A STUDY OF COMPENSATION PAYMENTS FOR SERVICE-CONNECTED DISABILITIES

Volume I

Executive Report

September 2008

EconSys
economic systems inc.

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A Study of Compensation Payments for Service-Connected Disabilities

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Presenters at the study's Disability Forum were Denis Anson, MS; Susan Azrin, PhD; Martha Bernad, DSc; John Burton, PhD, LLB; David Dean, PhD; DeAnn Farr, PhD, CDR, USN; Lynn Gerber, MD; Howard Goldman, MD, PhD; Sigrid Gustafson, PhD; Stephen Haley, PT, PhD; George Kettner, PhD; JoAnn Kuchak; Sidney Johnson, MS, COTA; Patricia Keenan, PhD; Ted Miller, PhD; Ken Reynolds, PhD; Ali Sayer, MS; John W. Sharpe MBA, MS, PT; Emile Tompa, MBA, PhD; Ali A. Weinstein, PhD; Ray Wilburn; and Edward Yelin, PhD.

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Dr. George Kettner (Project Director) of EconSys provided overall technical direction to the team, orchestrated the study's Forum, and led the earnings analysis. Ali Sayer (Project Manager) provided operational direction and econometric support. Ray Wilburn (Senior Advisor) provided program knowledge, policy guidance, and review. Dr. Herb Tyson (Senior Analyst) conducted the earnings loss analysis. Other EconSys analysts contributing to the study were: Jacob Denne (Analyst), Steve Cotter (Analyst), and William Sarosi (Analyst). Leonor Yaskulka provided administrative support. Jillen Jobe provided research assistance and contributed to the editorial review of the reports.

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I. INTRODUCTION

This document, *Executive Report*, prepared for the U.S. Department of Veterans Affairs (VA), is Volume I of the Final Report for *A Study of Compensation Payments for Service-Connected Disabilities*. The Final Report has five volumes:

- Volume I: Executive Report
- Volume II: Transition Benefit Analysis
- Volume III: Earnings and Quality of Life Loss Analysis
- Volume IV: Review of Non-VA Programs and QOL Elements
- Volume V: Disability Forum Presentations

Volume I provides a distillation of Volumes II, III, and IV and presents key study results and policy options regarding the two major topics of interest in this study: (1) transition benefits including return-to-work programs and (2) disability compensation for loss of earnings and quality of life (QOL).

Volume II analyzes participants in the VA Vocational Rehabilitation and Employment (VR&E) Program and identifies options for a future transition benefit. Both the Dole-Shalala Commission[1] and the Veterans' Disability Benefits Commission (VDBC) recommended improvements in the benefits and services available to veterans with disabilities to ease their transition from military to civilian life. In particular, the Dole-Shalala Commission recommended a transition benefit intended to provide for the family living expenses of veterans with disabilities participating in rehabilitation.

Volume III examines the current system of compensation payments for veterans with service-connected disabilities (SCD). The examination includes an analysis of the loss of earnings experienced by SCD veterans and the extent to which the compensation benefits replace these lost earnings. The examination also assesses the consequences of service-connected disabilities in addition to loss of earnings capacity – which are often described as loss of QOL.

Volume IV compares non-VA programs to the VA Disability Compensation Program and assesses the applicability of concepts and features of non-VA programs to the VA Disability Compensation Program.

Volume V includes the presentations given at the Disability Forum hosted by Economic Systems Inc. (EconSys) on May 28, 2008 in Falls Church, Virginia. The intent of the Forum was to bring together researchers and subject matter experts to advise the study and contribute to its work. There were 17 presenters that covered 11 topics/subject matters in seven panels and a luncheon speaker. Biographical sketches of the participants as well as their presentations and background materials comprise this volume.

[1] The President's Commission on Care for America's Returning Wounded Warriors.

II. STUDY FRAMEWORK

Methodology

The study team employed a variety of methodological techniques to complete this study. The seven-month timeframe required heavy reliance on readily available information and precluded the use of surveys and pilot tests that could have improved the accuracy of estimates of program participation and costs. Administrative data was obtained from the Department of Veterans Affairs (VA) on recipients of the disability compensation program and the vocational rehabilitation and employment program. Literature on disability, rehabilitation, and quality of life were reviewed and interviews with representatives of foreign veterans programs were conducted to further understanding of these programs.

Earnings data were obtained from the Social Security Administration (SSA) on all recipients of disability compensation and on a representative sample of veterans discharged after 1980 without service-connected disabilities for comparison purposes. Analysis of earnings was limited by privacy restrictions that allow SSA to release only aggregate information on groups of at least five veterans. This limitation prevents more in-depth analysis of earnings. For example, analysis of veterans with the same primary disability was conducted but analysis of the impact of multiple disabilities could not be performed.

Data Sources used for study

- VA administrative data on Disability Compensation and the Vocational Rehabilitation and Employment Program
- Literature reviews on disability, rehabilitation, and quality of life
- International interviews with representatives of foreign veterans programs
- Quality of life data from 2001 National Survey of Veterans and 2007 Survey of Disabled Veterans
- Earnings data from SSA

The study team strongly urges that statutory authority be granted to SSA and VA that would enable future exchange of earnings data on individual veterans for analysis purposes only and with safeguards to ensure that veterans' privacy is protected. The EconSys Study Team notes that this recommendation was also made by the Veterans' Disability Benefits Commission. This authority would provide for a thorough analysis of the impact of disability on veterans' earning capacity.

Transition Period versus Permanent Disability

From both a conceptual and practical point of view, a distinction useful for this study is separating the temporary disability period from the permanent disability period. As illustrated in Figure II-1, the temporary disability period begins when the service member or veteran initially is affected by a service-connected disability (SCD) and ends when the veteran reaches the date of maximum medical improvement (MMI). During this period, the veteran will receive transition benefits (examined in Volume II), medical benefits (not within the scope of this report), and rehabilitation benefits (examined in Volumes III and IV). The permanent disability period will begin at the date of MMI and is

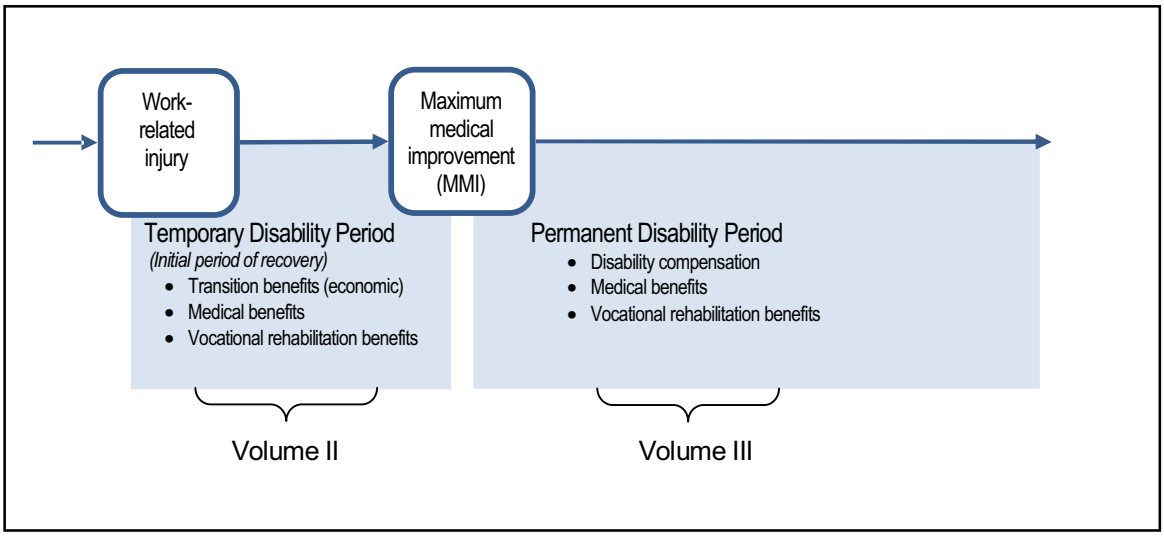
expected to continue for the rest of the veteran's life. Throughout this period, the veteran receives one or more kinds of disability compensation and may continue to receive rehabilitation services and medical benefits. The primary focus of Volume III is benefits paid during the permanent disability period.

This distinction is brought to bear in our review of the literature and non-VA programs. One area of non-VA programs that the study team reviewed is state workers' compensation programs that provide cash benefits, medical care, and rehabilitation services to workers who experience work-related injuries or diseases. A common feature of workers' compensation programs is that cash benefits are paid for both temporary disability and permanent disability, for both partial and total disability, and for fatalities. Partial disability means the worker retains some earning capacity and total disability means the worker is unable to work. The most expensive type of cash benefit nationally is permanent partial disability (PPD) benefits, which are paid when the worker has permanent consequences of the workplace injury or diseases that are not totally disabling.

Most other disability benefits such as Social Security Disability Insurance (SSDI) are limited to individuals with total disabilities. Because workers' compensation pays PPD benefits as well as permanent total disability (PTD) benefits, the program can inform the design of a compensation system for veterans that compensates both total and partial permanent disability. Also, because workers' compensation pays benefits during the healing period, which includes temporary total disability (TTD) benefits and rehabilitation benefits, the workers' compensation program provides one example for transitional benefits for veterans with disabilities.

During the initial period of recovery, loss of earnings may be greater than after a stable condition has been reached. The temporary benefit is intended to provide support either until the individual has recovered enough to return to work or until it has been determined that the worker qualifies for permanent disability benefits. Vocational rehabilitation may be provided during this period to facilitate transition to work that does not exceed the disabled person's capacity for work based on the nature and degree of disability.

Figure II-1. Time Periods in a Workers' Compensation Case Where the Injury Has Permanent Consequences



Source: Institute of Medicine. (2007). A 21st century system for evaluating veterans for disability benefits, p. 305. Washington, DC: National Academies Press.

Two types of cash benefits are paid during the temporary disability period:

- Temporary total disability benefits (TTD)
- Temporary partial disability benefits (TPD)

TTD benefits replace a percentage of pre-injury wages subject to maximum and weekly benefit amounts; this is a feature of some state and private disability programs.

Although significant differences exist between private disability programs and VA's Disability Compensation Program, there are a number of potential practices worth reviewing.

- ***Permanency not assumed.*** Private disability insurers do not view disabilities and benefits resulting from them as permanent. Private insurers are always working towards an ultimate resolution of the disability, even in the case of long-term situations. In the VA Disability Compensation Program, individuals receive permanent ratings and the expectation is that the level of benefits will continue unaltered throughout the veteran's lifetime. However, the level of benefits is not always permanent. If there is an expectation of improvement or if evidence indicates that there has been a material change in a disability or that the current rating may be incorrect, future exams are scheduled. If improvement is shown, benefits may be reduced. If the condition has worsened, benefits may be increased.
- ***Requirement to seek employment.*** Private employers and disability insurers view occupational training and retraining as an integral part of managing disability claims. While VA programs provide assistance with occupational

training and retraining, this is not linked to disability compensation itself. Private disability insurers do not assume that a recovered worker will necessarily return to the original employer. If a disabled worker who is receiving benefits recovers, he or she is expected to start looking for a job, even if the former or original employer that is providing the disability benefits does not have an opening. In contrast, VA's disability compensation benefits and ratings are not contingent upon employment, and occupational assistance is not an integral part of the disability program. VA does consider employability in ratings for mental disorders and ratings based on individual unemployability.

- ***Rate of compensation.*** Generally, workers' compensation programs limit benefits to two-thirds of earnings prior to injury as an incentive to return to work. The Bradley Commission acknowledged this and recommended that:

> The rate of compensation payable to veterans who are actually totally disabled should be two-thirds of the average earnings in the base series selected to serve as the standard. The rate for partially disabled veterans should be set in appropriate proportion to the 100-percent rate.[2]

- ***Training for other occupations.*** Becoming disabled can be a challenging process for anyone. Retraining requires time, and depending on the degree of physical or mental impairment involved, may require learning new ways of functioning. Combining an initial "own occupation" benefit period with an "any occupation" requirement for continuing benefits after that initial period is an approach that provides both time and an incentive for a disabled individual to adjust to his or her changed circumstances, retrain, and seek alternative employment. To be highly effective, the program requires the availability of meaningful rehabilitation, occupational therapy, and retraining assistance. The more sophisticated private programs provide targeted rehabilitation, retraining, and assistive technology based on a case-by-case evaluation of each claimant.

