

Scotland's Census 2021 Ex-Service Topic Report

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1. Main Points

- Information about the Armed Forces community hasn't previously been collected in the census except in relation to the occupation of those currently serving.
- The topic consultation and stakeholder engagement have shown that users need information on:
 - those who were regulars or reservists, in any role, to ensure that the commitments of the Armed Forces Covenant are met;
 - the dependents of those persons who are serving, or who have served, to provide education and health services as outlined in the Armed Forces Covenant; and
 - persons who have left the Armed Forces and are of working age so that their health and employment outcomes can be reviewed.
- For those who are no longer serving, the Ministry of Defence definition of ex-service personnel will be adopted. Therefore, anyone who has served for a day in the UK Armed Forces, in any role, will be included as a veteran.
- Users need the information at local authority level, but also at some lower geographies to better target services to those most in need.
- Cognitive testing highlighted that a question that included a currently serving response option improved data quality as it prevented currently serving personnel self-coding incorrectly as ex-personnel. This question performed well in quantitative testing.
- Research and analysis does support taking a question on this subject further at this stage.
- The digital first approach for Scotland's Census 2021 requires further development and user testing to fully understand the best way to present the questions online to maximise response, minimise respondent burden and ensure good quality data which meets user needs. An on-going programme of question development, focusing on sensitive or complex questions will further inform the specific question wording.

2. Introduction

This topic review sets out the evidence gathered in developing an armed forces ex-service question for recommendation for inclusion in Scotland's Census 2021.

Question development for the 2021 Census began in 2015. An iterative and comprehensive process of user consultation, evaluation and prioritisation of user requirements, and qualitative and quantitative question testing has been carried out to inform decisions on the questions to be recommended for inclusion in the 2021 Census. More information about [research and preparation](#) and [question development](#) for Scotland's Census 2021 can be found online.

The 2021 Census will be digital first. The Census 2021 questionnaire must gather high quality data that meets user needs. More information about [key elements of the design](#) for 2021 can be found online.

Two frameworks have been published by National Records of Scotland (NRS) to evaluate the effectiveness of [question design for existing, alternative and new questions](#) (PDF) and to evaluate the effectiveness of [question design of tick box response options](#) (PDF).

Questions and their response options are evaluated against five main themes:

Strength of user need

- ✓ Data collected by the census must meet a user need for equality monitoring, policy development, resource allocation and/or service planning and delivery.

Suitability of alternative sources

- ✓ Data collected by the census must meet a user need that cannot be met elsewhere.

Acceptability, clarity and data quality

- ✓ Questions asked in the census must be acceptable to the majority of the public, clear and be designed with minimal respondent burden in order to obtain good data quality that meets user needs.

Comparability

- ✓ Data collected by the census should be comparable over time where possible, and harmonised across the UK where reasonable.

Operational considerations

- ✓ Census questions must be considered as part of the census as a whole, where effective digital and paper design, space and financial constraints must be considered. Additionally, some questions may be required for operational purposes in the process of conducting the census.

The final decision on the content of Scotland's Census 2021 questionnaire will ultimately be made by the Scottish Parliament.

As in previous years, there will be separate censuses conducted by the Office for National Statistics (ONS) in England and Wales, and the Northern Ireland Statistics and Research Agency (NISRA) in Northern Ireland. The three census offices work together to develop a set of questions that, wherever possible and necessary, will deliver harmonised outputs across the UK.

3. Background

Information about the Armed Forces community hasn't previously been collected in the census except in relation to the occupation of those currently serving. Following feedback from the 2021 Census topic consultation, NRS concluded that further work was required to understand the exact nature of user need so that consideration could be given to whether including a question in the census was the most appropriate way of collecting the information and/or whether alternative methods of meeting the user need existed.

Poppyscotland and The Royal British Legion (The Legion) launched their [Count Them In](#) campaign on 16 May 2016 calling on the UK Government and devolved administrations to include questions concerning membership of the Armed Forces community in the next 2021 census. The Legion and Poppyscotland maintain that statutory and voluntary service providers are currently unable to fully meet the needs of the Armed Forces community as there is limited and patchy data available concerning their profile, needs and location.

The [Armed Forces Covenant](#) was enshrined in statute in 2011. The Covenant is the nation's recognition of its moral obligation to members of the Armed Forces and their families, and it establishes how they should be treated, stating that the Armed Forces and their families "deserve our respect and support, and fair treatment". Two key principles underpin the Covenant, namely that:

1. the Armed Forces community should not face disadvantage compared to other citizens in the provision of public and commercial services; and
2. special consideration is appropriate in some cases, especially for those who have given most such as the injured and the bereaved.

The Scottish Government and all local authorities in Scotland are signatories to the Armed Forces Covenant, and place a high priority on fulfilling the agreement to ensure that the ex-service community in Scotland receives the appropriate support.

