

Section II

Enrollment Projections

VetPop Proxy and Enrollment Projection Methodology

The purpose of this task was to project veteran enrollment from the beginning of FY 2003 through the end of FY 2023.

Deliverables included:

- VetPop Proxy for FY 2002-FY 2023, by Sector, Priority Level, Age Band and Gender.
- Average, year-end and unique enrollment projections under the three scenarios described in Section I - Executive Summary for FY 2002-FY 2023 by Sector, Priority Level, Age Band, Gender and Enrollee Type.

This task was composed of several sub-tasks, including:

- Development and implementation of a county consolidation methodology
- Creation of the master enrollment file (MEF)
- Creation of a VetPop Proxy
- Development and implementation of an enrollee Priority Level transition methodology
- Development and implementation of an enrollee geographic migration methodology
- Update and implementation of the enrollment rate methodology
- Update and implementation of the enrollee mortality rate methodology
- Enhancement for projecting the impact of policy decisions on enrollment (including, suspension of enrollment and/or complete disenrollment of particular Priority Levels)
- Projection of veteran enrollment under specified policy scenarios
- Implementation of a model to split Priority Level 7 veterans and enrollees into Geographic Means Test (GMT) Priority Levels 7 & 8

Outline

Section II is organized into 8 subsections:

- II-1: Creation of the Master Enrollment File
- II-2: Veteran Population Proxy Development
- II-3: Enrollment Projection Methodology

The consolidation of counties into Sectors impacted all tasks. Although it is mentioned where appropriate in the main sections, a comprehensive discussion is provided in a self-contained subsection,

- II-4: County Consolidation Methodology

Several significant sub-tasks outlined in subsection II-3 were performed for the first time or are significant updates of earlier work. These sub-tasks are discussed in further detail in self-contained subsections as follows:

- II-5: Priority Level Transition
- II-6: Geographic Migration
- II-7: Enrollment Rates
- II-8: Mortality Rates

All key components of the VetPop Proxy and Enrollment Projection methodology are mentioned in subsections II-1, II-2 and II-3. The purpose of subsections II-4 through II-8 is to provide additional detail on these topics.

Section II-1 Creation of the Master Enrollment File

The VHA Office of the Assistant Deputy Under Secretary for Health (ADUSH) supplied the master enrollment file (MEF) as of September 30, 2002. This file contained a record for each veteran who enrolled to receive health care benefits from VA at any time between October 1, 1998 and September 30, 2002, including those now deceased and all those currently seeking care, but not enrolled (referred to as “cost-only” veterans). ADUSH performed all significant data-scrubbing tasks before delivering the final MEF. Included on the MEF were the following fields:

- Scrambled Social Security Number
- Priority Level (1, 2, 3, 4, 5, 6, 7a and 7c)
- Service-Connected Percent Disabled (*SCPER*)
- Date of Birth
- Gender
- County of Residence (FIPS)
- Date of Death (BIRLS) and Date of Death (HEC)
- Enrollee Type
- Preferred Facility
- Enrollment Date

All fields contained the most current available information as of September 30, 2002. The MEF did not include any historical information regarding changes in Priority Level, County of Residence or Preferred Facility.

It was necessary to perform several edits on this data to prepare it for the enrollment projection process. First, it was necessary to split Priority Level 1 into Priority Levels 1a and 1b. The split was performed using *SCPER*. Of the 619,160 Priority Level 1 veteran enrollees on the MEF (and alive on September 30, 2002), 329,734 had *SCPER* greater than or equal to 70%. In addition, 226,885 enrollees had *SCPER* between 50% and 69%, and the remaining 62,541 had *SCPER* less than 50% or null. All enrollees with *SCPER* greater than or equal to 70% were assigned to Priority Level 1a, those with *SCPER* between 50% and 69% were assigned to

Priority Level 1b, and the remainder were randomly assigned, 70% to Priority Level 1a and 30% to Priority Level 1b. The 70% split was chosen by comparing enrollment with Census 2000 VetPop and choosing an allocation that would give a slightly higher national market share for Priority Level 1a than for Priority Level 1b. Second, a single Date of Death was created, using the earlier of the BIRLS and HEC dates of death. Finally, Enrollee Type was adjusted to reflect the analysis described in Section III of the FY03 VA Enrollee Health Care Projection Model Report, Fiscal Years 2002 through 2022 (Appendix A), which demonstrated that Enrollees Pre who enrolled on or after April 1, 1999 exhibit morbidity and reliance characteristics that are more consistent with Enrollee Posts. All Enrollee Pres who enrolled on or after April 1, 1999 were reassigned to Enrollee Posts.

For each veteran enrollee, exposure for Fiscal Years 1999 to 2002 was calculated based on the enrollment date and date of death. One month of exposure was counted for each month in which the veteran enrollee was alive and enrolled for at least one day.

Sectors (consolidated counties, as described in subsection II-4) were mapped to the MEF, based on the FIPS county code.

The MEF is the starting point of the enrollment projection process.

Section II-2

Veteran Population Proxy Development

In this section, the development of the VetPop Proxy is discussed in detail. The VetPop Proxy is designed to support the enrollment projections. Before the key steps in the development are reported, an overview is given and the material changes in methodology from the previous CARES Phase II effort are discussed.

Although the VetPop Proxy exhibits a distribution of veterans among Priority Levels, it is not intended to confer a legal Priority Level status on veterans who are not enrolled. Priority Level is only defined for enrollees. The projected size of each Priority Level in the VetPop Proxy represents the estimated number of veterans enrolled in that Priority Level plus the number of non-enrolled veterans who, if they were to enroll, would likely be classified under the given Priority Level.

General Approach to the Creation of the VetPop Proxy

The purpose of the VetPop Proxy is to create a best estimation of VetPop by Priority Level as an input to the enrollment projection process. The condition for success of the VetPop Proxy is its ability to support accurate and plausible projections of enrollment. In order to project veteran enrollment over the projection period by age, gender, Priority Level and Sector, it is important to have substantive projections of the veteran population over the same projection period, at the same level of detail.

The building blocks of the VetPop Proxy are the veteran counts by County, 5-year age band and gender. These counts are aggregated to the Sector level, creating 333,960 blocks (506 Sectors, 15 age bands, two genders, and 22 projection years) which must then be allocated to Priority Levels 1a, 1b, 2, 3, 4, 5, 6, 7a, 7c and spread to individual ages. The allocation to Priority Levels is the critical step in the development of VetPop Proxy and is described in detail below. The approach to spread from age band to individual age is described briefly in this Section under the subheading, "Modeling by Individual Age".

The modeling process sequentially carves up the Priority Level distribution of each block using relevant data sources and actuarial judgment, respecting the unique characteristics of the time, demographics and geography. Although each is discussed in further detail below, the modeling process included the following major steps:

1. Split into Priority Levels 1a, 1b, 2, 3 (service-connected disabled veterans) and all other Priority Levels (4-7).
2. Carve out Priority Level 4 (catastrophically disabled and homebound veterans) from Priority Levels 4-7.
3. Carve out Priority Level 5 (low income non-disabled veterans) from Priority Levels 5-7.
4. Allocate the remainder to Priority Levels 6, 7a and 7c.

The four steps above are explained after an executive summary of the significant changes to the model since CARES Phase II.

Major Data Sources Contributing to the VetPop Proxy

The VA Office of the Actuary (OACT) supplied two Census 2000 VetPop projections in support of this effort. The first projection contained national veteran population by age, gender and disability status. The second projection contained veteran population by county, 5-year age band and gender. Using these and other data sources, a model was developed to create a VetPop Proxy by age, gender, Priority Level and Sector for Fiscal Years 2002 to 2023.

The following specific data sources were supplied by VA in support of the creation of the VetPop Proxy:

- National Census 2000 VetPop: *VP01Adj_National_v2* (National VetPop)
- County Census 2000 VetPop: *VP01Adj_County_v2* (County VetPop)
- September 2002 Compensation and Pension File: *CP902* (C&P)
- VHA health care users during Fiscal Years 1996 to 1998: *Users96, Users97, Users98* (Users)
- Current Beneficiary Identification and Record Locator Subsystem (BIRLS) death file: *Deaths*
- Master Enrollment File: *Sep02Final* (MEF)
- Priority-Level VetPop derivative of VetPop2000: *Allstates_h*

- 2001 National Survey of Veterans
- Census 2000 Poverty Prevalence File: *Vets2000_County_P57_uspr_r*

In addition, the following public data sources were used to support modeling Priority Levels 4 and 5:

- Americans with Disabilities: 1997 – Table 1
- Census 2000 Poverty Estimates – Public Release

Additional information regarding these data sources is included in Exhibit II-2-1.

General Changes in VetPop Proxy Approach from CARES Phase II

The most visible change in the VetPop Proxy is that it is no longer modeled on an individual county basis, but is, instead, fashioned on the aggregated level of consolidated counties, or “Sectors.” The enrollment projections changed from a county basis to a consolidated county basis as well. This approach added significant value to the VetPop Proxy, including increased statistical credibility and ease of use. It also addressed key concerns for individual privacy as well as the hazards of reliance on and misperception of statistical accuracy of the results for sparsely populated counties. The county consolidation methodology is discussed in detail in subsection II-4.

Priority Level 5 veterans constitute a large portion of VHA’s enrollment. Significant effort was invested to incorporate Census 2000 data and other sources in a model of Priority Level 5 veteran population by Sector and age. The analysis relied on Census 2000 poverty prevalence data at the Sector level, the highest quality information available for public release at the time. Using this data, and other sources (further described below), an imputed distribution of Priority Level 5 veterans by age was created for each Sector. Previously, the modeling of Priority Level 5 veterans used Allstates_h to set target levels for each state and each of three major age groupings, which were smoothed using one age slope derived from publicly available census poverty estimates. The new approach is a significant improvement since Allstates_h was not at the desired level of detail (it could not support geographic variation between Sectors within each state, which is known to exist) and was based on the 1990 census.

Geographic variations among Priority Levels 1 through 3 had previously been modeled at the state level using Allstates_h. In the current VetPop Proxy development, geographic variation by Market in the pool (definition to follow) was derived from the C&P file. The overall number of veterans with service-connected disabilities was adjusted in each market to reflect the C&P data, with additional refinements to the relativities between Priority Levels 1, 2 and 3 computed for each VISN.

During CARES II, the creation of the VetPop Proxy involved first projecting distributional assumptions for Priority Level in the pool into all future years and then projecting enrollment into all future years. Since the pool grows significantly each year under this model, these assumptions were increasingly leveraged within the enrollment projections as it was recursively projected each year. In order to reduce this effect and place more emphasis on the Priority Level distribution of the most recent enrollment projection year, the pool was forecasted only one year ahead of each yearly enrollment projection. After each projection year, all assumptions were reset and a new best estimate of the Priority Level distribution of the next year's pool was computed. See Exhibit II-2-2 for an illustration of this conceptual change.

Overview of Projection and Key Definitions

The projection period includes the time frame from October 1, 2002 to September 30, 2023. At the end of each fiscal year T during that period, veterans in fiscal year $T+1$ can be classified into three groups:

- (1) Veterans enrolled at the time T and still alive and enrolled at the time $T+1$
- (2) New enrollees at the time $T+1$ who were not yet enrolled at the time T
- (3) All other non-enrolled veterans at the time $T+1$

At any time, the total number of veterans is (1) + (2) + (3). An estimate of this value throughout the projection period was provided by the VA Office of the Actuary (OACT). The total reflects current veterans and future separations from the military, projected forward with survival, geographic migration and changes in disability status.

Item (1) is referred to as the *mortality-only projection* at the time $T+1$. Using the best estimate of enrollment as of the time T , the mortality-only projection is forecast using assumptions for survival, changes in Priority Level status and geographic migration.

The *pool* at the time $T+1$ is the remainder, (2) + (3). The pool may grow with new separations from the military and shrink with the effects of mortality.

The *enrollment projection* at the time $T+1$ is (1) + (2). Thus, the enrollment projection consists of a cohort of enrollees diminishing in number due to mortality and a growing cohort of new enrollees enrolling out of the pool under assumed enrollment rates (further discussed in Section II- 7).

The starting point for this recursive process is a snapshot of the enrolled population as of September 30, 2002.

The Need to Impute Priority Level in the Pool

The MEF provides a detailed snapshot of the Priority Levels of enrolled veterans at a fine level of detail as of September 30, 2002. In addition, the Users file conveys similar information about veterans who had contact with the VA Health Care System from FY 1996 to FY 1998, but who may not have subsequently enrolled. The Master Enrollment and User File (MEUF) is a combination of the two files and provides a complete Priority Level status for a significant percentage of the veteran population.

To the extent that the MEUF contains information about current enrollees and non-enrolled users for a given age/gender and Sector cohort, there is no need to model the Priority Level distribution of the entire VetPop.

However, there is a need to make implicit assumptions about the Priority Level distribution in the pool. As mentioned in the overview, in every year there incurs enrollment out of the pool, which adds to the enrollment projection (item (2) in that discussion). Since new enrollees must be immediately tracked by Priority Level, separate enrollment rates must be calibrated for each Priority Level. This requires an assumption about the size of the pre-image of each Priority

Level; the pre-image is the group of veterans who, if they were to enroll, would be classified into the given Priority Level.

In FY 2002 the pool is the number of veterans not on the MEF; that is, veterans who are not enrolled in the VA Health Care System as of September 30, 2002. It remains to determine the Priority Level distribution within the pool in order to arrive at a complete VetPop Proxy in FY 2002.

In FY 2002:

$$\text{VetPop Proxy} = \text{Pool Count} + \text{MEF Count}$$

In a projection year X:

$$\text{VetPop Proxy} = \text{Pool Count} + \text{Enrollment Projection} \quad (1)$$

The objective is to take the Pool Count in (1) above and allocate it to the Priority Level, the pre-images. The enrollment rates are then applied to each Priority Level pre-image in the pool to determine how many veterans are expected to enroll out of the pool during the next projection year and to which Priority Level they will be assigned.

VetPop Proxy: Priority Levels 1a, 1b, 2 and 3 - Service-connected Disabled

The National VetPop was supplied by the VA OACT and is a primary source of information for determining the distribution of veterans in Priority Levels 1a, 1b, 2 and 3 by age and gender. However, its value is limited to veteran characteristics at the national level, as it contains no county-level detail. Therefore, these data were used to develop a baseline national distribution for the proportion of veterans in Priority Levels 1a, 1b, 2 and 3 by age and gender.

The C&P file contains detailed information about Priority Level 1 (1a and 1b combined), 2 and 3 veterans by county as of September 30, 2002. After ignoring veterans on the MEUF file, the remainder is a reasonable proxy for the pool of Priority Levels 1 to 3 veterans in 2002, at least as far as regional variation is concerned. Therefore, the relativities observed in the C&P file were used to vary the baseline's national distribution of Priority Levels 1 to 3 by geographic location.

The degrees of disability coded in the National VetPop provide a fairly robust crosswalk to Priority Levels 1 to 3. It was determined that, in the absence of contradictory information, the following mapping from degree of disability to Priority Level would be used:

P1-3 Crosswalk

10% - 20% Service-Connected Disability	↔	Priority Level 3
30% - 40% Service-Connected Disability	↔	Priority Level 2
50% - 60% Service-Connected Disability	↔	Priority Level 1b
70% - 100% Service-Connected Disability	↔	Priority Level 1a
0% Service-Connected Disability	↔	all other Priority Levels
Non-Service-Connected Disability	↔	all other Priority Levels
Not Disabled	↔	all other Priority Levels

In FY 2002, for each age and gender, the national baseline distribution of Priority Levels 1a, 1b, 2 and 3 was set equal to the greater of the number of veterans in the degree of disability interval listed above or the number of veterans appearing in either the MEUF or the C&P files. This method illustrates the general approach taken in the modeling of Priority Level - to subject informed assumptions to known constraints. As stated, this method can only increase the number of veterans assigned to a given Priority Level using only the P1-3 Crosswalk. In order to avoid an unrealistic bias, the method was augmented to shift veterans from a lower Priority Level to a higher Priority Level whenever the MEUF and C&P files indicated a need to increase the number in the higher Priority Level. In this way, the numbers of veterans in each Priority Level were allowed to depart from the base assumptions implied by National VetPop while essentially maintaining the total number of veterans in Priority Levels 1 to 3 that the National VetPop would otherwise imply.

As stated above, the geographic variation from the national baseline was derived from the C&P file. The empirical geographic distribution in the C&P file was smoothed to give Market-level adjustments to the overall number of veterans in Priority Levels 1 to 3 and VISN-level adjustments to the distribution of each of Priority Levels 1 to 3, relative to the whole.

Using the national baseline distribution and the set of geographic adjustment factors described above, the veteran counts in each Sector / Age Band / Gender block were allocated to Priority

Levels 1a, 1b, 2, 3 and all other (Priority Levels 4-7) as well as to individual ages within each Age Band.

VetPop Proxy: Priority Level 4 – Catastrophically Disabled and Homebound

The catastrophically disabled and housebound veterans (Priority Level 4) were modeled as a percentage of veterans not already assigned to Priority Levels 1 to 3, that is, as a percentage of Priority Level 4 to 7 veterans. This percentage was derived using an exponential slope as a function of age, subject to the following constraints: 3% of all veterans not already assigned to Priority Levels 1 to 3 were to be assigned to Priority Level 4, with a limiting case of nearly 9% of the oldest veterans being assigned. The selection of an exponential model was based on its consistency with Americans with Disabilities data as well as veteran data. The target of 3% matches the assumption used in CARES Phase II, which was derived from the analysis of Allstates_h.

Regional variation in the Priority Level 4 distribution was not modeled because no reliable data source was found containing information about regional variation in catastrophic disability among veterans or the general population.

VetPop Proxy: Priority Level 5 – Low-Income Veterans

The low-income veterans in Priority Level 5 were modeled as a percentage of veterans not already assigned to Priority Levels 1 to 4. Since National VetPop is silent on Priority Level 5 distributions (the size of Priority Levels 1 to 3 notwithstanding), it was necessary to use other sources of information.

The primary source of information was *Vets2000_County_P57_uspr_r*, a VA OACT analysis of Census 2000 long forms. Although the long forms are not for public disclosure, the results of the analysis were summarized to a high level suitable for public release. For each of 506 Sectors and four age bands, the portion of self-reported veterans was allocated into two groups, low-income (P5Star) and high-income (P7Star) according to self-reported income and asset information. The threshold for assignment to P5Star was the same as that for Priority Level 5, so that if these veterans were to enroll they would likely be assigned to Priority Level 5, disability status

notwithstanding. If the veterans in the P7Star group were to enroll, they would be assigned to Priority Level 7; again, without consideration for disability status.

The central problem to overcome was to estimate the portion of P5Star and P7Star that would be assigned to Priority Levels 1 to 4. After establishing the carve-out, the remainder can be used to estimate the relative number of veterans in Priority Level 5 versus Priority Levels 6-7. The simple relativity between P5Star and P7Star is not suitable for this purpose because a disproportionate number of Priority Level 1 to 4 veterans are low-income, compared to the total veteran population; using it would overestimate the true number of Priority Level 5 veterans.

The proportion of Priority Level 5-7 veterans who are Priority Level 5 was estimated using the formula:

$$(P5Star - \# \text{ Priority Level 4} - \# \text{ Low-income Priority Level 1-3}) / (\# \text{ Priority Level 5-7})(2)$$

This approach makes two key assumptions; first, that essentially all catastrophically disabled and homebound veterans (Priority Level 4) are low-income; second, the portion of Priority Level 1-3 veterans who are low-income can be estimated.

The first assumption is reasonable and its deviation from reality should not have a material impact on the result, given the small number of Priority Level 4 veterans. The second assumption required a VHA internal analysis of the 2001 National Survey of Veterans. This analysis used information on Priority Level, family income and dependent status to simulate the Priority Level 5 means test using dependent-qualified thresholds. This was done for service-connected disabled veterans and all other veterans combined. Based on the simulation, it was determined that service-connected disabled veterans had a higher rate of low-income qualification than other veterans, and that the increase in this propensity ranged from 8% to 40%, depending on the age band.

Service-Connected Disabled

<u>Age Band</u>	<u>Increased Low-Income Proportion</u>
18-44	40%
45-64	31%
65-84	8%
85-100	20%

According to the table, a 50 year-old veteran with a service-connected disability is 31% more likely to be low-income than a veteran of the same age who does not have a service-connected disability.

Using these relativities, formula (2) was calculated for each Sector and each of four age bands. For each sector, the results were smoothed from the four age bands to create a slope by individual age. The shape of the slopes was modeled using information from Census 2000 Poverty Estimates – Public Release. The portions were then applied to the VetPop Proxy to further split Priority Levels 5-7 into Priority Level 5 and the remainder, Priority Levels 6-7.

VetPop Proxy: Priority Levels 6, 7a and 7c

Having determined the number of veterans in each of Priority Levels 1 to 5 for each age and gender, the remainder represents Priority Level 6, 7a, and 7c veterans, collectively.

A well-defined counting technique has not been identified to distinguish among these specific Priority Level groups. However, the split can be made in a way that allows the enrollment projection process to be well defined. The current enrollees in these groups show how part of the split should be made. The veterans in the pool can be split using the enrollment rates calculated for Priority Levels 6, 7a and 7c.

Let the variable $Pool_{67}$ be the total number of veterans in the pool not already classified into Priority Levels 1 to 5, and let the variable R_6, R_{7a}, R_{7c} , denote the enrollment rates observed from this pool into each of Priority Levels 6, 7a, and 7c, respectively. The enrollment projection under this design is equivalent to one in which the pools for each Priority Level are assumed to be

$$[\text{Priority Level 6 pool}] = Pool_{67} * (R_6) / (R_6 + R_{7a} + R_{7c})$$

$$[\text{Priority Level 7a pool}] = Pool_{67} * (R_{7a}) / (R_6 + R_{7a} + R_{7c})$$

$$[\text{Priority Level 7c pool}] = Pool_{67} * (R_{7c}) / (R_6 + R_{7a} + R_{7c})$$

and enrollment rates are assumed to be uniform at $R = R_6 + R_{7a} + R_{7c}$ for each Priority Level. This is how the remaining pool was allocated to Priority Levels 6, 7a, and 7c, thus completing the construction of the VetPop Proxy.

The distinction made in the VetPop Proxy between Priority Levels 6, 7a and 7c is designed only to support the enrollment projection mechanism and should not be interpreted as an assertion about the actual classification of veterans into these Priority Levels.

How the Priority Level Distribution is Varied with Time

The next step was to apply the distributional assumptions from the base year to the projection years.

The approach asserts that Priority Levels 1 to 3 exhibit strong cohort effects tied to the various military campaigns that produce most service-connected disabilities. For example, veterans of the World Wars and the Korean and Vietnam Wars are characterized by higher rates of service-connected disabilities. To the extent that the Priority Level mix in the 2002 VetPop Proxy differs from the Priority Level mix implied by the National VetPop in 2002 (using the P1-3 Crosswalk defined in the subsection on Priority Levels 1 to 3), the differences were projected into future years based on birth year and gender. For a given birth year, gender and Priority Level *P* (1a, 1b, 2 or 3), the number of veterans assigned to *P* in a future year is equal to the number of Priority Level *P* veterans implied by the National VetPop in that year (using the P1-3 Crosswalk), adjusted by the factor applied to the same veterans in 2002.

On the other hand, the model asserts that the future Priority Level distribution of veterans without service-connected disabilities is explained by age (attained in the projection year) and gender alone. Poverty rates, for example, exhibit a strong relationship to age. Without supporting data and strong theory to suggest cohort effects, the model distributes veterans in future years into the remaining Priority Levels 4 to 7 as a function of attained age and gender alone. For a given age, gender and Priority Level *P* (4, 5, 6, 7a or 7c), the number of veterans assigned to *P* in a future year is computed from the same percentages used for veterans of the same age in 2002, after Priority Levels 1 to 3 have been determined.

Modeling by Individual Age

Although single year of age is not included as a deliverable, it remains important to the enrollment projection process. Cohort effects are too strong to assume, for example, that ages

are evenly distributed across 5-year age groups at any point in time. Thus, it is important to create VetPop Proxy at the single year of age. This is accomplished by assuming that the National age distribution of the pool (within an age group, Priority Level and gender for a given year) can be attributed to the pool for each Sector.

When Enrollment Projections Exceed Vet Pop

For a few Fiscal Year / Sector / Age Group / Gender combinations, the mortality-only projection exceeded VetPop, creating a “negative pool.” The distribution of Priority Levels in these cells was assumed to be the same as that of the mortality-only projection. This is equivalent to an assumption of constant “market share” (where “market share” is greater than 100%) for each Priority Level in the mortality-only projection.

The enrollment projection process does not allow new enrollment to occur in cells where a negative pool is emerging. This self-correcting rule assures that the unique assumptions for mortality, Priority Level transition and geographic migration among enrollees will not lead to results that dramatically contradict the VA OACT VetPop Projection.

Exhibit II-2-1

Enrollment Projections

VetPop Proxy Data Sources

VP01Adj_National_v2

This is a Census2000 VetPop projection, detailing veterans by age, gender and degree of disability for Fiscal Years 2000 to 2030. This file includes no geographic detail.

VP01Adj_County_v2

This is a Census2000 VetPop projection, detailing veterans by county, five-year age band, and gender for Fiscal Years 2000 to 2030. This file does not include overseas veterans, but overseas veterans can be inferred based on the difference between National and County.

CP902

The C&P file contains all veterans receiving Disability & Pension benefits from VBA as of September 30, 2002. This consists primarily of Priority Levels 1 to 3. The C&P file was used only to identify veterans not present on the MEF or on the User file. Scrambled SSN, Date of Birth, Gender, Zip Code and Priority Level were contained on this file.

Users96, Users97, Users98

The Users files contain all veterans who received health care services from VHA during Fiscal Years 1996 through 1998. This file is used to supplement veteran counts from the MEF. Scrambled SSN, Date of Birth, Gender, Zip Code and Priority Level were contained on this file. The Users file was used only to identify veterans not present on the MEF.

Deaths (BIRLS Death File)

The BIRLS death file was used to identify deceased veterans from the C&P file and the Users files, to avoid counting them in the VetPop Proxy. All veterans dying before September 30, 2002 were excluded.

Sep02Final (Master Enrollment File)

The MEF is described at the beginning of Section II-1.

Allstates_h

VHA Office of Policy and Planning created Allstates_h in August 2001. This data provided VetPop projections from Fiscal Years 2000 to 2010 by Priority Level, County and Age Band (< 45, 45 to 64, 65 +). This is the most recent data supplied by VA containing VetPop projections by Priority Level. Because of the major changes in estimates of VetPop by county since the creation of Allstates_h, and because of the limited value of the age information, Allstates_h was only used in this analysis to help set the national number of Priority Level 4 and Priority Level 5 veterans.

Census 2000 Poverty Estimates – Public Release

The tables provide the distribution of US population below the poverty level by nine age groupings. The U-shaped distribution is well suited to imputing a smooth distribution by age for use in the Priority Level 5 development.

Americans with Disabilities: 1997 – Table 1

The table gives a functional relationship between age and the proportion of the population with disabilities, in particular those that “need assistance”. Although VA data was relied on chiefly to set global targets for the size of the Priority Level 4 population, this table was used to justify fitting an exponential slope.

Exhibit II-2-2

VetPop Proxy Development

Pool and VetPop Proxy Methodology Change between CARES II and FY04 ELDA

The pool to be allocated to Priority Level for the VetPop Proxy at any point in time is the difference between the VetPop and the so-called “Mortality-only Enrollment Projection” at that point in time. The diagrams below illustrate the change in the mortality-only projection between CARES II and FY04 ELDA.

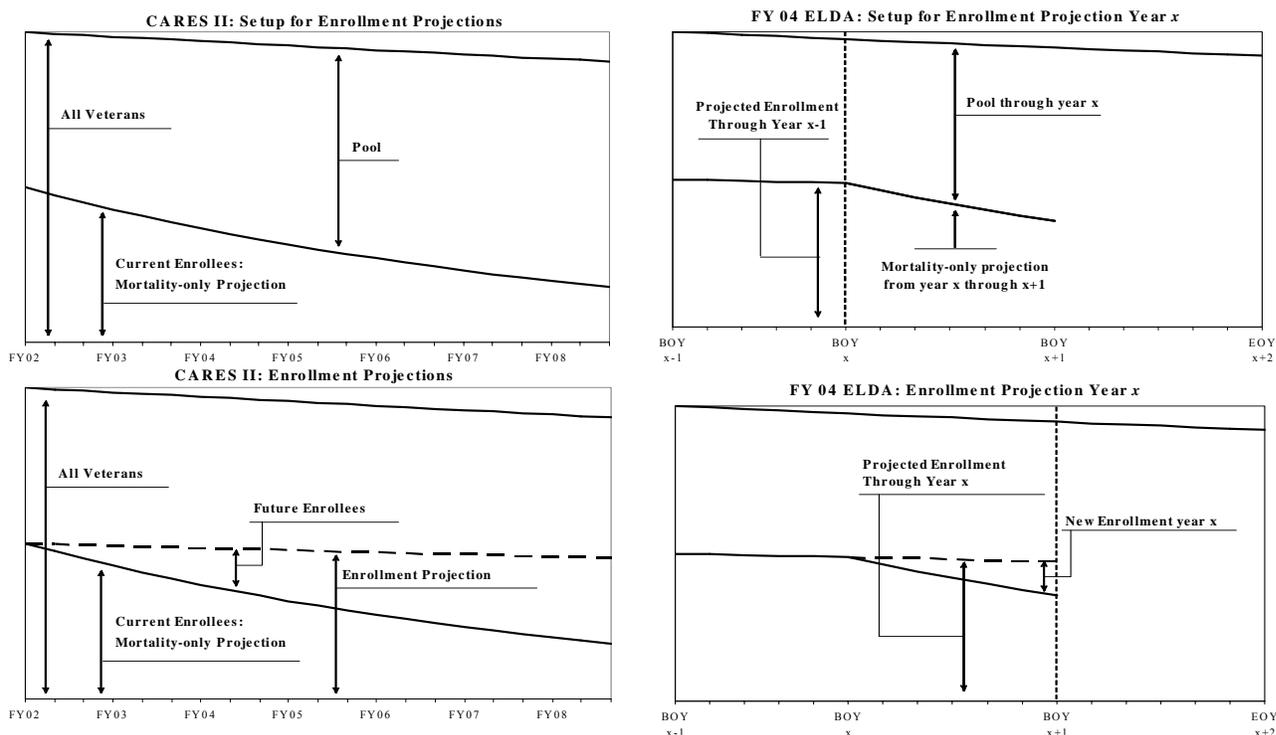


Illustration of the change in pool and enrollment projection methodology from CARES II to FY04 ELDA

The top box on the left shows that during CARES II, the mortality-only projection was developed for all years based on the master enrollment file, considering only future mortality. Thus, the pool to be allocated to Priority Level in each year increased as the number of veterans enrolled at the beginning of the projection period diminished. The top box on the right shows that during FY04 ELDA, the mortality-only projection was conducted just one year into the future, based on the prior year’s enrollment projection, thus allowing all of the other assumptions in the enrollment projection process (including enrollment rates and migration patterns) to be reflected in the VetPop proxy, and reducing the size of the pool to be allocated to Priority Level.

The boxes on the bottom show that the mortality-only projection deviates less from the full enrollment projection over time in the FY04 ELDA method as compared to the CARES II method.

Section II-3

Enrollment Projection Methodology

Major Data Sources Contributing to the Enrollment Projections

The enrollment projections utilized the following data:

- Data used to create the Master Enrollment File;
- Historical Priority and Geography File: *Migr9902* (Migration Data Set); and
- Major data sources contributing to the VetPop Proxy contribute indirectly via the functionality of the VetPop Proxy in the enrollment projections.

Additional information regarding these sources is included in Exhibit II-2-1.

Changes to Enrollment Projection Methodology for FY04 ELDA

Enrollee Priority Transition Rates

The tendency of enrolled veterans to change Priority Level over time was studied for FY04 Enrollment Level Decision Analysis (ELDA). The results of this study can be found in Section II-5.

Enrollee Geographic Migration Rates

Enrollee migration patterns were studied for FY04 ELDA. The results of this study can be found in Section II-6

Enrollment Rates

A new Enrollment Rate study was completed for FY04 ELDA and is included as Appendix C to this report. One of the key changes resulting from this study was that there are no longer distinct rates for Enrollee Pre and Enrollee Post. Details regarding the study and the enrollment rates used can be found in Section II-7.

Mortality Rate

A new Mortality study was completed for FY04 ELDA. Details regarding the study and the mortality ranges used can be found in Section II-8

Monthly VetPop Proxy

Two changes were made to the estimation of monthly VetPop proxy. These changes were made to improve the fidelity of the enrollment projections in cells where market share is nearly 100%. First, a beginning of year VetPop Proxy was developed using methods analogous to those described in Section II-2. This VetPop Proxy includes minor adjustments to the prior year's End of Year VetPop Proxy to reflect Age, Priority Level and Geographic migration at the beginning of the year. Second, the monthly interpolation of VetPop Proxy was changed from linear to exponential, so as to more faithfully reflect the exponential mortality assumed in the enrollment projections. These changes reduce the total number of cells in the enrollment projections with market shares exceeding 100%.

Design of support for policy decisions in enrollment projections

Support for evaluating the impact of policy decisions is a critical component of the ELDA process. Because many potential policy decisions have an impact on projected future enrollment, it is important that the enrollment projection process be streamlined to rapidly support analysis of those potential decisions. The following measures were taken to streamline this process:

- Elimination of preferred facility;
- Enrollment projection runs one year at a time instead of all years at once;
- Enhanced support for GMT Priority Level splits;
- Tracking of "pent-up" demand;
- Ability to specify changes in open enrollment on a monthly basis; and
- Capture of Average, Unique, Beginning-of-year and End-of-year enrollment in a single projection run.

In FY03 ELDA and prior, the primary basis for the VA Enrollee Health Care Projection Model was Preferred Facility. This projection basis complicated the enrollment projection process, as enrollment was projected by county, but then converted to Preferred Facility. In FY04 ELDA, the primary basis for the VA Enrollee Health Care Projection Model is County of Residence, which is consistent with the enrollment rate development (Section II-7) and the VetPop Proxy (Section II-2). Enrollment by Preferred Facility is still produced, however is now a secondary process and is described in Section XII.

In FY03 ELDA and prior, the enrollment projection process was designed to be a one-time event. It was assumed that once the VetPop Proxy was created and the enrollment rates were established, that there would be only one enrollment projection to cover all years. As a consequence, a significant re-programming effort was required to handle each additional enrollment scenario. The projection process has been modified now to handle projections one year at a time, with the prior end-of-year enrollment projection being used as the starting basis for the current year's projections. For example, scenarios that only affect enrollment in FY 2005 and future will no longer require fiscal years 2003 to 2004 to be rerun.

The modeling for Geographic Means Test (GMT) Priority Levels 7 and 8, which was first introduced during CARES II, has now been incorporated into the main enrollment projections. The projection algorithm now splits Priority Level 7 veterans into GMT Priority Levels 7 and 8 as they enroll. Along with the "pent-up" demand tracking described below, this enables rapid turn-around for scenarios involving changes to open-enrollment policies for GMT Priority Levels 7 and 8. It is important to note that any further subdivision of Priority Levels 7 and 8 would require substantial effort and is not contained within this enhancement.