The current VA Disability Compensation Program does not put considerable emphasis on the distinction between a temporary disability period and permanent disability. Part of the reason for this may be that most participants are not medically discharged from the military. They apply for disability benefits after a significant amount of time has elapsed since their separation from active duty. Another reason may be that, generally speaking, veterans who seek vocational rehabilitation services from VA must first apply for permanent disability benefits in order to be eligible for vocational support.

For veterans in the process of establishing a medical discharge from the military, VA has the authority to assign pre-stabilization ratings of either 50% or 100% without a medical examination from date of discharge from the service, which can remain in effect for 12 months following discharge. Special Monthly Compensation (SMC) can be awarded concurrently. During the period FY 2005 to FY 2007, VA granted 1,057 pre-stabilization

[2] President's Commission on Veterans' Pension ("Bradley Commission"), Findings and Recommendations: Veterans Benefits in the United States, Washington, DC: House Committee on Veterans' Affairs, 1956, p. 181.

awards, 726 at the 100% level and 331 at the 50% level. Thus, an annual average of 242 was assigned at the 100% disability level rating and 110 at the 50% disability level rating. During the seven-year period of calendar years 2000-2006, the Department of Defense (DoD) averaged 211 service members discharged annually with DoD ratings of 100% and 512 at the 50-90% disability level. These data suggest that VA assigns 100% prestabilization awards to service members found to be 100 disabled by the military, but only assigns 50% prestabilization awards to about one-fifth of the service members discharged with a disability of 50% to 90%. These data indicate that greater use of the 50% disability level pre-stabilization ratings by VA could ease the burden on severely disabled service members transitioning to civilian life.

Future Restructuring of VA and DoD Disability Evaluation Processes

A new transition benefit for veterans that this study focuses on should be considered in the context of efforts already well underway to restructure the DoD Disability Evaluation System and the VA disability compensation process for those found unfit for military duty. This restructuring is intended to eliminate duplication of medical examinations and ratings so that DoD decides fitness for duty and VA rates all conditions. These changes are expected to result in significant improvements for veterans who were found unfit for duty:

- Service members would remain on active duty during the most significant portion of medical rehabilitation at which time the point of maximum medical improvement (MMI) largely has been reached.
- The VA rating would be completed prior to discharge and payment of disability compensation could begin with little or no gap in the receipt of monetary benefits.
- Evaluation and planning for vocational rehabilitation can also be completed while an individual is on active duty, and the service member can actually begin participating in VR&E if he or she is ready.
- Program design should assure that there is no delay or gap in the receipt of monetary benefits between last receipt of military pay and first payment of VA compensation and transition benefit for those medically discharged.

III. CURRENT PROGRAMS

VA Disability Compensation Program

The VA Disability Compensation Program provides monthly benefit payments to veterans who become disabled as a result of or coincident with their military service. Payments generally are authorized based on an evaluation of the disabling effects of veterans' service-connected physical and/or mental health impairments. In 2008 monthly payments are authorized in percentage increments from 10% ($117) to 100% ($2,527). Veterans with disabilities rated 30% or higher receive additional benefits for dependents.

The core process for determining ratings for disability compensation benefits involves the use of the VA Schedule for Rating Disabilities (VASRD) to assign the level of severity of the service-connected disability. The rating process determines a veteran's entitlement to disability compensation. In this report we refer to the overall process as the *VA Rating System*.

There are two circumstances that entitle a veteran to compensation beyond that set in the regular schedule portion of the VASRD. One is a determination that the claimant is unemployable due to service-connected disability rated as less than total, referred to as Individual Unemployability (IU). Claimants rated at 60% to 90% and determined to be entitled to IU qualify for the same benefit payment amount as those rated at the 100% disability level. Conditions or circumstances that result in the claimant not being employable override the medical impairment rating.

The other additional benefit is the Special Monthly Compensation (SMC) benefit. SMC is a benefit that is paid in addition to or instead of the rates payable under U.S.C. §1114(a)-(j) and is not specifically intended, as is the regular rating schedule, to replace lost earnings. Examples include: loss of or loss of use of organs, sensory functions, or limbs; disabilities that confine the veteran to his/her residence or result in the need for regular aid and attendance; a combination of severe disabilities that significantly affect mobility; and the existence of multiple, independent disabilities each rated at 50% or higher. Because SMC benefits are paid in addition to or at higher rates than benefits for work disability, this suggests or implies that the amount payable over and above the amount payable for the schedular rating is intended to compensate for quality of life (QOL) loss in addition to work disability.

The VASRD contains a list of approximately 800 diagnoses or disability conditions, each of which may have up to 11 levels of medical impairment. The lowest level of impairment starts at 0% then increases in 10% increments up to a maximum of 100%. Not all diagnoses have levels of severity up to 100%, and conditions are not all ratable at all 10 levels. Disability compensation as determined by the VASRD is intended to compensate for lost earnings capacity.

Eligibility for disability compensation generally requires a medical examination to establish the presence of a particular disabling condition and its associated level of impairment. Eligibility also requires that a determination be made that the condition is a service-connected disability. Service-connected means that the disability was incurred or aggravated, or that a death resulted from a disability incurred or aggravated, in the line of duty in active service or, for chronic diseases, became evident within one year of discharge from the military. It does not require that the disability be work-related or be caused by conditions in the work environment. For example, a military member who becomes permanently disabled from a car accident while in the service but while not engaged in an official military duty could quality for disability compensation after discharge from the military. In this regard the VA Disability Compensation Program combines elements of both disability insurance voluntarily provided by employers and workers' compensation programs mandated by government.

Another critical element of VA's rating system is the determination of the combined degree of disability (CDD) for claimants who have more than one disability. Most compensation beneficiaries—59 percent—have multiple disabilities. A claimant who has three disabilities with each disability rated at 10%, receives a combined rating of 30%. At higher rating levels multiple disabilities are not additive. For example, a veteran with two service-connected disabilities, one rated 60% and one rated 10%, receives compensation only at the 60% rate. The combined rating is provided in a table that applies a formula that is the same in all cases regardless of the claimant's disabilities (see Volume III, Appendix A).

The effect of combining additional ratings gives greater weight to multiple 10% ratings at the low end of the scale. The effect of additional 10% ratings is diminished if the primary diagnosis has a high rating. Having multiple low ratings increases the payment dramatically for a veteran whose primary diagnosis has a low rating; it has a negligible or much smaller effect for veterans who have a single condition with a high rating such as 80% or more. The result can be that co-morbidities associated with a severe injury or disease could be compensated less than multiple unrelated diagnoses at low ratings.

VA Vocational Rehabilitation Program

Veterans with disabilities are currently entitled to a number of benefits to assist their reintegration into the civilian world and to meet their continuing needs. These include: Vocational Rehabilitation and Employment (VR&E) Program and the associated subsistence allowance, disability compensation based on their rating percentage, health care for disabled veterans and for the dependents of veterans rated 100% disabled, as well as ancillary and special purpose benefits for conditions related to military service. In addition, VR&E pays the full cost of tuition, fees, and books at approved institutions of higher learning or training institutes for those program participants who need re-training to prepare for, obtain, and maintain suitable employment.

VR&E Subsistence Allowance. Veterans eligible to participate in VR&E qualify for a monthly subsistence allowance that is intended to assist veterans during their VR&E

participation. This allowance is paid each month during training and is based on the type of program in which the individual is enrolled (for example, on-the-job training, training at institutions of higher learning, work experience, and independent living), rate of attendance (for example, half-time or full-time), and the number of dependents the veteran has. Table III-1 shows the monthly subsistence rates paid to veterans while participating in VR&E.

Table III-1. VR&E 2007 Monthly Subsistence Allowance Rates for Veterans

Participation Level	No Dependents	One Dependent	Two Dependents	Each Additional Dependent
Training at Institutions of Higher Learning, Work Experience, and Independent Living Programs				
Full-time	$521	$646	$761	$55
Three Quarter-time	$391	$485	$569	$43
Half-time	$262	$324	$381	$28
Farm Cooperative, Apprenticeship, or other On-the-Job Training				
Full-time	$455	$551	$635	$41

Source: U.S. Department of Veterans Affairs. (2007). VR&E training programs subsistence allowance rate increase as of October 1, 2007. Washington, DC: U.S. Department of Veterans Affairs.

The Chapter 30 Montgomery GI Bill (MGIB) is another program that provides veterans monetary benefits while they are attending college. A new education program, the Chapter 33 GI Bill, was very recently enacted and will be effective August 2009. It is important that the transition payments that service-connected disabled (SCD) veterans receive while in VR&E are comparable and meaningful relative to benefits received under the new GI Bill by veterans who may or may not have service-connected disabilities. These programs are administered by VBA's Education Service, not VR&E.

IV. PROFILE OF BENEFICIARIES

VA Disability Compensation Recipients

Approximately 2.6 million veterans were receiving disability compensation in September 2007, which was about a 13 percent increase from 2.3 million in September 2001. About one-quarter of the veterans had a combined degree of disability (CDD) rating of 10% (which is the most frequent rating) in both 2001 and 2007. (A CDD rating considers all of a veteran's service-connected disabilities.) In 2007, 9.1 percent of veterans receiving disability compensation had CDD ratings of 100%, up from 7.5 percent in 2001.

Approximately 190 thousand veterans received Individual Unemployability (IU) benefits in 2007 because their disabilities, while not meeting the rating schedule criteria for a total rating, precluded them from obtaining or maintaining substantially gainful employment. In addition, about 260 thousand veterans received Special Monthly Compensation (SMC) benefits in 2007.

In 2007, the largest group of veterans with disabilities, overall, had a 10% CDD rating (27.5 percent). The second and third largest groups were rated at 20% CDD (15 percent) and 30% CDD (12.1 percent). However, the overall percentage of veterans with a 10%, 20%, and 30% CDD decreased between 2001 and 2007.

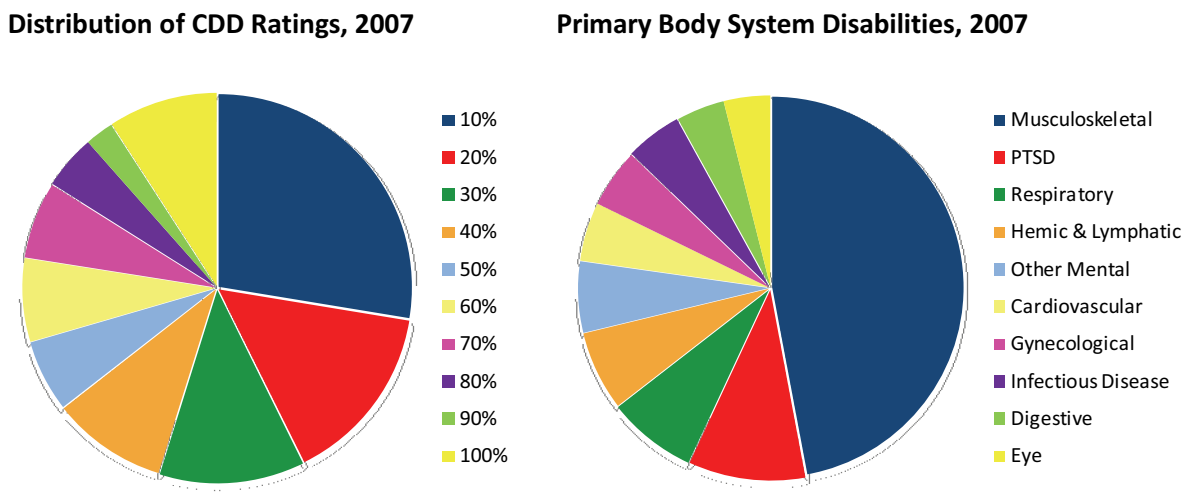
Service-connected (SC) conditions of the musculoskeletal body system are the most prevalent, with the primary diagnostic code being musculoskeletal for approximately 45 percent of all cases in 2007. Mental disorders comprise about 15 percent of SC conditions (PTSD 9.5 percent and other mental disorders 5.8 percent). None of the other 13 body systems individually constitutes more than 10 percent of the SCD veterans.

Between 2001 and 2007 about 776,500 new enrollees started receiving disability compensation (excluding those veterans who joined the rolls during that time but dropped out as of September 2007). Tinnitus was the most prevalent condition for new enrollees, with about 215 thousand new cases or 8.3 percent of the total number of conditions for the new enrollees. Defective Hearing was the next most prevalent condition with about 171 thousand new cases.

The third most prevalent condition for new enrollees between 2001 and 2007 was diabetes, which constituted 5.5 percent of the new enrollees or about 143 thousand. The fourth most prevalent condition for new enrollees was post-traumatic stress disorder (PTSD), which constituted 4.4 percent of the new enrollees or about 113 thousand.

