

## Annual Population Survey: UK Armed Forces Veterans residing in Great Britain, 2016

Published 26 October 2017

This bulletin provides estimates on the size and socio-demographic characteristics of the UK Armed Forces veteran population residing in Great Britain (GB) using responses provided in the 2016 Annual Population Survey (APS) administered by the Office for National Statistics (ONS).

Summary figures of the veteran population and comparisons to the estimated non-veteran population residing in GB are provided. Main topics include: people characteristics; regional location; health including smoking status; employment status; education and accommodation (housing). The non-veteran population is defined as those aged 16+ who have not served in the UK Armed Forces or are currently serving.

The APS veteran questions were not asked in Northern Ireland due to security concerns. In addition the APS was only asked of those residing in households and therefore excluded individuals who were homeless or were living in communal establishments such as care homes or prisons.

Note: A public consultation has been run to present the 2016 findings with no historic trends. The outcome of this consultation will be published on the Gov.uk website in the near future: <u>https://www.gov.uk/government/consultations/proposed-reduction-in-scope-of-the-official-statistic-annual-population-survey-uk-armed-forces-veterans-residing-in-great-britain.</u> Historic trends have not been published in this release and are due for publication in February 2018.

#### **Key Points**

- There were an estimated 2.5 million UK Armed Forces veterans residing in households across Great Britain (GB) in 2016. Veterans were estimated to be predominantly white (98%), male (90%) and / or aged 65 and over (63%). The veteran profile was heavily influenced by those who served in the Second World War and subsequent National Service.
- Veterans were estimated to make up five per cent of household residents aged 16+ in England and Scotland, and six percent of household residents aged 16+ in Wales.
- Overall, there were no differences between veterans' and non-veterans' self-reported general health, and health conditions, for example 35% of veterans and 36% of non-veterans aged 16-64, and 18% of veterans and 19% of non-veterans aged 65+ reported their general health as very good. However, veterans of working age (aged 16-64) who have previously smoked were significantly more likely to report suffering from chest and breathing problems, mental illness, or depression.
- Working age veterans were as likely to have a qualification as non-veterans (92% and 89% respectively) but were less likely to have a degree (20%) than non-veterans (30%) and more likely to have gained qualifications through work (63%) and leisure (17%) than non-veterans (45% and 10% respectively). This is likely a result of the training opportunities offered by the MOD to support a Service person in their military career and during transition out of the services.
- Working age veterans were as likely to be employed as non-veterans (78% and 79% respectively), though were more likely to work in the 'public admin and defence' industry (12%) than employed non-veterans (6%). This is likely due to veterans having the appropriate skill set to transition into the emergency and security services, and civilian government jobs.
- Veterans were as likely to have bought their own home (outright or with a mortgage) (75%) as non-veterans (77%).

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Background quality report:	https://www.gov.uk/government/collections/annual-population-survey-uk-armed-
	forces-veterans-residing-in-great-britain

Would you like to be added to our **contact list**, so that we can inform you about updates to these statistics and consult you if we are thinking of making changes? You can subscribe to updates by emailing <u>defstrat-stat-wds-pubs@mod.gov.uk</u>

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This Statistical bulletin, supplementary tables (Annex A) and accompanying Background Quality Report can be found at: <u>https://www.gov.uk/government/publications/mod-national-and-official-statistics-by-topic/mod-national-and-official-statistics-by-topic</u>

## Introduction

This report has been produced to gain a better understanding of UK Armed Forces veterans residing in GB and provides evidence on the health, employment, education and housing status of the veteran population. Information presented provides evidence required by Government, third party organisations and the private sector to aid policy development in support of the Armed Forces Covenant, and supports the MOD's commitment to release information wherever possible. The Armed Forces Covenant lays out the Government's commitment to ensure the Armed Forces community, which includes veterans, are not disadvantaged. Over time this report will enable these policies to be monitored and to identify areas where more understanding may be required.

This report provides statistical information on UK Armed Forces veterans by analysing responses to the Annual Population Survey (APS) carried out by the Office for National Statistics (ONS) in 2016. Respondents were asked a number of questions to identify if they were a veteran. Due to size of the sample which took part in the Annual Population Survey 2016 (approximately 289,000) the results presented in this report provide the most reliable estimates of the veteran population in Great Britain (GB). The APS excluded any questions pertaining to military Service in the Northern Ireland survey due to security concerns in collecting this information in a household survey context.

<u>Veterans:</u> Individuals aged 16+ who reside in households in Great Britain and have previously served at least one day in the UK Armed Forces.