In 2016, NRS joined a working group set up by ONS and the Ministry of Defence (MoD). This group was established to better understand the information need and investigate the best way to meet that need. The group met regularly to develop and progress the following three strands of research:

- further development of the understanding of user need;
- exploring alternative sources of information that could meet the user need; and
- development and testing of a potential question for the 2021 Census.

4. Understanding user need

NRS invited views on [Scotland's Census 2021 – Topic Consultation](#) (PDF) between 8 October 2015 and 15 January 2016. The consultation was a key step towards understanding what information users will need from the census in 2021, and helped to build strong cases to justify the inclusion of topics. The focus of the consultation was on information required at topic-level, not the detail of the questions that should be asked on the questionnaire.

Following the consultation, NRS worked closely with stakeholders through follow-up events, meetings, focus groups and online surveys to gather more detailed information about data requirements to ensure user needs were understood. Information about these events can be found on our [Get Involved pages](#) online.

There were two responses received commenting on the subject of ex-service personnel. The responses noted a need for data on the armed forces to enable them to meet their commitments under the Armed Forces Covenant and they also referred more generally on the need for information to support service delivery in education, healthcare and housing for this community.

A summary of these responses can be found in the [Topic Consultation Report](#) (PDF). In this report, NRS concluded that further work was required to understand the exact nature of user need so that consideration could be given to whether including a question in the census was the most appropriate way of collecting the information and/or whether alternative methods of meeting the user need existed.

In November 2016, NRS attended an [Armed Forces workshop](#) held jointly by the Office for National Statistics (ONS) and MoD. Key stakeholders from across government, local government and the charitable sector attended and discussions were held in order to further understand their information needs for the armed forces community in England and Wales.

NRS also consulted with Poppyscotland who provided evidence of user need for data on the ex-service community in Scotland.

Following these discussions with users, NRS has clarified and gained further evidence of the user need for information on those who have served in the UK Armed Forces, and their dependents.

Users need to know the numbers and location of persons who have served for the UK Armed Forces, and their dependents. This is so they can commission and deliver appropriate services to meet the needs of this community and monitor the effectiveness of these, as outlined in the Armed Forces Covenant. Specifically data is required to understand employment, education and health outcomes. In Scotland there is a requirement for this data to be split by type of service (regular or reserve) as these groups may have differing needs.

For those who are no longer serving, the MoD definition will be adopted. Therefore, anyone who has served for a day in the UK Armed Forces, in any role, will be included as a veteran.

Users need the information mostly at local authority level but also at some lower geographies to better target services to those most in need.

5. Exploring alternative sources

Responses to the topic consultation indicated that currently available alternative sources of information are not regarded as sufficient to meet user need. Information on the ex-service community is collected via a survey run by the Royal British Legion, but the small sample size in Scotland means analysis can only be carried out at national level. The MoD publish statistics from administrative sources, but these

are currently limited to only part of the community, for example Armed Forces pension and compensation recipients.

The Annual Population Survey (APS) administered by ONS has recently included questions to collect information on veterans and a first summary of results was published by the MoD earlier in 2016. Questions on veterans have only been included on the APS since January 2014, meaning it is not at present possible to construct three or five year datasets including the veterans variables which may produce a sample size large enough to produce estimates at local authority level.

Linking MOD service leavers to 2011 Census

The MoD maintains a Veteran Leavers Database (VLD), of approximately 1.9 million service personnel who have left the UK Armed Forces, since 1975. NRS linked the VLD to the 2011 Census in our safe and secure research environment to see if it could provide sufficient information to meet users' needs for information on ex-service personnel. Linkage of the datasets was conducted by the Indexing Service at NRS and as standard with other linkage projects, the datasets were linked via the Research Indexing Spine.

In total, around 186,700 VLD records linked to the Research Indexing Spine, suggesting that these people had lived in Scotland at some point in time. Of these, 8,298 had died prior to 27 March 2011. Of those people in the VLD alive on census day, 97,825 people matched to Scotland's Census 2011 (54.8%). Further veterans were removed from the analysis as they had left the Services after census day 2011. Consequently around 94,000 VLD records could be linked to Scotland's Census 2011.

The reason why individual records had not linked was because:

- There was insufficient information within a VLD record to perform a match to a unique individual in Scotland;
- The person did not respond to Scotland's Census 2011, either because they were not living in Scotland, or because they were and did not complete a census return.

The linkage has shown that whilst some analysis can be conducted, there are limitations on the coverage of the VLD for all veterans, particularly those who left prior to 1975 as the MoD electronic records only contain those leaving from 1975. The low match rate between the VLD and the 2011 Census, suggests that linkage of these two datasets may not currently meet user needs for information on service leavers, especially leavers aged 65 or older who are not currently captured in any existing data sources.

6. Question testing

6.1 Cognitive testing

This section provides evidence from the question testing process carried out by NRS in the question development process for Scotland's Census 2021.