Major increases also occurred in the number of veterans receiving SMC and IU. About 90,000 new enrollees had SMC awards and 41,000 new enrollees had IU awards. The number of recipients of SMC increased 77 percent from about 147 thousand in 2001 to 260 thousand in 2007. The SMC (K) made up nearly three-fourths of all the SMC cases in 2007. The number of veterans with IU status increased 74 percent from about 109 thousand in 2001 to 190 thousand in 2007. Nearly one-half of these were PTSD cases.

Figure IV-1. Distribution of CDD Ratings and Primary Body System Disabilities, 2007



Source: C&P Master Record data, September 2001 and September 2007.

VA Vocational Rehabilitation Participants

Approximately 522 thousand veterans with disabilities applied for VR&E services including 22 thousand who participated in Independent Living (IL).

A large proportion of applicants (42 percent) were determined by VA after application not to be eligible or entitled to participate in the VA VR&E Program for a variety of reasons. About 278 thousand were found eligible, and 214 thousand progressed at least as far as developing a rehabilitation plan.

The average age at application was 40 years. Forty-one percent had no dependents and 21 percent had one dependent, 53 percent had a high school level of education, and 97 percent had been enlisted with the largest group having attained a rank of E-4. Veterans who participate in IL are quite different in characteristics from individuals who participate in the other VR&E education and training programs, and those differences are discussed below.

Individuals who developed plans but who were not in IL fall into three large groups: individuals who (1) applied from before discharge to within the first two full years after discharge, (39 percent), (2) applied from three through ten years after discharge (29 percent), and (3) applied more than 10 years after discharge (32 percent).

Eligible applicants who were medically separated or medically retired comprised about 16 percent of all eligible applicants and of the medically discharged, individuals who were less severely disabled (rated less than 30%) applied within the first three years after discharge. However, the time period increased as severity of disability increased;

for example, individuals rated 100% did not apply until eight years after discharge, on average. Those eligible/entitled for VR&E who were not medically discharged (84 percent) averaged 3.4 years after discharge before receiving their initial service-connected disability rating and 5.7 years after discharge before applying for VR&E.

Those eligible for IL are much more likely to apply many years after discharge. Only 7.4 percent apply within two years after discharge, and only 9.4 percent applied between three and ten years. An overwhelming 83 percent of IL participants applied 10 or more years after discharge (on average, 24.6 years).

These data suggest that the more severely disabled veterans are not ready to enter a vocational rehabilitation program until after many years of recovery and adjustment or that the need for rehabilitation develops over time as a result of progression of disability as veterans age.

Recent applicants have applied for VR&E sooner after discharge. For example, the median time from discharge to application for veterans applying from 2001 to 2007 has dropped from 8 to 3 years while the average time has decreased a more modest amount from 12 to 9 years. A transition benefit that provides for the family living expenses of participants will likely result in greater participation in VR&E and perhaps earlier application.

Of applicants eligible/entitled for VR&E, about one-half (51 percent) were rated less than 50% disabled, 22 percent were rated 50% or 60%, and 27 percent were rated 70% to 100%. On the other hand, individuals in IL were much more severely disabled with 82 percent rated 70% to 100%; 39 percent were rated 100%. The most frequent diagnosis for those not in IL was PTSD (9 percent), and for those in IL, PTSD was overwhelmingly the most frequent diagnosis (38 percent).

V. NEW TRANSITION BENEFIT

Design of New Transition Benefit

Veterans with disabilities face a number of living expenses during their transition to civilian life before and during their participation in the VA Vocational Rehabilitation and Employment (VR&E) Program. In order to estimate what an appropriate level of transition benefit should be, the EconSys Study Team chose housing, food, and transportation expenses to comprise a core group of living expenses that one would expect a living expense benefit to cover. We also present additional "menu items" such as apparel and services, health care (for dependents of veterans with disabilities not rated 100%), personal care products and services, household operations, and housekeeping supplies, and entertainment. Finally, we identified expenses for care giving, child care, and additional expenses due to disability that would be appropriate for certain veterans on an "As Needed" basis depending on the nature and severity of disability and presence of dependent children.

Information on living expenses was obtained from readily available government sources such as the Current Population Survey (CPS), Consumer Expenditure Survey (CES), and the U.S. Departments of Housing and Urban Development, Defense, and Agriculture. Because of the compressed timeframe for the study, heavy reliance was placed on readily available information. The study timeframe precluded use of techniques such as surveys and pilot tests.

The study team chose the core expense categories because they reflect basic necessities faced daily by veterans and their families. The study team used these expense categories as a foundation for the proposed core transition benefit amount that seeks to meet these very basic needs. A summary of the core expenses are reported in Table V-1.

Table V-1. Summary of Monthly Core Expenses

Expense Type	One Person	Three Persons
Housing	$1,175	$1,390
Food	$260	$680
Transportation	$463	$911
Total Core Expenses	**$1,898**	**$2,981**

Source: U.S. Department of Housing and Urban Development Fair Market Rent Final FY 2008 Documentation System; Official USDA Food Plans. Cost of Food at Home at Four Levels, U.S. Average. March 2008; U.S. Department of Labor, U.S. Bureau of Labor Statistics. (2007). Consumer expenditures in 2005. Retrieved June 6, 2008 from http://www.bls.gov/cex/csxann05.pdf.

In addition to these core expense categories, VA may want to expand the transition benefit to include some additional "menu item" categories. Table V-2 presents average monthly expenditure data for each of these categories of expenditure by size of consumer unit (that is, families and single consumers).

Table V-2. 2005 Consumer Expenditure Survey Results for Average Monthly Expenditures for Additional Categories in May 2008 Dollars

	One Person	Two Persons	Three Persons	Four Persons	Five or more Persons
Apparel and services	$81	$161	$199	$232	$239
Entertainment	$126	$221	$221	$277	$254
Personal care products/services	$32	$55	$63	$67	$66
Household operations	$33	$46	$51	$59	$64
Housekeeping supplies	$70	$121	$136	$143	$157
Health care	$168	$336	$264	$260	$232
Total "Menu Items"	**$511**	**$940**	**$935**	**$1,040**	**$1,013**

Source: U.S. Department of Labor, U.S. Bureau of Labor Statistics, Consumer expenditures in 2005.

The study team developed a series of nine scenarios in order to illustrate the levels of possible transition payments. The scenarios were developed to be similar in characteristics to certain percentages of the participants in VR&E (combined degree of disability, type of disability, number of dependents, age at application, and proportion of the participant population) and by analysis of family living expenses based on data sources frequently used for such purposes.

Expenses for the core group (housing, food, and transportation) were applied. The menu of additional items identified (apparel and services, health care for dependents, personal care products and services, and entertainment) are included as well as an option.

The nine scenarios are shown in Table V-3. Scenarios 1 and 2 represent veterans with primary physical disabilities with 30% or 50% CDD rating, with two or no dependents; these two scenarios represent 80 percent of program participants. Scenarios 3 and 4 represent veterans with primary mental disabilities with 70% CDD rating with no or two dependents; these two scenarios represent 18 percent of program participants. Scenarios 5 through 8 represent veterans rated 100% with mental or physical disabilities, and no or two dependents; they represent just over two percent of program participants. Scenario 9 represents all Independent Living (IL) program participants.

Also shown are the average current payments received for VR&E subsistence and disability compensation and the possible transition benefit payments. These benefits reflect statistical averages of net awards made to beneficiaries in a given scenario category.

The new transition benefit would replace the current VR&E subsistence and disability compensation during the transition period while the veteran is actively participating in vocational rehabilitation. When comparing the low benefit amount (core expenses only) to current payments we see that the transition benefit is the lesser amount in six out of the nine scenarios. A key factor affecting the transition benefit amount based on living expenses is the number of dependents. In contrast, a key factor affecting current

payments is the level of the disability rating. If all menu expenses are included, the transition benefit amount exceeds the current payment amount in all of the scenarios.

Table V-3. Scenario Summary Table – Comparison of Characteristics and Monthly Amounts

	Scenario								
	1	2	3	4	5	6	7	8	9
Scenario Characteristics									
CDD	50%	30%	70%	70%	100%	100%	100%	100%	80%
Type of Primary Disability	Physical Health	Physical Health	Mental Health	Mental Health	Physical Health	Mental Health	Physical Health	Mental Health	N/A – All IL
Number of Dependents	2	0	2	0	2	2	0	0	1
Average Age	40.6	39.0	42.3	41.5	47.1	46.2	44.5	44.8	53.5
CWINRS Number	107,176	101,726	26,309	19,649	2,809	1,069	1,177	490	22,148
Represents What Percent of VR&E Participants	41.2%	39.1%	10.1%	7.6%	1.1%	0.4%	0.5%	0.2%	N/A – IL Only
Current Average VA Payment Averages by Scenario									
Average VR&E Subsistence Allowance (excluding tuition and fees)	$751	$521	$735	$521	$723	$727	$521	$521	$641
Average Monthly Disability Compensation	$952	$477	$1,444	$1,194	$3,485	$3,134	$3,359	$2,920	$3,130
Current VA Payments Average Total	$1,703	$998	$2,179	$1,715	$4,208	$3,861	$3,880	$3,441	$3,771
Possible Transition Benefit Payment Range by Scenario									
Low Benefit Range (Core Expenses Only)	$3,181	$1,898	$3,181	$1,898	$3,181	$3,181	$1,898	$1,898	$2,792
High Benefit Range (Core & All Menu Expenses)	$4,305	$2,240	$4,825	$2,760	$6,905	$6,905	$4,840	$4,840	$4,982

Source: EconSys Study Team analysis of data from CWINRS, VR&E's case management and information system that allows for efficient sharing of information nationwide; DoD Basic Allowance for Housing for 2008; Official USDA Food Plans, Cost of Food at Home at Four Levels, U.S. Average, March 2008; U.S. Department of Labor, U.S. Bureau of Labor Statistics, Consumer Expenditures in 2005, Consumer Price Index; U.S. Census Bureau, Current Population Survey.

Target Population for New Benefit

The next step in our analysis considered which veteran groups should be provided the transition benefit. Should the benefit be limited to veterans who apply during the first two years after discharge? Should it be limited to those severely disabled? Should it be available to all who are medically discharged? Should it be available to all who are eligible for VR&E?

The distinction between the temporary disability benefit and a permanent disability benefit discussed above might suggest that the focus for the target population for a new transition benefit should be limited to individuals who are medically discharged from military service or receive their disability determination within a short period of time after leaving the service. This veteran group was clearly the focus of the Dole-Shalala Commission. On the other hand, one could argue that the benefit be extended to all veterans eligible for VR&E Program services in order to provide an incentive for veterans with disabilities to receive such services and make it less financially difficult for them to do so.

Six options were chosen for analysis. Options 1 through 5 depict choices from the most restrictive (Option 1) to the most inclusive (Option 5). Option 6 is a stand-alone option for Independent Living and includes all veterans who applied for IL. The options were developed around four factors: family living expenses (low and high option range), medical discharges, severity of disability, and time since discharge.

- **Option 1:** Limit eligibility to severely injured/ill who are medically discharged with CDD of 70% or higher and who enter vocational rehabilitation within two years of discharge.
- **Option 2**: Limit eligibility to all medically discharged veterans and all veterans with CDD of 70% or higher who apply for VR&E within two years of discharge.
- **Option 3:** Limit eligibility to all medically discharged veterans and all veterans with CDD of 70% or higher who apply within 12 years of receiving their initial SCD rating.
- **Option 4:** Limit eligibility to all medically discharged veterans and all eligible/entitled veterans (using current practice guidelines) who apply within two years of discharge.
- **Option 5:** All VR&E participants who apply within 12 years of SCD are eligible.
- **Option 6:** All who require Independent Living (not exclusive of the other options).

Costs of Options

Key factors that drive the costs are participation rates, duration of participation, the scope of the program, and the amount of the benefit. Assumptions regarding participation rates and duration of participation are that (1) the transition benefit is likely to increase the rehabilitated rate of participants by 10 percent to 44 percent and (2) the average number of months that participants receive the benefit will increase from 15.2 months to 19.5 months.

Using those assumptions, the options offer choices regarding the scope of the benefit program and the amount of the benefit. The number of participants per year range from 3,443 for the most restrictive (which is Option 1) to 29,375 for the most all inclusive (which is Option 5). Likewise, the amount of the benefit varies by whether the Core

benefit is chosen or the Core Plus benefit which includes the basic core expenses plus additional menu items.

The estimated net or additional costs of the transition benefit for each of the options are shown in Table V-4. These costs represent the costs of an individual cohort over the "life" of the cohort, not total annual budget costs. Cohorts are defined by the year in which they enter the VR&E program. A cohort lasts for 12 years which reflects the period of eligibility of participants except for those with serious employment handicaps who are not limited to 12 years.

