Lump Sum Alternatives to Current Veterans' Disability Compensation

Elizabeth Schaefer• Eric W. Christensen

CNA

Approved for distribution: November 2006

Dr. Paul E. Speer
Director of Research
Institute of Public Research

Contents

Executive summary

The Veterans' Disability Benefits Commission (the Commission) has asked The CNA Corporation (CNAC) to provide a study of the issues involved in offering a one-time lump sum payment instead of the current lifetime monthly compensation payments to selected disabled veterans. This topic is of great interest because of the potential benefits both to veterans and to the Department of Veterans Affairs (VA).

In conducting this study, we explored the following questions:

- What are the advantages and disadvantages of a lump sum program to both disabled veterans and VA?

- What can we learn from other government lump sum programs?

- What are the key elements in the design of a lump sum program?

- Who would be eligible for a lump sum (i.e., which diagnoses and disability ratings)?

- What would be the cost and savings of a lump sum program?

Throughout this report, a repeated theme is the close connection between how the lump sum program would be designed and what its ultimate effects would be. For most elements in the design of a lump sum program, it is not clear which of several alternative approaches would best meet the dual goals of serving veterans better and reducing costs for VA.

Note that the Commission has also requested an assessment of the merits of modifying the structure of disability compensation to provide separate payments for loss in earnings and loss in quality of life. That assessment is a different effort from this study, and those results will be provided later in a separate report. This analysis considers a potential lump sum program only in the context of the current compensation structure.

Potential advantages and disadvantages

In conducting this analysis, we assumed that the goal of a lump sum program was to better serve disabled veterans and to do this at a lower cost than the current compensation program.

Advantages for veterans

There are a number of ways in which a lump sum program could serve disabled veterans better. One advantage is that some veterans might find a lump sum more useful than monthly payments. A second advantage would arise if the program were designed so that the lump sum were optional, because having the flexibility of a choice is generally considered inherently beneficial. A third advantage for veterans would be reduced administrative interactions with VA, which could improve the timeliness of claims processing overall, assuming VA staffing levels would not be reduced.

Advantages for VA

VA could also benefit from establishing a lump sum program. Savings in VA compensation costs would be generated if each lump sum were less than the present discounted value[1] of the veteran's lifetime monthly payment. Savings in VA administrative costs could arise simply from having fewer veterans in the system generating the routine costs associated with monthly payments. In addition, if lump sum recipients were not allowed to apply for re-rating of their disabilities, or if the circumstances for re-rating were restricted, then the costs of processing those applications would be eliminated or reduced.

---

1. *Present discounted value* is a method for expressing the value of future payments in terms of their value in the present. It accounts for the fact that a particular amount of money is worth less (in terms of purchasing power) in the future than that same amount is worth today because of inflation. It also accounts for the fact that a sum of money received today can be invested. See the Glossary in Appendix A for more details.

Concerns about veterans' welfare

Despite the potential advantages of a lump sum program, there are some key areas of concern about possible negative effects on veterans' financial welfare. One concern is that the lump sum should be "fair" in comparison with lifetime monthly compensation payments. A related concern is the treatment of cases where a disability worsens. Another concern is that some veterans' "unwise" use of their lump sums might jeopardize their basic financial welfare.

Government programs with a lump sum

VA can draw on the experience of other government lump sum programs, both U.S. and foreign, for the design of its program.[2] In looking at the various U.S. federal lump sum programs and other countries' programs for their disabled veterans, we found that basically no program was directly comparable to a potential VA lump sum program. Nevertheless, there is some useful information to be obtained from some of them.

U.S. federal lump sum programs

Among the U.S. federal programs for injury or disability, the Department of Defense (DOD) disability severance program could provide useful information on the use of lump sum payments by recipients. In addition, it would be instructive to know the reasons for designing that program so that the younger and less-disabled receive only a lump sum and the others receive only an annuity.

Among the U.S. federal programs for retirement or separation, the Career Status Bonus (CSB), Selective Separation Benefit (SSB), and Voluntary Separation Incentive (VSI) programs all provide informa-

---

2. A lump program would require congressional authorization before VA could implement it, so technically VA would not be designing the program. However, it is not obvious how much of the program design would be determined by legislation as opposed to VA regulations. When discussing program design in this report, we chose to refer only to VA for simplicity, but that choice should not be interpreted as a recommendation about the extent of VA's role.

tion useful for estimating the personal discount rates[3] of military personnel, although we expect that that population is not entirely comparable to the population of disabled veterans.

Other countries' programs for disabled veterans

The compensation programs for disabled veterans in Canada, the United Kingdom, and Australia have limited applicability for a VA lump sum program. The primary reason is that those three countries have separate compensation for economic losses and non-economic losses, and the lump sum is paid only for the latter.[4] Thus, these countries have chosen to rely on annuities to compensate for economic losses, which is what VA compensation is intended to do. From that we can infer that, although each country sees advantages to lump sum compensation in some situations, for purposes of addressing economic losses they all have apparently decided that those advantages do not outweigh the potential disadvantages.

Nevertheless, the United Kingdom's program could provide useful information about methods for calculating lump sums that incorporate the expected deterioration of a condition. After the United Kingdom's program has been in place longer, it could also show how much administrative savings can be realized when re-evaluation of the severity of disabilities is allowed only in "exceptional circumstances." Because Australia's program offers a choice between a lump sum and an annuity, it could provide information to estimate the personal discount rates of disabled veterans.

---

3. The *personal discount rate* reflects each individual's rate of *time preference*, which is the general tendency to prefer receiving a particular amount of money now to receiving an equivalent amount in the future. See the Glossary in Appendix A for more details.

4. Examples of non-economic losses are pain, suffering, and lower quality of life.

Elements in lump sum program design

Some elements in the design of a lump sum program would be especially important in determining the program's ability to achieve its goals. We list the main design alternatives here.

- Would the program be elective or mandatory?

- Would the basis for program eligibility be combined disability ratings or the ratings for individual disabilities?

- Would eligibility be for only newly compensable[5] veterans or disabilities, or would it also be for all veterans or disabilities for which compensation is currently paid?

- Would eligibility be for only certain types of disabilities or for all disabilities?

- How would the possibility of a condition deteriorating after receipt of the lump sum be addressed? Options include the following: (1) incorporating that possibility into the lump sum, (2) offering the lump sum only for disabilities with a "low" probability of deteriorating, and (3) allowing applications for re-rating and additional compensation.

- How much less should the lump sum be than the present discounted value of each veteran's expected lifetime monthly compensation? (Veterans choosing the lump sum would be satisfied with lower amounts because of time preference.[6])

---

5. *Newly compensable* is a term used in this report to describe the veterans or disabilities for whom/which disability compensation was not paid in some previous time period. See the Glossary in Appendix A for more details.

6. *Time preference* is the general tendency to prefer receiving a particular amount of money now rather than receiving an equivalent amount in the future. See the Glossary in Appendix A for more details.

Changes in disability ratings

One of the biggest challenges in designing a lump sum program is deciding how to handle situations where a disability for which a lump sum payment has been made worsens over time. To help inform how increased impairment should be best addressed in the design of a lump sum program, we analyzed changes in disability ratings over time.

To do this, we used the Compensation and Pension Master Record (CPMR) data files for December 2000 and December 2005 from the Veterans Benefits Administration (VBA). Because our interest was in the ratings for specific disabilities and not in veterans' overall ratings, we analyzed disabilities, not veterans. We used the disabilities that veterans had in 2000 and tracked those disabilities to 2005. These are some of our findings:

- A major finding is that overall, 5 percent of disabilities had an increase in rating between 2000 and 2005, and the average increase was 26 percentage points.

- In analyzing disabilities by body system, we found that skin, auditory, eye, gynecological, and hemic/lymphatic disabilities had the lowest proportions (less than 2 percent) of disabilities with an increase in rating. Post-traumatic stress disorder (PTSD) had the highest proportion (28 percent) with a rating increase, and it also had one of the highest average increases (36 percentage points).

- For our disability-specific analysis, we also found considerable variability. For example, hypertension cases rated at 10 percent had only a 1.5 percent probability of a rating increase over 5 years, whereas cases of major depressive disorder rated at 10 percent had a 24 percent probability.

The results above pertain only to changes between 2000 and 2005, whereas ideally we wanted to consider changes over a longer time period to show the type of analysis required in designing a lump sum program. Therefore, for three diagnoses (knee impairment,

hypertension, and PTSD), we calculated the probability that the disability rating would exceed a certain level over a certain number of years, which ranged from 15 to 50 years into the future. For example, for a 25-year-old male veteran with a knee impairment rated at 10 percent, we estimate that there is a 14 percent probability that the disability will worsen to a rating of 30 percent or higher by age 75.

The main conclusion from our analysis of re-rating of disabilities is that each diagnosis should be considered individually with respect to eligibility for a lump sum offer because each has different probabilities of worsening. The overall finding that 5 percent of disabilities increased in ratings between 2000 and 2005 by an average of 26 percentage points conceals significant variation across body systems and diagnoses.

Savings in compensation payments

VA savings in compensation payments would come from paying lump sums that are less than the present discounted value of expected lifetime monthly payments. We estimated savings in compensation for specific disabilities and also total savings in compensation.

Savings in compensation for specific diagnoses

To provide examples of what savings might be within specific diagnoses, we selected seven diagnoses with "low" re-rating probabilities and representing a variety of body systems.

Using the methodology described in Chapter 6, our estimates of average savings per case ranged from 9.9 percent to 20.7 percent, depending on the sample and diagnosis. The 9.9 percent savings (for all cases of scars on head, face, or neck) translated into an average of $2,735 per case. The 20.7 percent savings (for newly compensable eligible cases of radius impairment and scars on head, face, or neck) translated into averages of $6,138 and $5,176 per case, respectively.

Note that these savings would not occur immediately, i.e., at the time the lump sum is paid. Instead, they would be achieved over time through the annuities that would no longer have to be paid to lump sum recipients.[7] Also note that these savings estimates are for specific diagnoses and should not be applied to total disability compensation in order to obtain an estimate of total savings. The reason is simply that savings vary by diagnosis.

We also show how the savings estimates change as our assumptions about the lump sum program design and about external economic factors (e.g., the interest rate) change. For example, our baseline savings estimates use the assumption that the lump sum would be offered only for disabilities rated at 10 or 20 percent.[8] To show the effect of changing that assumption, we re-calculated those estimates assuming lump sum offers for only 10-percent ratings and for 10-, 20-, and 30-percent ratings.

Total savings in compensation payments

In addition to these savings estimates for selected diagnoses, we estimated total costs and savings over a 10-year period. Note that our costs and savings estimates are a function of what we defined as "eligible" diagnoses and ratings, assumptions about the percentage of veterans who would take the lump sum, and the number of veterans each year who begin receiving VA compensation. Changes in those assumptions would result in different estimates.

---

7. For the seven diagnoses that we selected with "low" re-rating probabilities, we estimated the average break-even point (i.e., the number of years for cumulative savings to exceed the lump sum) among the lump sum recipients. Those estimates ranged from 11 to 14 years, depending on the diagnosis and on whether we assumed all eligible cases or only the newly-compensable eligible cases were offered a lump sum.

8. We assume that eligibility is limited to these lower disability ratings because it is possible that concerns about some veterans' potential "unwise" use of lump sums would preclude a program design that offers a lump sum for disabilities with higher ratings. Note that other analyses of potential savings from a VA lump sum program have also assumed that eligibility is limited to 10- and 20-percent ratings [1, 2].

For these estimates, we assumed that eligibility for a lump sum offer was limited to disabilities that were in diagnosis codes with less than a 2-percent probability of rating increase over 5 years and that were rated at 10- or 20-percent. Among these disabilities, we assumed that 50 percent of the lump sum offers would be accepted. Forecasting the number of newly compensable veterans and disabilities that will receive disability compensation each year is difficult, particularly in light of the ongoing Global War on Terrorism (GWOT). As an estimate, we used the average number of newly compensable disabilities per year for 2001-2005.

Given all of these assumptions, we estimate that if VA offered a lump sum for only newly compensable disabilities, compensation costs would be $545 million higher in the first year compared to costs if no lump sums were offered. Note that the net cost (rather than a savings) occurs because the lump sum represents the present discounted value of lifetime payments. So, even though in the long run the lump sum is less costly for the government, the costs in the first year are higher because future compensation liabilities are basically shifted to the current year. Looking out to the tenth year, a lump sum program would still result in a net cost of $88 million for that year. This is because the cost of the lump sums exceeds the savings from removing some veterans from the annuity program. We estimate that it would take 25 years for the program to break even.

Similarly, if VA offered a lump sum for all eligible disabilities, not just the newly compensable ones, we estimate that the net cost in the first year would be $6.7 billion. However, unlike the case where the lump sum was only offered for newly compensable disabilities, annual savings would start in the second year of the program. These annual savings would be $461 million by the tenth year, but due to the magnitude of the net costs in the first year, there would still be a cumulative net cost of $3.6 billion in the tenth year. We estimate that it would take 17 years to break even.

Administrative savings

Administration represents an important area of potential savings from establishing a lump sum program. In fact, if the lump sums were calculated simply as the present discounted value of monthly

payments over the veteran's expected lifetime, without incorporating a personal discount rate to account for time preference, then administration would be the *only* source of savings from a lump sum program.

Lack of detailed data was the greatest challenge in estimating administrative savings from a lump sum program. We addressed this by assembling the available data, making a number of assumptions, and then showing how the savings estimates change when some of those assumptions change.

According to our assumptions, all the additional administrative costs for each lump sum recipient (i.e., providing financial counseling and processing lump sum claims) would be incurred in the first year of that person's eligibility for a lump sum, whereas administrative savings would be achieved over time in the form of a reduction in repeat claims. We estimated that it would take 5 to 7 years to recover the administrative costs of a lump sum payment for a new recipient and 16 to 24 years to recover the costs for a current recipient of disability compensation. As for aggregate administrative costs, we estimated that the break-even period would range from 14 to 16 years. Thus, it is clear that net administrative savings from a lump sum program would not be seen immediately.[9]

Note that lack of appropriate data prevented us from estimating the one-time administrative costs of setting up a new program. Such costs would include developing the necessary regulations, modifying data systems, and training staff. Those costs could be substantial, which would mean it would take years to recover them using the savings generated from other aspects of the lump sum program.

---

9. Combining the estimates of compensation savings and administrative savings yields break-even periods of 24 years for a program offering a lump sum for only the newly-compensable eligible disabilities and 17 years for a program offering a lump sum for all of the eligible disabilities.

Estimating personal discount rates

An important element in the design of a lump sum program would be the method for calculating the lump sum, which would determine a significant amount of the savings that the program would generate and allow VA to estimate the number of veterans who would choose a lump sum. Accounting for veterans' time preference (using a personal discount rate) in calculating the lump sums would result in savings for VA in total compensation paid. Therefore, in designing the program, it is important to use personal discount rates that result in lump sums low enough to generate savings but high enough to provide "fair" compensation and attract enough takers.

Although a number of studies of personal discount rates have been done, none of their results are directly applicable to the population of disabled veterans. Therefore, if a lump sum program is seriously considered, VA would need to conduct a separate study to estimate the personal discount rates specifically applicable to disabled veterans in order to design an effective lump sum approach to disability compensation. Either a survey or a pilot study could be used to collect data for those estimates.[10] Regardless of whether a survey or pilot study would be used, the fundamental information being collected would be the same, i.e., whether disabled veterans prefer a given lump sum to a given annuity, and if so, at what discount rate relative to the future annuity stream.[11] Therefore, the choice between a survey and a pilot study would depend on the relative importance of the following concerns:

---

10. Experimental methods are also used to estimate personal discount rates, but we do not consider this to be a good approach in this case, as we discuss in Chapter 8.

11. The important information needed in a VA study would be correct estimates of the personal discount rate, which would be used to develop a viable benefit option. In addition, forecasting models would be needed to estimate how many veterans would be likely to choose a lump sum option if it were offered so that estimates for budgetary requests could be made.

- Cost. Concern about cost favors a survey. A pilot study would be much more expensive, at least in the short run, because actual lump sums would need to be paid.

- Accuracy. Concern about accuracy favors a pilot study. A survey would be less accurate because respondents would be faced with only hypothetical choices.

- Potential complaints about fairness. Concern about perceptions of fairness favors a survey, since a pilot study would require offering different lump sums to people of the same age and with the same disability and rating.

Discussion and conclusions

A lump sum program for disabled veterans has potential advantages both for veterans and VA. Veterans could benefit from having more choice about how to use their compensation and from having reduced administrative interactions with VA. VA could potentially reduce its costs for compensation payments and administration. However, whether a lump sum program would in fact produce these benefits, without having any negative effects on veterans' welfare, depends on the program design.

In designing a successful lump sum program, VA would need to make decisions about the following program elements:

- Would the lump sum be optional?

- Would the lump sum be provided only for newly compensable veterans or disabilities, or would it also be for all veterans or disabilities for which compensation is currently paid?

- Would the lump sum be designed to compensate for combined disability or for specific disabilities?

- Would the lump sum be provided only for certain disability ratings?

- How would the lump sum be calculated?

- How would cases where the veteran's condition worsened be treated?

- How would the economic and non-economic impact of the disability be reflected?

The decisions about all of the above components of a lump sum program would have an impact on the savings that VA could realize. We view our estimates of savings as a starting point for a more extensive analysis of costs and savings in a lump sum program. In particular, in order to conduct such an analysis, we believe it is necessary to obtain better information on the following:

- Personal discount rates of disabled veterans

- The tendency for each type of disability to worsen over a significant period of time

- Administrative costs

Chapter 1. Introduction

The Veterans' Disability Benefits Commission (the Commission) has asked The CNA Corporation to provide an analysis of the issues involved in offering a lump sum instead of lifetime monthly compensation payments to selected disabled veterans.[12] This topic is of great interest because of the potential benefits both to veterans and to VA.

Throughout this report, a repeated theme is the close connection between how the lump sum program would be designed and what its ultimate effects would be. For most elements in the design of a lump sum program, it is not clear which of multiple alternative approaches would best meet the dual goals of serving veterans better and reducing costs for VA. For example, VA would likely reduce administrative costs most by not allowing reapplication for compensation once a veteran has accepted a lump sum. However, that type of program provision does not address the fact that veterans' conditions can worsen over time, entitling them to higher compensation.

To provide context for discussing a lump sum program, we begin this report by laying out the commonly understood program goals (advantages both to veterans and to VA), as well as concerns about some potential negative effects on veterans. We then discuss specific elements of the program design in more detail, including how different options relate to the program goals and concerns. Next, for selected topics, we provide additional information and analysis related to program goals and design elements. Those topics are the

---

12. Note that the Commission has also requested an assessment of the merits of modifying the structure of disability compensation to provide separate payments for loss in earnings and loss in quality of life. That assessment is a different effort from this analysis, and those results will be provided later in a separate report. This analysis considers a potential lump sum program only in the context of the current compensation structure.

following: (1) other government programs that use lump sum compensation, (2) re-ratings of veterans' disabilities over time, (3) savings to VA in compensation payments, and (4) savings to VA in administration. Because of the importance of the personal discount rate in the design of a lump sum program, we include a chapter on ways to obtain estimates of what that rate is specifically for disabled veterans. We conclude the report with a summary of the implications of our findings for a potential VA lump sum program.

Chapter 2. Potential advantages and disadvantages

A lump sum program has the potential both to serve disabled veterans better and to produce savings for VA. One challenge in designing the program is to determine exactly how veterans would best be served overall. Is there a way to design the program so that all veterans are ultimately better off and no one's welfare is put at risk? And would that program design also be able to generate savings for VA?

To begin to address these questions, this chapter lays out the basic advantages of a lump sum program for both VA and disabled veterans. It then describes the main concerns about potential negative effects on veterans' welfare.

Advantages for veterans

There are a number of ways in which a lump sum program could serve disabled veterans better. In this discussion, note that we assume that acceptance of a lump sum would have no effect on other VA benefits for which veterans are otherwise eligible, such as health care.

One advantage of offering a lump sum is that some veterans might find a lump sum more useful than monthly payments.[13] A second advantage would arise if the program were designed so that the lump sum would be optional, because having a choice is generally

---

13. "Those who are minimally disabled might be better served by concentrating support at the point of transition to civilian life" because they could use the lump sum for purposes like education, starting a business, or paying off debt [1]. Any of those uses could ultimately generate financial returns exceeding what the value of the monthly compensation would have been.

considered inherently beneficial.[14] In other words, offering a lump sum would necessarily make veterans at least as satisfied as without that offer because they would still be able to decline the lump sum in favor of receiving compensation in monthly payments just as they currently do. A third advantage for veterans would be reduced administrative interactions. Specifically, lump sum recipients would only have to deal with VA primarily (or exclusively, depending on the program design) at the time they were obtaining the lump sum.[15] A fourth advantage would actually be experienced by veterans not receiving a lump sum. Because lump sum recipients would have fewer administrative interactions with VA, there would be more administrative resources available to serve veterans receiving annuity payments. This should improve the timeliness of claims processing for all veterans, assuming that VA would not reduce its administrative resources in response to the reduced claims workload.

Advantages for VA

Establishing a lump sum program could result in savings for VA in the areas of both compensation and administration.

