Characteristics of Veterans in Allied Healthcare Occupations

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KEY FINDINGS

The goal of this study was to explore how veterans in healthcare occupations compare to their civilian counterparts. Understanding these trends will help policymakers target programs to assist veterans in finding employment in healthcare. The key findings for this study are:

- Healthcare from 2011 to 2013 was a female-dominated field among non-veterans, (79.7% female) but among veterans, the gender distribution was nearly reversed (32.0% female).
- Generally, veterans had a lower percentage of females in every occupation compared to non-veterans.
- Among veterans, female veterans working in a healthcare occupation were significantly likely to be younger, not married, working part-time, below the poverty level, and receiving lower average individual earnings than male veterans.
- Allied health professions such as diagnostic related technologist/technician (e.g., cardiovascular technologist/technician, sonographer, magnetic resonance imaging technologist) were among those most commonly held occupations by veterans across both genders, but with higher frequency among males.
- Female veterans and non-veterans were more likely to be in lower-skilled occupations like nursing/psychiatric/home health aide, medical assistant, and personal/home care aide compared to their male counterparts.
- About 40% of veterans under age of 25, either gender, were in low-skilled aide and assistant positions; this was significantly higher than among young non-veterans.

Given that healthcare occupations will be in high demand for the foreseeable future and veterans are currently underrepresented in healthcare, young veterans struggling to find employment should be encouraged to consider career opportunities in healthcare. The nation's challenge is to ensure that veterans and non-veterans who enter healthcare occupations enter at the highest level their education and training supports, and that they have trajectories that encourage career advancement and upward mobility.

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INTRODUCTION

There are approximately 20 million military veterans in the United States, among which 4.6 million are from the post-9/11 period of service.[1,2] One study found that healthcare is the third most common industry in which male veterans work, and healthcare occupations are among the fastest growing opportunities for male veterans.[3] Among Gulf War veterans, male and female veterans were more likely to work in healthcare occupations compared to male and female non-veterans.[4] Healthcare may continue to provide good job opportunities for veterans given the expected demand for an additional three to four million workers with the expansion of healthcare under the Affordable Care Act.[5] What remains puzzling is that young veterans face high unemployment rates, yet healthcare offers many entry level opportunities that may be ideal for young veterans as they enter the civilian workforce.[6] This study identifies the characteristics of veterans entering healthcare occupations, with a focus on allied health professions, and identifies occupations most commonly taken on by veterans.

New veterans are more likely to be young, female and racially/ethnically diverse.[7] While almost half of the veteran population is over age 65 and aging out of the labor force, a younger generation of veterans has faced difficulties entering the labor force as its high unemployment rate confirms.[8-11] Although the unemployment rate for the overall veteran population was the lowest in eight years and comparable to the non-veteran population's rate in 2015, these numbers mask problems faced by many younger veterans.[12] In 2015, the unemployment rate among veterans age 18 to 24 years old was two to three times higher at 13.0% compared to other age groups, which ranged from 3.4% to 6.9%.[13] It also exceeded the 10.9% unemployment rate among non-veterans age 18 to 24 years old.[14] Among young veterans, unemployment was higher among male veterans compared to females, but among older veterans in 2015, the reverse was true.[15,16]

One recent study found that 50,000 veterans discharged between 2006 and 2010 already received healthcare training in the military.[17] It is unknown what proportion of these veterans successfully transitioned into healthcare occupations outside of the military, and if not, what barriers prevented that transition. One of the biggest barriers facing veterans is managing behavioral health problems such as post-traumatic stress disorder (PTSD).[18] Translating military skills and training into recognized civilian credentials, as well as understanding how to use complex education benefits such as the GI Bill, are also significant barriers.[19]

The goal of this study was to explore how veterans compare to their civilian counterparts in healthcare occupations. In order to develop pathways to help veterans transition into healthcare occupations, we first need to understand what occupations veterans currently hold, and how their sociodemographic characteristics relate to their current employment. Understanding these trends will help policymakers target programs to assist veterans find employment in healthcare.

STUDY APPROACH

For this study, we analyzed data from the 2011-2013 American Community Survey (ACS), which is a household survey conducted annually by the U.S. Census Bureau.[20] We restricted our analysis to the non-institutionalized population age 18 to 75 years old

living in the 50 states and the District of Columbia, and used pre-defined stratified sample probability weights to make the sample nationally representative. We divided the sample into three categories: 1) military veterans, 2) individuals training for reserves or National Guard, and who have not been called to active duty, and 3) individuals with no military service. We separately analyzed individuals in the reserves/National Guard from the individuals without military service because of reports that reservists/National Guard have faced unique career challenges.[21] Our study compared individuals in the reserves/National Guard in a healthcare occupation with veterans or individuals with no military service. For this study, we only refer to individuals with no military service as "non-veterans," although the Veterans Administration technically classifies reservists/National Guard who had not been called to duty as not being veterans. Any individuals in military service currently on active duty were excluded from the sample.

We identified individuals working in healthcare occupations as classified by four-digit Census occupation codes (which crosswalk to the more commonly known Standard Occupational Classification [SOC] system). These codes were used to assign respondents to an occupation based on their self-reported title and roles. We compared sociodemographic characteristics of the study population by veteran status, gender, age, ethnicity, race, marital status, presence of children under age five, geographic location (i.e., living in a metropolitan area or not), education, part-time work status, poverty status and individual wage earnings. We conducted unpaired two sample t-tests to determine significant differences across mean characteristics by gender and by veteran status. Pearson's chi-squared test was used to determine significant differences in proportions across veteran status within gender. Statistical significance was determined at $p<0.001$ unless otherwise noted. More details on methodology are found in the Appendix.

FINDINGS

HEALTHCARE EMPLOYMENT BY VETERAN STATUS

From 2011 to 2013, 11.0% of individuals employed in the U.S. were working in a healthcare occupation (see Appendix for healthcare occupation definitions). Among those employed in a healthcare occupation, 4.3% were veterans and 0.8% were reservists/National Guard (calculated from Table 1). The prevalence of veterans among healthcare workers was two percentage points lower than the 6.5% of veterans found in the overall U.S. employed sample. The unemployment rate among those who identified as working in a healthcare occupation was not significantly different across non-veterans, reservists/National Guard and veterans.