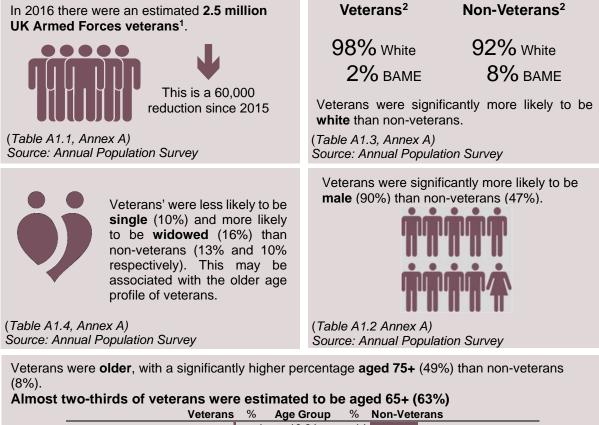
<u>Non-veterans</u>: Individuals aged 16+ who reside in households in Great Britain and have never served or are currently serving in the UK Armed Forces.

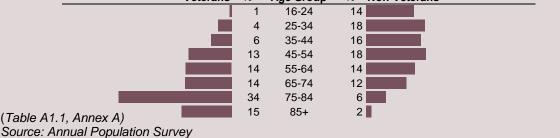
Comparisons have been made between populations within this report. Differences reported as *significantly different* have met the specific criteria (as outlined in the Methodology) to demonstrate that the difference between the two populations of interest was large enough to note. Where *no difference* has been identified, there was not enough evidence to suggest that the difference between populations met the criteria to be statistically significant.

Please note it cannot be assumed that any differences identified were caused by service in the UK Armed Forces as varying lengths of time had elapsed since the respondents served.

## Section 1: 2016 Veteran Estimates by Population Characteristics

This section presents a summary of the overall estimated numbers of UK Armed Forces veterans residing in households across GB in 2016, by key characteristics, with comparisons to the non-veteran population. Underlying summary data for this section can be found in Section 1 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.





The current demographic profile of veterans is a result of the Second World War, and subsequent National Service<sup>3</sup> which ended in 1960, with the last National Servicemen released from the Armed Forces in 1963. Since UK military service became voluntary, white males have continued to be more likely to join the UK Armed Forces<sup>4</sup>.

The volume of veterans aged 75+ may have influenced the reduction in the overall veteran estimate since 2015, since it is likely that the number of veterans who died during the year was higher than the number of Service personnel who left Service and joined the veteran population.

1. Residing in households across Great Britain (England, Wales and Scotland).

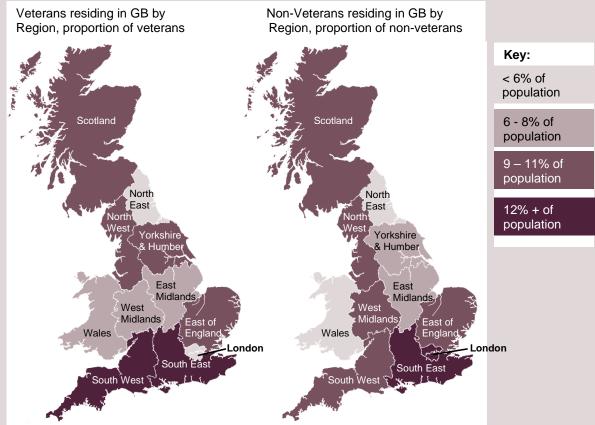
- 2. Estimates were calculated excluding the estimated 3,000 veterans and 36,000 non-veterans who did not declare their ethnicity.
- 3. <u>http://www.parliament.uk/about/living-heritage/transformingsociety/private-lives/yourcountry/overview/nationalservice/</u>
- 4. https://www.gov.uk/government/statistics/uk-armed-forces-biannual-diversity-statistics-2015

## Section 2: 2016 Veteran Estimates by Location

This section presents a summary of the overall estimated numbers of UK Armed Forces veterans residing in households across GB in 2016, by location, with comparisons to the unstandardised non-veteran population. Underlying summary data for this section can be found in Section 2 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.

## Are veterans residing in different regions across Great Britain than non-veterans?

Five per cent of household residents in England and Scotland, and six percent of household residents in Wales were estimated to be veterans (*Table A2.6, Annex A*).



The percentage of **veterans residing in the London region** (5%) was **significantly lower than** the percentage of **non-veterans** (14%). This significant difference was observed among working-age veterans only (5% compared with 15% respectively), there was 'no difference' between the percentage of veterans and non-veterans aged 65+ (6% and 9% respectively).

Over a quarter (28%) of veterans were estimated to be in the South East and South West regions of England.