Savings in compensation costs would result if each lump sum were less than equivalent to the present value of the veteran's lifetime monthly payments. The total savings realized by VA would depend on the difference between the lump sum and the present value of the lifetime payments, as well as on the proportion of veterans tak-

---

14. In an analysis of the effect of a lump sum program on compensation costs, the authors note that "expanding the array of choice options before an individual can never make that person worse off" [2]. Similarly, although focus groups of veterans and military personnel acknowledged some potential risks to providing a lump sum, they also felt that "the benefit of providing a choice outweighed any risks" [3].

15. In focus groups discussing a possible lump sum program, veterans and military personnel reported that they perceived that an advantage might be a reduction in interactions with VA [3]. In another focus group of disabled veterans, "many expressed their dismay at having to work through all the paperwork and bureaucratic procedures every time they had to deal with the VA" [1].

ing the lump sum. If the lump sum were optional, then the proportion of veterans taking the lump sum would depend on their attitudes about receiving money now compared to receiving it over time.

Savings in administrative costs could arise simply from having fewer veterans in the system generating the routine costs associated with monthly payments. In addition, if lump sum recipients were restricted in applying for re-rating of their disabilities, then the costs of processing those applications would be eliminated.

Concerns about veterans' welfare

Despite the potential advantages of a lump sum program, there are some key areas of concern about possible negative effects on veterans' financial welfare.

Fairness in compensation

One concern is that the lump sum should be "fair" in comparison with lifetime monthly compensation payments. As mentioned above, VA would obtain savings in compensation only by offering lump sums that are less than equivalent to the veteran's lifetime monthly payments. How much less than equivalent could the lump sums be and still be considered "fair"?

If a lump sum were optional, then some would argue that a veteran's willingness to take a lump sum would necessarily mean it is fair. According to this line of reasoning, fairness would not be a concern. Others would argue, however, that a veteran's willingness to take a "low" lump sum might simply reflect his or her immediate financial needs and limited access to credit, or even just a strong preference for having money now as opposed to later, rather than the inherent fairness of the amount.

If the lump sum were not optional, the issue of fairness would remain and could only be resolved subjectively. Note that programs that provide only a lump sum (such as DOD disability severance, which is described in Chapter 4), as opposed to a choice between a

lump sum and an annuity, have necessarily managed to make decisions about what levels of compensation qualify as fair.

Deterioration in veterans' condition

A concern closely related to the fairness of a lump sum is the treatment of cases where a disability worsens. This concern has been expressed both by focus groups of veterans and military personnel [1, 3] and by the Veterans' Claims Adjudication Commission [1].[16]

If this concern were to be addressed by allowing applications for re-ratings, then the additional compensation for an increased rating would have to account for the compensation already received as a lump sum. However, as mentioned above, one source of administrative savings for VA would be a program provision that does not allow lump sum recipients to apply for re-ratings. Thus, this is a difficult concern to address in designing a lump sum program because, as in other areas, the dual goals of reducing VA costs and serving veterans better are conflicting.

Use of the lump sum

Another concern is that some veterans' "unwise" use of their lump sums might jeopardize their basic financial welfare.[17] This concern arises from the following two facts: (1) some disabled veterans (specifically, some of those with the highest disability ratings) probably rely on VA disability compensation for a significant portion of their income, and (2) studies of the use of lump sum distributions show

---

16. For example, GAO reports, "Veterans were particularly concerned about what would happen if the disability for which they were compensated worsened and they were not allowed to apply in the future for a higher disability rating and additional compensation" [3].

17. In focus groups of veterans and military personnel, "some reported that most lump sum recipients—particularly younger veterans and those already in financial need—would not have adequate money management skills....They also said that more lump sum recipients would spend rather than invest the money, and those who did invest would be at risk of making poor investments" [3].

that they are sometimes spent on current consumption instead of saved or invested.

Unfortunately, because disabled veterans have not been offered lump sums in the past, there is no direct evidence on how much this should be a concern. The most relevant information on likely uses of lump sums by disabled veterans comes from the literature on distributions from retirement and pension plans. This literature is discussed in more detail in [4]. Based on nationally representative data, the proportion of the general working population who would spend at least some of the lump sum distribution on current consumption (excluding investing in a home or business and paying off debt) ranges from 22 percent to 44 percent [5, 6, 7, 8, 9]. This of course means that the remainder of the population (56 percent to 78 percent), which is the majority, would not spend any on current consumption.

Clearly, based on the studies of uses of retirement plan distributions, some of the veterans' lump sums would be used for current consumption. However, those studies also lead us to expect some of the lump sums to be used for long-term investments and some to be used to help secure the veteran's current financial situation (i.e., home purchase, paying off debt). The exact uses are difficult to predict because the population of disabled veterans is not directly comparable to the samples used for the studies cited above. First, age is related to the decision to consume or save, and we would expect disabled veterans to be younger on average than people receiving distributions from retirement plans.[18] Second, cashing out a retirement plan distribution typically means incurring a tax penalty, which encourages people to save rather than consume. Thus, the savings rate for retirement plan distributions might be higher than we would expect it to be for veterans' lump sums. Third, it seems possible that a disabled person would be more likely to save than someone without a disability because the disabled person might have less certainty about his or her future earnings capacity.

---

18. References [7, 8, 9] all found that fewer people choose consumption at higher ages.

Note that some would argue that how veterans would use their lump sum payments should not be a concern at all in designing a lump sum program, simply because veterans' spending decisions would be entirely their own. As with the issue of defining a "fair" lump sum, whether "unwise" use of the lump sum is a valid concern is ultimately an issue that can only be resolved subjectively.

Chapter 3. Elements in lump sum program design

In this chapter, we discuss in detail some key elements in the design of a lump sum program. In particular, we describe alternative approaches for each element and relate them to the goals of a lump sum program.

We begin with the concepts and measures of disability (individual disability or combined disability) that could be used in the program as the basis for eligibility and the lump sum offer. We then discuss options for limiting eligibility. We also explain methods for calculating the lump sums and how they affect the proportion of veterans taking the lump sums. Next, we discuss alternative approaches for cases in which a veteran's condition deteriorates after receipt of the lump sum. Last, we include a section on the issue of financial education and counseling for potential lump sum recipients.

Individual disability or combined disability

With respect to eligibility and lump sum amounts, it seems clear that any lump sum program should be based in some way on the severity of disability. There are two distinct ways to measure disability in the veterans' disability compensation program. The first way is to use the veteran's combined disability rating, which takes into account the ratings for all the veteran's disabilities. The second way is to use the rating for each separate disability that the veteran has. Disability compensation payment amounts are based on the combined disability rating.

A weakness of using the combined disability rating as the basis for lump sum eligibility and compensation is that it does not take into account the specific types of disabilities that each veteran has. As mentioned previously, one of the areas of concern about a lump sum program is the treatment of veterans with disabilities that

worsen. Because the degree to which a disability worsens depends on the specific diagnosis, as we show later, basing the program on the combined disability rating would be much less useful in addressing this concern than basing it on individual disabilities and ratings. For that reason, our estimates for savings from a lump sum program are based on a hypothetical program that uses individual disabilities and ratings instead of the combined disability rating. In such a program, a veteran could accept a lump sum for one disability and continue to receive an annuity for any other disabilities that he or she has.

Eligibility

There are many possible ways that eligibility could be restricted, and we discuss two here. Because it is considered in a previous analysis of a lump sum program [1], we include some discussion of expanding eligibility to all otherwise eligible disabled veterans or limiting it to only new accessions. In addition, we discuss limiting eligibility by disability and rating because of its relevance to concerns about veterans' welfare.

Limiting eligibility to newly compensable cases

Whether the program would be designed to offer a lump sum to all veterans who are otherwise eligible or only to newly compensable veterans does not seem to relate to any of the concerns about veterans' welfare. (Note that we are assuming that each veteran would be offered a lump sum reflecting his or her own expected remaining lifetime compensation.) Clearly, offering a lump sum to more veterans would result in more veterans accepting it, which would mean more savings for VA. This argues for offering it to all current recipients of disability compensation. However, it might be administratively simpler to offer the lump sum only to newly compensable cases. Since it is not clear which approach would be more likely in a lump sum program, in our analysis, we calculate different sets of savings estimates using these two alternative assumptions.

Limiting eligibility by disability and rating

Limiting eligibility by disability and rating is relevant to two of the previously mentioned concerns about veterans' welfare: (1) cases where the veteran's welfare depends on how the lump sum is used and (2) possible deterioration in condition.

If VA based the lump sum program on the ratings for individual disabilities as opposed to the combined rating, then concern about the effects of "misuse" of the lump sum could be addressed by only offering the lump sum for disabilities with "low" ratings. For those disabilities, it is reasonable to assume that the veteran is not relying on VA disability compensation as a principal source of income. The two other estimates of savings from a lump sum program limited eligibility by rating. Reference [1] used only veterans with 10-percent combined ratings, and [2] used only veterans with 10-percent or 20-percent combined ratings. In our analyses, we also focus only on the lower ratings.

If the lump sum program did not allow veterans to apply for re-rating of disabilities for which they had received a lump sum, then concern about the effect of increased disability could be addressed by limiting eligibility to disabilities with a low probability of worsening. Later in this report, we specifically examine how the probabilities of deterioration differ for different conditions.

Calculation and acceptance of lump sums

Present discounted value

Understanding the concept of *present discounted value* (PDV) is essential to discussing the calculation of lump sums. In brief, PDV expresses the value of future payments in terms of their value today.

Taking only purely financial concerns into account, receiving $100 today is not equivalent to receiving $100 in a year, even if the inflation rate is 0 percent. The reason is that $100 today could be invested at an annual rate of return (i.e., interest rate) represented by "r" so that it would be worth ($100)(1+r) in a year. For example, if

r = 0.08, then $100 invested today would be worth $108 a year from now.

Consequently, any discussion of the value of payments made over time needs to consider the interest rate, which affects both the value of future payments and the value of a one-time payment made to-day.[19] The standard approach used to calculate the value of future payments in terms of their value now is PDV. Put in formulaic terms, if the inflation rate is 0 percent, the PDV of a payment of $x to be received in a year is $x/(1+r), the PDV of $x to be received in 2 years is $x/(1+r)^2, the PDV of $x to be received in 3 years is $x/(1+r)^3, and so on. For example, if we assume an interest rate of 8 percent, the PDV (i.e., an equivalent sum to be paid today) of $100 to be paid once a year for 3 consecutive years starting next year is not $300 but rather $257.70, calculated as follows: $100/1.08 + $100/(1.08^2) + $100/(1.08^3) = $92.59 + $85.73 + $79.38 = $257.70.

Pension benefits offer a familiar example of the use of PDV. Some retiring employees can choose between receiving their pension as a lump sum or as a lifetime annuity. In purely financial terms, whether the lump sum or the annuity is worth more depends on how long the retiree will live (i.e., how many annuity payments he or she would receive), inflation, and future interest rates, which determine how much interest income would be generated over time by investing the lump sum.

Present discounted value with a personal discount rate

Even if both the interest rate and the inflation rate are 0 percent, resulting in no differences over time in the value of any given

---

19. In our calculations, we used the average interest rate for 10-year U.S. Securities over the 20-year period 1986-2005 from [10] to estimate the annual interest rate. We chose the 10-year instrument over a shorter one to reflect the fact that the annuity payments would have occurred over many years. Additionally, we used the 10-year instrument because the government has moved away from longer Treasury Securities (i.e., the 30-year Treasury Security). Finally, other investments such as equities and corporate bonds provide a better return than Treasury Securities, but these better returns include a market premium for bearing additional risk.

amount of money, on average people tend to prefer receiving a particular amount of money now to receiving that same amount in the future. This tendency is known as *time preference.* Each person has his or her own rate of time preference, which we will refer to as the *personal discount rate.* Because the personal discount rate involves the discounted value that an individual places on having money in the future rather than today, the personal discount rate is incorporated into the calculation of PDV, as explained below.

Suppose that someone's annual personal discount rate is 5 percent. This means that, if both the interest rate and the inflation rate were 0 percent, the person would be indifferent between receiving $50 in one year and $50/(1+0.05) = $47.62 now. If we change our assumption about the interest rate from $r = 0$ to $r = 0.08$, then that person would be indifferent between receiving $50 in 1 year and $50/(1+0.08+0.05) = $44.25 now. Thus, using p to denote the annual personal discount rate, the general formula for the present discounted value of $x to be received next year is $x/(1+r+p).

The following provides a fuller example of calculating PDV with a personal discount rate. Assuming an interest rate of 8 percent and a personal discount rate of 5 percent, the PDV of $50 to be paid once a year for 3 years starting next year is $50/1.13 + $50/(1.13^2) + $50/(1.13^3) = $44.25 + $39.16 + $34.65 = $118.06.

Comparison of PDVs for VA and for veterans

The effect of time preference on the PDV of payments made to veterans is an important potential source of VA savings from offering lump sum disability compensation. PDVs calculated with a personal discount rate are less than PDVs calculated without one. This means that, for any given set of future payments, the PDV for veterans (who evaluate PDV using a personal discount rate) is lower than the PDV for VA (which does not have time preference and therefore does not evaluate PDV using a personal discount rate). Thus, the amount that veterans are willing to accept now in a lump sum considered equivalent to a set of future payments is less than VA's PDV for those payments. If lump sum offers are calculated using a personal discount rate, then every time a veteran accepts the lump sum

offer, there will be savings to VA in the form of decreased compensation payments.

Table 1 shows examples of potential savings from lump sum payments under a specific set of assumptions. We calculated future nominal payments as current payments for the applicable disability rating inflated by a 2.98 percent cost of living adjustment (COLA)[20] each year for the remaining years of life [11].[21] In discounting those future payments, we assumed the annual interest rate was 6.41 percent[22], and we used personal discount rates of 5 percent and 10 percent.

Table 1.   Examples of savings from lump sum payments

Disability rating and age	Monthly annuity	Present value of lifetime monthly payments	Calculating lump sum as the present value of lifetime monthly payments, with a personal discount rate			
			5% personal discount rate		10% personal discount rate	
			Lump sum	Savings	Lump sum	Savings
10% disability						
Age 25	$112	$33,460	$16,796	50%	$10,958	67%
Age 40	$112	$29,030	$16,199	44%	$10,868	63%
20% disability						
Age 25	$218	$65,127	$32,691	50%	$21,329	67%
Age 40	$218	$56,505	$31,530	44%	$21,153	63%

Source: CNAC calculations using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].
Notes: The lump sums are specific to male veterans because they are based on mortality for men. Base year compensation is for December 2005 – November 2006. The assumptions are an interest rate of 6.41 percent and COLA of 2.98 percent.

---

20. We used the average COLA over the 20-year period 1986-2005 [12].

21. The mortality data for estimates presented in this report come from [13], which applies to all veterans regardless of disability, and/or [11], which applies to the general population. Although we would have preferred to use mortality information specific to disabled veterans at each level of disability, that information was not available. We expect that our estimates of mortality are closer to the actual mortality of disabled veterans with lower disability ratings than the mortality of veterans with higher ratings.

22. We used the average interest rate for 10-year U.S. Treasury Securities over the 20-year period 1986-2005 from [10].

Table 1 shows that savings for VA from veterans accepting lump sum payments could be substantial. Specifically, based on our assumptions, there would be about 67 percent savings for a 25-year-old accepting a lump sum that was set using a 10-percent personal discount rate.

Decisions to accept lump sum offers

The savings shown in table 1 would arise only when a veteran accepted a lump sum offer. What determines who would accept the lump sum? More generally, for any given personal discount rate used in setting the lump sum, what proportion of veterans offered the lump sum would take it? Any individual would prefer the lump sum if his or her personal discount rate were higher than the one used in calculating the lump sum offer. Therefore, the lump sum acceptance rate for any group of veterans would simply be the proportion for whom the personal discount rate exceeded the one used to compute the lump sum offered.

The preceding discussion points out the importance of the personal discount rate that is used in setting the lump sum. In brief, using a higher personal discount rate means offering lower lump sums, which results in more savings for VA per lump sum recipient but fewer recipients. For example, table 1 shows clearly that a lump sum calculated at a 10-percent personal discount rate would result in greater savings per lump sum recipient. Specifically, for a 25-year-old, savings would be 67 percent at a 10-percent personal discount rate but only 50 percent at a 5-percent personal discount rate. However, because there would be fewer takers of a lump sum calculated at a 10-percent personal discount rate, it is unclear whether the 5-percent or 10-percent rate would ultimately lead to greater savings for VA.

Thus, in order to design a lump sum program that achieves a certain level of savings, it is important to be able to reliably estimate the personal discount rates of disabled veterans. Unfortunately, there is no relevant literature specifically on that population that we can

cite.[23] Instead, we discuss estimates of personal discount rates for other populations. CNAC has already conducted a literature review [4] that includes the topic of personal discount rates. We draw on that literature review for this section.

Estimates of personal discount rates vary widely from study to study [14]. For example, experimental studies (looking at hypothetical choices involving small amounts) estimate personal discount rates to be between 20 and 38 percent [15, 16, 17, 18]. Two studies looking at appliance purchases inferred discount rates of 25 percent [19] and 45 to 300 percent [20]. A study analyzing car purchases estimated rates between 11 and 17 percent [21].

Personal discount rates also vary with the time it takes to realize the payment [16, 22]. Similarly, discount rates tend to be lower when individuals are making choices over longer time periods [14, 22, 23]. Warner and Pleeter [23] found that discount rates depend on the size of the lump sum. Specifically, people were more likely to accept small lump sums than larger ones, all other things being equal, which means discount rates are higher for smaller amounts.

In addition, personal discount rates vary by demographics. They decrease as income, education, and age increase [23, 24, 25, 26], and the literature also shows variation by race, with non-whites tending to have higher personal discount rates [23, 26]. In addition, personal discount rates are higher for men than women and increase with the number of dependents [23].

The Warner and Pleeter study [23] is probably the most relevant to the population of disabled veterans because it deals with a military population choosing between a lump sum and an annuity. The lump sum amounts in this study range from $16,700 to $91,100 in FY1992 dollars. Note that the discount rates that made these lump sums actuarially equivalent to the annuity ranged from 17.5 to 19.8 percent. Even with these rates (for those with less than 10 years of service), over 50 percent of officers and 90 percent of E-5 enlisted took the lump sum option. These take-up rates resulted in personal

---

23. In Chapter 8, we describe ways to ascertain the personal discount rates of disabled veterans.

discount rate estimates of 19 to 22 percent, or 22 to 36 percent, depending on the model specification.[24]

Treatment of cases where condition deteriorates

As previously discussed, the treatment of cases where a disability worsens represents one of the main concerns about a lump sum program. In focus groups, "veterans and military personnel...expressed concern that the lump sum amounts would be inadequate to protect recipients from financial setbacks that could result from a progressive disability and the inability to reapply for a higher disability rating" [3].

This concern could be addressed in different ways, but VA savings would probably always be affected. For example, the program could be designed to disallow applications for re-rating by lump sum recipients but also restrict eligibility to only those disabilities that are very unlikely to worsen, with *very unlikely* remaining a concept for the purposes of this discussion rather than having an exact definition. This approach would decrease VA's savings in compensation (compared to not restricting eligibility by disability) because there would be fewer veterans eligible for a lump sum and therefore fewer lump sum recipients. As an alternative, the program could be designed to allow applications for re-rating, but that would decrease administrative savings per case (compared to not allowing applications for re-rating).[25]

---

24. Note that the "personal discount rates" from the literature appear to be quite a bit higher than the 5- to 10-percent personal discount rates that we used in table 1. This is largely a definitional difference. What is called a "personal discount rate" in the literature is equivalent to the interest rate plus the personal discount rate or time preference as we have defined them. Hence, if the interest rate is 8 percent, then personal discount rates of 5, 10, and 15 percent are equivalent to "personal discount rates" (as the literature uses the term) of 13, 18, and 23 percent, respectively.

25. "The [Veterans' Claims Adjudication] Commission believes that any lump sum proposal should provide a 'safety net' for those veterans whose conditions worsen severely. These veterans should be allowed to apply for and receive the benefits they would have been entitled to

This issue arose in calculating our estimates of savings from a lump sum program. Because of the prominence of this concern, we wanted to assume a program design that would address it. We therefore assumed that a lump sum would be offered only to disabilities with a low probability of worsening, and we estimated savings per case only for a subset of disabilities that satisfied that criterion.

Financial education and counseling

Currently, disabled veterans do receive some financial counseling.[26] However, a lump sum program would probably require additional financial education and counseling. In focus groups of veterans and military personnel, "some reported that most lump sum recipients —particularly younger veterans and those already in financial need —would not have adequate money management skills," and "some suggested that financial counseling be made available or even required before veterans receive the one-time payment" [3]. In another focus group, "most of the veterans said VA should be required to provide education and counseling on how to best utilize or invest the lump sum" [1].

To address the concern about possible negative effects of a lump sum payment on the financial welfare of recipients, additional financial education and counseling would be an important component of establishing a lump sum program. Consequently, we include the cost of improved financial counseling in our estimates of administrative savings, which are provided in a later chapter.

under the current system. However, a policy that contemplates too many exceptions could have the effect of negating many of its advantages" [1].

26. "As part of transition assistance to civilian life, financial counseling is available to all [service] members (including members retiring, separating, or otherwise leaving the service) at family service centers or within members' military units" [27].