SOCIODEMOGRAPHIC COMPARISON OF VETERANS AND RESERVISTS/NATIONAL GUARD

Veterans were significantly more likely to be male, older, White, a U.S. citizen, married, working full-time, and receiving higher mean individual earnings in comparison to reservists/National Guard (Table 1). Relaxing our strict cut-off for statistical significance, veterans were less likely than reservists/National Guard to be below poverty ($p=0.005$). There were no significant differences between veterans and reservists/National Guard with regards to being Hispanic, living in a metro area, having children under age five in the household, or having a Bachelor's degree or above.

When comparing within gender, there were no significant sociodemographic differences between veterans and reservists/National Guard. Among males, the only statistically significant difference was that male veterans were older than male reservists/National Guard. Among females, female veterans were more likely to be U.S. citizens, have a Bachelor's degree, work full-time, and have higher individual earnings compared to female reservists/National Guard. Hours of work and earnings tend to be correlated, so it was not surprising that both variables—working full-time and earnings—were significantly higher. Given that the solid sociodemographic characteristics of veterans and reservists/National Guard were similar within genders, we focused on the comparison between veterans and non-veterans in the remainder of this report.

SOCIODEMOGRAPHIC COMPARISON OF VETERANS AND NON-VETERANS

Veterans working in a healthcare occupation were significantly more likely to be male, older, White, a U.S. citizen, married, not having children under age five, having a Bachelor's degree or above, working full-time, above the poverty level, receiving higher mean individual earnings compared to non-veterans (Table 1). There were no statistically significant differences for metro or non-metro area residency between veterans and non-veterans working in healthcare occupations.

SOCIODEMOGRAPHIC COMPARISON OF VETERANS AND NON-VETERANS WITHIN GENDER

Comparing within gender, female veterans were significantly more likely to be older, non-Hispanic, a U.S. citizen, not having a child under the age of five in the household, having a Bachelor's degree or above, working full-time, above the poverty level, and receiving higher mean individual earnings compared to female non-veterans working in a healthcare occupation (Table 1). As seen in Figure 1, there were 11.3 percentage points more female non-veterans are under the age of 35 compared to female veterans. Although the percentage of White females was not statistically different between veterans and non-veterans, there was a significantly lower percentage of Asian/Pacific Islander and significantly higher percentage of Black female veterans (Figure 2). Not only were female veterans working in healthcare occupations more likely to have a Bachelor's degree or above, but notably

Table 1. Sociodemographic characteristics of individuals employed in a healthcare occupation by veteran status and gender, 2011-2013

	Total			Females			Males		
	Non-veteran	Veteran	Reservist/ National Guard	Non-veteran	Veteran	Reservist/ National Guard	Non-veteran	Veteran	Reservist/ National Guard
N (Healthcare labor force)	15,391,749	686,298	127,039	12,361,178	224,970	67,472	3,030,571	461,328	59,567
Unemployed	4.6%	4.2%	4.4%	4.8%	4.6%	4.6%	3.9%	3.9%	4.3%
N (Employed)	14,676,296	657,776	121,391	11,764,768	214,562	64,397	2,911,528	443,214	56,994
Female	79.7%	32.0%	52.5%	-	-	-	-	-	-
Age (mean)	42.3	49.3	46.2	42.3	44.8	43.6	42.5	51.4	49.2
Hispanic	11.3%	8.5%	8.5%	11.4%	8.1%	9.0%	11.1%	8.6%	8.1%
Non-White	28.4%	24.1	27.9	28.1%	29.8%	32.8%	29.5%	21.3%	22.4%
US citizen	81.2%	91.9%	88.1%	82.2%	91.9%	87.1%	76.9%	91.9%	89.2%
Living in metro area	88.6%	88.2%	87.1%	87.8%	88.2%	86.9%	91.5%	88.1%	87.5%
Married	53.8%	64.4%	58.9%	52.4%	52.6%	51.7%	59.3%	69.9%	66.9%
Has child age 5 or under in household	13.8%	10.1%	11.1%	13.6%	11.3%	12.2%	14.4%	9.5%	9.8%
Bachelor's degree	54.9%	46.2%	49.3%	59.0%	51.2%	57.3%	38.4%	43.7%	40.3%
Working part-time	24.5%	16.8%	22.6%	27.0%	18.9%	27.6%	14.8%	15.8%	17.0%
At or below poverty level	6.0%	2.4%	3.7%	6.5%	3.4%	5.6%	3.9%	2.0%	1.6%
Individual earnings (mean)	$51,949	$75,143	$63,551	$43,633	$54,624	$46,792	$84,522	$84,816	$82,099

Source: Author calculation of data from American Community Survey 2011-2013 extracted from: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