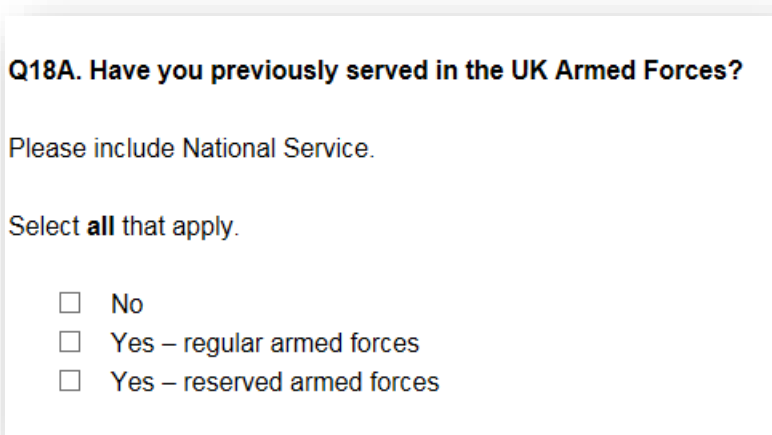
Both cognitive testing and quantitative testing processes are used in developing census questions. In addition, public acceptability testing was undertaken where relevant.

1. Cognitive testing is a form of in depth interviewing with a small number of respondents. It aims to provide an insight into the mental processes respondents use when answering questions. This helps us to identify if there are any problems with a question or question design and gain an insight into the source of any difficulty respondents are having.
2. Quantitative testing is undertaken primarily to identify data quality concerns. NRS included feedback questions in the quantitative testing in order to gather further information on public acceptability and to identify specific difficulties respondents faced if they were unable to answer a question easily.

In 2017 NRS commissioned ScotCen Social Research to conduct cognitive and quantitative testing of selected questions for potential inclusion in Scotland's Census 2021. Information about this testing can be found in the [2017 Cognitive and Quantitative Testing Report](#) (PDF).

Two ex-service questions were tested during the cognitive interviews (see Figure 1 and 2 below). Version one had three options (excluding a 'currently serving' option) and version two had four options (including a 'currently serving' option). Full details of the results of this test are available in Annex A.

Figure 1



Q18A. Have you previously served in the UK Armed Forces?

Please include National Service.

Select **all** that apply.

- No
- Yes – regular armed forces
- Yes – reserved armed forces

Figure 2

Q18B. Have you previously served in the UK Armed Forces?

Please include National Service.

Select **all** that apply.

- No
- Currently serving
- Yes – regular armed forces
- Yes – reserved armed forces

The aims of testing were to explore:

- whether ex-service and currently serving personnel self-code into the correct categories;
- whether the four-option question improved clarity over which response should be selected; and
- feedback on the wording and acceptability of the question.

The questions were tested with currently serving personnel, ex-service personnel and the general population. No issues around acceptability were raised when testing the ex-service question in the cognitive sample. General population respondents, ex-service respondents and currently serving respondents all said that they are comfortable with the question being asked and would be happy to provide an answer.

The general population sample, who had never served in the UK Armed Forces, had no difficulties answering both versions of the ex-service question. At both version one and version two these respondents selected 'No', with many commenting that both questions were clear and easy to answer.

Respondents who had previously served in the UK Armed Forces (i.e. ex-service personnel) also found both versions of the ex-service question relatively straightforward to answer. Those who had previously served selected at least one 'Yes' response at both versions of the questions, thus correctly indicating their ex-service status.

Cognitive testing identified that all currently serving cognitive respondents had difficulty answering version one of the ex-service question. At this question they coded an incorrect response, either selecting 'Yes – reserve Armed Forces' or 'Yes – regular Armed Forces' (a false positive on ex-service status). No respondents who were currently serving correctly selected the 'No' option to the version question as intended as this question was considered by them to be an Armed Forces question

and currently serving personnel wanted to positively identify as such. Version two of the ex-service question overcame this difficulty. At version two, there was improved clarity among currently serving respondents as to which response option should be selected, with all correctly coding as 'Currently serving'.

There was also some evidence of incorrect answers for those who had previously served in both the regular and the reserve armed forces. Although those who had served in both generally understood that version 2 of the question enabled them to select more than one answer category, some chose to select the category reflecting the component of the army they had served in longest.

Some respondents raised concerns with the wording of the question. It was pointed out that it is contradictory to have a question asking if you have previously served in the UK armed forces with a 'currently serving' answer option. Some respondents also felt that additional clarification as to what the 'UK Armed Forces' encompasses within the guidance would be useful.

6.2 Quantitative testing

Following the cognitive testing, the question was refined based on the previous test results. Detail on the methodology of the quantitative testing is available here ([link to report](#)). Full details of the results of this test are available in Annex B.

The second version of the ex-service question was taken forward to the quantitative testing with the question stem replacing the word 'previously' with 'ever' (see Figure 3).

