows:

1. never
2. almost never
3. sometimes
4. fairly often
5. very often.

Additional Analyses of the 2016 SOFS-A Data

Additional Tabulation of Use of Dining Facilities in 2016

Chapter Five presented tabulations of the use of dining facilities by members on post. Here,

TABLE D.1
Average Number of Times On-Post Members Report Eating Meals in the Dining Facility per Week, by Food Insecurity Status—Single Members, 2016

Member Rank	Breakfast		Lunch		Dinner	
	Food Insecure	Food Secure	Food Insecure	Food Secure	Food Insecure	Food Secure
E-1–E-2	<i>1.0</i>	<i>4.1</i>	<i>1.5</i>	<i>4.4</i>	<i>1.0</i>	<i>4.1</i>
E-3–E-4	<i>1.9</i>	<i>2.7</i>	<i>2.3</i>	<i>2.9</i>	<i>2.0</i>	<i>2.6</i>
E-5–E-6	1.6	2.1	1.9	2.2	1.3	1.7
E-7–E-9	N/A	0.0	N/A	0.0	N/A	0.0
Officer	2.1	1.3	3.7	1.5	2.1	1.2

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Means calculated with survey weights. Questions about dining facility use are asked only of respondents who live on post and are not deployed, answering Module A. *N* = 1,493. Italicized rows indicate that the difference between food secure and food insecure groups is statistically significant at the 5-percent level. “Almost never” respondents are included in the food insecure group. N/A means not applicable. We do not have any observations on single members who are food insecure in grades E-7 to E-9.

we show the tabulations by whether the member is single (Table D.1) and whether the member has dependents (Table D.2).

TABLE D.2

Average Number of Times On-Post Members Report Eating Meals in the Dining Facility per Week, by Food Insecurity Status—Members with Dependents (married and/or children), 2016

Member Rank	Breakfast		Lunch		Dinner	
	Food Insecure	Food Secure	Food Insecure	Food Secure	Food Insecure	Food Secure
E1–E2	3.5	2.2	4.6	2.8	5.1	1.7
E3–E4	0.9	2.7	1.1	4.8	0.8	3.2
E5–E6	2.7	3.3	2.7	3.5	2.0	2.9
E7–E9	1.0	0.8	1.2	1.4	0.9	0.9
Officer	0.0	0.7	0.0	0.8	0.0	0.5

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Means calculated with survey weights. Questions about dining facility use are asked only of respondents who live on post and are not deployed, answering Module A. $N = 1,493$. Italicized rows indicate that the difference between food secure and food insecure groups is statistically significant at the 5-percent level. “Almost never” respondents are included in the food insecure group.

Understanding the “Almost Never” Group in the 2016 SOFS-A

A better understanding of why members responded with “almost never” in the 2016 SOFS-A is important for understanding food insecurity among military households. This understanding would allow DoD to develop an effective policy response to food insecurity, as the underlying reasons behind food insecurity may differ for different subgroups of the population—particularly those who respond with “almost never.”

One possible reason that members responded with “almost never” in the 2016 SOFS-A is the role of a central tendency bias in survey items with a Likert scale and the propensity of respondents to avoid extreme responses (Douven, 2018). Alternatively, the “almost never” response could reflect the reality of active duty members. Members might give this response if food insecurity arises during transition periods, such as a PCS transition that puts financial stress on military households. They might also give this response when they no longer perform certain duties that qualify for special pays, resulting in a reduction in pay. The “almost never” category might also arise when single members get married or get new dependents and the BAH is slow to increase to reflect the change in status. In contrast, respondents who select “sometimes,” “often,” or “very often” instead of “almost never” may experience food insecurity on a more permanent basis. For example, they may experience ongoing issues having to do with inadequate savings and financial management, inadequate pay, or external factors related to military service, such as spouse unemployment.

To better understand the characteristics of individuals who are classified as food insecure if “almost never” is affirmative, we next present further analyses from the 2016 SOFS-A data. We compare demographic characteristics between individuals who are classified as food insecure, those who are classified as food insecure *only* under definition 1 (for which “almost

never” is classified as affirmative, which we refer to as the “almost never” group), and those who are classified as food insecure under both definition 1 and definition 2 (which we refer to as those who are “always food insecure”). We also compare responses to various questions about financial security and financial management (including program use) and other considerations (such as spousal employment, recent deployments or PCS, and use of dining facilities and commissary use among these three groups).

Demographics

Table D.3 compares demographic characteristics across these three groups. On average, individuals who are food insecure are younger than those who are food secure. The average age in the food secure group is 29.5, compared with 27.7 among those in the “almost never” group and 26.8 among the “always” food insecure group. Consistent with their younger age, those who are food insecure also have fewer YOSs and are more likely to be in lower pay grades. The most common pay grade range for members who are food insecure is E-3–E-4: 47 percent of the “almost never” group falls into this range, and 50 percent of individuals who are “always” food insecure are in either grade E-3 or grade E-4. Individuals who are food insecure are slightly more likely to be in the Navy and slightly less likely to be in the Air Force. The gender distribution is similar across all three subgroups.

In general, those in the “almost never” group fall in the middle of these trends: For example, they are younger than individuals who are food secure on average but older than those in the “always food insecure” group. However, there are a few characteristics of the “almost never” group that stand out. First of all, these individuals are more likely to live on post than any other subgroup (50 percent of the “almost never” group lives on post, compared with 46 percent of the “always” food insecure group and 39 percent of the food secure group). They are also more likely to be married and have children than any other group (44 percent, compared with 38 percent and 39 percent among the “always” food insecure and food secure groups, respectively). They are also slightly more likely to report their race as non-Hispanic Black (17 percent, compared with 13 percent and 15 percent among the “always” food insecure and food secure groups, respectively).