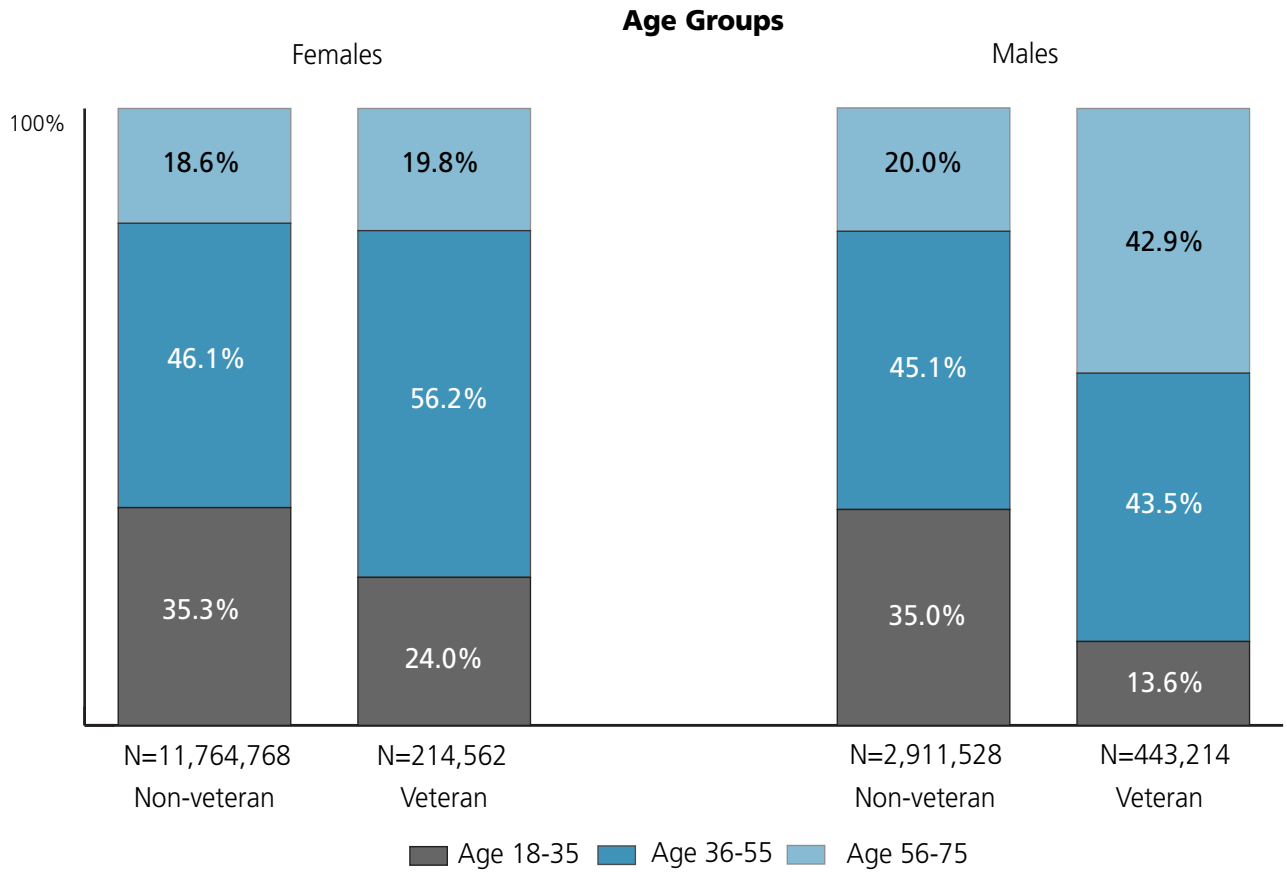
only 7% had a high school degree or less compared to 19.7% of female non-veterans (Figure 3). There were no statistically significant differences in unemployment status, living in a metro area, and marital status.

Male veterans were significantly more likely to be older, non-Hispanic, White, a U.S. citizen, not living in a metro area, married, not having a child under age five in the household, having less than a Bachelor's degree, and being above the poverty level compared to male non-veterans working in a healthcare occupation (Table 1). There were almost twice as many male veterans over the age of 55 compared to male non-veterans (Figure 1). There was a much lower share (eight percentage points) of Asian male veterans working in healthcare compared to male non-veterans (Figure 2). There were no statistically significant differences in unemployment status, working part-time or mean individual earnings.

SOCIODEMOGRAPHIC COMPARISON OF MALE AND FEMALES WITHIN VETERAN STATUS

Gender plays a considerable role in the comparisons of veterans versus non-veterans. Table 1 shows that healthcare from 2011 to 2013 was a female-dominated field (79.7%) among non-veterans, but among veterans, the gender distribution was nearly reversed (32.0% of veterans in healthcare were female). Among veterans, males working in a healthcare occupation were significantly more likely to be older, married, working full-time, above the poverty level, and receiving higher mean individual earnings than females. Relaxing our strict statistical criteria, male veterans were less likely than female veterans to have a child

Figure 1: Age of individuals employed in a healthcare occupation by veteran status and gender, 2011-2013



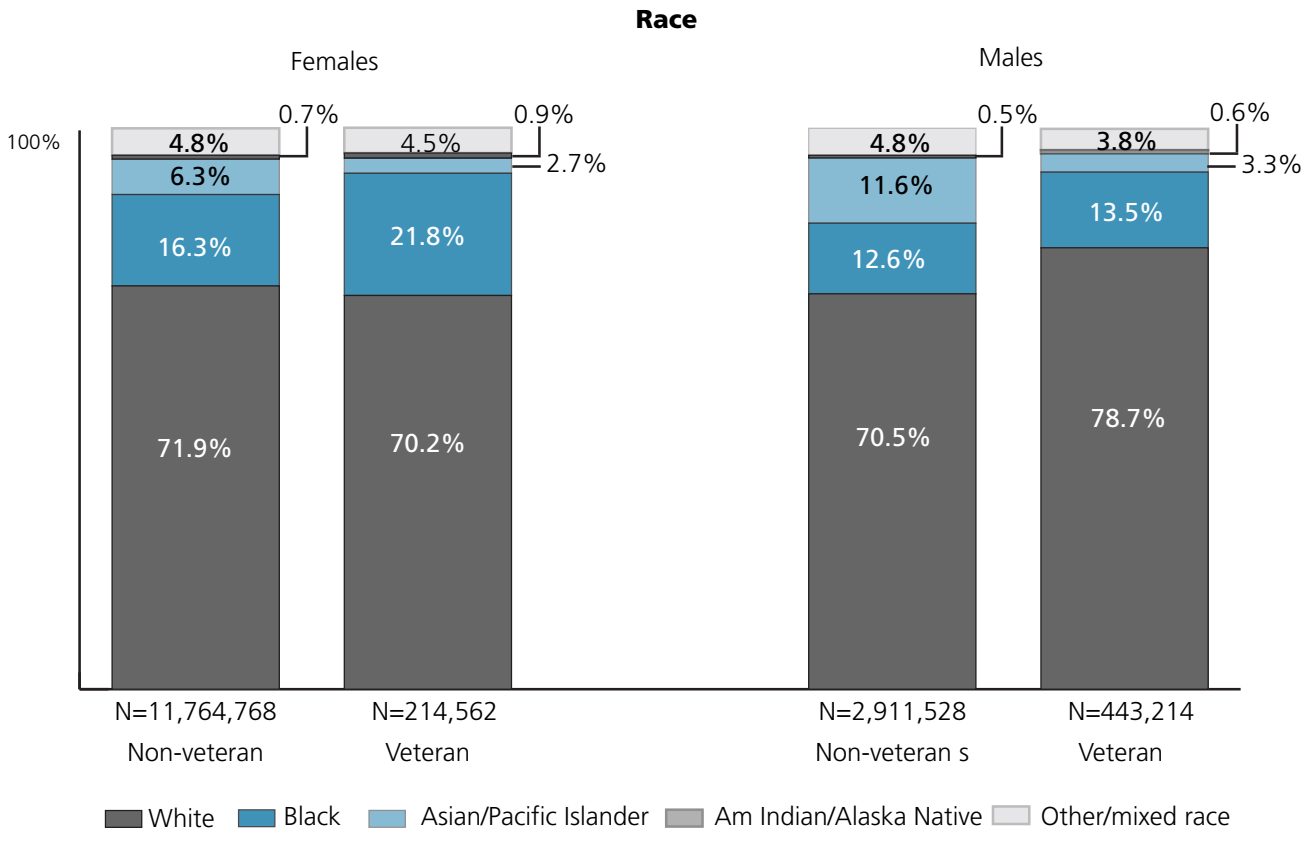
Note: Differences in proportions within gender across veteran status were statistically significant at p<0.001 using Pearson's chi squared test.
Source: Author calculation of data from American Community Survey 2011-2013 extracted from: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