The enrollment projection model now tracks the number of veterans who would have enrolled if enrollment had been open for the entire projection period. Those who would have enrolled, but were denied because of a change in enrollment policy are tracked so that in case of a future policy decision to again allow enrollment of these veterans, the impact of that "pent-up" demand on enrollment can be measured.

For each GMT Priority Level (7a, 7c, 8a, 8c), enrollment status can be defined as of the beginning of any month. The status can be any of the following:

1. Open enrollment;
2. Suspended enrollment; and
3. Complete disenrollment.

On any month of open enrollment after a period of suspended enrollment or disenrollment, it is assumed that 100% of "pent-up" demand will enroll or re-enroll.

The enrollment projection model now captures several pertinent enrollment estimates for each Fiscal Year of the projection. The estimates now captured are:

- Beginning of Fiscal Year Enrollment;
- End of Fiscal Year Enrollment;
- Unique Enrollees during Fiscal Year; and
- Average Monthly Enrollment during Fiscal Year.

Using these estimates, two additional values are readily available, unless there has been disenrollment during the year:

- Enrollee Deaths during a Fiscal Year = Unique Enrollment – End-of-Year Enrollment;
- New Enrollment during a Fiscal Year = Unique Enrollment – Beginning-of-Year Enrollment.

These projections are incorporated into the VA Enrollee Health Care Projection Model and are now contained in all model summaries.

Enrollment Projection Methodology

The purpose of the enrollment projection model is to project future VHA enrollment, according to reasonable inputs and assumptions, and subject to a variety of conceivable policy decisions.

The conditions for success of the enrollment projection include:

- Sufficient demographic detail for adequate risk-assessment;
- Sufficient demographic detail to understand the changing risk profile and health care demands of the enrolled population;
- Sufficient demographic detail to support short-term decisions and long-term planning;
- Sufficient accuracy and plausibility for use in decision-making and planning.

In many cases, the enrollment projection model provides greater precision than is justified by the accuracy of the available inputs and assumptions. This precision is important, however, because it is sensitive to changes in the underlying inputs and assumptions, and because it provides a

sound foundation for improved projections as more accurate inputs and assumptions become available.

The demographic detail presently required to meet the conditions for success of the enrollment projections is as follows:

- Consolidated County (“Sector”) of Residence
- Enrollee Priority Level
- Enrollee Type (Enrollees present in the VA Health Care System prior to open enrollment have different risk characteristics than those entering the VA Health Care System at a later time.)
- Gender
- Age (in 5-year age ranges from <25 to 85+)

Because of the unique age distribution of veterans, it is important to model the enrollment projections at the single year of age before aggregating to 5-year age bands.

The enrollment projection model is a recursive monthly projection model using the following inputs:

- Projected veteran population (beginning of year and end of year);
- Veteran enrollment rates;
- Enrollee mortality rates;
- Priority Transition rates;
- Geographic Migration rates;
- Projected enrollment (beginning of month).

The following formulas describe the primary calculations in the enrollment projection model:

- Projected Enrollment (Beginning of Month) = Projected Enrollment (End of Prior Month).
- Enrollment Pool (Beginning of Month) = Projected Veteran Population (Beginning of Month) – Projected Enrollment (Beginning of Month);
- New Enrollment = Enrollment Pool (Beginning of Month) × Monthly Enrollment Rate;

- $\text{Enrollee Deaths} = [\text{Projected Enrollment (Beginning of Month)} + \text{New Enrollment}] \times \text{Monthly Enrollee Mortality Rate};$
- $\text{Projected Enrollment (End of Month)} = \text{Projected Enrollment (Beginning of Month)} + \text{New Enrollment} - \text{Enrollee Deaths}.$

Finally, the projection models calculate migration on an annual basis. Migrations that are modeled at the beginning of each year are:

- Age (All veterans are assumed to age at the beginning of each fiscal year.)
- Priority Level (Described in Section II-5)
- Geography (Described in Section II-6)

Migrations reflect the anticipated end-of-year status for enrolled veterans. That is, all changes anticipated to happen during the year are assumed to happen at the beginning of the fiscal year.

While details and definitions will be provided in subsequent paragraphs, the concept behind the methodology is straightforward: given a certain number of veterans eligible to enroll (but not yet enrolled) at the beginning of the month (the “pool”), and given that a certain proportion of the pool enrolls each month (the “rate of enrollment”), then the number of new enrollees is, by definition, the product of this rate and pool size. Enrollee deaths follow a simplified multiple-decrement mortality model: all new enrollment within each month is assumed to happen prior to any enrollee deaths during that month.

The remaining paragraphs of this section detail and justify the methods used to determine the component parts of the above equation. Given that the projected enrollment was determined for each single-year age group, for each gender, for each Priority Level, for each Enrollee Type, for each Sector, and for each month of each Fiscal Year through 2023, the simplicity of the above equation is deceiving.

Projected Veteran Population (Beginning of Month)

VetPop Proxy, as described in Section II-2, is an annual projection. It is based on Census 2000 VetPop, which contains within it both a mortality model and a military separation model. Thus, all increments and decrements to VetPop are already contained within VetPop Proxy. In order to

transition from annual veteran population to monthly veteran population, exponential interpolation was used. Using methods analogous to those described in Section II-2, a Beginning-of-Year VetPop Proxy is created for each Fiscal Year by allocating the Beginning of Year Pools to Priority Level. For each cell, monthly veteran population can then be calculated:

Define Month = 0 for October through Month = 11 for September;

Projected Veteran Population (Beginning of Month) = {Projected Veteran Population (Beginning of Year) $^{\wedge}$ [1 - Month \div 12] \times Projected Veteran Population (End of Year) $^{\wedge}$ [Month \div 12]}.

Projected Enrollment (Beginning of Month)

Projected Enrollment at the beginning of the month is equal to Projected Enrollment at the end of the prior month. All ages greater than 100 are aggregated to age 100.

Age

During any Fiscal Year, the age of an enrollee is recorded as Age Last Birthday on April 1 of that Fiscal Year. This definition of age is consistent with that used in Census 2000 VetPop. This definition is such that all enrollees age on October 1 of each year. Unless there is disenrollment, Beginning of Year Enrollment is equal to End of Year Enrollment for the prior Fiscal Year, with one year of aging.

End of Year Enrollment

End of Year Enrollment is enrollment on the last day of the Fiscal Year, subsequent to all new enrollment, disenrollment and deaths during the year.

Beginning of Year Enrollment

Beginning of Year Enrollment is enrollment on the first day of the Fiscal Year, prior to any new enrollment, and deaths during the year, but subsequent to any disenrollment (voluntary or involuntary) on the first day of the year. Age, Priority Level and Geographic migration are applied to prior year end of year enrollment to arrive at beginning of year enrollment.

Unique Enrollment

Unique Enrollment is the total number of veterans enrolled and alive at any time during the year. This is calculated as Beginning of Year Enrollment + New Enrollment during the year. It is equivalent to End of Year Enrollment + Deaths and Disenrollment during the year.

Average Enrollment

Average Enrollment is the average over the Fiscal Year of Unique Monthly Enrollment. Unique Monthly Enrollment is the total number of veterans enrolled and alive at any time during the month. This is calculated using Projected Enrollment (Beginning of Month) + New Enrollment for each month of the Fiscal Year. Average Enrollment is the basis for projecting health care utilization and expenditures, as it is the most useful measure of exposure available.

Starting Point for Recursive Formula

The recursive formula uses the September 30, 2002 Master Enrollment File as the initial condition. The enrollment for end of FY 2002 consists of all enrollees listed on the MEF, alive and enrolled on September 30, 2002. An initial application of Priority Transition and Geographic Migration is applied to the end of 2002 enrollment to create the beginning of year 2003 enrollment for the recursive formula. The enrollment projections begin as of October 1, 2002.

GMT Priority Levels

The projections for GMT Priority Levels 7 & 8 are allocations based on a study performed during CARES Phase II, and described in the report titled, "FY03 VA Enrollee Health Care Projection Model Update, Fiscal Years 2002 through 2022" dated February 12, 2003 – Section III" (attached as Appendix B). For the enrollment projections, the formula *New Enrollment = Enrollment Pool (Beginning of Month) × Enrollment Rate* is modified for Priority Levels 7a and 7c as follows:

- GMT Priority Level 7a New Enrollment = Priority Level 7a New Enrollment × GMT Priority Level 7 Proportion;

- $\text{GMT Priority Level 8a New Enrollment} = \text{Priority Level 7a New Enrollment} \times \text{GMT Priority Level 8 Proportion}$;
- $\text{GMT Priority Level 7c New Enrollment} = \text{Priority Level 7c New Enrollment} \times \text{GMT Priority Level 7 Proportion}$;
- $\text{GMT Priority Level 8c New Enrollment} = \text{Priority Level 7c New Enrollment} \times \text{GMT Priority Level 8 Proportion}$;
- $\text{GMT Priority Level 7 Proportion} = 0.0$ for counties where $\text{GMT threshold} < \text{Priority Level 5 Means Test (PL5MT) threshold}$;
- $\text{GMT Priority Level 7 Proportion}$ depends on Age and VISN for counties where $\text{GMT threshold} > \text{PL5MT threshold}$;
- $\text{GMT Priority Level 8 Proportion} = 1.0 - \text{GMT Priority Level 7 Proportion}$.

“Pent-Up” Demand

For any month in which enrollment is suspended, the projection formula is modified for the appropriate Priority Levels as follows:

- $\text{Projected Enrollment (Beginning of Month)} = \text{Projected Enrollment (End of Prior Month)}$;
- $\text{Suspended Enrollment (Beginning of Month)} = \text{Suspended Enrollment (End of Prior Month)}$;
- $\text{Enrollment Pool (Beginning of Month)} = \text{Projected Veteran Population (Beginning of Month)} - \text{Projected Enrollment (Beginning of Month)} - \text{Suspended Enrollment (Beginning of Month)}$;
- $\text{New Enrollment} = 0$;
- $\text{Additional Suspended Enrollment} = \text{Enrollment Pool (Beginning of Month)} \times \text{Monthly Enrollment Rate}$;
- $\text{Enrollee Deaths} = \text{Projected Enrollment (Beginning of Month)} \times \text{Monthly Enrollee Mortality Rate}$;
- $\text{Suspended Deaths} = [\text{Suspended Enrollment (Beginning of Month)} + \text{Additional Suspended Enrollment}] \times \text{Monthly Enrollee Mortality Rate}$;
- $\text{Projected Enrollment (End of Month)} = \text{Projected Enrollment (Beginning of Month)} - \text{Enrollee Deaths}$;

- $\text{Suspended Enrollment (End of Month)} = \text{Suspended Enrollment (Beginning of Month)} + \text{Additional Suspended Enrollment} - \text{Suspended Deaths}.$

Disenrollment

For any month in which enrollees are involuntarily disenrolled, the projection formula is modified as follows:

- $\text{Projected Enrollment (Beginning of Month)} = 0;$
- $\text{Suspended Enrollment (Beginning of Month)} = \text{Projected Enrollment (End of Prior Month)} + \text{Suspended Enrollment (End of Prior Month)};$
- $\text{Enrollment Pool (Beginning of Month)} = \text{Projected Veteran Population (Beginning of Month)} - \text{Suspended Enrollment (Beginning of Month)};$
- $\text{New Enrollment} = 0;$
- $\text{Projected Enrollment (End of Month)} = 0;$
- $\text{Additional Suspended Enrollment} = \text{Enrollment Pool (Beginning of Month)} \times \text{Monthly Enrollment Rate};$
- $\text{Suspended Deaths} = [\text{Suspended Enrollment (Beginning of Month)} + \text{Additional Suspended Enrollment}] \times \text{Monthly Enrollee Mortality Rate};$
- $\text{Suspended Enrollment (End of Month)} = \text{Suspended Enrollment (Beginning of Month)} + \text{Additional Suspended Enrollment} - \text{Suspended Deaths}.$

Resumption of Enrollment

For any month of open enrollment subsequent to a period of suspended enrollment or disenrollment, the projection formulas are modified as follows:

- $\text{Suspended Enrollment (Beginning of Month)} = \text{Suspended Enrollment (End of Prior Month)};$
- $\text{Enrollment Pool (Beginning of Month)} = \text{Projected Veteran Population (Beginning of Month)} - \text{Projected Enrollment (Beginning of Month)} - \text{Suspended Enrollment (Beginning of Month)};$
- $\text{New Enrollment} = \text{Enrollment Pool (Beginning of Month)} \times \text{Monthly Enrollment Rate} + \text{Suspended Enrollment (Beginning of Month)};$

- Suspended Enrollment (End of Month) = 0;
- Enrollee Deaths = [Projected Enrollment (Beginning of Month) + New Enrollment] × Monthly Enrollee Mortality Rate;
- Projected Enrollment (End of Month) = Projected Enrollment (Beginning of Month) + New Enrollment – Enrollee Deaths.

Separate buckets of suspended enrollment are tracked for Enrollees Pre and Enrollees Post. Reenrollment of Enrollees Pre retains their classification as Enrollees Pre.

Enrollment Fees

Currently, the comprehensive health benefits package offered by VA does not involve charging enrollment fees and therefore, enrollment fees are not modeled directly within the VA Enrollee Health Care Projection Model. For policy simulation scenarios involving enrollment fees, the enrollment projection model predicts behavior assuming there is no enrollment fee. Unreduced enrollment is used as an input to the VA Enrollee Health Care Projection Model, which applies the induced disenrollment to the given enrollment as a result of establishing an enrollment fee. The same reduction factor is applied to all enrollment estimates (Beginning of Year, End of Year, Unique and Average). The models only support introduction of an Enrollment Fee at the beginning of a Fiscal Year.

Section II-4

County Consolidation Methodology

The most visible change in the Enrollment Projections is that they are no longer projected on an individual county basis, but are, instead, projected on the aggregated level of consolidated counties, or “Sectors.” This approach adds significant value to the process, including:

- Increased statistical credibility, through elimination of projections for small populations
- Increased efficiency in scenario modeling through decreased time elapsed for enrollment projection scenarios and cost and utilization projection scenarios.

A Sector, as used throughout this report, is defined as a cluster of geographically adjacent counties, within a CARES-defined submarket. Sector codes follow the coding conventions used for CARES submarket, with an additional code indicating the portion of the submarket. Sector codes are of the form *VV-M-S-X* where *VV* is the VISN code, with leading zeros, *M* and *S* are the CARES Market and Submarket codes, respectively, and *X* is the Sector code. Each Submarket consists of 1 to 15 Sectors, coded “A” through “O,” depending on the enrolled population and number of counties in the Submarket.

The process of subdividing Submarkets into Sectors used a combination of automated algorithms and manual inspection of maps. In most cases, it was possible to subdivide markets into Sectors using only the algorithm described below. In other cases, the algorithm alone was inadequate for defining Sectors. In these instances, judgment was used to define Sectors.

Two files were delivered containing the results of this mapping. “Format County to Sector.SAS” is a SAS program containing a complete mapping from FIPS state and county codes to Sectors. “County Consolidation Database_FINAL.xls” is an Excel spreadsheet containing the same mapping, along with a variety of supporting information, including county and state names and population data.

Description of Algorithm

The following algorithm was used to consolidate the 3,142 counties and county-equivalents, in 103 CARES Submarkets, into 506 Sectors.

1. All *submarkets* were subdivided into one or more sectors.
2. Each sector is fully contained within a single *submarket*.
3. Each sector consists of one or more counties.
4. No sector includes more than one *large county*.
5. Each *ZIP cluster county* is the only county in its sector. (This is necessary for the ZIP Cluster analysis.)
6. Sectors consisting entirely of *small counties* contain at least 6,000 enrollees or 25,000 veterans.
7. *Small counties* were included in the same sector as a *large county*, only when there were too few *small counties* in a *submarket* to form a sector consisting entirely of *small counties*.
8. If a *submarket* consists entirely of *ZIP cluster counties* and *small counties*, then the *small counties* were included in a sector distinct from the *ZIP cluster counties*, even though this region was otherwise too small to be a sector.
9. Sectors consist entirely of counties with the same *parent facility*.
10. When the counties within a *submarket* having a particular *parent facility* had insufficient enrollment to meet the requirement described in (6), those counties were reassigned to the *parent facility* of adjacent counties within the *submarket*.
11. Sectors (except those containing *large counties*) have at most 18,000 enrollees.
12. If the *small counties* within a *submarket*, sharing the same *parent facility*, had more than 18,000 enrollees among them, two or more sectors were formed. Target size for consolidated regions in these instances was 12,000 enrollees per sector.
13. The formation of sectors described in (12) was based primarily on the *PUMA* designations created by the Census Bureau. Adjacent *PUMAs* were combined into sectors to meet the target sizes.
14. When a *PUMA* contained more than 18,000 enrollees, the *PUMA* was subdivided as needed based on county adjacency. Judgment was used to develop this subdivision.

Definitions of italicized terms in this subsection

Submarket: CARES Submarkets, 103 in total.

ZIP Cluster County: ZIP cluster counties are the 62 counties included in the ZIP analysis. There are 8 ZIP cluster counties that would otherwise be considered *small counties*. The remainder would otherwise be classified as *large counties*. The ZIP cluster counties average 22,028 enrollees per county in 2002.

Large County: Large counties are counties (excluding ZIP cluster counties) with more than 7,500 enrollees or 30,000 veterans. There are 158 large counties, averaging 13,120 enrollees per county.

Small County: Small counties are counties (excluding ZIP cluster counties) with less than 7,500 enrollees and less than 30,000 veterans. There are 2,922 small counties, averaging 1,112 enrollees per county.

Parent Facility: The parent facility for each county is assigned based on the assignments given in the document PMAFY021.XLS provided by Planning Systems Support Group (PSSG).

PUMA: Public-Use Microdata Areas, as defined by the Census Bureau. These areas are aggregations of counties within a state with total population of at least 400,000 persons.

Section II-5

Priority Level Transition

It has been suggested that transition occurs among Priority Levels over time in the enrollee population. No provision was made for this phenomenon in prior enrollment projections. To assess this, historical data was studied to determine if Priority Level transition patterns are measurable, if the patterns are expected to continue, and if the patterns can be modeled. Other sources, such as population statistics manifested in the VetPop Proxy and Enrollee Mortality Rates were studied with the same purpose. The study included an analysis of transition patterns by age groupings.

Two models were developed for this task, a long-term model and a short-term model, designed to address key concerns and perceived bias in the enrollment projection model. The following sections summarize the considerations, techniques and results of the work.

The Need to Reflect Priority Level Transitions in the Enrollment Projections

It is unreasonable to expect that over a twenty year projection all enrollees will be in the same Priority Level as they were in the Master Enrollment File or when they enrolled. Since Priority Level is a factor in the VA Enrollee Health Care Projection Model, as well as a component of enrollment that is of interest to planners, the enrollment projections attempt to model how veterans move among Priority Levels over time.

Prior enrollment projection models froze the Priority Level of enrollees as of the effective date of the master enrollment file for current enrollment and as of the date of enrollment for projected new enrollees. This strategy biases long-term results in favor of the Priority Level mix for younger, newly separated veterans. The new model mitigates this source of error.

Data Sources

VHA supplied a data set, *Migr9902* (The Migration Data Set), for use in this analysis. It provides a record of past Priority Level assignments for enrollees, alive or deceased, on the Master Enrollment File. Priority Level is recorded as of September 30th in each of four years

1999, 2000, 2001 and 2002. No entry is made if the veteran was not enrolled at the time. Data scrubbing was performed by both VHA and Milliman actuarial consultants.

General Modeling Considerations

There are six distinct dynamics to consider with respect to Priority Level transitions:

1. Changes in income attributable to general economic factors (job loss, job gain, etc.);
2. Changes in income attributable to aging effects (pay raises, retirement, etc.);
3. Change in Priority Level due to submission of a means test;
4. Changes in non-service-connected (NSC) disability due to aging;
5. Increased or decreased intensity of service-connected (SC) disability (includes previously NSC veterans manifesting a SC disability after separation); and,
6. Increase of SC disability rating due to submission of proof, legal action, etc. (includes previously NSC veterans proving SC disability).

Modeling considerations for each of these effects are described below.

(1) Changes in Income Attributable to General Economic Factors

In general, these changes do not have a net effect on Priority Level transition. Unless explicit assumptions are made regarding changes in the overall economic climate, changing the proportion of Priority Level 5 enrollees (or veterans, for that matter) is not warranted. It may be possible to incorporate specific economic scenarios into the enrollment projection process. In this case, it would be important to reflect that change in both the VetPop Proxy and, in turn the enrollment projections; however this type of change was outside the scope of this task.

(2) Changes in Income Attributable to Aging Effects

It is assumed in the VetPop Proxy that average income increases over time to a certain age and then decreases. The probability of changing from Priority Level 7 to Priority Level 5 (or from Priority Level 5 to Priority Level 7) was set to the net transition probabilities implied by the VetPop Proxy assumptions.

(3) Changes in Priority Level due to submission of a Means Test

This type of change is a one-time only event, and should only be modeled to the extent that it is believed that the Priority Level coded on the MEF is based on insufficient available data. That is, a certain number of “true Priority Level 5 enrollees” appear on the MEF as Priority Level 7a or 7c. A one-time correction was applied to reflect the eventual submission of a means test for these enrollees.

(4) Changes in NSC Disability Due to Aging

It is assumed in the VetPop Proxy that the likelihood of being a Priority Level 4 veteran increases with age. The probability of changing from Priority Levels 5, 6, 7 or 8 to Priority Level 4 was set to the net transition probability implied by the VetPop Proxy assumptions.

(5) Increased or Decreased Intensity of SC Disability

Possible changes in disability include changes from NSC to SC and increases or decreases in SC degree of disability. It is certain that over the life of a veteran, the intensity of disability will change and that previously undiagnosed SC disabilities will manifest. These changes can result in Priority Level increasing to 8a, 7a, 3, 2 or 1, or decreasing to 2, 3, 4, 5, 7a or 8a. The available data did not allow investigation of this type of transition, however three possibilities were considered:

- An enrollee changes from NSC to SC;
- An enrollee experiences a reduction in SC disability;
- An enrollee experiences an increase in SC disability.

First, there are only a certain number of veterans currently in NSC priorities who will ever manifest symptoms of a SC disability. The number of changes from NSC to SC over a fixed period provides insufficient information about the total number of NSC veterans who will become SC in the future. Second, the number of enrollees experiencing a reduction in SC disability is too small to distinguish from data noise. Third, the data show that the vast majority of increases in SC disability occur during the first 1-2 years of enrollment. There is insufficient

data to distinguish between the period of high volatility in Priority Level immediately following enrollment and the long-term trends in changes in SC disability.

In light of these issues, a one-time reclassification was applied to reflect the net effect of these changes over the short term. This captured a portion of all of the changes in disability that are expected to happen.

(6) Increase of Service-Connected Disability Rating Due to Proof of Disability

Although the legal process to change degree of disability can go on for years, there are only a limited number of veteran enrollees whose priority will change as a result of this process. It is more appropriate to apply a one-time reclassification to reflect assumptions about the eventual outcome of the legal process than to assume an ongoing chain of reclassifications.

Long-Term Priority Level Transition Rates: Priority Levels 4 through 7

To address the need for long-term priority transition assumptions, three dynamics were modeled as a function of age.

- (1) Onset of catastrophic disability – transitions from Priority Levels 5, 6, 7a, 7c to Priority Level 4 (*Note: 8a and 8c are grouped with 7a and 7c respectively for modeling*);
- (2) Increase in wealth – transitions from Priority Level 5 to Priority Level 7c; and
- (3) Decrease in wealth – transitions from Priority Level 7c to Priority Level 5.

There was insufficient veteran data available to measure these long-term effects by empirical means. The four fiscal years of transition data (three potential transitions) on the Migration Data Set does not cover a long enough duration and contains a great deal of noise from administrative and other shock transitions.

Instead of using data directly, a model was created using assumptions developed for other aspects of the VetPop Proxy and Enrollment Projections.

- VetPop Proxy National distribution of Priority Levels 4, 5, 6, 7a and 7c – see subsections II-2 and II-3 for documentation. The allocations were expressed as percentages of the total Priority Level 4-7 population by individual age.
- Enrollee Mortality Rates – see subsection II-8 for documentation.

There are two artifacts of the VetPop Proxy that are of particular interest for the dynamics of (1)-(3) listed above. First, the percentage of Priority Level 4-7 veterans that are catastrophically disabled and homebound (Priority Level 4) is an exponentially increasing function of age. Second, the proportion of low-income veterans is a U-shaped function of age. In other words, income is lowest for the youngest and oldest veterans and highest for the middle age veterans.

Intuitively, the aging process should accompany a low, increasing rate of onset for catastrophic disability. These transitions should be irreversible. Every year there should be a net transition of young veterans moving from Priority Level 5 to Priority Level 7c (increasing wealth), and this net effect should reverse itself at some point in mid to late age.

In the Long-Term Priority Level Transition model, Priority Level 5-7 enrollees are subject to an annual probability of transitioning to Priority Level 4. Young Priority Level 5 enrollees are subject to an additional probability of transitioning to Priority Level 7c. Older Priority Level 7c enrollees are subject to an additional probability of transitioning to Priority Level 5. Young enrollees will lose wealth and older enrollees will grow wealth, but the model is intended to model *net* transitions effects; therefore only one-way, albeit reduced, rates are implemented.

The calculation of these rates reduces to identifying the portion of veterans in each Priority Level at two consecutive ages. The difference in the distributions is discounted for varying survival rates among the Priority Levels and the remaining difference is attributed to Priority Level transition. An example of this calculation is given below.

Formulation of Transition Rate - Priority 5-7 to Priority 4

R_i = The transition rate from Priority 5-7 to Priority 4
 $N4_i$ = Portion of Priority 4 veterans among Priority 4-7 veterans, age i
 $N57_i$ = Portion of Priority 5-7 veterans among Priority 4-7 veterans, age i
Note: $N57_i = 1 - N4_i$

$S4_i$ = One-year survival rate for Priority 4 veterans, age i
 $S57_i$ = One-year composite survival rate for Priority 5-7 veterans, age i

$$\begin{aligned} N4_i &= (N4_{i-1})(S4_i) + (N57_{i-1})(S4_i)R_i \\ N57_i &= (N57_{i-1})(S57_i)(1-R_i) \end{aligned}$$

The first equation is interpreted as follows: the Priority Level 4 veterans of who attain a given age i are comprised of the Priority Level 4 veterans surviving from attained age $i-1$ plus the Priority Level 5-7 veterans who transitioned to Priority Level 4 after attaining age $i-1$ and survived to attain age i .

The second equation is interpreted as follows: the Priority Level 5-7 veterans who attain age i are the Priority Level 5-7 veterans surviving from attained age $i-1$ who didn't transition to Priority Level 4 during the year.

The two equations shown lead to the formula for R_i below.

$$R_i = \frac{(N57_{i-1})(S57_i)(N4_i) - (N4_{i-1})(S4_i)(N57_i)}{(N57_{i-1})(S57_i)(N4_i) + (N57_{i-1})(S4_i)(N57_i)}$$

Similar formulations were used for the Priority Level 5 to 7c and Priority Level 7c to 5 rates. The results are shown in the table below.

Baseline Annual Percentage of Enrollees Transitioning

Age	PL 5-7 to PL4	PL7c to PL5	PL5 to PL7c	Age	PL 5-7 to PL4	PL7c to PL5	PL5 to PL7c	Age	PL 5-7 to PL4	PL7c to PL5	PL5 to PL7c
18	-	-	-	45	0.09	-	3.54	72	0.56	2.21	-
19	0.03	-	-	46	0.10	-	-	73	0.58	2.15	-
20	0.03	-	-	47	0.10	-	-	74	0.61	2.19	-
21	0.03	-	-	48	0.11	-	-	75	0.65	2.20	-
22	0.03	-	-	49	0.12	-	-	76	0.68	2.17	-
23	0.03	-	-	50	0.13	-	-	77	0.71	2.15	-
24	0.03	-	0.36	51	0.14	-	-	78	0.75	2.20	-
25	0.04	-	0.86	52	0.15	-	-	79	0.79	2.19	-
26	0.04	-	1.40	53	0.16	0.18	-	80	0.85	2.21	-
27	0.04	-	1.93	54	0.17	0.47	-	81	0.90	2.30	-
28	0.04	-	2.70	55	0.18	0.61	-	82	0.96	2.38	-
29	0.04	-	2.77	56	0.20	0.69	-	83	1.00	2.52	-
30	0.05	-	2.85	57	0.22	0.73	-	84	1.06	2.64	-
31	0.05	-	2.91	58	0.23	0.78	-	85	1.10	2.75	-
32	0.05	-	2.99	59	0.25	0.99	-	86	1.15	2.90	-
33	0.05	-	3.06	60	0.27	1.19	-	87	1.20	2.99	-
34	0.05	-	3.16	61	0.29	1.41	-	88	1.28	3.09	-
35	0.05	-	3.25	62	0.31	1.64	-	89	1.37	2.82	-
36	0.05	-	3.34	63	0.34	1.55	-	90	1.44	2.51	-
37	0.06	-	3.41	64	0.36	1.60	-	91	1.47	2.05	-
38	0.06	-	3.38	65	0.40	1.63	-	92	1.43	1.69	-
39	0.06	-	3.37	66	0.42	1.63	-	93	1.40	1.26	-
40	0.07	-	3.35	67	0.44	1.65	-	94	1.29	1.10	-
41	0.07	-	3.33	68	0.45	2.02	-	95	1.19	0.90	-
42	0.07	-	3.37	69	0.47	2.05	-	96	0.95	0.46	-
43	0.08	-	3.35	70	0.50	2.09	-	97	0.73	0.46	-
44	0.08	-	3.43	71	0.53	2.16	-	98	0.59	0.14	-

The baseline rates shown above were adjusted by Sector to reflect geographic differences in Priority Level distributions. The general approach is conveyed in the following example. If, in a given Sector, there are a disproportionately large number of Priority Level 7c veterans in the older ages, then the probability of those veterans transitioning to Priority Level 5 should be reduced from the baseline rate. Conversely, if there are few Priority Level 7c veterans in the older ages, it is likely that they will transition to Priority Level 5 with an increased rate.

A SAS Dataset, name “Prio_Transition_Longterm.sas7bdat” was delivered containing all three sets of long-term priority transition rates, by age and gender.

Long-Term Priority Level Transition Rates: Priority Levels 1 through 3

The Long-Term Priority Level Transition Rates do not make provision for transitions between Priority Levels 1a, 1b, 2 and 3 for enrollees, nor do they provide for transitions between NSC and SC. But the VetPop Proxy does reflect the disability transition probabilities used in the VA OACT VetPop. To the extent that the VetPop projects an increase in the proportion of veterans who are SC, and an increase in the average disability level of SC veterans, the enrollment projections reflect continued enrollment out of this increasing population. However, once new enrollment occurs out of Priority Levels 1a, 1b 2 and 3 it is frozen by the current enrollment projection methodology. It may be necessary to study the long-term assumptions for transitions among service-connected-disabled veterans and enrollees. This would allow for improved consistency between the enrollment projections and VetPop.

The disability transition probabilities used in the VA OACT VetPop Projections are described briefly below. The VetPop projections assume pair-wise transition probabilities between four disability statuses:

- 1 – non-disabled
- 2 – service-connected-disabled
- 3 – disabled, non-service-connected
- 4 – disabled, both service-connected and non-service-connected

These transition probabilities are defined by age and gender and applied annually to the VetPop projections. In addition, the degree of disability of disabled veterans is transitioned among the following percents: 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100%. These

transition probabilities are defined by gender and applied to disabled veterans annually in the VetPop projections.

FY 2002 Shock Transition

Veterans who enroll for the first time during Fiscal Year 2002 will have a Priority Level recorded as of September 30, 2002 on the Master Enrollment File. A portion of these new enrollees will be assigned to a different Priority Level by September 30, 2003, and most of these transitions will be upgrades in Priority Level. Moreover, the volume of transitions experienced should, on average, be greater for the newest enrollees than for members who have been in the system for longer.

Several reasons for this phenomenon have already been discussed. There is a lag caused by delayed submissions of means tests (proofs of disability and legal actions) before a new enrollee is assigned a higher Priority Level. In these cases, it is natural to assign a low Priority Level until the claim can be adjudicated and the correct Priority Level assigned. This type of activity is, needless to say, highest among the newest enrollees. The following are likely scenarios:

- A veteran with a service-connected disability is assigned to Priority Level 7c until the required examinations are performed and paperwork is filled out. By the time the enrollee is assigned to, for example, Priority Level 3, September 30th has passed and the change is not reflected for the first fiscal year of enrollment.
- A veteran without a service-connected disability, but nevertheless seeking Priority Level 5 status, is initially assigned to Priority Level 7c until the submission of a means test occurs. Again, the final Priority Level assignment may not take effect before September 30th.

In both cases, the Master Enrollment File depicts a picture which is different than the reality that the enrollment projection, and ultimately the VA Enrollee Health Care Projection Model, needs to capture. Ignoring the possibility of these Priority Level upgrades – and most will be upgrades, not downgrades – introduces bias into the model, both in the numbers of projected enrollees in each Priority Level and their corresponding health care costs.

The unique characteristic of this phenomenon is that it applies mainly to the newest enrollees on the Master Enrollment File. Moreover, the transitions that will occur do not reflect an underlying change in each veteran's overall health status or income level. The Long-Term Priority Level Transition Rates, previously discussed, are designed to catch the long range trend in deteriorating health, changing wealth and other factors that lead to Priority Level transitions and drives utilization and cost patterns. Therefore, a one-time shock transition needed to be applied to the newest enrollees as of September 30, 2002, to place their Priority Level status on an unbiased footing, after which the Long-Term Priority Level Transition Rates will be used.

The Migration Data Set conveys an historical pattern of increased Priority Level Transition among new enrollees. Although most enrollees remain in their original Priority Level assignments, for the small but significant group that experiences a change, the result is nearly always a Priority Level upgrade. For new enrollees aged 55 and assigned to Priority Level 7c on September 30th, chances are nearly 12% that their Priority Level will change before the end of the next fiscal year. This is 50% higher than the transition rate for someone who has already been enrolled for at least two years. There is a large volume of movement from Priority Level 7c to Priority Level 5 and generally much movement into the service-connected disability Priority Levels 1-3 for more recent enrollees.

The following table indicates the average transition rates among new enrollees over the four fiscal years – FY 1999 to FY 2000, FY 2000 to FY 2001 and FY 2001 to FY 2002. This table was delivered in SAS Dataset form, as “Prio_Transition_Shock.sas7bdat”.