Figure 3

Q25. Have you ever served in the UK armed forces?

- Please include national service
- Select **all** that apply

- No
- Yes – currently serving
- Yes – previously served, regular armed forces
- Yes – previously served, reserve armed forces

The aims of the 2017 quantitative testing for the ex-service question were:

- To look at the distribution of responses, including similarities and differences in distribution by mode, age, and sex;
- To analyse item non-response rates by mode as a measure of data quality; and
- To analyse invalid responses as a measure of data quality.

Results of the quantitative testing showed that of those who gave a valid response, almost all (95%) indicated that they had never served in the armed forces, and less than 1% were currently serving. Additionally, 4% had served in the regular Armed Forces, and 1% had served in the reserve Armed Forces. Less than 1% of respondents had service in both the regular and reserve Armed Forces.

Looking at distributions of responses across mode, we can see that any kind of experience in the armed forces was more prevalent among paper questionnaires. The majority (around 61%) of those who reported they were currently serving were aged 16 - 34. Conversely, and as might be expected, previous service was higher amongst older respondents. Care must be taken in interpreting these findings as the base sizes amongst Armed Forces service personnel in this sample are very small, meaning the findings may not be significant.

Two percent of full completions were invalid. The majority of invalid responses for fully completed questionnaires were item non-response (23 cases), with three cases accounted for by invalid combinations.

A feedback question asked “Did you find any of the following questions difficult to answer?” Less than 1% of respondents selected that they found the Armed Forces service question difficult to answer.

7. Next steps

Research and analysis does support taking a question on this subject further at this stage.

NRS is continuing question development of a full question set for the 2021 Census and will be considering questionnaire design and respondent burden. The final decision on the content of Scotland's Census 2021 questionnaire will ultimately be made by the Scottish Parliament.

The digital first approach for 2021 requires further development and user testing to fully understand the best way to present the questions online to maximise response, minimise respondent burden and ensure good quality data which meets user needs. An on-going programme of question development, focusing on sensitive or complex questions will further inform the specific question wording.

More information about preparation for Scotland's Census 2021 and details about upcoming events can be found on the [Scotland's Census website](#), by subscribing to the [Scotland's Census newsletter](#) and following us on Twitter [@NatRecordsScot](#).

Annex A: Results of cognitive testing

In 2017 NRS commissioned ScotCen Social Research to conduct cognitive and quantitative testing of selected questions for potential inclusion in Scotland's Census 2021. Information about this testing can be found in the [2017 Cognitive and Quantitative Testing Report](#) (PDF).

1. Questions tested and measurement aims

During the interviews two versions of a question on whether or not someone had previously served in the UK Armed Forces were tested. The two versions of the questions are shown in Table A1 overleaf.

This question on ex-service personnel aims to only capture people who are no longer serving. People who currently are serving, either in the regular forces or in the reserves, should answer 'No' to this question if they are responding in the intended way. However, it is known that questions on ex-service personnel such as this have resulted in data being collected that is high in 'false positives', that is people who incorrectly report they are ex-service. This is due to people who are currently serving reporting they are ex-service.

Therefore aims of testing these two versions of the question were to:

- Explore whether ex-service and currently serving personnel self-code into the correct categories or whether there is still evidence of 'false-positives' in version one; and
- Explore whether version two of the question (that includes a 'currently serving option) improves clarity over which response options should be selected.

In addition to these aims respondents gave their own comments on the phrasing of version two, queries over what to include under 'UK Armed Forces' and general views on the acceptability of the question. All issues raised are discussed in more detail below.

Figure A1 : Questions tested on ex-service personnel

Version one: Excludes a 'currently serving' response option

Q18A. Have you previously served in the UK Armed Forces?

Please include National Service.

Select **all** that apply.

- No
- Yes – regular armed forces
- Yes – reserved armed forces

Version two: Includes a 'currently serving' response option

Q18B. Have you previously served in the UK Armed Forces?

Please include National Service.

Select **all** that apply.

- No
- Currently serving
- Yes – regular armed forces
- Yes – reserved armed forces

2. Notes on sampling

In order to test the ex-service question, a quota of four ex-service and four currently serving respondents was set. Poppyscotland, a Scottish charity for veterans of the UK Armed Forces and their dependents, assisted in the recruitment process. During recruitment, it became apparent that currently serving personnel were a harder group to reach than ex-service personnel. As a result, the initial subsample comprised seven ex-service and one currently serving personnel. To counteract this oversampling of ex-service respondents, further assistance was sought from

Poppyscotland and two additional currently serving respondents were recruited. These respondents did not undertake the entire cognitive interview, but were instead asked five questions including the two versions of the ex-service question.

The overall subsample for the ex-service question therefore comprised seven ex-service respondents and three currently serving respondents. Additionally, one participant recruited through the general population sample had also undertaken National Service, and therefore also fell into the ex-service group. Despite the initial struggle to recruit currently serving respondents, our final subsample enabled us to effectively assess whether ex-service and currently serving personnel were able to self-code into the correct categories at the ex-service questions.