under age five in the household (p=0.002). There were no significant differences between male and female veterans in citizenship status, being Hispanic, and living in a metro area. Male non-veterans working a healthcare occupation were significantly more likely than female veterans to be employed, a non-citizen, living in a metro area, married, having children under age five in the household, working full-time, above the poverty level, and receiving higher mean individual earnings. There were no significant differences in age or being Hispanic between male and female non-veterans.

COMPARISON OF HEALTHCARE OCCUPATIONS BETWEEN MALES AND FEMALES WITHIN VETERAN STATUS

Figure 4 shows that among non-veterans, the occupation with the highest percentage of females was dental hygienist (97.6%). Among non-veterans, the occupation with the highest percentage of males was podiatrist (72.5%). Figure 5 shows among veterans, dental assistants had the highest share of females (13.6%) followed by dental hygienists (20.6%). There were no female veterans who were podiatrists in our sample. Generally, males comprised higher percentages of each healthcare occupation among veterans compared with non-veterans. For both veterans and non-veterans, females comprised higher percentages of lower-skilled assistant and aide positions, and males comprised more of the higher-skilled occupations such as physician/surgeon, dentist, chiropractor, and podiatrist.

Figure 2: Race of individuals employed in a healthcare occupation by veteran status and gender, 2011-2013



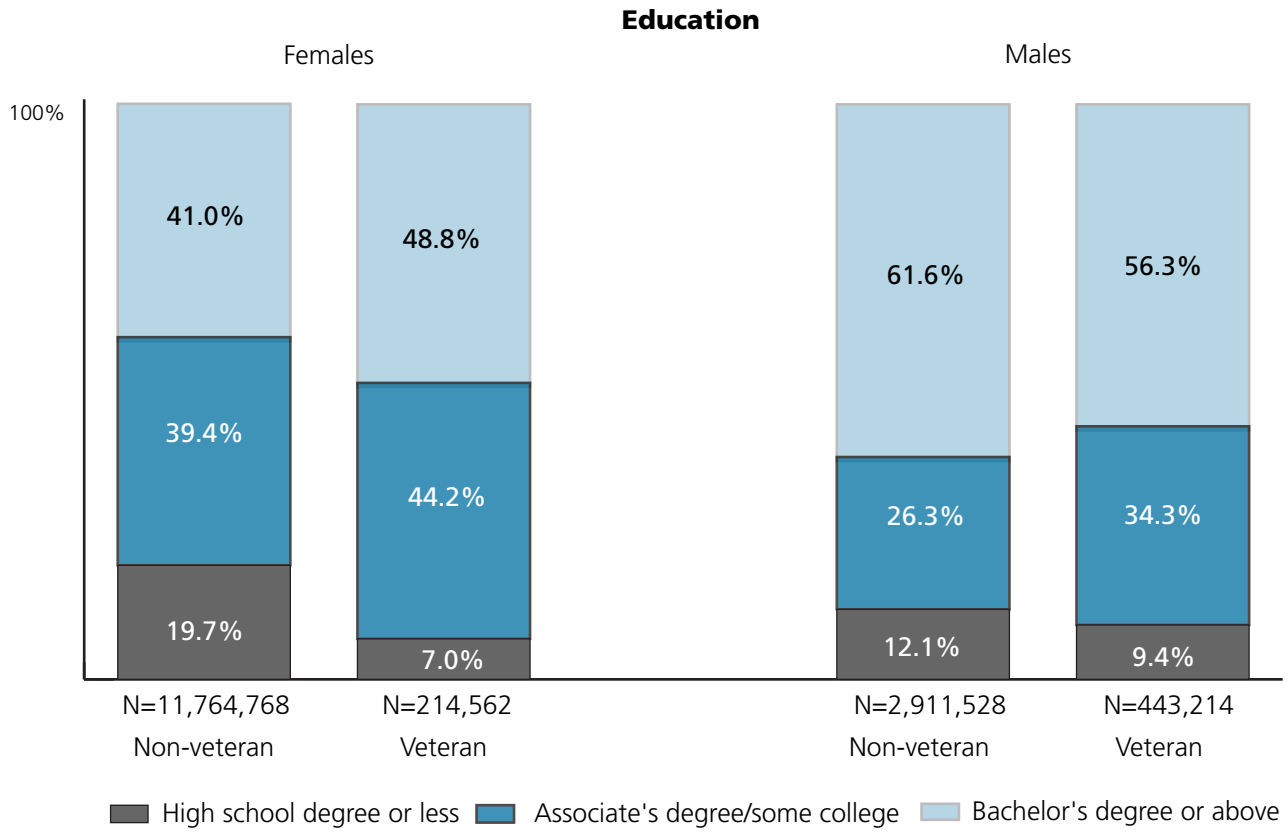
Note: Differences in proportions within gender across veteran status were statistically significant at p<0.001 using Pearson's chi squared test.
Source: Author calculation of data from American Community Survey 2011-2013 extracted from: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