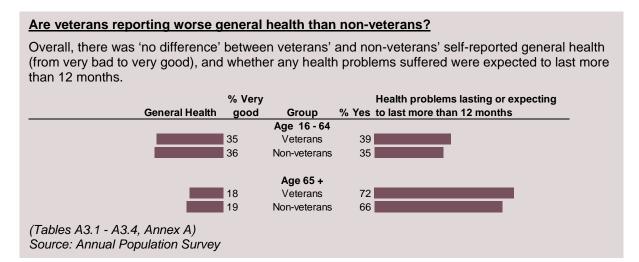
(Tables A2.2 – A2.3, Annex A) Source: Annual Population Survey

Tables A2.5 and A2.7 in Annex A also present lower-level summary tables on the estimated location of veterans by county. This is to help enable Government departments and the third party sector to identify where veterans were more likely to reside to aid the allocation of resource in support of veterans. The counties of Devon and Hampshire had the largest percentage of veterans (3% and 4% respectively) within the South West and South East Regions.

## Section 3: 2016 Veteran Estimates by Health and Smoking Status

This section looks at the self-reported health conditions suffered by UK Armed Forces veterans residing in households across GB and identifies if there were any significant differences when compared to non-veterans. As health is known to decline with age, separate comparisons were made between veterans and non-veterans of working age (aged 16 to 64) and retirement age (aged 65+). It should be noted that it is unknown if health problems reported by veterans developed whilst in Service or are attributed to their Service after leaving the UK Armed Forces.

Underlying summary data for this section can be found in Sections 3 and 4 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.



## <u>Are veterans reporting that their health conditions have a more severe impact on their daily activity and work than non-veterans?</u>

			Did previous health problems limit
	Group	% Yes	activity?
	Age 16 - 64		
$\sim$	Veterans	63	3
	Non-veterans	63	3
Overall, there were 'no differences' between the proportions of veterans and	Age 65 +		
non-veterans who reported that their	Veterans	66	§
health problems limit their activity or	Non-veterans	60	
affected the amount and kind of work			
they can carry out.			Do health problems affect the
Note that the work-related questions	Group	% Yes	amount of work carried out?
were only asked to those of working age	Age 16 - 64		
(aged 16-64).	Veterans	48	
	Non-veterans	43	
			Do boolth problems offect the kind
	Group	% Yes	Do health problems affect the kind of work carried out?
	Age 16 - 64	/0103	
	Veterans	-	
		53	
	Non-veterans	49	
(Tables A3.14 - A3.17, Annex A) Source: Annual Population Survey			

### Are veterans suffering more than non-veterans from specific health conditions?

When looking at the populations overall, there was 'no difference' between veterans' and non-veterans' self-reported health conditions. However, **Veterans aged 16-34** were:



**Significantly less likely** to report chest and breathing problems (10%) than non-veterans of the same age (22%).

These findings are likely a result of the Armed Forces entry criteria<sup>5</sup> which excludes those with specific long-term health conditions, including asthma.

Working age and retirement age veterans and non-veterans all most commonly reported the same three health conditions, with 'no difference' between groups:



Heart, blood pressure, or circulatory related conditions (33% of both working age veterans and non-veterans; 53% of both retirement age veterans and non-veterans respectively)



Legs or Feet related conditions (35% and 27% of working age veterans and non-veterans respectively; 37% and 34% of retirement age veterans and non-veterans respectively)



Back or neck related conditions (31% and 25% of working age veterans and non-veterans respectively; 23% and 22% of retirement age veterans and non-veterans respectively)



One-quarter of retirement age veterans also reported difficulty in hearing (23%), with 'no difference' to retirement age non-veterans (17%).



At Region level there were some significant differences between veterans and nonveterans in the long term health problems they report. Regional comparisons are provided in Tables A3.12 and A3.13 in Annex A.

(Tables A3.5 - A3.7; A3.12 - A3.13, Annex A) Source: Annual Population Survey

## Are there any groups within the veteran population who suffer more from specific health conditions?



There were significant differences <u>within</u> the veteran population when comparing those who reported suffering from depression and bad nerves:

Female veterans of working age were significantly more likely to report suffering from depression and bad nerves (31%) than male working age veterans (21%). The same trend, though not significant was seen among the non-veteran population. This mirrors the UK Armed Forces population in which females are more likely than males to seek help for a mental health disorder<sup>6</sup>.

(Tables A3.19 - A3.23, Annex A) Source: Annual Population Survey

separated veterans Divorced and were significantly more likely to report suffering from depression and bad nerves (22%) than veterans in all other marital status groups (11%). The same trend, though not significant was seen among the non-veteran population. These findings reflect other research findings<sup>7</sup> which suggest that a relationship break-up among the 'ex-service community' is likely to be a 'trigger' of psychological difficulties, including depression. However, it is unknown whether mental health issues may place strain on a relationship, contributing towards divorce or separation.