Finances

Table D.4 shows that the “almost never” group differs significantly from the food secure group in terms of reported financial security. However, the responses to the questions related to financial well-being and financial management indicate that the members of the “almost never” group are in a slightly better financial position than those who are “always” food insecure. For example, 48 percent of the “almost never” group rates their financial position as “comfortable” or “able to make ends meet.” This number is nearly half the 87 percent of those who are food secure who are comfortable or able to make ends meet, but more than twice the 20 percent of those in the “always” food insecure group who fall into this category. Responses to questions about changes in financial status and saving habits reveal a similar

TABLE D.3
Comparison of Demographic Characteristics Across Food Secure and Food Insecure Groups

Characteristic	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including "Almost Never" (Group B = 11.7%)	Food Insecure Excluding "Almost Never" (Group C = 16.0%)	P-value from Test of Difference Between B and C
Age	29.5	27.2	27.7	26.8	0.000
Female	16%	15%	15%	16%	0.616
Male	84%	85%	85%	84%	0.616
Race					
Non-Hispanic White	65%	55%	56%	55%	0.701
Non-Hispanic Black	15%	15%	17%	13%	0.005
Hispanic	16%	24%	20%	26%	0.000
Residence					
Based in United States	85%	88%	86%	90%	0.001
Based overseas	15%	12%	14%	10%	0.001
Live on post	39%	48%	50%	46%	0.026
Live off post	61%	52%	50%	54%	0.026
Family					
Single, no children	38%	35%	34%	36%	0.412
Single with children	5%	7%	8%	7%	0.575
Married, no children	18%	17%	14%	19%	0.000
Married with children	39%	41%	44%	38%	0.001
Number of children (if > 0)	2.15	2.21	2.16	2.25	0.270
YOSs					
0-2	22%	29%	27%	30%	0.136
3-5	24%	30%	30%	30%	0.888
6-9	18%	16%	14%	17%	0.041
10+	36%	25%	28%	23%	0.001

Table D.3—Continued

Characteristic	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including “Almost Never” (Group B = 11.7%)	Food Insecure Excluding “Almost Never” (Group C = 16.0%)	<i>P</i> -value from Test of Difference Between B and C
Member rank					
E-1–E-2	3%	4%	3%	5%	0.010
E-3–E-4	31%	48%	47%	50%	0.084
E-5–E-6	31%	35%	34%	36%	0.315
E-7–E-9	12%	8%	10%	7%	0.003
Officer	23%	4%	7%	3%	0.000
Service branch					
Army	35%	37%	36%	37%	0.684
Navy	23%	28%	27%	30%	0.057
Air Force	26%	17%	19%	15%	0.001
Marine Corps	13%	16%	15%	16%	0.284
Coast Guard	3%	3%	3%	2%	0.190
Observations (unweighted)	15,050	3,196	1,557	1,639	

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTE: Percentages are weighted during survey weights. Not all questions have response rates of 100 percent, so the percentages are based on the subgroup of respondents who responded to each question.

pattern: 77 percent of the “almost never” group reported that their financial position had improved or stayed the same over the past 12 months, compared with 89 percent of members who are food secure and 62 percent of members who are “always” food insecure. Approximately 64 percent of members in the “almost never” group are able to save at least sometimes, compared with 88 percent of food secure members and 45 percent of members in the “always” food insecure group.

Individuals in the “almost never” group are also more likely to report using SNAP or aid from military relief societies than those in the food secure group but are generally less likely to report using these forms of assistance than the “always” food insecure group. Both the “almost never” and “always” food insecure groups report using WIC at significantly higher levels than the food secure group (8.1 percent and 9.7 percent, respectively, compared with 2.4 percent).

“Almost never” members also report signs of difficulty with financial management at higher rates than the food secure group. Some of the most-common difficulties reported are having personal relationship problems because of finances (23 percent), having to pay overdraft fees more than twice (18.7 percent), and borrowing money from family and friends (16.2 percent). However, the rates of all of these financial difficulties are much

TABLE D.4

Comparison of Financial Position and Financial Management Across Food Insecurity Groups

Survey Question	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including “Almost Never” (Group B = 11.7%)	Food Insecure Excluding “Almost Never” (Group C = 16.0%)	P-value from Test of Difference Between B and C
Which of the following describes your financial condition?					
Very comfortable and secure OR able to make ends meet	0.87	0.31	0.48	0.20	0.000
Occasionally have difficulty making ends meet	0.11	0.40	0.39	0.47	0.018
Tough to make ends meet OR in over your head	0.02	0.29	0.13	0.33	0.000
Compared to 12 months ago, is your financial position . . .					
Worse	0.11	0.31	0.23	0.38	0.000
Stayed the same	0.47	0.40	0.43	0.41	0.862
Better	0.41	0.29	0.34	0.22	0.000
Which of the following describes your saving/investment habits?					
Unable to save, usually spend more than income	0.01	0.08	0.04	0.11	0.000
Unable to save, spend as much as income	0.11	0.41	0.32	0.45	0.000
Save whatever is left	0.27	0.29	0.33	0.25	0.000
Save or invest regularly	0.61	0.22	0.31	0.20	0.000
Have emergency savings	0.84	0.60	0.74	0.63	0.000