COMPARISON OF HEALTHCARE OCCUPATIONS BETWEEN VETERANS AND NON-VETERANS WITHIN GENDER

Using the 40 healthcare occupations coded by ACS, those most commonly held occupations among veterans compared with non-veterans are shown in Figure 6 for females and Figure 7 for males. Registered nurse (including advanced practice nurse) was by far the most common occupation among female veterans, with more than a ten percentage point difference between female veterans and female non-veterans (32.6% veterans v. 21.9% non-veterans). Female veterans were significantly less likely to hold the low-skilled aide and assistant positions compared to female non-veterans. While still at relatively low percentages female veterans were significantly more likely to hold high-skilled occupations such as physician/surgeon and medical/health services manager than female non-veterans.

Registered nurse (including advanced practice nurse) was the second most common occupation among male veterans (11.4%) compared to being the most common among female veterans (Figure 7). Like their female counterparts, male veterans were significantly less likely to hold the low-skilled aide occupations than were non-veterans. Male veterans were also significantly more likely than non-veterans to hold the same high-skilled occupations as their female counterparts – physician/surgeon and medical/health services manager.

Figure 3: Education of individuals employed in a healthcare occupation by veteran status and gender, 2011-2013



Note: Differences in proportions within gender across veteran status were statistically significant at p<0.001 using Pearson's chi squared test.
Source: Author calculation of data from American Community Survey 2011-2013 extracted from: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