3. Findings on response mapping

Table A1 summarises the details of all respondents who were currently serving or ex-service, including their responses to each version of the question. Responses in red indicate where a response mapping error has been made (either a false positive or missing data).

This table demonstrates that there is an issue in response mapping with the version one question amongst people who are currently serving. All three respondents who were currently serving in cognitive sample gave a 'false positive' response at version one, indicating they were ex-service. This type of miscoding did not occur at version two of the question.

In addition it was noted that in both versions of the question former service in the reserves were not always recorded by respondents who had served in both the regular forces and the reserves. For some respondents this was because they had a 'reserve commitment' as opposed to officially being in the reserve armed forces. For others, this was because they had served in one component of the armed forces for longer than the other.

Table A1: Response mapping for questions on ex-service personnel¹

Quota group classification	Response to version one	Response to version two	Notes on response mapping
Ex-service (regular)	Yes – regular armed forces	Yes – regular armed forces	This participant previously served in the regular armed forces and found both versions easy to answer.
Ex-service (regular)	Yes – regular armed forces	Yes – regular armed forces	This participant previously served in the regular armed forces and found both versions easy to answer.
Ex-service (regular and reserved)	Yes – regular armed forces Yes – reserve armed forces	Yes – regular armed forces Yes – reserve armed forces	This participant previously served in both the regular and reserve armed forces. They found both versions easy to answer.
Currently serving	Yes – regular armed forces	Currently serving	This participant is currently serving in the reserve armed forces. They miscoded at version one, but answered correctly at version two. In addition, although this participant is currently serving in the reserve armed forces, they miscoded as regular armed forces. The participant selected regular because they served in the regular armed forces for a longer period of time than they have served in the reserve armed forces.
Currently serving	Yes – regular armed forces	Currently serving	This participant is currently serving in the regular armed forces. They miscoded at version one, but answered correctly at version two.
Ex-service (regular and reserved)	Yes – reserve armed forces [Missing Yes-regular armed forces]	Yes – regular armed forces Yes – reserve armed forces	This participant previously served on the reserve armed forces (41 years) and the regular armed forces (249 days). Although they found the question easy to answer, they changed their answer between versions one and two. The reason they answered reserve at version one is because they only served on the regular for 249 days. The participant discussed how some people would perceive them as only having served on the

¹ One ex-service respondents' response is not included in this table as their responses to the ex-service questions were not logged during the interview. However, the interviewer noted that no miscoding occurred. We can therefore assume that this participant either coded as regular, reserved or both at versions 1 and 2.

Quota group classification	Response to version one	Response to version two	Notes on response mapping
			reserve because they were only in field for a short period of time. However, after further consideration the participant decided to code as both regular and reserve at version two.
Currently serving (reserved)	Yes – reserve armed forces	Currently serving	This participant is currently serving in the reserve armed forces. They miscoded at version one, but answered correctly at version two.
Ex-service (National Service)	Not recorded	Not recorded	This participant previously served in the National Service. They found the question difficult to answer, as they did not perceive the regular or reserve armed forces to encompass National Service. This was in spite of the fact that the question instructs respondents to include National Service. This participant felt that there should be an additional answer category for National Service.
Ex-service (regular and reserve)	Yes – regular [Potentially Missing - Yes-reserve armed forces]	Yes – regular [Potentially Missing - Yes-reserve armed forces]	This participant previously served in the regular armed forces, and found the question easy to answer. However, this participant potentially miscoded at both questions. They stated that they had a 'reserve commitment' for 8 years after completing their regular service, but did not code as having previously served in the reserve armed forces.

4. Comparing the different versions

4.1 General population and ex-service

The general population sample, who had never served in the UK Armed Forces, had no difficulties answering both versions of the ex-service question. At both version one and version two these respondents selected 'No', with many commenting that both questions were clear and easy to answer.

Respondents who had previously served in the UK Armed Forces (i.e. ex-service personnel) also found both versions of the ex-service question relatively straightforward to answer. Those who had previously served selected at least one

'Yes' response at both versions of the questions, thus correctly indicating their ex-service status.

However, there was some evidence of incorrect answers for those who had previously served in both the regular and the reserve armed forces. Although those who had served in both generally understood that the question enabled them to select more than one answer category, some chose to select the category reflecting the component of the army they had served in longest. For example, one participant had served on the reserve Armed Forces for 41 years and the regular armed forces for 249 days. At version one, this participant selected reserve Armed Forces only, as they felt the time they had spent in the regular armed forces was not of a sufficient length to justify them also selecting this answer category. This participant changed their answer at version two after further contemplation. In addition, ex-service respondents who had completed their service in the regular armed forces then had a 'reserve commitment', whereby they could be called back if there were a national emergency, coded only as 'regular armed forces' as opposed to both regular and reserves.