Table D.4—Continued

Survey Question	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including “Almost Never” (Group B = 11.7%)	Food Insecure Excluding “Almost Never” (Group C = 16.0%)	P-value from Test of Difference Between B and C
During the past 12 months, did you or your spouse receive any income or financial support from the following sources which allowed you to meet your routine expenses?					
A second job	10.6%	18.9%	18.9%	22.0%	0.012
SSI, unemployment, or workers compensation	1.2%	3.8%	3.0%	3.7%	0.188
State-funded child care assistance	0.7%	3.1%	2.6%	3.6%	0.078
Women, Infants, and Children (WIC)	2.4%	12.2%	8.1%	9.7%	0.258
TANF	0.2%	2.0%	1.1%	1.8%	0.047
SNAP (formerly known as the Food Stamp Program)	0.4%	2.5%	1.4%	2.4%	0.030
Financial aid societies (e.g., American Red Cross)	0.4%	2.5%	1.7%	2.4%	0.217
Family Supplemental Subsistence Allowance (FSSA)	0.3%	1.9%	1.2%	1.6%	0.151
Military emergency relief societies /Military aid societies	1.2%	12.4%	6.9%	10.5%	0.035
In the past 12 months, did any of the following happen to you (and/or your spouse)?					
Bounced two or more checks	0.8%	6.2%	3.4%	9.6%	0.000
Failed to make a monthly/minimum payment on credit card, AAFES, NEXCOM account, or Military Star Card account	2.4%	17.3%	11.9%	19.7%	0.000
Fell behind in paying rent or mortgage	0.9%	5.5%	3.5%	9.3%	0.000
Was pressured to pay bills by stores, creditors, or bill collectors	1.9%	19.2%	11.7%	21.4%	0.000
Had telephone, cable, or internet shut off	0.9%	11.2%	5.9%	13.2%	0.000
Had water, heat, or electricity shut off	0.5%	3.3%	1.9%	4.2%	0.000

Table D.4—Continued

Survey Question	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including “Almost Never” (Group B = 11.7%)	Food Insecure Excluding “Almost Never” (Group C = 16.0%)	P-value from Test of Difference Between B and C
Had a car, household appliance, or furniture repossessed	0.1%	1.0%	0.5%	1.5%	0.019
Failed to make a car payment	0.7%	8.6%	4.2%	11.8%	0.000
Had a car repossessed	0.2%	2.8%	1.3%	2.6%	0.005
Filed for personal bankruptcy	0.2%	1.5%	0.8%	2.0%	0.004
Had to pay overdraft fees to your bank or credit union two or more times	4.6%	28.9%	18.7%	35.4%	0.000
Borrowed money from family and/or friends to pay bills	3.0%	28.7%	15.5%	34.2%	0.000
Took money out of a retirement fund or investment to pay living expenses	5.2%	19.2%	16.2%	25.2%	0.000
Had personal relationship problems with your partner due to finances	7.9%	32.4%	23.0%	39.1%	0.000
Had your security clearance affected due to your financial condition	0.2%	2.3%	1.3%	2.7%	0.003
Used a food pantry	0.4%	8.2%	4.2%	9.5%	0.000

Table D.4—Continued

Survey Question	Food Secure (Group A)	Food Insecure by Either Measure (Group B + C = 27.7%)	Food Insecure Including “Almost Never” (Group B = 11.7%)	Food Insecure Excluding “Almost Never” (Group C = 16.0%)	P-value from Test of Difference Between B and C
In the past 12 months, have you (and your spouse, if applicable) used any of the following financial products or services to cover routine expenses?					
Overdraft loan	0.6%	5.0%	2.8%	7.3%	0.002
Overdraft line of credit	1.8%	15.1%	6.3%	15.2%	0.000
Overdraft protection of savings, credit card	4.6%	17.9%	14.2%	21.3%	0.000
Bank direct deposit advance loan	0.5%	4.2%	2.3%	4.7%	0.003
Payday Loan	0.3%	2.7%	1.6%	3.8%	0.014
Vehicle title loan	0.9%	3.7%	2.1%	5.0%	0.001
Cash advance on a credit card	2.0%	11.2%	8.2%	11.4%	0.000
Pawn shop	0.4%	5.8%	3.0%	8.6%	0.000
Loan or grant from Emergency Relief	0.8%	10.7%	4.8%	10.1%	0.000
Loan/borrow from friends or family	2.6%	23.1%	12.7%	29.5%	0.000
Advancement on a tax refund	0.2%	1.4%	1.1%	2.1%	0.029
Other loan obtained online	1.3%	6.1%	4.6%	8.2%	0.002
Used any of the above	10.4%	43.7%	30.9%	51.0%	0.000
Observations (unweighted)	15,050	3,196	1,557	1,639	

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Percentages are weighted during survey weights. Not all questions have response rates of 100 percent, so the percentages are based on the subgroup of respondents who responded to each question. AAFES = Army & Air Force Exchange Service; NEXCOM = Navy Exchange Service Command.

higher—in some cases, nearly double the rate—among members who are “always” food insecure. Approximately 4.2 percent of members in the “almost never” group reported using a food pantry in the past 12 months, compared with 9.5 percent among those in the “always” food insecure group and 0.4 percent among those who are food secure.

Other Considerations

Finally, Table D.5 explores other considerations that may affect a member’s financial stability and food security. One of the most important determinants of a household’s financial stability could be the employment of a spouse. Given that the “almost never” group is the group most likely to be married with children, this could be a particularly important factor. However, spouse employment rates are actually lowest among those in the “almost never” group: 40.1 percent of respondents with a spouse reported that the spouse was employed in the past week, compared with 42.7 percent of members in the “always” food insecure group with a spouse and 48.1 percent of members who are food secure and have a spouse.

Table D.5 shows that members in the “almost never” group are also more likely to be currently deployed or to have deployed in the past 12 months, with 3.6 percent of that group reporting being currently deployed compared with 2.3 percent among the “always” food insecure group and 3.4 percent in the food secure group. In the “almost never” group, 11.1 percent reported being deployed in the past year compared with 7.4 percent in the “always” food insecure group and 9.7 percent in the food secure group. There are similar rates of recent PCSs and of use of commissaries and dining facilities across the three groups.