Chapter 4. Government programs with a lump sum

We have looked at various government programs that involve a lump sum payment to find information that might provide insights in designing a lump sum program for disabled veterans. First, this chapter describes U.S. federal programs that use a lump sum payment. Second, it describes the veterans' disability compensation programs in some other countries that use lump sums.

U.S. federal lump sum programs

There are several U.S. federal programs that involve lump sum payments, but most are not comparable to a potential VA lump sum program. Generally, lump sum programs fall into one of two categories—disability/injury programs and separation/retirement programs. We begin with the disability programs.

Disability/injury programs

RECP and EEOICP

The federal government has two programs that provide lump sum payments to compensate individuals for radiation exposure and exposure to toxic substances. These are the Radiation Exposure Compensation Program (RECP) and the Energy Employees Occupational Illness Compensation Program (EEOICP).

The RECP compensates "on-site participants, uranium miners, and nearby populations...who were exposed to radiation from atmospheric nuclear testing or as a result of their employment in the uranium mining industry" who developed related illnesses [28]. For those affected, RECP provides a lump sum of $50,000 for downwinders, $75,000 for on-site participants, and $100,000 for uranium

mining industry workers. These amounts are not automatically adjusted for inflation.

The EEOICP provides compensation for various illnesses from exposure to radiation or toxic substances. The groups who are potentially eligible include employees of the Department of Energy (DOE) or of its contractors and subcontractors. People who are eligible under Part B (i.e., those with radiation-induced cancer, chronic beryllium disease, or chronic silicosis) receive lump sums of $150,000 (except for certain uranium workers, who receive $50,000). People who are eligible under Part E (i.e., those exposed to toxic substances at certain DOE facilities) receive lump sums of up to $250,000, depending on the degree of impairment and wage loss. Specifically, they receive $2,500 for each 1 percent of "whole body impairment." They also receive $10,000 for each year of 25 to 50 percent wage loss and $15,000 for each year of 50 percent or higher wage loss [29]. EEOICP compensation is not automatically adjusted for inflation.

The RECP and EEOICP are similar to a potential VA lump sum program only in that they use a lump sum to provide compensation for an employment-related injury or illness. There is little for VA to learn from these programs because the lump sums are not meant to replace or be equivalent to annuities. If VA were interested in providing separate compensation for impairment and lost earnings, it could consider the approach used for calculating the lump sum under Part E of the EEOICP.

Federal Employees' Compensation Act

The Federal Employees' Compensation Act (FECA) provides compensation to civilian federal employees who are injured or who develop occupational diseases while on the job [30]. The Department of Labor's Office of Workers' Compensation Programs (OWCP) administers the FECA program benefits, which can be paid either as an annuity or as a lump sum.

Although benefits can be paid as a lump sum, benefits in that form require a specific request, which the OWCP decides whether to grant [31]. OWCP is predisposed to provide benefits as an annuity, because the purpose of the FECA is to replace lost wages, and one

principle that OWCP uses when deciding whether to grant a lump sum request is "the prudence of providing lost wages on a regular, recurring basis." However, a lump sum payment may be made "under 5 U.S.C. 8107 where OWCP determines that [it] is in the employee's best interest." In general, this will only be when "the employee does not rely on the [lump sum] as a substitute for lost wages," i.e., he or she either works or has an annuity payment from some other source [31].

If VA were to adopt a similar approach for a lump sum program, it would need to perform a detailed review of each lump sum request to be sure that a lump sum was in the veteran's best interest. Such a review would clearly limit or even eliminate the potential administrative savings of a lump sum program.

Public Safety Officers' Benefit program

The Public Safety Officers' Benefit (PSOB) program provides a one-time benefit in the form of a lump sum to the survivors of officers who died as a result of injuries incurred in the line of duty [32]. Since 1990, the PSOB has also been available to officers who "incur total permanent disabilities in the line of duty" that prevent them from "performing any gainful work" [33]. The disability and death benefits are the same ($275,658 in FY 2005) and are indexed for inflation.

As with the RECP and the EEOICP, the PSOB program is similar to a potential VA lump sum program only in that it uses a lump sum to provide compensation for an employment-related injury or illness. There is little for VA to learn from it because the lump sum does not replace an annuity. Additionally, the PSOB lump sum payment is for complete impairment, whereas a VA lump sum program would most likely only be established for much lower levels of impairment (e.g., disabilities with ratings of less than 30 percent).

DOD disability severance program

The DOD disability severance program provides a lump sum to service members with less than 20 years of service who have a disability rating of less than 30 percent. The lump sum equals monthly base pay multiplied by twice the years of service. The average lump sum

was $17,750 for enlisted service members and $51,065 for officers in FY2000 [27]. For service members with 20 or more years of service or who have a 30-percent or higher disability rating, DOD provides a medical retirement payment that is a monthly annuity for life.

Information from the DOD disability severance program might be of some use for a VA lump sum program, especially since the population in the program is likely very similar to the population of disabled veterans. It would be interesting to know how lump sum recipients chose to use their payments, whether they were ultimately satisfied with those choices, and whether they wish they had been offered an annuity.[27] In addition, the rationale for the program design is very relevant. In particular, why exactly is only a lump sum provided to the younger, less-disabled service members and only a annuity provided to the older, more-disabled service members?

The General Accounting Office (GAO) examined the disability severance program in 2001 and documented its findings in [27]. GAO's objectives included looking at the administrative costs of the program and reviewing any financial counseling that DOD provides to those receiving a lump sum. These are important issues for a potential VA lump sum program. Unfortunately, GAO could not estimate administrative costs because "the services and DOD could not provide [GAO] with extant data on how much it costs to make disability decisions or issue payments or how long it takes." GAO also found that those receiving lump sum payments do not receive from DOD specific financial counseling on the use of a lump sum. However, DOD does make available financial counseling to all service members transitioning to civilian life, and "based on DOD experiences, some DOD officials advise giving plenty of time and appropriate educational resources to help a person decide whether to take a lump-sum payment."

---

27. To our knowledge, there is currently no research on these topics.

Separation/retirement programs

Voluntary Separation Incentive Payments

Voluntary Separation Incentive Payment (VSIP) authority provides federal agencies a tool to downsize and restructure. VSIP offers targeted federal employees incentives, in the form of lump sum payments, to voluntarily separate from the federal workforce. By incentivizing voluntary separations, the government avoids involuntary reductions, which can be costly and disruptive [34]. The lump sum payment depends on the employee's position and skill type and can be as high as $25,000.

Unfortunately, there is not much about VSIP to better inform a potential VA lump sum program. The lump sum payment is not meant to replace an annuity or to compensate for lost earnings due to an injury.

Career Status Bonus

The National Defense Authorization Act for FY2000 created the Career Status Bonus (CSB). The CSB is a $30,000 lump sum that service members at 15 years of service can choose to receive in exchange for a commitment to stay until 20 years of service. After they complete their commitment, they can retire, but their retirement annuity will be reduced. So, assuming that a service member is already planning on at least 20 years of service, the CSB offers a choice between a full annuity and a reduced annuity with a lump sum.

Technically, the history of CSB choices could be useful to a potential VA lump sum program. In particular, the information on service members' choices between the CSB and regular options could be used to estimate personal discount rates for military personnel. Unfortunately, the results would not be directly applicable to disabled veterans facing a lump sum option. Service members choosing between the CSB and regular options are a generally healthy population, and therefore their discount rates might be systematically different from those of disabled veterans because of disabled veterans' greater uncertainty about future earnings. Furthermore, receiving the CSB only reduces the retirement annuity, as opposed

to eliminating it. Thus, this choice is inherently different from a potential VA lump sum program.

Selective Separation Benefit and Voluntary Separation Incentive

In the early 1990s, Congress authorized special payments to facilitate voluntary drawdown of the military following the cold war. Service members voluntarily separating from the military chose between the following two options:

- Selective Separation Benefit (SSB). This was a lump sum equal to 15 percent of basic pay multiplied by the service member's years of service.

- Voluntary Separation Incentive (VSI). This was an annuity to be paid for a period of twice the years of service and equal to 2.5 percent of basic pay multiplied by years of service.

Service members' decisions about the SSB and VSI are relevant to a potential VA lump sum program because they provide information on the personal discount rates of military personnel. To the degree that this group has characteristics similar to disabled veterans, the information on personal discount rates would be applicable to disabled veterans facing a lump sum option. As discussed earlier, in the section on decisions to accept lump sum offers, [23] used data on SSB and VSI choices to estimate personal discount rates.

Other countries' programs for disabled veterans

We reviewed the lump sum programs that Canada, the United Kingdom, and Australia have for their disabled veterans. This review does not include a list of all benefits (such as medical care and rehabilitation programs) that these countries provide for disabled veterans because our specific interest is lump sum benefits. Accordingly, we focus on the relationship between annuities and lump sums.

We first provide a summary of the monetary compensation programs for disabled veterans in Canada, the United Kingdom, and Australia. We then compare the programs along various dimensions and discuss implications for a potential lump sum program for dis-

abled U.S. veterans. Last, we describe these countries' programs for providing financial advice to disabled veterans.

Canada

Canada recently changed the way it compensates its disabled veterans. Prior to April 2006, disabled veterans were covered under the Pension Act, whereas they are now covered under the Canadian Forces Members and Veterans Re-establishment and Compensation Act (New Veterans Charter). The monetary compensation under the Pension Act consisted of an annuity. Now, under the New Veterans Charter, the monetary compensation consists of a disability award for non-economic impacts and a financial benefits program for economic losses.

The disability award is a lump sum payment that is "meant to recognize and compensate for the non-economic impacts of a service-related disability" [35]. The amount the program pays to disabled veterans is a function of the severity of their disability [36]. The maximum lump sum award is $250,000 (about $206,000 USD), which corresponds to 100-percent disability. For 10-percent disability, the amount would be $25,000 (about $20,600 USD).

The financial benefits program consists of four parts [36]. First is the Earnings Loss Benefit, which is designed to maintain an income floor while the disabled veteran is in rehabilitation and vocation assistance programs. Second is the Permanent Impairment Allowance. It provides $6,000 to $18,000 ($5,000 to $14,900 USD) annually for permanently or severely disabled veterans who lose job opportunities due to their disabilities. Third is the Supplementary Retirement Benefit. This is a taxable lump sum payment that is designed to compensate for lost opportunities to contribute to a retirement fund. Finally, there is the Canadian Forces Income Support (CFIS) program, which helps veterans who have completed the rehabilitation program but have a low-paying job or cannot find a job. The benefit is a non-taxable monthly payment.

The United Kingdom

The United Kingdom also recently changed its compensation program for disabled veterans. The Armed Forces Compensation Scheme (AFCS) covers veterans with service-connected disabilities for service after 6 April 2005 [37].[28] The AFCS replaces the War Pensions Scheme and the Armed Forces Pension Scheme. Under the AFCS, the compensation for disability has two parts, a lump sum and an annuity, both of which are non-taxable.

The lump sum payment is for "pain and suffering" and non-economic losses that are a result of the service-connected disability. The amount of the lump sum is based on the injury level [37]. Level-1 injuries are the most severe and receive the highest payment, which is £285,000 (about $470,000 USD). Level-15 injuries are the least severe and receive the lowest payment, which is £1,050 (about $1,900 USD).

In addition to lump sum payment for non-economic losses, the AFCS provides an annuity for economic losses. The amount of the annuity is a function of pensionable pay, age, and the level of the injury [38]. Those with a disability level of 12 to 15 do not receive an annuity in addition to their lump sum.

Australia

Australia's monetary compensation program for disabled veterans, the Military Rehabilitation and Compensation Scheme, covers service-connected disabilities incurred on or after 1 July 2004 through permanent impairment payments [39], incapacity payments [40], and Special Rate Disability Pension (SRDP) safety net payments [41]. Disabled veterans can get re-rated and receive an increase in their compensation if their rating increases by 5 percentage points [39].

---

28. Generally, the documents detailing these benefits for British armed forces refer to "qualifying injuries and illnesses" caused by service. For consistency purposes, we refer to these as disabilities.

Australia's basic monetary compensation for disabled veterans consists of permanent impairment payments for non-economic losses and incapacity payments for economic losses. The amount of the permanent impairment payment is a function of the severity of the disability, and the compensation can be paid as an annuity, a lump sum, or a combination of the two, according to the veteran's choice. The incapacity payments are paid as an annuity through age 65. The amount of the incapacity payments is a function of both the severity of the disability and the estimated difference between the veteran's earnings with and without the disability.

As an alternative to permanent impairment payments and incapacity payments, veterans can elect to receive SRDP annuity payments. This can be a better alternative for veterans with disabilities that have severely reduced their earning capacity. Unlike incapacity payments, SRDP does not stop at age 65 [41].

Comparison of programs

The compensation programs of Canada, the United Kingdom, and Australia have many similarities, as summarized in table 2. All provide separate compensation for non-economic and economic losses. The compensation for economic losses is an annuity for all three. As for non-economic losses, both Canada and the United Kingdom provide a lump sum based on the level of the disability. Disabled veterans in Australia choose among an annuity, a lump sum, and a combination of the two.

Table 2. Comparison of Canada's, the United Kingdom's, and Australia's disability programs

Country	Non-economic losses[a]	Economic losses	Re-rating rules for changes in non-economic losses	Program start date
Canada	Lump sum up to $250,000 ($206,000 USD)	Annuity	Can get increase for any change in rating (implies no administrative savings from lump sums)	1 April 2006
United Kingdom	Lump sum up to £285,000 ($470,000 USD)	Annuity	Generally cannot get re-rated (normal worsening of disability is already factored in to the payment)	6 April 2005
Australia	Lump sum, annuity, or combination	Annuity	Can get an increase if rating increases by 5 points (implies no administrative savings from lump sums)	1 July 2004

a. The amounts shown represent the lump sum for the highest level of disability. Lump sums are substantially lower for 10- and 20-percent disability levels.

We noted previously that a Canadian veteran could be re-rated and receive another lump sum commensurate with the change in his or her disability. The Australian program is similar in that a veteran can get an increase in compensation if his or her rating increases by at least 5 percentage points. Thus, using a lump sum in these systems does not reduce the administrative costs of processing claims for re-ratings. The United Kingdom's system is different. Only in "exceptional circumstances" does it allow for re-rating, because the lump sums account for the normal deterioration of disabilities [38]. This structure in general should reduce the number of claims for re-rating as long as the number of "exceptional" cases remains low.

Implications for a VA lump sum program

The fact that the disability compensation programs of Canada, the United Kingdom, and Australia have separate components for economic and non-economic losses limits how much information they can provide that would be relevant to a potential VA lump sum program. Specifically, VA disability compensation is intended to address economic losses only, but none of these three countries' programs has lump sum compensation for economic losses. Nevertheless, with that limitation in mind, the following information might be instructive:

- How does the United Kingdom's program account for the "normal expected deterioration of a condition" when calculating the lump sum payments? [38] How did it determine the expected deterioration for each condition, and exactly how is that translated into a lump sum?

- The United Kingdom's system has a procedure to reconsider "exceptional circumstances, in cases where the deterioration goes significantly beyond" the norm [38]. What exactly is that procedure?

- Given that the United Kingdom's system allows for re-evaluation of the severity of some cases, how much administrative savings has been, or is anticipated to be, generated by using lump sum compensation?

- In Australia's program, what are the characteristics of those who take the lump sum compared to those who do not? [29]

Financial advice regarding lump sums

As previously discussed, financial education and counseling is a potentially important element in the design of a lump sum program. Both Australia and Canada provide for financial counseling for disabled veterans. Canada offers to reimburse veterans up to $500 (about $400 USD) for financial advice on lump sums of $12,500 (about ($10,300 USD) or more [35]. Similarly, Australia provides reimbursement for financial advice for veterans with higher levels of disability. The total amount it will reimburse is $1,299 (about $1,000 USD) [42].

---

29. Despite our attempts, we were unable to obtain this type of information from the Australian government.

Summary

In looking at the various U.S. federal lump sum programs and other countries' programs for their disabled veterans, we found that basically no program was directly comparable to a potential VA lump sum program. Nevertheless, there is some useful information to be obtained from some of them.

Among the U.S. federal programs for injury or disability, the lump sums in the RECP, EEOICP, and PSOB programs are not meant to replace or be equivalent to an annuity, and so those programs have very limited applicability. In the FECA program, whether to pay a lump sum instead of an annuity is determined on a case-by-case basis according to the beneficiary's best interest. This is probably not a good model for a VA program because of the high administration cost.[30] The DOD disability severance program could provide useful information on the use of lump sum payments by recipients if it were studied. In addition, it would be instructive to know the reasons for designing that program so that the younger and less-disabled receive only a lump sum and the others receive only an annuity.

Among the U.S. federal programs for retirement or separation, the VSIP is not intended to replace an annuity and therefore has limited applicability to a VA program. The CSB and SSB/VSI programs all provide information useful for estimating the personal discount rates of military personnel, although we expect that that population is not entirely comparable to the population of disabled veterans.

The compensation programs for disabled veterans in Canada, the United Kingdom, and Australia also have limited applicability for a VA lump sum program. The primary reason is that those three countries have separate compensation for economic and non-economic losses, and the lump sum is paid only for the latter. Nevertheless, the United Kingdom's program could provide useful information about methods for calculating lump sums that

---

30. FECA has a much lower caseload than VA would in a possible lump sum program. For example, in 2000, FECA had about 175,000 cases, whereas VA had about 1.2 million with a 10- or 20-percent disability [43].

incorporate the expected deterioration of a condition. After the program has been in place longer, it could also potentially show how much administrative savings could be realized when re-evaluation of the severity of disabilities is allowed only for "exceptional circumstances." Because Australia's program offers a choice between a lump sum and an annuity, it could provide information to estimate the personal discount rates of disabled veterans.

Chapter 5. Changes in disability ratings

One of the biggest challenges in designing a lump sum program is how to handle situations where a disability for which a lump sum payment has been made worsens over time. For veterans receiving monthly compensation, it is a straightforward matter to adjust the level of compensation as a condition worsens using the VA schedule, which provides ratings in increments of 10 percentage points. To account for increased impairment among lump sum recipients, they could similarly be provided a lump sum supplement. However, allowing for reapplication for compensation would eliminate some of the administrative savings that a lump sum program would be intended to generate.

To help inform how increased impairment should be best addressed in the design of a lump sum program, this chapter analyzes changes in disability ratings over time. We begin by describing the data that we used. We then show the variation in re-rating patterns for a 5-year period for all body systems and for specific diagnoses. Last, we provide estimates of the probability of being re-rated over longer time periods for selected diagnoses and ratings, thereby illustrating an approach for selecting which disabilities might be best suited for a lump sum offer.

Data description

To examine changes in disability ratings over time, we used the Compensation and Pension Master Record (CPMR) data files for December 2000 and December 2005 from the Veterans Benefits Administration (VBA).[31] For our analysis, we excluded veterans from non-primary branches of the Department of Defense, such as

---

31. Ideally, we would have used data from more time periods and extending over more than 5 years, but the 2000 and 2005 data files were simply the only ones to which we had access.

the U.S. Public Health Service, the U.S. Merchant Marine, and the Commonwealth Army of the Philippines. Because we were interested in analyzing changes in disability ratings between 2000 and 2005, we also excluded veterans who were not in both the 2000 and 2005 data files. After these exclusions, 1,928,717 veterans remained.

Table 3 shows the distribution of the number of service-connected disabilities for those veterans. It was most common for them to have one disability, and the majority (60 percent) had only one or two disabilities.

Table 3. Distribution of veterans by number of service-connected disabilities

Number of service-connected disabilities	Percentage	Cumulative percentage
1	39	39
2	21	60
3	14	74
4	9	83
5	6	89
6	5	94
7	2	96
8	1	97
9+	3	100

Source: VBA Compensation and Pension Master Record data files (veterans in both the December 2000 and December 2005 files).

Because our interest was in the ratings for specific disabilities and not in veterans' overall ratings, we analyze disabilities, not veterans. We use the disabilities that these veterans had in 2000 and track them to 2005. After excluding the disabilities with a 0-percent rating in 2000, we were left with a final analytic sample of 2,895,965 disabilities. According to the official standards for rating disabilities, not all rating levels can be assigned for every diagnosis coded. However, in our analytic sample of disabilities, we found some rating levels that are not officially allowed for the disability's diagnosis code. Those disabilities remained in our sample as originally coded because we did not have any information that would let us know how to correct them.

Overall re-rating results

Table 4 shows how disability ratings changed between 2000 and 2005 for the full sample of disabilities. Clearly, most disabilities (94 percent) neither improved nor worsened, and hardly any (less than 1 percent) improved. The 5 percent that did worsen are the ones of particular interest in the remainder of this analysis. Those are the cases for which a lump sum that was calculated at the initial 2000 rating would be under-compensating the veteran by 2005, compared to what the veteran would receive as monthly compensation.