		Priority One Year Later								
		1a	1b	2	3	4	5	6	7a	7c
Present Priority: Age < 45	1a	98.7	-	0.9	0.2	-	0.1	0.0	0.0	0.0
	1b	-	98.7	0.9	0.2	-	0.1	0.0	0.0	0.0
	2	2.6	3.1	93.6	0.5	-	0.1	0.0	0.0	0.1
	3	0.6	0.7	3.5	94.7	0.0	0.1	0.2	0.0	0.1
	4	1.2	1.5	0.7	1.4	92.4	2.5	0.0	0.1	0.2
	5	0.6	0.7	1.8	3.9	1.3	86.9	1.0	0.5	3.3
	6	0.4	0.5	1.7	2.7	0.2	4.0	90.0	0.1	0.5
	7c	0.6	0.7	2.4	8.2	0.3	6.5	0.5	79.7	1.3
Present Priority: 45-64	1a	99.2	-	0.5	0.2	0.0	0.1	0.0	0.0	0.0
	1b	-	99.2	0.5	0.2	0.0	0.1	0.0	0.0	0.0
	2	4.4	4.2	91.0	0.2	0.0	0.1	0.0	0.0	0.0
	3	1.4	1.4	4.0	92.6	0.0	0.2	0.2	0.0	0.1
	4	1.0	1.0	0.6	0.8	94.7	1.5	0.1	0.0	0.2
	5	0.5	0.5	0.6	1.2	1.6	87.7	2.3	0.3	5.3
	6	1.1	1.1	1.8	3.3	0.4	7.8	83.4	0.1	1.0
	7c	0.9	0.9	2.3	6.7	0.3	6.9	1.3	78.5	2.1
Present Priority: Age 65+	1a	99.2	-	0.4	0.1	0.0	0.1	0.0	0.0	0.0
	1b	-	99.2	0.4	0.1	0.0	0.1	0.0	0.0	0.0
	2	3.1	2.3	94.3	0.1	0.0	0.1	0.0	0.0	0.1
	3	1.2	0.9	2.3	94.9	0.1	0.3	0.1	0.1	0.2
	4	0.2	0.1	0.1	0.4	98.5	0.5	0.0	0.0	0.2
	5	0.2	0.1	0.2	0.7	2.0	88.2	0.2	0.4	8.0
	6	0.8	0.6	1.3	3.2	0.6	5.5	86.1	0.3	1.8
	7c	0.7	0.5	1.2	4.6	0.7	8.4	0.4	81.1	2.4
	7c	0.1	0.1	0.2	0.7	0.4	6.8	0.0	0.2	91.4

Empirical Single-Year Priority Transition Matrix for New Enrollees

The following table indicates the average transition rates from FY 2001 to FY 2002 among enrollees enrolled during FY 1999.

		Priority One Year Later								
		1a	1b	2	3	4	5	6	7a	7c
Present Priority: Age < 45	1a	98.7	-	0.9	0.2	0.0	0.1	0.0	0.0	0.1
	1b	-	98.7	0.9	0.2	0.0	0.1	0.0	0.0	0.1
	2	3.3	4.1	92.0	0.4	-	0.1	0.0	0.0	0.1
	3	0.7	0.8	3.4	94.6	0.0	0.1	0.2	0.0	0.1
	4	0.5	0.7	0.5	1.0	96.3	0.4	-	0.1	0.6
	5	0.2	0.2	0.4	1.0	0.8	92.6	0.5	0.5	3.7
	6	0.2	0.2	0.7	1.8	0.1	7.1	89.3	0.2	0.3
	7a	0.2	0.3	1.1	2.9	0.1	5.1	0.1	52.3	37.9
7c	0.2	0.3	0.6	1.1	0.1	5.0	0.1	0.2	92.3	
Present Priority: 45-64	1a	99.2	-	0.5	0.1	0.0	0.1	0.0	0.0	0.0
	1b	-	99.2	0.5	0.1	0.0	0.1	0.0	0.0	0.0
	2	6.3	6.0	87.2	0.3	0.0	0.1	0.0	0.0	0.0
	3	1.8	1.7	4.6	91.4	0.0	0.2	0.2	0.0	0.1
	4	1.1	1.1	0.6	1.4	94.7	0.5	0.0	0.1	0.5
	5	0.5	0.4	0.5	1.3	1.1	90.3	1.1	0.3	4.5
	6	0.9	0.8	1.5	3.4	0.3	11.0	81.2	0.2	0.8
	7a	0.5	0.5	1.3	3.9	0.2	6.0	0.6	59.9	27.2
7c	0.2	0.2	0.4	0.9	0.2	5.8	0.2	0.2	92.0	
Present Priority: Age 65+	1a	99.3	-	0.4	0.2	0.0	0.1	0.0	0.0	0.0
	1b	-	99.3	0.4	0.2	0.0	0.1	0.0	0.0	0.0
	2	4.7	3.4	91.5	0.3	0.0	0.0	0.0	0.0	0.0
	3	1.6	1.1	2.5	94.2	0.1	0.2	0.1	0.0	0.1
	4	0.2	0.2	0.1	0.5	98.2	0.2	0.0	0.1	0.5
	5	0.2	0.1	0.2	0.6	1.6	91.3	0.1	0.3	5.4
	6	0.8	0.6	1.1	3.1	0.5	5.6	86.7	0.3	1.2
	7a	0.5	0.3	0.9	2.9	0.5	7.3	0.2	68.4	19.0
7c	0.1	0.1	0.1	0.5	0.3	6.5	0.0	0.2	92.2	

Empirical Single-Year Priority Transition Matrix for Enrollees Enrolled for Two or More Years

The empirical rates are satisfactorily steady over the period of study. There is no compelling reason to expect that the transitions occurring during fiscal year 2003 among the newest enrollees as of September 30, 2002 will be materially different than what has been historically observed.

The implementation of these assumptions is straightforward. Before beginning the fiscal year 2003 enrollment projections, the enrollee counts representing new enrollees in 2002 were reallocated to Priority Levels using the rates shown in the previous table.

The enrollment rates were calibrated to account for the short-term reclassification. This is accomplished by placing new enrollees into the Priority Level that they are expected to attain by

the end of the fiscal year following the first twelve months of enrollment. Accordingly, the need for applying shock transitions to the new enrollees in each projection year is removed.

Section II-6

Geographic Migration

In previous Enrollment Projections for ELDA, geographic relocation of enrolled veterans has not been reflected. For this projection effort, geographic migration was studied and a model was developed and implemented to reflect this migration. This section of the report discusses the study and its findings, and then describes the implementation of geographic migration in the enrollment projections.

Migration Study

In the US population, global migration tends to occur from the North and East to the South and West, with younger people generally more likely to migrate than older people. Veteran migration and enrolled veteran migration might be assumed to follow similar trends; however, the unique demographic characteristics of veterans suggest that a geographic migration model reflecting veteran migration patterns would be desirable. In general, the migration patterns observed in the enrolled veteran population, as a part of this study, follow the general population patterns described above.

The veteran population (VetPop) projections, produced by the VA OACT, and used to support the enrollment projections, model veteran migration from state to state. The actual migration assumptions used in VetPop were not made available for use in this study. It would also be difficult to attempt to mimic the state-to-state migration assumptions within the enrollment projections. The enrollment projections are enumerated projections, and are based on a finer level of geographic detail than state (as in VetPop), and therefore, enrollees migrating from Massachusetts to Florida (for example) would still need to be assigned to a sector within Florida.

It was also observed that emigration rates can vary substantially within a state. These variations have several causes, including: general migration from inner cities to suburbs; general migration from rural areas to urbanized areas; and veteran migration away from places of separation. Given these issues, it was neither feasible nor desirable to implement a state-to-state migration model for the enrollment projections.

It was recognized, however, that there is potential for correlation between source location and destination location. As there are more than 500 sectors in the United States, a model fully reflecting these correlations would have more than 250,000 parameters. As there are only approximately 100,000 migrations observed each year, in total, in the data supporting this study, such a model would have been severely underspecified. Complex models could have been defined to partially reflect the correlation, but such models would not have been practical to develop or easy to understand. It was not clear that such models would have added significant value over a model that assumed independence of source location and destination location, and thus, the implemented model was composed of two independent models. The first model projects emigrants, based on the probability of an enrollee moving from their current location. The second model distributes migrating enrollees into destination locations.

The limitations of data available (100,000 migrations per year) restricted the ability to model variations in migration patterns other than by source and destination location. Varying migration assumptions by gender, Priority Level, and Enrollee Type were ruled out due to lack of credible data. Other possible variations such as education level and military rank were outside the capabilities of the existing modeling effort. However, variation in migration by grouped age was clearly indicated, and available in the data, and implemented within the capabilities of the existing model.

The chosen emigration model consisted of emigration probabilities for each of the 506 sectors in 3 age groups (Under Age 45, Ages 45-64 and Ages 65 and Over). The chosen immigration model consisted of distinct allocation tables for the same 3 age groups, allocating the migrating enrollees to the 506 sectors.

Model Development

For each of the 506 sectors, a migration table was developed for the 2000 to 2001 migration year. This table consists of the number of enrollees staying in the sector, the number emigrating from the sector and the number immigrating to the sector. Of the 506 sectors, 31 were considered too small for independent modeling. These were grouped with adjacent sectors for the development of migration factors. (These sectors are primarily adjacent to counties selected for the Zip Code analysis that would otherwise be grouped into a sector with those counties.)

Also, the migration data for the Overseas area was considered inadequate for modeling. The resulting table consisted of migration data for 474 areas, referred to as sectors, for simplicity.

Emigration rates were computed using the formula:

$$\text{Emigration Rate} = \text{Emigrants} \div \text{Starting Population}$$

For sectors with fewer than 30 emigrants, the observed emigration rates were credibility adjusted to the observed market-level emigration rate, using $\sqrt{\text{emigrants}/30}$ as the credibility for the sector emigration rate. To reduce volatility, all emigration rates were capped at the highest observed market-level emigration rate within the age group. Emigration rates were then normalized to balance to the observed emigration rate for each age group.

The distribution of immigrants was determined by comparing the observed distribution of immigrants with the distribution of enrollment. The observed immigration “rate” for each sector was computed using the formula:

$$\text{Immigration Rate} = \frac{\text{Immigrants to Sector}}{\text{Total Immigrants}} \div \frac{\text{Enrollees in Sector}}{\text{Total Enrollees}}$$

For sectors with fewer than 30 immigrants, the observed immigration rates were credibility adjusted to the observed market-level immigration rate, using $\sqrt{\text{immigrants}/30}$ as the credibility for the sector immigration rate. To reduce volatility, all immigration rates were capped at the highest observed market-level immigration rate within the age group. Immigration rates were converted back to an immigration distribution at the full sector level using the formula

$$\text{Immigration Distribution} = \text{Immigration Rate} \times \frac{\text{Enrollees in Sector}}{\text{Total Enrollees}}$$

The immigration distributions were then renormalized to sum to 1.0.

Enrollees were only used for the study if they were enrolled and alive at the beginning and end of the 2000-2001 migration period. Enrollees with blank zip codes during that time period were removed from the study.

The calculated emigration rates and immigration distributions were delivered in the SAS dataset “geo_migration.sas7bdat”.

Data Manipulation

In support of this study, VHA OPP supplied an addendum to the Master Enrollment File containing ZIP Code of residence as of September 30 of years 1999 to 2002. This data provided 4 years of migration information. ZIP Code data was used in place of geo-coded FIPS data to maintain consistency among all years, as geo-coded FIPS data was not available for all years.

All ZIP codes were grouped into “Sectors” according to the county consolidation methodology. Because each Sector is defined to cover a relatively large population, a simple mapping from ZIP code to county, provided by VA, was used.

Analysis of FY 2000 to FY 2001 and FY 2001 to FY 2002 migration identified approximately 70,000 “bounce back” migrations (same location in FY 2000 and FY 2002, different location in FY 2001). “Bounce backs” are differentiated from “zig zags.” “Zig zags” have the same location in FY 1999 and FY 2001 and the same location in FY 2000 and FY 2002, but two different locations. “Zig zags” appear to be primarily data problems, rather than true migrations, and were eliminated from the analysis. For “bounce backs,” the 2001 location was changed to match the FY 2000/FY 2002 location. A smaller number of “bounce backs” identified in the FY 1999 to FY 2001 data (same location in FY 1999 and FY 2001, different location in FY 2000) were also changed. Given that the purpose of the Geographic Migration analysis is to project long-term enrollment by location, these “bounce back” migrations do not contribute to long-term changes. Instead, they represent statistical “noise” in the data. That is, they contribute two migrations in subsequent years with no net impact.

The FY 2000-2001 migration period was chosen rather than FY 1999-2000 or FY 2001-2002 primarily because of data quality concerns. The migration rates shown in the FY 1999-2000 data were much lower than either of the other two. The FY 2001-2002 migration data was eliminated because it is not yet possible to adjust the FY 2001-2002 data for “bounce back” migrations.

Implementation of Geographic Migration

As described in section II-3, geographic migration was modeled at the beginning of each year to reflect all anticipated migrations during that year. For each cell, total emigrants were calculated, using:

$$\text{Emigrants} = \text{Emigration Rate} \times \text{Enrollment}$$

$$\text{Non-migrants} = \text{Enrollment} - \text{Emigrants}$$

Emigrants from all sectors were aggregated by age, gender, Priority Level, and Enrollee Type. Immigration to each Sector was calculated using:

$$\text{Immigration to Sector } N = \text{Total Immigrants} \times \text{Immigration Distribution to Sector } N$$

Immigrants were combined with non-migrants to compute total migrated enrollment:

$$\text{Migrated Enrollment} = \text{Non-Migrants} + \text{Immigrants}$$

Section II-7

Enrollment Rates

The enrollment rate is the proportion of non-enrolled veterans who are expected to enroll in any particular month. In the enrollment projection methodology:

$$\text{New Enrollment} = (\text{Veteran Population} - \text{Enrollment}) \times \text{Enrollment Rate}$$

The empirical historical enrollment rates used to estimate future new enrollment were calculated using this formula:

$$\text{Enrollment Rate} = \text{New Enrollment} \div (\text{Veteran Population} - \text{Enrollment})$$

The components of this formula, New Enrollment, Enrollment and Veteran Population, were derived from the Master Enrollment File and the VetPop Proxy. From the Master Enrollment file, total enrollment, as of the beginning of each month, was counted and summarized by Sector, Age Group and Priority Level. Likewise, New Enrollment from the Master Enrollment file was counted for each month and summarized the same way. Veteran Population was calculated from an historical VetPop Proxy, developed using the same data sources and techniques as the projected VetPop Proxy described in Section II-2. The consecutive end-of-year VetPop proxies were exponentially interpolated to obtain beginning of month veteran population for each month of the study.

An extensive study of 48 months of enrollment history was performed. The analysis and results of that study are published separately (Appendix C). As a result of this study, it was determined that enrollment rates would be computed as an average of the monthly enrollment rate during the 17 months from April 2000 to August 2001.

Sets of raw enrollment rates were calculated for each Priority Level (1, 2, 3, 4, 5, 6, 7a and 7c- due to lack of historical data, Priority Levels 8a and 8cs' enrollment rates mimic those of Priority Levels 7a and 7c) and Age Group (Under Age 45, Ages 45 to 64, and Ages 65 and Over). Five sets of raw enrollment rates were computed at varying levels of geographic detail:

- Sector
- Submarket
- Market
- VISN
- National

The final set of enrollment rates for each Sector was a credibility-blended average of the enrollment rates for the varying levels of geographic detail. For each Priority Level and Age Group, the final enrollment rate for a Sector was equal to:

$$\begin{aligned} & \text{Raw Sector Rate} \times \text{Sector Credibility} \\ & + \text{Raw Submarket Rate} \times (\text{Submarket Credibility} - \text{Sector Credibility}) \\ & + \text{Raw Market Rate} \times (\text{Market Credibility} - \text{Submarket Credibility}) \\ & + \text{Raw VISN Rate} \times (\text{VISN Credibility} - \text{Market Credibility}) \\ & + \text{Raw National Rate} \times (1 - \text{VISN Credibility}). \end{aligned}$$

The level of credibility determined by the data for a particular area is based on the number of new enrollees and the size of the pool in that county over the seventeen-month period. The fewer enrollees in a particular county, the less credible the rates derived from this enrollment data. Additional credibility is assigned to rates derived from large veteran pools, in order to avoid creating a bias against small enrollment rates. The resulting enrollment rates were delivered in a SAS dataset, “enrollment_rates.sas7bdat”.

Section II-8

Mortality Rates

Background

Enrollee mortality rates were initially set in July 2000. The purpose of this study was to update the enrollee mortality rates using more recent mortality experience.

After completion of the study a comparison of the new enrollee mortality rates to VetPop mortality rates revealed significantly lower mortality levels for enrolled veterans. This was contrary to expectations, and the level of difference was considered improbable. After further discussion with the VA OACT, it was concluded that the deaths as recorded in the Master Enrollment File and provided for the enrollee mortality study were incomplete, leading to the relatively lower mortality rates. As a result, significant portions of the study were not used. The section at the end of this report outlines the final mortality assumptions used for the FY04 ELDA.

Data and Calculation of Actual Mortality Rates

Enrollee eligibility and death counts were compiled for FY 1999- FY 2002. Data was taken from the Master Enrollment file, which in turn used information from the BIRLS and HEC databases to populate mortality information. The population was divided by gender, Priority Level, and Enrollee Type. Monthly mortality rates during the study period were calculated by age, based on nearest age during the middle of the fiscal year. For purposes of these calculations:

- All enrollments were assumed to occur at the beginning of each month.
- All deaths were assumed to occur at the end of each month.
- Priority Level was assigned based upon the Priority Level at the end of the applicable fiscal year (or at death for those that died). No data was available for Priority Level 8, since Priority Level 8 was established in FY 2003 and actual enrollment data was provided through FY 2002. Mortality results for Priority Level 7a and Priority Level 7c were also applied to Priority Level 8a and Priority Level 8c, respectively.

- Enrollees were considered to be “Pre” enrollees if they were users prior to October 1, 1998 and enrolled prior to April 1, 1999. All other enrollees were aggregated together as “Post” enrollees.

The above assumptions are consistent with the implementation of the mortality rates in the enrollment projection model.

Data Consistency Review

Data was reviewed by dividing the experience into the four fiscal years and comparing mortality levels across 10-year age bands. Based on this analysis, it was observed that the mortality levels for the 2001 fiscal year were below expected. A further analysis showed that mortality rates were significantly below expected for the entire month of April 2001; deaths for Priority Levels 1 through 4 were more than 70% below the second lowest month during the study period. Exhibit II-8-1 shows a comparison of relative mortality experience. For each experience month and Priority Level, the exhibit shows the number of deaths, the number of exposed lives, and the monthly mortality rate per 100,000 lives (equal to deaths multiplied by 100,000 divided by the number of exposures). Finally, Exhibit II-8-1 contains a relative mortality rate, which is equal to the mortality rate for a given experience month and Priority Level divided by the average mortality rate for all experience months for that Priority Level.

It was concluded that this below expected mortality for April 2001 was likely due to the removal of all records for many enrollees who died during that month. As a result, April 2001 experience was removed from the analysis. No adjustment was made for the additional survivorship in previous months; the impact would have been minimal. The remaining 47 months of experience were aggregated based on the number of exposures in each month.

Analysis of mortality rates by age also showed unexpectedly low mortality rates for those over age 98. It was hypothesized that these low mortality rates were likely due to data errors and therefore experience for those over age 98 was not considered. Finally, all records for those under age 19 were removed on the assumption that these were likely data errors. Exposures for those under age 19 and over age 98 accounted for less than 0.1% of the total.

The data provided was not sufficient to divide experience into officers and enlisted men. Therefore, all mortality rates are calculated for those groups in aggregate.

Comparison of Actual Experience with Standard Tables

Actual mortality rates were compared to comparable rates in the following commonly used mortality tables:

- Current enrollment model mortality table. The 1969-71 U.S. Life Principal Mortality tables, blended for 70% white and 30% non-white.
- Veteran population projection mortality rates. These rates are produced by the DoD Office of the Actuary and vary according to four separate status codes. Note that the DoD rates are produced separately for officers and enlisted men. For purposes of these comparisons, the VetPop ratio of officers to enlisted men by age and gender was used to blend the two tables into a single combined table. The original VetPop mortality tables are shown in Exhibit II-8-2.
- Annuity-based mortality tables. 1983 Group Annuity Mortality (GAM 83) and RP-2000.
- Disabled annuity mortality tables. 1965 Railroad Disabled Mortality.
- Life insurance mortality tables. Commissioner's 1980 Standard Ordinary (1980 CSO) and 1990-95 Society of Actuaries (SOA) tables.
- Population mortality tables. 1991 U.S table.

In the comparison of actual mortality experience with modeled rates, monthly mortality rates from the standard tables are adjusted by a factor (varying by Priority Level and Enrollee Type) so that the actual number of deaths in each category is equal to the expected number of deaths. Adjustments did not vary by gender due to the relative lack of credibility in female data and the need to ensure consistency between male and female mortality rates.

Once mortality tables were fitted, the "fit statistic" was calculated for each combination of mortality table and Priority Level. This value is a quotient, the numerator of which is equal to the sum of the absolute difference between the actual number of deaths and modeled number of deaths for each age, gender and Enrollee Type. The denominator is equal to the actual number of deaths during the exposure period. The result is then subtracted from one so that a higher

factor implies a better fit, and a factor of 1.0 implies that the modeled table exactly fits actual experience.

Exhibit II-8-3 contains a sample calculation of the fit statistic for a theoretical population with only four ages. Exhibit II-8-4 shows a complete summary of the fit and adjustment factors for each combination of Priority Level and mortality table. Exhibit II-8-5 shows graphical comparisons of actual and modeled experience by Priority Level, gender and Enrollee Type. The final tables, both numerically and graphically, are shown in Exhibit II-8-6.

Selection of Modeled Tables

Tables were selected based upon three factors:

- Fit factor. Higher factors were preferable to lower factors.
- Adjustment factor used to multiply modeled table. Factors close to 1.0 were preferred.
- Theoretical, mortality tables were used that demonstrated similarities of the modeled population. For example, disabled population mortality tables were not used to model mortality for non-disabled veterans.

Priority Level 1: Priority Level 1 mortality rates were relatively similar to VetPop Disability Status 2 mortality, in aggregate, although mortality was understated at younger ages. Therefore, Priority Level 1 was modeled using a non-linear adjustment of the VetPop Status 2 table. The non-linear adjustment doubled mortality rates at age 19, with the adjustment reducing linearly to 75% of the VetPop table at age 84 and beyond. The resulting table was then linearly scaled to equate actual and modeled deaths.

Priority Levels 2 and 3: Priority Level 2 and Priority Level 3 were modeled using the VetPop Disability Status 2 mortality table, linearly adjusted to equate actual and modeled deaths. In both cases the table provided a good fit.

Priority Level 4: None of the existing tables provided a satisfactory fit for Priority Level 4, even after linear adjustments. This was not unexpected due to the relatively severe nature of the disabilities for this group. Therefore, Priority Level 4 was modeled using a non-linear adjustment of the VetPop Disability Status 4 mortality table. The non-linear adjustment used

20% of the basic table up to and including age 35, increasing linearly to 120% at age 65, then decreasing linearly to 80% at age 100. The resulting table was then linearly scaled to equate actual and modeled deaths.

Priority Level 5: Priority Level 5 also did not fit well with any of the existing tables. This too was somewhat expected, since most standard mortality tables tend to consider those who can afford either life insurance or annuity purchases. Given the high number of exposures, it was determined that a credible mortality table could be constructed from this experience. A separate section is included later in this report with details on the development of this “P5” mortality table.

Priority Level 6: Priority Level 6 was modeled using the VetPop Disability Status 1 mortality table, linearly adjusted to equate actual and modeled deaths. Note that the fit for this table was relatively poor, and that the absolute level of mortality for pre-enrollees was high relative to the other Priority Levels. This is likely due to the relatively higher percentage of Vietnam veterans in this Priority Level. Due to the relatively small number of exposures in this group, no special adjustments were made at this time. It is expected that adjustments to account for the period of service study would rectify these abnormalities. However, this portion of the study could not be completed at this time due to difficulties obtaining accurate period of service data.

Priority Levels 7a through 8c: Priority Levels 7a and 7c were modeled using the VetPop Disability Status 1 mortality table, linearly adjusted to equate actual and modeled deaths. The fit for Priority Level 7a was slightly low at 85%, but was reasonable given the limited number of exposures (under 1 million month-lives per year), and given that the mortality rates were reasonable in comparison with Priority Level 7c mortality. The resulting rates for Priority Levels 7a and 7c were also applied to Priority Levels 8a and 8c mortality.

For all tables, mortality was blended with the unadjusted VetPop tables for ages 90 and above so that mortality at age 100 was equal to the VetPop tables for all Priority Levels.

It should be noted that the actual experience for the population aged 45-60 was worse than the comparison mortality tables in many cases. It is hypothesized that this surge in mortality is attributable to Vietnam veterans, and that these veterans will continue to show higher mortality rates into the future. Consequently, the mortality rates for future generations of veterans

reaching ages 45-60 are not expected to be as high as for the current enrollee groups in that age range. As mentioned above, this issue could not be accounted for in the current study, since period of service data provided appeared to not be credible.

Creation of “P5” Mortality Table

As mentioned previously, the Priority Level 5 population is different from that studied in most standard mortality tables because of the high levels of poverty. It has been documented that poverty affects mortality rates, and therefore it was not surprising that the Priority Level 5 mortality rates were not well fit by any of the existing mortality tables. This lack of fit, combined with the relatively high number of exposures in this Priority Level, suggested that a custom mortality table could be made to model Priority Level 5 mortality. The steps used in producing the table were as follows:

1. Actual experience was compiled by age, Enrollee Type and gender.
2. The ratio of female-to-male mortality rates was obtained by age from the VetPop Status 1 mortality table.
3. The post-enrollee to pre-enrollee mortality ratio (a single ratio applied to all ages) was calculated based on actual experience
4. Experience was combined by gender and Enrollee Type, using the ratios above, to determine adjusted male, pre-enrollee mortality experience.
5. The combined experience was smoothed using a five-year weighted average of raw mortality rates. Weightings were 40% for the modeled age, x , 20% for each of ages $x-1$ and $x+1$ and 10% for each of ages $x-2$ and $x+2$.
6. Manual adjustments were made to smooth the resulting table. Rates were adjusted so that first and second differences of mortality rates by age were positive after age 25, and so that overall rates were visually smooth.
7. Female and post-enrollee rates were determined by multiplying the resulting table by the factors calculated at the beginning of the process.
8. A final, minor adjustment was made to equate actual-to-expected deaths by Enrollee Type.

Exhibit II-8-7 compares the final modeled mortality for Priority Level 5 enrollees with actual experience. The same numbers are shown graphically in Exhibit II-8-5.

Mortality Rates by VISN

Final mortality rates were applied to the eligible population in each VISN and compared to actual death rates for each combination of VISN and Priority Level. Additionally, age banded mortality rates by state were obtained from the Centers for Disease Control and Prevention (CDC).

After examining the mortality rates by VISN and for the states within each VISN, the VISNs were grouped based on geographic proximity, similarity in enrollee mortality rates by VISN and similarity in mortality rates (by state) provided by CDC. The resulting regions are as follows:

- Region A: VISN 6, 7, 9, 16
- Region B: VISN 4, 5, 10, 11, 15
- Region C: VISN 12, 23, 17, 18, 19, 20
- Region D: VISN 1, 2, 3, 8
- Region E: VISN 21, 22

To further increase the credibility of observed regional mortality rates, Priority Levels were combined into two groups: Priority Levels 1 through 4 and Priority Levels 5 through 7.

The ratio of actual deaths to modeled deaths was calculated for each of the 10 resulting cells (5 regions, 2 Priority Level groups within each region). The final factors are presented below:

	Region A	Region B	Region C	Region D	Region E
P1 – P4	1.093	1.072	0.984	0.908	.0874
P5 – P7	1.125	1.078	1.051	0.849	.0798

The factors are used as an additional adjustment to monthly mortality rates. For example, a Priority Level 1 enrollee in region A will have a monthly mortality rate equal to 1.093 times the rate indicated in Exhibit II-8-6 (by age, gender, Enrollee Type and Priority Level).

Mortality Improvement Rates

Future mortality improvements for “healthy veterans” were provided by the VA Office of the Actuary. Rates were reviewed for reasonableness and compared to mortality projections under other mortality tables. Based upon the analysis, the OACT’s mortality improvement rates were incorporated into the VA Enrollee Health Care Projection Model without adjustments for Priority Levels 5, 6, 7 and 8, using the 2002 rate to trend rates forward to the 2003 fiscal year.

Application of Mortality Study

As mentioned in the beginning of this section, significant portions of this study became unusable after it was determined that the deaths used to determine mortality rates were incomplete. The following describes the derivation of the mortality rates used in the FY04 ELDA Final Model Run.

Because the data from the mortality study was found to be incomplete, the absolute level of mortality from the study was questionable. However, it was hypothesized that the data inaccuracies were similar among Priority Levels 1, 2, and 3 and therefore, that the relative levels of mortality were accurate. Therefore, mortality rates used in the FY04 ELDA Final Model Run for Priority Levels 1, 2 and 3 were based on the rates from this mortality study, but increased so that aggregate mortality was equal to the mortality for VetPop Status 2 veterans.

Mortality for Priority Level 4 was set equal to VetPop Status 3 mortality, with no adjustments.

The study Mortality, Education, Income and Inequality among American Cohorts, by Angus Deaton and Christina Paxson concluded that Americans with lower family incomes (below \$5,000 per year in 1980) “could expect to live about 25 percent fewer years than people whose family income was greater than \$50,000.” Other published studies have also concluded that there is a positive correlation between lifespan and income in developed countries.

Based on the above studies, it was deemed necessary to establish higher mortality rates for Priority Level 5 enrollees relative to Priority Levels 6 and 7. Based on the Society of Actuaries (SOA) 1990-95 mortality table, a tripling of mortality rates caused a 17% decrease in life expectancy, and a 21% decrease in remaining life expectancy at age 18. While these amounts

were both below the 25% result from the published study, the relative differences in income between Priority Level 5 and Priority Level 7 enrollees is less extreme than that presented in the study.

As a result of the above calculations, a conservative estimate was made whereby Priority Level 5 mortality rates were set equal to double Priority Level 7 mortality rates. The absolute level of Priority Level 5 and Priority Level 7 mortality rates were solved for algebraically by setting the expected aggregate Priority Level 5 and Priority Level 7 mortality equal to VetPop Status 1 mortality at each age using the relative number of enrollee exposures at each age. Actual enrollee mortality rates were not used to set this assumption. For Priority Level 7, it was assumed that there is no income difference between Priority Levels 7a and 7c, since scant data regarding relative income levels is available. Therefore, the same mortality rates for both Priority Levels 7a and 7c were used. Because of the limitations of the manner in which the Priority Level 7/8 split is estimated, it was not possible to use distinct mortality rates for Priority Levels 7 and 8.

Mortality rates for Priority Level 6 veterans were set equal to VetPop Status 1 rates for all ages with no adjustments.

Geographic differences in mortality rates were not applied in the final enrollment model. The application of these rates would have caused inconsistencies with the projected overall veteran population, since that projection did not vary mortality rates geographically.