Overall, these tables paint a picture of some important ways in which members of the “almost never” group could be different from members in the other two groups. First, they are young members in relatively lower ranks who often have families. Second, their spouses are less likely to be employed. Finally, they are more likely to recently have experienced transitions related to deployment, which are associated with changes in income (such as special pays and combat pays changes when a member returns from deployment). As a result, these members could experience occasional difficulty in meeting the relatively greater financial demands for their family during these periods of transition.

TABLE D.5

Comparison of Other Characteristics Related to Food Insecurity

Characteristic	Food Secure (Group A)		Food Insecure by Either Measure (Group B + C = 27.7%)		Food Insecure Including "Almost Never" (Group B = 11.7%)		Food Insecure Excluding "Almost Never" (Group C = 16.0%)		P-value from Test of Difference Between B and C
	%	N	%	N	%	N	%	N	
Spouse employment									
Employed last week	48.1%	9,023	41.6%	1,863	40.1%	907	42.7%	956	0.268
Looking for work in last four weeks	26.8%	4,708	36.6%	1,081	33.5%	515	39.0%	566	0.062
Child care									
Used child care	31%	2,725	33%	622	32%	299	33%	323	0.793
Needed child care	14%	1,855	31%	402	21%	199	39%	203	0.000
PCS									
Ever	74%	14,802	67%	3,119	67%	1,518	66%	1,601	0.692
In past year	31%	14,814	23%	3,123	24%	1,520	23%	1,603	0.314
Deployment									
Currently deployed	3.4%	14,814	2.9%	3,123	3.6%	1,520	2.3%	1,603	0.035
In last 12 months	9.7%	14,814	8.9%	3,123	11.1%	1,520	7.4%	1,603	0.000
In last 24 months	16.7%	14,814	15.7%	3,123	16.3%	1,520	15.3%	1,603	0.441
Total count of deployments	2.40	8,354	2.29	1,510	2.28	729	2.30	781	0.857

Table D.5—Continued

Characteristic	Food Secure (Group A)		Food Insecure by Either Measure (Group B + C = 27.7%)		Food Insecure Including “Almost Never” (Group B = 11.7%)		Food Insecure Excluding “Almost Never” (Group C = 16.0%)		P-value from Test of Difference Between B and C
	%	N	%	N	%	N	%	N	
Commissary use									
Used in last 12 months	89%	5,484	86%	1,108	88%	546	84%	562	0.036
Frequency of use (if report using)									
Once a week	32%	4,981	27%	978	24%	493	30%	485	0.055
2–3 times a month	31%	4,981	39%	978	40%	493	39%	485	0.765
Once a month	17%	4,981	16%	978	18%	493	15%	485	0.259
Less than once a month	21%	4,981	18%	978	19%	493	17%	485	0.443
Average number of times member ate at the dining facilities in the prior week									
Breakfast	3.8	1,083	2.7	375	2.9	170	2.6	205	0.122
Lunch	4.0	1,086	3.1	374	3.3	172	3.0	202	0.339
Dinner	3.6	1,091	2.8	374	2.8	170	2.8	204	0.954

SOURCE: 2016 SOFS-A (OPA, 2017).

NOTES: Percentages are weighted during survey weights. Not all questions have response rates of 100 percent, so the percentages are based on the subgroup of respondents who responded to each question. The question about use of child care was asked only of respondents who had dependents 13 years of age or younger. The question about the need for child care was asked only of respondents who did not report using child care. Commissary questions were asked only to respondents answering Module AB. Questions about the frequency of commissary use were asked only if respondents indicate that they had used a commissary in the past 12 months. Questions about dining facility use were asked only of respondents who live on post, were not deployed, and answered Module A.

School Lunch Analyses

Data Cleaning and Merging

For our analysis, we created a data set that provided information on rates of FRPL eligibility for military-serving and non-military-serving schools across the nation with additional information about the respective installations associated with each school. To accomplish this, we linked public and DoDEA schools and the installation information we had on them to the NCES data on lunch program eligibility.

This process began by combining the list of schools with CYB-MFLCs provided by the office of Military Community and Family Policy, the 2018 list of PSMI from Military One-Source, and the list of DoDEA schools from DoDEA. This yielded a total of 1,313 unique schools serving children in military families. Once we had a master list of military-serving schools, we did a preliminary merge with the NCES data using school name and state to help guide the data cleaning process.

The preliminary merge revealed several discrepancies in school names that inhibited merging (such as “ABC elementary” vs. “ABC Elementary School”). In some cases, states had multiple schools of the same name, which required matching on zip code. Additionally, some schools appeared on more than one list, leading to duplicate cases that were dropped from our final data set. There were some schools from the master list that did not merge to the NCES data because they were closed during the 2018–2019 school year, private, not located in the United States, or early childhood or preschool programs. These schools were dropped from our final data set. NCES does not have data on DoDEA schools, so we appended these FRPL rates to the final data set.

There were some cases in which an observation had to be expanded, notably for schools that were combined in the master list but reported separately in the NCES data (such as “Nathan F. Twining Elementary/Middle School” vs. “Nathan F. Twining Elementary School” and “Nathan F. Twining Middle School”). There were a small number of DoDEA schools for which we did not have FRPL rates and a small number of military-serving

schools for which NCES did not have lunch program data. These were dropped from the final data set.¹

As a data check, we developed an accounting table to track the number of schools in our data set before, during, and after the cleaning process. The initial master list from all three sources consisted of 1,469 military-serving schools. The data cleaning process left a final matched data set of 1,179 military-serving schools. We repeated the review process at the state level and at the installation level (see Table E.1).

TABLE E.1
School Data Set Review Process

Process Stage	Total
Master list	1,469
Dropped, duplicate	156
Dropped, school not in United States	116
Dropped, school closed	14
Dropped, school not K–12, public	6
Dropped, DoDEA without FRPL data	3
Dropped, NCES FRPL data missing	3
School expanded, added	8
Final matched	1,179

NOTE: K–12 = kindergarten through 12th grade.