<sup>5.</sup> https://www.raf.mod.uk/recruitment/media/1652/medical-conditions-that-preclude-entry.pdf

<sup>6.</sup> https://www.gov.uk/government/statistics/uk-armed-forces-mental-health-annual-statistics-financial-year-201617

<sup>7.</sup> https://www.britishlegion.org.uk/media/2275/2014householdsurveyreport.pdf.

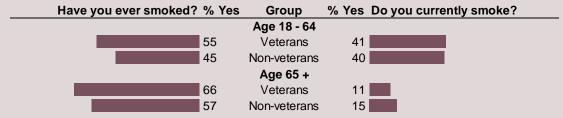
## Section 3: 2016 Veteran Estimates by Health and Smoking Status (Cont.)

Historically, smoking was highly prevalent within the UK Armed Forces. For example, during WWI, cigarettes were included in the rations for those serving, and it has been suggested that *'life in the military can encourage non-smokers to smoke and ex-smokers to restart*<sup>6</sup>. Therefore the remainder of this section compares self-reported health problems between veterans and non-veterans who currently smoke, or who have ever smoked, cigarettes. Note that APS survey question on smoking were only asked to those aged 18+.

### Are veterans smoking more than non-veterans?

There were 'no differences' between the percentage of veterans and non-veterans who reported that they currently smoke, or between the percentage of retirement age veterans and non-veterans who have ever smoked.

Veterans of working age (55%) were significantly more likely than non-veterans of working age (45%) to have ever smoked.



Further significant differences were found when looking at sub populations by age, gender and region:

50-69

 Veterans aged between 50 and 64 years of age were significantly more likely to have ever smoked than non-veterans of the same age (59% and 47% respectively), as were veterans between 65 and 69 years of age (70% and 54% respectively).



- Female veterans were significantly more likely than female non-veterans to have ever smoked. This was observed for females of working and retirement age (50% and 39% of working age veterans and non-veterans respectively; 55% and 42% of retirement age veterans and non-veterans respectively).
- Working age veterans residing in Scotland, the North, Yorkshire and the Humber and the Midlands were significantly more likely to have ever smoked than non-veterans of working age living in the same regions.
- Retirement age veterans residing in the North East, the West Midlands and the South West were significantly more likely than non-veterans of retirement age living in the same regions to have ever smoked.

(Tables A4.1 - A4.9, Annex A) Source: Annual Population Survey

<sup>8. &</sup>lt;u>https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/530240/Defence\_Annual\_Health\_an</u> <u>d\_Wellbeing-report-2015\_WEB\_lowres.pdf</u> Page 12.

# Are veterans who smoke, or have ever smoked, reporting worse general health than non-veterans?

There were 'no differences' in self-reported health between veterans and non-veterans who currently smoke, or have ever smoked. Both veterans and non-veterans who currently smoke, or have ever smoked, reported worse general health than veterans and non-veterans who have never smoked, highlighting a negative association between smoking and health.

For example, working age veterans who currently smoke and have ever smoked were significantly less likely (20% and 27% respectively) than veterans who have never smoked (31% and 44% respectively) to rate their general health as 'very good'.

Have you ever smoked?	% Very good health	Veterans Age 18 - 64	% Very good health	Do you currently smoke?
	27 14	Yes No	20 31	

Veterans who have ever smoked were significantly more likely than veterans who have never smoked to report having health problems lasting or expecting to last more than 12 months (46% and 32% respectively).

Have you ever smoked?	% With long lasting health problems	Veterans Age 18-64	% With long lasting health problems	Do you currently smoke?
	46 32	Yes No	48 44	



Veterans of working age who currently smoke or have ever smoked were significantly more likely to report that their health problems limit their activity 'a lot' and affects the amount and kind of work they do. The same findings was also found for non-veterans of working age.

(Tables A4.43 - A4.58, Annex A)

Source: Annual Population Survey

### <u>Are veterans who smoke, or have ever smoked, suffering more than non-veterans from specific</u> <u>health conditions?</u>

There were 'no differences' between the percentage of veterans and non-veterans who currently smoke or have ever smoked, reporting specific health conditions. Any potential association between smoking and health was found amongst both populations. In particular, amongst those who reported suffering from chest and breathing problems, mental illness<sup>9</sup> and depression<sup>10</sup>. For example;



Overall, working age veterans were significantly less likely to report suffering from chest and breathing problems than working age non-veterans. However, working age veterans who have ever smoked were significantly more likely to report suffering from this condition (23%) than working age veterans who have never smoked (13%).