Figure 4: Percent of male and female non-veterans in healthcare occupations

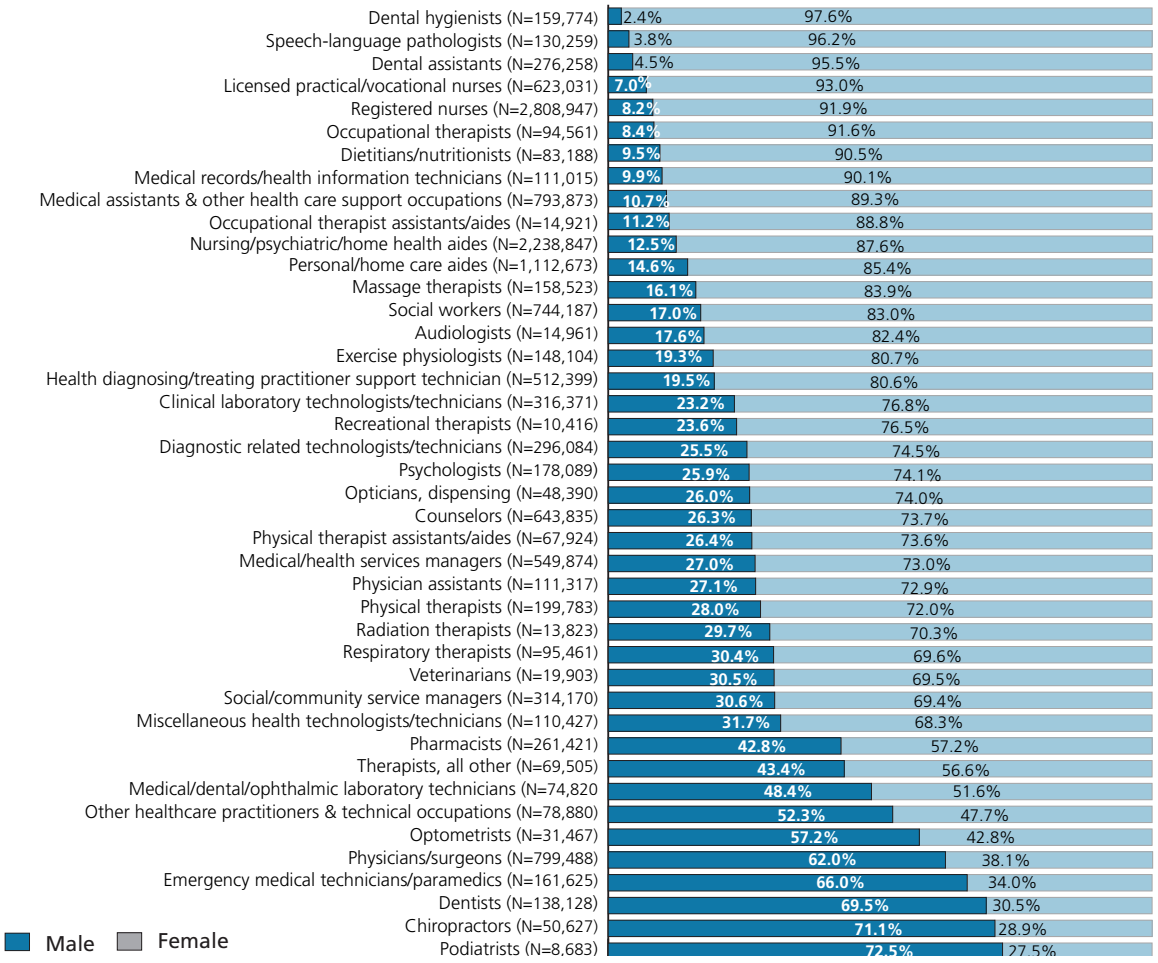


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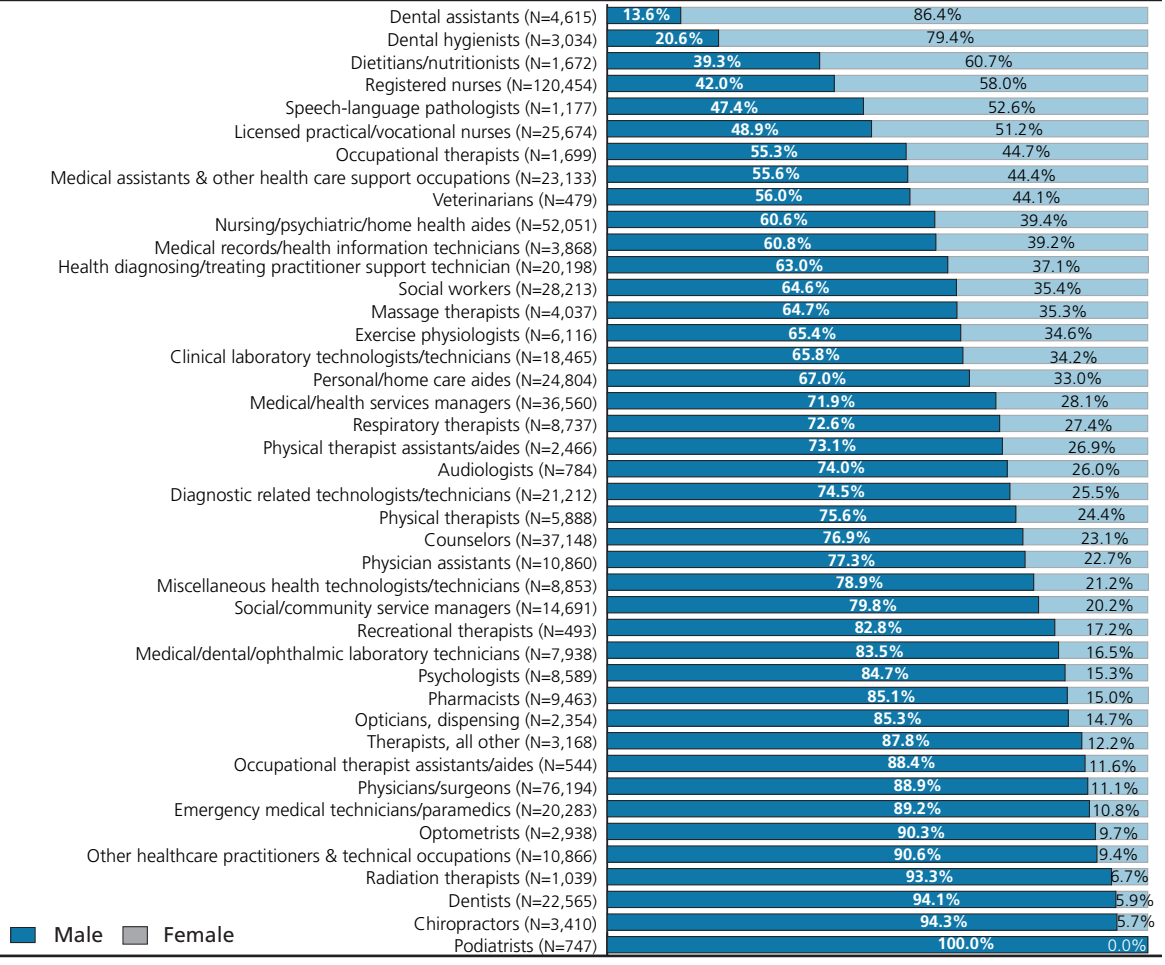
Figure 5: Percent of male and female veterans in healthcare occupations



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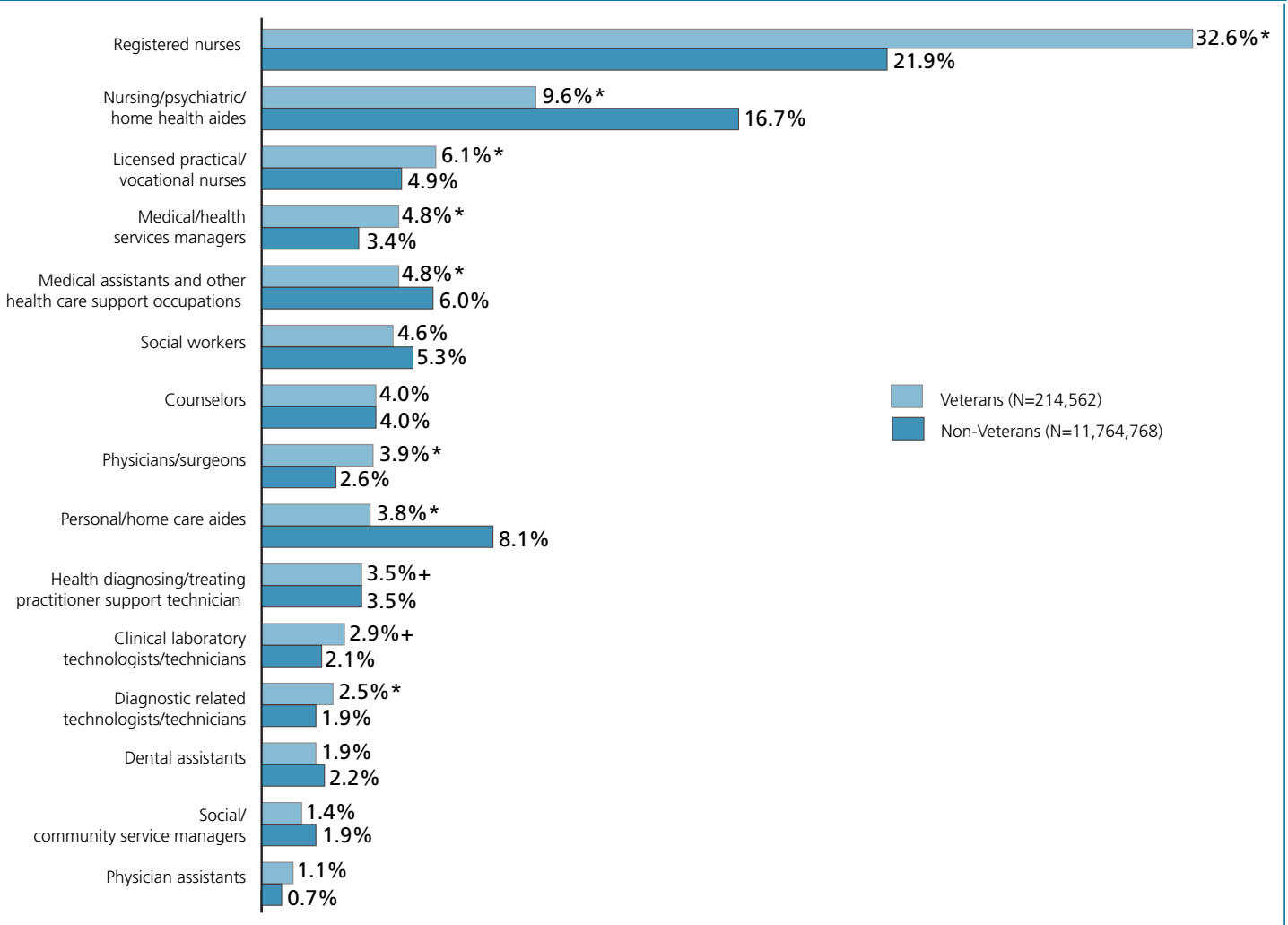
Among both male veterans and non-veterans, the most commonly held occupation was physician/surgeon (15.3% for male veterans and 17.0% for male non-veterans. This compared to much lower rates of 3.9% for female veterans and 2.6% for female non-veterans. Generally, male veterans were more frequently found in healthcare occupations requiring higher education than the occupations held by their female counterparts, including counselor, social worker, medical/health services manager, and dentist. Among female veterans and non-veterans, lower-skilled occupations like nursing/psychiatric/home health aide, medical assistant, and personal/home care aide were among the more commonly held occupations compared to their male counterparts. Allied health professions such as diagnostic related technologist/technician (e.g., cardiovascular technologist/technician, sonographer, magnetic resonance imaging technologist) were among those most commonly held occupations by veterans across both genders, but with higher frequency among males. Among the allied health professions, a high percentage of males were emergency medical technicians/paramedics in both the veteran and non-veteran samples.