¹ There was one case in which the master list had a school district listed instead of a school: Socorro Independent School District (ISD) in El Paso, Texas. This district consists of 49 schools and covers 135 square miles. Rather than try to determine which schools in this district might serve military children, we compared FRPL rates across the district and used their mean value for the Socorro ISD observation. Across the 49 schools, FRPL eligibility ranged from 11.509 percent to 18.690 percent with a mean of 15.176 percent and a standard deviation of 1.912 percent.

Because the DMDC data we used provide information at the installation level only for installations with 100 or more active duty service members, we lack installation-level information (such as the number of dependent children) for locations with fewer than 100 active duty service members. For this reason or others, we have some schools in our data set serving military children at installations for which we lack installation-level data. In some cases, we were able to match these to nearby installations for which we did have data. These include Norfolk Naval Shipyard (14 schools) and Naval Support Activity Norfolk (one school), which were both reassigned to Naval Base Norfolk, and Yuma Proving Ground (one school), which was reassigned to MCAS Yuma. Locations for which we lack installation-level data are Fort George G. Meade (seven schools), Wheeler/Schofield Army Air Field (four schools), Offutt Air Force Base (AFB) (three schools), Naval Station Great Lakes (two schools), Dugway Proving Ground (two schools), Shaw AFB (two schools), Vance AFB (one school), Altus AFB (one school), F. E. Warren AFB (one school), Fort Shafter (one school), and Marine Corps Base Hawaii (one school).

Additional Results

Table E.2 presents the average proportion of children eligible for FRPL across all public schools in each state and compares this with the average among military-serving schools, non-military-serving schools, and the different branches of service by state. DoDEA schools are excluded from the analysis. We estimate that the national average rate of eligibility for FRPL programs in 2018 was 9.8 percent. These rates are highest for the U.S. territories (19.8 percent in the U.S. Virgin Islands, 18.2 percent in Puerto Rico, and 17.9 percent in Guam). Among the 50 states, Mississippi has the highest statewide FRPL eligibility rate, at 16.0 percent, and the highest rate for non-military-serving schools, at 16.2 percent, although the rate is lower among schools near military installations (11.5 percent). The five states with the highest statewide FRPL eligibility rates are rounded out by New Mexico (15.4 percent statewide), South Carolina (13.8 percent), Arkansas (13.6 percent), and Georgia (13.0 percent). The state with the lowest rate of FRPL eligibility across all public schools is Ohio, at 4.9 percent. Other states with markedly low rates of FRPL eligibility include Montana (5.5 percent statewide), New Hampshire (5.9 percent), New Jersey (7.1 percent), and North Dakota (7.1 percent).

Nevada has the lowest rate of FRPL eligibility among children attending schools near military installations (3.5 percent) and the largest difference in eligibility rates between military-serving and non-military-serving schools (8.8 percentage points). Other states in which we see low eligibility rates among military-serving schools are Ohio (3.9 percent), Pennsylvania (4.5 percent), North Dakota (4.7 percent), and Utah (4.8 percent). Of these, Pennsylvania has the lowest rate for Navy installations (4.5 percent) and Utah has the lowest rate for Air Force installations (3.5 percent). Interestingly, despite having a high overall FRPL eligibility rate, New Mexico has the lowest eligibility rate for Army installations (4.4 percent).

Table E.3 provides the proportion of FRPL-eligible children attending non-DoDEA schools near military installations, by installation. It also details how variable this eligibility rate is among schools local to a given installation and the number of schools that serve the installation. The average FRPL eligibility rate for schools serving military children is 9.0 percent when we exclude DoDEA schools and 10.0 percent when we include them, compared with a national average of 9.8 percent and a nonmilitary average of 9.8 percent (Table E.2).

The military installation with the lowest percentage of children eligible for FRPL is the U.S. Air Force Academy with a mean eligibility rate of 2.5 percent. Other installations with particularly low eligibility rates include Fort Leavenworth (3.1 percent), Joint Base San Antonio (3.2 percent), Hill AFB (3.5 percent), and Nellis AFB (3.5 percent). Although just under 40 percent of the installations in the database are Air Force installations, seven of the ten installations with the lowest FRPL eligibility rates are Air Force installations.

The installation with the highest percentage of children eligible for FRPL programs is Shaw AFB with a mean eligibility rate of 20 percent. Other installations with notably high eligibility rates are Little Rock AFB (18.4 percent), Naval Support Activity Monterey (17.4 percent), Naval Station Great Lakes (15.9 percent), and Seymour Johnson AFB (15.4 percent). Of the ten installations with the highest eligibility rates, four are Air Force, three Army, two Navy, and one Marine Corps. This roughly represents the proportion of each branch of service in our data.

TABLE E.2
Average Percentages of Children Eligible for FRPL Programs, Excluding DoDEA Schools, by State