Veterans of working age who currently smoke were significantly more likely than veterans of working age who do not currently smoke to report having mental illness<sup>9</sup> and depression<sup>10</sup>. However, it is unknown whether smoking is the cause or effect of mental health problems.

(Tables A4.39 - A4.41, Annex A) Source: Annual Population Survey

<sup>9.</sup> Mental illness refers to mental illness, phobias and panics

<sup>10.</sup> Depression refers to depression and bad nerves

## Section 4: 2016 Veteran Estimates by Employment Status

This section looks at the employment status of working-age UK Armed Forces veterans residing in GB in 2016, and for those employed, their occupation and industry, to identify any significant differences when compared to non-veterans. Underlying summary data for this section can be found in Section 5 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.

### Do veterans have a different employment status to non-veterans?

Overall, there was 'no difference' in employment status between working-age veterans and non-veterans. Three-quarters of veterans (78%) and non-veterans (79%) were employed.

Non-Veterans	79%	4% 18%	Employed <sup>11</sup>
			Unemployed <sup>11</sup>
Veterans	78%	4% 19%	Economically Inactive <sup>11</sup>

There continued to be 'no differences' between working-age veterans' and non-veterans' employment status by gender, age group, ethnicity and region.

Whilst there were 'no differences' <u>between</u> working-age veterans and non-veterans, there were gender differences <u>within</u> the populations:



Female veterans and non-veterans were more likely to be economically inactive, and less likely to be employed, than males. This finding was expected since females within the general UK population are more likely to be economically inactive due to family commitments than males<sup>12</sup>.

(Tables A5.1 – A5.5, A5.17 Annex A) Source: Annual Population Survey

# Overall, are employed veterans working in different occupations and industries to employed non-veterans?

Employed veterans were significantly more likely to work in the 'Public admin and defence' industry' than employed non-veterans (12% compared with 6% respectively). The following veteran cohorts were also significantly more likely to work within this industry:

- Female veterans (15% compared with 8% of non-veterans)
- Veterans aged 35-49 (13% compared with 7% of non-veterans)
- Veterans residing in the East of England (14% compared with 6% of non-veterans) and the South East regions (13% compared with 6% of non-veterans).

This industry includes a wide range of sectors, including civilian roles within the MOD, the Prison Service, National Health Service, and Police and Fire Services. Therefore veterans are likely to have the required skill set to transition into the emergency and security services, and jobs in government.

(Tables A5.7-A5.16, A5.18, A5.19, Annex A) Source: Annual Population Survey

<sup>11.</sup> Employment status percentages have been calculated using ONS definitions resulting in the percentages not summing to 100%. See methodology for further details.

<sup>12.</sup> ONS Labour Market Statistics: <u>http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes</u>

## Section 4: 2016 Veteran Estimates by Employment Status (Cont.)



Additional overall significant differences were found between the occupations and industries of employed veterans and non-veterans within some regions. Regional comparisons are provided in Tables A5.8 and A5.13 in Annex A.

There were also some differences between employed veterans' and non-veterans' occupations and industries when considering age and ethnicity. Notably;

#### BAME veterans were significantly:

Less likely to work in the 'Accommodation and food services' industry (2%) than BAME non-veterans (8%). This is likely due to the different make-up of the BAME UK Armed Forces veteran population. Across GB this industry is largely made up of men from the Asian / Asian British groups. The 2011 Census<sup>13</sup>, for example, estimated that around one-third of Bangladeshi men (36%) and Chinese men (31%) worked in the 'accommodation and food services' industry. However, it is estimated that the BAME veteran population is largely made up of those from the Black and Afro-Caribbean ethnic groups<sup>14</sup>, since the MOD predominantly recruits from Foreign and Commonwealth countries. Therefore the proportion of BAME veterans working in accommodation and food services industry is lower.

Veterans aged 16-34 were significantly:

- More likely to work as 'Process, Plant and Machine Operatives' (19%) than non-veterans (8%)
- More likely to work within the 'Transport and storage' industry (13%) than non-veterans (6%)
- Less likely to work in 'Professional occupations' (9%) than non-veterans (20%).