Exhibit II-8-1
Summary of Monthly Mortality Rates by Priority
From the VA Master Enrollment File

Number of Deaths

Month	Priority							
	1	2	3	4	5	6	7a	7c
Oct-98	1,414	574	1,084	1,533	4,102	134	55	747
Nov-98	1,399	641	1,100	1,522	4,042	122	62	818
Dec-98	1,473	645	1,083	1,623	4,382	109	61	879
Jan-99	1,623	743	1,279	1,763	4,860	107	73	982
Feb-99	1,544	640	1,150	1,747	4,164	102	57	946
Mar-99	1,627	718	1,204	1,778	4,641	106	90	989
Apr-99	1,428	691	1,117	1,639	4,002	74	85	933
May-99	1,345	652	1,146	1,502	4,190	87	84	944
Jun-99	1,338	630	995	1,347	3,746	58	69	847
Jul-99	1,364	716	1,093	1,375	4,028	73	88	952
Aug-99	1,340	641	1,044	1,274	4,132	74	64	941
Sep-99	1,248	594	969	1,100	3,673	59	78	835
Oct-99	1,396	678	1,160	1,626	4,353	145	100	1,226
Nov-99	1,393	698	1,124	1,592	4,256	133	115	1,200
Dec-99	1,600	729	1,263	1,829	4,911	143	101	1,353
Jan-00	1,837	867	1,467	2,075	5,524	148	126	1,536
Feb-00	1,452	694	1,140	1,854	4,324	119	105	1,379
Mar-00	1,365	680	1,098	1,722	4,384	108	100	1,316
Apr-00	1,437	641	1,164	1,686	4,273	95	108	1,300
May-00	1,298	673	1,166	1,667	4,203	108	80	1,406
Jun-00	1,252	598	999	1,431	3,941	83	101	1,334
Jul-00	1,365	719	1,095	1,594	4,039	94	103	1,402
Aug-00	1,174	664	1,133	1,501	3,901	82	82	1,359
Sep-00	1,016	576	962	1,306	3,415	72	90	1,206
Oct-00	1,623	784	1,390	2,105	4,680	81	102	1,837
Nov-00	1,580	777	1,281	1,915	4,855	91	113	1,874
Dec-00	1,656	808	1,436	2,030	5,095	85	131	2,017
Jan-01	1,781	878	1,546	2,184	5,395	91	121	2,114
Feb-01	1,544	777	1,314	1,837	4,422	84	117	1,744
Mar-01	1,667	719	1,340	1,639	3,963	74	112	1,692
Apr-01	138	100	366	433	2,352	49	81	1,235
May-01	1,496	633	1,149	1,505	3,604	60	94	1,553
Jun-01	1,412	625	1,186	1,499	3,557	92	99	1,597
Jul-01	1,474	639	1,098	1,415	3,408	77	101	1,542
Aug-01	1,355	565	1,075	1,306	3,286	57	80	1,393
Sep-01	1,401	600	1,133	1,324	3,603	73	92	1,717
Oct-01	1,593	722	1,384	1,566	3,945	93	94	1,988
Nov-01	1,508	722	1,316	1,543	3,951	90	108	2,045
Dec-01	1,685	766	1,434	1,656	4,219	94	81	2,194
Jan-02	1,837	822	1,654	1,874	4,711	100	119	2,408
Feb-02	1,704	844	1,491	1,713	4,548	103	108	2,357
Mar-02	2,052	929	1,774	2,039	5,521	112	112	2,778
Apr-02	1,868	833	1,629	1,822	5,838	127	103	2,936
May-02	1,957	920	1,693	1,958	5,872	109	115	3,100
Jun-02	1,757	837	1,563	1,815	5,430	118	110	2,814
Jul-02	1,907	874	1,637	1,860	5,399	93	101	2,796
Aug-02	1,824	840	1,549	1,780	5,112	106	98	2,666
Sep-02	1,708	714	1,403	1,528	4,172	68	91	2,210

Exhibit II-8-1 (cont.)
Summary of Monthly Mortality Rates by Priority
From the VA Master Enrollment File

Number of Exposures

Month	Priority							
	1	2	3	4	5	6	7a	7c
Oct-98	383,517	229,251	405,606	114,721	1,203,157	38,559	40,400	453,990
Nov-98	404,622	246,316	433,549	121,615	1,308,699	43,035	44,080	507,585
Dec-98	415,743	256,628	450,182	124,995	1,372,249	46,376	46,595	537,690
Jan-99	422,495	263,921	462,275	126,842	1,419,407	48,934	48,406	561,853
Feb-99	427,100	269,553	472,235	127,808	1,458,216	51,142	50,025	585,592
Mar-99	432,019	276,233	485,026	129,174	1,504,381	53,653	52,324	620,845
Apr-99	434,747	280,664	493,427	129,498	1,534,320	55,466	53,637	643,577
May-99	436,923	284,494	500,759	129,685	1,566,610	56,989	54,733	663,396
Jun-99	439,132	288,250	508,245	130,001	1,592,262	58,528	55,738	684,022
Jul-99	440,833	291,701	515,555	130,291	1,616,793	60,020	56,630	703,590
Aug-99	442,411	294,868	522,471	130,509	1,642,617	61,719	57,516	726,630
Sep-99	443,631	297,521	528,340	130,631	1,664,440	63,003	58,402	746,614
Oct-99	467,241	305,159	535,657	154,918	1,647,667	69,233	63,514	799,395
Nov-99	468,945	308,148	541,968	154,947	1,668,394	70,239	64,361	820,708
Dec-99	470,332	310,640	547,466	154,832	1,687,210	71,195	65,039	839,621
Jan-00	473,428	317,002	567,844	155,462	1,710,497	77,108	65,773	860,472
Feb-00	474,632	319,818	575,291	155,158	1,731,967	80,282	66,587	884,230
Mar-00	478,048	326,841	597,578	155,594	1,757,906	83,739	67,762	914,064
Apr-00	479,633	329,694	605,581	155,310	1,776,566	85,044	68,464	937,981
May-00	481,065	332,724	612,449	155,284	1,796,664	86,223	69,256	963,457
Jun-00	482,489	335,382	618,940	155,189	1,816,855	87,335	70,036	989,522
Jul-00	483,914	338,387	626,526	155,257	1,835,980	88,998	70,670	1,013,543
Aug-00	485,571	341,807	634,633	155,299	1,859,600	90,495	71,561	1,045,326
Sep-00	487,089	344,736	641,715	155,132	1,880,134	91,708	72,392	1,073,899
Oct-00	537,450	361,329	693,185	184,077	1,908,441	94,400	74,188	1,218,891
Nov-00	539,584	364,988	701,938	183,530	1,929,712	95,603	75,045	1,254,448
Dec-00	540,497	367,226	707,746	182,941	1,946,234	96,592	75,535	1,280,408
Jan-01	541,990	370,044	714,876	182,577	1,970,666	98,024	76,179	1,310,428
Feb-01	543,083	372,513	721,035	181,992	1,992,272	99,386	76,750	1,339,237
Mar-01	544,736	375,672	729,061	182,211	2,017,812	101,207	77,721	1,377,064
Apr-01	545,891	378,522	737,943	182,313	2,040,331	103,204	78,607	1,410,525
May-01	548,684	382,066	745,507	183,630	2,063,324	104,501	79,357	1,443,841
Jun-01	549,895	384,870	751,974	183,650	2,083,690	105,751	80,046	1,477,952
Jul-01	551,423	387,703	759,092	183,497	2,103,701	107,610	80,705	1,511,242
Aug-01	553,170	391,497	766,217	183,565	2,126,156	109,096	81,422	1,548,477
Sep-01	556,865	397,654	779,076	184,961	2,182,050	111,650	83,446	1,636,503
Oct-01	617,051	409,441	791,679	206,743	2,150,301	112,448	64,935	1,703,934
Nov-01	618,291	411,757	799,191	206,408	2,171,488	114,881	66,051	1,739,619
Dec-01	621,622	418,122	813,989	207,878	2,191,257	116,023	66,563	1,766,750
Jan-02	621,590	419,081	816,357	207,052	2,205,630	116,646	67,030	1,788,465
Feb-02	621,415	420,033	818,764	205,916	2,219,272	117,275	67,395	1,811,825
Mar-02	621,528	421,244	822,152	204,996	2,235,133	118,079	67,838	1,839,276
Apr-02	621,318	422,376	825,622	203,783	2,251,292	118,930	68,277	1,868,405
May-02	621,366	423,766	829,459	202,840	2,268,364	119,808	68,756	1,899,708
Jun-02	621,196	424,895	833,230	201,687	2,285,578	120,744	69,319	1,933,309
Jul-02	621,200	426,299	837,977	200,680	2,306,048	121,999	69,915	1,972,551
Aug-02	620,912	427,558	842,860	199,499	2,329,316	123,342	70,654	2,017,647
Sep-02	620,868	428,752	847,141	198,411	2,350,522	124,524	71,399	2,058,287

Section II - Page 65

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-1 (cont.)
Summary of Monthly Mortality Rates by Priority
From the VA Master Enrollment File

Mortality Rate (Deaths Per 100,000)

Month	Priority							
	1	2	3	4	5	6	7a	7c
Oct-98	369	250	267	1,336	341	348	136	165
Nov-98	346	260	254	1,251	309	283	141	161
Dec-98	354	251	241	1,298	319	235	131	163
Jan-99	384	282	277	1,390	342	219	151	175
Feb-99	362	237	244	1,367	286	199	114	162
Mar-99	377	260	248	1,376	308	198	172	159
Apr-99	328	246	226	1,266	261	133	158	145
May-99	308	229	229	1,158	267	153	153	142
Jun-99	305	219	196	1,036	235	99	124	124
Jul-99	309	245	212	1,055	249	122	155	135
Aug-99	303	217	200	976	252	120	111	130
Sep-99	281	200	183	842	221	94	134	112
Oct-99	299	222	217	1,050	264	209	157	153
Nov-99	297	227	207	1,027	255	189	179	146
Dec-99	340	235	231	1,181	291	201	155	161
Jan-00	388	273	258	1,335	323	192	192	179
Feb-00	306	217	198	1,195	250	148	158	156
Mar-00	286	208	184	1,107	249	129	148	144
Apr-00	300	194	192	1,086	241	112	158	139
May-00	270	202	190	1,074	234	125	116	146
Jun-00	259	178	161	922	217	95	144	135
Jul-00	282	212	175	1,027	220	106	146	138
Aug-00	242	194	179	967	210	91	115	130
Sep-00	209	167	150	842	182	79	124	112
Oct-00	302	217	201	1,144	245	86	137	151
Nov-00	293	213	182	1,043	252	95	151	149
Dec-00	306	220	203	1,110	262	88	173	158
Jan-01	329	237	216	1,196	274	93	159	161
Feb-01	284	209	182	1,009	222	85	152	130
Mar-01	306	191	184	900	196	73	144	123
Apr-01	25	26	50	238	115	47	103	88
May-01	273	166	154	820	175	57	118	108
Jun-01	257	162	158	816	171	87	124	108
Jul-01	267	165	145	771	162	72	125	102
Aug-01	245	144	140	711	155	52	98	90
Sep-01	252	151	145	716	165	65	110	105
Oct-01	258	176	175	757	183	83	145	117
Nov-01	244	175	165	748	182	78	164	118
Dec-01	271	183	176	797	193	81	122	124
Jan-02	296	196	203	905	214	86	178	135
Feb-02	274	201	182	832	205	88	160	130
Mar-02	330	221	216	995	247	95	165	151
Apr-02	301	197	197	894	259	107	151	157
May-02	315	217	204	965	259	91	167	163
Jun-02	283	197	188	900	238	98	159	146
Jul-02	307	205	195	927	234	76	144	142
Aug-02	294	196	184	892	219	86	139	132
Sep-02	275	167	166	770	177	55	127	107

Exhibit II-8-1 (cont.)
Summary of Monthly Mortality Rates by Priority
From the VA Master Enrollment File

Relative Mortality Rate

Month	Priority							
	1	2	3	4	5	6	7a	7c
Oct-98	1.27	1.24	1.41	1.37	1.48	3.25	0.95	1.23
Nov-98	1.19	1.29	1.34	1.28	1.34	2.65	0.98	1.20
Dec-98	1.22	1.25	1.27	1.33	1.38	2.20	0.92	1.22
Jan-99	1.32	1.40	1.46	1.42	1.48	2.05	1.06	1.30
Feb-99	1.24	1.18	1.28	1.40	1.24	1.87	0.80	1.21
Mar-99	1.30	1.29	1.31	1.41	1.34	1.85	1.20	1.19
Apr-99	1.13	1.22	1.19	1.30	1.13	1.25	1.11	1.08
May-99	1.06	1.14	1.21	1.19	1.16	1.43	1.07	1.06
Jun-99	1.05	1.08	1.03	1.06	1.02	0.93	0.87	0.92
Jul-99	1.06	1.22	1.12	1.08	1.08	1.14	1.09	1.01
Aug-99	1.04	1.08	1.05	1.00	1.09	1.12	0.78	0.97
Sep-99	0.97	0.99	0.97	0.86	0.96	0.88	0.93	0.83
Oct-99	1.03	1.10	1.14	1.07	1.15	1.96	1.10	1.14
Nov-99	1.02	1.12	1.09	1.05	1.11	1.77	1.25	1.09
Dec-99	1.17	1.16	1.22	1.21	1.26	1.88	1.09	1.20
Jan-00	1.33	1.36	1.36	1.37	1.40	1.80	1.34	1.33
Feb-00	1.05	1.08	1.04	1.22	1.08	1.39	1.10	1.16
Mar-00	0.98	1.03	0.97	1.13	1.08	1.21	1.03	1.07
Apr-00	1.03	0.96	1.01	1.11	1.04	1.05	1.10	1.03
May-00	0.93	1.00	1.00	1.10	1.01	1.17	0.81	1.09
Jun-00	0.89	0.88	0.85	0.94	0.94	0.89	1.01	1.01
Jul-00	0.97	1.05	0.92	1.05	0.95	0.99	1.02	1.03
Aug-00	0.83	0.96	0.94	0.99	0.91	0.85	0.80	0.97
Sep-00	0.72	0.83	0.79	0.86	0.79	0.73	0.87	0.84
Oct-00	1.04	1.08	1.06	1.17	1.06	0.80	0.96	1.12
Nov-00	1.01	1.06	0.96	1.07	1.09	0.89	1.05	1.11
Dec-00	1.05	1.09	1.07	1.14	1.14	0.82	1.21	1.18
Jan-01	1.13	1.18	1.14	1.23	1.19	0.87	1.11	1.20
Feb-01	0.98	1.03	0.96	1.03	0.96	0.79	1.07	0.97
Mar-01	1.05	0.95	0.97	0.92	0.85	0.68	1.01	0.92
Apr-01	0.09	0.13	0.26	0.24	0.50	0.44	0.72	0.65
May-01	0.94	0.82	0.81	0.84	0.76	0.54	0.83	0.80
Jun-01	0.88	0.81	0.83	0.84	0.74	0.81	0.87	0.81
Jul-01	0.92	0.82	0.76	0.79	0.70	0.67	0.88	0.76
Aug-01	0.84	0.72	0.74	0.73	0.67	0.49	0.69	0.67
Sep-01	0.87	0.75	0.77	0.73	0.72	0.61	0.77	0.78
Oct-01	0.89	0.87	0.92	0.78	0.80	0.77	1.01	0.87
Nov-01	0.84	0.87	0.87	0.77	0.79	0.73	1.14	0.88
Dec-01	0.93	0.91	0.93	0.82	0.83	0.76	0.85	0.93
Jan-02	1.02	0.97	1.07	0.93	0.93	0.80	1.24	1.00
Feb-02	0.94	1.00	0.96	0.85	0.89	0.82	1.12	0.97
Mar-02	1.14	1.09	1.14	1.02	1.07	0.89	1.16	1.13
Apr-02	1.03	0.98	1.04	0.92	1.12	1.00	1.06	1.17
May-02	1.08	1.08	1.08	0.99	1.12	0.85	1.17	1.22
Jun-02	0.97	0.98	0.99	0.92	1.03	0.91	1.11	1.09
Jul-02	1.06	1.02	1.03	0.95	1.02	0.71	1.01	1.06
Aug-02	1.01	0.97	0.97	0.91	0.95	0.80	0.97	0.99
Sep-02	0.95	0.83	0.87	0.79	0.77	0.51	0.89	0.80

Exhibit II-8-2
VA Office of the Actuary VetPop Mortality Rates (Annual) - Officers

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
16	0.001197	0.000337	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
17	0.001197	0.000337	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
18	0.001244	0.000261	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
19	0.001337	0.000256	0.004720	0.001440	0.004720	0.001440	0.004720	0.001440	0.025000	0.013080	0.025000	0.013080
20	0.001426	0.000247	0.004480	0.001030	0.004480	0.001030	0.004480	0.001030	0.025000	0.013690	0.025000	0.013690
21	0.001500	0.000236	0.004210	0.000740	0.004210	0.000740	0.004210	0.000740	0.025000	0.014330	0.025000	0.014330
22	0.001573	0.000230	0.003970	0.000530	0.003970	0.000530	0.003970	0.000530	0.025000	0.015000	0.025000	0.015000
23	0.001655	0.000232	0.003430	0.000590	0.003430	0.000590	0.003430	0.000590	0.027410	0.016270	0.027410	0.016270
24	0.001714	0.000237	0.002960	0.000650	0.002960	0.000650	0.002960	0.000650	0.030050	0.017640	0.030050	0.017640
25	0.001775	0.000245	0.002560	0.000720	0.002560	0.000720	0.002560	0.000720	0.032940	0.019130	0.032940	0.019130
26	0.001820	0.000346	0.002210	0.000790	0.002210	0.000790	0.002210	0.000790	0.036110	0.020750	0.036110	0.020750
27	0.001906	0.000413	0.001910	0.000880	0.001910	0.000880	0.001910	0.000880	0.039590	0.022500	0.039590	0.022500
28	0.002071	0.000449	0.002080	0.000950	0.002080	0.000950	0.002080	0.000950	0.041160	0.022500	0.041160	0.022500
29	0.002245	0.000437	0.002260	0.001030	0.002260	0.001030	0.002260	0.001030	0.042800	0.022500	0.042800	0.022500
30	0.002425	0.000403	0.002460	0.001110	0.002460	0.001110	0.002460	0.001110	0.044510	0.022500	0.044510	0.022500
31	0.002506	0.000380	0.002670	0.001200	0.002670	0.001200	0.002670	0.001200	0.046280	0.022500	0.046280	0.022500
32	0.002619	0.000375	0.002900	0.001300	0.002900	0.001300	0.002900	0.001300	0.048130	0.022500	0.048130	0.022500
33	0.002614	0.000373	0.003090	0.001430	0.003090	0.001430	0.003090	0.001430	0.047340	0.022500	0.047340	0.022500
34	0.002491	0.000373	0.003280	0.001580	0.003280	0.001580	0.003280	0.001580	0.046570	0.022500	0.046570	0.022500
35	0.002355	0.000366	0.003490	0.001740	0.003490	0.001740	0.003490	0.001740	0.045820	0.022500	0.045820	0.022500
36	0.001430	0.000252	0.003710	0.001920	0.003710	0.001920	0.003710	0.001920	0.045070	0.022500	0.045070	0.022500
37	0.001392	0.000253	0.003950	0.002120	0.003950	0.002120	0.003950	0.002120	0.044340	0.022500	0.044340	0.022500
38	0.001369	0.000262	0.004080	0.002260	0.004080	0.002260	0.004080	0.002260	0.043040	0.022500	0.043040	0.022500
39	0.001379	0.000287	0.004220	0.002400	0.004220	0.002400	0.004220	0.002400	0.041770	0.022500	0.041770	0.022500
40	0.001445	0.000331	0.004350	0.002550	0.004350	0.002550	0.004350	0.002550	0.040540	0.022500	0.040540	0.022500
41	0.001479	0.000388	0.004500	0.002710	0.004500	0.002710	0.004500	0.002710	0.039350	0.022500	0.039350	0.022500
42	0.001467	0.000635	0.004650	0.002880	0.004650	0.002880	0.004650	0.002880	0.038200	0.022500	0.038200	0.022500
43	0.001629	0.000750	0.004970	0.002960	0.004970	0.002960	0.004970	0.002960	0.038780	0.022520	0.038780	0.022520
44	0.001799	0.000877	0.005320	0.003040	0.005320	0.003040	0.005320	0.003040	0.039380	0.022530	0.039380	0.022530
45	0.001976	0.001015	0.005690	0.003110	0.005690	0.003110	0.005690	0.003110	0.039980	0.022550	0.039980	0.022550
46	0.002122	0.001156	0.006080	0.003200	0.006080	0.003200	0.006080	0.003200	0.040590	0.022570	0.040590	0.022570
47	0.002257	0.001306	0.006510	0.003280	0.006510	0.003280	0.006510	0.003280	0.041220	0.022590	0.041220	0.022590

Section II - Page 68

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-2 (cont.)
VA Office of the Actuary VetPop Mortality Rates (Annual) – Officers

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
48	0.002384	0.001467	0.006900	0.003630	0.006900	0.003630	0.006900	0.003630	0.042360	0.023680	0.042360	0.023680
49	0.002538	0.001655	0.007320	0.004010	0.007320	0.004010	0.007320	0.004010	0.043540	0.024840	0.043540	0.024840
50	0.002694	0.001855	0.007770	0.004440	0.007770	0.004440	0.007770	0.004440	0.044760	0.026040	0.044760	0.026040
51	0.002912	0.002072	0.008240	0.004910	0.008240	0.004910	0.008240	0.004910	0.046000	0.027310	0.046000	0.027310
52	0.003215	0.002299	0.008750	0.005440	0.008750	0.005440	0.008750	0.005440	0.047290	0.028640	0.047290	0.028640
53	0.003570	0.002558	0.009450	0.006000	0.009450	0.006000	0.009450	0.006000	0.049140	0.026930	0.049140	0.026930
54	0.003964	0.002820	0.010220	0.006630	0.010220	0.006630	0.010220	0.006630	0.051070	0.025320	0.051070	0.025320
55	0.004405	0.003122	0.011040	0.007320	0.011040	0.007320	0.011040	0.007320	0.053080	0.023810	0.053080	0.023810
56	0.004838	0.003413	0.011940	0.008090	0.011940	0.008090	0.011940	0.008090	0.055170	0.022380	0.055170	0.022380
57	0.005274	0.003700	0.012900	0.008930	0.012900	0.008930	0.012900	0.008930	0.057330	0.021050	0.057330	0.021050
58	0.005715	0.003992	0.013920	0.009700	0.013920	0.009700	0.013920	0.009700	0.058710	0.024170	0.058710	0.024170
59	0.006198	0.004311	0.015030	0.010530	0.015030	0.010530	0.015030	0.010530	0.060120	0.027750	0.060120	0.027750
60	0.006769	0.004688	0.016220	0.011420	0.016220	0.011420	0.016220	0.011420	0.061570	0.031870	0.061570	0.031870
61	0.007474	0.005154	0.017500	0.012400	0.017500	0.012400	0.017500	0.012400	0.063050	0.036600	0.063050	0.036600
62	0.008311	0.005678	0.018890	0.013460	0.018890	0.013460	0.018890	0.013460	0.064560	0.042030	0.064560	0.042030
63	0.009305	0.006296	0.020480	0.014170	0.020480	0.014170	0.020480	0.014170	0.066840	0.043830	0.066840	0.043830
64	0.010445	0.006971	0.022200	0.014930	0.022200	0.014930	0.022200	0.014930	0.069200	0.045700	0.069200	0.045700
65	0.011709	0.007686	0.024080	0.015720	0.024080	0.015720	0.024080	0.015720	0.071650	0.047660	0.071650	0.047660
66	0.013113	0.008505	0.026100	0.016560	0.026100	0.016560	0.026100	0.016560	0.074140	0.049700	0.074140	0.049700
67	0.014666	0.009432	0.028300	0.017440	0.028300	0.017440	0.028300	0.017440	0.076790	0.051830	0.076790	0.051830
68	0.016351	0.010538	0.030430	0.019340	0.030430	0.019340	0.030430	0.019340	0.080000	0.054040	0.080000	0.054040
69	0.018170	0.011761	0.032710	0.021460	0.032710	0.021460	0.032710	0.021460	0.083340	0.056350	0.083340	0.056350
70	0.020115	0.013136	0.035170	0.023810	0.035170	0.023810	0.035170	0.023810	0.086820	0.058760	0.086820	0.058760
71	0.022263	0.014617	0.037810	0.026410	0.037810	0.026410	0.037810	0.026410	0.090450	0.061270	0.090450	0.061270
72	0.024761	0.016143	0.040650	0.029300	0.040650	0.029300	0.040650	0.029300	0.094220	0.063890	0.094220	0.063890
73	0.027683	0.017833	0.043900	0.031700	0.043900	0.031700	0.043900	0.031700	0.098870	0.067800	0.098870	0.067800
74	0.031117	0.019693	0.047400	0.034290	0.047400	0.034290	0.047400	0.034290	0.103750	0.071960	0.103750	0.071960
75	0.034918	0.021861	0.051180	0.037100	0.051180	0.037100	0.051180	0.037100	0.108860	0.076360	0.108860	0.076360
76	0.039039	0.024257	0.055270	0.040140	0.055270	0.040140	0.055270	0.040140	0.114230	0.081030	0.114230	0.081030
77	0.043603	0.027015	0.059680	0.043430	0.059680	0.043430	0.059680	0.043430	0.119870	0.086000	0.119870	0.086000
78	0.048660	0.030179	0.064950	0.047320	0.064950	0.047320	0.064950	0.047320	0.126690	0.092710	0.126690	0.092710
79	0.054350	0.033775	0.070680	0.051570	0.070680	0.051570	0.070680	0.051570	0.133900	0.099950	0.133900	0.099950

Exhibit II-8-2 (cont.)
VA Office of the Actuary VetPop Mortality Rates (Annual) – Officers

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
80	0.060856	0.037766	0.076910	0.056200	0.076910	0.056200	0.076910	0.056200	0.141520	0.107760	0.141520	0.107760
81	0.068167	0.042359	0.083700	0.061240	0.083700	0.061240	0.083700	0.061240	0.149580	0.116180	0.149580	0.116180
82	0.075946	0.047636	0.091080	0.066730	0.091080	0.066730	0.091080	0.066730	0.158090	0.125250	0.158090	0.125250
83	0.084142	0.053949	0.099290	0.073700	0.099290	0.073700	0.099290	0.073700	0.165240	0.133320	0.165240	0.133320
84	0.092804	0.061531	0.108230	0.081400	0.108230	0.081400	0.108230	0.081400	0.172700	0.141910	0.172700	0.141910
85	0.102061	0.070442	0.117970	0.089900	0.117970	0.089900	0.117970	0.089900	0.180510	0.151050	0.180510	0.151050
86	0.112109	0.080765	0.128600	0.099280	0.128600	0.099280	0.128600	0.099280	0.188670	0.160780	0.188670	0.160780
87	0.123077	0.092302	0.140180	0.109650	0.140180	0.109650	0.140180	0.109650	0.197190	0.171140	0.197190	0.171140
88	0.135029	0.104784	0.151440	0.118800	0.151440	0.118800	0.151440	0.118800	0.208790	0.179130	0.208790	0.179130
89	0.147781	0.117933	0.163610	0.128720	0.163610	0.128720	0.163610	0.128720	0.221070	0.187480	0.221070	0.187480
90	0.161364	0.131999	0.176750	0.139460	0.176750	0.139460	0.176750	0.139460	0.234080	0.196220	0.234080	0.196220
91	0.175690	0.146944	0.190950	0.151100	0.190950	0.151100	0.190950	0.151100	0.247850	0.205370	0.247850	0.205370
92	0.190675	0.162220	0.206290	0.163710	0.206290	0.163710	0.206290	0.163710	0.262430	0.214960	0.262430	0.214960
93	0.206885	0.177813	0.219920	0.178710	0.219920	0.178710	0.219920	0.178710	0.274050	0.231430	0.274050	0.231430
94	0.223812	0.193321	0.234450	0.195080	0.234450	0.195080	0.234450	0.195080	0.286180	0.249170	0.286180	0.249170
95	0.240253	0.208520	0.249930	0.212950	0.249930	0.212950	0.249930	0.212950	0.298860	0.268270	0.298860	0.268270
96	0.276937	0.238789	0.276937	0.238789	0.276937	0.238789	0.276937	0.238789	0.312090	0.288840	0.312090	0.288840
97	0.296060	0.255277	0.296060	0.255277	0.296060	0.255277	0.296060	0.255277	0.325910	0.310980	0.325910	0.310980
98	0.316407	0.272822	0.316407	0.272822	0.316407	0.272822	0.316407	0.272822	0.351920	0.325170	0.351920	0.325170
99	0.336871	0.290467	0.336871	0.290467	0.336871	0.290467	0.336871	0.290467	0.380000	0.340000	0.380000	0.340000
100	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
101	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
102	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
103	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
104	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
105	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
106	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
107	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
108	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
109	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
110	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
111	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000

Exhibit II-8-2 (cont.)
VA Office of the Actuary VetPop Mortality Rates (Annual) – Officers

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
112	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
113	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
114	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
115	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
116	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
117	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
118	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
119	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.348391	0.300400	0.410320	0.355000	0.410320	0.355000
120	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

* Disability statuses are from VA OACT VetPop projections and are as follows:

- 1 – non-disabled
- 2 – service-connected-disabled
- 3 – disabled, non-service-connected
- 4 – disabled, both service-connected and non-service-connected

**Exhibit II-8-2 (cont.)
 VA Office of the Actuary VetPop Mortality Rates (Annual) – Enlisted**

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
16	0.001045	0.000855	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
17	0.001045	0.000855	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
18	0.001120	0.000682	0.005000	0.002000	0.005000	0.002000	0.005000	0.002000	0.025000	0.012500	0.025000	0.012500
19	0.001202	0.000669	0.004720	0.001440	0.004720	0.001440	0.004720	0.001440	0.025000	0.013080	0.025000	0.013080
20	0.001281	0.000643	0.004480	0.001030	0.004480	0.001030	0.004480	0.001030	0.025000	0.013690	0.025000	0.013690
21	0.001359	0.000621	0.004210	0.000740	0.004210	0.000740	0.004210	0.000740	0.025000	0.014330	0.025000	0.014330
22	0.001423	0.000605	0.003970	0.000605	0.003970	0.000605	0.003970	0.000605	0.025000	0.015000	0.025000	0.015000
23	0.001466	0.000597	0.003430	0.000597	0.003430	0.000597	0.003430	0.000597	0.027410	0.016270	0.027410	0.016270
24	0.001494	0.000601	0.002960	0.000650	0.002960	0.000650	0.002960	0.000650	0.030050	0.017640	0.030050	0.017640
25	0.001513	0.000607	0.002560	0.000720	0.002560	0.000720	0.002560	0.000720	0.032940	0.019130	0.032940	0.019130
26	0.001549	0.000613	0.002210	0.000790	0.002210	0.000790	0.002210	0.000790	0.036110	0.020750	0.036110	0.020750
27	0.001628	0.000616	0.001910	0.000880	0.001910	0.000880	0.001910	0.000880	0.039590	0.022500	0.039590	0.022500
28	0.001761	0.000606	0.002080	0.000950	0.002080	0.000950	0.002080	0.000950	0.041160	0.022500	0.041160	0.022500
29	0.001939	0.000600	0.002260	0.001030	0.002260	0.001030	0.002260	0.001030	0.042800	0.022500	0.042800	0.022500
30	0.002123	0.000594	0.002460	0.001110	0.002460	0.001110	0.002460	0.001110	0.044510	0.022500	0.044510	0.022500
31	0.002301	0.000618	0.002670	0.001200	0.002670	0.001200	0.002670	0.001200	0.046280	0.022500	0.046280	0.022500
32	0.002459	0.000652	0.002900	0.001300	0.002900	0.001300	0.002900	0.001300	0.048130	0.022500	0.048130	0.022500
33	0.002599	0.000697	0.003090	0.001430	0.003090	0.001430	0.003090	0.001430	0.047340	0.022500	0.047340	0.022500
34	0.002725	0.000753	0.003280	0.001580	0.003280	0.001580	0.003280	0.001580	0.046570	0.022500	0.046570	0.022500
35	0.002854	0.000821	0.003490	0.001740	0.003490	0.001740	0.003490	0.001740	0.045820	0.022500	0.045820	0.022500
36	0.003006	0.000955	0.003710	0.001920	0.003710	0.001920	0.003710	0.001920	0.045070	0.022500	0.045070	0.022500
37	0.003088	0.001013	0.003950	0.002120	0.003950	0.002120	0.003950	0.002120	0.044340	0.022500	0.044340	0.022500
38	0.003117	0.001074	0.004080	0.002260	0.004080	0.002260	0.004080	0.002260	0.043040	0.022500	0.043040	0.022500
39	0.003116	0.001144	0.004220	0.002400	0.004220	0.002400	0.004220	0.002400	0.041770	0.022500	0.041770	0.022500
40	0.003105	0.001210	0.004350	0.002550	0.004350	0.002550	0.004350	0.002550	0.040540	0.022500	0.040540	0.022500
41	0.003124	0.001301	0.004500	0.002710	0.004500	0.002710	0.004500	0.002710	0.039350	0.022500	0.039350	0.022500
42	0.003180	0.001405	0.004650	0.002880	0.004650	0.002880	0.004650	0.002880	0.038200	0.022500	0.038200	0.022500
43	0.003275	0.001544	0.004970	0.002960	0.004970	0.002960	0.004970	0.002960	0.038780	0.022520	0.038780	0.022520
44	0.003410	0.001703	0.005320	0.003040	0.005320	0.003040	0.005320	0.003040	0.039380	0.022530	0.039380	0.022530
45	0.003578	0.001889	0.005690	0.003110	0.005690	0.003110	0.005690	0.003110	0.039980	0.022550	0.039980	0.022550
46	0.003774	0.002120	0.006080	0.003200	0.006080	0.003200	0.006080	0.003200	0.040590	0.022570	0.040590	0.022570
47	0.003994	0.002386	0.006510	0.003280	0.006510	0.003280	0.006510	0.003280	0.041220	0.022590	0.041220	0.022590

Exhibit II-8-2 (cont.)
VA Office of the Actuary VetPop Mortality Rates (Annual) – Enlisted

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
48	0.004258	0.002715	0.006900	0.003630	0.006900	0.003630	0.006900	0.003630	0.042360	0.023680	0.042360	0.023680
49	0.004557	0.003086	0.007320	0.004010	0.007320	0.004010	0.007320	0.004010	0.043540	0.024840	0.043540	0.024840
50	0.004908	0.003516	0.007770	0.004440	0.007770	0.004440	0.007770	0.004440	0.044760	0.026040	0.044760	0.026040
51	0.005381	0.003994	0.008240	0.004910	0.008240	0.004910	0.008240	0.004910	0.046000	0.027310	0.046000	0.027310
52	0.006015	0.004505	0.008750	0.005440	0.008750	0.005440	0.008750	0.005440	0.047290	0.028640	0.047290	0.028640
53	0.006733	0.005056	0.009450	0.006000	0.009450	0.006000	0.009450	0.006000	0.049140	0.026930	0.049140	0.026930
54	0.007532	0.005637	0.010220	0.006630	0.010220	0.006630	0.010220	0.006630	0.051070	0.025320	0.051070	0.025320
55	0.008405	0.006275	0.011040	0.007320	0.011040	0.007320	0.011040	0.007320	0.053080	0.023810	0.053080	0.023810
56	0.009347	0.006975	0.011940	0.008090	0.011940	0.008090	0.011940	0.008090	0.055170	0.022380	0.055170	0.022380
57	0.010366	0.007720	0.012900	0.008930	0.012900	0.008930	0.012900	0.008930	0.057330	0.021050	0.057330	0.021050
58	0.011462	0.008509	0.013920	0.009700	0.013920	0.009700	0.013920	0.009700	0.058710	0.024170	0.058710	0.024170
59	0.012631	0.009340	0.015030	0.010530	0.015030	0.010530	0.015030	0.010530	0.060120	0.027750	0.060120	0.027750
60	0.013898	0.010245	0.016220	0.011420	0.016220	0.011420	0.016220	0.011420	0.061570	0.031870	0.061570	0.031870
61	0.015267	0.011250	0.017500	0.012400	0.017500	0.012400	0.017500	0.012400	0.063050	0.036600	0.063050	0.036600
62	0.016726	0.012356	0.018890	0.013460	0.018890	0.013460	0.018890	0.013460	0.064560	0.042030	0.064560	0.042030
63	0.018285	0.013631	0.020480	0.014170	0.020480	0.014170	0.020480	0.014170	0.066840	0.043830	0.066840	0.043830
64	0.019946	0.015053	0.022200	0.015053	0.022200	0.015053	0.022200	0.015053	0.069200	0.045700	0.069200	0.045700
65	0.021705	0.016533	0.024080	0.016533	0.024080	0.016533	0.024080	0.016533	0.071650	0.047660	0.071650	0.047660
66	0.023594	0.018108	0.026100	0.018108	0.026100	0.018108	0.026100	0.018108	0.074140	0.049700	0.074140	0.049700
67	0.025638	0.019739	0.028300	0.019739	0.028300	0.019739	0.028300	0.019739	0.076790	0.051830	0.076790	0.051830
68	0.027898	0.021561	0.030430	0.021561	0.030430	0.021561	0.030430	0.021561	0.080000	0.054040	0.080000	0.054040
69	0.030403	0.023490	0.032710	0.023490	0.032710	0.023490	0.032710	0.023490	0.083340	0.056350	0.083340	0.056350
70	0.033177	0.025662	0.035170	0.025662	0.035170	0.025662	0.035170	0.025662	0.086820	0.058760	0.086820	0.058760
71	0.036328	0.028119	0.037810	0.028119	0.037810	0.028119	0.037810	0.028119	0.090450	0.061270	0.090450	0.061270
72	0.039987	0.030765	0.040650	0.030765	0.040650	0.030765	0.040650	0.030765	0.094220	0.063890	0.094220	0.063890
73	0.044168	0.033745	0.044168	0.033745	0.044168	0.033745	0.044168	0.033745	0.098870	0.067800	0.098870	0.067800
74	0.048880	0.036873	0.048880	0.036873	0.048880	0.036873	0.048880	0.036873	0.103750	0.071960	0.103750	0.071960
75	0.054016	0.040355	0.054016	0.040355	0.054016	0.040355	0.054016	0.040355	0.108860	0.076360	0.108860	0.076360
76	0.059538	0.044048	0.059538	0.044048	0.059538	0.044048	0.059538	0.044048	0.114230	0.081030	0.114230	0.081030
77	0.065447	0.048091	0.065447	0.048091	0.065447	0.048091	0.065447	0.048091	0.119870	0.086000	0.119870	0.086000
78	0.071797	0.052676	0.071797	0.052676	0.071797	0.052676	0.071797	0.052676	0.126690	0.092710	0.126690	0.092710
79	0.078574	0.057748	0.078574	0.057748	0.078574	0.057748	0.078574	0.057748	0.133900	0.099950	0.133900	0.099950

Exhibit II-8-2 (cont.)
VA Office of the Actuary VetPop Mortality Rates (Annual) – Enlisted

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
80	0.085930	0.063155	0.085930	0.063155	0.085930	0.063155	0.085930	0.063155	0.141520	0.107760	0.141520	0.107760
81	0.093716	0.068958	0.093716	0.068958	0.093716	0.068958	0.093716	0.068958	0.149580	0.116180	0.149580	0.116180
82	0.101562	0.075096	0.101562	0.075096	0.101562	0.075096	0.101562	0.075096	0.158090	0.125250	0.158090	0.125250
83	0.109161	0.081575	0.109161	0.081575	0.109161	0.081575	0.109161	0.081575	0.165240	0.133320	0.165240	0.133320
84	0.116683	0.088443	0.116683	0.088443	0.116683	0.088443	0.116683	0.088443	0.172700	0.141910	0.172700	0.141910
85	0.124524	0.095760	0.124524	0.095760	0.124524	0.095760	0.124524	0.095760	0.180510	0.151050	0.180510	0.151050
86	0.133013	0.103661	0.133013	0.103661	0.133013	0.103661	0.133013	0.103661	0.188670	0.160780	0.188670	0.160780
87	0.142230	0.111989	0.142230	0.111989	0.142230	0.111989	0.142230	0.111989	0.197190	0.171140	0.197190	0.171140
88	0.152209	0.120675	0.152209	0.120675	0.152209	0.120675	0.152209	0.120675	0.208790	0.179130	0.208790	0.179130
89	0.162978	0.129931	0.163610	0.129931	0.163610	0.129931	0.163610	0.129931	0.221070	0.187480	0.221070	0.187480
90	0.174441	0.140107	0.176750	0.140107	0.176750	0.140107	0.176750	0.140107	0.234080	0.196220	0.234080	0.196220
91	0.186572	0.151323	0.190950	0.151323	0.190950	0.151323	0.190950	0.151323	0.247850	0.205370	0.247850	0.205370
92	0.199562	0.163259	0.206290	0.163710	0.206290	0.163710	0.206290	0.163710	0.262430	0.214960	0.262430	0.214960
93	0.213585	0.175508	0.219920	0.178710	0.219920	0.178710	0.219920	0.178710	0.274050	0.231430	0.274050	0.231430
94	0.228559	0.187975	0.234450	0.195080	0.234450	0.195080	0.234450	0.195080	0.286180	0.249170	0.286180	0.249170
95	0.243908	0.200873	0.249930	0.212950	0.249930	0.212950	0.249930	0.212950	0.298860	0.268270	0.298860	0.268270
96	0.279939	0.229041	0.279939	0.232460	0.279939	0.232460	0.279939	0.232460	0.312090	0.288840	0.312090	0.288840
97	0.298408	0.244152	0.298408	0.253760	0.298408	0.253760	0.298408	0.253760	0.325910	0.310980	0.325910	0.310980
98	0.317823	0.260037	0.317823	0.266560	0.317823	0.266560	0.317823	0.266560	0.351920	0.325170	0.351920	0.325170
99	0.332398	0.271962	0.332398	0.280000	0.332398	0.280000	0.332398	0.280000	0.380000	0.340000	0.380000	0.340000
100	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
101	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
102	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
103	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
104	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
105	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
106	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
107	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
108	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
109	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
110	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
111	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000

Exhibit II-8-2 (cont.)