State	All Schools	Branch of Service					
		Nonmilitary	Military	Army	Navy	Air Force	Marine Corps
Alabama	11.9%	11.9%	8.2%	11.1%	—	5.3%	—
Alaska	9.4%	9.6%	6.3%	6.3%	—	5.8%	—
American Samoa	—	—	—	—	—	—	—
Arizona	9.1%	9.0%	11.3%	6.6%	—	6.2%	13.0%
Arkansas	13.6%	13.6%	18.4%	—	—	18.4%	—
California	12.3%	12.3%	9.7%	8.2%	10.0%	7.4%	11.2%
Colorado	9.0%	9.0%	7.5%	9.9%	—	6.5%	—
Connecticut	8.3%	8.3%	8.8%	—	8.8%	—	—
Delaware	—	—	—	—	—	—	—
District of Columbia	—	—	—	—	—	—	—
Florida	11.2%	11.3%	8.5%	—	8.4%	8.8%	—
Georgia	13.0%	13.1%	10.5%	11.1%	9.8%	9.6%	—
Guam	18.0%	18.0%	—	—	—	—	—
Hawaii	9.8%	10.2%	6.2%	7.6%	6.1%	6.1%	4.0%
Idaho	7.9%	7.9%	8.6%	—	—	8.6%	—
Illinois	10.1%	10.1%	6.4%	—	15.9%	4.7%	—
Indiana	10.3%	10.3%	—	—	—	—	—
Iowa	8.5%	8.5%	—	—	—	—	—
Kansas	9.7%	9.7%	8.1%	7.6%	—	9.6%	—
Kentucky	11.9%	11.9%	12.3%	12.3%	—	—	—
Louisiana	11.4%	11.4%	9.8%	10.5%	8.1%	9.1%	—
Maine	9.3%	9.3%	—	—	—	—	—
Maryland	10.1%	10.1%	7.9%	7.7%	8.1%	8.8%	—
Massachusetts	—	—	—	—	—	—	—
Michigan	10.9%	10.9%	—	—	—	—	—
Minnesota	8.0%	8.0%	—	—	—	—	—
Mississippi	16.0%	16.2%	11.5%	—	11.8%	8.4%	—
Missouri	11.1%	11.1%	8.6%	9.8%	—	7.2%	—
Montana	5.5%	5.5%	8.0%	—	—	8.0%	—

Table E.2—Continued

State	All Schools	Branch of Service					
		Nonmilitary	Military	Army	Navy	Air Force	Marine Corps
Nebraska	8.3%	8.3%	6.6%	—	—	6.6%	—
Nevada	12.3%	12.3%	3.5%	—	—	3.5%	—
New Hampshire	5.9%	5.9%	—	—	—	—	—
New Jersey	7.1%	7.1%	5.9%	5.9%	5.9%	5.9%	—
New Mexico	15.4%	15.4%	10.5%	4.4%	—	11.0%	—
New York	10.9%	10.9%	10.6%	10.6%	—	—	—
North Carolina	12.4%	12.4%	12.2%	13.3%	—	15.4%	9.6%
North Dakota	7.1%	7.1%	4.7%	—	—	4.7%	—
Ohio	4.9%	4.9%	3.9%	—	—	3.9%	—
Oklahoma	—	—	—	—	—	—	—
Oregon	9.7%	9.7%	—	—	—	—	—
Pennsylvania	10.5%	10.5%	4.5%	—	4.5%	—	—
Puerto Rico	18.2%	18.2%	—	—	—	—	—
Rhode Island	9.3%	9.3%	—	—	—	—	—
South Carolina	13.8%	13.9%	10.5%	9.2%	—	20.0%	10.6%
South Dakota	7.1%	7.1%	6.7%	—	—	6.7%	—
Tennessee	—	—	—	—	—	—	—
Texas	12.5%	12.5%	10.9%	11.2%	9.0%	7.2%	—
U.S. Virgin Islands	19.8%	19.8%	—	—	—	—	—
Utah	7.5%	7.5%	4.8%	6.1%	—	3.5%	—
Vermont	7.8%	7.8%	—	—	—	—	—
Virginia	10.0%	10.1%	8.6%	6.5%	8.8%	7.3%	11.1%
Washington	8.7%	8.7%	8.4%	8.7%	7.9%	8.6%	—
West Virginia	—	—	—	—	—	—	—
Wisconsin	8.2%	8.2%	—	—	—	—	—
Wyoming	7.4%	7.4%	6.7%	—	—	6.7%	—
National average	9.8%	9.8%	9.0%	9.0%	9.0%	7.8%	10.4%

SOURCES: Authors' calculations using data from NCES, Military Community and Family Policy, and Military OneSource.

NOTES: Army, Navy, and Air Force national average rates differ slightly from those presented in Table 6.1. Here, averages calculated for the Army include any installation with Army service present (that is, we include joint bases); in Table 6.1, Army averages included only installations that were Army-specific (excluding joint bases). — indicates that we do not have data, either because of a state not having FRPL eligibility data in NCES or because of the absence of a branch of service (or any military service) in a particular state.

TABLE E.3
Percentages of Children Eligible for FRPL, by Installation

Installation	Percentage	Standard Deviation	<i>N</i>
Altus AFB	—	—	1
Barksdale AFB	9.1%	2.0	13
Beale AFB	8.7%	1.4	2
Buckley AFB	8.6%	3.0	4
Camp Lejeune	9.1%*	3.1	22
Camp Pendleton	9.8%	2.4	6
Cannon AFB	12.0%	5.1	9
Columbus AFB	8.4%	1.7	3
Davis-Monthan AFB	6.1%	0.6	2
Dugway Proving Ground	6.1%	0.0	1
Edwards AFB	3.9%	1.3	3
Eglin AFB	9.3%	3.0	27
Eielson AFB	5.2%	0.8	3
Ellsworth AFB	6.7%	0.8	4
F. E. Warren AFB	6.7%	0.0	1
Fairchild AFB	4.7%	0.0	1
Fort Belvoir	5.5%	3.6	11
Fort Benning	10.6%*	3.0	8
Fort Bliss	13.9%	1.3	10
Fort Bragg	13.3%*	5.3	69
Fort Campbell	4.0%*	6.1	26
Fort Carson	9.9%	2.0	15
Fort Drum	10.6%	1.8	13
Fort George G. Meade	7.7%	3.5	7
Fort Gordon	9.3%	6.8	12
Fort Hood	11.9%	2.8	44
Fort Huachuca	6.6%	1.3	3
Fort Irwin	8.9%	0.9	3
Fort Jackson	9.2%*	3.3	9
Fort Knox	11.8%*	1.9	6