Despite these issues, respondents from the general population sample and the ex-service subsample generally appeared to be able to understand the question, and give a suitable response, using both versions tested.

4.2 Currently serving

In contrast all cognitive respondents who are currently serving had difficulty answering version one of the ex-service question. At this question all respondents who are currently serving coded an incorrect response, either selecting 'Yes – reserve armed forces' or 'Yes – regular Armed Forces' at version one (a false positive on ex-service status). No respondents who were currently serving correctly selected the 'No' option to the version question as intended. The main reason for this was that the currently serving respondents considered their service *up to this point* to be previous service, despite still being active in the UK Armed Forces:

"Yesterday is previous isn't it, and I was serving yesterday."

Though this appears to be a minor semantics issue, it is apparent that currently serving personnel will continue to miscode as having previously served in version one (no 'Currently serving' option) of the question. As described by one participant:

"As soon as the question says have you served in the armed forces the first thing I say is 'I'm still serving' and click yes... Everyone serving would click that, so you'd get all the veterans plus all the serving."

Version two of the ex-service question overcame this difficulty. At version two, there was improved clarity among currently serving respondents as to which response option should be selected, with all correctly coding as 'Currently serving'. Currently serving respondents discussed how this question overcame the "*frustration*" of the

first question. Although they generally understood that the first question was asking if they had previously served, it felt unnatural and erroneous for them to select the 'No' answer category as, technically speaking, although they are serving now they have also served previously. Having a 'currently serving' option prevented them from miscoding as having previously served, while also enabling them to express that they are currently a member of the Armed Forces community. It is therefore apparent that version two of the ex-service question is more in keeping with the question's intended measurement aims than version one.

Indeed, many of the general population and ex-service respondents also commented that although both versions of the question were straightforward to them, they preferred version two. These respondents discussed how those who are currently serving comprise a large segment of Scotland's armed forces community, but only asking a question on ex-service personnel means that information about those who are currently serving cannot be recorded. The general population and ex-service respondents felt that it is important to include a question which also captures those who are currently serving so that the information gathered can be used to shape and develop services for these people as well.

4.3 Other comments on version two

Some other findings emerged when testing the ex-service question. Firstly, although version two of the ex-service question overcame the miscoding which occurred among currently serving respondents at version one, some respondents raised concerns with the wording of the question. It was pointed out that it is contradictory to have a question asking if you have previously served in the UK Armed Forces with a 'currently serving' answer option. One participant described this inconsistency as '*odd*' and '*puzzling*', and discussed how they felt that it could lead to confusion. This issue was raised by general population respondents, ex-service respondents and currently serving respondents.

Some suggested that to resolve this discrepancy, the wording of the question should be changed to 'Are you currently serving, or have you previously served, in the UK Armed Forces?' Others proposed that the question should be split into two, with the first asking if you are currently serving and the second asking if you have previously served. Respondents suggested that the second question could specify that if you answered yes at question 1, you should not code as having previously served at question 2.

4.4 Clarification on 'UK Armed Forces'

A further issue which arose among the ex-service subsample was in an interview with a participant, who had undertaken National Service. This participant was in the 65+ age group, with the interviewer recording that they were over 80 years old.

Although both versions of the questions specify that respondents should include National Service, this participant felt that the answer categories did not accurately reflect their time spent in the UK Armed Forces because it was compulsory. They suggested that an additional 'Yes – National Service' answer category would be more appropriate. Indeed, a general population participant also considered National Service to be separate from the regular and reserved armed forces, describing National Service as "*preparation for the armed forces*".

A further finding which emerged was that some respondents felt that additional clarification as to what the 'UK Armed Forces' encompasses could be useful. For example, one ex-service participant suggested that it is unclear as to whether members of the Army Cadets should code as serving/having previously served.

5. Findings on acceptability

Finally, it is important to note that no issues around acceptability were raised when testing the ex-service question in the cognitive sample. General population respondents, ex-service respondents and currently serving respondents all said that they are comfortable with the question being asked and would be happy to provide an answer. Indeed, many of the ex-service and currently serving respondents discussed their sense of pride in being a member of the armed forces community. As a result, their affiliation with the UK Armed Forces was something they were comfortable disclosing for the purposes of the census. However, during the cognitive testing we did not knowingly interview any currently serving respondents in specific military roles whose service status is not public knowledge, or people involved in classified operations. The 'currently serving' option may be more problematic among these groups.

6. Summary

In summary, two main issues arose when testing the ex-service question. Firstly, some ex-service respondents who had served in both the reserved and regular Armed Forces incorrectly assumed that they should select the answer category reflecting the component of the UK Armed Forces which they had served in the longest, rather than both. Clarification included in the question would prevent those who have served in both from miscoding.