Table 4.   Percentage of disabilities by type of change in rating between 2000 and 2005

| | Disability rating in 2000 | | | | | |
Type of change in rating by 2005	10%	20%	30%	40%	50%+	All
Rating decreased	0.3	1.1	0.9	1.2	1.6	0.6
Rating remained the same	95.6	93.9	90.1	94.8	92.0	94.4
Rating increased	4.1	5.0	9.0	4.1	6.5	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

Re-rating results by body system

Tables 5 and 6 provide information on the distribution of disabilities across ratings and body systems, which is useful in interpreting the results on changes in ratings in table 7. Table 5 shows the distribution of disabilities across 17 body system categories within each rating, and table 6 shows the distribution across ratings within each body system.

The last column in table 5 shows that musculoskeletal disabilities constitute almost half (47 percent) of all disabilities. In addition, they are half of the 10-percent rated disabilities and 70 percent of the 20-percent rated disabilities. As discussed earlier, the 10- and 20-percent rated disabilities could be the ones of most interest for a lump sum program in order to address concerns that the lump sum be offered only to those for whom VA disability compensation does not constitute a main source of income.

Table 5 also shows that the distribution of disabilities across body systems varies by rating. Among the 10-percent rated disabilities, 1 percent are PTSD. That proportion increases to 24 percent among the disabilities rated at 50 percent or higher.

Table 5.   Percentage of disabilities in each body system by rating

Body system	Disability rating					
	10%	20%	30%	40%	50%+	All
Musculoskeletal	50	70	29	58	17	47
Skin	9	1	5	1	1	7
Auditory	9	2	2	4	2	6
Neurological	6	8	9	13	7	7
PTSD	1	0	9	0	24	4
All other mental	3	0	11	0	28	6
Digestive	5	6	4	6	2	5
Cardiovascular	8	5	11	3	6	8
Respiratory	4	1	8	1	4	4
Endocrine	1	3	0	4	1	1
Genitourinary	1	2	3	2	2	2
Eye	1	1	5	5	1	2
Gynecological	0	0	2	0	2	1
Infectious, immune, nutritional	0	0	0	0	1	0
Dental	0	0	0	0	0	0
Hemic, lymphatic	0	0	2	0	1	0
Undiagnosed	0	0	0	0	0	0
Total	100	100	100	100	100	100

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

The last row of table 6 shows that overall the majority (61 percent) of disabilities are rated at 10 percent. Among skin and auditory disabilities, much larger proportions (87 and 86 percent, respectively) are rated at 10 percent. At the other end of the rating scale, PTSD has by far the largest proportion (60 percent) of disabilities rated at 50 percent or higher. The category for all other mental disabilities has the second-largest proportion (44 percent) with those highest ratings.

Table 6.   Percentage of disabilities in each rating by body system

Body system	Disability rating					
	10%	20%	30%	40%	50%+	All
Musculoskeletal	65	20	7	5	4	100
Skin	87	2	9	1	2	100
Auditory	86	5	3	2	3	100
Neurological	52	15	16	7	11	100
PTSD	13	0	26	0	60	100
All other mental	34	0	22	0	44	100
Digestive	65	16	9	4	5	100
Cardiovascular	64	9	17	2	8	100
Respiratory	63	4	22	1	10	100
Endocrine	47	32	3	11	7	100
Genitourinary	51	15	18	4	11	100
Eye	44	8	33	11	5	100
Gynecological	25	0	38	1	36	100
Infectious, immune, nutritional	37	6	24	3	29	100
Dental	71	16	9	3	2	100
Hemic, lymphatic	10	6	70	1	13	100
Undiagnosed	69	14	8	5	4	100
All	61	13	12	4	10	100

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

Table 7 provides information on rating increases for each rating and body system. Specifically, it shows the percentage of disabilities with any rating increase between 2000 and 2005 and the average increase (expressed in percentage points) among disabilities that had rating increases.

Overall, 5 percent of disabilities had an increase in rating, and the average increase was 26 percentage points. Skin, auditory, eye, gynecological, and hemic/lymphatic disabilities all had "low" (less than 2 percent) probabilities of increased ratings. PTSD had the highest probability of a rating increase, at about 28 percent, and it also had one of the highest average increases (36 percentage points).

The results specifically for the 10-percent rated disabilities confirm that PTSD would be an especially poor candidate for a lump sum program. The proportion with increased impairment was 44.5 percent, and the average rating increase was 44 percentage points. Nevertheless, other results among the 10-percent rated disabilities show that there might be some good candidates within the skin, auditory, and eye categories, since the probability of an increased rating for each of them was less than 2 percent.

Table 7. Rating increases between 2000 and 2005 by body system

Body system	Disability rating in 2000					
	10%	20%	30%	40%	50%+	All
All						
Percentage with increase	4.1%	5.0%	9.0%	4.1%	6.5%	5.0%
Average increase	22	19	34	23	31	26
Musculoskeletal						
Percentage with increase	4.0%	4.8%	3.4%	4.0%	0.6%	4.0%
Average increase	15	18	22	20	22	17
Skin						
Percentage with increase	1.4%	1.6%	2.9%	0.3%	5.6%	1.6%
Average increase	24	15	26	*	13	23
Auditory						
Percentage with increase	0.5%	3.9%	6.4%	4.1%	3.2%	1.0%
Average increase	27	24	32	29	26	28
Neurological						
Percentage with increase	5.5%	5.2%	6.0%	3.7%	1.5%	5.0%
Average increase	22	22	21	27	24	22
PTSD						
Percentage with increase	44.5%	*	45.2%	*	17.4%	28.3%
Average increase	44	*	38	*	30	36
All other mental						
Percentage with increase	8.2%	13.6%	12.6 %	14.4%	5.5%	8.0%
Average increase	36	*	37	*	32	35
Digestive						
Percentage with increase	3.0%	2.8%	3.9%	4.5%	1.1%	3.0%
Average increase	20	23	32	23	37	23
Cardiovascular						
Percentage with increase	4.6%	8.3%	8.8%	5.1%	3.2%	5.5%
Average increase	22	16	37	23	37	26

Body system	Disability rating in 2000					
	10%	20%	30%	40%	50%+	All
Respiratory						
Percentage with increase	5.5%	0.9%	7.2%	0.2%	4.2%	5.5%
Average increase	29	*	39	*	39	33
Endocrine						
Percentage with increase	9.5%	7.8%	4.3%	6.2%	3.5%	8.0%
Average increase	15	27	37	31	40	21
Genitourinary						
Percentage with increase	5.3%	9.7%	4.3%	13.6%	2.8%	5.8%
Average increase	25	32	40	26	31	29
Eye						
Percentage with increase	1.6%	4.6%	0.9%	0.8%	2.7%	1.6%
Average increase	20	15	23	*	18	19
Gynecological						
Percentage with increase	2.8%	4.4%	0.5%	0.4%	0.1%	0.9%
Average increase	26	*	*	*	*	25
Infectious, immune, nutritional						
Percentage with increase	9.1%	4.1%	11.4%	8.1%	3.7%	7.7%
Average increase	39	*	39	*	38	38
Dental						
Percentage with increase	4.5%	4.0%	3.9%	0.0%	0.0%	4.2%
Average increase	15	13	*	n.a.	n.a.	14
Hemic, lymphatic						
Percentage with increase	4.6%	1.9%	0.9%	4.0%	0.9%	1.4%
Average increase	34	*	51	*	*	40
Undiagnosed						
Percentage with increase	5.8%	6.3%	9.2%	2.8%	8.1%	6.1%
Average increase	22	*	*	*	*	23

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

Notes: The average increase in rating (for those with an increase) is expressed in percentage points. An asterisk indicates that the percentage or average is not shown because it was calculated using fewer than 50 disabilities. The abbreviation "n.a." indicates that the average increase is not applicable because there are no disabilities with an increase in rating. Even though mental conditions can officially be assigned only ratings of 10, 30, 50, 70, and 100 percent, the mental disabilities in the CPMR data do have some other rating levels. Those cases remained in the sample as originally coded because we did not have the information necessary to correct them.

Re-rating results within a body system

Table 8 disaggregates the musculoskeletal results by subcategory to begin to explore whether we should expect variation within body systems. The percentage of disabilities with an increase in rating ranged from 0.2 percent (combinations of disabilities) to 5.2 percent (spine). In fact, the two largest subcategories (general musculoskeletal and spine) had the two highest percentages with an increase (5.1 and 5.2 percent, respectively) and the two highest average rating increases (18 and 20 percentage points, respectively). Overall, the variation by subcategory in table 8 suggests that we might find further variation if we look at some specific diagnoses.

Table 8. Number, distribution, and rating increases between 2000 and 2005 for musculoskeletal disabilities by category

Categories of musculoskeletal disabilities	Number of disabilities	Percentage of disabilities	Increases in ratings	
			Percentage with increase	Average increase
General musculoskeletal	321,414	24%	5.1%	18
Combinations of disabilities	509	0%	0.2%	*
Amputations: upper extremity	16,804	1%	0.4%	12
Amputations: lower extremity	11,624	1%	0.4%	*
Shoulder and arm	53,634	4%	3.7%	12
Elbow and forearm	19,282	1%	1.9%	13
Wrist and hand	36,557	3%	1.3%	15
Hip and thigh	20,467	2%	5.0%	15
Knee and leg	208,438	15%	3.9%	14
Ankle	42,159	3%	5.1%	11
Shortening of the lower extremity	1,296	0%	3.2%	*
Foot	84,455	6%	4.1%	17
Spine	249,174	18%	5.2%	20
Skull	7,890	1%	0.4%	*
Ribs	2,032	0%	0.4%	*
Coccyx	527	0%	1.3%	*
Other skeletal conditions	83,456	6%	3.2%	16
Muscle injuries	201,812	15%	2.1%	15
Total	1,361,530	100%	4.0%	17

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

Notes: The average increase in rating (for those with an increase) is expressed in percentage points. An asterisk indicates that the average is not shown because it was calculated using fewer than 50 disabilities.

Re-rating results for specific diagnoses

Tables 9 and 10 focus on five specific diagnoses in each of three body systems. The body systems and diagnoses were selected both to illustrate variability and to represent some of the most common disabilities within each body system.

Table 9 provides the distribution across ratings for each disability. Among the five musculoskeletal conditions that we selected, intervertebral disc syndrome stands out because of the relatively small proportion (37 percent) with a 10-percent rating and the large proportion (17 percent) with a rating of 50 percent or higher. Among the mental disabilities shown, schizophrenia is the condition with the smallest proportion (only 10 percent) with a 10-percent rating and the largest proportion (79 percent) with a rating of 50 percent or higher. Among the cardiovascular conditions in table 9, the distributions across ratings are all quite different from each other. Hypertension had the most low-rated disabilities (91 percent with a 10-percent rating and only 1 percent with a rating of 50 percent or higher), and arteriosclerotic heart disease had the most high-rated disabilities (5 percent with a 10-percent rating and 37 percent with a rating of 50 percent or higher).

Table 9.   Percentage of disabilities in each rating for selected diagnoses

Body system and diagnosis (number of disabilities)	Disability rating					
	10%	20%	30%	40%	50%+	Total
Musculoskeletal						
5003 Degenerative arthritis (86,136)	72	20	4	3	2	100
5010 Arthritis due to trauma (127,699)	75	16	4	3	1	100
5257 Knee impairment (143,196)	75	17	7	0	0	100
5293 Intervertebral disc syndrome (91,404)	37	29	0	15	17	100
5295 Lumbosacral strain (94,873)	71	21	0	6	1	100
Mental						
9203 Schizophrenia, paranoid (28,015)	10	0	12	0	79	100
9304 Brain syndrome due to trauma (9,976)	39	0	25	0	36	100
9400 Anxiety (49,739)	53	0	25	0	22	100
9405 Depression (11,646)	40	0	27	0	33	100
9434 Major depressive disorder (9,298)	25	0	33	0	41	100
Cardiovascular						
7000 Rheumatic heart disease (8,925)	57	0	27	0	16	100
7005 Arteriosclerotic heart disease (21,033)	5	0	58	0	37	100
7101 Hypertension (102,201)	91	5	2	1	1	100
7120 Varicose veins (22,296)	56	17	14	6	7	100
7121 Phlebitis (6,836)	49	5	26	5	14	100

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

For each diagnosis in table 9, table 10 shows the percentage of cases with an increase in rating between 2000 and 2005. For those cases, it also shows the average increase, expressed in percentage points. Overall, the purpose of table 10 is to show one relatively simple approach for identifying diagnoses that might be considered good candidates for offering a lump sum, i.e., identifying diagnoses for which there is a "low" probability of increased rating at the lower levels of impairment. Table 10 provides results for a number of diagnoses to illustrate how much variation there can be across diagnoses.

Table 10. Rating increases between 2000 and 2005 for selected diagnoses

Body system and diagnosis	Disability rating in 2000					
	10%	20%	30%	40%	50%+	All
Musculoskeletal						
5003 Degenerative arthritis						
Percentage with increase	5.0%	5.0%	4.1%	3.0%	0.8%	4.8%
Average increase	16	18	21	19	*	17
5010 Arthritis due to trauma						
Percentage with increase	6.2%	7.9%	5.8%	5.2%	0.8%	6.4%
Average increase	15	17	21	20	*	16
5257 Knee impairment						
Percentage with increase	4.1%	5.1%	1.3%	3.5%	0.4%	4.0%
Average increase	13	13	32	*	*	14
5293 Intervertebral disc syndrome						
Percentage with increase	6.2%	7.7%	7.2%	9.6%	0.1%	6.3%
Average increase	21	26	*	20	*	23
5295 Lumbosacral strain						
Percentage with increase	4.9%	5.9%	2.4%	3.4%	0.4%	5.0%
Average increase	17	22	*	20	*	18
Mental						
9203 Schizophrenia, paranoid						
Percentage with increase	11.1%	*	18.4%	*	4.6%	6.9%
Average increase	53	*	47	*	35	41
9304 Brain syndrome due to trauma						
Percentage with increase	5.0%	*	7.9%	*	3.1%	5.1%
Average increase	37	*	34	*	29	34
9400 Anxiety						
Percentage with increase	9.3%	*	11.8%	*	7.4%	9.6%
Average increase	33	*	32	*	28	32
9405 Depression						
Percentage with increase	3.5%	*	3.7%	*	1.9%	3.1%
Average increase	38	*	31	*	30	34
9434 Major depressive disorder						
Percentage with increase	24.0%	*	24.4%	*	14.1%	20.2%
Average increase	36	*	34	*	28	33
Cardiovascular						
7000 Rheumatic heart disease						
Percentage with increase	7.2%	*	12.3%	*	3.1%	7.9%
Average increase	46	*	47	*	*	46

Body system and diagnosis	Disability rating in 2000					
	10%	20%	30%	40%	50%+	All
7005 Arteriosclerotic heart disease						
Percentage with increase	18.3%	*	12.1%	*	3.6%	9.3%
Average increase	40	*	39	*	40	39
7101 Hypertension						
Percentage with increase	1.5%	2.1%	7.0%	4.2%	2.5%	1.7%
Average increase	22	28	39	*	*	24
7120 Varicose veins						
Percentage with increase	5.9%	7.9%	6.9%	5.3%	3.9%	6.2%
Average increase	19	23	12	21	17	19
7121 Phlebitis						
Percentage with increase	8.9%	14.1%	12.7%	11.5%	2.0%	9.3%
Average increase	22	23	17	*	*	21

Source: VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files).

Notes: The average increase in rating (for those with an increase) is expressed in percentage points. Asterisks indicate that the percentage or average is not shown because it was calculated using fewer than 50 disabilities.

Hypertension provides an example of a diagnosis that would probably be considered a relatively good candidate for a lump sum.[32] Specifically, cases of hypertension rated at 10 percent (which table 9 shows is 91 percent of the cases of hypertension) had only a 1.5 percent probability of being re-rated over 5 years, with an average rating increase of 22 percentage points. This is a low re-rating probability in comparison with the full sample of disabilities rated at 10 percent, for which the proportion with an increase in rating was 4.1 percent (also with an average rating increase of 22 percentage points), as shown in table 7.

In contrast, major depressive disorder provides an example of a diagnosis that would probably be considered a poor candidate for a lump sum offer. For that condition, the probability of an increase in rating is 24 percent among disabilities rated at 10 percent (compared with 4.1 percent for all disabilities rated at 10 percent). The

32. Although hypertension can lead to other conditions, such as stroke and cardiovascular disease, we assume that those conditions would continue to be diagnosed and rated separately from hypertension.

average increase is also high (36 percentage points) compared with the average increase for all disabilities (22 percentage points).

Of course, there are no exact criteria for which proportions of increases in ratings should be considered "low" and "high." Hypertension and major depressive disorder simply stood out with the lowest and highest percentages with an increased rating among the 15 diagnoses that we chose to present as examples.

Estimates of re-rating probabilities over long time periods

The results above pertain only to changes between 2000 and 2005, whereas ideally we want to consider changes over a longer time period, which we do by assuming the 2000-2005 changes are representative of changes in the future. We also want to focus on a question more directly relevant to a lump sum program than simply which diagnoses have a low probability of worsening. Specifically, for a veteran of a particular age and with a particular disability and rating, we would like to know what the probability is that the disability rating will exceed a particular level of severity by some particular point in the future.

In table 11 (at the end of this chapter), we provide examples of answers to that question for three diagnoses (knee impairment, hypertension, and PTSD). We chose those diagnoses because of their prevalence and their variation in probabilities of increased ratings. For each diagnosis, we calculated a set of estimates to show how changes in various parameters affect the estimated probabilities. Specifically, we used two possible initial ratings (10 percent and 20 percent), two initial ages (25 and 40), two end-points (ages 50 and 75), and two rating thresholds (30 percent and 40 percent).[33] The empirical basis for our calculations was the diagnosis- and age-

---

33. The *rating threshold* is simply a parameter that we used in calculating our estimates. For example, for calculations of the probability that a rating would increase to 40 percent or higher by the age of 75, the rating threshold is 40 percent.

specific re-rating probabilities for males from the VBA's CPMR data files. We accounted for mortality using data from [13] and [11].[34]

The results in table 11 should be interpreted as follows. Consider a 25-year-old male with knee impairment rated at 10 percent (i.e., the first row of the table). The table shows that there is a 5.0 percent probability that his condition will worsen to a rating of 30 percent or higher by age 50, assuming he lives until age 50. (The probability both that he will live to age 50 and that his condition will worsen to a rating of 30 percent or higher by then is 4.8 percent.)

Overall, the results in table 11 show the following expected patterns:

- A higher rating threshold results in a lower probability of reaching or exceeding that threshold.

- A lower age when first disabled results in a higher probability of reaching or exceeding the rating threshold. This is because younger veterans have more expected remaining years of life, and rating increases could occur in those additional years.

- A higher initial rating results in a higher probability of reaching or exceeding the rating threshold.

- Among the three diagnoses shown, hypertension has the lowest probabilities because it has the lowest rates of increases in ratings (1.7 percent overall, from table 10). Similarly, PTSD has the highest probabilities because it has the highest rates of increases in ratings (28.3 percent overall, from table 7).

The results in table 11 reinforce the idea that each diagnosis should be considered individually with respect to eligibility for a lump sum

---

34. The mortality data for estimates presented in this report come from [13], which applies to all veterans regardless of disability, and/or [11], which applies to the general population. Although we would have preferred to use mortality information specific to disabled veterans at each level of disability, that information was not available. We expect that our estimates of mortality are closer to the actual mortality of disabled veterans with lower disability ratings than with higher ratings.

offer because each has different probabilities of worsening. In addition, our results suggest that it might be useful to include age as a factor in eligibility, because a higher number of remaining years of life naturally increases the probability that impairment will increase.

Summary

Knowing which disabilities and ratings are likely to worsen is a very important component of designing a lump sum program. If reapplications would be allowed in cases where a condition deteriorates, then administrative savings would be best obtained by offering a lump sum only for conditions with a low probability of worsening. If reapplications would not be allowed, then addressing the concept of fairness in compensation would require either of the following approaches: (1) calculating the lump sums to incorporate the expected deterioration or (2) calculating the lump sums with the assumption that the rating would not increase but offering the lump sums only for conditions with a low probability of deteriorating. Clearly, all of the options just mentioned require knowing about the tendency for different conditions to deteriorate.

This chapter has shown that the probability of a disability worsening varies not only by body system but also within body system and down to the level of individual diagnoses. Thus, the results in this chapter support designing a lump sum program based on veterans' individual disabilities, as opposed to their combined disability ratings.

Table 11. Probabilities of condition worsening by specific ages for selected diagnoses

Diagnosis	Rating when first dis-abled	Age when first dis-abled	Rating thresh-old	Probability of being at or above rating threshold by specific ages			
				Assuming survival to specified age		Not assuming sur-vival to specified age	
				Age 50	Age 75	Age 50	Age 75
5257 Knee impairment	10%	25	30%	.050	.138	.048	.099
			40%	.005	.018	.005	.013
		40	30%	.020	.102	.019	.075
			40%	.002	.012	.002	.009
	20%	25	30%	.218	.365	.211	.263
			40%	.018	.049	.017	.035
		40	30%	.111	.290	.109	.212
			40%	.001	.039	.001	.028
7101 Hypertension	10%	25	30%	.032	.078	.031	.056
			40%	.020	.043	.019	.031
		40	30%	.012	.058	.011	.042
			40%	.006	.029	.006	.021
	20%	25	30%	.130	.188	.126	.135
			40%	.108	.144	.104	.104
		40	30%	.060	.128	.059	.094
			40%	.046	.088	.046	.065
9411 PTSD	10%	25	30%	.879	.990	.850	.715
			40%	.780	.973	.754	.702
		40	30%	.676	.984	.664	.720
			40%	.521	.944	.511	.691
	20%	25	30%	n.a.	n.a.	n.a.	n.a.
			40%	n.a.	n.a.	n.a.	n.a.
		40	30%	n.a.	n.a.	n.a.	n.a.
			40%	n.a.	n.a.	n.a.	n.a.