Table E.3—Continued

Installation	Percentage	Standard Deviation	N
Fort Leavenworth	3.1%	2.6	5
Fort Lee	8.6%	3.6	5
Fort Leonard Wood	9.8%	3.2	9
Fort Polk	10.5%	3.1	16
Fort Riley	10.8%	1.9	7
Fort Sill	—	—	26
Fort Stewart	11.7%*	4.3	22
Fort Wainwright	7.9%	2.7	8
Goodfellow AFB	9.6%	3.6	4
Grand Forks AFB	4.7%	0.1	2
Hill AFB	3.5%	0.0	1
Holloman AFB	4.0%	1.3	2
Hunter Army Airfield	14.5%	1.0	3
Joint Base Andrews-Naval Air Facility Washington	8.9%	3.1	4
Joint Base Charleston	9.7%	6.3	9
Joint Base Elmendorf-Richardson	5.7%	6.1	26
Joint Base Langley-Eustis	7.3%	0.0	1
Joint Base Lewis-McChord	8.7%	2.8	35
Joint Base McGuire-Dix-Lakehurst	5.9%	3.0	14
Joint Base Pearl Harbor-Hickam	6.1%	2.6	13
Joint Base San Antonio	3.2%	1.8	7
Kirtland AFB	13.7%	8.4	2
Laughlin AFB	11.9%	5.9	4
Little Rock AFB	18.4%	2.8	3
MCAGCC Twentynine Palms	13.4%	3.3	6
MCAS Beaufort	10.6%	6.2	2
MCAS Cherry Point	10.2%	3.7	15
MCAS Miramar	10.8%	4.6	5
MCAS New River	10.0%	2.5	4
MCAS Yuma	13.0%	4.6	14

Table E.3—Continued

Installation	Percentage	Standard Deviation	<i>N</i>
MCB Hawaii	4.0%	1.3	4
MCB Quantico	11.1%	4.7	6
MCRD San Diego	9.9%	4.0	2
MacDill AFB	7.7%	4.4	6
Malmstrom AFB	8.0%	0.0	1
Maxwell AFB and Gunter Annex	5.3%	3.1	2
McConnell AFB	9.6%	1.0	4
Minot AFB	4.7%	1.3	3
Moody AFB	10.1%	0.0	2
Mountain Home AFB	8.6%	2.3	5
NAS Corpus Christi	9.0%	2.2	8
NAS Jacksonville	7.6%	1.7	37
NAS Joint Reserve Base New Orleans	8.1%	0.0	1
NAS Key West	10.8%	4.9	6
NAS Lemoore	12.1%	2.5	8
NAS Meridian	9.0%	3.3	6
NAS Oceana	7.7%	3.0	49
NAS Pensacola	9.3%	2.5	23
NAS Whidbey Island	7.9%	2.3	8
NAS Whiting Field	8.9%	4.0	25
NAWS China Lake	11.8%	3.0	7
NB Kitsap	7.9%	1.6	4
NB Point Loma	9.6%	2.6	5
NB Ventura County	10.2%	5.2	11
NS Mayport	6.9%	2.4	15
NSA Bethesda	10.4%	0.0	1
NSA Hampton Roads	5.0%	1.8	5
NSA Mechanicsburg	4.5%	1.0	2
NSA Monterey	17.4%	0.6	2
NSA Panama City	8.8%	1.7	5
NSB Kings Bay	9.8%	1.5	11
NSB New London	8.8%	3.7	8
NAS Patuxent River	6.5%	3.6	3

Table E.3—Continued

Installation	Percentage	Standard Deviation	N
NB Coronado	7.1%	6.3	7
NB San Diego	9.2%	4.0	31
Naval Construction Battalion Center Gulfport	12.3%	3.4	34
Naval Station Great Lakes	15.9%	5.7	2
Naval Station Norfolk	11.2%	4.7	31
Nellis AFB	3.5%	0.0	1
Offutt AFB	6.6%	1.2	3
Patrick AFB	4.9%	1.2	5
Peterson AFB	8.8%	4.1	14
Presidio of Monterey (DLIFLC)	7.7%	4.3	4
Robins AFB	9.5%	5.5	15
Schriever AFB	12.6%	0.3	3
Scott AFB	4.7%	0.7	11
Seymour Johnson AFB	15.4%	6.0	10
Shaw AFB	20.0%	0.0	2
Sheppard AFB	7.1%	1.9	2
Travis AFB	5.7%	0.6	4
Tyndall AFB	9.7%	2.6	15
U.S. Air Force Academy	2.5%	1.2	15
USAG Hawaii	7.6%	2.2	7
Vance AFB	—	—	1
Vandenberg AFB	10.2%	3.7	5
White Sands Missile Range	4.4%	0.0	1
Whiteman AFB	7.2%	1.2	8
Wright-Patterson AFB	3.9%	4.4	12
Total	9.0%	4.7	1,140

SOURCES: Authors' calculations using data from NCES, Military Community and Family Policy, and Military OneSource.