VA Office of the Actuary VetPop Mortality Rates (Annual) – Enlisted

Age	Dis Stat 1		Dis Stat 2, Deg<40		Dis Stat 2, 40-70		Dis Stat 2, Deg>70		Dis Stat 3		Dis Stat 4	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
112	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
113	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
114	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
115	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
116	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
117	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
118	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
119	0.347765	0.284535	0.347765	0.294120	0.347765	0.294120	0.347765	0.294120	0.410320	0.355000	0.410320	0.355000
120	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

* Disability statuses are from VA OACT VetPop projections and are as follows:

- 1 – non-disabled
- 2 – service-connected-disabled
- 3 – disabled, non-service-connected
- 4 – disabled, both service-connected and non-service-connected

**Exhibit II-8-3
 VA Enrollee Mortality Study
 Methodology Example**

Assume actual experience for a priority as follows:

And a basic mortality table of:

Enrollee Type	Gender	Age	Exposures	Deaths		Gender	Age	Rate
Pre	M	1	200	8		M	1	0.05
Pre	M	2	300	15		M	2	0.08
Pre	M	3	400	35		M	3	0.15
Pre	M	4	100	45		M	4	0.45
Pre	F	1	30	1		F	1	0.03
Pre	F	2	50	3		F	2	0.05
Pre	F	3	70	17		F	3	0.12
Pre	F	4	20	<u>13</u>		F	4	0.35
				137				
Post	M	1	220	5				
Post	M	2	320	18				
Post	M	3	430	30				
Post	M	4	120	26				
Post	F	1	40	1				
Post	F	2	60	2				
Post	F	3	80	14				
Post	F	4	25	<u>12</u>				
				108				

Step 1: Calculate the expected number of deaths based upon the basic mortality table

= *Exposures x mortality rate, calculated separately for pre- and post- enrollees*

Enrollee Type	Gender	Age	Exposures	Mortality Rate	Expected Deaths	
Pre	M	1	200	0.05	10.0	=200 x 0.05
Pre	M	2	300	0.08	24.0	
Pre	M	3	400	0.15	60.0	
Pre	M	4	100	0.45	45.0	
Pre	F	1	30	0.03	0.9	
Pre	F	2	50	0.05	2.5	
Pre	F	3	70	0.12	8.4	
Pre	F	4	20	0.35	<u>7.0</u>	
					157.8	
Post	M	1	220	0.05	11.0	
Post	M	2	320	0.08	25.6	
Post	M	3	430	0.15	64.5	
Post	M	4	120	0.45	54.0	
Post	F	1	40	0.03	1.2	
Post	F	2	60	0.05	3.0	
Post	F	3	80	0.12	9.6	
Post	F	4	25	0.35	<u>8.8</u>	
					177.7	

Exhibit II-8-3 (cont.)

Step 2: Calculate mortality adjustment factors

= Actual deaths divided by expected death for each enrollee type

Pre: 0.86819 =137/157.8
 Post: 0.60794 =108/177.7
 Post/Pre: 0.70024 =.60794/.86819

Step 3: Calculate "adjusted" expected mortality

Enrollee Type	Gender	Age	Exposures	Mortality Rate	Adjustment	Adjusted Expected Deaths	
Pre	M	1	200	0.05	0.86819	8.7	= 200 x
Pre	M	2	300	0.08	0.86819	20.8	
Pre	M	3	400	0.15	0.86819	52.1	
Pre	M	4	100	0.45	0.86819	39.1	
Pre	F	1	30	0.03	0.86819	0.8	
Pre	F	2	50	0.05	0.86819	2.2	
Pre	F	3	70	0.12	0.86819	7.3	
Pre	F	4	20	0.35	0.86819	<u>6.1</u>	
						137.0	
Post	M	1	220	0.05	0.60794	6.7	
Post	M	2	320	0.08	0.60794	15.6	
Post	M	3	430	0.15	0.60794	39.2	
Post	M	4	120	0.45	0.60794	32.8	
Post	F	1	40	0.03	0.60794	0.7	
Post	F	2	60	0.05	0.60794	1.8	
Post	F	3	80	0.12	0.60794	5.8	
Post	F	4	25	0.35	0.60794	<u>5.3</u>	
						108.0	

Exhibit II-8-3 (cont.)

Step 4: Calculate the fit factor

Enrollee Type	Gender	Age	Actual Deaths	Adjusted Expected Deaths	Absolute Difference
Pre	M	1	8	8.7	0.7
Pre	M	2	15	20.8	5.8
Pre	M	3	35	52.1	17.1
Pre	M	4	45	39.1	5.9
Pre	F	1	1	0.8	0.2
Pre	F	2	3	2.2	0.8
Pre	F	3	17	7.3	9.7
Pre	F	4	<u>13</u>	<u>6.1</u>	<u>6.9</u>
			137	137	47.2
Post	M	1	5	6.7	1.7
Post	M	2	18	15.6	2.4
Post	M	3	30	39.2	9.2
Post	M	4	26	32.8	6.8
Post	F	1	1	0.7	0.3
Post	F	2	2	1.8	0.2
Post	F	3	14	5.8	8.2
Post	F	4	<u>12</u>	<u>5.3</u>	<u>6.7</u>
			108	108	35.5
Fit factor:	66.26%		$=1-(47.2+35.5)/(137+108)$		

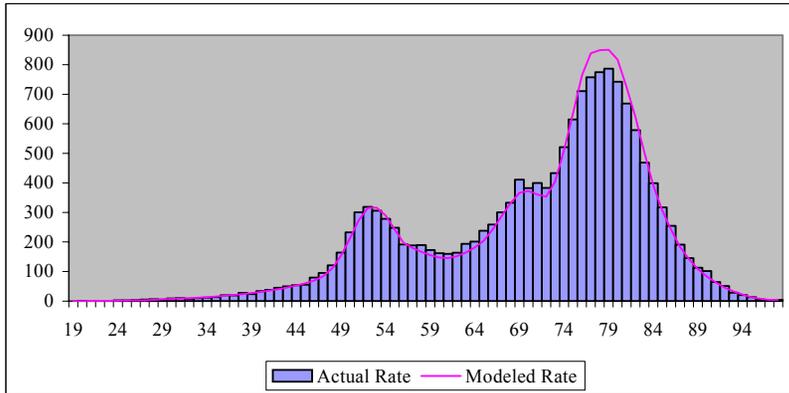
Exhibit II-8-4
Mortality Tables
Summary of "Fit" Statistics

Priority	Avg. Ann. Exposures	USLife 69-71		VetPop Status 1		VetPop Status 2		VetPop Status 4		GAM83	
		Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.
1	6,074,397	85.84%	0.93996	69.71%	1.30092	77.02%	1.22863	75.35%	0.49641	63.47%	1.57249
2	4,097,201	89.93%	0.71134	88.32%	0.97314	91.31%	0.92269	54.40%	0.37147	83.51%	1.17613
3	7,702,659	89.73%	0.68922	90.15%	0.93494	93.05%	0.88891	52.11%	0.35788	85.40%	1.12777
4	1,960,025	78.83%	2.04547	65.20%	2.69555	68.71%	2.60950	85.81%	1.29923	60.20%	3.19373
5	22,074,930	86.64%	0.69938	72.25%	0.97327	77.93%	0.92540	79.36%	0.39079	66.66%	1.18638
6	1,037,257	80.94%	0.65122	72.63%	1.03023	79.93%	0.90874	59.69%	0.29253	68.22%	1.31014
7a	777,863	83.32%	0.46053	85.17%	0.62431	85.67%	0.59642	57.21%	0.24562	82.95%	0.75200
7c	14,082,020	89.54%	0.40703	90.36%	0.56673	93.17%	0.53978	68.78%	0.22705	86.89%	0.69183

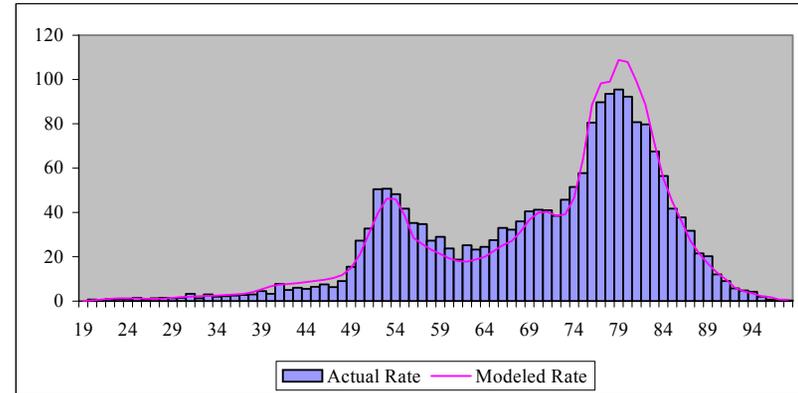
Priority	Avg. Ann. Exposures	RP-2000		1965 RRB		CSO80		SOA 1990-95		US Life 1991	
		Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.	Fit Stat	Mult.
1	6,074,397	56.11%	1.89361	69.44%	0.52774	70.08%	1.08464	93.14%	0.59784	75.07%	1.33169
2	4,097,201	76.37%	1.41310	48.71%	0.39164	89.14%	0.81237	86.02%	1.31473	92.21%	1.00304
3	7,702,659	79.10%	1.35021	46.47%	0.37645	91.01%	0.78097	88.43%	1.26121	93.70%	0.96578
4	1,960,025	52.87%	3.83565	79.43%	1.40084	64.36%	2.23100	61.17%	3.69238	68.25%	2.89174
5	22,074,930	59.97%	1.49011	73.19%	0.42043	72.30%	0.81474	70.21%	1.37032	77.62%	1.03706
6	1,037,257	51.35%	1.91960	55.73%	0.31042	74.60%	0.85262	65.66%	1.61139	75.93%	1.13298
7a	777,863	77.48%	0.89379	52.65%	0.26099	85.40%	0.52167	84.46%	0.83481	86.74%	0.63894
7c	14,082,020	80.48%	0.86102	66.81%	0.24464	91.34%	0.47494	89.01%	0.79054	93.14%	0.59784

Exhibit II-8-5
Comparison of Actual and Modeled Deaths
Priority Level 1

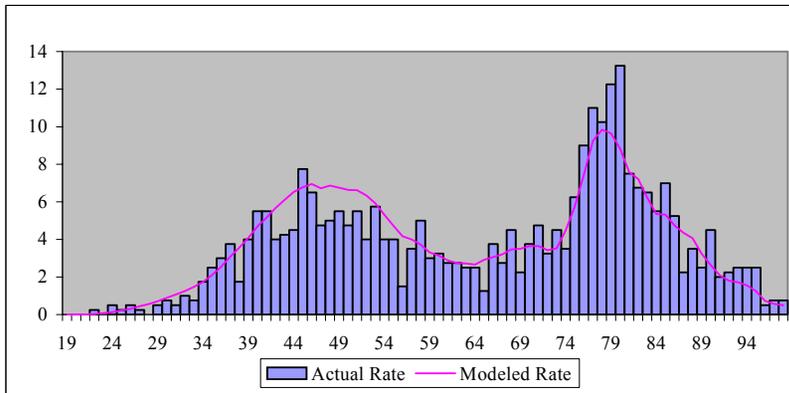
Male, Enrollee Type 1



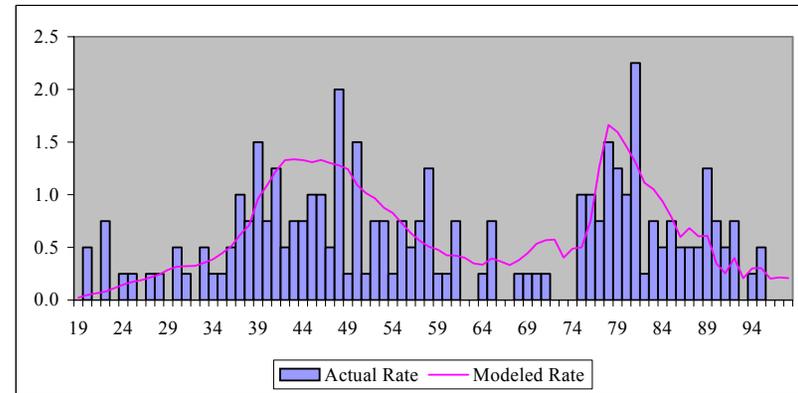
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



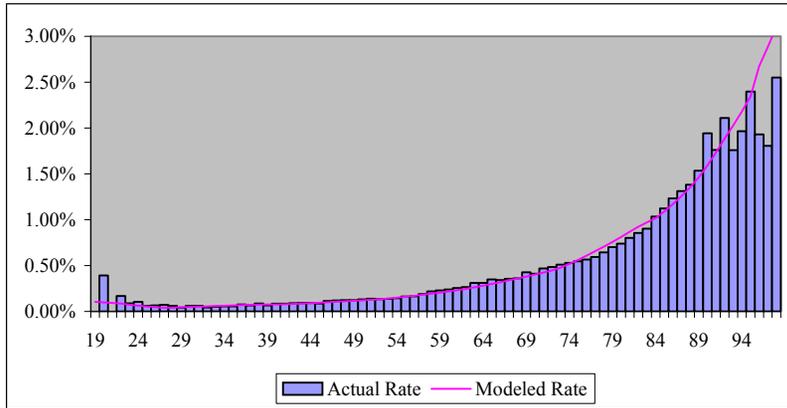
Mortality Table: PL1
 Adjustment Factor: 1.32078
 Enrollee 2/3 Adj. Fact: 0.69006
 "Fit" Factor: 91.79%

Section II - Page 80

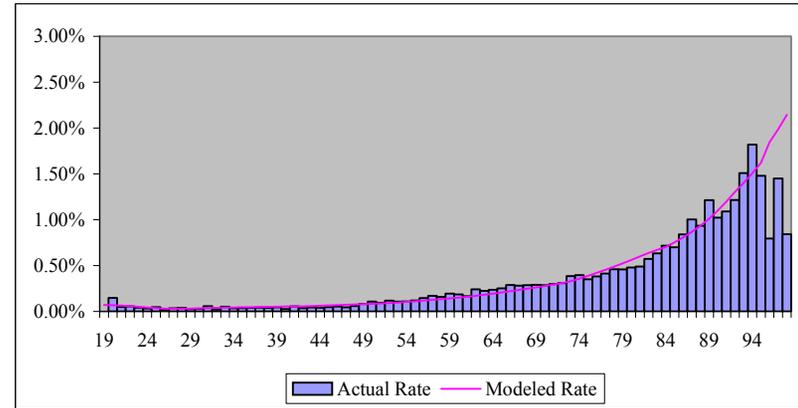
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 1

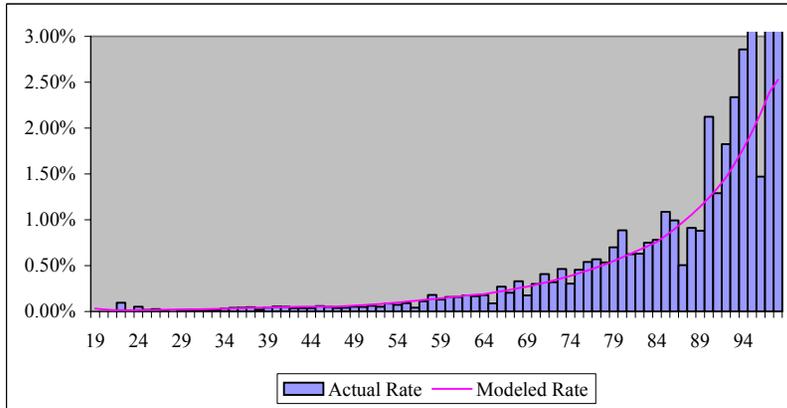
Male, Enrollee Type 1



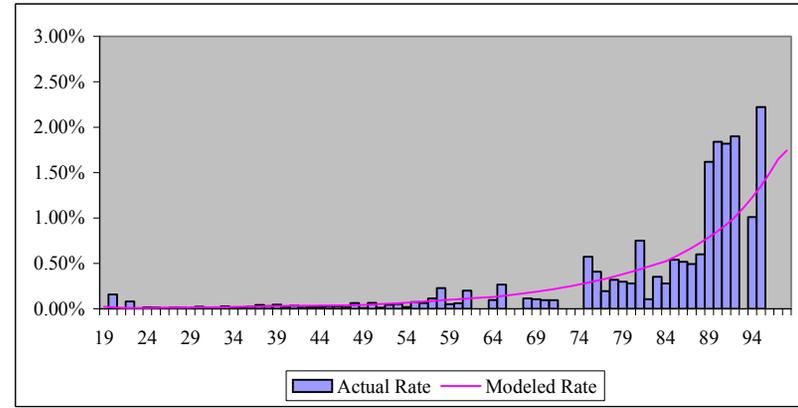
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

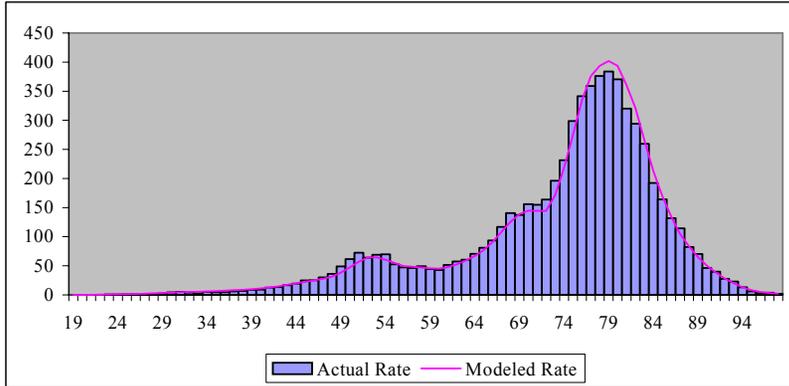


Section II - Page 81

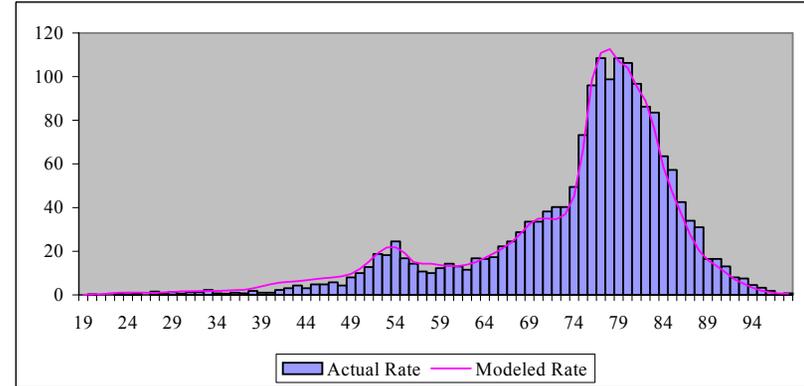
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 2

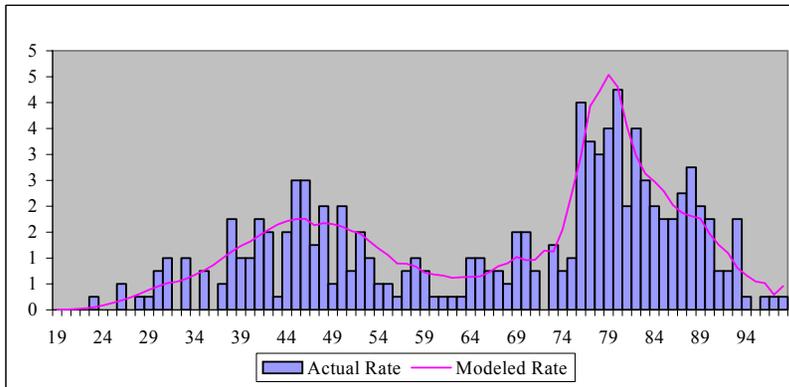
Male, Enrollee Type 1



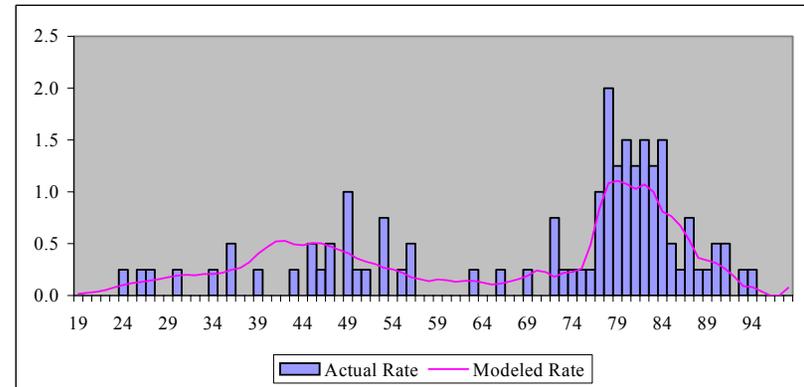
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



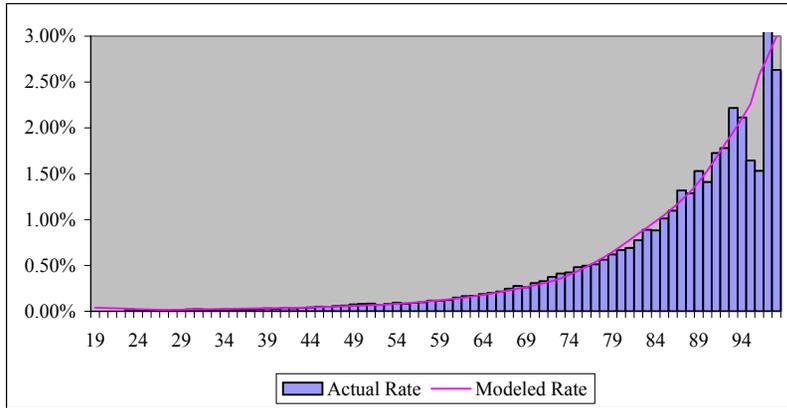
Mortality Table:	VetPopD
Adjustment Factor:	0.95507
Enrollee 2/3 Adj. Fact:	0.68520
"Fit" Factor	91.58%

Section II - Page 82

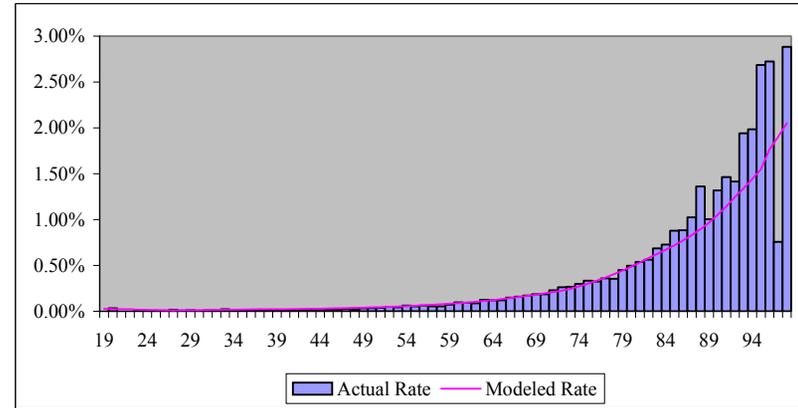
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 2

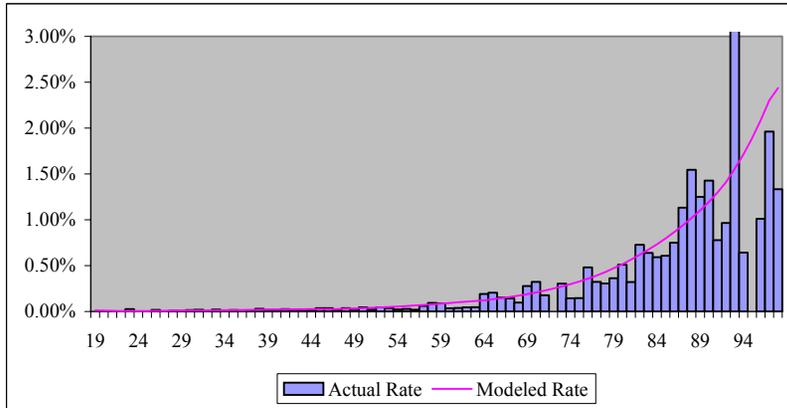
Male, Enrollee Type 1



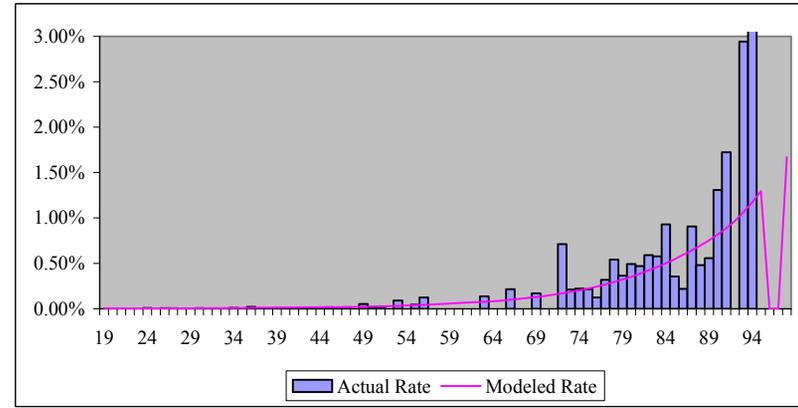
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

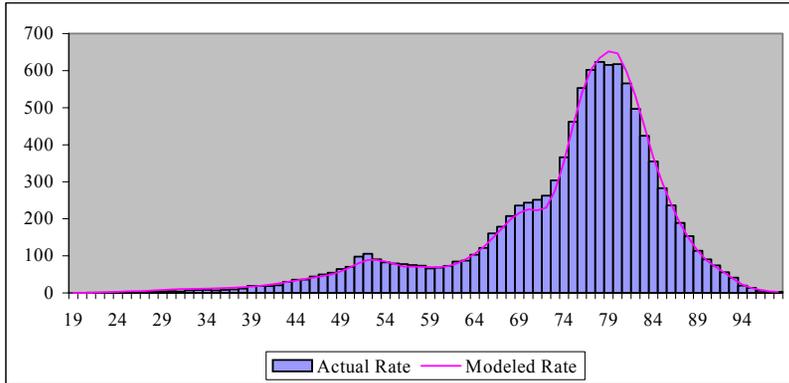


Section II - Page 83

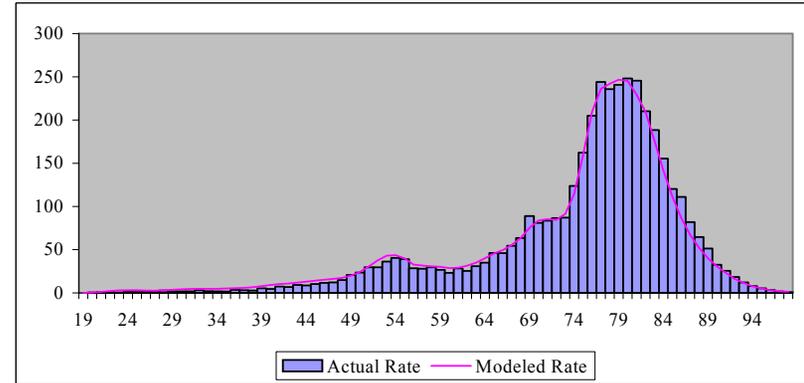
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 3

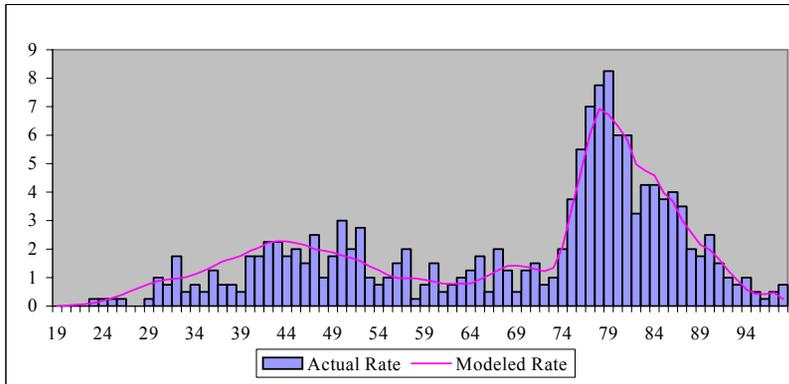
Male, Enrollee Type 1



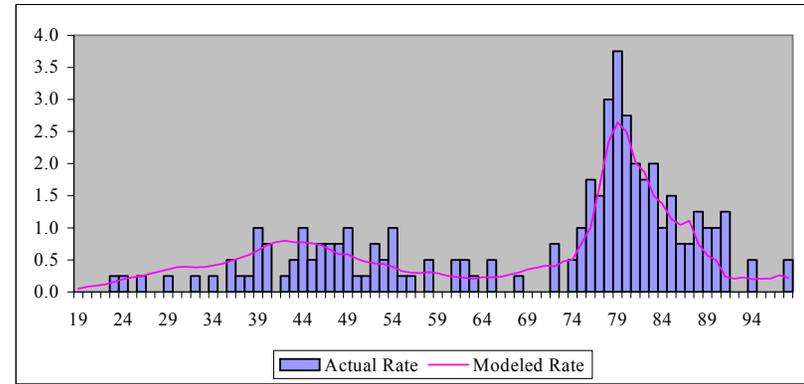
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



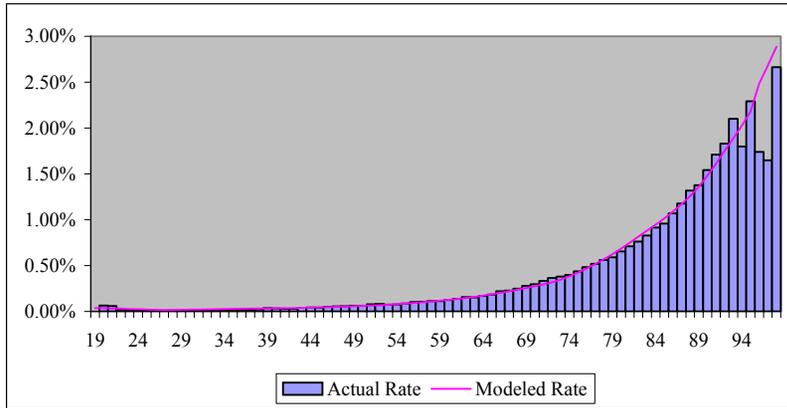
Mortality Table:	VetPopD
Adjustment Factor:	0.92071
Enrollee 2/3 Adj. Fact:	0.67132
"Fit" Factor	93.45%

Section II - Page 84

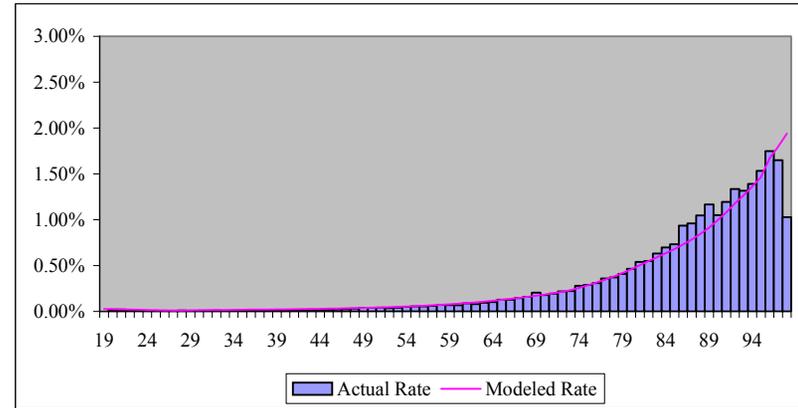
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 3