Table V-4. 2008 Monthly Option Benefits

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Current Average VR&E Subsistence	$761	$761	$761	$761	Varies by scenario – see Volume II, Chapter 7, Scenario Analysis.	$641
Average CDD in 10 degree increments	80 % (rounded from 81.2)	80% (rounded from 81.2)	80% (rounded from 81.2)	50% (rounded from 51.3)		80% (rounded from 80.92)
Average number of Dependents	1.6	1.6	1.6	1.2		1.1
Current Average Disability Compensation	$1,729	$1,740	$1,652	$906		$3,130
Total Current Benefits	$2,490	$2,501	$2,413	$1,667		$3,771
Total Monthly Transition Benefit Payment Range						
Core Items					Varies by scenario – see Volume II, Chapter 7, Scenario Analysis.	
Housing	$1,390	$1,390	$1,390	$1,390		$1,390
Food	$713	$713	$713	$491		$491
Transportation	$1,078	$1,078	$1,078	$911		$911
Core + Menu Items						
Child Care	$118	$118	$118	$118		$118
Caregiver Expenses	$1,300	$1,300	$1,300	N/A		$1,300
Apparel and services	$199	$199	$199	$161		$161
Entertainment	$221	$221	$221	$221		$221
Personal care products/services	$63	$63	$63	$55		$55
Household operations	$51	$51	$51	$46		$46
Housekeeping supplies	$136	$136	$136	$121	Varies by scenario – see Volume II, Chapter 7, Scenario Analysis	$121
Health care for dependents	$336	$336	$336	$168		$168
Total Monthly Benefit Payment Range	$3,181 to $5,605	$3,181 to $5,605	$3,181 to $5,605	$2,792 to $3,682		$2,792 to $4,982
Core Monthly Costs	$3,181	$3,181	$3,181	$2,792		$2,792
Core Plus Menu Monthly Costs	$5,605	$5,605	$5,605	$3,682		$4,982

Source: EconSys Study Team.

The estimated net increased costs range from $97 million for core living expenses for Option 1 to $1.45 billion for Option 5 for Core Plus expenses. Option 6 would have no increase for core living expenses since current benefits exceed the amount for core expenses and current benefits would be continued; an increase of $35 million for Core Plus expenses would be expected. These estimates represent the costs for each cohort of veterans who apply for VR&E.

Table V-5 provides a summary of the costs for each option by Core or Core Plus benefit.

Table V-5. Summary of Costs for Options ($ in thousands) (in 2008 Dollars)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Core Only						
Core Net Increase	$97,071	$441,689	$468,673	$650,120	$933,099	N/A
Core Plus						
Core Plus Net Increase	$259,815	$867,432	$937,052	$948,192	$1,450,817	$35,361

Source: EconSys Study Team.

VI. ASSESSMENT OF REHABILITATION

In addition to developing options for a new transition benefit program, the EconSys Study Team provided a general assessment of rehabilitation based on a review of different programs and literature. This review included identifying best practices, factors affecting participation and completion, and measures of successful outcomes.

The literature reflects that at the center of vocational rehabilitation programs is the goal of rehabilitating individuals to improve the probability of their obtaining and retaining employment after injury. To accomplish this, most disability programs provide various services that facilitate an injured worker's transition back to work: on-the-job training, education, and job placement assistance. Additionally some professional literature shows the significant burdens incurred by caregivers of injured family members. The Canadian veterans' program offers benefits directly to families in addition to the injured veteran transitioning from military to civilian life.

Factors aiding return to work

- Early identification, intervention
- Rehabilitation providers paid based on results
- Financial incentives to rehabilitation participants
- Federal/State incentives to encourage hiring of disabled workers
- Provide benefits during trial work period

Factors hindering return to work

- Loss of earnings during vocational rehabilitation
- Time lapse leading to loss of confidence in ability to work

Some of the literature concludes that successfully rehabilitated individuals can undertake a wider array of employment tasks, have higher earnings potential, and become less dependent on public services. Identifying individuals who would benefit from a vocational rehabilitation program is therefore a desirable goal. A review of best practices reveals that early identification and intervention are critical factors in a successful return-to-work outcome. To facilitate achieving successful return-to-work outcomes, the literature identifies several incentives that encourage participation and completion of a vocational rehabilitation program. Literature examples of return-to-work incentives include pay for performance plans for rehabilitation service providers that achieve agreed upon outcome criteria, financial incentives payable to vocational rehabilitation participants as they successfully complete rehabilitation tasks, federal and state programs that encourage employers to hire temporary and permanently disabled workers, and various incentives in the Social Security Disability Insurance (SSDI) program such as the Ticket to Work program in which individuals test their ability to function as employed persons while still receiving disability benefits.

The literature also identifies some disincentives to entering and completing some current vocational rehabilitation programs. A major disincentive identified is the opportunity cost of foregone earnings; this means that spending time in rehabilitation prohibits one from spending that same time earning immediate income. A second disincentive is psychological. For example, obtaining Medicare coverage first requires receipt of SSDI for two years; obtaining SSDI requires proof of inability to work. Thus,

during the waiting period one may become emotionally and psychologically invested in the notion that one cannot work. Finally, incentives are of limited value to certain subgroups of vocational rehabilitation participants such as individuals with severe head trauma who may not be able to contemplate the meaning or impact of incentives.

The literature review reveals that demographic characteristics such as age, education, income and/or wage replacement rate, pre-injury employment history, tenure with current employer, and individual prediction of continued disability all can affect the duration and ultimate outcome of disability claims. This in turn affects worker economic consequences and provider costs. Older workers have an increased likelihood of permanent disability and unexpected medical costs. Workers with relatively less education experience lower return-to-work rates. Workers with relatively higher earned income have stronger financial incentives to return to work quickly given the relatively larger opportunity cost of foregone income, especially when they face a low maximum-capped benefit relative to their former level of earned income. In addition, workers with intermittent pre-injury employment experience substantially longer return-to-work rates than workers having continuous employment in the year prior to injury. For those workers who cannot or do not return to their pre-injury employer, their time away from work is two to three times longer. Finally, when injured workers view themselves as disabled and unable to perform some or all daily work activities irrespective of the diagnosis or physician's orders, they typically experience longer delays in returning to work.

Participation in VA Vocational Rehabilitation Program

Analysis presented in Volume II indicates that U.S. veterans with a service-connected disability on average do not apply for the Vocational Rehabilitation and Employment (VR&E) Program for 12 years following release from military service. From 2001 to 2007, this average dropped to nine years while the median dropped from eight to three indicating that veterans are applying much sooner after discharge. The restructuring of the VA and Department of Defense (DoD) disability processes offers the prospect of significant improvement for those medically discharged.

Finally, service-connected disabled veterans transitioning to civilian life experience additional living expenses before and during vocational rehabilitation as they transition to civilian life compared to those veterans transitioning without service-connected disabilities. These costs include increases in general living costs such as transportation costs for travel to and from medical appointments due to the service-connected disability. In addition, these veterans may have special needs and non-medical costs such as the need for personal assistance.

Several factors or characteristics may increase or decrease the likelihood that a veteran with a service-connected disability will enter and complete VA's VR&E Program. The impact that each of these factors may have on veterans seeking and obtaining VA vocational rehabilitation is considered as VA's transition benefit program is developed.

The following factors have influence on the entry and completion of vocational rehabilitation (VR) programs:

- Providing transition assistance benefits to caregivers and family members reduces the levels of stress and depression for veterans and caregivers, which raises the overall quality of life for both the veteran and family members or caregivers.
- Providing and aligning financial incentives with successful completion of specific rehabilitation tasks increases the likelihood that patients enter and successfully complete rehabilitation.
- Higher levels of pre-injury education attainment combined with strong provision of job placement assistance increases the likelihood of obtaining and retaining employment.
- Providing transition assistance payments offsets the foregone cost of earnings (time spent in rehabilitation and not working), which in turn increases the likelihood of entry and completion of rehabilitation.
- Providing a VA transition assistance coordinator with clearly defined roles and responsibilities who works with veterans before they leave active duty provides a smoother transition and significantly reduces the time from medical discharge to entry into vocational rehabilitation, which increases the likelihood of successful completion of vocational rehabilitation.
- Transition assistance payments must acknowledge and partially offset increases in general living costs, special needs, and non-medical costs to provide appropriate incentives for veterans with service-connected disabilities to enter early and successfully complete vocational rehabilitation.

Factors aiding enrollment in VA vocational rehabilitation

- Transition assistance benefits
- Financial incentives for successful completion of specific tasks
- Offsets for earnings lost while in rehabilitation
- Provision of a VA transition assistance coordinator
- Payments to offset increases in living costs and other needs during rehabilitation

Measuring Outcomes of Vocational Rehabilitation

The study team conducted an analysis of current peer-reviewed literature focusing on the definition of successful VR, the conditions most amenable to successful vocational outcomes, and personal characteristics associated with successful vocational rehabilitation. There is a paucity of published literature on the subject of successful outcomes of VR in the veteran population. This is true, to a lesser degree, in the civilian population. Successful VR usually is represented only by outcomes with employment relevance.

In general, strengths and weaknesses exist in outcomes that are currently used to determine successful VR. The strengths include outcomes that (1) are tied to economic consequences and (2) are objective measures. Weaknesses suggest that the outcomes

currently being measured may not embrace a comprehensive definition of "successful" VR. The expectations and goals of the VR participants may be key elements for predicting and defining successful VR. To the extent VA wishes to evaluate the effectiveness of VR, broader outcomes of VR will need to be developed. In addition, studies of VR effectiveness need to incorporate controls over selection bias to enhance credibility of results.

In expanding the definition of successful VR to include other outcomes besides employment-related ones, VA could consider measurements which incorporate personal characteristics such as motivation and general evaluations of functional assessments during the baseline evaluations of potential VR participants. Personal characteristics such as motivation have received little attention in the VR literature and may be extremely important in determining successful VR. The participants' goals upon entering VR are pertinent to the outcomes used to define successful VR.

The current state of the literature is organized by medical diagnosis (for example, diabetes mellitus, heart disease, and schizophrenia). It is very rare for more than one diagnosis to be included in the same VR trial, and the participants are not selected or stratified by severity of disability. Therefore, it is not feasible to determine which conditions are likely to be most responsive to VR because work-related disability is usually the result of co-morbidities and their impact on performance in a variety of life roles and functions (that is, disabilities). Conditions that respond most favorably to VR are not likely to be strictly bound by medical diagnosis (as used in the medical model of VR) and likely would be more closely related to the individualized needs of the VR participant. VA's VR&E is in a unique position to add to the VR literature since it has access to the diagnoses of all clients that enter VR.

The ability to predict which participants in VR are most likely to have successful outcomes would be useful. First, it would serve as risk stratification on entry into VR. Individuals, who are of increased age, single, experience more symptoms, have minimal education, and do not have access to social support, would be the individuals who are most likely to drop out of VR or not attain employment at the conclusion of VR. Such individuals may benefit from closer attention from the VR counselors and VA indicates that these factors are considered in developing individualized rehabilitation plans.

Special attention could be given to individuals who are not likely to obtain successful outcomes. In addition, if characteristics are identified as predictive of outcome, and these characteristics are modifiable, then the predictors would provide points of intervention for VR. An option for VA would be to look at the success rates of individuals participating in VR&E. This effort should measure VR success with respect to demographic indicators, co-morbidities, function, and disability.

The diagnosis of post-traumatic stress disorder (PTSD) was selected as an example of how VR is applied to a complex, chronic disorder. It illustrates some of the limitations of the literature and the nature of the evaluations and outcomes used in VR.