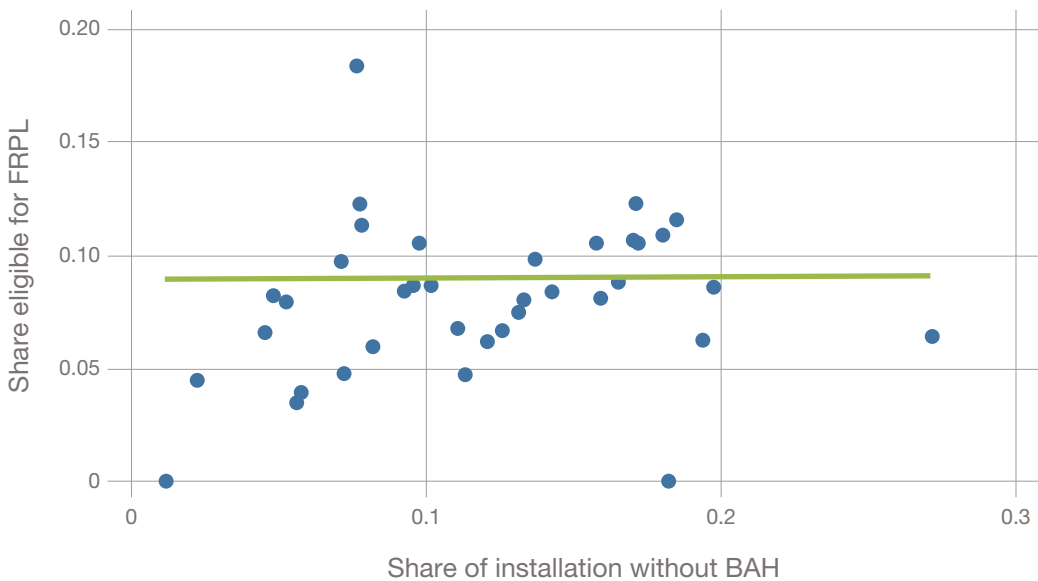
NOTES: * excludes DoDEA schools. Rates that include DoDEA schools are as follows: Camp Lejeune: 13.8%, Fort Benning: 19.3%, Fort Bragg: 17.6%, Fort Campbell: 12.6%, Fort Jackson: 16.6%, Fort Knox: 15.6%. DLIFLC = Defense Language Institute Foreign Language Center; MCAGCC = Marine Corps Air Ground Combat Center; MCB = Marine Corps Base; MCRD = Marine Corps Recruit Depot; NAS = Naval Air Station; NAWS = Naval Air Weapons Station; NB = Naval Base; NS = Naval Station; NSA = Naval Support Activity; NSB = Naval Submarine Base; USAG = U.S. Army Garrison.

Exploration of the Relationship Between BAH Receipt and FRPL Eligibility Rates

Recall that, in Chapter Six, we observed higher rates of eligibility in DoDEA schools where children live on post and might not receive BAH. This raised the question of whether there is a relationship between the share of individuals in a location who live on post (and do not receive BAH) and FRPL eligibility rates in public schools. Figure E.1 explores this relationship among public schools at the state level. It plots the statewide share of children eligible for FRPL at schools near military bases against the share of service members who do not receive BAH. We do not find a strong correlation between the share of children eligible for FRPL and the share of personnel receiving BAH, at the state level. As a result, these state-level analyses suggest that receipt of BAH is not predictive of the share of children eligible for FRPL.

FIGURE E.1

State Average Share of FRPL-Eligible Children Attending Schools Near Military Installations Versus Share of Service Members Who Do Not Receive BAH



SOURCES: DMDC data, database from Military Community and Family Policy, NCES data, Military OneSource.
NOTE: Excludes DoDEA schools.

Abbreviations

ACS	American Community Survey
AFB	Air Force Base
ASEC	Annual Social and Economic Supplement
BAH	basic allowance for housing
BAS	basic allowance for subsistence
BNA	basic needs allowance
BSF	Blue Star Families
CBO	Congressional Budget Office
CDC	child development center
COLA	cost-of-living adjustment
COVID-19	coronavirus disease 2019
CPS	Current Population Survey
CYB-MFLC	Child and Youth Behavioral Military and Family Life Counselor Program
DEERS	Defense Enrollment Eligibility Reporting System
DFAS	Defense Finance and Accounting Service
DMDC	Defense Manpower Data Center
DoD	U.S. Department of Defense
DoDEA	DoD Education Activity
DODI	DoD Instruction
FNS	Food and Nutrition Service
FPL	Federal Poverty Level
FRPL	free and reduced-price lunch
FSS	Food Security Supplement
FSSA	Family Subsistence Supplemental Allowance
FY	fiscal year
GAO	U.S. Government Accountability Office
IVMF	Institute for Veterans and Military Families
MCAS	Marine Corps Air Station
MCRMC	Military Compensation and Retirement Modernization Commission
MFAN	Military Family Advisory Network
MHA	Military Housing Area
N/A	not applicable
NCES	National Center for Education Statistics

NDA	National Defense Authorization Act
NHANES	National Health and Nutrition Examination Survey
NHIS	National Health Interview Survey
OPA	Office of People Analytics
OSD	Office of the Secretary of Defense
PARIS	Public Assistance Reporting Information System
PCS	permanent change of station
PSID	Panel Study of Income Dynamics
PSMI	Public Schools on Military Installations
QRMC	Quadrennial Review of Military Compensation
RMC	regular military compensation
SIPP	Survey on Income and Program Participation
SNAP	Supplemental Nutrition Assistance Program
SOFS-A	Status of Forces Survey of Active Duty Members
SSI	Supplemental Security Income
TANF	Temporary Assistance for Needy Families
USDA	U.S. Department of Agriculture
USDA-ERS	U.S. Department of Agriculture–Economic Research Service
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
YOS	year of service

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The National Defense Authorization Act for fiscal year 2020 directed the Secretary of Defense to report on food insecurity among members of the armed forces. The directive includes the following elements: an assessment of the current extent of food insecurity among not only service members and their dependents but also those living on post and presumably not receiving the basic allowance for housing (BAH); participation in food assistance programs; barriers to accessing this assistance; a description of other sources of income to meet basic needs; an assessment of the feasibility and advisability of a basic needs allowance (BNA) for low-income members; and three sets of recommendations (for policies, programs, and activities) to address food insecurity among military families. RAND researchers examined these elements and developed answers, along with listing areas requiring additional analysis.

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