



Office of Inspector General

ACCURACY OF DATA USED TO MEASURE PERCENT OF VETERANS WITH A VA BURIAL OPTION

Additional documentation should be retained to support veteran population projections and permit verification of the reported percent of veterans with a burial option.

Report No. 9R5-B04-103

Date: May 12, 1999

Office of Inspector General
Washington DC 20420



DEPARTMENT OF VETERANS AFFAIRS
Office of Inspector General
Washington DC 20420

Memorandum to:

Assistant Secretary for Planning and Analysis (008)
Under Secretary for Memorial Affairs (40)

Accuracy of Data Used to Measure Percent of Veterans with a VA Burial Option

1. The Office of Inspector General conducted an audit to determine whether National Cemetery Administration (NCA) officials accurately calculated the percent of the veteran population served by the existence of a burial option within a reasonable distance of place of residence. These calculations are included in reports required by the Government Performance and Results Act (GPRA). This was one in a series of audits assessing the accuracy of data used to measure the Department of Veterans Affairs' (VA's) performance in accordance with GPRA.
2. One of VA's goals is to ensure that all eligible veterans have reasonable access to a burial option. To measure progress in achieving that goal, NCA personnel estimate the percent of the veteran population with a burial option. To prepare their estimate, NCA personnel identify the counties served by open VA cemeteries and VA-funded state veterans cemeteries. Generally, service areas include counties within a 75-mile radius. NCA personnel add the projected veteran populations of the counties within the cemeteries' service areas and divide the sum by the projected national veteran population. The veteran population projections are provided by VA's National Center for Veteran Analysis and Statistics (National Center). For Fiscal Year 1997, NCA personnel estimated that 66.8 percent of the veteran population had a burial option.
3. Audit results showed that NCA personnel generally made sound decisions and accurate calculations when preparing their estimate. However, National Center personnel could not re-create the veteran population projections which were used to calculate NCA's estimate because certain essential data were no longer available. The lack of this data essentially impaired the scope of our audit and as a result, we could not verify the accuracy of the population projections or the NCA estimate which was based on the projections.

4. We recommended that National Center personnel retain sufficient documentation to re-create veteran population projections prepared in the future. We did not make any recommendations to NCA officials since our review indicated that, if the veteran population projections were accurate, NCA's estimate of the percent of the veteran population with a burial option was reasonable.

5. The Assistant Secretary for Planning and Analysis agreed with our recommendations and provided acceptable implementation plans. The NCA Director, Office of Operations and Support provided comments that indicated corrective action would be taken for the concerns we noted in the management advisory section of the report. We consider the recommendations resolved and will follow-up on their implementation.

For the Assistant Inspector General for Auditing

(Original signed by:)

WILLIAM D. MILLER
Director, Kansas City Audit Operations Division

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RESULTS AND RECOMMENDATION

Sufficient Documentation Should Be Retained to Re-create Veteran Population Projections

The National Center for Veteran Analysis and Statistics (National Center) did not have sufficient documentation to re-create veteran population projections. The projections of national and county veteran populations were used in calculating one of National Cemetery Administration's (NCA) performance measures -- the percent of the veteran population served by the existence of a burial option within a reasonable distance of place of residence.¹ At the time the projections were prepared, National Center personnel did not realize there would be a need to re-create and verify their calculations. Since we could not re-create the population projections, we could not verify the accuracy of the projections or the NCA performance measurement which was based on those projections.

Veteran Population Projections Could Not Be Re-created

As part of an assessment of NCA's estimate of the percent of the veteran population with a burial option, we planned to evaluate the veteran population projections which were prepared by National Center personnel and used to calculate NCA's estimate. We intended to evaluate the reasonableness of the projection methodology and validate the related calculations for Fiscal Year (FY) 1997.

Based on our review of the written description of the projection methodology and the opinion of a demographer at the U.S. Bureau of the Census, we concluded the methodology described by National Center personnel was reasonable. However, discussions with personnel who participated in the preparation of the population projections indicated that their calculations could not be re-created because certain essential documentation was not available.

- A data set prepared by a former employee to account for veteran migration was lost.
- Data concerning separations from the military were periodically updated, and prior versions could not be retrieved.

¹ We use "percent of the veteran population with a burial option" as an abbreviated version of the title of this performance measure.

Personnel Did Not Anticipate the Need for Detailed Documentation

The veteran population projections which were used to calculate NCA's 1997 estimate of the percent of the veteran population with a burial option were prepared in 1995. At that time, there was not any specific policy requiring National Center personnel to retain documentation supporting the projections and they did not realize there would be a need to re-create and verify their calculations.

Without all the documentation needed to re-create the veteran population projections, we could not independently verify that the written description of the projection methodology was followed or that mathematical calculations were accurate. Thus, we could not attest to the accuracy of the projections or the NCA performance measurement which was based on those projections.