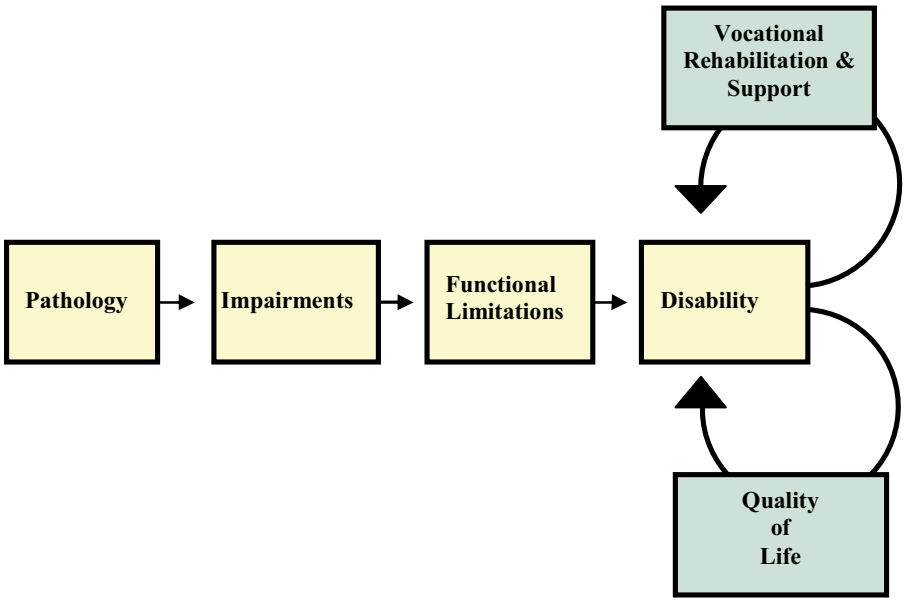
There are data that support the view that improved work outcomes in persons with PTSD occur in individuals who have received early intervention and ongoing treatment to reduce the severity of their PTSD. It has been shown that work-related environmental factors, support systems, and organizational structure conducive to reducing stress are all beneficial for successful VR. These factors may need to be assessed to determine causes of good/poor vocational outcomes. VA may want to assess whether early intervention, within months of diagnosis (when possible), and ongoing treatment improves success in VR.

An option for VA to consider is to re-evaluate the definitions of successful VR to permit a wider range of various employment outcomes and range of possible work trajectories. For example, VR success might include restricted work assignments, light duty, and job modification as well as work structured to provide longer lead-in time and gradual introduction to independent work place activity. Outcomes are likely to change over time. Therefore, the time at which outcome assessments are conducted becomes an element that influences the achievement of success.

VII. MODELS OF DISABILITY

An important starting point for any disability compensation program is a disability model that relies on clear, consistently used definitions for concepts used in the model. While several models of disability are discussed in this chapter, the Revised Verbrugge and Jette Model of Disability shown in Figure VII-1 is useful in providing the key definitions used by compensation specialists and the relationships among the concepts in these models.

Figure VII-1. Abridged Verbrugge and Jette Model of Disability



Source: Jette, AM Physical Disablement Concepts for Physical Therapy, 1994; 74:380-86.

Definitions of Disability

Pathology is the disease, injury, or other medical condition that is identified or classified by a medical diagnosis. Impairment involves damage or loss of a particular body function or ability, or a worsening of and diminished capacity for a particular body function or ability. An impairment may be anatomical (loss of a leg), physiological (tinnitus), or be of a mental or emotional nature (major depressive disorder).

Functional Limitations typically refer to the effects of the impairment on Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADLs are those activities and daily functions required in order for a person to take care of him or herself and to remain independent. These activities include eating, bathing, dressing, toileting, and transferring (from a chair to a bed). The IADLs go beyond basic self-care tasks and

include such activities as shopping for groceries, preparing meals, managing money, performing housework, or using a telephone.

Disability refers to the effects of physical or mental impairments and of the resulting functional limitations on the roles and responsibilities an individual may perform in society. A work disability limits an individual in his or her work role because of a physical or mental impairment that impacts work performance and has two aspects. Loss of earnings capacity is the difference between an individual's capacity to earn income before disability and his or her capacity to earn income into the future after the disability. Actual loss of earnings is the difference between the wages a person would have earned if he or she had not been injured and the earnings the person actually earns after being injured.

Loss in quality of life normally refers to all of the consequences of an injury or disease including impairments, functional limitations, and disability. Sometimes loss in quality of life refers to all the consequences other than work disability.

Features of Models of Disability

Two features of the models of disability are important. One characteristic of all of the models is that they implicitly or explicitly assume that the consequences of injuries occur in stages: impairments lead to functional limitations, which lead to disability. The models recognize that not all impairments lead to functional loss, and not all functional losses result in disability. Moreover, the same impairment in different individuals may result in different functional losses, and the same functional losses may result in different amounts of disability. The models of disability examine the various personal and environmental factors that confound the relationships among impairments, functional limitations, and disability. However, the assumption is that there is a general relationship among the concepts – so that, for example, the severity of an individual’s impairment can be used to predict the extent of that person’s work disability. This assumption is the foundation of most disability compensation programs. The impairment rating is used as a proxy or predictor of the resultant loss of earning capacity or loss of actual wages.

Another feature of some models of disability is that work disability is distinguished from the other consequences of injuries or diseases. This distinction is the basic premise for the actual design of most disability compensation programs. Many disability compensation programs indicate their only purpose is to compensate for work disability. Other disability programs have two basic types of benefits: those that compensate for work disability and those that compensate for the other consequences of injuries and diseases.

VIII. VA Compensation for Work Disability

The Veterans Disability Compensation Program provides benefits that are intended to compensate for the average loss in earning capacity resulting from service-connected disabilities. The Program also provides Individual Unemployability (IU) benefits for veterans whose disability ratings are less than total, but whose service-connected disabilities result in the inability to obtain or maintain substantially gainful employment.

Regular Schedule Benefits

The VASRD and CDD Ratings

The operational approach for regular schedule benefits which compensates for average loss in earnings capacity relies on the VA Schedule for Rating Disabilities (VASRD). The general guidance for the VASRD is that disability ratings are to be based on certain consequences of injuries that result from impairments (namely, limitations in activities of daily living and loss of earning capacity). The instructions for determining ratings of specific injuries contained in the VASRD generally base the disability ratings on the degree of medical impairment.

The VASRD assigns disability ratings between 0% and 100% depending on the medical diagnosis and the severity of the symptoms. Many veterans have multiple medical conditions, and the rater uses a table to establish the combined degree of disability (CDD) based on mathematical rules for aggregating the individual medical conditions.

This use of impairment ratings to produce ratings for disability compensation is similar to the operational approaches used in many disability benefit programs. The rating of the impairment or other initial consequences of the injury or diseases is used to predict the extent of the resulting work disability. A significant issue is whether the predictions of work disability using the CDD ratings are accurate.

Loss of Earnings Methodology

The accuracy of the predictions of work disability using CDD ratings is assessed by an analysis of the loss of earnings by veterans with different types of medical conditions and CDD ratings.

One crucial part of the loss of earnings analysis is determining the wages that the veteran would have received if he or she had not experienced a service-connected disability (SCD). The estimates of these potential earnings depend on tracking the actual earnings of individuals in a comparison group who did not have SCDs but who were otherwise matched to the veterans with disabilities on personal characteristics. The personal characteristics used to match the veterans with disabilities and the veterans without SCDs were age, gender, education at the time of entry into the service, and status as an officer or enlisted person when discharged from active duty.

The comparison group includes veterans with and without non-SCD disabilities. Veterans with non-SCD disabilities *should* be in the comparison group as they reflect the general population of veterans who acquire disabilities as they age. Examples are arthritis and diabetes, which are very prevalent among the general population as well as veterans receiving VA disability compensation. There is no compelling reason to exclude non-SCD veterans who have acquired these conditions from our comparison group, nor do we have the data to do so. Yet these conditions among non-SCD veterans may impact their earnings capacity.

Still another aspect of our comparison group is that it includes veterans who were released from active duty in 1980 and later but not before 1980. Records of the Defense Manpower Data Center (DMDC) are not reliable prior to 1980 discharges and, therefore, the study team could not obtain reliable data for the earnings of non-SCD veterans released before 1980. Also, most pre-1980 veterans are beyond the age of retirement. For individuals who are past the age of retirement, we had data on annual earnings from 1951 but did not have time to analyze it to assess the impact of specific disabilities on earnings capacity.

Another crucial aspect of the loss of earnings analysis is determining which measure of earnings to use in the comparisons of disabled and nondisabled veterans. One measure with readily available data is the wages reported to the Social Security program. However, these data do not include benefits provided by employers, which are a substantial proportion of total compensation for most workers. There are also choices related to the time period over which earnings should be evaluated including earnings in 2006 or an average of earnings in 2006 plus earlier years.[3] Based on a careful consideration of all these options, the analysis of loss of earnings was primarily based on comparisons of the earnings in 2006 of veterans with SCDs and without SCDs as provided to the study by the Social Security Administration. Estimated benefits paid by employers were added to the 2006 earnings.

The results of our analysis differ significantly from the results of the 2007 analysis of earnings loss conducted by the CNA Corporation (CNAC) for the Veterans' Disability Benefits Commission. CNAC found that, in general, earnings loss occurred at all levels of disability ratings and that, in general, VA disability compensation paid to veterans is adequate to offset average loss of earnings. As will be discussed in detail, our analysis found that veterans with CDD ratings of 30% or less had actual earnings that were within 2 percent of what they could have expected to earn if they had not experienced a SCD and that earnings plus VA disability compensation exceeds expected earnings of veterans without service-connected disabilities except at the 100% disability level.

There are several reasons for the differing results including the fact that CNAC's analysis used earnings in 2004 and ours used more recent earnings in 2006. But the most important reason for the difference is that we compared earnings for SCD veterans and veterans without SCD who were discharged from 1980 and later; CNAC compared

[3] We chose 2006 because it was the most recent year for which full SSA data were available.

earnings for all veterans currently receiving disability compensation and used both earnings from the same large sample of veterans discharged since 1980 that we used and also data from the Current Population Survey (CPS) for veterans without SCD who were discharged prior to 1980. After thorough analysis of the CPS data, we concluded that use of the survey data would not be appropriate. CPS data includes earnings of 14,084 veterans who reported that they did not receive disability compensation (12,115 of whom were 40 years of age or over.) Self reported information is thought to be less accurate for both whether the respondent has a service-connected disability and for amount of earnings. Another reason is that mixing earnings data from two different data sources may provide inaccurate results. It is possible that self-reported CPS earnings, on average, could be higher or lower than the earnings reports to SSA. We also concluded that the purpose of our analysis should be to frame compensation payments for the future and not look toward the distant past. We describe in depth the reasons for our decision not to use CPS data in Chapter VI of Volume III.

The Relationship between Different Levels of CDD Ratings and Earnings Losses

The relationship between CDD ratings and earnings losses is shown in Table VIII-1. The average earnings in 2006 for veterans without SCDs (non-SCD) were $42,719 (including employer-provided benefits). Veterans with SCD ratings of 10% could have been expected to earn $46,792 in 2006 if they had not experienced SCDs. The actual earnings in 2006 of the veterans with 10% SCD ratings was $47,483, which meant these veterans actually earned slightly more ($691 or 1 percent) than was projected based on their personal characteristics.

Table VIII-1. Overall Rating Equity for Veterans without IU or SMC Status (All Ages Included)

Combined Disability Rating	Actual Earnings	Expected Earnings	Earnings Loss	Percent Earnings Loss
10%	$47,483	$46,792	-$691	-1%
20%	$46,777	$46,769	-$8	0%
30%	$45,832	$46,568	$736	2%
40%	$44,271	$46,623	$2,352	5%
50%	$40,981	$46,985	$6,004	13%
60%	$39,665	$46,807	$7,142	15%
70%	$37,221	$46,602	$9,381	20%
80%	$35,521	$45,948	$10,427	23%
90%	$32,335	$43,194	$10,859	25%
100%	$7,087	$45,021	$37,934	84%
Average for All SCDs	$43,950	$46,647	$2,696	6%
Non-SCD	$42,719			

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and SSA earnings data match.

The results in Table VIII-1 suggest that veterans who received disability compensation benefits with CDD ratings of 30% or less had actual earnings that were within 2 percent of what they could have expected to earn if they had not experienced a SCD. The

earnings losses for veterans with CDD ratings between 40% and 90% had significant wage losses but much less than their CDD ratings would have suggested. The closest correspondence between CDD ratings and earnings losses was for veterans with 100% CDD ratings, whose actual earnings were 84 percent less than the earnings they could have expected to earn if they had not experienced a SCD. The average CDD rating for all veterans who received disability compensation benefits was 30%, which is considerably higher than their average earnings losses of 6 percent.

The Relationship between Combining Disabilities and Earnings Losses

In our analysis of earnings data we found, surprisingly, that within each CDD level, earnings (excluding estimated employer-provided benefits) were positively correlated with veterans' number of rated service-connected disabilities (SCDs).[4] That is, earnings were higher with more disabilities. This is illustrated in Table VIII-2 for all post-1980 non-IU and non-SMC veterans in our database (regardless of age). Empty cells indicate CDD and SCD intersections that were not observed in our data. With few exceptions, there is a clear pattern of increasing earnings by number of service-connected disabilities in each cell.