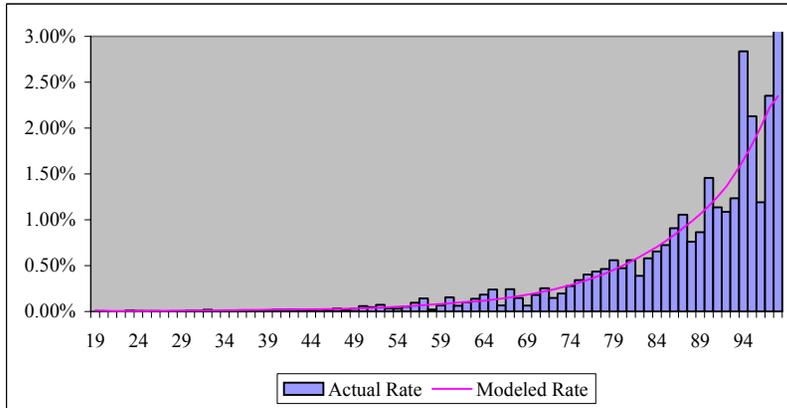
Male, Enrollee Type 1



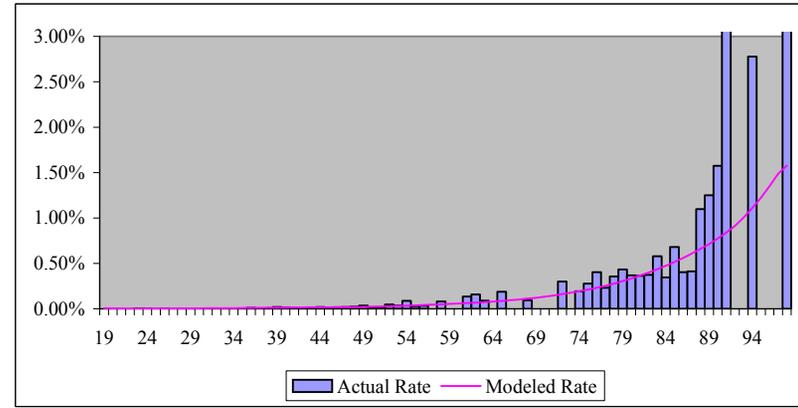
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

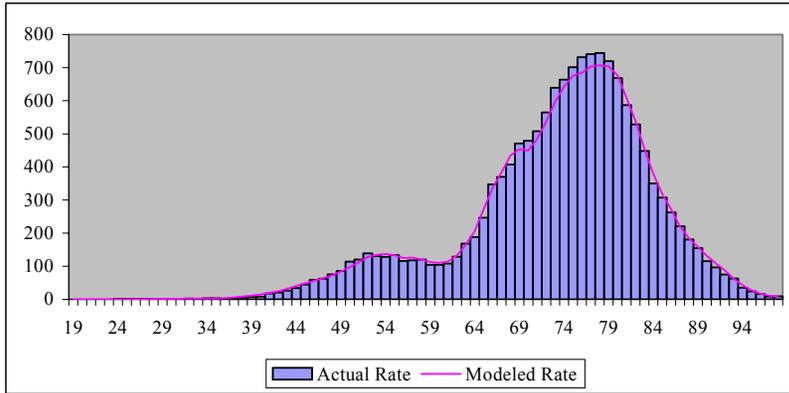


Section II - Page 85

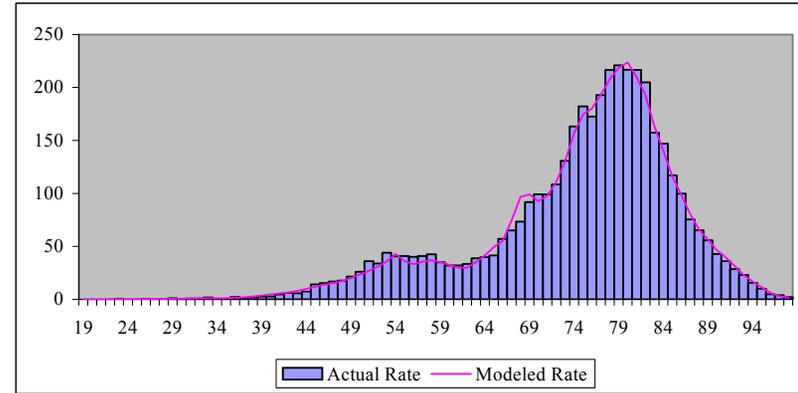
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 4

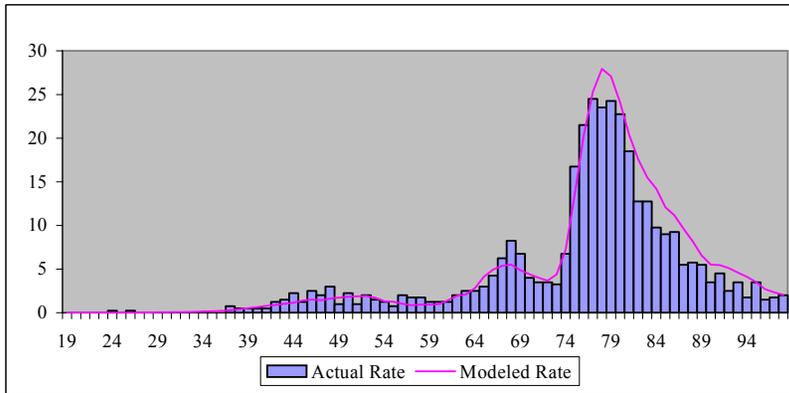
Male, Enrollee Type 1



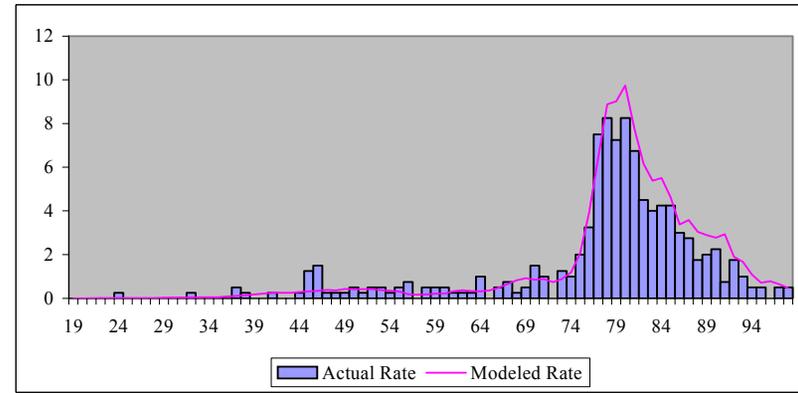
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



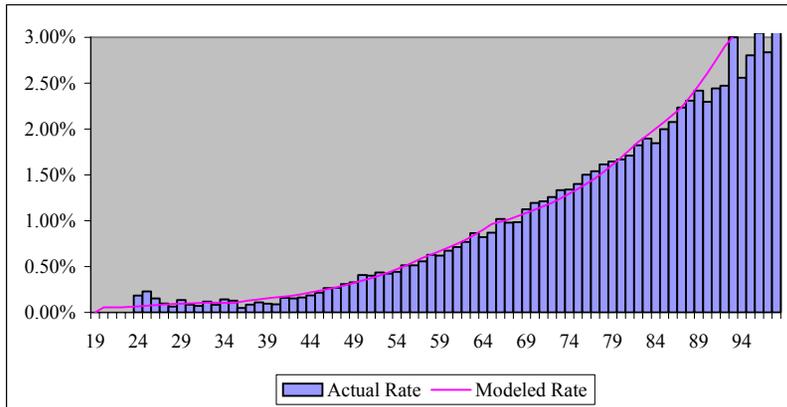
Mortality Table:	PL4
Adjustment Factor:	1.29967
Enrollee 2/3 Adj. Fact:	0.80663
"Fit" Factor	94.44%

Section II - Page 86

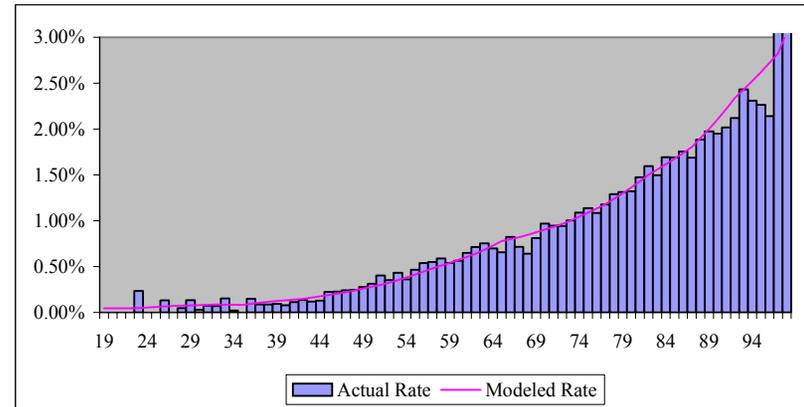
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 4

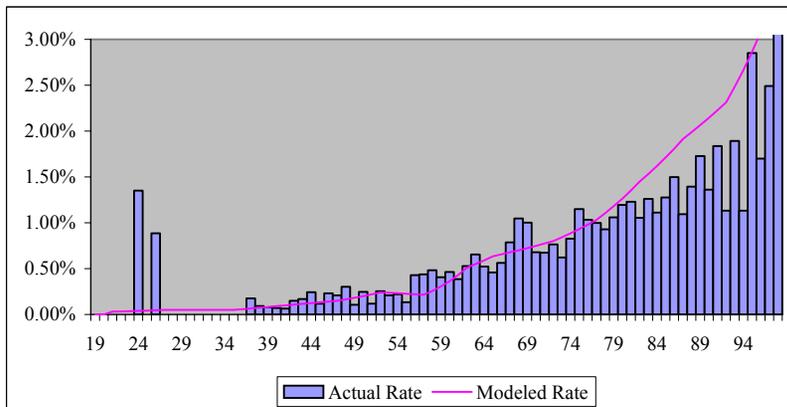
Male, Enrollee Type 1



Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

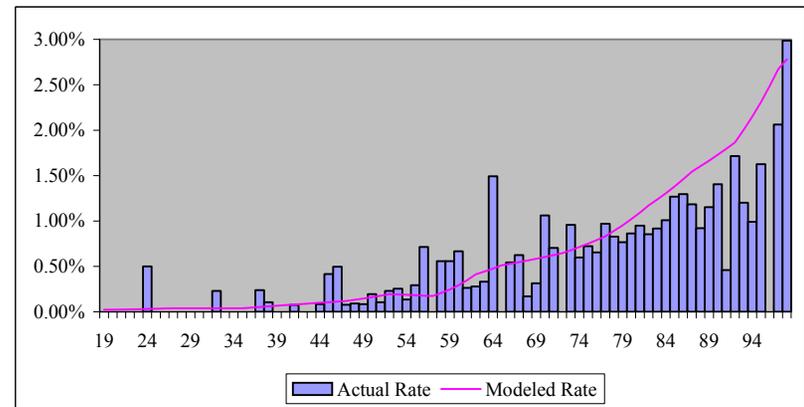
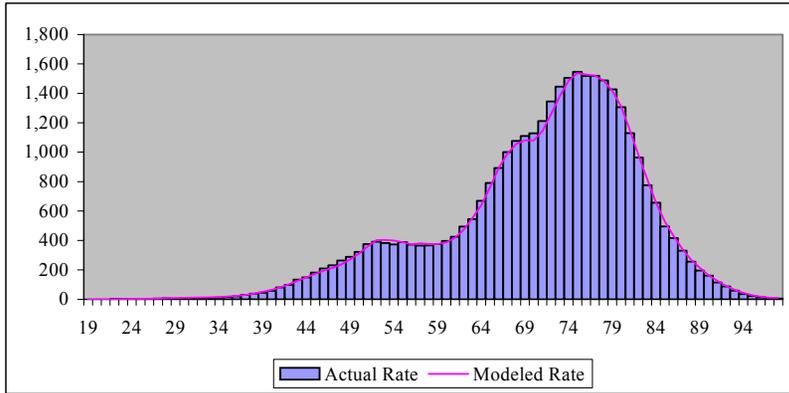
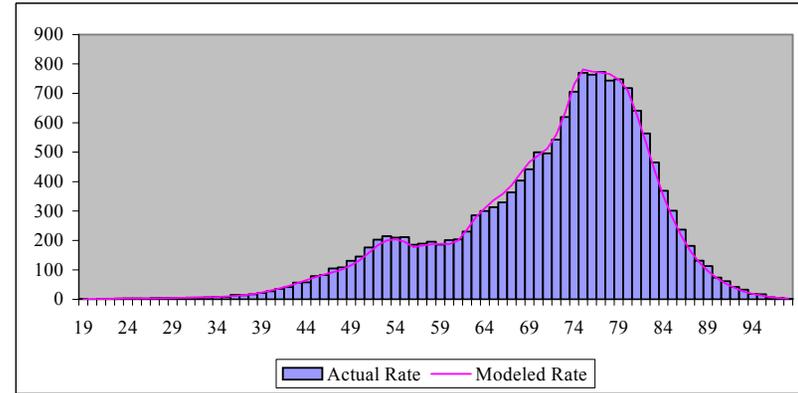


Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 5

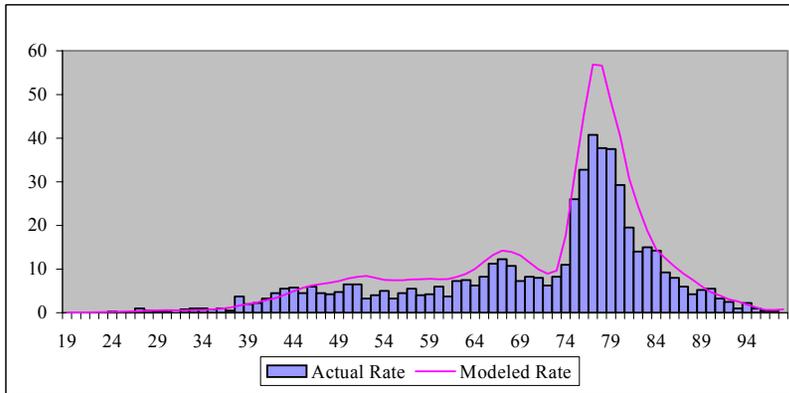
Male, Enrollee Type 1



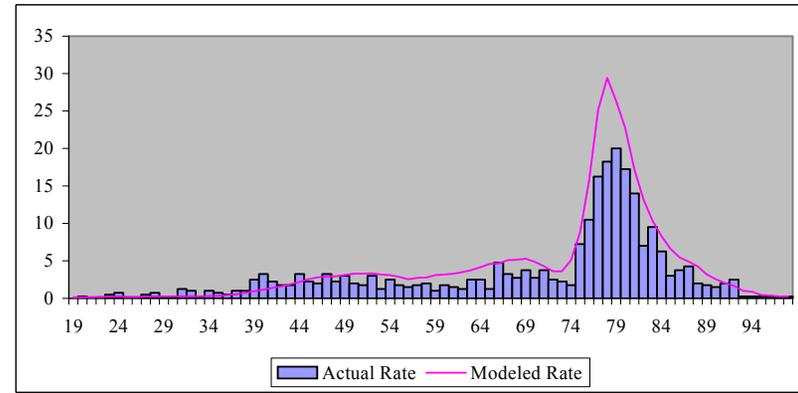
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



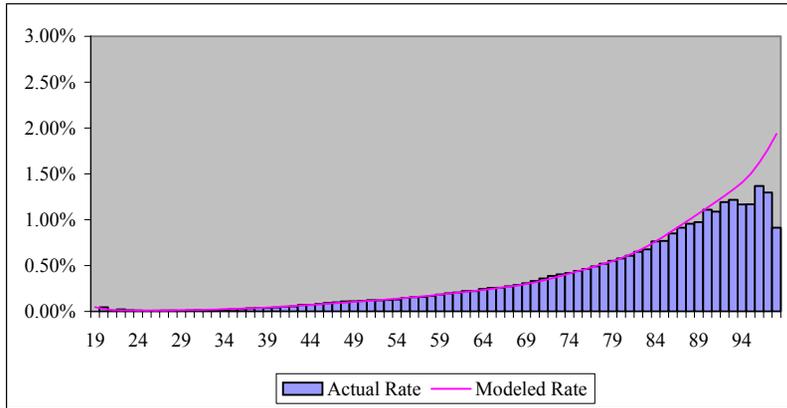
Mortality Table:	PL5
Adjustment Factor:	1.01209
Enrollee 2/3 Adj. Fact:	0.76334
"Fit" Factor	96.19%

Section II - Page 88

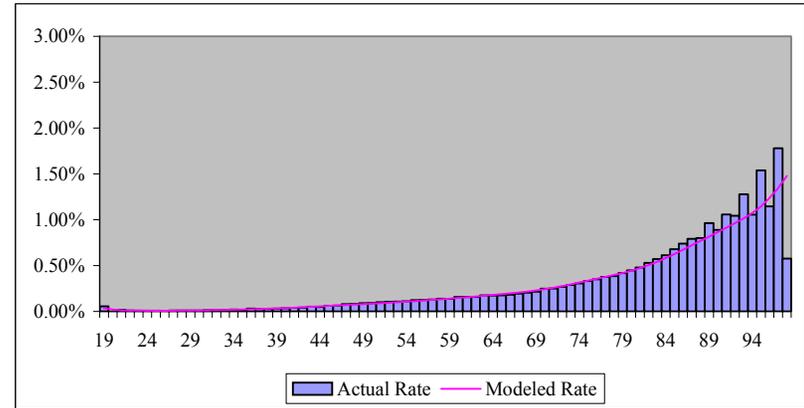
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 5

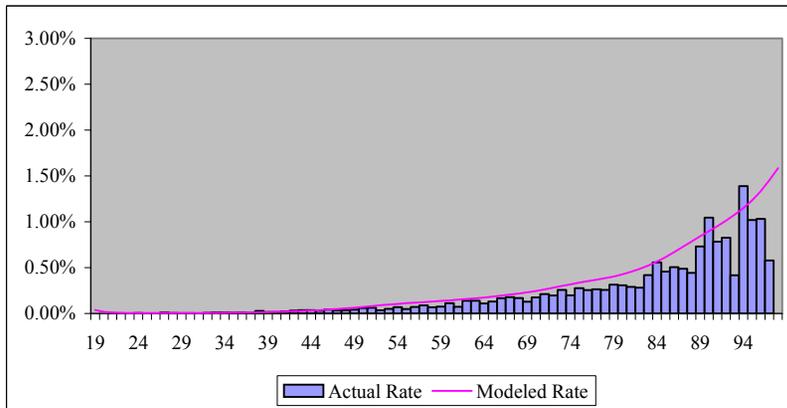
Male, Enrollee Type 1



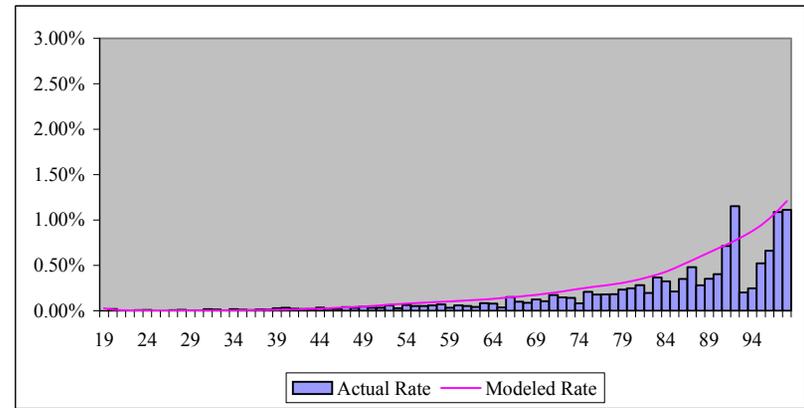
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

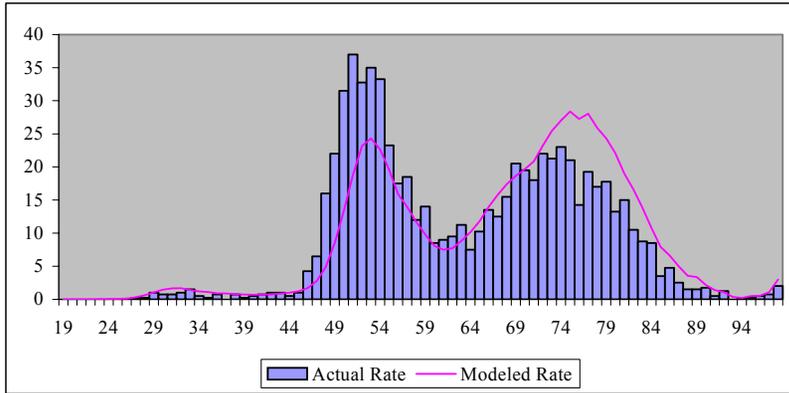


Section II - Page 89

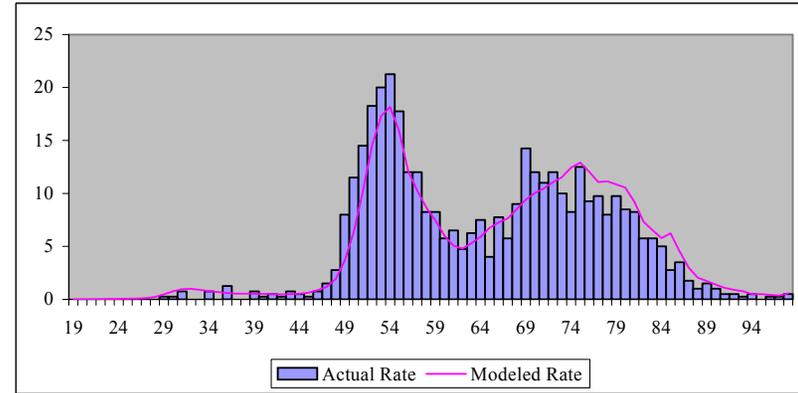
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 6

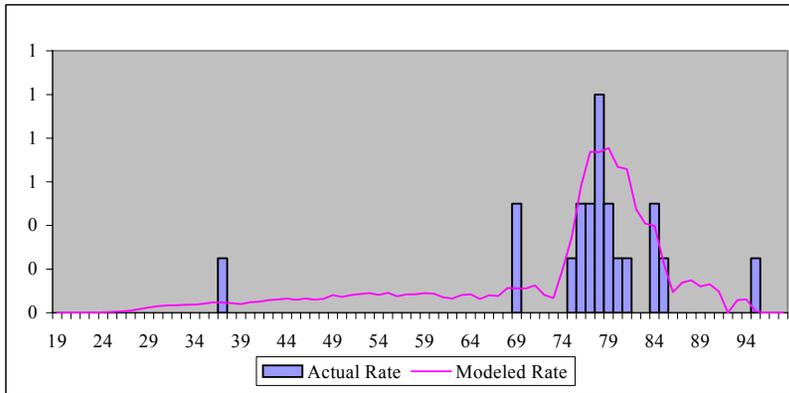
Male, Enrollee Type 1



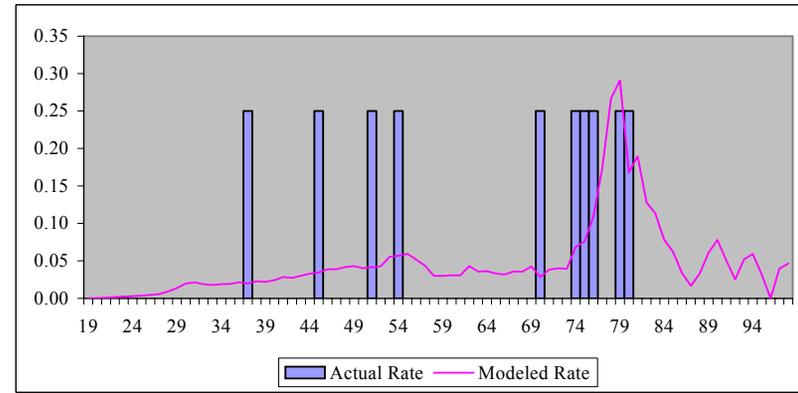
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



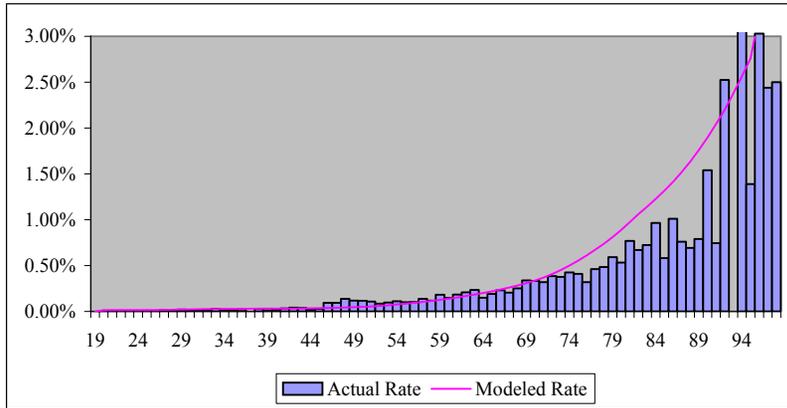
Mortality Table:	VetPopH
Adjustment Factor:	1.19915
Enrollee 2/3 Adj. Fact:	0.52080
"Fit" Factor	69.47%

Section II - Page 90

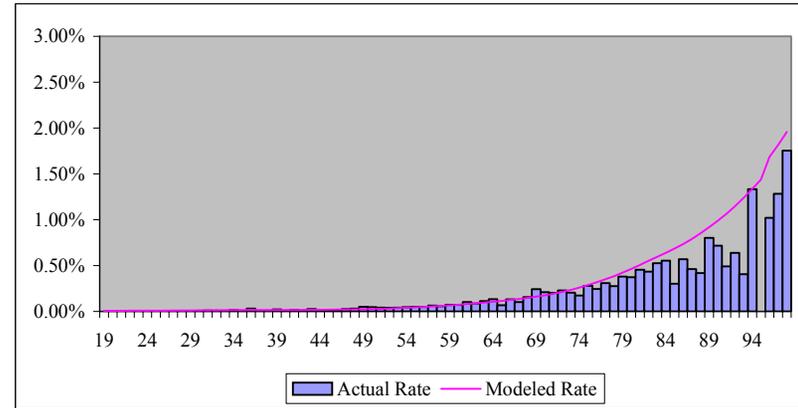
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 6

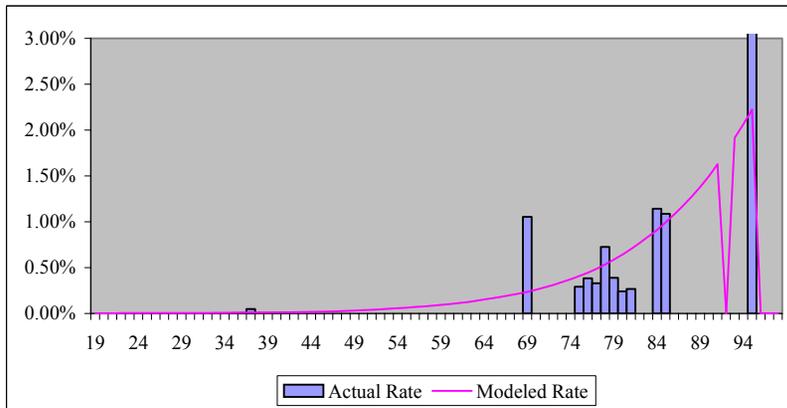
Male, Enrollee Type 1



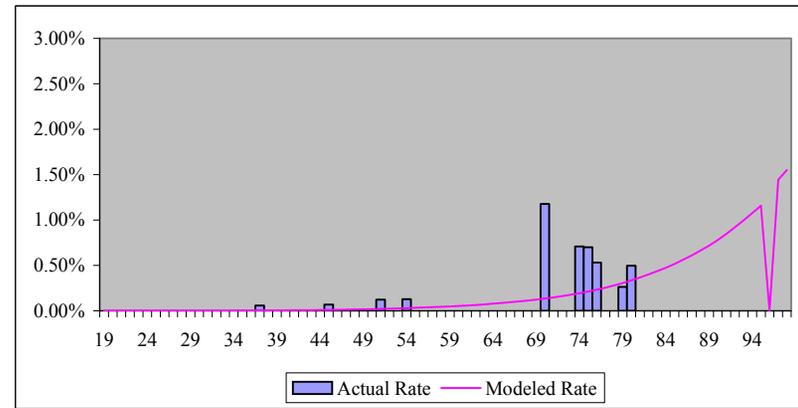
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

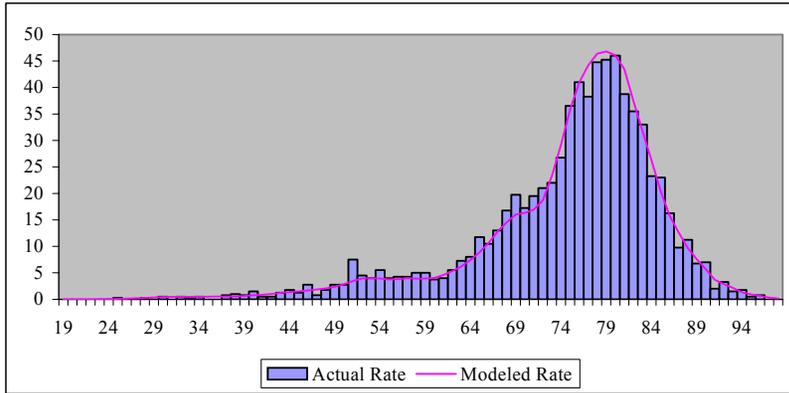


Section II - Page 91

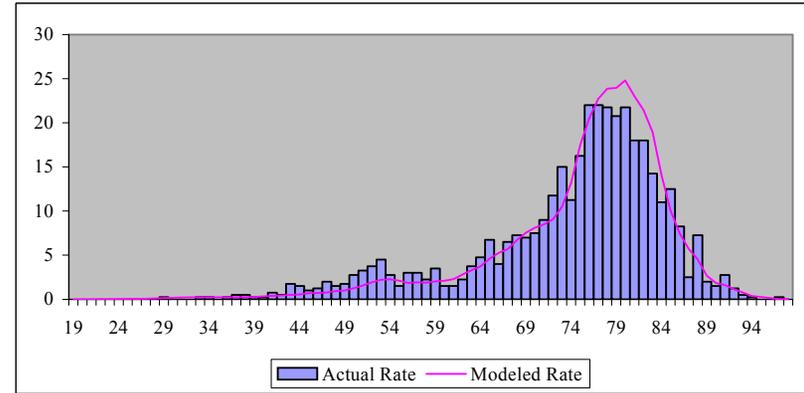
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 7a

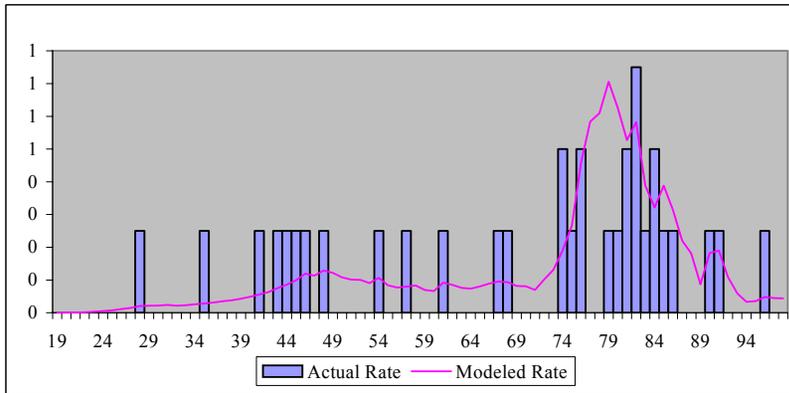
Male, Enrollee Type 1



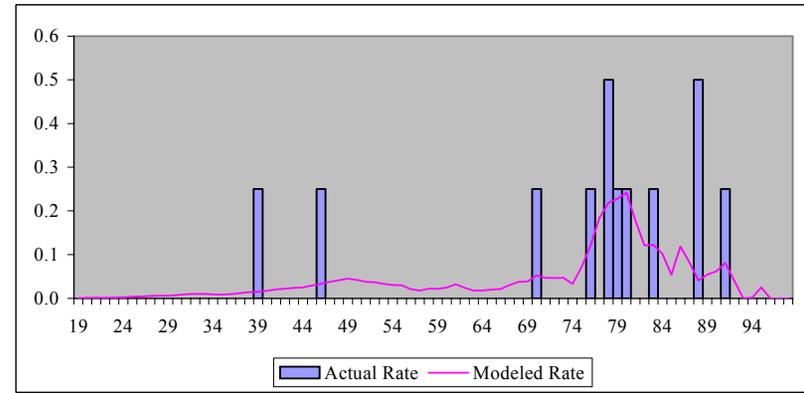
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



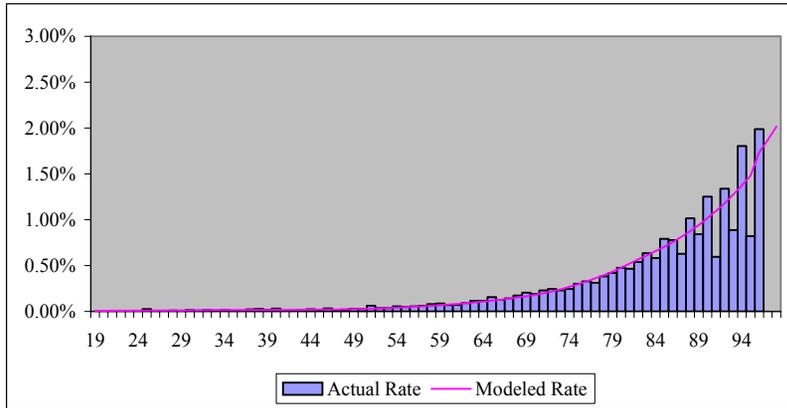
Mortality Table:	VetPopH
Adjustment Factor:	0.64289
Enrollee 2/3 Adj. Fact:	0.70154
"Fit" Factor	85.10%

Section II - Page 92

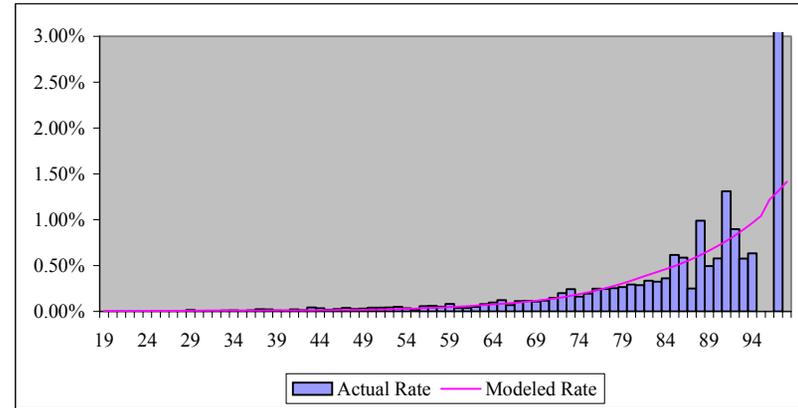
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 7a