Recommendation

We recommend that the Assistant Secretary for Planning and Analysis ensure that National Center personnel retain sufficient documentation to re-create veteran population projections prepared in the future.

Assistant Secretary for Planning and Analysis Comments

- *Appendix III on page 9 contains full text of comments.*

The Assistant Secretary for Planning and Analysis agreed to retain sufficient documentation to reproduce veteran population projections.

Implementation Plan

Several measures are underway to ensure that documentation for the veteran population estimates and projections will be codified, concise, current, user-friendly, and accessible. These measures are part of two on-going initiatives in the office of the Deputy Assistant Secretary for Program and Data Analyses. Those initiatives are: the validation and redesign of the veteran population model, and the establishment of an actuarial staff within the Office of Program and Data Analyses.

Office of Inspector General Comments

We consider the recommendations resolved and the implementation plan reasonable. We will follow-up until they are implemented.

MANAGEMENT ADVISORY

If Veteran Population Projections Were Valid, NCA's Estimate Was Reasonable

We could not attest to the accuracy of NCA's estimate of the percent of the veteran population with a burial option because we could not verify veteran population projections. However, audit results showed NCA personnel generally made sound decisions and accurate calculations when preparing their estimate.

To compute an accurate estimate, NCA personnel must:

- Identify all Department of Veterans Affairs (VA) operated cemeteries and VA-funded state veterans cemeteries with space available for first interments of caskets or cremated remains.
- Identify all counties² wholly located within 75 miles of open veterans cemeteries³ and include the veteran populations of those counties in the estimate of veterans with a burial option.
- Identify counties partially located within 75 miles of open veterans cemeteries and use sound judgment in deciding whether the veteran populations of these counties should be included in the estimate of veterans with a burial option.
- Accurately sum the projected veteran populations of the appropriate counties.

Our review of NCA's estimate disclosed the following errors and questionable decisions:

- The veteran populations of 17 counties which were wholly located within 75 miles of open veterans cemeteries were not included in the total of veterans with a burial option. The total projected veteran population of these counties was 115,000.
- We concluded that the veteran populations of 16 counties which were partially located within 75 miles of open veterans cemeteries should have been added to the estimate of veterans with a burial option because the majority of each county's population was within the 75-mile radius. These counties had a total projected veteran population of 276,000.

² When we refer to counties, we are including Louisiana parishes, cities which are not located within counties, and any other equivalent units.

³ To simplify the text, we use "open veterans cemeteries" as an abbreviated version.

- In our opinion, the veteran populations of 6 other counties which were partially located within 75 miles of open veterans cemeteries should have been deleted from the estimate of veterans with a burial option because the majority of each county's population was outside the 75-mile radius. The total projected veteran population of these counties was 62,000.
- The veteran population of one county should have been deleted from the estimate of veterans with a burial option because none of the county was within 75 miles of an open veterans cemetery. The projected veteran population of the county was 3,000.

We identified two inconsistencies in NCA's summary calculations.

- The veteran population of Puerto Rico was included in the number of veterans with a burial option but was not included in the total veteran population. In our opinion, Puerto Rico's veteran population should be included in, or excluded from, both numbers. The estimated veteran population of Puerto Rico was 138,000.
- Two VA cemeteries were closed during FY 1997. The 353,000 veterans served by one of these cemeteries were included in the estimate of veterans with a burial option while the 74,000 veterans served by the other cemetery were excluded. Since NCA officials did not report the estimate as of a specific date, we did not consider this inconsistency an error. However, to ensure comparability from one year to the next, we believe NCA personnel should calculate the estimate as of a specific date and use the same date each year.

The deficiencies we identified in NCA's estimate of the percent of the veteran population with a burial option did not have a material impact. Assuming the veteran population projections were accurate, we estimated that 67.6 percent of the veteran population had a burial option in FY 1997. This is 0.8 percent higher than NCA's estimate of 66.8 percent. Since we concluded the difference was not material, we are not making any formal recommendations to the Under Secretary for Memorial Affairs. However, we did share the details of our findings with NCA personnel so they could make appropriate adjustments to their estimates for future years.

National Cemetery Administration, Director, Office of Operations Support Comments

We concur with the Office of Inspector General's analysis of county inclusions and exclusions as related in the draft report. We will reflect these adjustments in all future estimates in our annual performance plan.

Implementation Plan

In all subsequent analyses, NCA will include the veteran population of Puerto Rico as both a part of the national veteran population total and of the percent served in order to achieve a consistent ratio. In addition, any inconsistencies concerning opening and closure dates of some cemeteries have been addressed. Changes of cemeteries' operational status have now been uniformly integrated to ensure comparability through succeeding years.

Office of Inspector General Comments

We consider the implementation plan reasonable.