Table VIII-2. Average 2006 Earnings by CDD and Average Number of Service-Connected Disabilities, Veterans of All Ages

CDD	Average Number of Rated Service-Connected Disabilities					
	One	Two	Three	Four	Five	Six
10%	$36,194					
20%	$34,547	$35,912				
30%	$30,105	$33,878	$37,393			
40%	$29,132	$30,649	$33,539	$39,142		
50%	$15,400	$25,336	$27,618	$33,244	$38,912	$40,357
60%	$23,623	$28,747	$30,015	$28,891	$34,934	$37,451
70%	$10,626	$16,130	$20,297	$26,480	$33,905	$35,480
80%		$30,008	$24,989	$21,186	$28,216	$35,660
90%				$21,568	$26,774	$31,391
100%	$1,573	$6,676	$5,480	$6,223	$12,287	$12,240

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and 2006 earnings data provided by SSA.

Within most CDD rating levels, the earnings increased with the number of medical conditions used to produce that rating. For example, for veterans with a 40% CDD rating for physical disabilities, earnings consistently increased as the number of rated service-connected medical conditions increased. This paradoxical result suggests that the rating for the first medical condition captures most of the impact of the veteran's overall medical condition on his or her potential earnings, and that the ratings for the second, third, or additional medical condition increase the CDD rating but do not further affect

[4] The same result obtains when *including* estimated employer-provided benefits. We indicate that such benefits were excluded only to inform the reader of the basis if comparisons are made between these results and others in this report.

the veteran's earning capacity. Thus, on average, a veteran with a 40% CDD resulting from a 20% rating for the first medical condition and additional medical conditions that explain the overall 40% rating is no worse off in terms of lost earnings than a veteran with only a single medical condition that is rated at 20%.

This result can be traced to the effects of combining the ratings for individual medical conditions based on the VASRD into final CDD ratings for veterans with multiple conditions. The current system assumes that all disabilities are mostly additive and that they do not overlap, especially at lower rating levels. However, based on the empirical evidence, this is not an accurate assessment or premise. Ultimately, it is not that having more disabilities causes veterans to earn more money or to be more successful in finding jobs. Rather, it appears that having more disabilities causes veterans to be misclassified and placed into higher CDD rating groups that do not correspond with their actual earnings and employment levels. Earnings and employment rates are therefore higher for veterans with multiple service-connected disabilities than we would expect based on their CDD ratings. In effect, the system for combining multiple ratings produces CDD rating inflation that otherwise distorts the attempt to analyze the relationship between earnings and CDD rating levels.

The Relationship between Different CDD Ratings for Different Body Systems and Earnings Losses

The relationships between CDD ratings and percentage earnings losses for veterans with injuries to different body systems with the same demographic characteristics and no service-connected disabilities[5]are shown in Table VIII-3. There are considerable differences among body systems in the extent of earnings losses at a particular CDD rating. For example, among veterans with CDD ratings of 50%, the range was from basically no earnings losses for veterans with genitourinary or endocrine medical conditions to over 40 percent earnings losses for veterans with other mental conditions.[6] In general, veterans with diagnoses of post-traumatic stress disorder (PTSD), other mental disorders, and infectious diseases experience greater earnings losses than veterans diagnosed with other medical conditions rated at the same CDD ratings. Gray shaded sections indicate earnings that are higher than expected. Similarly, sections shaded light red show earnings that are 15 percent to 24 percent lower and while sections in darker red show earnings of at least 25 percent below the prevailing comparison group.

[5] For example, the -7% entry for Cardiovascular at the 30% CDD level means that earnings were 7% higher than expected for veterans without service-connected disabilities. The expectation is based on demographic characteristics, not on disability.

[6] "Other Mental" includes all mental conditions except for post-traumatic stress disorder (PTSD).

Table VIII-3. Percent Earnings Losses by CDD and Major Body System

Body System	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Musculoskeletal	-1%	0%	0%	4%	8%	13%	15%	18%	16%	68%
Eye	-7%	-6%	-4%	-1%	2%	5%	14%	18%	46%	96%
Ear & Other Senses	-7%	-5%	-6%	-1%	4%	9%	24%	20%	12%	79%
Respiratory	-4%	-3%	3%	2%	6%	6%	9%	14%	18%	72%
Cardiovascular	-7%	-6%	-7%	-3%	3%	11%	12%	15%	23%	75%
Digestive	-3%	-1%	-1%	3%	10%	13%	21%	21%	27%	56%
Genitourinary	-2%	-5%	-3%	0%	-1%	10%	23%	23%	34%	64%
Gynecological	2%	7%	9%	-4%	11%	8%	22%	24%	48%	49%
Hemic & Lymphatic	13%	5%	3%	2%	4%	16%	16%	16%		41%
Infectious Disease	19%	17%	27%	20%	26%	26%	23%	30%	30%	76%
Skin	-1%	-2%	2%	3%	10%	13%	18%	21%	32%	68%
Endocrine	-5%	-4%	-6%	-1%	1%	12%	15%	13%	24%	66%
Neurological	3%	6%	7%	9%	16%	17%	18%	26%	30%	86%
Traumatic Brain Injury[i]	13%	12%	6%	20%	26%	22%	26%	25%	51%	91%
Dental	6%	6%	4%	4%	5%	8%	5%	47%		100%
PTSD	12%	11%	22%	15%	32%	26%	32%	29%	23%	92%
Other Mental	14%	13%	26%	26%	43%	36%	46%	43%	41%	96%

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and 2006 earnings data provided by SSA.

[i] Traumatic Brain Injury is not a body system but is included due to interest in this diagnosis.

VA Disability Compensation and CDD Ratings

The amount of annual veterans compensation received by SCD veterans in 2006 (the year of the earnings data) is shown in Table VIII-4. The benefit formula provides benefits that increase steadily between CDD ratings of 10% and 90% and then sharply increase for CDD ratings of 100%. Amounts shown reflect observed variations due to varying proportions of veterans who are married and who have other dependents.

Table VIII-4. Annual VA Compensation, by CDD Rating Level

CDD	Average 2006 Compensation	VA Compensation as a Percentage of 100% Level
10%	$1,344	4.5%
20%	$2,616	8.8%
30%	$4,589	15.5%
40%	$6,608	22.3%
50%	$9,294	31.4%
60%	$11,720	39.6%
70%	$14,512	49.0%
80%	$16,700	56.4%
90%	$18,572	62.7%
100%	$29,600	100.0%

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and 2006 earnings data provided by SSA.

Evaluating VA Disability Compensation

VA disability compensation was evaluated to determine if the compensation meets the tests of equity and adequacy.

Adequacy of VA Disability Compensation

One possible standard of adequacy for the Veterans Disability Compensation Program is that the Disabled Veterans' Indemnification (DVI) rate should equal or exceed 100 percent. The DVI is the disabled veteran's actual earnings after experiencing a service-connected disability (SCD) plus the VA compensation divided by the expected earnings for the veteran if she or he had not experienced a SCD.[7] We also refer to this calculation as the parity ratio or earnings loss (or gain) after VA compensation percentage. The objective should be to come as close as possible to a 100 percent DVI or parity ratio. If the parity ratio is substantially less than 100 percent, then there is an issue with adequacy. If the parity ratio exceeds 100 percent, then there is a gain and the veteran is being overcompensated with respect to earnings losses.[8]

The data in Table VIII-5 can be used to evaluate the adequacy of VA disability compensation. For all veterans with SCDs, the expected earnings were $43,889 in 2006, which represents what these veterans were expected to earn if they had not experienced SCDs. The actual earnings of these veterans plus their veterans' disability compensation were $43,693, which almost exactly matched their expected earnings. The difference between the two figures was $196, which means the difference (or deviation) was 0%. Alternatively stated, the Disabled Veterans' Indemnification (DVI) rate for all veterans in the study who received VA disability compensation was 100%. If the definition of adequacy adopted by policymakers is that the DVI should be 100%, then VA disability compensation benefits are adequate.

[7] DVI = (actual earnings after the SCD + VA compensation) / expected earnings.

[8] We distinguish between compensation for earnings losses and compensation for loss of quality of life. Since the system does not provide explicit compensation for loss of quality of life, our observations here are only with respect to loss of earnings.

Table VIII-5. Annual VA Compensation and Earnings for SCD Veterans in 2006

Combined Disability Rating	Expected Earnings	Actual Earnings Plus VA Compensation	Percent Deviation	Difference
10%	$46,792	$49,042	5%	$2,250
20%	$46,769	$49,811	6%	$3,042
30%	$46,568	$51,155	9%	$4,587
40%	$46,623	$51,937	10%	$5,314
50%	$46,985	$51,762	9%	$4,777
60%	$46,807	$53,260	12%	$6,454
70%	$46,602	$54,055	14%	$7,453
80%	$45,948	$54,893	16%	$8,946
90%	$43,194	$53,879	20%	$10,685
100%	$45,021	$41,423	-9%	-$3,598
All SCDs	$43,889	$43,693	0%	-$196
Non- SCD	$42,719			

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and 2006 earnings data provided by SSA.

Vertical Equity of VA Disability Compensation

The data in Table VIII-4 also can be used to evaluate the vertical equity of VA disability compensation. Vertical equity of benefits has two meanings. A narrow view is that all levels of severity should have the same DVI rate (for example, 100% parity with expected earnings had they not been injured). An alternative view is that more severe illnesses or injuries should have a higher DVI. VA disability compensation has mixed results using these tests of vertical equity. Between CDD ratings of 10% and 90%, the DVI is generally increasing with higher CDD ratings, which means that the deviation between actual earnings plus disability compensation and expected earnings is increasing. The exception is for veterans with CDD of 50% where in fact the difference is lower than for veterans with CDD of 40%. The major failing of VA disability compensation is that the veterans with SCDs that are rated at 100% have the lowest DVI, with actual earnings plus VA compensation deviating 9 percent below expected earnings. As previously discussed, there is a disproportionate increase in VA compensation between the 90% and 100% CDD ratings. However, the higher VA compensation does not replace the earnings shortfall.

Horizontal Equity of VA Disability Compensation

Horizontal equity for benefits requires that the DVI rates for veterans with the same disability rating and different types of illnesses or injuries should be the same or similar. However, as shown in Table VIII-6, the DVI rates vary significantly among veterans with different injuries but the same CDD ratings. For example, for veterans with 100% CDD ratings, the DVI was 140 percent for hemic & lymphatic diseases, 104 percent for musculoskeletal injuries, 84 percent for neurological conditions, 71 percent for other mental disorders, and 57 percent for dental conditions. DVI rates below 100 percent are shaded for ease of identification.

Table VIII-6. Rate of Earnings Loss (or Surplus) After Compensation by Major Body System of Primary Diagnosis

Body System	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Dental	97%	100%	106%	112%	119%	122%	133%	91%		57%
Other Mental	90%	94%	85%	91%	79%	92%	88%	97%	103%	71%
TBI	90%	94%	104%	95%	95%	104%	108%	113%	92%	77%
Neurological	100%	101%	104%	107%	106%	111%	117%	115%	116%	84%
PTSD	91%	96%	90%	103%	92%	106%	105%	116%	128%	87%
Eye	111%	113%	115%	118%	121%	125%	122%	132%	110%	87%
Infectious Disease	84%	88%	83%	95%	94%	99%	110%	110%	114%	92%
Ear & Other Senses	110%	111%	118%	118%	120%	122%	113%	125%	162%	92%
Skin	104%	109%	109%	112%	112%	115%	116%	118%	116%	96%
Musculoskeletal	104%	106%	111%	111%	114%	115%	120%	123%	133%	104%
Endocrine	109%	111%	119%	119%	124%	118%	124%	132%	124%	109%
Respiratory	107%	109%	109%	114%	116%	120%	124%	123%	125%	111%
Genitourinary	105%	112%	114%	116%	125%	119%	113%	119%	118%	113%
Cardiovascular	111%	113%	120%	120%	122%	120%	128%	131%	131%	115%
Digestive	106%	108%	112%	113%	113%	115%	115%	123%	122%	117%
Gynecological & Breast	101%	100%	104%	123%	116%	125%	120%	115%	101%	137%
Hemic & Lymphatic	90%	101%	108%	114%	119%	116%	122%	133%		140%

Source: EconSys Study Team analysis of December 2005 C&P Master Record data and 2006 earnings data provided by SSA.