(Tables A5.9, A5.11, A5.14, A5.16, Annex A) Source: Annual Population Survey

There were also a number of significant differences between the percentages of employed males and females **within** the veteran and non-veteran populations with regards to their employed occupations and industries. These findings reflect wider UK gender differences within the workplace<sup>15</sup> and are not related to an individual's veteran/non-veterans status:



Males were significantly more likely to work in:

- 'Skilled trades' occupations
- 'Process, plant and machine operative' occupations
- 'Manufacturing and construction' industries
- 'Transport and storage' industry

(Tables A5.17-A5.19, Annex A) Source: Annual Population Survey Females were significantly more likely to work in:

- 'Administrative and secretarial' occupations
- 'Caring, leisure and other service' occupations
- 'Health and social work' industry
- 'Education' industry

- 14. MOD UK Armed Forces Diversity Statistics: <u>https://www.gov.uk/government/statistics/uk-armed-forces-biannual-diversity-statistics-2017</u>
- 15. ONS Labour Market Statistics:

http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes

<sup>13,&</sup>lt;u>https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicityandthelabourmark</u> et2011censusenglandandwales/2014-11-13

## Section 5: 2016 Veteran Estimates by Educational Attainment

This section looks at the highest qualification for working-age UK Armed Forces veterans residing in GB and how they gained their qualifications, to identify any significant differences when compared to non-veterans. Underlying summary data for this section can be found in Section 6 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.

# Is there a difference between the percentage of veterans and non-veterans with a qualification?



An estimated **92% of veterans had a qualification**<sup>16</sup>, which was no different to the non-veteran population (89%).



Regional differences were found between veterans and non-veterans in respect of the highest level of qualification achieved. Regional comparisons are provided in Table A6.3 in Annex A.

(Tables A6.2, A6.3, A6.4, A6.9, Annex A) Source: Annual Population Survey

**Do veterans and non-veterans show differences in their methods of gaining qualifications?** Whilst there was 'no difference' between the percentage of veterans and non-veterans with a qualification, the methods in which qualifications were obtained differed between the two populations. **Veterans were**:



Significantly **less likely to have a degree** (or equivalent) as their highest level of qualification (20%) than non-veterans (30%). This was consistent across the age groups 16 to 49.



More likely to have GCSE's/A-Levels (or equivalent) as their highest level of qualification (48%) than non-veterans (40%). In particular, **veterans aged 16-34 and 35-39** were **significantly more likely** than non-veterans of the same age **to have GCSEs** as their highest qualification.



Veterans were significantly more likely to have achieved their qualification through work (63%) and through leisure/self-taught courses (17%) when compared to non-veterans (45% and 10% respectively).

These findings are to be expected since a large proportion of UK Armed Forces personnel join directly after leaving compulsory education. In 2016/17, 40% of intake to the UK regular Armed Forces was among those aged 16-19<sup>17</sup>.

In addition to role-specific training throughout the Service person's career, the MOD also offers a wide range of training opportunities. Examples of these opportunities available include:

- Apprenticeships: The MOD is the largest provider of apprenticeships in the UK. There are around 20,000 apprentices on a programme in the Armed Forces at any one time, ranging from engineering and construction to hospitality and animal care<sup>18</sup>.
- Resettlement Training Grants: Eligible Service leavers can receive a financial contribution to vocational training costs to support their resettlement into civilian life<sup>19</sup>.

(Tables A6.2, A6.4, A6.5, A6.9, Annex A) Source: Annual Population Survey

16. Includes qualifications achieved at school, college and since leaving education, including any work-based training.

<sup>17.</sup> https://www.gov.uk/government/statistics/uk-armed-forces-biannual-diversity-statistics-2017

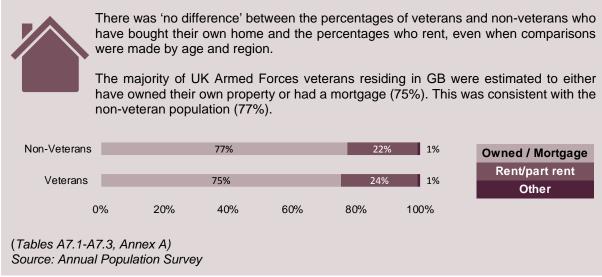
<sup>18.</sup> https://www.gov.uk/guidance/apprenticeship-opportunities-in-the-ministry-of-defence

<sup>19.</sup> https://www.ctp.org.uk/allowances-grants

## Section 5: 2016 Veteran Estimates by Accommodation Status

This section looks at the percentage of veterans who own or rent their accommodation (tenure) and identifies if there were any significant differences when compared to the non-veteran population. Underlying summary data for this section can be found in Section 7 of Annex A. This section only reports on the notable significant differences (as annotated with '\*\*m' in Annex A). See methodology section for further guidance.

#### Is there a difference in accommodation tenure between veterans and non-veterans?



There were no notable regional differences between veterans and non-veterans in respect of the percentages who have bought their own home and the percentages who rent. Regional comparisons are provided in Table A7.3 in Annex A.

For those who have not bought their own home and live in social housing, the Department for Communities and Local Government (DCLG) has introduced a package of measures to ensure the Armed Forces community have the same access to social housing and are not disadvantaged by the requirement for mobility whilst in Service. In 2014/15 a greater proportion of the Armed Forces Community (both serving personnel and veterans) were estimated to spend less than six months waiting for social housing compared to the non-Service population<sup>20</sup>. (64% and 50% of those aged under 65 respectively, and 65% and 56% of those aged 65+ respectively).