Source: CNAC calculations using re-rating probabilities from the VBA Compensation and Pension Master Record data files (disabilities of veterans in both the December 2000 and December 2005 files) and mortality data from VA [13] and the Social Security Administration [11].

Notes: The probabilities are specific to male veterans. The abbreviation "n.a." indicates that the initial rating of 20% is not applicable because PTSD is rated only at 10, 30, 50, 70, and 100 percent.

Chapter 6. Savings in compensation payments

As previously discussed, one source of savings from establishing a lump sum program is compensation payments. Specifically, savings would come from paying lump sums that are less than the present discounted value of expected lifetime monthly payments. In this chapter, we consider how much those savings might be.

First we discuss estimates of compensation savings in other related analyses. Then we estimate savings for seven specific diagnoses, showing how savings depend on lump sum program design. Last, we present estimates of total savings in compensation for one possible design of a lump sum program.

Prior estimates of compensation savings

Two prior analyses have estimated savings in compensation payments from a potential VA lump sum program for disabled veterans [1, 2]. The assumption in [1] is that all veterans with a 10-percent combined disability rating receive a lump sum instead of an annuity. In that analysis, savings arise because the lump sums are calculated based on veterans' current ratings, with no future compensation available for situations in which a disability worsens. Another source of savings in that analysis is that no COLA is applied in calculating the lump sum. The assumptions in [2] are that a lump sum is offered to all veterans with a 10- or 20-percent disability rating and that 50 percent take the lump sum. The source of savings is the fact that the lump sums are calculated using a 5 percent discount rate, which means that they are less than the present discounted value of the lifetime monthly compensation payments.

Savings in compensation payments for specific diagnoses

Data and methods

In estimating savings for specific diagnoses, we wanted to focus on some diagnoses that had relatively "low" probabilities of increases in ratings over time. To identify those diagnoses, we used the same data that we used for our analysis of re-ratings in the previous chapter.

Once we selected the diagnoses that would serve as examples, we used the VBA's CPMR data file for December 2005 to identify all cases of those disabilities, by veteran's age and gender and by the disability's rating.

For our baseline estimates of savings, we first calculated the present discounted value of lifetime payments for each combination of disability rating, age, and gender. We used SSA data [11] for estimates of remaining years of life by age and gender. We inflated each year's payment with a COLA of 2.98 percent, and we discounted each year's payments with an interest rate of 6.41 percent.[35] After calculating the present value of the lifetime compensation for each disability, we calculated what the equivalent lump sum would be if a 5-percent personal discount rate were used. We then assumed that a lump sum offer would be made for disabilities with 10- and 20-percent ratings and that 50 percent of those offers would be accepted. Thus, savings consist of the difference between the present value of lifetime payments for all disabilities and the compensation to all veterans if a lump sum program were established. For each of the diagnoses, savings are expressed as the average percentage savings per case over all cases with ratings above 0 percent and then just over cases eligible for a lump sum.

Note that we were concerned that the group of people who currently have a particular disability is not necessarily representative of the group of people who will have that disability in the future.

---

35. We used the average COLA over the 20-year period 1986-2005 from [12]. We used the average interest rate for 10-year U.S. Treasury Securities over the 20-year period 1986-2005 from [10].

Therefore, we calculated savings estimates based on two samples: all current disabilities and just the disabilities newly compensable between 2000 and 2005. The estimates of savings for the latter group should be considered more representative of the savings that would be realized if the lump sum were offered only for newly compensable disabilities.

To show how all our baseline estimates might be affected by changes in our assumptions, we calculated additional estimates for one diagnosis. We made modifications to our assumptions about the COLA, the interest rate, the personal discount rate, eligibility, and the acceptance rate.[36]

Sample diagnoses

Table 12 lists the seven diagnoses that we selected as examples and shows their distributions across disability ratings. We chose them because they had "low" re-rating probabilities (see table 13) and represent a variety of body systems.

The distributions in table 12 show that changes in the rating levels that are made eligible for a lump sum will affect different diagnoses differently. For example, virtually all the tinnitus disabilities are rated at 10 percent, so expanding eligibility from just the 10-percent rated cases to include cases with 20-percent or 30-percent ratings will hardly increase the number of lump sums paid for tinnitus. Consequently, it will hardly increase savings. In contrast, thumb amputation has very few cases with a 10-percent rating and many with a 20-percent rating. This means that expanding eligibility from just the 10-percent rated cases to include the 20-percent cases would have a significant impact on savings.

---

36. Our alternative assumptions for the personal discount rate are 0 percent and 10 percent. As previously mentioned, the estimates of personal discount rates in the literature are often greater than 10 percent. However, we focused on the lower personal discount rates of 5 percent and 10 percent because higher rates mean a higher probability that the lump sums could be perceived as "unfair" by some, even if the lump sums are optional. Calculating lump sums based on higher rates of course means lower lump sums and therefore greater VA savings per lump sum recipient.

Table 12. Percentage of disabilities in each rating for selected diagnoses that are likely candidates for lump sum payments

Diagnosis (number of disabilities)	Disability rating					
	10%	20%	30%	40%	50%+	Total
5152 Thumb amputation (1,709)	2	81	15	3	0	100
5206 Limited flexion of forearm (2,655)	66	22	6	4	2	100
5211 Impairment of ulna (3,701)	59	26	11	4	0	100
5212 Impairment of radius (4,589)	68	19	9	4	0	100
6260 Tinnitus (113,634)	100	0	0	0	0	100
7101 Hypertension (102,201)	91	5	2	1	1	100
7800 Scars on head, face, or neck (32,277)	85	0	12	0	3	100

Source: VBA Compensation and Pension Master Record data files (disabilities in both the December 2000 and December 2005 files).

Table 13. Rating increases between 2000 and 2005 for selected diagnoses that are likely candidates for lump sum payments

Diagnosis	Increases in ratings	
	Percentage with increase	Average increase
5152 Thumb amputation	0.3%	*
5206 Limited flexion of forearm	1.7%	*
5211 Impairment of ulna	2.0%	12
5212 Impairment of radius	2.2%	13
6260 Tinnitus	0.0%	*
7101 Hypertension	1.7%	24
7800 Scars on head, face, or neck	1.4%	24

Source: VBA Compensation and Pension Master Record data files (disabilities in both the December 2000 and December 2005 files).
Notes: The average increase in rating is expressed in percentage points. An asterisk indicates that the average is not shown because it was calculated using fewer than 50 disabilities.

Estimates of savings in compensation payments

Table 14 shows baseline savings estimates for all seven diagnoses. The samples for the savings estimates are defined along two dimensions: (1) all cases or only those eligible for a lump sum offer under our assumptions (i.e., a 10-percent or 20-percent rating) and (2) all cases or only those newly compensable after 2000.

Table 14. Savings per case from offering a lump sum for selected diagnoses that are likely candidates for lump sum payments

Sample and diagnosis	Average per case over all cases in diagnosis		Average per case over all eligible cases in diagnosis	
	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered
All cases compensated in 2005				
5152 Thumb amputation	$36,356	12.3%	$33,853	16.2%
5206 Limited flexion of forearm	$30,065	15.7%	$26,443	19.3%
5211 Impairment of ulna	$30,179	13.0%	$25,586	17.8%
5212 Impairment of radius	$29,396	12.7%	$24,262	17.8%
6260 Tinnitus	$20,707	18.0%	$20,695	18.0%
7101 Hypertension	$25,111	15.2%	$22,196	17.8%
7800 Scars on head, face, or neck	$27,624	9.9%	$19,115	17.3%
Newly compensable cases only				
5152 Thumb amputation	$49,222	14.4%	$43,564	20.0%
5206 Limited flexion of forearm	$30,098	18.2%	$27,760	20.5%
5211 Impairment of ulna	$34,364	17.3%	$31,020	20.6%
5212 Impairment of radius	$34,964	15.8%	$29,651	20.7%
6260 Tinnitus	$20,734	18.2%	$20,730	18.2%
7101 Hypertension	$26,067	16.7%	$23,617	19.0%
7800 Scars on head, face, or neck	$37,126	11.1%	$25,006	20.7%

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for December 2005) for number of disabilities in each diagnosis and using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: "Newly compensable cases" are disabilities for which compensation began after 2000. Base year compensation is for December 2005 – November 2006, assuming no dependents. Averages exclude disabilities with 0-percent ratings. The following assumptions are used: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings, and 50 percent of lump sum offers are accepted.

Savings per case range from 9.9 percent to 20.7 percent, depending on the sample and diagnosis. The 9.9 percent savings (for all cases with ratings above 0 percent in diagnostic code 7800) translate into an average of $2,735 per case. The 20.7 percent savings (for newly compensable eligible cases in diagnostic codes 5212 and 7800) translate into averages of $6,138 and $5,176 per case, respectively.

Note that the savings shown in table 14 would not occur immediately, i.e., they would not occur at the time the lump sum is paid. Instead, they would be achieved over time through the annuities that no longer have to be paid to lump sum recipients. We estimated the average break-even period (i.e., the number of years for cumulative savings to exceed the lump sum) among the lump sum recipients for each of the seven diagnoses. Those estimates ranged from 11 to 14 years, depending on the diagnosis and on whether we assumed all eligible cases or only the newly-compensable eligible cases were offered a lump sum.

Also note that the savings shown in table 14 were estimated for specific diagnoses and should not be applied to total disability compensation in order to obtain an estimate of total savings. The reason is that savings vary by diagnosis. Table 14 shows that even if the same eligibility criteria were applied across all diagnoses, the percentage savings would vary. In addition, it is likely that some diagnoses would not be eligible at all for a lump sum (e.g., PTSD because of its high re-rating probability). Such diagnoses would not have any savings from a lump sum program.

Except for tinnitus, the estimates of percentage savings per case are of course higher among eligible cases than among all cases. This is because we are assuming that a lump sum is paid for 50 percent of eligible cases. Thus, the sample that is limited to eligible cases will always have a higher proportion (i.e., 50 percent) receiving a lump sum than the sample of all cases. The reason that tinnitus is the exception is that virtually all cases are eligible (i.e., rated at less than 30 percent). So, there is very little difference between average savings calculated over all cases and average savings calculated over just the eligible cases.

The estimates for newly compensable cases should be considered more representative of savings from offering lump sums for only

newly compensable disabilities. The estimates for that group are higher because the newly compensable cases tend to be younger veterans. With younger veterans, the difference between the lump sum and the present value of the lifetime stream of payments is greater, and so a group with more younger recipients generates greater savings.

Tables 15 and 16 simply show how the estimates for thumb amputation in table 14 change as our assumptions about lump sum program design and about external economic factors (the COLA and interest rate) change. The variability of the estimates demonstrates the importance of making accurate assumptions when drawing conclusions about the savings that a lump sum program could produce.

Table 15. Savings per case from offering a lump sum for thumb amputation for all cases compensated in 2005

Assumptions	Average per case over all cases in diagnosis		Average per case over all eligible cases in diagnosis	
	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered
Baseline	**$36,356**	**12.3%**	**$33,853**	**16.2%**
Alternatives compared to baseline				
Interest rate alternatives				
5%	$41,520	13.4%	$38,806	17.5%
8%	$31,783	11.3%	$29,477	14.8%
Personal discount rate alternatives				
0%	$36,356	0.0%	$33,853	0.0%
10%	$36,356	18.8%	$33,853	24.6%
COLA alternatives				
2%	$33,289	11.7%	$30,916	15.4%
4%	$40,058	13.0%	$37,403	17.0%
Eligibility alternatives				
10% ratings only	$36,356	0.3%	$22,944	19.1%
10%, 20%, and 30% ratings	$36,356	15.2%	$35,695	15.9%
Acceptance rate alternatives				
25%	$36,356	6.2%	$33,853	8.1%
75%	$36,356	18.5%	$33,853	24.2%
Acceptance rate depends on size of lump sum and veteran's age	$36,356	4.5%	$33,853	5.9%

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for December 2005) for number of disabilities in each diagnosis and using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: Base year compensation is for December 2005 – November 2006, assuming no dependents. The averages exclude disabilities with 0-percent ratings. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings, and 50 percent of lump sum offers are accepted.

Table 16. Savings per case from offering a lump sum for thumb amputation for newly compensable cases only

Assumptions	Average per case over all cases in diagnosis		Average per case over all eligible cases in diagnosis	
	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered	Present value of compensation without lump sum offer	Percentage savings if lump sum were offered
Baseline	**$49,222**	**14.4%**	**$43,564**	**20.0%**
Alternatives compared to baseline				
Interest rate alternatives				
5%	$59,210	15.8%	$52,551	21.9%
8%	$41,000	13.0%	$36,173	18.2%
Personal discount rate alternatives				
0%	$49,222	0.0%	$43,564	0.0%
10%	$49,222	20.8%	$43,564	29.0%
COLA alternatives				
2%	$43,641	13.6%	$38,546	18.9%
4%	$56,307	15.3%	$49,939	21.3%
Eligibility alternatives				
10% ratings only	$49,222	1.1%	$23,680	19.4%
10%, 20%, and 30% ratings	$49,222	18.7%	$47,959	19.9%
Acceptance rate alternatives				
25%	$49,222	7.2%	$43,564	10.0%
75%	$49,222	21.6%	$43,564	30.1%
Acceptance rate depends on size of lump sum and veteran's age	$49,222	8.4%	$43,564	11.6%

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for December 2005) for number of disabilities in each diagnosis and using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: "Newly compensable cases" are disabilities for which compensation began after 2000. Base year compensation is for December 2005 – November 2006, assuming no dependents. Averages exclude disabilities with 0-percent ratings. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings, and 50 percent of lump sum offers are accepted.

Total savings in compensation payments

Data and methods

In estimating total savings in compensation resulting from a lump sum program, we assumed that only disabilities in the diagnostic codes with "low" re-rating probabilities would be eligible for a lump sum. To identify those diagnoses, we used the same data that we used for our analysis in the previous chapter and determined which diagnostic codes had fewer than 2 percent of disabilities with an increase in rating between 2000 and 2005. See Appendix B for a list of those diagnoses. We assumed that only disabilities with a 10-percent or 20-percent rating in those diagnosis codes would be eligible for a lump sum.

For the disabilities in the diagnosis codes that we assumed eligible for a lump sum program, we calculated the lump sum payments in the same way that we did for the baseline estimates of savings in the previous section. Specifically, we used a COLA of 2.98 percent and an interest rate of 6.41 percent, we used a 5-percent personal discount rate, we assumed that a lump sum offer would be made for disabilities with 10- and 20-percent ratings, and we assumed that 50 percent of those offers would be accepted.

For disabilities being compensated with an annuity, we calculated compensation payments using the actual 2006 monthly payments for ratings of 10 percent and 20 percent and the average monthly payments for ratings of 30 percent or higher.[37] For each rating group, we multiplied those compensation amounts by the sum of the number of ineligible disabilities and half of the number of eligible ones. (Recall that we are assuming that the other half of eligible disabilities are compensated by a lump sum.)

---

37. We calculated the average payment for ratings of 30 percent and higher using data from [44], combined with our tabulations from the CPMR data file for December 2005. We chose to use published administrative data because the CPMR data alone did not allow us to account for the fact that compensation for veterans with ratings of 30 percent and higher varies according to the number of dependents.

In calculating costs each year, we had to make assumptions about the number of disabilities for which compensation would be paid. We accounted for mortality by reducing the previous year's number of disabilities by 2.8 percent, which we calculated from [13]. We accounted for the newly compensable disabilities by adding to the previous year's number of disabilities the average number of newly compensable disabilities per year during the period 2001 to 2005, based on the CPMR data files from December 2000 and December 2005.

Estimates of savings in compensation payments

First-year effect of lump sum program

Tables 17 and 18 provide comparisons of compensation costs with and without a lump sum program for just the first year of a program. Table 17 shows cost estimates for all disabilities, and therefore the results apply to a program in which a lump sum is offered for all currently-compensated disabilities that are otherwise eligible. Table 18 concerns just a single year of newly compensable disabilities, which means that the estimate of the additional cost applies to a program in which a lump sum is offered only for newly compensable disabilities that are otherwise eligible.

Both tables 17 and 18 show that a lump sum program would have significant additional costs in the first year because of the lump sum payments. According to the estimates in Table 17, the first-year additional costs if a lump sum were offered for all disabilities that were otherwise eligible would be $6.7 billion, which means total compensation would be 31 percent higher with a lump sum program than without one ($21.2 billion). Not surprisingly, offering a lump sum to only the newly compensable disabilities that are otherwise eligible results in lower additional first-year costs. Specifically, table 18 shows that the additional cost for that type of program design would be $545 million.

Table 17. All compensable disabilities: additional costs in first year of lump sum program

	Number of disabilities	Compensation payments (in billions of dollars)		
		Without lump sum program (one year's payments)	With lump sum program (first year of program)	Additional cost from lump sum program (first year of program)
Not eligible for lump sum	3,964,168	$19.672	$19.672	$0
Eligible for lump sum	1,078,156	$1.539	$8.199	$6.660
Choose annuity	539,078	$0.770	$0.770	$0
Choose lump sum	539,078	$0.770	$7.430	$6.660
Total	5,042,324	$21.211	$27.872	$6.660

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for December 2005) for number of disabilities in each diagnosis and using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: Base year compensation is for December 2005 – November 2006. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings in selected diagnosis codes (see Appendix B), and 50 percent of lump sum offers are accepted.

Table 18. Newly compensable disabilities: additional costs in first year of lump sum program

	Number of disabilities	Compensation payments (in billions of dollars)		
		Without lump sum program (one year's payments)	With lump sum program (first year of program)	Additional cost from lump sum program (first year of program)
Not eligible for lump sum	328,976	$1.363	$1.363	$0
Eligible for lump sum	84,672	$0.117	$0.662	$0.545
Choose annuity	42,336	$0.058	$0.058	$0
Choose lump sum	42,336	$0.058	$0.603	$0.545
Total	413,647	$1.480	$2.025	$0.545

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for both December 2000 and December 2005) for number of disabilities in each diagnosis and using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: Base year compensation is for December 2005 – November 2006. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings in selected diagnosis codes (see Appendix B), and 50 percent of lump sum offers are accepted.

Effect of lump sum program over time

Tables 19 and 20 present results from the same type of analysis done for tables 17 and 18, except extended over 10 years instead of a single year. Note that these estimates result from a very specific set of assumptions and should not be considered applicable to all possible lump sum program designs.

Table 19 shows estimates for a program offering a lump sum for all currently compensated disabilities that are otherwise eligible. For that type of program design, all the additional costs occur in the first year because of the large number of lump sum recipients (539,078 from table 17). In all subsequent years, a lump sum program generates savings in compensation costs. Even though the newly compensable disabilities are paid $603 million dollars each year in lump sums, total compensation is still less than without a lump sum program because of the large number of disabilities that were compensated with a lump sum and are therefore no longer paid an annuity. Note, though, that because of the large additional cost in the first year, cumulative savings remain negative throughout the first 10 years. It is not until year 17 that the program breaks even. In other words, cumulative savings remain negative until the 17th year.

Table 20 shows estimates for a program offering a lump sum for only newly compensable disabilities that are otherwise eligible. For that type of program design, a lump sum program generates additional costs in each of the first 10 years, although the size of the additional costs declines over time. The decline in additional costs is due to the fact that, in each successive year, a larger number of disabilities are not paid an annuity because a lump sum has already been paid. Since the decline in additional costs each year is relatively small, it takes 25 years for the program to break even.

Table 19.   All compensable disabilities: 10-year effect of a lump sum program

Year	Without a lump sum program	With a lump sum program			Change due to lump sum program	Cumulative savings from a lump sum program
		Disability compensated by annuity	Disability compensated by lump sum	Total		
Number of disabilities being compensated (in millions)						
1	5.042	4.503	0.539	5.042	0	n.a.
2	5.314	4.748	0.042	4.790	- 0.524	n.a.
3	5.578	4.985	0.042	5.027	- 0.550	n.a.
4	5.834	5.216	0.042	5.258	- 0.576	n.a.
5	6.083	5.440	0.042	5.482	- 0.601	n.a.
6	6.325	5.658	0.042	5.700	- 0.625	n.a.
7	6.561	5.870	0.042	5.912	- 0.649	n.a.
8	6.789	6.076	0.042	6.118	- 0.671	n.a.
9	7.012	6.276	0.042	6.318	- 0.694	n.a.
10	7.227	6.470	0.042	6.512	- 0.715	n.a.
Compensation payments (real amounts in billions of current dollars)						
1	21.211	20.442	7.430	27.872	6.660	- 6.660
2	22.093	21.287	0.603	21.891	- 0.203	- 6.457
3	22.951	22.109	0.603	22.712	- 0.238	- 6.219
4	23.784	22.907	0.603	23.511	- 0.273	- 5.946
5	24.594	23.683	0.603	24.287	- 0.306	- 5.639
6	25.380	24.437	0.603	25.041	- 0.340	- 5.299
7	26.145	25.170	0.603	25.774	- 0.371	- 4.928
8	26.888	25.882	0.603	26.486	- 0.402	- 4.526
9	27.610	26.574	0.603	27.178	- 0.432	- 4.093
10	28.312	27.247	0.603	27.851	- 0.462	- 3.632

Source: CNAC calculations using VBA Compensation and Pension Master Record data file (for December 2005) for number of disabilities in each diagnosis, mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11], and mortality data (proportion who drop out each year) from VA [13].