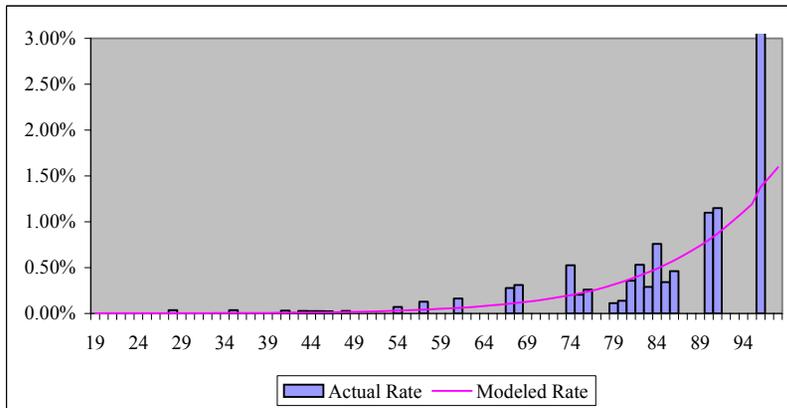
Male, Enrollee Type 1



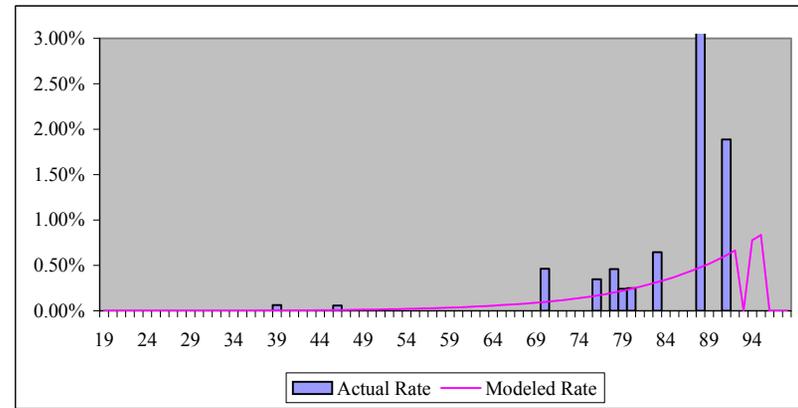
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3

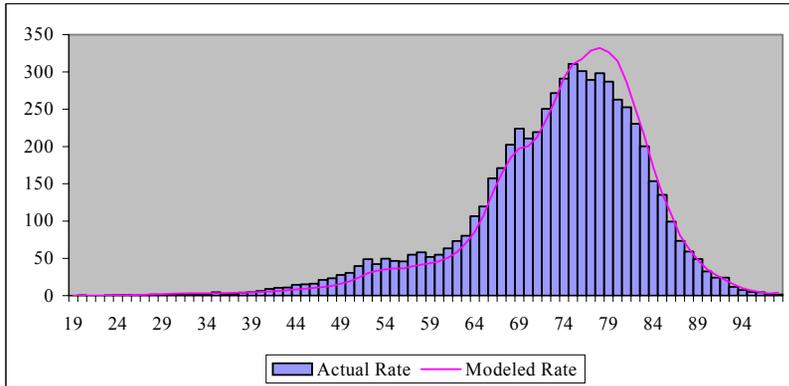


Section II - Page 93

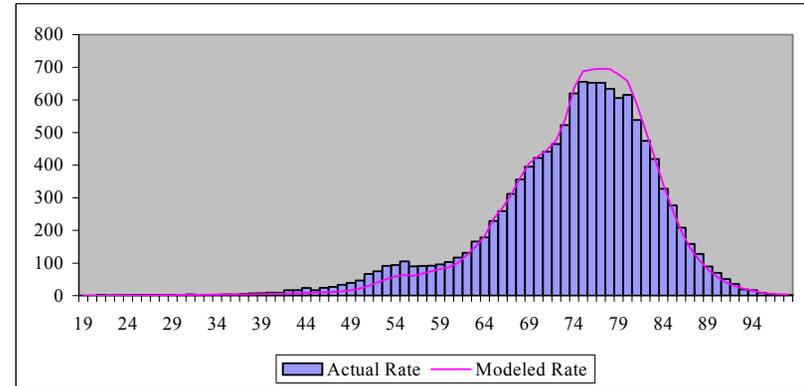
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Deaths
Priority Level 7c

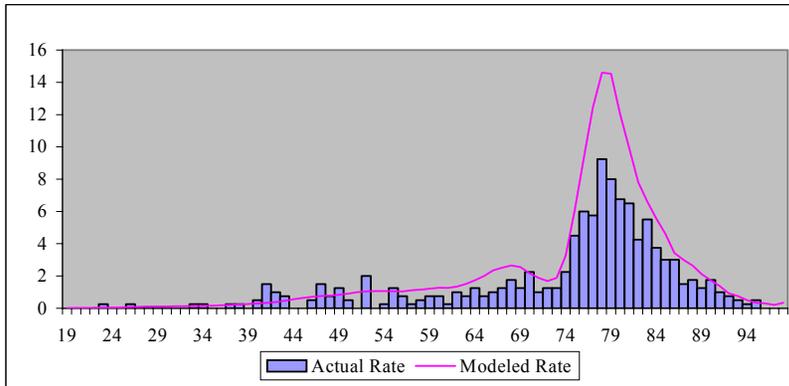
Male, Enrollee Type 1



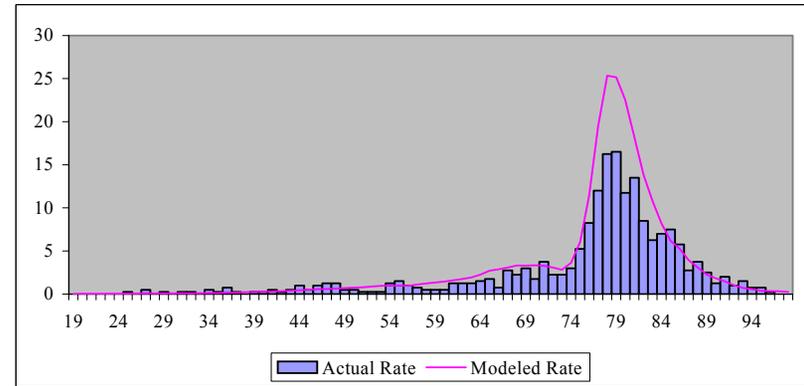
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



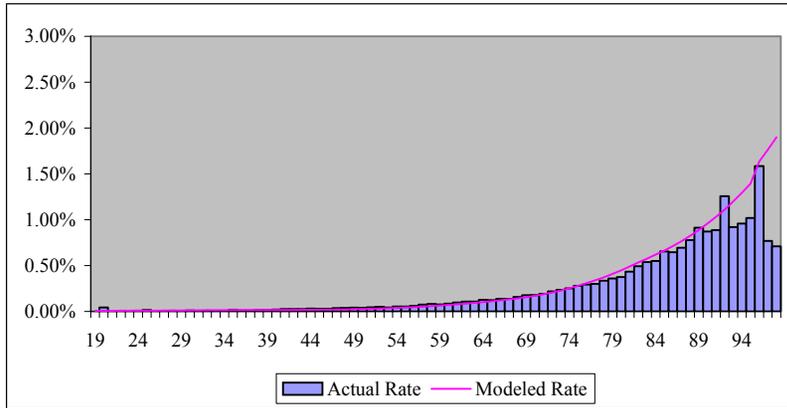
Mortality Table:	VetPopH
Adjustment Factor:	0.60536
Enrollee 2/3 Adj. Fact:	0.73278
"Fit" Factor	89.74%

Section II - Page 94

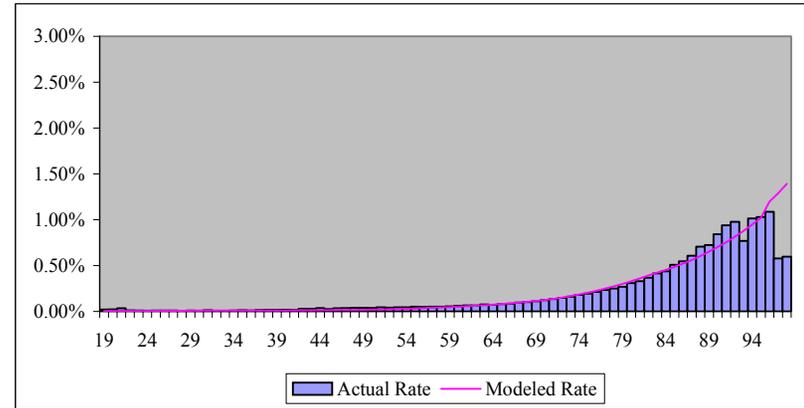
This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-5 (cont.)
Comparison of Actual and Modeled Mortality Rates
Priority Level 7c

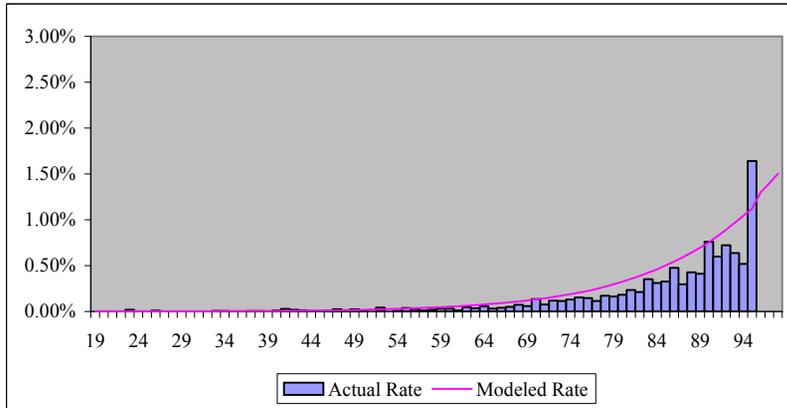
Male, Enrollee Type 1



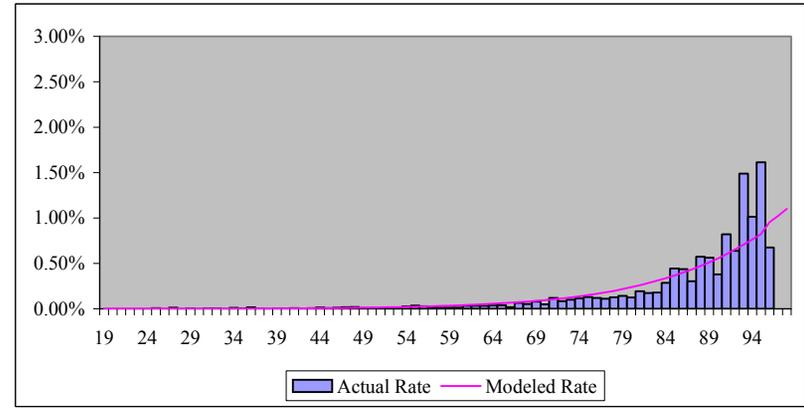
Male, Enrollee Type 2/3



Female, Enrollee Type 1



Female, Enrollee Type 2/3



Section II - Page 95

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-6
Monthly Mortality Tables

Age	Priority Level 1				Priority Level 2			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
18	0.001103	0.000441	0.000761	0.000304	0.000399	0.000159	0.000273	0.000109
19	0.001041	0.000317	0.000719	0.000219	0.000376	0.000115	0.000258	0.000079
20	0.000979	0.000225	0.000675	0.000155	0.000357	0.000082	0.000245	0.000056
21	0.000911	0.000160	0.000628	0.000110	0.000336	0.000059	0.000230	0.000040
22	0.000850	0.000126	0.000587	0.000087	0.000317	0.000047	0.000217	0.000032
23	0.000727	0.000126	0.000502	0.000087	0.000273	0.000047	0.000187	0.000032
24	0.000621	0.000136	0.000429	0.000094	0.000236	0.000052	0.000162	0.000035
25	0.000532	0.000149	0.000367	0.000103	0.000204	0.000057	0.000140	0.000039
26	0.000454	0.000162	0.000313	0.000112	0.000176	0.000063	0.000121	0.000043
27	0.000388	0.000179	0.000268	0.000123	0.000152	0.000070	0.000104	0.000048
28	0.000419	0.000191	0.000289	0.000132	0.000166	0.000076	0.000114	0.000052
29	0.000450	0.000205	0.000311	0.000141	0.000180	0.000082	0.000123	0.000056
30	0.000485	0.000219	0.000335	0.000151	0.000196	0.000088	0.000134	0.000061
31	0.000521	0.000234	0.000359	0.000161	0.000213	0.000096	0.000146	0.000065
32	0.000559	0.000251	0.000386	0.000173	0.000231	0.000104	0.000158	0.000071
33	0.000589	0.000273	0.000407	0.000188	0.000246	0.000114	0.000169	0.000078
34	0.000619	0.000298	0.000427	0.000206	0.000261	0.000126	0.000179	0.000086
35	0.000651	0.000324	0.000449	0.000224	0.000278	0.000139	0.000191	0.000095
36	0.000684	0.000354	0.000472	0.000244	0.000296	0.000153	0.000203	0.000105
37	0.000720	0.000386	0.000497	0.000267	0.000315	0.000169	0.000216	0.000116
38	0.000735	0.000407	0.000507	0.000281	0.000325	0.000180	0.000223	0.000123
39	0.000752	0.000427	0.000519	0.000295	0.000337	0.000191	0.000231	0.000131
40	0.000766	0.000449	0.000528	0.000309	0.000347	0.000203	0.000238	0.000139
41	0.000783	0.000471	0.000540	0.000325	0.000359	0.000216	0.000246	0.000148
42	0.000799	0.000494	0.000551	0.000341	0.000371	0.000230	0.000254	0.000157
43	0.000843	0.000502	0.000582	0.000346	0.000396	0.000236	0.000272	0.000162
44	0.000892	0.000509	0.000615	0.000351	0.000424	0.000242	0.000291	0.000166
45	0.000942	0.000514	0.000650	0.000355	0.000454	0.000248	0.000311	0.000170
46	0.000994	0.000522	0.000686	0.000360	0.000485	0.000255	0.000332	0.000175
47	0.001050	0.000528	0.000725	0.000365	0.000520	0.000261	0.000356	0.000179
48	0.001099	0.000577	0.000758	0.000398	0.000551	0.000289	0.000377	0.000198
49	0.001150	0.000629	0.000794	0.000434	0.000585	0.000320	0.000401	0.000219
50	0.001205	0.000687	0.000831	0.000474	0.000621	0.000354	0.000425	0.000243
51	0.001261	0.000750	0.000870	0.000518	0.000658	0.000392	0.000451	0.000268
52	0.001320	0.000820	0.000911	0.000566	0.000699	0.000434	0.000479	0.000297
53	0.001406	0.000891	0.000970	0.000615	0.000755	0.000479	0.000518	0.000328
54	0.001500	0.000971	0.001035	0.000670	0.000817	0.000529	0.000560	0.000363
55	0.001597	0.001057	0.001102	0.000729	0.000883	0.000585	0.000605	0.000401
56	0.001703	0.001152	0.001175	0.000795	0.000956	0.000646	0.000655	0.000443
57	0.001813	0.001253	0.001251	0.000864	0.001033	0.000714	0.000708	0.000489
58	0.001927	0.001341	0.001330	0.000925	0.001115	0.000775	0.000764	0.000531
59	0.002050	0.001433	0.001415	0.000989	0.001205	0.000842	0.000825	0.000577
60	0.002179	0.001531	0.001504	0.001056	0.001301	0.000914	0.000891	0.000626

Exhibit II-8-6 (cont.)

Age	Priority Level 1				Priority Level 2			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.002315	0.001637	0.001598	0.001129	0.001404	0.000993	0.000962	0.000680
62	0.002460	0.001749	0.001698	0.001207	0.001517	0.001078	0.001039	0.000739
63	0.002626	0.001811	0.001812	0.001250	0.001645	0.001135	0.001127	0.000778
64	0.002801	0.001893	0.001933	0.001306	0.001785	0.001206	0.001223	0.000827
65	0.002989	0.002045	0.002063	0.001411	0.001938	0.001326	0.001328	0.000908
66	0.003187	0.002202	0.002199	0.001519	0.002103	0.001452	0.001441	0.000995
67	0.003399	0.002360	0.002345	0.001628	0.002282	0.001584	0.001564	0.001086
68	0.003593	0.002533	0.002479	0.001748	0.002456	0.001732	0.001683	0.001187
69	0.003796	0.002712	0.002619	0.001872	0.002643	0.001889	0.001811	0.001294
70	0.004010	0.002911	0.002767	0.002009	0.002845	0.002066	0.001950	0.001415
71	0.004235	0.003134	0.002923	0.002163	0.003063	0.002266	0.002099	0.001553
72	0.004472	0.003368	0.003086	0.002324	0.003297	0.002483	0.002259	0.001701
73	0.004772	0.003625	0.003293	0.002502	0.003588	0.002726	0.002459	0.001868
74	0.005186	0.003886	0.003579	0.002682	0.003980	0.002982	0.002727	0.002043
75	0.005627	0.004171	0.003883	0.002878	0.004408	0.003267	0.003020	0.002239
76	0.006088	0.004464	0.004201	0.003081	0.004871	0.003572	0.003337	0.002447
77	0.006566	0.004777	0.004531	0.003297	0.005367	0.003905	0.003678	0.002676
78	0.007061	0.005130	0.004872	0.003540	0.005900	0.004287	0.004043	0.002937
79	0.007580	0.005510	0.005231	0.003802	0.006478	0.004709	0.004439	0.003227
80	0.008128	0.005903	0.005609	0.004073	0.007108	0.005162	0.004870	0.003537
81	0.008692	0.006313	0.005998	0.004356	0.007782	0.005652	0.005332	0.003872
82	0.009233	0.006727	0.006371	0.004642	0.008468	0.006170	0.005802	0.004227
83	0.009717	0.007156	0.006705	0.004938	0.009134	0.006727	0.006259	0.004609
84	0.010167	0.007587	0.007016	0.005235	0.009803	0.007315	0.006717	0.005012
85	0.010901	0.008257	0.007522	0.005698	0.010510	0.007961	0.007201	0.005455
86	0.011701	0.008979	0.008074	0.006196	0.011282	0.008658	0.007730	0.005932
87	0.012579	0.009749	0.008680	0.006727	0.012128	0.009399	0.008310	0.006440
88	0.013535	0.010553	0.009340	0.007283	0.013050	0.010175	0.008942	0.006972
89	0.014639	0.011419	0.010102	0.007880	0.014114	0.011010	0.009671	0.007544
90	0.015926	0.012380	0.010990	0.008543	0.015355	0.011937	0.010521	0.008179
91	0.017338	0.013451	0.011964	0.009282	0.016716	0.012969	0.011454	0.008886
92	0.018889	0.014649	0.013035	0.010108	0.018212	0.014123	0.012479	0.009677
93	0.020291	0.016120	0.014002	0.011123	0.019564	0.015542	0.013405	0.010649
94	0.021810	0.017753	0.015050	0.012251	0.021028	0.017117	0.014408	0.011728
95	0.023458	0.019571	0.016187	0.013505	0.022617	0.018870	0.015497	0.012930
96	0.026734	0.021628	0.018448	0.014924	0.025776	0.020852	0.017662	0.014288
97	0.028820	0.023875	0.019887	0.016475	0.027786	0.023019	0.019039	0.015773
98	0.031070	0.025283	0.021440	0.017447	0.029956	0.024377	0.020526	0.016703
99	0.032811	0.026792	0.022642	0.018488	0.031635	0.025832	0.021676	0.017700
100	0.034658	0.028359	0.023916	0.019569	0.033415	0.027342	0.022896	0.018735

Exhibit II-8-6 (cont.)

Monthly Mortality Tables

Age	Priority Level 3				Priority Level 4			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
18	0.000385	0.000154	0.000258	0.000103	0.000548	0.000272	0.000442	0.000220
19	0.000363	0.000111	0.000244	0.000074	0.000548	0.000285	0.000442	0.000230
20	0.000344	0.000079	0.000231	0.000053	0.000548	0.000298	0.000442	0.000241
21	0.000324	0.000057	0.000217	0.000038	0.000548	0.000312	0.000442	0.000252
22	0.000305	0.000045	0.000205	0.000030	0.000548	0.000327	0.000442	0.000264
23	0.000264	0.000046	0.000177	0.000031	0.000601	0.000355	0.000485	0.000286
24	0.000227	0.000050	0.000153	0.000033	0.000660	0.000385	0.000532	0.000311
25	0.000197	0.000055	0.000132	0.000037	0.000725	0.000418	0.000584	0.000337
26	0.000170	0.000061	0.000114	0.000041	0.000795	0.000454	0.000642	0.000366
27	0.000147	0.000068	0.000098	0.000045	0.000874	0.000492	0.000705	0.000397
28	0.000160	0.000073	0.000107	0.000049	0.000909	0.000492	0.000733	0.000397
29	0.000174	0.000079	0.000117	0.000053	0.000946	0.000492	0.000763	0.000397
30	0.000189	0.000085	0.000127	0.000057	0.000984	0.000492	0.000794	0.000397
31	0.000205	0.000092	0.000138	0.000062	0.001024	0.000492	0.000826	0.000397
32	0.000223	0.000100	0.000150	0.000067	0.001066	0.000492	0.000860	0.000397
33	0.000237	0.000110	0.000159	0.000074	0.001048	0.000492	0.000846	0.000397
34	0.000252	0.000121	0.000169	0.000081	0.001031	0.000492	0.000832	0.000397
35	0.000268	0.000134	0.000180	0.000090	0.001014	0.000492	0.000818	0.000397
36	0.000285	0.000147	0.000191	0.000099	0.001163	0.000575	0.000938	0.000463
37	0.000304	0.000163	0.000204	0.000109	0.001307	0.000657	0.001055	0.000530
38	0.000314	0.000174	0.000211	0.000117	0.001427	0.000739	0.001151	0.000596
39	0.000324	0.000184	0.000218	0.000124	0.001538	0.000821	0.001240	0.000662
40	0.000334	0.000196	0.000225	0.000131	0.001641	0.000903	0.001323	0.000728
41	0.000346	0.000208	0.000232	0.000140	0.001736	0.000985	0.001401	0.000794
42	0.000358	0.000221	0.000240	0.000149	0.001825	0.001067	0.001472	0.000861
43	0.000382	0.000227	0.000257	0.000153	0.001996	0.001150	0.001610	0.000928
44	0.000409	0.000234	0.000275	0.000157	0.002172	0.001233	0.001752	0.000994
45	0.000438	0.000239	0.000294	0.000160	0.002353	0.001316	0.001898	0.001062
46	0.000468	0.000246	0.000314	0.000165	0.002539	0.001400	0.002048	0.001129
47	0.000501	0.000252	0.000336	0.000169	0.002731	0.001483	0.002203	0.001197
48	0.000531	0.000279	0.000357	0.000187	0.002964	0.001642	0.002391	0.001325
49	0.000564	0.000308	0.000378	0.000207	0.003208	0.001814	0.002588	0.001463
50	0.000598	0.000341	0.000402	0.000229	0.003465	0.001998	0.002795	0.001612
51	0.000635	0.000378	0.000426	0.000253	0.003733	0.002197	0.003011	0.001772
52	0.000674	0.000418	0.000453	0.000281	0.004014	0.002410	0.003238	0.001944
53	0.000728	0.000462	0.000489	0.000310	0.004357	0.002363	0.003514	0.001906
54	0.000788	0.000510	0.000529	0.000343	0.004721	0.002312	0.003808	0.001865
55	0.000851	0.000564	0.000572	0.000378	0.005108	0.002260	0.004120	0.001823
56	0.000921	0.000623	0.000618	0.000418	0.005519	0.002204	0.004452	0.001778
57	0.000996	0.000688	0.000668	0.000462	0.005953	0.002149	0.004802	0.001733
58	0.001075	0.000748	0.000722	0.000502	0.006319	0.002559	0.005097	0.002064
59	0.001161	0.000812	0.000780	0.000545	0.006698	0.003044	0.005403	0.002456
60	0.001254	0.000881	0.000842	0.000591	0.007093	0.003620	0.005722	0.002920

Exhibit II-8-6 (cont.)

	Priority Level 3				Priority Level 4			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.001354	0.000957	0.000909	0.000642	0.007503	0.004301	0.006052	0.003469
62	0.001462	0.001039	0.000982	0.000698	0.007929	0.005106	0.006396	0.004119
63	0.001586	0.001094	0.001065	0.000735	0.008467	0.005491	0.006830	0.004429
64	0.001721	0.001163	0.001155	0.000781	0.009034	0.005899	0.007287	0.004758
65	0.001868	0.001278	0.001254	0.000858	0.009633	0.006334	0.007770	0.005109
66	0.002027	0.001400	0.001361	0.000940	0.009885	0.006548	0.007973	0.005282
67	0.002200	0.001527	0.001477	0.001025	0.010153	0.006770	0.008189	0.005461
68	0.002368	0.001670	0.001590	0.001121	0.010491	0.006998	0.008462	0.005645
69	0.002548	0.001821	0.001711	0.001222	0.010839	0.007233	0.008743	0.005835
70	0.002743	0.001991	0.001841	0.001337	0.011199	0.007477	0.009034	0.006031
71	0.002953	0.002185	0.001982	0.001467	0.011572	0.007728	0.009334	0.006233
72	0.003179	0.002394	0.002134	0.001607	0.011955	0.007987	0.009643	0.006442
73	0.003459	0.002628	0.002322	0.001764	0.012445	0.008405	0.010039	0.006780
74	0.003837	0.002875	0.002576	0.001930	0.012957	0.008846	0.010451	0.007136
75	0.004249	0.003150	0.002853	0.002115	0.013488	0.009310	0.010880	0.007509
76	0.004695	0.003443	0.003152	0.002311	0.014042	0.009797	0.011327	0.007903
77	0.005174	0.003765	0.003474	0.002527	0.014620	0.010313	0.011793	0.008319
78	0.005688	0.004133	0.003818	0.002774	0.015339	0.011035	0.012373	0.008901
79	0.006245	0.004540	0.004192	0.003048	0.016096	0.011809	0.012983	0.009526
80	0.006852	0.004976	0.004600	0.003340	0.016891	0.012642	0.013625	0.010197
81	0.007502	0.005448	0.005036	0.003657	0.017729	0.013536	0.014301	0.010918
82	0.008163	0.005948	0.005480	0.003993	0.018610	0.014495	0.015012	0.011692
83	0.008806	0.006485	0.005911	0.004353	0.019304	0.015317	0.015571	0.012355
84	0.009450	0.007051	0.006344	0.004734	0.020023	0.016188	0.016151	0.013058
85	0.010132	0.007675	0.006802	0.005152	0.020772	0.017112	0.016755	0.013803
86	0.010876	0.008346	0.007301	0.005603	0.021551	0.018092	0.017383	0.014594
87	0.011691	0.009061	0.007849	0.006083	0.022359	0.019134	0.018036	0.015434
88	0.012580	0.009809	0.008445	0.006585	0.023540	0.019871	0.018988	0.016028
89	0.013606	0.010614	0.009134	0.007125	0.024789	0.020636	0.019996	0.016646
90	0.014803	0.011507	0.009937	0.007725	0.026116	0.021434	0.021066	0.017289
91	0.016115	0.012503	0.010818	0.008393	0.027523	0.022265	0.022201	0.017959
92	0.017557	0.013615	0.011786	0.009140	0.029019	0.023132	0.023407	0.018659
93	0.018860	0.014982	0.012661	0.010058	0.030121	0.024814	0.024297	0.020016
94	0.020272	0.016501	0.013609	0.011077	0.031272	0.026639	0.025225	0.021488
95	0.021803	0.018191	0.014637	0.012212	0.032478	0.028622	0.026197	0.023087
96	0.024849	0.020102	0.016681	0.013495	0.033737	0.030782	0.027213	0.024830
97	0.026787	0.022191	0.017982	0.014897	0.035057	0.033140	0.028278	0.026732
98	0.028879	0.023500	0.019387	0.015776	0.037965	0.034482	0.030624	0.027814
99	0.030497	0.024902	0.020473	0.016718	0.041185	0.035892	0.033221	0.028951
100	0.032213	0.026358	0.021625	0.017695	0.044771	0.037308	0.036114	0.030094

Section II - Page 99

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-6 (cont.)

Monthly Mortality Tables

Age	Priority Level 5				Priority Level 6			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
18	0.000925	0.000757	0.000706	0.000578	0.000112	0.000068	0.000058	0.000036
19	0.000463	0.000379	0.000354	0.000289	0.000123	0.000058	0.000064	0.000030
20	0.000270	0.000165	0.000206	0.000126	0.000128	0.000060	0.000067	0.000031
21	0.000155	0.000086	0.000119	0.000066	0.000136	0.000060	0.000071	0.000031
22	0.000121	0.000061	0.000092	0.000046	0.000143	0.000054	0.000074	0.000028
23	0.000111	0.000051	0.000085	0.000039	0.000150	0.000049	0.000078	0.000025
24	0.000101	0.000043	0.000077	0.000033	0.000153	0.000046	0.000080	0.000024
25	0.000088	0.000036	0.000067	0.000027	0.000159	0.000047	0.000083	0.000025
26	0.000090	0.000036	0.000069	0.000028	0.000161	0.000055	0.000084	0.000029
27	0.000102	0.000041	0.000078	0.000031	0.000174	0.000053	0.000091	0.000028
28	0.000114	0.000045	0.000087	0.000034	0.000187	0.000056	0.000098	0.000029
29	0.000127	0.000048	0.000097	0.000037	0.000204	0.000055	0.000106	0.000029
30	0.000141	0.000049	0.000108	0.000037	0.000221	0.000054	0.000115	0.000028
31	0.000156	0.000048	0.000119	0.000037	0.000234	0.000058	0.000122	0.000030
32	0.000183	0.000051	0.000140	0.000039	0.000250	0.000057	0.000130	0.000030
33	0.000210	0.000056	0.000160	0.000043	0.000260	0.000061	0.000136	0.000032
34	0.000240	0.000064	0.000183	0.000049	0.000267	0.000067	0.000139	0.000035
35	0.000270	0.000072	0.000206	0.000055	0.000276	0.000073	0.000144	0.000038
36	0.000304	0.000084	0.000232	0.000064	0.000277	0.000086	0.000144	0.000045
37	0.000341	0.000098	0.000261	0.000075	0.000289	0.000090	0.000150	0.000047
38	0.000382	0.000121	0.000292	0.000093	0.000293	0.000098	0.000153	0.000051
39	0.000427	0.000140	0.000326	0.000107	0.000295	0.000103	0.000153	0.000054
40	0.000472	0.000163	0.000361	0.000124	0.000296	0.000112	0.000154	0.000058
41	0.000530	0.000195	0.000405	0.000149	0.000299	0.000122	0.000156	0.000063
42	0.000589	0.000230	0.000450	0.000175	0.000306	0.000135	0.000159	0.000070
43	0.000652	0.000272	0.000498	0.000207	0.000323	0.000151	0.000168	0.000079
44	0.000716	0.000316	0.000547	0.000242	0.000335	0.000167	0.000174	0.000087
45	0.000781	0.000368	0.000596	0.000281	0.000351	0.000184	0.000183	0.000096
46	0.000846	0.000423	0.000646	0.000323	0.000371	0.000207	0.000193	0.000108
47	0.000911	0.000481	0.000695	0.000367	0.000394	0.000233	0.000205	0.000121
48	0.000976	0.000548	0.000745	0.000419	0.000421	0.000266	0.000219	0.000139
49	0.001041	0.000622	0.000795	0.000475	0.000452	0.000304	0.000235	0.000158
50	0.001106	0.000705	0.000844	0.000538	0.000488	0.000345	0.000254	0.000180
51	0.001172	0.000794	0.000895	0.000606	0.000535	0.000393	0.000278	0.000205
52	0.001240	0.000888	0.000947	0.000678	0.000596	0.000444	0.000310	0.000231
53	0.001310	0.000973	0.001000	0.000742	0.000669	0.000500	0.000348	0.000260
54	0.001392	0.001042	0.001062	0.000796	0.000750	0.000559	0.000390	0.000291
55	0.001476	0.001108	0.001127	0.000846	0.000838	0.000623	0.000436	0.000324
56	0.001560	0.001168	0.001191	0.000891	0.000932	0.000693	0.000486	0.000361
57	0.001644	0.001228	0.001255	0.000937	0.001035	0.000769	0.000539	0.000400
58	0.001733	0.001293	0.001323	0.000987	0.001145	0.000847	0.000596	0.000441
59	0.001825	0.001359	0.001393	0.001038	0.001263	0.000932	0.000658	0.000485
60	0.001924	0.001428	0.001468	0.001090	0.001392	0.001023	0.000725	0.000533

Exhibit II-8-6 (cont.)

	Priority Level 5				Priority Level 6			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.002024	0.001497	0.001545	0.001143	0.001530	0.001123	0.000797	0.000585
62	0.002131	0.001571	0.001627	0.001199	0.001679	0.001236	0.000874	0.000643
63	0.002240	0.001650	0.001710	0.001260	0.001838	0.001365	0.000957	0.000711
64	0.002350	0.001736	0.001794	0.001325	0.002008	0.001510	0.001046	0.000786
65	0.002462	0.001835	0.001879	0.001401	0.002188	0.001659	0.001139	0.000864
66	0.002579	0.001946	0.001969	0.001486	0.002381	0.001818	0.001240	0.000947
67	0.002701	0.002057	0.002062	0.001570	0.002590	0.001985	0.001349	0.001034
68	0.002827	0.002169	0.002158	0.001656	0.002821	0.002168	0.001469	0.001129
69	0.002987	0.002300	0.002280	0.001756	0.003078	0.002363	0.001603	0.001230
70	0.003172	0.002452	0.002421	0.001871	0.003363	0.002584	0.001752	0.001346
71	0.003380	0.002612	0.002580	0.001994	0.003689	0.002835	0.001921	0.001477
72	0.003621	0.002801	0.002764	0.002138	0.004067	0.003108	0.002118	0.001618
73	0.003870	0.002995	0.002954	0.002287	0.004502	0.003407	0.002344	0.001774
74	0.004127	0.003175	0.003150	0.002424	0.004993	0.003721	0.002600	0.001938
75	0.004388	0.003352	0.003349	0.002559	0.005525	0.004071	0.002877	0.002120
76	0.004652	0.003509	0.003551	0.002679	0.006103	0.004449	0.003179	0.002317
77	0.004918	0.003674	0.003754	0.002805	0.006722	0.004861	0.003501	0.002532
78	0.005192	0.003841	0.003964	0.002932	0.007374	0.005341	0.003840	0.002782
79	0.005479	0.004026	0.004182	0.003073	0.008099	0.005864	0.004218	0.003054
80	0.005807	0.004260	0.004433	0.003252	0.008887	0.006425	0.004628	0.003346
81	0.006187	0.004547	0.004723	0.003471	0.009735	0.007040	0.005070	0.003666
82	0.006610	0.004858	0.005046	0.003709	0.010599	0.007679	0.005520	0.003999
83	0.007097	0.005222	0.005417	0.003986	0.011427	0.008377	0.005951	0.004363
84	0.007631	0.005643	0.005825	0.004307	0.012260	0.009088	0.006385	0.004733
85	0.008216	0.006140	0.006272	0.004687	0.013146	0.009926	0.006846	0.005169
86	0.008830	0.006693	0.006740	0.005109	0.014113	0.010802	0.007350	0.005626
87	0.009446	0.007264	0.007211	0.005545	0.015173	0.011738	0.007902	0.006113
88	0.010066	0.007845	0.007684	0.005988	0.016333	0.012724	0.008506	0.006627
89	0.010689	0.008417	0.008160	0.006425	0.017598	0.013784	0.009165	0.007179
90	0.011318	0.008973	0.008640	0.006850	0.018962	0.014959	0.009875	0.007791
91	0.011957	0.009533	0.009127	0.007277	0.020424	0.016268	0.010637	0.008472
92	0.012611	0.010129	0.009626	0.007732	0.022010	0.017676	0.011463	0.009206
93	0.013293	0.010782	0.010147	0.008230	0.023749	0.019140	0.012369	0.009968
94	0.014043	0.011488	0.010719	0.008769	0.025636	0.020648	0.013351	0.010754
95	0.014989	0.012317	0.011441	0.009402	0.027604	0.022228	0.014376	0.011577
96	0.016208	0.013330	0.012372	0.010175	0.032363	0.025764	0.016855	0.013418
97	0.017630	0.014519	0.013457	0.011083	0.034887	0.027691	0.018169	0.014421
98	0.019356	0.015837	0.014775	0.012089	0.037612	0.029769	0.019588	0.015504
99	0.021388	0.017499	0.016326	0.013358	0.039720	0.031392	0.020686	0.016349
100	0.023825	0.019494	0.018187	0.014880	0.041955	0.033055	0.021850	0.017215

Section II - Page 101

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-6 (cont.)