Figure 6: Top healthcare occupations held by female veterans compared with non-veterans, 2011-2013[1]

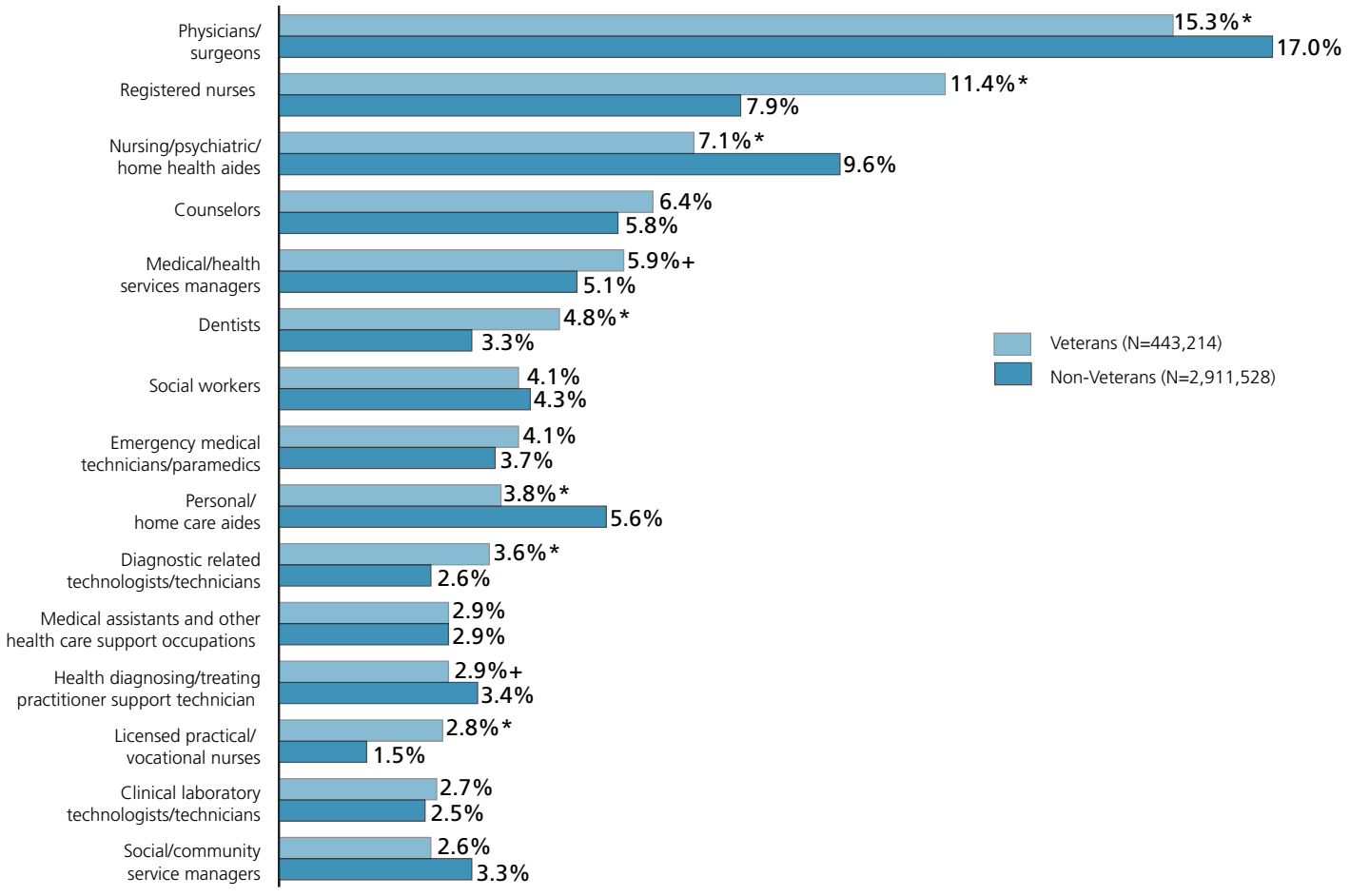


[1]Among 15 most commonly held occupations of female veterans
* significant at p<0.001
+ significant at p<0.01
Source: Author calculation of data from American Community Survey 2011-2013 extracted from: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

YOUNG VETERANS IN HEALTHCARE OCCUPATIONS

Given the challenges that young veterans face in finding employment, we also examined a subsample of veterans in healthcare occupations under the age of 25 (data not shown). Among female veterans under age 25, the highest percentage, about one-third were nursing/psychiatric/home health aides. Among non-veteran females under age 25, the highest percentage (one third) were registered nurses. Another 8.7% of female veterans under age 25 were medical assistants (compared to 4.6% of female non-veterans), and 5.7% were personal/home care aides (compared to 3.7% of female non-veterans). Among male veterans under age 25, about one-fifth were emergency medical technicians/paramedics compared to only 3.8% of male non-veterans. Like their young female counterparts, about forty percent of male veterans under age 25 in healthcare were in low-skilled aide and assistant positions versus 13.3% of male non-veterans. The most common occupations among young male non-veterans in healthcare were physician/surgeon (15.6%) and registered nurse (11.6%).