Notes: The abbreviation "n.a." indicates not applicable. Base year compensation is for December 2005 – November 2006. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings in selected diagnosis codes (see Appendix B), and 50 percent of lump sum offers are accepted. Without a lump sum program, 413,647 disabilities are added each year, and 2.8 percent from the previous year drop out because of mortality. With a lump sum program, for disabilities compensated by annuity, 371,312 are added each year, and 2.8 percent from the previous year drop out because of mortality. With a lump sum program, there are 42,336 disabilities compensated by lump sum each year after the first year.

Table 20. Newly compensable disabilities: 10-year effect of a lump sum program

Year	Without a lump sum program	With a lump sum program			Change due to lump sum program	Cumulative savings from a lump sum program
		Disability compensated by annuity	Disability compensated by lump sum	Total		
Number of disabilities being compensated (in millions)						
1	0.414	0.371	0.042	0.414	0	n.a.
2	0.816	0.732	0.042	0.774	- 0.041	n.a.
3	1.206	1.083	0.042	1.125	- 0.081	n.a.
4	1.586	1.424	0.042	1.466	- 0.120	n.a.
5	1.955	1.755	0.042	1.797	- 0.158	n.a.
6	2.313	2.077	0.042	2.119	- 0.194	n.a.
7	2.662	2.389	0.042	2.432	- 0.230	n.a.
8	3.000	2.693	0.042	2.736	- 0.265	n.a.
9	3.329	2.989	0.042	3.031	- 0.298	n.a.
10	3.649	3.276	0.042	3.318	- 0.331	n.a.
Compensation payments (real amounts in billions of current dollars)						
1	1.480	1.422	0.603	2.025	0.545	- 0.545
2	2.919	2.804	0.603	3.407	0.488	- 1.033
3	4.317	4.146	0.603	4.750	0.433	- 1.466
4	5.675	5.451	0.603	6.055	0.380	- 1.846
5	6.996	6.719	0.603	7.323	0.327	- 2.173
6	8.279	7.952	0.603	8.555	0.277	- 2.450
7	9.525	9.149	0.603	9.753	0.228	- 2.678
8	10.737	10.313	0.603	10.917	0.180	- 2.858
9	11.915	11.444	0.603	12.048	0.133	- 2.991
10	13.059	12.544	0.603	13.147	0.088	- 3.079

Source: CNAC calculations using VBA Compensation and Pension Master Record data files (for both December 2000 and December 2005) for number of disabilities in each diagnosis, mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11], and mortality data (proportion who drop out each year) from VA [13].

Notes: The abbreviation "n.a." indicates not applicable. Base year compensation is for December 2005 – November 2006. The following assumptions are used in the baseline calculations: the interest rate is 6.41 percent, the personal discount rate is 5 percent, the COLA is 2.98 percent, the lump sum is offered only to those with 10- or 20-percent ratings in selected diagnosis codes (see Appendix B), and 50 percent of lump sum offers are accepted. Without a lump sum program, 413,647 disabilities are added each year, and 2.8 percent from the previous year drop out because of mortality. With a lump sum program, for disabilities compensated by annuity, 371,312 are added each year, and 2.8 percent from the previous year drop out because of mortality. With a lump sum program, there are 42,336 disabilities compensated by lump sum each year after the first year.

Summary

The savings estimates in this chapter demonstrate that the savings in compensation payments that would result from establishing a lump sum program would depend on many factors. Within the area of program design, savings would be affected by which disabilities and ratings would be eligible for a lump sum and what personal discount factor would be used when calculating the lump sums. The relationship between veterans' personal discount rates and the personal discount rate used in calculating the lump sums determines how many accept the lump sum offer. Other factors affecting the level of savings would be the actual future COLAs and interest rates and how much they differ from the COLAs and interest rates used in calculating the lump sum. The variability of the estimates in this chapter illustrates the importance of these factors in determining the savings that a lump sum program could produce.

We used a very specific set of assumptions in calculating our savings estimates. In our estimates for selected diagnosis codes, we found savings in lifetime compensation payments from a lump sum program ranging from about 10 to 21 percent when calculated just over the disabilities within those diagnostic codes. However, when we calculate estimates across all disabilities and for each year separately, we get a fuller perspective on the effect of a lump sum program on compensation costs. The most striking result is how long it would take for a lump sum program to begin generating cumulative savings, due to the large up-front cost of paying lump sums. In particular, we estimated that it would take about 17 years to break even for a program offering a lump sum for all currently compensable (and otherwise eligible) disabilities. For a program offering a lump sum for only newly compensable (and otherwise eligible) disabilities, it would take about 25 years to break even.

Chapter 7. Administrative savings

Administration represents an important area of potential savings from establishing a lump sum program. In fact, if the lump sums were calculated simply as the present discounted value of monthly payments over the veteran's expected lifetime, without incorporating a personal discount rate to account for time preference, then administration would be the *only* source of savings from a lump sum program.

This chapter first discusses estimates of administrative savings in other related analyses. It then identifies the components of administrative costs that would potentially be affected by a lump sum program. It concludes with a set of estimates of the average savings and costs per lump sum recipient.

Prior estimates of administrative savings

Despite the importance of administrative savings, prior estimates are difficult to find. The three previous analyses [1, 2, 45] of the effect of a VA lump sum program mention the potential for administrative savings, but only one of them [1] provides an estimate. In that study, the source of administrative savings is a program provision that does not allow lump sum recipients to file any additional claims, not even for "new" disabilities that arise in the future. The study assumes that all newly compensable veterans with a 10-percent combined disability rating receive a lump sum. It also assumes that 10 percent of lump sum recipients would file a "repeat" claim each year, although repeat claims are defined in that analysis to include new disabilities that arise after receipt of the lump sum. The resulting savings estimate is 225,936 claims over the period 1995-2005. Savings are expressed only as a reduction in number of claims and are not translated into a reduction in dollars spent.

Components of administrative costs affected by a lump sum

Not surprisingly, for many areas of administration, the extent of savings from a lump sum program depends on the design of the program. First, whether the costs from applications for re-rating of disabilities would be eliminated by a lump sum program depends on whether lump sum recipients would be allowed to reapply for compensation if their condition worsened. Second, the level of savings from lump sum recipients not generating the routine administrative costs associated with dispensing monthly payments depends on whether the lump sum would compensate for a specific disability or all disabilities. For example, if the lump sum would compensate for only a specific disability, then it is likely that little savings would be realized for veterans with other disabilities for which a lump sum was not paid, because monthly payments would need to continue for those other disabilities.

Although one of the goals in establishing a lump sum program would be to save money, a lump sum program would also generate some new costs. First, there would be the one-time cost of setting up the program.[38] Second, there would be the on-going costs of providing the improved financial education and counseling that veterans' focus groups emphasized as important to the success of the program [1, 3].

Estimates of administrative savings

The greatest challenge in estimating administrative savings from a lump sum program is the lack of detailed data.[39] We have addressed this by assembling the available data, making a number of assumptions, and then showing how the savings estimates change when some of those assumptions change.

Note that the lack of appropriate data prevented us from estimating the one-time administrative costs of setting up a new program. Such

---

38. As noted below, we did not calculate estimates for those one-time costs.

39. We were not able to obtain data on administrative costs from VBA.

costs would include developing the necessary regulations, modifying data systems, and training staff. Those costs could be substantial, which would mean it would take years to recover them using the savings generated from other aspects of the lump sum program.

Savings and costs per lump sum recipient

We began our calculation of administrative savings and costs per lump sum recipient by estimating total management costs for disability compensation in FY2007. According to [46], total VBA management costs for FY2007 are $1.17 billion. From [47], we also know that the proportion of VBA's management costs for disability compensation was 46 percent in FY2001. Therefore, combining this information, we estimate the management costs for disability compensation to be $538.2 million in FY2007.[40]

Next we calculated the cost per claim using the number of claims in FY2000 from [48] and our estimate of total management costs. There were 111,672 original claims and 308,837 repeat claims in FY2000, and we had to make two assumptions for simplicity. First, we assumed that all management costs go toward claims processing. Second, we assumed the same number of claims in FY2007 as in FY2000. In addition, we assumed that a repeat claim on average costs only 30 percent as much to process as an original claim.[41] The resulting estimate is that it costs $790 to process a repeat claim on average.

---

40. An alternative approach to estimating total administrative costs yields a similar estimate. According to [47], the ratio of administrative costs to total annual benefits for the disability compensation program was 2.3 percent in FY2001. Total benefits for disability compensation in FY2004 were $20.592 billion [44]. Therefore, the estimate of administrative costs for FY2004 is $474 million. Applying an annual inflation factor of 3 percent results in FY2007 administrative costs of $517.5 million.

41. This is based on discussion with VBA personnel, who estimated that repeat claims cost roughly one-fourth to one-third as much to process as original claims.

Last, we estimated the average annual management costs for repeat claims per disabled veteran as $95. The estimate comes from combining the number of veterans receiving disability compensation (2,555,696 in FY2004, according to [44]) and our estimate of $790 per repeat claim.

In addition to the assumptions already mentioned, we made the following assumptions (some of which we relaxed when we calculated alternative estimates, as described below): (1) the additional cost of providing improved financial counseling is $400 per veteran[42], (2) the cost of processing a lump sum claim for a newly compensable veteran is the same as the cost of processing an original claim for an annuity, which means that a lump sum claim generates no additional processing costs, (3) the cost of processing a lump sum claim for a current recipient is the same as the cost of processing a repeat claim, and (4) all repeat claims are for the re-rating of existing conditions as opposed to initial ratings for newly occurring conditions.

Our estimates of administrative costs and savings are presented in table 21. According to our assumptions, all the costs for each lump sum recipient are incurred in the first year of that person's eligibility for a lump sum, whereas savings are achieved over time in the form of a reduction in repeat claims. We estimate that it would take 5 years to recover the administrative costs of a lump sum payment for a new recipient and 16 years to recover the costs for a current recipient of disability compensation, using all the assumptions described above. We also show how those estimates change when two of our assumptions change.

- We recalculate the estimates using $72 instead of $95 as the cost per repeat claim. This is equivalent to assuming that 75 percent of the costs of repeat claims are for re-ratings.

- We recalculate the estimates assuming that the cost to process a lump sum claim for current recipients is 75 percent of the cost for a repeat claim, i.e., $593 instead

42. That estimate is based on the fact that Canada's program offers up to about $400 USD worth of reimbursement for financial counseling.

of $790. This is equivalent to assuming that 75 percent of management costs go towards claims processing.

When we use these alternative assumptions, the estimate of the number of years to recover costs increases from 5 to 7 for new recipients and from 16 to 19 for current recipients of disability compensation.

Note that there would be administrative costs for additional financial education that are not represented in table 21. The reason is that table 21 shows results only for lump sum recipients. However, there would also be costs for financial counseling of people who ultimately decide not to take the lump sum.

Table 21. Estimated administrative savings and costs per lump sum recipient

Savings (annual)	Costs (one-time)		First-year net costs	Years to recover costs
Reduction in cost of processing claims for re-ratings [a]	Additional cost to process lump sum claims [b]	Additional cost to improve financial counseling		
New recipients				
$95	$0	$400	$305	5
$72	$0	$400	$328	7
Current recipients				
$95	$790	$400	$1,095	16
$95	$593	$400	$897	13
$72	$790	$400	$1,119	24
$72	$593	$400	$921	19

Source: CNAC calculations. See text for details.

a   Using $95 assumes that all repeat claims are for re-ratings of disabilities. The estimate of $72 assumes that 75 percent of repeat claims are for re-ratings.

b   The cost of processing a lump sum claim is assumed to be the same as that for an initial claim, and therefore new lump sum recipients do not generate any additional claims costs. Using $790 assumes that all management costs go to claims processing. The estimate of $593 assumes that 75 percent of management costs goes to claims processing.

Aggregate savings and costs

We calculated aggregate administrative savings and costs for a lump sum program using the following sources and assumptions. We used [44] for the number of veterans receiving compensation each year. We also used VBA's CPMR data files to estimate the proportion of newly-compensable cases and the proportion of eligible cases (assuming eligibility is restricted to diagnoses with a 2-percent or lower probability of an increased rating over a 5-year period). We calculated our estimates of mortality using [13]. We assumed that annual savings from eliminating re-rating claims for lump sum recipients would be $95 per recipient. We also assumed that the additional cost per lump sum recipient would be $790 for processing the claim (except among newly-compensable cases, for which the additional processing cost would be $0) and $400 for financial education. The cost of financial education for those who would be eligible for a lump sum but who would decline it was assumed to be $200. (All cost assumptions listed here are provided in FY2007 dollars.) As with the estimates in table 21, we were not able to include the administrative costs of establishing a lump sum program in our estimates.

Assuming that lump sum offers would not be restricted to newly-compensable cases, we estimated first-year net administrative costs as $375 million and the break-even period as 16 years. Those estimates changed to $17 million and 14 years when we assumed lump sums would be restricted to newly compensable cases.

To provide a more complete picture of net savings from a lump sum program, we combined our estimates of compensation savings from Chapter 6 with our estimates of administrative savings from this chapter. Assuming that lump sums would not be limited to newly-compensable cases, we estimated that the first-year costs would be $7.0 billion and that 17 years would be required to break even. When we assumed that only newly-compensable cases would be eligible, the estimate of first-year costs was $562 million and the break-even period was 24 years.

Summary

Many components of administrative costs would be affected by the establishment of a lump sum program. We used available data and a number of simplifying assumptions to try to derive useful estimates of administrative costs and savings. Depending on the assumptions, our estimates of the number of years required to recover the first-year costs incurred for a lump sum recipient range from 5 to 7 for new recipients and 13 to 24 for current recipients of disability compensation. We also estimate that the administrative break-even point for a lump sum program would range from 14 to 16 years, depending on whether the lump sum is offered only to newly-compensable cases. Thus, net administrative savings from a lump sum program should not be expected immediately.

Chapter 8. Estimating personal discount rates

If VA seriously considers a lump sum payment option, it needs to conduct a study to estimate personal discount rates. Having this information will allow VA to estimate how the number of veterans who would choose a lump sum varies with the amount of the lump sum. Thus, it is a key component in determining the level of savings that the program will generate. As explained in previous chapters, using a personal discount rate that accounts for time preference when computing lump sums results in savings in total compensation paid. Therefore, in designing the program, it is important to use personal discount rates that result in lump sums low enough to generate savings but high enough to provide "fair" compensation and attract enough takers.

This chapter begins with a description of two methods, a survey and a pilot study, for ascertaining disabled veterans' personal discount rates. It then addresses some of the technical issues involved in implementing either approach. It concludes with a discussion of their advantages and disadvantages.

Methods for ascertaining personal discount rates

As described earlier, estimates of personal discount rates for the military population already exist [23]. Nevertheless, there is some remaining uncertainty about their direct applicability to the population of disabled veterans. People with disabilities, even if their level of impairment is relatively low, might be expected to have different time preferences for money compared to a generally healthy population. In addition, the literature shows wide variation in estimates of personal discount rates. Consequently, VA might want to conduct a separate study to estimate the personal discount rates specifically of disabled veterans.

There are several approaches to studying personal discount rates that VA could use, two of which we think are reasonable options.

The first approach is to conduct a survey and simply ask veterans what their preference would be between a particular lump sum and an annuity. This type of approach is often referred to as *stated preferences*. The second approach would be to conduct a pilot study, which would involve a real offer of a lump sum to a sample of disabled veterans. Data from either a survey or a pilot study could be used with a methodology similar to the one used by Warner and Pleeter [23] to estimate personal discount rates.

Another approach that researchers sometimes use is experimental studies. Generally, these occur in a laboratory setting and involve asking participants to choose between receiving different amounts of money under different conditions. Participants actually receive the amounts of money that they choose, which means that the choices made in the study are expected to be very similar to "real" choices that people make. However, we have two concerns about the relevance of an experimental approach to estimating personal discount rates for VA disability compensation. One concern with experimental studies is that they typically offer choices of amounts that are much lower than VA disability compensation. This is problematic because the literature shows that personal discount rates can be very different for small versus large sums of money. Although a study could be designed using larger amounts of money than are typically offered in an experiment, that would adversely affect the affordability of the study. A second concern about the relevance of an experimental approach is that the participants would not be dependent on the funds received from the study, whereas some disabled veterans are very dependent on VA disability compensation for support

Technical issues in designing a survey or pilot study

Lump sums and annuities offered

Regardless of whether a survey or pilot study is used, the fundamental information being collected is whether disabled veterans prefer a given lump sum to a given annuity. Recall that if a veteran chooses the lump sum, then that means that the veteran's personal discount rate is greater than the personal discount rate used in calculating

the lump sum. Therefore, in designing the study, the most basic question is what lump sums and what annuities should be offered in order to provide the best estimates of personal discount rates.

From an econometric standpoint, data variability is good. Variability allows more precise estimates and broadens the applicability of the estimates. To say it another way, if we want to estimate what the take-up rate will be for lump sums calculated using a personal discount rate of 10 percent, our estimates will be more accurate if we actually have data on people's decisions about lump sums calculated at 10 percent. If our data include information only on choices made with respect to personal discount rates up to 5 percent, then estimating take-up rates at 10 percent requires essentially estimating outside the box, greatly reducing the accuracy of our estimates.

Figure 1 illustrates this concept. If we have low variability in our sample, we can probably get a good estimate of the take-up rate for point A. In addition, we can probably get a good estimate for point B because it is not far outside the observed data. However, the accuracy at point C will be substantially less because it is far outside the observed data. On the other hand, if we have high variability in our sample, we can probably get good estimates at all three points because they are all within the range of the data.

In brief, the survey or pilot study should obtain information over a range of personal discount rates. What should this range be? Probably the simplest answer is that the range should be slightly larger than the range that VA would consider using in an actual lump sum program. This approach ensures that only the most relevant information is obtained, thereby keeping data collection costs low.
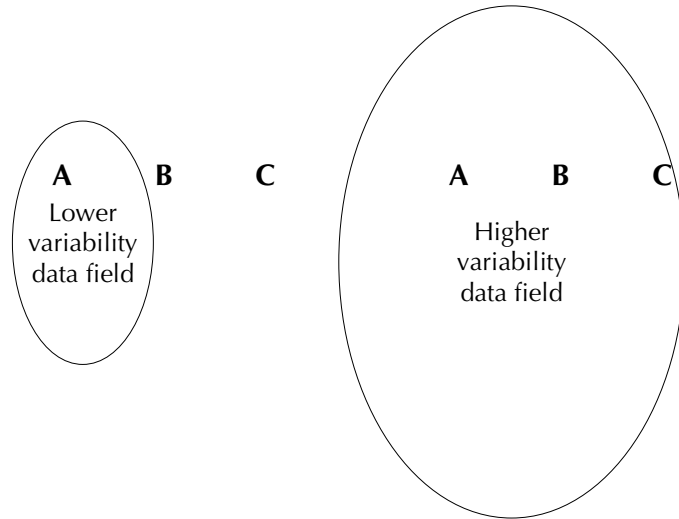
Figure 1.   Notional data variability

Table 22 shows the pairs of lump sums and monthly compensation payments that would be offered for 10- to 30-percent disability ratings, at age 25 or 40, and for personal discount rates between 0 and 15 percent. For example, if we were interested in the take-up rate at a personal discount rate of 2.5 percent, we would ask 25-year-olds with disability ratings of 10 percent whether they would prefer a monthly payment of $112 dollars (throughout life and adjusted for inflation) or a lump sum of $22,676. Note that the lump sums offered should vary by age, even for people with the same disability rating, to reflect differences in expected remaining years of life (and therefore remaining years of compensation payments).

Table 22.   Equivalent pairs of monthly annuities and lump sum offers

Disability rating and age	Monthly annuity	PDV of expected life-time compensation (same as lump sum calculated at 0% personal discount rate)	Lump sum by personal discount rate			
			2.5%	5.0%	10.0%	15.0%
10% disability						
Age 25	$112	$33,460	$22,676	$16,796	$10,958	$8,180
Age 40	$112	$29,030	$21,076	$16,199	$10,868	$8,165
20% disability						
Age 25	$218	$65,127	$44,138	$32,691	$21,329	$15,922
Age 40	$218	$56,505	$41,023	$31,530	$21,153	$15,892
30% disability						
Age 25	$337	$100,678	$68,232	$50,537	$32,972	$24,613
Age 40	$337	$87,349	$63,416	$48,742	$32,700	$24,568

Source: CNAC calculations using mortality data (expected remaining years of life as of calendar year 2010) from the Social Security Administration [11].

Notes: The lump sums are specific to male veterans because they are based on mortality for men. Base year compensation is for December 2005 – November 2006. The assumptions are an interest rate of 6.41 percent and COLA of 2.98 percent.