20.https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/588140/30012016\_AFC\_Report\_FI\_NAL\_WEB.PDF

## Data, Definitions and Methods

This section provides a brief summary of the data sources and methodology; more detailed information is available in the background quality report for this bulletin.

#### **Data Sources**

Defence Statistics received survey data from the Office for National Statistics (ONS). The Annual Population Survey (APS) is a quarterly survey of households in the UK conducted by the ONS. In 2014 questions were included for the first time to enable the identification of UK Armed Forces veterans. More information on the coverage of the APS (formerly known as the Integrated Household Survey (IHS)) and the survey itself can be found at; <u>http://www.ons.gov.uk/ons/guide-method/method-quality/specific/social-and-welfare-methodology/integrated-household-survey/index.html</u>

### Data Coverage

The data in this report was based on survey responses from households across the UK, which surveyed approximately 289,000 household residents. Only respondents aged 16 and over and residing in England, Scotland and Wales were asked the veteran questions. Veterans were identified as those who had previously served; non-veteran populations were those who had never served or were currently serving. Using these criteria 13,000 respondents were identified as veterans and 214,000 as non-veteran populations (samples rounded to the nearest 1,000). Some respondents were re-classified due to inconsistencies within responses. See the background quality report for further information.

### Methodology

### ONS Weighting of APS data

Prior to the survey data being received by Defence Statistics, the ONS applied 2017 weights (variable PWTA17) to the dataset in order to inflate the sample size to the population size. Further information on the weighting and other adjustments used by the ONS can be found at: <u>http://www.ons.gov.uk/ons/guide-method/method-guality/specific/social-and-welfare-methodology/integrated-household-survey/index.html</u> in the 'IHS user guide 2014'.

Further appropriate weights were also applied to account for the approximate 8,000 individuals who responded to the 2016 APS but did not provide a response to the veteran questions. The percentage of people who answered the veteran question differed by age and gender; therefore probability of the non-responders being a veteran differed by age and gender. See the background quality report for the applied weights.

#### Standardising the non-veteran data to enable comparisons

The veteran population was predominantly male and older than the non-veteran population. This difference had to be taken into account when comparing veterans to non-veterans to ensure any differences identified were true differences and not due to the different age and gender profiles. This was achieved by assigning additional weights to the non-veteran population so the age and gender structure mirrored that of the veteran population. The weight applied for each age and gender group was: the percentage of veterans divided by the percentage of non-veterans. The weights did not affect the overall number of non-veterans but inflated the male and older individual's responses and reduced the female and younger individuals' responses. The Background Quality Report provides further detail on the process, and weightings used, to standardise the non-veteran population.

#### Statistical methods used to make comparisons between veterans and non-veterans

**Percentage:** Percentages enabled comparisons to be made between two populations i.e. veterans and non-veterans. The estimated number who gave a particular response for the population was divided by the estimated total number in the population and multiplied by 100.

## Data, Definitions and Methods (Cont.)

The **z test** difference between two proportions was used to identify if there was a significant difference between the estimated percentages from the veteran and non-veteran population responses. The significance test was carried out at the 99% significant level meaning there should be less than 1% (1 in 100) chance that differences observed in the APS results weren't representative of the population as a whole. The significance test provided confidence to state that an observed difference between the percentages was a real difference, and did not occur due to chance. The standard significant test formulas assume the data was from a simple random sample. Therefore the formula was adjusted using the **design factor** to take account of both the standardisation and the sample design. Please see the Background Quality Report for further information on the statistical procedures applied.

Upper and lower **confidence intervals** were also calculated from the z test. Where they do not overlap zero the estimates from the two populations were significantly different.

However, the large sample size can produce statistically significant results even though the differences between the observations were only trivial. Therefore the **measure of effect** was calculated to quantify the difference between two groups, even where statistically significant differences were found. Only significant differences with an effect size of 0.2 (indicating a small to large effect size) were reported as significantly different within this Statistical Bulletin. Any comparisons between two groups which were not significantly different, or were significantly different but with an effect size of less than 0.2 were reported as having 'no difference'.

<u>Significant difference</u>: The difference between two groups was determined to be notably significant, with an effect size of 0.2 / -0.2 or greater, as marked with '\*\*m' in the supplementary tables in Annex A.

<u>'No difference'</u>: The difference between two groups was determined to not be significantly different, or a significant difference was determined but with an effect size of less than 0.2 (marked with '\*\*' in the supplementary tables in Annex A).