Figure 7: Top healthcare occupations held by male veterans compared with non-veterans, 2011-2013[1]



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CONCLUSION

Despite earlier studies finding that veterans were commonly entering healthcare, we found that veterans were underrepresented in healthcare occupations, with veterans only comprising 4.3% of those employed in healthcare occupations compared to veterans who comprise 6.5% of the overall U.S. employed population. The sociodemographic characteristics of veterans who work in healthcare were significantly different from non-veterans. Reflective of the overall veteran population, veterans working in healthcare were largely an older male population that was relatively well-educated and working in highly skilled occupations. When examined by gender, female veterans working in healthcare had characteristics more similar to their non-veteran counterparts, except that they were slightly older, more educated, and racially diverse. While female veterans were more likely than female non-veterans in healthcare to be a registered nurse, and less likely to be one of several types of aides, the distribution of female veterans across healthcare occupations was similar to that of female non-veterans.

What cannot be determined from our study are the career pathways for veterans in healthcare occupations. A quarter to a third of females in our sample of women in healthcare, regardless of veteran status, were under 35 years old and over half had an associate's degree or less. Many worked in low-skilled assistive occupations. Similarly, in a concentrated look at veterans under the age of 25, assistive entry-level occupations dominated for both genders. In comparison, more than 80% of male veterans working in healthcare were over the age of 35 years old and over half have a Bachelor's degree or higher. Many of these men worked in high-skilled occupations. Additional studies are needed to determine whether, or the extent to which, the younger cohort of veterans represents populations at the early stages of progressive careers that may follow in the footsteps of the older veteran population. More work also is needed to understand the underlying factors (e.g., military training and experience, financial support for education from the GI bill) that lead male veterans to more highly skilled and higher-paying occupations in healthcare.

Across both genders and veteran status, allied health occupations were among those most commonly held. Little is known about the common pathways taken (or not taken) by individuals in allied health to progress professionally from entry-level into higher-skilled opportunities. Future research should examine movement within and among allied health and other healthcare occupations.

Compared with their predecessors, the new generation of veterans is increasingly female, younger, and racially/ethnically diverse.[22] The nation's challenge is to ensure that veterans and non-veterans who enter healthcare occupations enter at the highest level their education and training supports, and that they have trajectories that encourage career advancement and upward mobility. While part of the solution is to ensure that ongoing training opportunities are available, veterans also face significant barriers in understanding how to use their benefits and translating military education and training to civilian occupations. The Federal government has invested considerable resources to provide veterans with education and training support, especially through the GI Bill, and other statewide and institutional programs and efforts have been developed in recent years to help facilitate veterans' transition into healthcare careers.[19] Monitoring the outcomes of programs like these in order to assess their impact on the career paths of veterans, and whether they help support veterans pursue careers in healthcare is critical to ensuring both veterans' economic well-being and that the healthcare industry benefits from their valuable contributions.

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APPENDIX 1: DETAILED METHODS

This study used data from the most recent available three-year pooled sample of the American Community Survey (ACS). The three-year pooled sample allows for greater geographic representation than the one-year sample, improving the study's ability to make estimates for non-metropolitan areas where there is a high prevalence of veterans. We focused on respondents who were in the labor force at the time of the survey, with labor force participation defined as working or seeking work (excluding, for example, those on active duty, in school, retired, or living in institutions). While entry into the labor force can begin as early as age 16, we selected 18 years as the study's lower age limit because 18 is the age at which individuals are able to join the military.

ACS coded occupations using 2000 Census occupation codes for surveys through 2011. We focused on the most disaggregated level of occupation description provided in ACS for the following two major occupation categories: "Healthcare Practitioners and Technical Occupations" and "Healthcare Support Occupations." Among these categories, "diagnostic related technologist/technician" includes occupations such as sonographers and cardiovascular/nuclear/radiologic/magnetic resonance imaging technologists. "Health diagnosing/treating practitioner support technologist/technician" includes technicians in the areas of dietetic, pharmacy, psyschiatry, respiratory therapy, surgery, veterinary, and ophthalmology. Because these two categories do not define the universe of healthcare occupations, we also included a select number of additional occupations that could deliver direct patient care: medical /health services managers (Census code #0350), social/community service managers (Census code #0420), psychologists (Census code #1820), social workers (Census code #2010), counselors (Census code #2000), miscellaneous community and social services specialists (including health educators and community health workers) (Census code #2020), personal/home care aide (Census code 4610), and medical, dental, ophthalmic laboratory technicians (Census code #8760).[23]

Although we looked at ACS's codes for "presence of a self-reported health difficulty" and "service-connected disability", we did not report the numbers in the tables because the rates were close to zero across genders and veteran status among our employed sample of healthcare workers. Three limitations to using ACS data should be acknowledged. First, we were not able to disaggregate some grouped occupations, such as "nursing, psychiatric, and home health aides" or "medical assistants and other healthcare support occupations," which makes ranking occupations challenging because many occupations may exist within a category. Our approach, however, should be considered as a first step in identifying common clusters of occupations. Second, we were not able to identify individuals' training background. If the data included individuals' training history, especially training that veterans may have received before or while in the military, rank and status, this study could ascertain whether there may exist a mismatch between occupation and skill. Third, although ACS is the largest available data source to track healthcare occupations in the U.S., the sample size within an occupation by gender and veteran status may be small, especially for relatively less common occupations such as podiatrist, possibly leading to slightly biased frequencies.

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