OBJECTIVE, SCOPE AND METHODOLOGY

Objective

The purpose of the audit was to determine whether NCA officials accurately reported the percent of the veteran population served by the existence of a burial option within a reasonable distance of place of residence.

Scope and Methodology

We attempted to assess the accuracy of the percent of the veteran population with a burial option as reported by NCA officials for FY 1997. During the audit, we completed the following work:

- Reviewed the written description of the methodology used to project veteran populations and obtained an independent opinion of that methodology from a demographer at the Bureau of the Census
- Interviewed National Center personnel who participated in the preparation of the population projections used by NCA officials
- Interviewed the NCA official who computed the percent of the veteran population with a burial option for FY 1997 and his supervisor
- Reviewed the written documentation of the NCA official's computation for FY 1997
- Compared maps generated by the commercial mapping software used by NCA personnel with maps from other sources
- Validated NCA determinations concerning the counties served by the 93 VA-operated cemeteries and 35 VA-funded state veterans cemeteries with space available at the end of FY 1997

The scope of this audit was impaired by the lack of data necessary to reconstruct the reported population projections. This impairment prevented us from accomplishing our audit objective.

The audit was conducted between August 1998 and February 1999 in accordance with generally accepted government auditing standards.

BACKGROUND

The Government Performance and Results Act of 1993 requires federal agencies to set goals, measure performance against those goals, and report on their accomplishments. The law is part of a statutory framework for improving management of the federal government.

In accordance with the law, VA has set goals for each of its major business lines and identified related performance measures. One of the Department's goals is to ensure that all eligible veterans have reasonable access to a burial option. To measure progress in achieving that goal, NCA personnel estimate the percent of the veteran population served by the existence of a burial option within a reasonable distance of place of residence. NCA officials define this measure as the percent of the veteran population residing within 75 miles of VA-operated national cemeteries which have space available for first interments of caskets or cremated remains. NCA personnel also include veteran populations within 75 miles of VA-funded state veterans cemeteries with space available (excluding veterans beyond a state's border if that state restricts interment to its own residents).

The process used to estimate the percent of the veteran population with a burial option is summarized below.

- Using commercial mapping software, NCA personnel identify the counties within 75 miles of open veterans cemeteries. When a county is partially within 75 miles of a cemetery, NCA personnel use their judgment to determine whether the county veteran population should be included in the estimate.
- NCA personnel add the projected veteran populations of those counties within 75 miles of open veterans cemeteries to obtain a national total of veterans with a burial option.
- The national total of veterans with a burial option is then divided by the projected national veteran population to obtain the percent with a burial option.

The National Center, which is part of the Office of the Assistant Secretary for Planning and Analysis, provides the population projections used by NCA personnel. Using the Bureau of the Census' estimate of the veteran population as the base, National Center personnel prepare projections of the national veteran population and the veteran population of each state and county. The projections account for increases and decreases in the veteran population and changes in the distribution of that population.

- The veteran population is increased by the number of persons leaving military service and becoming veterans. National Center personnel calculate the number of persons expected to leave military service each year based on historical data provided by the Department of Defense and the expected size of the military in the future.
- The veteran population is decreased by the number of veterans who die each year. National Center personnel develop survival rates from census data and multiply those rates by the veteran population from 1 year to determine the number of veterans surviving to the next year.
- The veteran population of each state and county is increased or decreased by the number of veterans migrating from one area to another. National Center personnel use census data to compute migration rates and apply those rates to the population of each state and county from 1 year to determine the number of veterans living in each state and county the next year.

At the end of FY 1997, NCA was operating 93 national cemeteries which had space available for caskets or cremated remains. In addition, NCA had provided grants for 35 state veterans cemeteries with space available as of the end of FY 1997.

Using the Bureau of the Census' estimate of the 1990 veteran population as the base, National Center personnel projected a 1997 veteran population of 25,423,000. NCA officials estimated that 16,987,000, or 66.8 percent of the projected total, lived within 75 miles of a VA-operated national cemetery or a VA-funded state veterans cemetery. Thus, VA's Annual Accountability Report for FY 1997 showed that 66.8 percent of the veteran population had a burial option.

**MEMORANDUM FROM THE ASSISTANT SECRETARY FOR
PLANNING AND ANALYSIS**

Department of
Veterans Affairs

Memorandum

Date: APR 1 1999
From: Assistant Secretary for Planning and Analysis (008)
Subj: *Draft Report, Accuracy of Data Used to Measure Percent of Veterans With a VA Burial Option, Project 8R5-237*
To: Assistant Inspector General for Auditing (52)

1. We concur with your recommendation to retain sufficient documentation to reproduce veteran population projections, as stated on page 2 of your *Draft Report, Accuracy of Data Used to Measure Percent of Veterans With a VA Burial Option, Project 8R5-237*.
2. Several measures are already under way to insure that documentation for the veteran population estimates and projections will be codified, concise, current, user-friendly, and accessible. These measures are part of two on-going initiatives in the office of Deputy Assistant Secretary for Program and Data Analyses. Those initiatives are:

- **The Validation and Redesign of the Veteran Population Model**

In September 1998, a contract was let with the HayGroup actuarial firm to undertake a complete, top-to-bottom review of all aspects of the veteran population model. This review includes: the logic of the model, the nature of input data, data output, data accessibility, and data systems issues.