**Margin of error:** Each estimated percentage carries a margin of error; which has been presented in the supplementary tables in Annex A. Margins of error provided a measure of the level of uncertainty in the estimate; or a measure of how reliable the survey was. The higher the margin of error, the less likely the percentage represents the true value for the population. Large error margins are usually the result of having a small number of respondents within a particular group. The calculations for the margin of error were also adjusted to account for the **design factor**.

**Design factor:** The weighting and standardisation applied can either improve the precision of a survey estimate or make them worse. In this case the weighting and standardisation decreased the precision. By using the formula for a simple random sample we were increasing the risk of stating there was a significance difference when there wasn't one. The design factor is applied to the margin of error and significance test calculations to account for this. The background quality report provides more detail on the design factor calculations.

## Glossary

Annual Population Survey	The Annual Population Survey ((APS), (formerly the Integrated Household Survey (IHS)), is a survey of households in Great Britain carried out quarterly by the Office for National Statistics (ONS)
Armed Forces Covenant	The Armed Forces Covenant defines the principles for ensuring that Armed Forces personnel are not disadvantaged in their access to public and commercial services as a result of their service.
Effect Size	Effect size illustrates the magnitude of the difference between two populations.
Great Britain (GB)	Great Britain comprises of England, Scotland and Wales (UK excluding Northern Ireland)
Inactive	Economically inactive - people who are not in work and are not actively looking for work, such as those in retirement, those studying and those caring for relatives.
Long-term health condition	Self-reported health conditions that had or were expected to last more than a year
Margin of Error	Provides a measure of the level of uncertainty in the estimate
Ministry of Defence (MOD)	The Ministry of Defence (MOD) is the United Kingdom government department responsible for the development and implementation of government Defence policy and is the headquarters of the British Armed Forces. The principle objective of the MOD is to defend the United Kingdom and its interests. The MOD also manages day to day running of the armed forces, contingency planning and Defence procurement.
Non-Response	Refers either to a person who although sampled did take part in the survey at all or those who did not reply to a particular question or questions.
Non-veteran populations	Non-veteran populations includes all those aged 16+ who were not veterans including those who have never served in the UK Armed Forces and those who are currently serving.
Retirement age veteran	Veterans aged 65+
Royal British Legion (RBL)	The Royal British Legion (RBL) is a British charity providing financial, social and emotional support to members and veterans of the British Armed Forces, their families and dependants
Standardising/ standardised	For the purposes of this analysis, the proportion of non-veteran population respondents were weighted by gender and age groups to represent the age and gender distribution of the veteran population
Statistically Significant	Refers to a result of a statistical test in which there is evidence of a change in proportions between groups.
Statistical tests	Refers to those tests which are carried out to see if any evidence exists for a proportional difference in response between groups.

## Glossary (Cont.)

United Kingdom (UK)	Comprises of England, Scotland, Wales and Northern Ireland.
Working age veteran	Veteran aged 16-64
Veterans	Veterans includes those aged 16+ who had served in the UK Armed Forces and were not currently serving
z-test	Statistical test based on a standardised distribution which allows comparison between populations/groups of different sizes.

## Further Information

### Symbols

.. Estimates based on fewer than three respondents have been suppressed in accordance with the Office for National Statistics disclosure policy (2008).

\*\*m denotes the estimate is significantly different to the non-veteran population estimate (z test of proportions, 99% confidence level) with a small to large effect size (Cohen's d = >0.19).

#### Disclosure control

Estimates based on fewer than three respondents were suppressed in accordance with the ONS disclosure policy (2008). Estimates based on a small number of respondents were more likely to breach confidentiality. The same estimates were also likely to be unreliable. Confidentiality protection was provided by releasing only weighted estimates and by suppressing certain values. Information on the exact number of sample respondents was restricted.

#### Revisions

There are no planned revisions of this bulletin. Amendments to figures may be identified in future analysis. To ensure continuity and consistency, figures will only be adjusted during the year where it is likely to substantially affect interpretation and use of the figures, otherwise required corrections will be released in future bulletins along with reasons for the corrections.

- i. Where number of figures updated in a table is small, figures will be updated and those which have been revised will be identified with the symbol "r". An explanation for the revision will be given in the footnotes to the table.
- ii. Where the number of figures updated in a table is substantial, the revisions to the table, together with the reason for the revisions will be identified in the commentary at the beginning of the relevant chapter / section, and in the commentary above the affected tables. Revisions will not be identified by the symbol "r" since where there are a large number of revisions in a table this could make them more difficult to read.

#### **Contact Us**

Defence Statistics welcomes feedback on its statistical products. If you have any comments or questions about this publication or about the statistics in general, you can contact us as follows:

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