Individual Unemployability Benefits

The Veterans Disability Compensation Program provided IU benefits for 189,838 veterans in 2007 whose actual loss of earnings greatly exceeds the losses expected based on their CDD ratings. Eligibility for IU benefits requires the veteran to (1) have a CDD rating of less than 100%, (2) have a single disability with at least a 60% rating or two or more disability ratings that in combination bring the CDD rating to at least 70% with one disability evaluated at least 40%, and (3) demonstrate that he or she is unable to secure gainful employment as a result of service-connected disabilities. Thus, two forms of benefits for work disability are: (1) regular schedule benefits, which compensate for loss of earning capacity based on the general relationship between medical conditions and loss of earnings and (2) IU benefits, which compensate an individual veteran for extraordinary losses of actual earnings in excess of the amounts expected on the basis of the veteran's CDD rating.

The value of the IU benefits is demonstrated by the study's analysis of the loss of earnings experienced by the veteran who qualified for the benefits. Among all IU veterans who received the benefits in 2006, their expected average earnings were $44,285 based on their personal characteristics and the earnings of veterans without SCDs, while their actual average earnings were only $528. This 99% earnings loss of

$43,757 indicates that the IU system approves applications only for veterans with extraordinary losses of earnings.

The veteran who qualifies for IU benefits receives compensation equivalent to the amount received by a veteran receiving the regular schedule benefits with a 100% CDD rating. In 2006 the average IU benefit with tax advantage was $34,336, which means that the total of actual earnings and IU benefits was $34,864 and the DVI rate was 79 percent. This level of compensation plus earnings is much lower than the average DVI rate for all non-IU veterans receiving VA compensation, suggesting that the IU benefits were not adequate. Moreover, the DVI for the veterans with SCD who had a 100% CDD rating because they had an IU award (79 percent) was much lower than the non-IU veterans who were rated at 100% CDD (91 percent), indicating a problem of horizontal equity between these two groups of seriously disabled veterans.

Policy Options for the VA Disability Compensation Program

According to the authority for the VASRD in Title 38, United States Code, Section 1155, a readjustment in the rating schedule cannot result in a reduction of a veteran's disability rating previously in effect without a demonstrated improvement in the veteran's disability. Hence, the focus of readjustments would be on new enrollees.

There is some thinking that VA implicitly provides compensation for more than earnings loss. In addition to payment for SMC, the rating process itself may take into consideration functional loss. VA ratings do not always strictly adhere to medical impairment criteria for making the rating determination although there is no legal or regulatory basis to do so. Currently, there is little formal guidance for taking these other factors into consideration. The goal is to improve the adequacy and equity of the disability compensation program.

Policy Options for Improving the VASRD

Policy options for VA consideration for improving the VASRD include:

- Reduce the increases in ratings when combining multiple disabilities to the point where earnings losses do not decrease as the number of disabilities increases
- Increase benefits for 100% CDD to improve vertical equity
- Reduce the ratings for individual diagnoses where earnings loss do not occur
- Increase the ratings for individual diagnoses where VA disability compensation does not adequately compensate for earnings loss
- Utilize ICD-9-CM classification codes alongside the current VBA diagnostic codes for purposes of keeping the classification system more up-to-date and standardized.
- Evaluate consequences in terms of functional limitations, not just impairment

Revise Formula for Combining Disabilities

The current method for combining disabilities results in a rating inflation by treating the disabilities as basically additive with respect to earnings losses. In analyzing veterans with multiple disability ratings, we discovered that a positive correlation exists between the number of service-connected disabilities and earnings within a given CDD rating level; that is earnings increase as the number of disabilities increase.

The correction for this would be to reduce the CDD rating downward one to three rating levels depending on the number of disabilities and the CDD level currently calculated when combining multiple disabilities. The study team has developed an interim measure as a rough guide for how to do this.

However, for the longer term, instead of rating each disability separately and then combining the ratings, an alternative approach would be to have a single rating for a given combination of disabilities. This recognizes that certain conditions cluster or co-occur. These are often referred to by medical practitioners as co-morbidities. When conditions co-occur, they produce an effect that is different from that of multiple unrelated conditions.

To achieve a single rating for a given cluster or combination of disabilities, a diagnosis-level analysis for multiple disabilities is needed, resulting in a rating that is just for the primary diagnosis. Given this study's time constraint, availability of pertinent data, and the lack of statutory authority to acquire individual level earnings data, the study team was not able to perform this task. The task requires careful analysis of specific combinations of co-morbidities. The result of the needed disaggregated analysis would likely be a series of look-up tables designed to handle specific conditions and combinations of conditions.

Adjust the CDD Ratings to Improve Accuracy

The earnings loss analysis has identified serious problems in the ability of the current VASRD to predict earnings losses for veterans. For example, the calculations for earnings loss for veterans with 100% CDD ratings on average result in an apparent earnings loss that is greater than expected. Moreover, among veterans with the same CDD ratings systematic differences occur in their loss of earnings depending on the nature of their injuries. For example, among veterans with the same CDD ratings, those with PTSD or other mental health disorders generally have greater earnings losses than veterans with other medical conditions.

The evidence on the misalignment of the VASRD could be used in two ways to improve the ability of the CDD ratings to predict average impairment in earning capacity. First, the CDD ratings for given conditions could be revised within the VASRD. For example, the CDD rating for a PTSD previously rated 10% in the current schedule would be 30% in a revised schedule.

Several of the most prevalent diagnostic conditions would require adjustment. For example, the study's earnings loss analysis would lead us to adjust the 10% rating to zero for the following conditions in cases with only one disability:

- Arthritis – VASRD code 5003
- Arthritis – VASRD code 5010
- Lumbosacaral strain – VASRD code 5237
- Tinnitus – VASRD code 6260
- Arteriosclerotic heart disease – VASRD code 7005
- Hypertensive vascular disease – VASRD code 7101
- Hemorrhoids – VASRD code 7336
- Diabetes mellitus – VASRD code 7913

Increase Payment Amount at the 100% CDD Level

Increasing the compensation amount for 100% CDD would improve the adequacy objective for veterans at this level of disability and improve vertical equity in the system overall. For veterans at the 100% rating level without the IU determination, an increase of approximately 9 percent above the 100% regular VASRD payment amount would achieve approximate parity to compensate 100 percent for average earnings loss.

Utilize ICD-9-CM Classification Codes

The starting point for most CDD ratings produced by the VASRD is an assessment of the medical impairments resulting from the service-connected injury or disease. However, the medical information incorporated into the VASRD is not current for many conditions. In addition, some medical conditions that are widely recognized in the medical profession are not included in the VASRD. Updating and expanding the scope of the VASRD would improve the ability of the rating system to produce accurate assessments of the consequences of injuries and diseases.

One way to help achieve the goal of a more comprehensive and current set of medical criteria in the VASRD is to add ICD-9-CM codes to all diagnoses. In conducting its own mapping exercise, the study team found that it is feasible to produce ICD-9-CM codes for nearly every VASRD code. A copy of the resulting cross-table appears in Volume III, Appendix B.

The study team's effort to map to ICD-9-CM codes also revealed that VA's actual use of its diagnostic codes often does not correspond to the verbal descriptions attached to those codes. Approximately half of the 7,500 cases reviewed for this study have diagnostic text that does not match the official diagnostic description. In addition, some cases used obsolete diagnostic codes although VA has indicated that system edits prevent use of obsolete codes. In addition, for conditions not listed in VASRD, raters often assign inappropriate codes rather than use analogous codes, used when VASRD

codes are not available. The mapping effort also revealed that documentation of cases is not consistent.

Decisionmakers could consider the option to use the ICD-9-CM codes as part of the VASRD diagnostic description when applicable. It would not disrupt the VA's current practice, but it would allow the raters (as well as researchers and others at VA) to cross-reference the VASRD with patient medical information, especially when a condition is known by multiple names or when the VASRD's name for the medical condition reflects an older name. In cases where the VASRD diagnostic description is itself unclear, the ICD-9-CM code would provide clarity.

In cases where a VASRD code is intended to correspond to a condition that is not coded well in ICD-9-CM, the study team proposes it be matched to a code in another authoritative coding system, for example, the International Classification of Functioning, Disability and Health (ICF), that better captures that condition than the VASRD. This would allow VA to maintain a list of diagnoses tailored to its own purposes, but it would tether the VA's system to what is current in the broader medical community. That might obviate the difficulties resulting from obsolete diagnostic descriptions or medical conditions not listed in the VASRD that are routinely evaluated by VA rating specialists, while providing both the impetus and the basis for future updates of the system. As a practical matter of switching to a hybrid system, the only essential difference would be that an ICD-9-CM code would be added to many of the VASRD diagnostic descriptions. This would allow the VA rater and other subject matter professionals to easily cross-reference with medical materials on that condition. The mapping of VBA diagnostic codes to ICD-9-CM codes would also be useful for statistical reporting and comparison purposes.

In addition to mapping VASRD codes to ICD-9, the study team mapped a sample of 1,094 cases in which analogous codes were used because appropriate VASRD codes are not available. Analogous codes use the first two digits of the body system followed by 99 to indicate that the diagnosis is an analogous code. Analogous codes are used for about nine percent of the 7.7 million service-connected disability conditions. The purpose of the mapping was to identify codes that could be added to the VASRD. The effort identified thirty-four ICD-9 diagnoses with at least five cases that could be added to the VASRD. These codes are listed in Table IV-4 in Volume III.

Evaluate Consequences in Addition to Impairment

The Model of Disability shown in Figure VII-1 assumes that the consequences of injuries and diseases occur in stages. Impairments lead to functional limitations, which lead to disability. The current VASRD primarily relies on assessments of the extent of impairment to determine CDD ratings on the assumption that the CDD rating serves as a good proxy or predictor of impairment of average earning capacity. A possible refinement would be to incorporate information in addition to an assessment of the severity of the impairment into the CDD rating. For example, the effects of the injury or disease on ADLs could be systematically incorporated into the VASRD. Consideration of

this possible expansion of the rating system to include consequences other than impairments needs to be based on empirical studies, however, since there is limited evidence from studies of other disability benefit systems suggesting that the predictions of the extent of lost earnings do not improve when information in addition to the impairment rating is incorporated into the disability rating.

Policy Options for IU Benefits

The number of IU cases has grown from about 101 thousand in September 2001 to 189,838 cases in September 2007, an increase of 88 thousand. About one-half of the increase was a result of new enrollees receiving disability compensation and one-half a result of reclassifications. PTSD cases constituted about one-third of the IU cases in 2007 and one-half of new IU cases entering the system between 2001 and 2007. Other mental disorders constituted 12.5 percent of IU so that mental disorders combined made up 43.5 percent in 2007. Forty-four percent of the IU cases in 2007 were for veterans age 65 and older; 64 percent were for veterans age 55 and older.

Although age is clearly related to employment, it is not considered in IU determinations. While IU is not intended for veterans who voluntarily withdraw from the labor market because of retirement, new awards could be made to veterans who are near or past normal retirement age for Social Security.

Because the purpose of employer-sponsored disability programs in the private sector is income replacement, long-term disability benefits stop when pension payments begin. In contrast, under the current VA Disability Compensation Program, the commencement of Social Security retirement benefits or other retirement income does not affect the payment of disability benefits. The fact that such benefits are not offset against other income is sometimes offered as evidence of an implicit quality of life element in veterans' disability benefits.

In light of these circumstances it appears that IU determinations made for veterans approaching or past retirement age are made more in implicit recognition of loss of quality of life than for employment loss. As such, VA may want to consider compensating veterans in these circumstances explicitly for loss of quality of life rather than for the purpose of replacing lost earnings.

IU determinations depend on decisions about marginal employment[9] and substantially gainful employment. In order to further facilitate the decision-making process for IU determinations, a work-related disability set of measures would be worth assessing.

An option for VA consideration would be to adopt a patient-centered, work disability measure for IU evaluations as an extension of the clinical and patient-centered research promoted by the Chief Research and Development Officer, Office of Veterans Affairs.[10] As with the current IU evaluation, assessments would address the individual's work

[9] Marginal employment is a term commonly used to reflect 'non-standard' employment such as part-time work and low paying jobs with only a few working hours.

[10] Feussner, J. R. (1999). Priorities for patient-centered research. *Medical Care, 37*(9), 843-845.

history but also consider other factors including motivation and interests. Since very poor veterans with disabilities are also eligible for Social Security Disability Insurance (SSDI), consideration should be given to using the same income threshold for IU as is used for SSDI.

Evaluators would select questionnaire instruments from a prescribed battery that measure multiple domains relevant to health-related work disability (that is, impairments, functional limitations, and work-related disability), according to the areas of concern and the level of specificity required by the individual's unique circumstances. The instruments should meet certain criteria such as having been formally tested for reliability in an impairment group and widely used by evaluators of work disability.