The review is being conducted in a number of phases and is expected to be completed in June 1999. Work in early phases has declared the basic logic of the model to be sound. However, the contractors will provide a blueprint for significant improvements. The blueprint itself will serve as overall documentation for planned changes when implemented. Each specific recommendation being made is to be fully-documented. For example, to derive real time estimates of the veteran population in the period between decennial censuses, the HayGroup will recommend that we use administrative and other databases, such as VA's compensation and pension files and the DOD Actuary's files on who leaves military service. Those files and their potential link with current veteran population files are detailed and well-documented.

Another example of an expected change is to move the data from the mainframe platform to the personal computer (pc). This will make veteran population data more accessible and more efficiently updated, reproduced, documented, and manipulated. For example, an important capability to simulate the effects of

**MEMORANDUM FROM THE ASSISTANT SECRETARY FOR
PLANNING AND ANALYSIS**

2.

changing levels of military strength and mortality conditions on the veteran population will be a matter of relative ease.

A critical improvement will be a built-in feedback mechanism to monitor annually the validity of veterans population estimates with independent data sources. For example, survival patterns and death rates can be tracked by incorporating data and reports on mortality from DOD's Office of the Actuary. Similarly, estimates of the annual geographic distribution of veterans can be validated using data sources on the geographic distribution of the civilian population from the Census Bureau by looking at the relationship of veteran patterns to overall population patterns in the recent past.

- **Establishment of An Actuarial Staff within the Office of Program and Data Analyses**

Although VA has an actuarial staff in VBA's Insurance Center in Philadelphia to track VA's liability in insurance and other programs, there is no centralized actuarial capability for all of the Department's business. This deficiency was noted in the report of the Congressionally-mandated Veterans Claims Adjudication Commission (VCAC) in December 1996. It recommended the establishment of a Departmental actuarial capability. The Department agreed with the VCAC recommendation, and a Chief Actuary has been recruited into the Office of the Deputy Assistant Secretary for Program and Data Analyses. We expect to build the actuarial function overtime based on needs assessments to be conducted by the Chief Actuary once he is physically on-board (which we hope will occur by no later than May 1, 1999).

Among the responsibilities of the Chief Actuary will be oversight of the veteran population model. The Chief Actuary will be responsible for implementing the recommendations made by HayGroup in their assessment of the veteran population model and will have on-going responsibility for all aspects of the model, including the accuracy, documentation archiving, accessibility, and timely-production of the data.

3. I am confident that these and other measures are major steps which will go a long way to address many of the concerns we have had about veteran population data and which are raised in your report. If you have any questions on this matter, please contact the Deputy Assistant Secretary for Program and Data Analyses, Patricia O'Neil, at 202-273-5182, or have a member of your staff contact Dr. Rob Klein at 202-273-5101.

(Original signed by Dennis Duffy:)
Dennis Duffy

MEMORANDUM FROM THE DIRECTOR
OFFICE OF OPERATIONS SUPPORT

**Department of
Veterans Affairs**

Memorandum

Date: APR 8 1999
From: Director, Office of Operations Support (402)
Subj: Draft Report, Accuracy of Data Used to Measure Percent of Veterans With a VA Burial Option, Project 8R5-237
To: Assistant Inspector General for Auditing (52)

1. Thank you for the opportunity to comment on the Draft Report. We are pleased to know that, in general, the methodology used by the National Cemetery Administration (NCA) to determine the percent of veterans served by a burial option is sound and that calculations are accurate.
2. We concur with the OIG's analysis of county inclusions and exclusions as related in the Draft Report. We will reflect these adjustments in all future estimates in our annual performance plan.
3. In all subsequent analyses, NCA will include the veteran population of Puerto Rico as both a part of the national veteran population total and of the percent served in order to achieve a consistent ratio. In addition, any inconsistencies concerning opening and closure dates of some cemeteries have been addressed. Changes of cemeteries' operational status have now been uniformly integrated to ensure comparability through succeeding year.
4. The audit team was very professional and thorough and the recommendations presented in the Draft Report will assist us in producing reliable data on one National Cemetery Administration's primary performance measures. If you have any question, please call Daniel Tucker, Director, Budget and Planning Service at (202) 273-5157.

(Original signed by Vincent Barile:)
Vincent Barile

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