Secondly, at version one of the ex-service question there was clear evidence of false positives. At this question, currently serving personnel miscoded as having previously served despite the fact that they are still active in the UK Armed Forces. Version two of the ex-service question overcame this difficulty. The option to select 'currently serving' prevented those serving from miscoding as having previously served, while also giving these respondents a way to express their association with the UK Armed Forces. Overall, therefore, version two of the ex-service question is

more likely to lead to better quality data. However, during the cognitive testing respondents in military roles whose service status is not public knowledge or people involved in classified operations were not knowingly interviewed. The 'currently serving' option may be more sensitive among these groups.

Annex B: Quantitative testing results

In 2017 NRS commissioned ScotCen Social Research to conduct cognitive and quantitative testing of selected questions for potential inclusion in Scotland's Census 2021. Information about this testing can be found in [2017 Cognitive and Quantitative Testing Report](#) (PDF).

1. Question tested and measurement aims

Following the cognitive testing, an amended question on UK Armed Forces was taken forward to the quantitative testing. The question asked about what, if any, experience respondents have had or currently has in the armed forces.

Figure B1: Question tested

Armed forces service 2017 test (paper)
<p>25 Have you ever served in the UK armed forces?</p> <ul style="list-style-type: none"> ◆ Please include national service ◆ Tick all that apply <input type="checkbox"/> No <input type="checkbox"/> Yes – currently serving <input type="checkbox"/> Yes – previously served, regular armed forces <input type="checkbox"/> Yes – previously served, reserve armed forces
Armed forces service 2017 test (online)
<p>Q25. Have you ever served in the UK armed forces?</p> <ul style="list-style-type: none"> ▪ Please include national service ▪ Select all that apply <input type="checkbox"/> No <input type="checkbox"/> Yes – currently serving <input type="checkbox"/> Yes – previously served, regular armed forces <input type="checkbox"/> Yes – previously served, reserve armed forces

The aims of testing this question were:

- To look at the distribution of responses, including similarities and differences in distribution by mode, age and sex;

- To analyse item non-response rates by mode as a measure of data quality; and
- To analyse invalid responses as a measure of data quality.

2. Results

2.1 UK Armed Forces service distribution²

Overall, 96% of respondents gave a valid answer to the armed forces service question, 4% did not provide a response (either due to item non-response or questionnaire drop out) and less than 1% selected an invalid combination of responses - that is, where a participant had selected 'No' in combination with any other valid response.

Table B1: UK Armed Forces service, valid weighted responses from 2017 testing³

	2017 test	
	Total	%*
No	1322	95
Yes – currently serving	7	1
Yes – previously served, regular armed forces	53	4
Yes – previously served, reserve armed forces	14	1
Yes – previously served in both regular and reserve armed forces	2	<1
Total valid responses	1397	100

Of those who gave a valid response, almost all (95%) indicated that they had never served in the UK Armed Forces, and less than one per cent were currently serving. Additionally, 4% had served in the regular UK Armed Forces and 1% had served in the UK reserve Armed Forces. Less than one per cent of respondents had service in both the regular and reserve Armed Forces.

2.2 UK Armed forces service by mode

For the online mode, 94% of responses were valid and 6% were invalid, and for the paper survey, 98% of responses were valid and 2% were invalid.

Looking at distributions of responses across mode, we can see that any kind of experience in the armed forces was more prevalent among paper questionnaires. Of respondents who reported they were currently serving, around 54% responded on paper, whilst around 46% responded online. The same was true for respondents

² All figures in this report have been rounded to one decimal place.

³ Figures in this table are rounded and may not add up exactly to totals or figures quoted elsewhere in the text.

who had previously served in the reserve Armed Forces, with around 57% responding on paper and 43% online. Additionally, almost three quarters (around 73%) of those who had previously served in the regular armed forces responded on paper, whilst around 27% responded online. It should be noted, however, that findings for those serving in different ways have not been tested for significance due to small base sizes amongst the different armed forces service groups in this sample.

Table B2: UK Armed Forces service by mode (as a percentage, based on weighted estimates of total valid responses)

		Mode		
		Number of responses - Online	Number of responses - Paper	Total
Ex-service Status	No	51%	49%	100%
	Yes - currently serving	46%	54%	100%
	Yes - previously regular	27%	73%	100%
	Yes - previously reserve	43%	57%	100%
	Yes - previously served as regular AND reserve	27%	73%	100%
	Total valid responses	50%	50%	100%
	Invalid responses	77%	23%	100%
	Total responses	51%	49%	100%

2.3 UK Armed Forces service by age

The majority (around 61%) of those who reported they were currently serving were aged 16 - 34. Conversely, and as might be expected, previous service was higher amongst older respondents. Around 61% of those who had previously served in the regular armed forces and 58% of those who had previously served in the reserve armed forces, were aged 65 or older.

Care must be taken in interpreting these findings as the base sizes amongst armed forces service personnel in this sample are very small when the sample is stratified by age, meaning the findings are not significant.