Sampling strategy

Regardless of whether VA conducts a survey or a pilot study, the sample will need to be designed to yield as much relevant information as possible, given sample size constraints. Thus, the sample should consist of only those types of veterans to whom a lump sum might actually be offered.

In earlier chapters, we have indicated that rating and type of disability could be appropriate determinants of eligibility. Assuming those are the determinants of eligibility, then the most useful sample would be limited to those veterans with ratings and disabilities most likely to be eligible for a lump sum offer. If a lump sum program would offer a lump sum only for disabilities with 10- and 20-percent ratings, then veterans with only disabilities rated at 30 percent or higher should not be included in the target population.

After the target population of veterans with specific ratings and disabilities is identified, a sampling approach would have to be chosen. The simplest approach would be to draw a random sample from the

entire target population. This approach is appealing in that the sample means would provide unbiased estimates of the population means. Another relatively simple approach would be to first divide the target population into groups defined by rating and/or disability and then draw a random sample from each group. This approach allows over-sampling of some groups, which ensures that there would be a sufficiently large sample size for each group to estimate differences between the groups. Unbiased estimates of the population mean could be obtained by applying the appropriate weights.

Demographic information

The literature clearly shows that demographic factors impact the personal discount rate. Thus, it would be extremely useful to obtain certain demographic characteristics of those in the sample. These demographic characteristics include age, education, income, gender, race, marital status, and number of dependents. VA could either ask for the information in the survey or pilot, or it could rely on administrative data. The advantage of getting demographic information from administrative data is that it would reduce the number of questions for those in the sample. Generally speaking, fewer questions mean a higher response rate. The VA compensation data do not have a lot of demographic information, but VA could get the information from other administrative sources, such as the Defense Manpower Data Center (DMDC).

Survey questions on lump sum offer

Table 22 shows which lump sums are equivalent to the monthly annuities for ratings of 10, 20, and 30 percent, based on different personal discount rates. As previously explained, information on veterans' preferences over a range of personal discount rates should be obtained. The question then arises about how exactly to obtain that information. In a pilot study, only one lump sum offer could be made to each person, and the information obtained would consist simply of whether each person accepted the offer. In a survey, however, more options would be presented to each respondent.

Suppose that we wanted to use a survey to determine individuals' propensity to take lump sums based on personal discount rates of 0, 5, 10, and 15 percent. One possibility would be to ask each individual in the survey four separate questions. For example, the questions for a 25-year-old with a 10-percent disability rating might be the following:

1. Which would you prefer: a lump sum of $8,180 or a monthly payment of $112 per month for life?

2. Which would you prefer: a lump sum of $10,958 or a monthly payment of $112 per month for life?

3. Which would you prefer: a lump sum of $16,796 or a monthly payment of $112 per month for life?

4. Which would you prefer: a lump sum of $33,460 or a monthly payment of $112 per month for life?

Although these questions are straightforward, there is a possibility that the survey respondents might not consider each question in isolation. In other words, their answers to each of the questions could be influenced by the other questions. A solution to this problem would be to randomly ask each respondent only one of the four questions. This would ensure that each question is considered in isolation, although it would also reduce the number of data points obtained for any given sample size.

Comparison between a survey and a pilot study

The previous section discusses aspects of two different methods—a survey and a pilot study—for ascertaining personal discount rates. While the information obtained from either approach would be similar, each approach has its advantages and disadvantages. Neither approach would be superior to the other in all aspects.

The first issue is cost, which favors a survey approach. There are costs to administering either a survey or pilot study. The main cost difference is that the pilot study requires actually paying the lump sum. In the long run, the lump sum pilot study is at worst cost-neutral with the annuity, and it would actually be cheaper than the annuity assuming a positive discount rate. However, the transitional costs are substantial because lump sum benefits are paid up front.

For an idea of what a pilot study might cost, assume that we randomly sample 400 people for a pilot program and that half of them take the lump sum. For those taking the lump sum, further assume that two-thirds have a 10-percent rating and the rest have a 20-percent rating. For simplicity, assume that all are 40 years old and receive a lump sum that is based on a 5-percent personal discount rate. With these assumptions the cost of the pilot program in the first year (lump sum payments less avoided first-year annuity payments) would be $3.9 million. If the personal discount rate were 2.5 percent, the first-year cost would be $5.2 million.

The second issue is accuracy, which favors a pilot study. The literature shows that "in studies comparing hypothetical values from stated preference methods to true values from experiments involving real money, hypothetical values are almost always larger" [49]. The expectation is that the survey results will likely over-estimate the proportion who would actually take the lump sum.

The third issue is the feasibility of offering different lump sums in the pilot study to people of the same age and with the same disability and rating. The purpose of doing so would be to obtain better estimates of take-up rates for different personal discount rates. This approach would most likely be implemented by randomly assigning the lump sum offers based on a range of personal discount rates. However, despite the random assignment and the fact that no pilot study participant would be required to accept the lump sum offer, there would probably be concerns about fairness. Because a survey does not involve actual amounts of money, just questions about them, this is not an issue for a survey. Hence, the issue of potential complaints about fairness favors the survey approach.

Summary

The literature shows that estimates of personal discount rates vary widely from study to study. Thus, it would be desirable to conduct a survey or pilot study specifically of disabled veterans in order to accurately estimate the proportion who would accept a lump sum offer. Because the basic information collected from a survey and a pilot is the same, the choice of which to use should ultimately depend on the constraints, such as cost, that VA faces.

Chapter 9. Discussion and conclusions

A lump sum program for disabled veterans has potential advantages both for veterans and VA. Veterans could benefit from having more choices about how to use their compensation and from having reduced administrative interactions with VA, which could lead to more timely processing of claims. VA could potentially reduce its costs for compensation payments and administration. However, whether a lump sum program would in fact produce these benefits, without having any negative effects on veterans' welfare, depends on the program design.

The information that we provided about disability compensation for veterans in Canada, the United Kingdom, and Australia actually suggests that it might not be advisable for VA to offer lump sum compensation at all. It is true that those three countries all use lump sum compensation, but they use it only for non-economic losses. All three choose to use annuities to compensate for economic losses, which is what VA compensation is intended to do. We can infer that, although each country sees advantages to lump sum compensation in some situations, for purposes of addressing economic losses they all have apparently decided that those advantages do not outweigh the potential disadvantages.

In designing a successful lump sum program, VA would need to make decisions about the following program elements:

- Would the lump sum be optional? If not, then concerns about whether the amount of the lump sum is "fair" would be especially significant.

- Would the lump sum be provided only for newly compensable veterans or disabilities, or would it also be for all veterans or disabilities for which compensation is currently paid? If eligibility were limited to newly compensable cases, this might raise concerns that current recipients are not being treated equally.

- Would the lump sum be designed to compensate for combined disability or for specific disabilities? If the lump sum were compensating for combined disability, then that would diminish the program's ability to account for differences across disabilities in their tendency to worsen over time.

- Would the lump sum be provided only for certain disabilities and ratings? If it would be available for all disabilities and ratings, then that could raise concerns about possible negative effects on veterans who depend on disability compensation for a significant portion of their income. If the lump sum would be available only to some disabilities and ratings (which raises the issue of fairness), then which candidates would make the best recipients, based on concerns about VA administrative savings and veterans' financial welfare?

- How would the lump sum be calculated? This relates to both VA savings and fairness to veterans. The only way for VA to achieve savings in the area of compensation payments is to provide lump sums that are less than equivalent to lifetime monthly payments. How much less than equivalent can the lump sums be and still be considered fair? Veterans' personal discount rates could be used to address this question. In addition, lump sums should be designed to vary with veterans' age, to reflect the expected remaining years of compensation payments. They would also have to vary by disability, to reflect expected deterioration, unless the program were designed to allow reapplication for increased disability.

- How would cases where the veteran's condition worsened be treated? If applications for re-rating were not allowed, then expected deterioration in a condition would need to be incorporated into calculation of the lump sums in order to address issues of fairness. If applications for re-rating were allowed, then VA administrative savings would be lower, and a decision would need to be made about how to best provide the additional compensation

(i.e., an additional lump sum or an annuity reduced in accordance with the lump sum already received).

The decisions about all of these components of a lump sum program would have an impact on the savings that VA could realize. With our savings estimates, we focused on program designs that seemed most likely, and we also illustrated how changes in some of the assumptions about program design affected the estimates.

For example, the condition categorized as thumb amputation seemed like a reasonable candidate for a lump sum program that was limited to disabilities with a low tendency to be re-rated. Over all the cases of thumb amputation rated higher than 0 percent, we estimated average savings in compensation payments as 12 percent per case, which translates into $4,349 savings per case. For the lump sum recipients among those cases, we estimated that the average break-even period was 11 years. Those estimates were based on the following main assumptions: (1) the lump sum would be calculated using a personal discount rate of 5 percent, (2) the lump sum would be offered only for cases with disability ratings of 10 or 20 percent, and (3) 50 percent of those offered the lump sum would take it. Our savings estimate increased to 16 percent when eligibility was restricted to only newly compensable cases, increased to 19 percent when a personal discount rate of 10 percent was used, and increased to 15 percent when cases with a 30-percent rating were included among the eligibles.

In addition to estimating savings for specific diagnoses, we also estimated total savings in compensation costs across all diagnoses using a specific set of assumptions. We estimate that it would take 17 years to break even for a lump sum program that did not restrict eligibility to newly compensable disabilities. Restricting eligibility to newly compensable disabilities increases the length of time to 25 years. Thus, even though a lump sum program would save money in compensation costs over the long term, the length of time for compensation costs to break even raises concerns about program feasibility, given the realities of the budgeting process.

In the area of administrative savings, we assumed that all the lump sum costs would be incurred in the first year and that savings would be achieved over time in the form of a reduction in the number of

repeat claims. We estimated that it would take 5 to 7 years to recover the first-year administrative costs of a lump sum for newly compensable cases. For current recipients of disability compensation, the estimates ranged from 13 to 24 years. The ranges reflect different assumptions about the cost per person of processing a lump sum claim and about the cost per person of processing re-rating claims.

We also estimated that the break-even period for aggregate administrative costs would range from 14 to 16 years. Combining the estimates of compensation savings and administrative savings yields break-even periods of 24 years for a program offering a lump sum to only the newly-compensable eligible disabilities and 17 years for a program offering a lump sum to all of the eligible disabilities.

We view our estimates of savings as a starting point for a more extensive analysis of costs and savings in a lump sum program. In particular, in order to conduct such an analysis, we believe it is necessary to obtain better information on the following:

- Personal discount rates of disabled veterans. This would allow VA to accurately predict how many lump sum offers would be accepted. We included a chapter describing two methods for ascertaining this information: a survey and a pilot study. For a program design in which the lump sum is optional, knowing the personal discount rates would allow estimation of the proportion and characteristics of veterans who would take the lump sum. For a program in which some groups are compensated only with a lump sum, the personal discount rate could provide guidance about what levels of compensation are "fair."

- The tendency for each type of disability to worsen over time. Our analysis provided this information for selected diagnoses among the most prevalent. In order to conduct a similar analysis for all diagnoses, more years of data are needed so that there are sufficiently large sample sizes for some of the less prevalent disabilities. For a program design in which lump sum recipients are not allowed to apply for additional compensation to account

for deterioration, then knowing re-rating probabilities allows the lump sums to incorporate the expected deterioration. Alternatively, it allows the lump sums to be offered only to disabilities with a low probability of worsening. For a program design in which application for additional compensation is allowed, knowing which disabilities tend to worsen will allow more accurate estimates of the administrative costs from those reapplications.

- Administrative costs. Because of the scarcity of data on administrative costs, our estimates relied on a number of simplifying assumptions. The following information would improve the estimation of administrative savings: (1) annual number of applications for re-ratings, by disability and veteran characteristics, including whether the veteran is receiving compensation for other conditions, and (2) the cost of processing an application for re-rating. In addition, it would be very useful if the data made a distinction between applications for re-rating of conditions for which compensation is already being received and applications for newly compensable conditions from veterans who are already receiving compensation for other conditions.

A lump sum program has potential benefits to VA and to veterans, but it would need to be carefully designed in order to achieve its goals. Clearly these goals include savings for VA, and so it is important to do a thorough analysis of the net savings under the various program design options before deciding whether and how to establish the program.

Appendix A: Glossary

Annuity. Arrangement involving the payment of a sum of money at regular intervals of time, such as monthly or yearly. In the context of VA disability compensation, veterans currently receive an annuity paid monthly.

COLA. Abbreviation for cost-of-living adjustment. This is an upward adjustment in a payment received over time to account for the decrease in purchasing power due to inflation. For example, if the annual inflation rate were 3 percent, $103 would be needed in one year to purchase the same amount that $100 would purchase now. VA disability compensation payments are currently increased annually by a COLA, effective December 1 of each year.

Combined rating. The disability rating that reflects the total impairment resulting from the combination of all of a veteran's service-connected disabilities. The amount of disability compensation is based on the combined rating. Combined ratings range from 0 percent to 100 percent in increments of 10 percentage points, with 100 percent reflecting the highest level of impairment. If a veteran has only one service-connected disability, the combined rating is the same as the individual rating for that disability. If a veteran has multiple service-connected disabilities, there is a specified method for determining the combined rating, i.e., the individual ratings are not simply added together to calculate the combined rating

Individual rating. The disability rating assigned to a single disability in the VA disability compensation program. Individual ratings range from 0 percent to 100 percent in increments of 10 percentage points, with 100 percent reflecting the highest level of severity.

Lump sum. An amount of money distributed in a single payment rather than in a series of payments over time.

Newly compensable veterans or disabilities. This term is used in this report to describe the veterans or disabilities for whom/which

disability compensation was not paid in some previous time period. For example, if a veteran was not receiving any disability compensation in 2003 but applied and was approved for disability compensation in 2004, we consider that veteran to be newly compensable in 2004. Similarly, if a veteran was receiving compensation for two disabilities in 2003 and then applied and was approved for disability compensation for a third disability in 2004, we consider that third disability to be newly compensable in 2004.

Original claim. Using the definition in [48], "an 'original' claim is the first application submitted by a veteran." Therefore, original claims exclude "all claims submitted after resolution of the original application, whether they involve re-evaluation of disabilities previously claimed or evaluation of new disabilities."

Personal discount rate. Reflects each individual's rate of time preference. For example, a personal discount rate of 0 percent means that someone does not care whether he or she receives a particular amount of money now or an exactly equivalent amount in the future. In contrast, someone with a personal discount rate greater than 0 is willing to accept an amount of money now that is less than the equivalent of a future amount.

Present discounted value (PDV). A method for expressing the value of future payments in terms of their value in the present. It accounts for the fact that a particular amount of money is worth less in the future than that same amount is worth today because inflation reduces its purchasing power over time. PDV also accounts for the fact that a sum of money received today can be invested. Pension benefits offer a familiar example of the use of PDV. Some retiring employees can choose between receiving their pension as a lump sum or as a lifetime annuity. In purely financial terms, whether the lump sum or the annuity is worth more depends on how long the retiree will live (i.e., how many annuity payments he or she would receive), inflation, and future interest rates, which determine how much interest income would be generated over time by investing the lump sum.

Real amounts, expressed in current dollars. Real amounts are values expressed in the prevailing prices of a specified base year. If the base year is the current year, then the values are considered to be

expressed in "current dollars." Real amounts are distinct from nominal amounts, which are values expressed in the prevailing prices of the particular relevant time periods. For example, if annual inflation between 2007 and 2008 is expected to be 4 percent, then a nominal value of $104 in 2008 has a real value of $100 when expressed in 2007 dollars.

Repeat claim. The term "repeat claim" in this report is equivalent to the term "subsequent reopened claim" as defined in [48]. In other words, a repeat claim is any claim submitted after an original claim, regardless of whether the submitted claim "involves re-evaluation of disabilities previously claimed or evaluation of new disabilities."

Time preference. The tendency among people on average to prefer receiving a particular amount of money now rather than receiving an equivalent amount of money in the future (i.e., a future amount that has been adjusted to account for both inflation and interest rates).

Appendix B: Diagnostic codes with few rating increases

This appendix provides the list of diagnoses for which the percentage of disabilities with an increase in rating between 2000 and 2005 was less than 2 percent, based on the CPMR data files from December 2000 and December 2005.[43] The disabilities with these diagnostic codes are the ones that we considered eligible for a lump sum payment in our estimation of potential savings in total compensation payments (see Tables 17 – 20 in Chapter 6).

5005	PNEUMOCOCCIC ARTHRITIS
5011	CAISSON DISEASE OF BONES
5018	HYDRARTHROSIS
5022	BONE INFLAMMATION
5099	BONE CONDITION
5107	ANATOMICAL LOSS OF BOTH FEET
5110	LOSS OF USE OF BOTH FEET
5111	LOSS OF USE OF ONE HAND AND ONE FOOT
5120	ARM AMPUTATION – DISARTICULATION
5121	ARM AMPUTATION ABOVE INSERTION OF DELTOID
5121	ARM AMPUTATION BELOW INSERTION OF DELTOID
5123	FOREARM AMPUTATION ABOVE INSERTION OF PRONATOR TERES
5124	FOREARM AMPUTATION BELOW INSERTION OF PRONATOR TERES
5125	LOSS OF USE OF HAND
5126	AMPUTATION OF FIVE DIGITS OF ONE HAND
5131	AMPUTATION OF FOUR DIGITS OF ONE HAND: INDEX, MIDDLE, RING, AND LITTLE
5132	AMPUTATION OF THREE DIGITS OF ONE HAND: THUMB, INDEX, AND MIDDLE
5138	AMPUTATION OF THREE DIGITS OF ONE HAND: INDEX, MIDDLE, AND RING

---

43. Diagnosis codes with fewer than 50 disabilities are not included in this list because the small number of cases reduced our confidence in the estimate of the percentage with a rating increase.

5142	AMPUTATION OF TWO DIGITS OF ONE HAND: THUMB AND INDEX
5146	AMPUTATION OF TWO DIGITS OF ONE HAND: INDEX AND MIDDLE
5149	AMPUTATION OF TWO DIGITS OF ONE HAND: MIDDLE AND RING
5151	AMPUTATION OF TWO DIGITS OF ONE HAND: RING AND LITTLE
5152	AMPUTATION OF THUMB
5153	AMPUTATION OF INDEX FINGER
5154	AMPUTATION OF MIDDLE FINGER
5155	AMPUTATION OF RING FINGER
5156	AMPUTATION OF LITTLE FINGER
5160	AMPUTATION OF THIGH – DISARTICULATION
5161	AMPUTATION OF UPPER THIRD OF THIGH
5162	AMPUTATION OF MIDDLE OR LOWER THIRDS OF THIGH
5163	AMPUTATION OF LEG WITH DEFECTIVE STUMP
5164	AMPUTATION OF LEG WITH LOSS OF NATURAL KNEE ACTION
5165	AMPUTATION OF LEG AT A LOWER LEVEL
5166	AMPUTATION OF FOREFOOT PROXIMAL TO METATARSAL BONES
5167	LOSS OF USE OF FOOT
5170	AMPUTATION OF ALL TOES WITHOUT METATARSAL LOSS
5171	AMPUTATION OF GREAT TOE
5172	AMPUTATION OF OTHER TOE
5173	AMPUTATION OF THREE OR MORE TOES, NOT INCLUDING GREAT TOE
5199	LOSS OR LOSS OF USE OF EXTREMITY
5206	LIMITED FLEXION OF FOREARM
5207	LIMITED EXTENSION OF FOREARM
5208	FOREARM FLEXION LIMITED TO 100 DEGREES AND EXTENSION TO 45 DEGREES
5209	OTHER IMPAIRMENT OF ELBOW
5210	FOREARM CONDITION: NONUNION OF RADIUS AND ULNA WITH FLAIL FALSE JOINT
5215	LIMITED MOTION OF WRIST
5216	UNFAVORABLE ANKYLOSIS OF FIVE DIGITS OF ONE HAND
5217	UNFAVORABLE ANKYLOSIS OF FOUR DIGITS OF ONE HAND
5219	UNFAVORABLE ANKYLOSIS OF TWO DIGITS OF ONE HAND
5220	FAVORABLE ANKYLOSIS OF FIVE DIGITS OF ONE HAND
5221	FAVORABLE ANKYLOSIS OF FOUR DIGITS OF ONE HAND
5222	FAVORABLE ANKYLOSIS OF THREE DIGITS OF ONE HAND
5223	FAVORABLE ANKYLOSIS OF TWO DIGITS OF ONE HAND
5224	ANKYLOSIS OF THUMB
5225	ANKYLOSIS OF INDEX FINGER
5226	ANKYLOSIS OF MIDDLE FINGER
5227	ANKYLOSIS OF ANY OTHER FINGER
5250	ANKYLOSIS OF HIP
5251	LIMITED EXTENSION OF THIGH
5253	IMPAIRMENT OF THIGH
5254	HIP CONDITION: FLAIL JOINT