Monthly Mortality Tables

Age	Priority Level 7a				Priority Level 7c			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
18	0.000060	0.000037	0.000042	0.000026	0.000057	0.000034	0.000041	0.000025
19	0.000066	0.000031	0.000046	0.000022	0.000062	0.000029	0.000045	0.000021
20	0.000069	0.000032	0.000048	0.000023	0.000065	0.000030	0.000047	0.000022
21	0.000073	0.000032	0.000051	0.000022	0.000069	0.000030	0.000050	0.000022
22	0.000076	0.000029	0.000054	0.000020	0.000072	0.000027	0.000053	0.000020
23	0.000080	0.000026	0.000056	0.000018	0.000076	0.000025	0.000055	0.000018
24	0.000082	0.000024	0.000058	0.000017	0.000077	0.000023	0.000057	0.000017
25	0.000085	0.000025	0.000060	0.000018	0.000080	0.000024	0.000059	0.000017
26	0.000086	0.000030	0.000061	0.000021	0.000081	0.000028	0.000060	0.000020
27	0.000093	0.000028	0.000065	0.000020	0.000088	0.000027	0.000064	0.000020
28	0.000100	0.000030	0.000070	0.000021	0.000095	0.000028	0.000069	0.000021
29	0.000109	0.000030	0.000077	0.000021	0.000103	0.000028	0.000076	0.000020
30	0.000119	0.000029	0.000083	0.000020	0.000112	0.000027	0.000082	0.000020
31	0.000125	0.000031	0.000088	0.000022	0.000118	0.000029	0.000086	0.000021
32	0.000134	0.000031	0.000094	0.000022	0.000126	0.000029	0.000093	0.000021
33	0.000140	0.000033	0.000098	0.000023	0.000131	0.000031	0.000096	0.000023
34	0.000143	0.000036	0.000101	0.000025	0.000135	0.000034	0.000099	0.000025
35	0.000148	0.000039	0.000104	0.000028	0.000139	0.000037	0.000102	0.000027
36	0.000149	0.000046	0.000104	0.000032	0.000140	0.000043	0.000103	0.000032
37	0.000155	0.000048	0.000109	0.000034	0.000146	0.000046	0.000107	0.000033
38	0.000157	0.000053	0.000110	0.000037	0.000148	0.000050	0.000108	0.000036
39	0.000158	0.000055	0.000111	0.000039	0.000149	0.000052	0.000109	0.000038
40	0.000159	0.000060	0.000111	0.000042	0.000149	0.000056	0.000110	0.000041
41	0.000161	0.000065	0.000113	0.000046	0.000151	0.000061	0.000111	0.000045
42	0.000164	0.000073	0.000115	0.000051	0.000154	0.000068	0.000113	0.000050
43	0.000173	0.000081	0.000121	0.000057	0.000163	0.000076	0.000119	0.000056
44	0.000180	0.000089	0.000126	0.000063	0.000169	0.000084	0.000124	0.000062
45	0.000188	0.000099	0.000132	0.000069	0.000177	0.000093	0.000130	0.000068
46	0.000199	0.000111	0.000140	0.000078	0.000187	0.000104	0.000137	0.000076
47	0.000211	0.000125	0.000148	0.000088	0.000199	0.000118	0.000146	0.000086
48	0.000226	0.000143	0.000158	0.000100	0.000213	0.000134	0.000156	0.000099
49	0.000242	0.000163	0.000170	0.000114	0.000228	0.000153	0.000167	0.000112
50	0.000261	0.000185	0.000183	0.000130	0.000246	0.000174	0.000180	0.000128
51	0.000287	0.000211	0.000201	0.000148	0.000270	0.000198	0.000198	0.000145
52	0.000320	0.000238	0.000224	0.000167	0.000301	0.000224	0.000221	0.000164
53	0.000358	0.000268	0.000251	0.000188	0.000338	0.000252	0.000247	0.000185
54	0.000402	0.000300	0.000282	0.000210	0.000378	0.000282	0.000277	0.000207
55	0.000449	0.000334	0.000315	0.000234	0.000423	0.000315	0.000310	0.000230
56	0.000500	0.000372	0.000351	0.000261	0.000471	0.000350	0.000345	0.000256
57	0.000555	0.000412	0.000389	0.000289	0.000523	0.000388	0.000383	0.000284
58	0.000614	0.000454	0.000431	0.000319	0.000578	0.000428	0.000424	0.000314
59	0.000677	0.000500	0.000475	0.000350	0.000638	0.000470	0.000467	0.000345
60	0.000746	0.000548	0.000523	0.000385	0.000703	0.000516	0.000515	0.000378

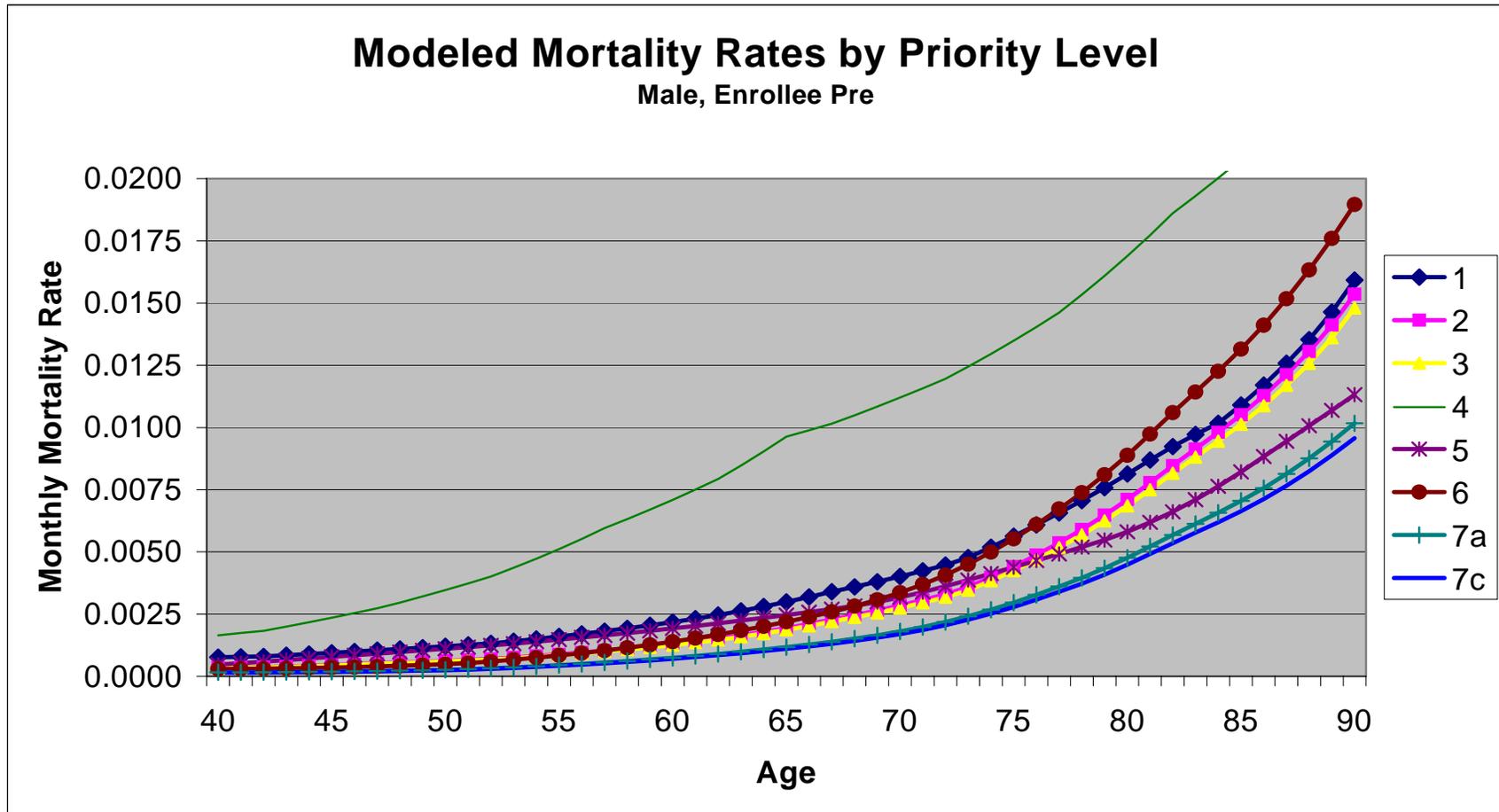
Section II - Page 102

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-6 (cont.)

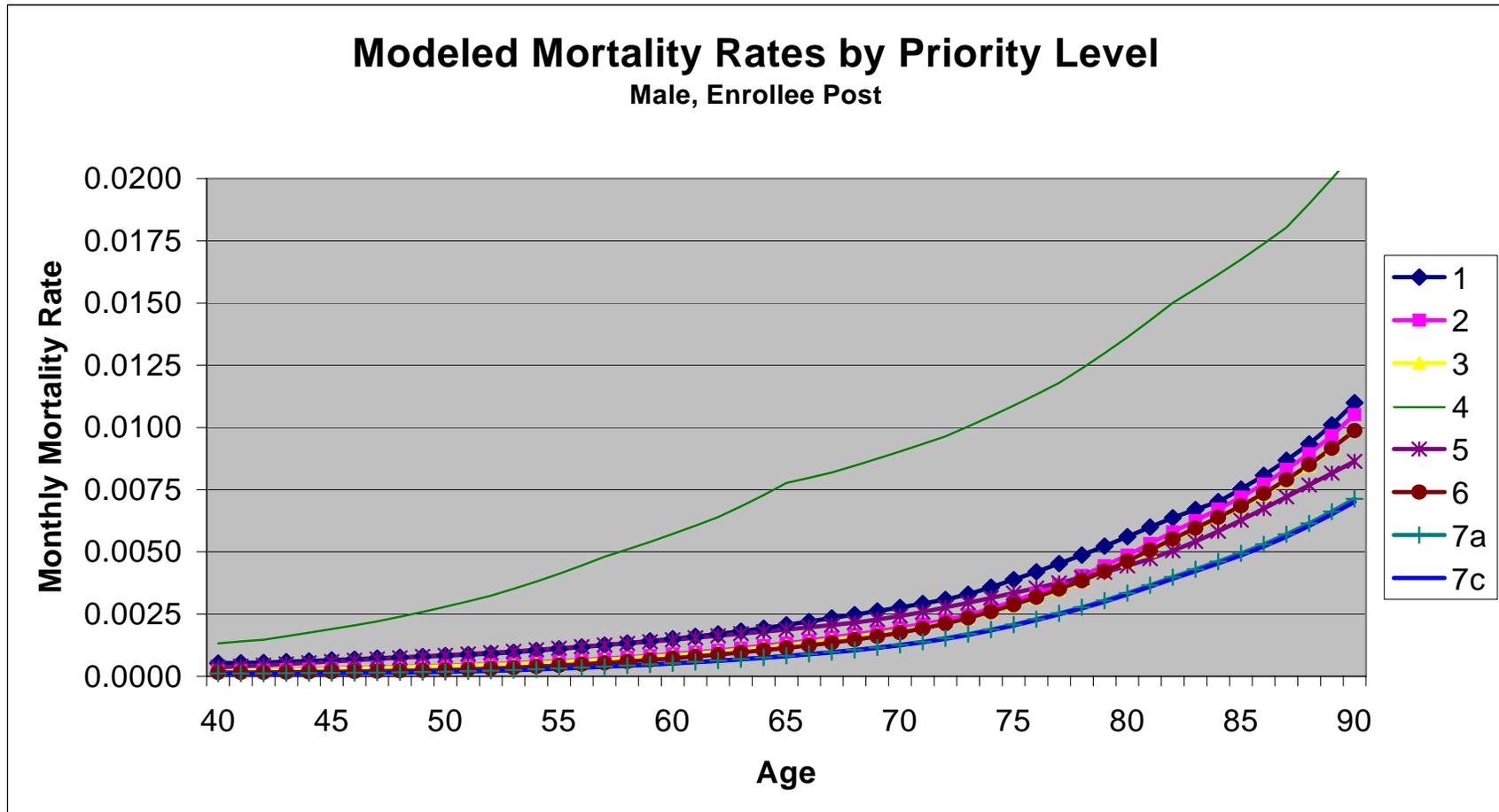
	Priority Level 7a				Priority Level 7c			
	Enroll Type 1		Enroll Type 2,3		Enroll Type 1		Enroll Type 2,3	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.000820	0.000602	0.000576	0.000422	0.000773	0.000567	0.000566	0.000415
62	0.000900	0.000662	0.000632	0.000465	0.000848	0.000624	0.000621	0.000457
63	0.000985	0.000732	0.000691	0.000513	0.000928	0.000689	0.000680	0.000505
64	0.001076	0.000809	0.000755	0.000568	0.001014	0.000762	0.000743	0.000559
65	0.001173	0.000890	0.000823	0.000624	0.001105	0.000838	0.000809	0.000614
66	0.001276	0.000975	0.000896	0.000684	0.001202	0.000918	0.000881	0.000673
67	0.001388	0.001064	0.000974	0.000747	0.001307	0.001002	0.000958	0.000734
68	0.001513	0.001162	0.001061	0.000815	0.001424	0.001094	0.001044	0.000802
69	0.001650	0.001267	0.001158	0.000889	0.001554	0.001193	0.001139	0.000874
70	0.001803	0.001385	0.001265	0.000972	0.001698	0.001304	0.001244	0.000956
71	0.001978	0.001520	0.001387	0.001066	0.001862	0.001431	0.001365	0.001049
72	0.002181	0.001666	0.001530	0.001169	0.002053	0.001569	0.001505	0.001150
73	0.002413	0.001826	0.001693	0.001281	0.002273	0.001720	0.001665	0.001260
74	0.002677	0.001995	0.001878	0.001400	0.002521	0.001879	0.001847	0.001377
75	0.002962	0.002183	0.002078	0.001531	0.002789	0.002055	0.002044	0.001506
76	0.003272	0.002385	0.002295	0.001673	0.003081	0.002246	0.002258	0.001646
77	0.003604	0.002606	0.002528	0.001828	0.003394	0.002454	0.002487	0.001798
78	0.003953	0.002864	0.002774	0.002009	0.003723	0.002696	0.002728	0.001976
79	0.004342	0.003144	0.003046	0.002205	0.004089	0.002960	0.002996	0.002169
80	0.004765	0.003445	0.003343	0.002417	0.004487	0.003244	0.003288	0.002377
81	0.005219	0.003774	0.003661	0.002648	0.004914	0.003554	0.003601	0.002604
82	0.005682	0.004117	0.003986	0.002888	0.005351	0.003877	0.003921	0.002841
83	0.006127	0.004491	0.004298	0.003151	0.005769	0.004229	0.004227	0.003099
84	0.006573	0.004872	0.004611	0.003418	0.006189	0.004588	0.004535	0.003362
85	0.007048	0.005322	0.004944	0.003733	0.006636	0.005011	0.004863	0.003672
86	0.007566	0.005791	0.005308	0.004063	0.007125	0.005453	0.005221	0.003996
87	0.008135	0.006293	0.005707	0.004415	0.007660	0.005925	0.005613	0.004342
88	0.008756	0.006822	0.006143	0.004786	0.008245	0.006424	0.006042	0.004707
89	0.009435	0.007390	0.006619	0.005184	0.008884	0.006958	0.006510	0.005099
90	0.010166	0.008020	0.007132	0.005626	0.009572	0.007552	0.007015	0.005534
91	0.010950	0.008722	0.007682	0.006119	0.010310	0.008212	0.007555	0.006018
92	0.011800	0.009476	0.008278	0.006648	0.011111	0.008923	0.008142	0.006539
93	0.012733	0.010261	0.008932	0.007199	0.011989	0.009662	0.008786	0.007080
94	0.013744	0.011070	0.009642	0.007766	0.012941	0.010424	0.009483	0.007638
95	0.014799	0.011917	0.010382	0.008360	0.013935	0.011221	0.010211	0.008223
96	0.017351	0.013813	0.012172	0.009690	0.016338	0.013006	0.011972	0.009531
97	0.018704	0.014846	0.013122	0.010415	0.017612	0.013979	0.012906	0.010244
98	0.020165	0.015960	0.014146	0.011197	0.018987	0.015028	0.013914	0.011012
99	0.021295	0.016830	0.014939	0.011807	0.020051	0.015848	0.014693	0.011613
100	0.022493	0.017722	0.015780	0.012432	0.021180	0.016687	0.015520	0.012228

Exhibit II-8-6 (cont.)



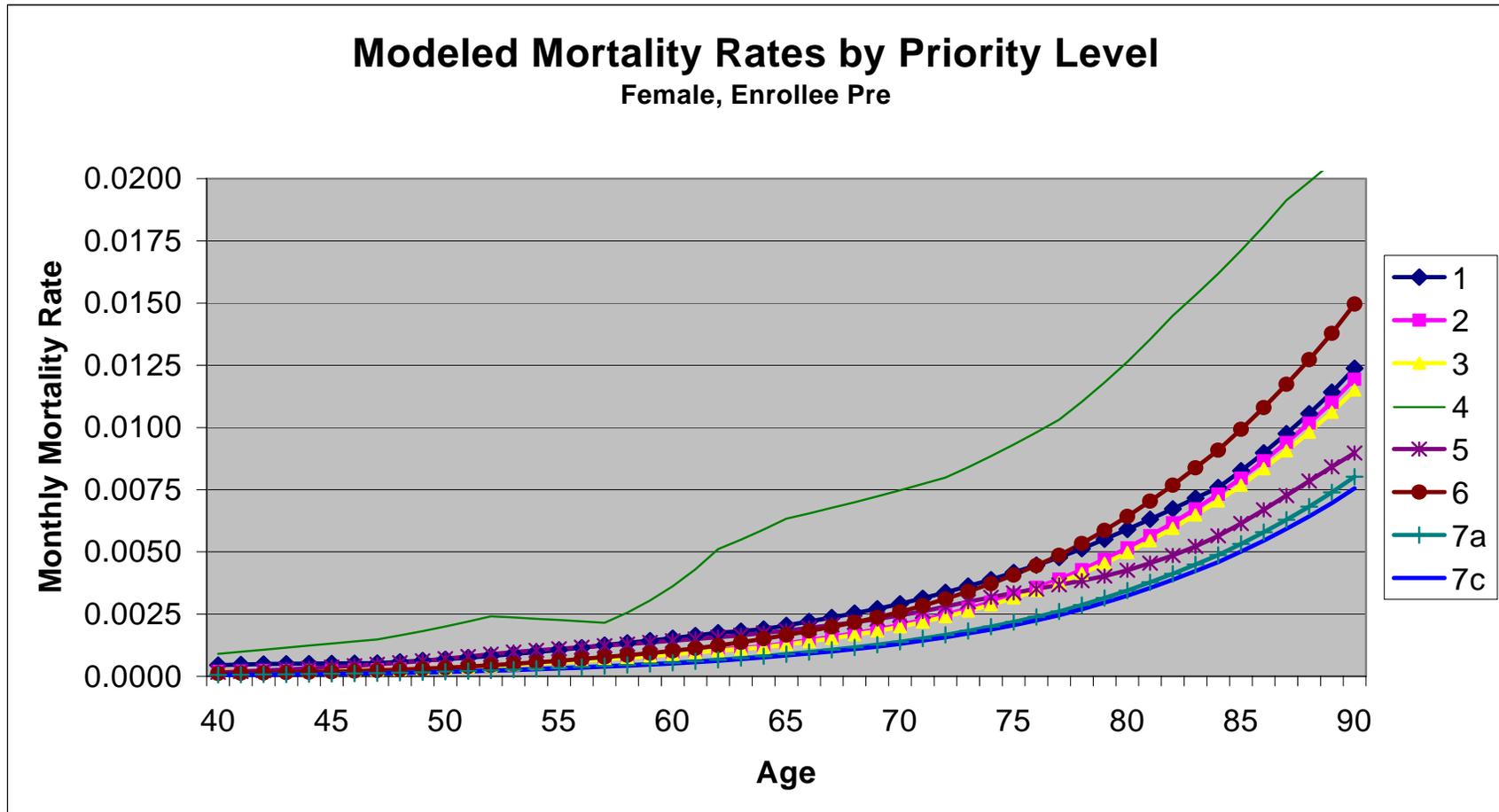
Mortality rates for Priority Levels 1 through 3 are based on the VetPop Status 2 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 4 are based on the VetPop Status 4 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 5 are based on mortality tables created by Milliman using actual experience.
Mortality rates for Priority Levels 6 and 7 are based on the VetPop Status 1 mortality rates, modified to more accurately reflect experience.

Exhibit II-8-6 (cont.)



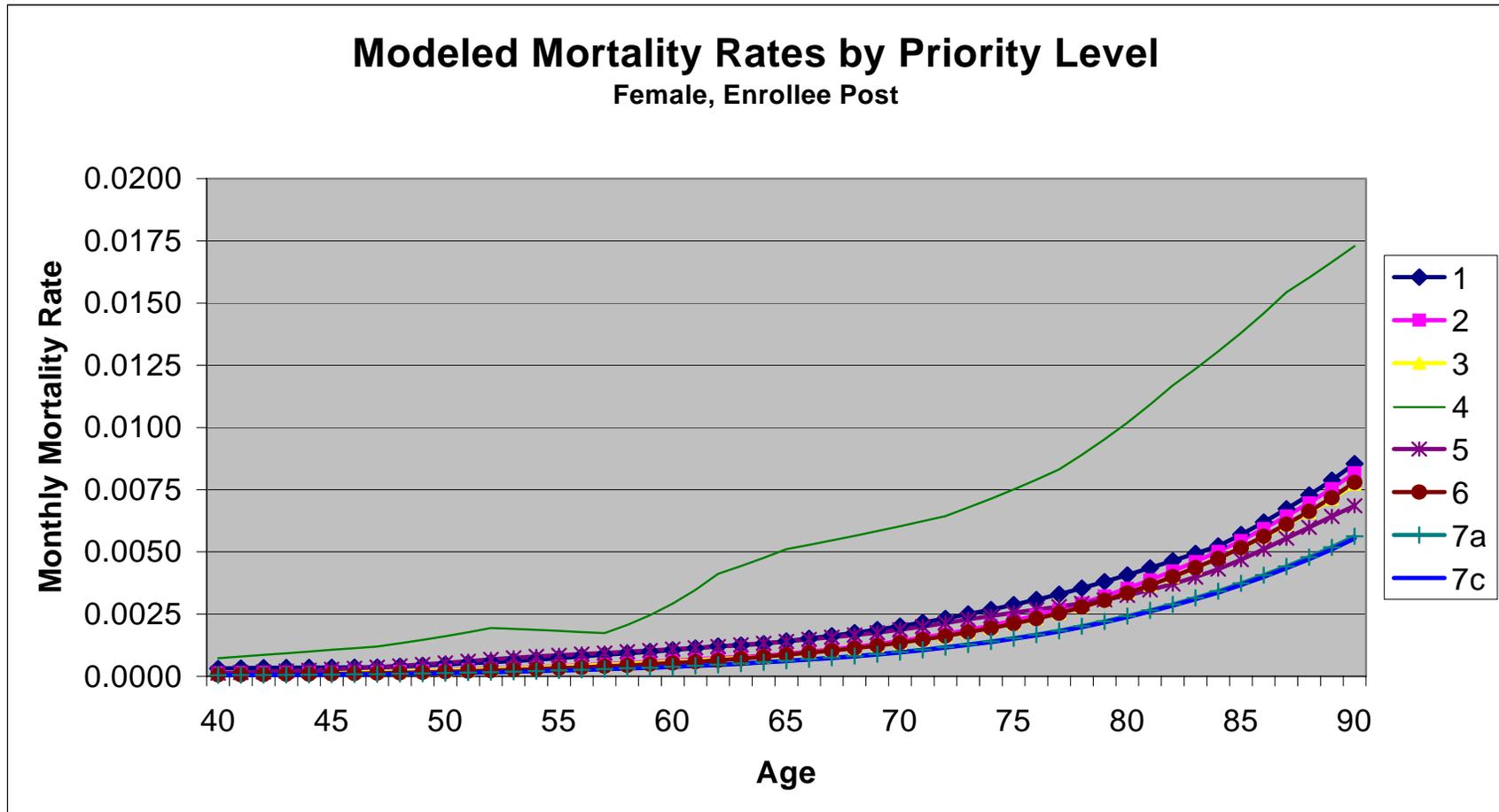
Mortality rates for Priority Levels 1 through 3 are based on the VetPop Status 2 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 4 are based on the VetPop Status 4 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 5 are based on mortality tables created by Milliman using actual experience.
Mortality rates for Priority Levels 6 and 7 are based on the VetPop Status 1 mortality rates, modified to more accurately reflect experience.

Exhibit II-8-6 (cont.)



Mortality rates for Priority Levels 1 through 3 are based on the VetPop Status 2 mortality rates, modified to more accurately reflect experience.
 Mortality rates for Priority Level 4 are based on the VetPop Status 4 mortality rates, modified to more accurately reflect experience.
 Mortality rates for Priority Level 5 are based on mortality tables created by Milliman using actual experience.
 Mortality rates for Priority Levels 6 and 7 are based on the VetPop Status 1 mortality rates, modified to more accurately reflect experience.

Exhibit II-8-6 (cont.)



Mortality rates for Priority Levels 1 through 3 are based on the VetPop Status 2 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 4 are based on the VetPop Status 4 mortality rates, modified to more accurately reflect experience.
Mortality rates for Priority Level 5 are based on mortality tables created by Milliman using actual experience.
Mortality rates for Priority Levels 6 and 7 are based on the VetPop Status 1 mortality rates, modified to more accurately reflect experience.

**Exhibit II-8-7
 Comparison of Actual and Modeled P5 Mortality Rates**

Age	Male, Enrollee Pre		Male, Enrollee Post		Female, Enrollee Pre		Female, Enrollee Post	
	Actual	Model	Actual	Model	Actual	Model	Actual	Model
19	0.000000	0.000462	0.000548	0.000353	0.000000	0.000378	0.000000	0.000289
20	0.000443	0.000270	0.000000	0.000206	0.000000	0.000164	0.000197	0.000125
21	0.000000	0.000155	0.000167	0.000118	0.000000	0.000086	0.000000	0.000066
22	0.000214	0.000121	0.000094	0.000092	0.000000	0.000061	0.000000	0.000046
23	0.000134	0.000111	0.000077	0.000084	0.000000	0.000050	0.000075	0.000039
24	0.000093	0.000100	0.000073	0.000077	0.000053	0.000043	0.000098	0.000033
25	0.000061	0.000088	0.000074	0.000067	0.000000	0.000036	0.000000	0.000027
26	0.000080	0.000090	0.000053	0.000069	0.000000	0.000036	0.000000	0.000028
27	0.000097	0.000101	0.000098	0.000077	0.000108	0.000041	0.000068	0.000031
28	0.000110	0.000114	0.000104	0.000087	0.000048	0.000045	0.000105	0.000034
29	0.000057	0.000127	0.000092	0.000097	0.000022	0.000048	0.000034	0.000037
30	0.000112	0.000141	0.000099	0.000108	0.000021	0.000048	0.000033	0.000037
31	0.000153	0.000156	0.000130	0.000119	0.000000	0.000048	0.000166	0.000037
32	0.000130	0.000182	0.000129	0.000139	0.000069	0.000051	0.000145	0.000039
33	0.000169	0.000210	0.000155	0.000160	0.000094	0.000056	0.000040	0.000043
34	0.000172	0.000239	0.000196	0.000183	0.000099	0.000063	0.000166	0.000048
35	0.000236	0.000270	0.000180	0.000206	0.000072	0.000072	0.000122	0.000055
36	0.000264	0.000303	0.000311	0.000231	0.000091	0.000084	0.000077	0.000064
37	0.000339	0.000341	0.000264	0.000260	0.000041	0.000098	0.000138	0.000075
38	0.000371	0.000381	0.000275	0.000291	0.000278	0.000121	0.000122	0.000092
39	0.000374	0.000426	0.000295	0.000325	0.000141	0.000140	0.000280	0.000107
40	0.000425	0.000471	0.000333	0.000360	0.000153	0.000162	0.000346	0.000124
41	0.000521	0.000529	0.000386	0.000404	0.000220	0.000194	0.000240	0.000148
42	0.000561	0.000588	0.000406	0.000449	0.000308	0.000229	0.000191	0.000175
43	0.000694	0.000651	0.000513	0.000497	0.000362	0.000271	0.000193	0.000207
44	0.000712	0.000715	0.000483	0.000546	0.000368	0.000316	0.000355	0.000241
45	0.000821	0.000780	0.000628	0.000595	0.000291	0.000368	0.000246	0.000281
46	0.000909	0.000845	0.000635	0.000645	0.000407	0.000422	0.000230	0.000322
47	0.000987	0.000909	0.000791	0.000694	0.000329	0.000480	0.000408	0.000367
48	0.001084	0.000974	0.000799	0.000744	0.000339	0.000547	0.000320	0.000418
49	0.001104	0.001039	0.000896	0.000793	0.000407	0.000621	0.000455	0.000474
50	0.001143	0.001104	0.000921	0.000843	0.000583	0.000704	0.000326	0.000537
51	0.001222	0.001170	0.000994	0.000893	0.000627	0.000792	0.000321	0.000605
52	0.001209	0.001238	0.001044	0.000945	0.000342	0.000887	0.000608	0.000677
53	0.001241	0.001308	0.001073	0.000999	0.000488	0.000971	0.000292	0.000741
54	0.001299	0.001389	0.001096	0.001060	0.000693	0.001040	0.000643	0.000794
55	0.001473	0.001473	0.001217	0.001125	0.000482	0.001106	0.000517	0.000845
56	0.001556	0.001557	0.001246	0.001189	0.000704	0.001165	0.000525	0.000890
57	0.001581	0.001641	0.001300	0.001253	0.000887	0.001225	0.000602	0.000936
58	0.001687	0.001730	0.001387	0.001321	0.000675	0.001291	0.000711	0.000985
59	0.001826	0.001822	0.001374	0.001391	0.000744	0.001357	0.000336	0.001036
60	0.001969	0.001920	0.001571	0.001466	0.001117	0.001425	0.000597	0.001088
61	0.002056	0.002021	0.001572	0.001543	0.000728	0.001494	0.000522	0.001141
62	0.002218	0.002127	0.001580	0.001624	0.001384	0.001568	0.000429	0.001197
63	0.002210	0.002235	0.001748	0.001707	0.001390	0.001647	0.000832	0.001258
64	0.002451	0.002346	0.001738	0.001791	0.001083	0.001733	0.000795	0.001323
65	0.002562	0.002457	0.001743	0.001876	0.001292	0.001832	0.000381	0.001399

Section II - Page 108

This report and all of the associated databases and summary reports were produced for the internal use of the Department of Veterans Affairs. If any portion of this report or the associated databases is released, reference must be made to the entire report. If this report or associated databases are released to parties outside the government, CACI, INC.-FEDERAL and Milliman USA, Inc. do not accept liability to any such third party.

Exhibit II-8-7 (cont.)
Comparison of Actual and Modeled P5 Mortality Rates

Age	Male, Enrollee Pre		Male, Enrollee Post		Female, Enrollee Pre		Female, Enrollee Post	
	Actual	Model	Actual	Model	Actual	Model	Actual	Model
66	0.002579	0.002574	0.001811	0.001965	0.001653	0.001943	0.001510	0.001483
67	0.002727	0.002696	0.001935	0.002058	0.001771	0.002053	0.001002	0.001568
68	0.002880	0.002821	0.002032	0.002154	0.001669	0.002165	0.000882	0.001653
69	0.003068	0.002982	0.002156	0.002277	0.001269	0.002296	0.001247	0.001753
70	0.003316	0.003166	0.002473	0.002417	0.001751	0.002447	0.001056	0.001868
71	0.003582	0.003374	0.002496	0.002576	0.002105	0.002607	0.001746	0.001990
72	0.003861	0.003614	0.002679	0.002760	0.001953	0.002796	0.001480	0.002134
73	0.004046	0.003863	0.002879	0.002949	0.002562	0.002990	0.001421	0.002283
74	0.004178	0.004119	0.003043	0.003145	0.001975	0.003169	0.000827	0.002420
75	0.004410	0.004380	0.003300	0.003344	0.002741	0.003346	0.002090	0.002555
76	0.004623	0.004643	0.003502	0.003545	0.002534	0.003503	0.001785	0.002674
77	0.004911	0.004909	0.003763	0.003748	0.002633	0.003667	0.001810	0.002800
78	0.005198	0.005183	0.003849	0.003957	0.002561	0.003834	0.001818	0.002928
79	0.005517	0.005468	0.004188	0.004175	0.003131	0.004018	0.002338	0.003068
80	0.005779	0.005796	0.004478	0.004425	0.003074	0.004252	0.002468	0.003247
81	0.006075	0.006175	0.004797	0.004715	0.002883	0.004538	0.002826	0.003465
82	0.006508	0.006598	0.005286	0.005038	0.002800	0.004849	0.001967	0.003702
83	0.006757	0.007083	0.005713	0.005408	0.004168	0.005212	0.003661	0.003980
84	0.007627	0.007617	0.006121	0.005816	0.005566	0.005632	0.003243	0.004300
85	0.007681	0.008201	0.006774	0.006261	0.004563	0.006128	0.002128	0.004679
86	0.008511	0.008813	0.007393	0.006729	0.005050	0.006680	0.003506	0.005100
87	0.009132	0.009428	0.007918	0.007199	0.004866	0.007251	0.004797	0.005536
88	0.009556	0.010087	0.007989	0.007702	0.004419	0.007861	0.002812	0.006002
89	0.009740	0.010797	0.009628	0.008244	0.007299	0.008501	0.003532	0.006491
90	0.011093	0.011608	0.008892	0.008863	0.010441	0.009203	0.004030	0.007027
91	0.010880	0.012571	0.010571	0.009861	0.007827	0.010022	0.007136	0.007861
92	0.011917	0.013737	0.010428	0.011070	0.008264	0.011033	0.011521	0.008891
93	0.012169	0.015156	0.012768	0.012548	0.004158	0.012293	0.002020	0.010177
94	0.011676	0.016880	0.010546	0.014357	0.013889	0.013809	0.002475	0.011745
95	0.011678	0.018908	0.015381	0.016522	0.010178	0.015537	0.005236	0.013576
96	0.013674	0.021341	0.011450	0.019158	0.010309	0.017551	0.006623	0.015756
97	0.012971	0.024179	0.017797	0.022299	0.005780	0.019913	0.010870	0.018365
98	0.009116	0.027424	0.005754	0.025983	0.000000	0.022437	0.011111	0.021258