Work disability evaluations would include relevant measures of impairment, functional limitation, and disability. Particular care should be taken to include measures of physical, psychological, and cognitive function. Assessments would evaluate the individual in the context of his or her total environment, not only the workplace.

Cost Effects of Changes Resulting from the Earnings Loss Analysis

Changes in the Calculation of CDD

To estimate the effects of some of the proposed ratings changes on the cost of the VA disability benefits program, the study team looked at veterans without IU and not receiving special monthly compensation (SMC) who entered the program between 2001 and 2007. We estimated the difference in disability benefit payments that would occur if interim changes were made in the way multiple disabilities are combined to calculate combined degree of disability.

To make these cost calculations, we had to make a number of assumptions. First, we assumed that growth is constant. Between 2001 and 2007, 645,663 non-IU/non-SMC veterans were added to the disability compensation rolls. They are shown by CDD level in Volume III, Table V-2 (New SCD Enrollees Receiving VA Disability Compensation between 2001 and 2007). We assumed that this growth was distributed evenly over that six-year period (645,663 divided by 6 or about 107,611 per year).

Next, because the rating schedule adjustments are based on CDD level and number of service-connected disabilities, we needed to make assumptions about the distribution of new enrollees with respect to the numbers of disabilities. In the absence of actual information on that distribution, we assumed that they have the same distribution as the 2006 population used for this study.

Using these assumptions, we assembled a table showing the adjustments in combining multiple disabilities that would be needed for correction. The table shows each rating in a different color for ease of reading.

Table VIII-7. CDD Levels After Adjustment

CDD	Number of Service-Connected Disabilities					
	One	Two	Three	Four	Five	Six
10%	10%					
20%	20%	10%	X	X	X	X
30%	30%	20%	20%	X[i]	X	X
40%	40%	30%	30%	20%	10%	X
50%	50%	40%	40%	40%	30%	30%
60%	60%	50%	50%	50%	40%	40%
70%	70%	60%	60%	60%	50%	50%
80%	X	70%	70%	60%	50%	50%
90%	X	80%	80%	80%	60%	60%
100%	100%	100%	100%	100%	100%	100%

Source: EconSys Study Team

[i] While possible to have four 10% disabilities and be rated 30%, we do not have empirical evidence of this occurrence.

Ratings for veterans in the white cells are not affected. That is, ratings for anyone with one service-connected disability and the indicated CDD level are not changed. Individuals at the 10% rating level will experience no change. Cells with X's indicate CDD/SCD intersections that do not occur. Note that there are no single disabilities in the VASRD that have a rating of 80 or 90%.

First, we calculated the cost of a single year's cohort of new enrollees using the actual CDD levels. We based the costs upon observed 2006 average compensation rates, which factor in marital status and number of dependents. If CDD levels were adjusted as shown in Table VIII-7, the observed before- and after-adjustment rates are shown in Table VIII-8.

Table VIII-8. Average Annual VA Compensation by CDD Level

CDD	Average VA Comp	Before Adjustment		After Adjustment	
		Annual Enrollees	Disability Payments	Enrollees	Disability Payments
10%	$1,344	27,843	$37,421,363	44,970	$60,440,227
20%	$2,616	20,211	$52,870,834	19,351	$50,621,538
30%	$4,589	15,695	$72,026,363	14,369	$65,937,519
40%	$6,608	13,438	$88,797,476	8,971	$59,280,498
50%	$9,294	8,923	$82,928,027	11,281	$104,848,406
60%	$11,720	8,063	$94,495,134	3,282	$38,462,828
70%	$14,512	4,730	$68,643,674	115	$1,665,873
80%	$16,700	2,580	$43,087,201	3	$56,934
90%	$18,572	860	$15,972,365	0	$0
100%	$29,600	5,268	$155,922,347	5,268	$155,945,112
Total		107,611	$712,164,784	107,611	$537,258,935

Source: EconSys Study Team.

Before adjustment, we estimate that approximately $712 million in new benefit payments (in 2006 dollars) are added each year for veterans who do not receive SMC and are not rated IU. On average, this amounts to about $6,618 per disabled veteran.

After adjustment, we estimate that the total cost of a new year's cohort of non-IU and non-SMC enrollees' disability compensation payments would be approximately $537 million. So, after adjustment, the new outlay each year would be approximately $175 million less than before adjustment.

To this, we need to add several caveats. First, these are extremely broad estimates based on assumptions that might or might not hold true upon close scrutiny of the data. Any changes in demographic patterns will affect the underlying marriage rates, number of dependents, and other factors. Changes in the law that affect the presumption of service connection of disabilities would also affect the actual outcome.

Even so, the cost implications are substantial. Because the reduction is $175 million per year for each cohort (group of new enrollees) added, the reduction in Year 2 would be $175 million multiplied by 3—two years' of payments for the first cohort, and one year's payments for the second cohort. The estimated cumulative cost reduction, in 2006 dollars, is shown in Table VIII-9.

Table VIII-9. Projected VA Compensation Payment Reduction if Adjustments are Implemented in 2010 (in 2006 Dollars)

Year	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Cohort 6	Total
2010	$175M						$175M
2011	$175M	$175M					$350M
2012	$175M	$175M	$175M				$525M
2013	$175M	$175M	$175M	$175M			$700M
2014	$175M	$175M	$175M	$175M	$175M		$875M
2015	$175M	$175M	$175M	$175M	$175M	$175M	$1.050B
Total	$1.050B	$875M	$700M	$525M	$350M	$175M	$3.675B

Source: EconSys Study Team.

Cost Changes Based on Changes to Selected Diagnostic Code Ratings

We also estimated cost changes based on changes to specific diagnostic code ratings. We looked at the most-frequent four diagnostic codes, and attempted to show cost changes to the disability benefits program if specific changes discussed in Volume III were implemented. This requires making certain assumptions. (We lack the precise data that would enable a more exact estimate.)

For this exercise, we looked at the top four diagnostic codes in terms of rating incidence between 2001 and 2007. These codes are:

- VASRD code 6260 - Tinnitus
- VASRD code 6100 - Defective hearing

- VASRD code 7913 - Diabetes mellitus
- VASRD code 9411 - PTSD

As reported in Volume III, we reported no earnings losses for two of these diagnostic codes—tinnitus and diabetes mellitus—at specific levels. However, earnings loss analysis for the PTSD condition indicated that upward adjustment in ratings were required. We assumed that the incidence of these ratings with respect to rating level occurs in the same proportions as we observed in the 2006 data. We must base this on CDD rating levels, rather than individual diagnosis ratings since we have data only for the former.

Given these assumptions, we calculated the net change in disability compensation payment outlays that would occur if rating criteria were adjusted to reflect actual average earnings loss. Table VIII-10 shows the average annual number of new ratings for these four conditions, the recommended changes in rating criteria, and our calculated program cost changes. A minus sign indicates program cost reduction while a plus sign indicates program cost increase.

Table VIII-10. Estimated Disability Compensation Program Cost Changes Associated with Changes to Top Four Diagnoses (2001-2007)—Single Year Cost Changes in 2006 Dollars

Diagnostic Code	Average Annual Increase in Ratings	Proposed Change	Program Cost Change
6260 Tinnitus	35,786	Eliminate 10% rating	-$48,096,384
6100 Defective Hearing	28,560	No change proposed	N/A
7913 Diabetes Mellitus	23,888	Eliminate 10% and 20% ratings	-$115,907,126
9411 PTSD	18,761	Increase 10%, 30%, and 50% ratings to next higher rating; increase 70% rating to 90% rating	+$221,731,018
Net Change			+$57,727,508

Source: EconSys Study Team.

Cost of Increasing 100% CDD Compensation by 9 Percent

For veterans with a combined degree of disability rating of 100 percent, our analysis indicates that when compared to expected earnings, actual earnings plus VA compensation falls short by about nine percent. As shown in Volume III, actual earnings plus VA compensation for regular schedule veterans (non-IU and non-SMC) was about $3,600 less than expected earnings in 2006.

To achieve equity at that end of the scale, it would be necessary to increase 100% CDD rating compensation enough to achieve an increase of $3,600, on average. In this study,

we have indicated that there is a tax advantage to VA compensation, because it is not taxed. We used 16 percent, representing the combined average of state and federal taxes in 2006. Hence, $3,600 converts to the tax-free equivalent amount of $3,102.

In 2007, there were a total of approximately 2,627,900 veterans receiving disability compensation. Of those, 9.1 percent were rated at the 100% level, or about 239,139 veterans. Multiplying this by $3,102, would increase the current annual program cost by $741,808,868.

As indicated elsewhere, 645,644 veterans were added to the rolls between 2001 and 2007, with an average of 107,611 per year. Of that 107,611, about 4.9 percent or 5,268 had a CDD rating of 100%. In 2006 dollars, the cost of increasing their compensation to the parity level we calculated would be $16,341,336. Assuming constant growth of 5,268 veterans rated 100% CDD would add approximately $16 million per year, in 2006 dollars, for new enrollees rated at 100% disabled.

IX. BENEFITS FOR LOSS OF QUALITY OF LIFE

Definitions and Measures

The study team examined definitions and measures of quality of life that are appropriate for veterans. Based on reviewing the literature, our suggested definition of quality of life (QOL) for veterans is: an overall sense of well-being based on physical and psychological health, social relationships, and economic factors. This definition was derived from a review of the domains and definitions advanced by authoritative organizations that address quality of life issues including the World Health Organization, the Centers for Disease Control and Prevention (CDC), the Institute of Medicine, and others.

Among assessment tools of quality of life that are most prominent are the WHOQOL assessment tool developed by the World Health Organization, the Veterans RAND 12 (VR-12) and 36 (VR-36) assessment tools developed by the RAND Corporation and modified for use with veterans, the CDC's Healthy Days assessment tool, and assessment tools developed and used in other countries including the EuroQOL, the Health Utilities Index developed in Canada, and Australia's Quality of Life Measure (AQOL). In addition to these tools that measure overall quality of life and health-related quality of life, there are hundreds of assessment tools that are specific to diseases or body systems.

In considering the instruments that exist, none were developed for the specific purpose of compensating disabled veterans. Existing instruments are used for two primary purposes—to make comparisons and to measure improvement in QOL as a result of an intervention. For example, researchers compared the QOL of cancer patients to the QOL of diabetes patients and patients with Alzheimer disease. They also compared the QOL in the United States to African countries and changes in QOL over time. They tested whether a particular treatment or medical intervention improved quality of life for patients. In general, users of existing QOL instruments are answering the question of whether there was an increase or decrease in QOL, but they are not trying to attach a dollar value to these differences.

Four options are offered to VA for measuring QOL using the recommended definition. Each option uses an established assessment tool or combination of measures plus a worksheet that addresses topics not covered in the established assessment tool. The existing assessment tools that are recommended with a supplemental worksheet are the (1) WHOQOL BREF (brief version of the WHOQOL), (2) the VR-12 and VR-36, and (3) Classification and Measurement System of Functional Health (CLAMES) (an instrument that uses items from EuroQOL, VR-12, and HUI).[11] A fourth option is that VA could develop its own QOL assessment tool specific to disabled veterans. The advantage of an

[11] Health Utilities Index (HUIR) is a generic, preference-scored, comprehensive system for measuring health status, health-related quality of life, and producing utility scores for related measures.

SCD veteran assessment tool is that it would be tailored to the issues of most importance to veterans with disabilities. None of the other tools were developed from the vantage of veterans with disabilities, although they are widely used by health and social researchers and policymakers, and the results can be compared to results in the general population.

Adapting these instruments to a payment schedule requires the use of assumptions and the application of careful judgment. While numeric, the scores produced by these assessment tools do not readily lend themselves to payment determinations. The meaning of a difference in a QOL score of 50 and 60 is subject to interpretation, just as the difference between an IQ of 120 and 130 is. We know that 130 is higher, but how much is this 10 point difference worth, and how does it compare to a difference between 90 and 100? The QOL assessment tools present scores measured in units that are equal, but the meaning of differences between scores is subject to interpretation.

One technique that places a value on QOL developed by health researchers is called preference-based scores. A preference-based score represents how much society values a loss of quality of life and applies a weight to the score derived from a QOL assessment tool. This weight transforms the scale into a percent of quality of life, where zero percent is death and 100 percent is the best life possible. Preference scores incorporate society's judgment regarding the value of quality of life and provide a way to quantify the value of loss of quality of life. Preference scores were used in this study. Another approach is to weight responses on the basis of statistical analysis that determines the degree to which each item is related to the overall concept of QOL being measured. This approach was also used in this study and produced results very similar to those obtained through preference weights.

A concern voiced about QOL measurement is whether it should be subjective or objective. Quality of life itself is a subjective concept. