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Veterans data in the 2021 Census of Population

1. Introduction

This document provides an overview of the different activities performed at Statistics Canada to design and validate the Veteran data for the 2021 Census of Population. These activities helped identify potential ways Statistics Canada and its partners could produce an even richer portrait of current and past serving military members in Canada.

For the first time since 1971, a question was added to the short-form questionnaire of the Census of Population asking about Canadians' military experience. The historical census questions asked people about their wartime service, whether their service was with the Canadian military or allied forces, and they were asked only of men aged 35 and older. The 2021 question on military experience marks the first time that the census collected data on Veterans and currently serving personnel, regardless of age and gender.¹

The main purpose of the 2021 Census question was to fill a significant data gap to inform policies and programs administered by Veterans Affairs Canada (VAC) and other Veteran support organizations, including the Department of National Defence (DND) and the Canada Mortgage and Housing Corporation. Earlier data sources do not paint a full portrait of the Veteran population; these include historical census records from 1951, 1961 and 1971, as well as administrative data with varying degrees of coverage. Currently, VAC produces an annual snapshot of the count of the Veteran population through mathematical modelling. VAC and others have identified a need for data that could address the gaps in historical administrative records and help build a complete listing of Canadian Veteran cohorts.

The 2021 Census saw the addition of a question on military service for the first time in 50 years and is a major step towards a stronger data ecosystem on Veterans. It provides detailed insights on the sociocultural, economic, household and family characteristics of Veterans, which can deepen understanding of this population's needs.

Still, more work remains to be done. As with all censuses, Statistics Canada conducted a robust data certification process prior to release. During data validation, differences were observed between the total counts in the 2021 Census data and the VAC modelled estimates. Following investigations, as documented in this report, Statistics Canada concluded that these differences are attributable to differing data sources, methods and statistical concepts. The agency will continue to work closely with VAC and other partners to strengthen data on the Veteran population going forward.

2. Overview of testing in preparation for the 2021 Census

The quality of 2021 Census data can be attributed not only to the census's high response rate—98% overall—but also to the rigorous work that takes place both before and after collection.

Preparing for each census requires several stages of consultation, testing and test data evaluation before questionnaire content can be recommended to the Cabinet of Canada for approval. These steps include

- · content consultation with stakeholders and census data users
- qualitative testing of proposed modifications and additions to the content, such as one-on-one interviews
- quantitative testing to evaluate content and respondent behaviour on a larger scale
- an evaluation of the test results, guided by content and respondent behaviour on a larger scale.

The question was asked of the population 17 years and older. For more information on the concepts used for the Canadian military
experience question in the 2021 Census of Population, please refer to the definition of military service status in the Dictionary, Census of
Population, 2021.

To inform the public and stakeholders on these steps, Statistics Canada published three types of documents on the preparations for the 2021 Census:

- five fact sheets, including one on the <u>2019 Census Content Test</u> and one on <u>education, labour, commuting</u> and Veterans
- three in-depth technical reports on various content changes
- a census publication titled *Painting a Portrait of Canada: The 2021 Census of Population* that includes a chapter on engagement and the consultation process.

Results of the qualitative and quantitative testing suggested that, in general, Canadians understood the military experience question and were able to respond as intended. Following the consultations, testing and Governor-in-Council approval, a question was added to the 2021 Census asking people whether they are serving or have ever served in the Canadian military.

3. 2021 Census certification results: Assessment of data after collection

As with all census data, extensive certification of the results was undertaken after collection and prior to release.

Certification is a standard process designed to rigorously evaluate the quality of census data at specific levels of geography, to ensure that the quality standards for release are met. The process is outlined in Statistics Canada's guidelines on the validation of statistical output. The aim of certification is to assess the overall quality and, where necessary, to inform users of any limitations or considerations to be aware of when using the data. Several steps are undertaken for each variable collected in the census, such as age and gender. These steps include a thorough examination of data processing, a review of comments, and a comparison with available administrative data sources to assess coherence and consistency.

In the case of the 2021 data on Veterans, these sources for comparison included VAC's official modelled estimates of the Veteran population.

3.1 Comparability with modelled estimates of the Veteran population

The census provides a snapshot of the population at a specific moment in time (May 11, 2021). It enumerates not only Veterans living in private dwellings, but also those who reside in collective dwellings, including hospitals and seniors' residences. For the 2021 Census, the military service question was asked exclusively to those aged 17 and older as of Census Day.

In 2021, 461,240 Canadians were counted as Veterans in the census.

The number of Canadians who reported being a Veterans was compared with that in other data sources where counts of the Veteran population were estimated. This comparison showed that the 2021 Census counts for Veterans are lower than the official modelled estimates produced and published in VAC's yearly Facts and Figures. As self-enumeration and modelling are very different concepts and methods of producing data, caution should be used when comparing these counts.

According to VAC estimates, there were 617,800 Veterans in 2021, including a small number (300) in foreign countries. The estimates include all Veterans who are VAC clients, as well as those who are not. The VAC modelled estimates of the Veteran population are based on Statistics Canada's 1971 Census, 1988 Labour Force Survey and 2003 Canadian Community Health Survey. They are updated annually using release information from DND and survival rates from Statistics Canada life tables.

In contrast, the census is mainly based on self-enumeration—that is, a respondent completes the questionnaire on behalf of a household.

As a result of these differences in methodology, users of the 2021 Census results are encouraged to work with distributions rather than counts when looking at Veterans' characteristics. For example, analyzing the percentage of the Veteran population by age or gender is considered a best practice, while analyzing the total number of Veterans in these groups is not recommended at this time.

When interpreted and used correctly, 2021 Census data supplement VAC's estimates with additional insights into housing sustainability, affordability, economic outcomes and other key domains from the census. Furthermore, since there is no complete listing of Veterans in Canada, these data will help Statistics Canada and VAC address this important data gap.

3.2 Data processing verification

At each stage of data processing, validation is conducted to ensure that no errors are introduced during the process. An example of a processing error is when a response is entered incorrectly during data capture. For the 2021 Census, a sample of the data was selected and reviewed for quality control purposes. It was concluded that no processing errors occurred that resulted in the differences observed between the Veteran counts from the 2021 Census and VAC's modelled estimates.

3.3 Review of comments respondents provided in the census

A comment section is included at the end of all paper and online census questionnaires. The comment section provides an opportunity for census respondents to tell Statistics Canada about their experience completing the questionnaire. The comments are categorized based on content, and they are analyzed after each cycle for use in future census consultation and content determination.

A preliminary review of comments related to the military experience question indicated that some of the terms and concepts used in the question may have been misunderstood by some respondents. For example, it was noted that some respondents referred to their service in the Primary Reserve Force as "service in the militia", among other colloquial terms, and were unsure whether their service in the militia should be included as military experience in the census. Although the impact on the census estimate cannot be quantified, upcoming qualitative testing of the military experience question will explore alternate wording that could improve clarity.

3.4 Comparison with other administrative data sources

A subset of administrative data files from Statistics Canada's federal partners was used for comparison with the census data on Veterans.

At the time of writing, since a comprehensive Veteran statistical ecosystem is still in development, the different administrative files all have their own limitations for direct comparison. They cover different time periods, as well as specific cohorts of Veterans. Therefore, while investigations to validate and certify census data for the Veteran population have provided insights, each of these examinations has limitations and cannot provide overall estimates for differences in concepts or counts.

A subset of the administrative data was integrated with the 2021 Census to examine the response behaviour of Veterans based on the time elapsed since their service. This suggested that those released longer ago may have been less likely to report their previous service on the census. This could indicate possible recall error, which occurs when respondents are asked to report on experiences from the past .

^{2. &}quot;Militia" is a term that was used historically to describe the army or land force citizen-soldier reserve, which is currently constituted as the Canadian Forces Reserves. The Reserves is comprised of four separate elements; The Primary Reserve, the Supplementary Reserve, the Cadet Organization and Training Service and the Canadian Rangers. The Role of the Militia in Today's Canadian Forces, 2011.

During the quantitative 2019 Census Behaviour Test, responses to the military experience question were compared with information about a known set of Veterans. The findings showed that when Veterans lived alone, they were slightly more likely to confirm their Veteran status than those who lived in multi-person households—this could indicate a proxy effect.³ This examination was redone for the 2021 Census, but it did not give substantial indications of a proxy effect.

4. Collective dwellings

The collection strategy for the 2021 Census was adapted as a result of the COVID-19 pandemic to a fully contactless process to ensure respondents and census employees were safe. Prior to 2021, data pertaining to collective dwellings and their residents were collected through census employees.

For the 2021 Census, census employees did not visit any institutional collective dwellings such as hospitals, nursing homes, residences for senior citizens or long-term care facilities. For these dwellings, administrators were required to complete census questionnaires for residents of the facility. In some instances, administrators may have been unaware of residents' military experience. Further investigation is required to provide more insight on the Veteran population living in these collective dwellings. However, given the relatively small proportion of the population living in collective dwellings, this is not expected to have had a significant impact that would explain differences between the count of Veterans from the 2021 Census and VAC estimates.

5. Next steps towards a stronger data ecosystem

Together, Statistics Canada and VAC will continue to work with partners and stakeholders to build a stronger statistical ecosystem for the Veteran population. The 2021 Census is a key milestone, as it sheds light on the sociodemographic, economic, family and household characteristics of Veterans on Census Day. Alongside alternative data sources and through various statistical methods, the census can help decision makers better understand—and therefore better serve—Canadian Veterans and their families.

The 2021 Census marked the first time in decades that a question on military service was asked, and there remain opportunities to improve the question over time. In partnership with VAC and DND, Statistics Canada is continuing to explore how best to ask questions on Canadians' military service and how to integrate data from multiple sources. The findings will be included in a comprehensive technical report in the coming year.

^{3.} A proxy effect occurs when individuals provide information on behalf of others. This is because proxies are generally more likely to answer incorrectly than people answering for themselves.