5263 KNEE CONDITION: GENU RECURVATUM
5272 ANKYLOSIS OF SUBSTRAGULAR OR TARSAL JOINT OF ANKLE
5277 WEAK FOOT, BILATERAL
5279 FOOT PAIN: METATARSALGIA, ANTERIOR (MORTON'S DISEASE)
5280 FOOT CONDITION: HALLUX VALGUS
5281 FOOT CONDITION: HALLUX RIGIDUS
5282 HAMMER TOE
5286 SPINE, COMPLETE BONY FIXATION
5287 ANKYLOSIS OF CERVICAL SPINE
5288 ANKYLOSIS OF DORSAL SPINE
5289 ANKYLOSIS OF LUMBAR SPINE
5291 LIMITED MOTION IN DORSAL SPINE
5296 LOSS OF PART OF SKULL: BOTH INNER AND OUTER TABLES
5297 REMOVAL OF RIB(S)
5298 REMOVAL OF COCCYX
5302 INJURY OF EXTRINSIC MUSCLES OF SHOULDER GIRDLE
5306 INJURY OF EXTENSOR MUSCLES OF THE ELBOW
5309 INJURY OF INTRINSIC MUSCLES OF THE HAND
5313 MUSCLE INJURY: POSTERIOR THIGH GROUP
5316 MUSCLE INJURY: PELVIC GIRDLE GROUP 1
5317 MUSCLE INJURY: PELVIC GIRDLE GROUP 2
5319 INJURY OF MUSCLES OF ABDOMINAL WALL
5321 INJURY OF MUSCLES OF RESPIRATION
5325 FACIAL MUSCLE INJURY
5326 MUSCLE HERNIA
5327 MALIGNANT MUSCLE GROWTH
5328 BENIGN MUSCLE GROWTH
5399 MUSCLE CONDITION
6002 INFLAMMATION OF SCLERA
6003 INFLAMMATION OF IRIS
6009 EYE INJURY (UNHEALED)
6015 BENIGN EYE GROWTH
6016 CENTRAL NYSTAGMUS
6017 CHRONIC CONJUNCTIVITIS, TRACHOMATOUS
6017 CHRONIC CONJUNCTIVITIS, OTHER
6019 DROOPING EYELID
6020 EVERSION OF EYELID
6021 INVERSION OF EYELID
6022 INABILITY TO CLOSE EYELID
6025 EXCESSIVE TEARING
6026 OPTIC NERVE INFLAMMATION
6027 TRAUMATIC CATARACT
6028 CATARACT, SENILE, AND OTHERS
6029 ABSENCE OF EYE LENS
6030 PARALYSIS, FOCUSSING ABILITY OF EYES
6035 KERATOCONUS

6062   BLINDNESS IN BOTH EYES HAVING ONLY LIGHT PERCEPTION
6063   ANATOMICAL LOSS OF ONE EYE, BLIND IN OTHER EYE
6063   ANATOMICAL LOSS OF ONE EYE, OTHER NORMAL
6067   ONLY LIGHT PERCEPTION IN ONE EYE, BLIND IN OTHER EYE
6068   ONLY LIGHT PERCEPTION IN ONE EYE, IMPAIRED IN OTHER EYE
6070   ONLY LIGHT PERCEPTION ONLY ONE EYE, NORMAL IN OTHER EYE
6074   BLIND IN ONE EYE, OTHER EYE NORMAL
6029   PARTIAL BLINDNESS IN ONE EYE ONLY
6081   LOSS OF FIELD OF VISION
6092   DIPLOPIA
6099   EYE CONDITION
6101   IMPAIRMENT OF AUDITORY ACUITY: 10% EVALUATION
6102   IMPAIRMENT OF AUDITORY ACUITY: 20% EVALUATION
6103   IMPAIRMENT OF AUDITORY ACUITY: 30% EVALUATION
6104   IMPAIRMENT OF AUDITORY ACUITY: 40% EVALUATION
6105   IMPAIRMENT OF AUDITORY ACUITY: 50% EVALUATION
6106   IMPAIRMENT OF AUDITORY ACUITY: 60% EVALUATION
6107   IMPAIRMENT OF AUDITORY ACUITY: 70% EVALUATION
6108   IMPAIRMENT OF AUDITORY ACUITY: 80% EVALUATION
6109   IMPAIRMENT OF AUDITORY ACUITY: 90% EVALUATION
6110   IMPAIRMENT OF AUDITORY ACUITY: 100% EVALUATION
6199   EAR CONDITION
6200   OTITIS MEDIA, SUPPURATIVE, CHRONIC
6206   MASTOIDITIS
6207   AURICLE, LOSS OR DEFORMITY
6209   BENIGN GROWTH IN EAR(S)
6210   AUDITORY CANAL DISEASE
6211   PERFORATION OF TYMPANIC MEMBRANE
6260   TINNITUS
6275   LOSS OF SENSE OF SMELL
6276   LOSS OF SENSE OF TASTE
6277   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6278   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6279   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6280   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6281   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6282   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6283   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6284   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6285   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6286   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6287   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6288   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6289   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6290   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6291   IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)

6292	IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6293	IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6295	IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6297	IMPAIRED HEARING (SPECIFIC CONDITION NOT AVAILABLE)
6299	EAR CONDITION
6304	MALARIA
6305	LYMPHATIC FILARIASIS
6313	VITAMIN DEFICIENCY
6315	PELLAGRA
6352	AIDS RELATED COMPLEX
6399	SYSTEMIC CONDITION
6501	RHINITIS
6502	NOSE DEFLECTION
6504	RESIDUALS OF NOSE INJURY
6517	RESIDUALS OF INJURED LARYNX
6518	REMOVAL OF LARYNX
6522	NASAL SWELLING
6599	UPPER RESPIRATORY CONDITION
6721	TUBERCULOSIS, PULMONARY, CHRONIC, FAR ADVANCED, INACTIVE
6724	TUBERCULOSIS, PULMONARY, CHRONIC, INACTIVE, ADVANCEMENT UNSPECIFIED
6732	PLEURISY, TUBERCULOUS
6801	SILICOSIS
6802	PNEUMOCONIOSIS, UNSPECIFIED
6809	ABCESS OF LUNG
6810	PLEURISY, SEROFIBRINOUS
6811	PLEURISY, PURULENT (EMPYEMA)
6813	COLLAPSED LUNG
6815	REMOVAL OF LUNG
6816	PARTIAL REMOVAL OF LUNG
6817	CHRONIC PASSIVE CONGESTION OF LUNG
6818	RESIDUALS OF LUNG INJURY
6821	COCCIDIOIDOMYCOSIS
7012	AURICULAR FIBRILLATION, PERMANENT
7013	TACHYCARDIA, PAROXYSMAL
7014	SINUS TACHYCARDIA
7100	ARTERIOSCLEROSIS, GENERAL
7101	HYPERTENSIVE VASCULAR DISEASE (ESSENTIAL ARTERIAL HYPERTENSION)
7112	ARTERY, SMALL ANEURYSMAL DILATION
7116	CLAUDICATION, INTERMITTENT
7202	LOSS, OR PARTIAL LOSS, OF TONGUE
7203	STRICTURE OF ESOPHAGUS
7205	DIVERTICULUM OF ESOPHAGUS
7299	CONDITION OF UPPER DIGESTIVE SYSTEM

7301	ADHESIONS OF PERITONEUM
7307	GASTRITIS, HYPERTROPHIC
7310	RESIDUALS OF STOMACH INJURY
7311	LIVER INJURY
7313	RESIDUALS OF LIVER ABCESS
7314	CHOLECYSTITIS, CHRONIC
7315	CHOLELITHIASIS, CHRONIC
7318	GALL BLADDER REMOVAL
7321	AMEBIASIS
7324	DISTOMIASIS, INTESTINAL OR HEPATIC
7330	FISTULA OF THE INTESTINE
7333	STRICTURE OF RECTUM AND ANUS
7336	HEMORRHOIDS
7337	PRURITUS ANI
7338	INGUINAL HERNIA
7501	ABCESS OF KIDNEY
7503	PYELITIS
7505	TUBERCULOSIS OF KIDNEY
7516	FISTULA OF THE BLADDER
7522	DEFORMITY OF THE PENIS
7523	COMPLETE ATROPHY OF THE TESTIS
7524	REMOVAL OF TESTIS
7525	EPIDIDYMO-ORCHITIS (TUBERCULOUS)
7526	RESECTION OR REMOVAL OF PROSTATE GLAND
7529	BENIGN GROWTH GENITOURINARY AREA
7610	VULVOVAGINITIS
7612	CERVICITIS
7617	REMOVAL OF UTERUS AND OVARIES
7618	REMOVAL OF UTERUS
7619	REMOVAL OF OVARIES
7622	DISPLACEMENT OF THE UTERUS
7626	REMOVAL OF MAMMARY GLANDS
7627	MALIGNANT GROWTH GYNECOLOGICAL OR MAMMARY
7699	GYNECOLOGICAL CONDITION
7706	REMOVAL OF SPLEEN
7707	RESIDUALS OF SPLEEN INJURY
7709	HODGKINS DISEASE
7710	CERVICAL ADENITIS
7713	SECONDARY ADENITIS
7799	BLOOD CONDITION
7800	SCARS, HEAD, NECK OR FACE
7801	SCARS, BURNS, THIRD DEGREE
7802	SCARS, BURNS, SECOND DEGREE
7803	SUPERFICIAL SCARS, POORLY NOURISHED
7804	SUPERFICIAL SCARS, TENDER AND PAINFUL
7805	SCARS, OTHERS

7811	LUPUS VULGARIS
7812	VERRUGA PERUANA
7813	DERMATOPHYTOSIS
7814	TINEA BARBAE
7819	BENIGN GROWTH OF THE SKIN
7899	SKIN CONDITION
7900	HYPERTHYROIDISM
7901	TOXIC ADENOMA OF THYROID GLAND
7901	NON-TOXIC ADENOMA OF THYROID GLAND
7904	HYPERPARATHYROIDISM
7909	DIABETES INSIPIDUS
7911	ADDISON'S DISEASE
7912	PLURIGLANDULAR SYNDROMES
7999	GLANDULAR CONDITION
8001	CONDITION OF THE BRAIN
8017	AMYOTROPHIC LATERAL SCLEROSIS
8021	MALIGNANT GROWTH OF THE SPINAL CORD
8209	PARALYSIS OF NINTH CRANIAL NERVE
8210	PARALYSIS OF TENTH CRANIAL NERVE
8299	PARALYSIS OF A NERVE
8307	NEURITIS OF SEVENTH CRANIAL NERVE
8399	NEURITIS
8499	NEURALGIA
8527	PARALYSIS OF INTERNAL SAPHENOUS NERVE
8529	PARALYSIS OF EXTERNAL CUTANEOUS NERVE OF THIGH
8530	PARALYSIS OF ILIO-INGUINAL NERVE
8629	NEURITIS OF EXTERNAL CUTANEOUS NERVE OF THIGH
8630	NEURITIS OF ILIO-INGUINAL NERVE
8712	NEURALGIA OF LOWER RADICULAR NERVE GROUP
8714	NEURALGIA OF RADIAL NERVE
8719	NEURALGIA OF LONG THORACIC NERVE
8722	NEURALGIA OF SUPERFICIAL PERONEAL NERVE
8723	NEURALGIA OF ANTERIOR TIBIAL NERVE
8725	NEURALGIA OF POSTERIOR TIBIAL NERVE
8730	NEURALGIA OF ILIO-INGUINAL NERVE
8799	NEURALGIA
8900	SEIZURE DISORDER
8913	EPILEPSY, DIENCEPHALIC
9105	NEUROSIS
9200	SCHIZOPHRENIC REACTION, SIMPLE TYPE
9302	CHRONIC BRAIN SYNDROME ASSOCIATED WITH INTRACRANIAL INFECTIONS OTHER THAN SYPHILIS
9303	CHRONIC BRAIN SYNDROME ASSOCIATED WITH INTOXICATION
9306	CHRONIC BRAIN SYNDROME ASSOCIATED WITH CIRCULATROY DISTURBANCE OTHER THAN CEREBRAL ARTERIOSCLEROSIS

9307	CHRONIC BRAIN SYNDROME ASSOCIATED WITH CONVULSIVE DISORDER (IDIOPATHIC EPILEPSY)
9311	CHRONIC BRAIN SYNDROME OF UNKNOWN CAUSE
9321	BRAIN SYNDROME (SPECIFIC CONDITION NOT AVAILABLE)
9325	BRAIN SYNDROME (SPECIFIC CONDITION NOT AVAILABLE)
9401	DISSOCIATIVE REACTION
9402	CONVERSION REACTION
9407	NEUROSIS (SPECIFIC CONDITION NOT AVAILABLE)
9409	NEUROSIS (SPECIFIC CONDITION NOT AVAILABLE)
9500	PSYCHOPHYSIOLOGIC SKIN REACTION
9502	PSYCHOPHYSIOLOGIC GASTROINTESTINAL REACTION
9505	PSYCHOPHYSIOLOGIC SKELETAL DISORDER
9511	PSYCHOPHYSIOLOGIC CONDITION, OTHER
9599	NERVOUS CONDITION
9902	PARTIAL LOSS OF LOWER JAW
9906	LOSS OF WHOLE OR PART OF UPPER JAW
9908	LOSS OF CONDYLOID PROCESS OF JAW, ONE OR BOTH SIDES
9910	MAXILLA, LOSS OF WHOLE OR PART OF SUBSTANCE OF, NONUNION OF, OR MALUNION OF
9911	HARD PALATE, LOSS OF HALF OR MORE
9913	TEETH, LOSS OF, DUE TO LOSS OF SUBSTANCE OF BODY OF MAXILLA OR MANDIBLE

References

[1] Veterans' Claims Adjudication Commission, Report of findings, conclusions, and recommendations, December 1996

[2] U.S. Department of Veterans Affairs, Office of Policy and Planning, *Lump Sum Payments for Service Connected Veterans with 10 and 20 Percent Ratings*, 3 September 1996 (minor revisions 21 January 1997)

[3] U.S. General Accounting Office, *Veterans' Benefits: Veterans Have Mixed Views on a Lump Sum Disability Payment Option*, December 2000, GAO-01-172

[4] Gray, B., H. Kim, T. Felix, L. May, J. McMahon, *Literature Review: Selected Topics Related to Veterans' Disability Compensation*, May 2006 (CNA Research Memorandum D0013960.A2)

[5] Copeland, C., *Retirement Plan Participation and Retirees' Perception of Their Standard of Living*. EBRI Issue Brief No. 289, January 2006

[6] Herz, D.E., "Work After Early Retirement: An Increasing Trend Among Men." *Monthly Labor Review*, April 1995: 13-20

[7] Moore, J.H., and L.A. Muller, "An Analysis of Lump-Sum Pension Distribution Recipients." *Monthly Labor Review*, May 2002: 29-46

[8] Piacentini, J.S., *Preservation of Pension Benefits*, EBRI Issue Brief No. 98, January 1990

[9] Poterba, J.M, S.F. Venti, and D.A. Wise, *Lump-Sum Distributions from Retirement Saving Plans: Receipt and Utilization*. NBER Working Paper 5298, October 1995

[10] *Economic Report of the President, Transmitted to the Congress February 2006*. U.S. Government Printing Office, 2006

[11] Bell, F.C., and M.L. Miller, *Life Tables for the United States Social Security Area 1900-2100, Actuarial Study No. 120.* Social Security Administration, Office of the Chief Actuary, August 2005, SSA Pub. No. 11-11536

[12] "Automatic Increases, Cost-of-Living Adjustment, Updated October 14, 2005." www.ssa.gov/oact/cola/colaseries.html (accessed 5 June 2006)

[13] U.S. Department of Veterans Affairs, Office of Policy, Planning and Preparedness, Office of the Actuary, *VetPop 2004*, prepared November 2004 based on 9/30/2003 data

[14] West, R., et al., "Estimating Implied Rates of Discount in Healthcare Decision-Making." *Health Technology Assessment,* November 2003, 7(38)

[15] Benzion, U., A. Rapoport, and J. Yagil, "Discount Rates Inferred from Decisions: An Experimental Study." *Management Science,* March 1989, 35(3): 270-284

[16] Frederick, S., G. Loewenstein, and T. O'Donoghue, "Time Discounting and Time Preference: A Critical Review." *Journal of Economic Literature,* June 2002, 40(2): 351-401

[17] Harrison, G., M. Lau, and M. Williams, "Estimating Individual Discount Rates in Denmark: A Field Experiment." *American Economic Review,* December 2002, 92(5):1606-17

[18] Thaler, R., "Some Empirical Evidence on Dynamic Inconsistency." *Economic Letters,* 1981, 8: 201-207

[19] Hausman, J., "Individual Discount Rates and the Purchase and Utilization of Energy Using Durables." *Bell Journal of Economics,* Spring 1979, 10(1): 33-54

[20] Gately, D., "Individual Discount Rates and the Purchase and Utilization of Energy Using Durables: Comment." *Bell Journal of Economics,* Spring 1980, 11(1): 373-74

[21] Dreyfus, M., and K. Viscusi, "Rates of Time Preference and Consumer Valuation of Automobile Safety and Fuel

Efficiency." *Journal of Labor Economics*, April 1995, 38(1): 79-105

[22] Shelley, M., "Outcome Signs, Question Frames and Discount Rates." *Management Science*, July 1993, 39(7): 806-815

[23] Warner, J., and S. Pleeter, "The Personal Discount Rate: Evidence from Military Downsizing Programs." *The American Economic Review*, 2001, 91(1): 33-53

[24] Gilman, H., "Determinants of Implicit Discount Rates: An Empirical Examination of the Pattern of Voluntary Pension Contributions of Employees in Four Firms," Center for Naval Analyses, Arlington, VA (September 1976)

[25] Black, M., "Personal Discount Rates: Estimates for the Military Population." *Final Report of the Fifth Quadrennial Review of Military Compensation*, Vol. 1B, Appendix I, U.S. Department of Defense, January 1984

[26] Lawrance, E., "Poverty and the Rate of Time Preference: Evidence from Panel Data." *Journal of Political Economy*, February 1991, 99(1): 54-77

[27] U.S. General Accounting Office, *DOD Disability: Overview of Compensation Program for Service Members Unfit for Duty*, April 2001, GAO-01-622

[28] U.S. Government Accountability Office, *Federal Compensation Programs: Perspectives on Four Programs*, November 2005, GAO-06-230

[29] www.dol.gov/esa/regs/compliance/owcp/eeoicp/whatprogramdoes .htm (accessed on 23 June 2006)

[30] U.S. General Accounting Office, *Federal Workforce: Federal Employees' Compensation Act Cost Growth and Workplace Safety*, October 1988, GAO/GDD-89-4

[31] Code of Federal Regulations, Title 20, Volume 1, Revised as of April 1, 2003. 20 CFR 10.422.

[32] *Public Safety Officers' Benefits Program*, Fact Sheet, U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance, February 1999, FS000066

[33] U.S. Government Accountability Office, *Disability Benefits: Benefit Amounts for Military Personnel and Civilian Public Safety Officers Vary by Program Provisions and Individual Circumstances*, April 2006, GAO-06-4

[34] U.S. Office of Personnel Management, *FY 1996 Voluntary Separation Incentive Payments: Under Public Law 103-226 The Federal Workforce Restructuring Act of 1994*, 31 December 1996

[35] "New Veterans Charter." www.vac-acc.gc.ca

[36] Statutes of Canada 2005, Chapter 21, First Session, Thirty-eighth Parliament, 53-54 Elizabeth II, 2004-2005, Assented to 13 May 2005, Bill C-45

[37] Ministry of Defence (Great Britain), The Armed Forces Compensation Scheme for Injury, Illness and Death Due to Service, JSP 765, 6 April 2005, D/SPP(PENS)1/14/16

[38] www.veteransagency.mod.uk/afcs/afcs.htm

[39] Department of Veterans' Affairs (Australia), *Permanent Impairment Compensation Payments: MRC 07*

[40] Department of Veterans' Affairs (Australia), *Incapacity Payments: MRC 08*

[41] Department of Veterans' Affairs (Australia), *Special Rate Disability Pension Safety Net Payment: MRC 09*

[42] Department of Veterans' Affairs (Australia), *Permanent Impairment Payment Choices: MRC 20*

[43] *Federal Employees Compensation Act (FECA) Program Effectiveness Study,* developed for Office of Workers' Compensation Programs (OWCP), U.S. Department of Labor, by ICF Consulting, Fairfax, VA, March 31, 2004

116

[44] U.S. Department of Veterans Affairs, *Veterans Benefits Administration Annual Benefits Report, Fiscal Year 2004*, June 2005

[45] *Program Evaluation of Benefits for Survivors of Veterans with Service-Connected Disabilities, Final Report, Volume II, Evaluation of the Dependency and Indemnity Compensation (DIC) Program.* Prepared by Systems Flow Inc., Economic Systems Inc., Macro International Inc., and the Hay Group. May 2001

[46] President's Budget for Fiscal Year 2007, Volume 4, page 1-6

[47] *Evaluation of VA Pension and Parents' DIC Programs, VA Pension Program Final Report.* Prepared by ORC Macro, Economic Systems Inc., and the Hay Group, 22 December 2004

[48] U.S. Department of Veterans Affairs, *Veterans Benefits Administration Annual Benefits Report, Fiscal Year 2000,* February 2001

[49] Norwood, F., "Can Calibration Reconcile Stated and Observed Preferences?" *Journal of Agricultural and Applied Economics*, April 2005, 37(1)

118

List of tables

CNA