Table B3: UK Armed Forces services by age (as a percentage, based on weighted estimates of total valid responses)

		All people				Total valid responses
		16-34	35-54	55-64	65+	
Ex-service Status	No	31%	33%	15%	20%	100%
	Yes - currently serving	61%	12%	19%	7%	100%
	Yes - previously regular	8%	20%	11%	61%	100%
	Yes - previously reserve	0%	34%	8%	58%	100%
	Yes - previously served as regular AND reserve	0%	0%	68%	32%	100%
	Total valid responses	30%	33%	15%	22%	100%

2.4 UK Armed forces service multi-ticks

There were three instances of respondents ticking more than one valid option. All three indicated that they had previously served in both the regular and reserve Armed Forces. While all those who ticked more than one valid option selected the same combination of responses, comment on association is not possible due to the very small number of multi-ticks.

There were three instances of an invalid combination of responses - that is, selecting 'no' to indicate they had never served, with 'yes - currently serving' or 'yes - previously served'. All three cases of invalid combination to this question were the result of respondents selecting both 'no' and 'yes - currently serving'.

Table B4: Ex-service status multi-ticks (unweighted counts)

		Number of responses
Armed forces service multi-ticks	'No' and 'Yes - currently serving'	3
	'No' and 'Yes - previously served, regular armed forces'	0
	'No' and 'Yes - previously served, reserve armed forces'	0
	'Yes - currently serving' and 'Yes - previously served, regular armed forces'	0
	'Yes - currently serving' and 'Yes - previously served, reserve armed forces'	0
	'Yes - previously served, regular armed forces' and 'Yes - previously served, reserve armed forces'	3
	'No' and 'Yes - currently serving' and 'Yes - previously served, regular armed forces'	0
	'No' and 'Yes - currently serving' and 'Yes - previously served, reserve armed forces'	0
	'No' and 'Yes - previously served, regular armed forces' and 'Yes - previously served, reserve armed forces'	0
	'Yes - currently serving' and 'Yes - previously served, regular armed forces' and 'Yes - previously served, reserve armed forces'	0
	'No' and 'Yes - currently serving' and 'Yes - previously served, regular armed forces' and 'Yes - previously served, reserve armed forces'	0
	Total	6

2.6 Invalid responses to armed forces service

All types of invalid response

If no questions later than the marital status question were answered, responses were considered to be partial completions of the questionnaire. For all questions after the marital status question, partial completions are treated as questionnaire drop out and are commented on separately from item non-response by full completions. Overall, 2% of total responses were considered to be partial completions.

Two percent of full completions were invalid. The majority of invalid responses for fully completed questionnaires were item non-response (23 cases), with three cases accounted for by invalid combinations.

All types of invalid response by mode

When looking at invalid responses from full completions, item non-response was the most common type of invalid response across both modes, accounting for 23 total invalid responses. However, it should be noted that due to the very small amount of invalid responses amongst this group, it is not possible to comment on association by mode.

Table B5: Invalid Armed Forces service response by mode (unweighted counts)

	Mode		
	Number of responses - Online	Number of responses - Paper	Total
Item non response – full completions	7	16	23
Item non-response – partial completions	34	0	34
Invalid multi-tick – paper only, single tick questions	0	0	0
Invalid combination	0	3	3
Routing error			
Total invalid responses	41	19	60
Not applicable			
Total valid responses	604	790	1394
Total responses	645	809	1454

All types of invalid responses by age

Due to the small number of invalid combinations, there is no significant association between invalid combinations and participant's age. Item non-response is discussed below.

Table B6: Invalid Armed Forces service response by age (unweighted counts)

	Age				Total valid responses	Total invalid responses	Total responses
	16-34	35-54	55+				
Item non response – full completions	1	3	18	22	1	23	
Item non-response – partial completions	1	0	4	5	29	34	
Invalid multi-tick – paper only, single tick questions							
Invalid combination	0	1	2	3	0	3	
Routing error							
Total invalid responses	2	4	24	30	30	60	
Not applicable							
Total valid responses	146	374	869	1389	5	1394	
Total responses	148	378	893	1419	35	1454	

Item non-response only

Given that most invalid responses among full completions were due to item non-response, the findings discussed above in relation to all invalid responses apply when examining item non-response only.

As a question on UK Armed Forces service has not been asked in previous iterations of Scotland's census, it is not possible to conduct a comparison of item non-response with data from previous years.

2.7 Feedback

The questionnaire was split into four sections and, at the end of each of the four sections; respondents were asked to state if they had found any questions in the section difficult to answer, and to provide verbatim feedback in an open text box if this was the case.

A feedback question asked “Did you find any of the following questions difficult to answer?” Less than 1% of respondents selected that they found the armed forces service question difficult to answer.

When looking at response to the feedback question by respondents response to the armed forces services question, we can see that around 87% of respondents who answered ‘yes’, they found the question difficult, also provided a valid answer.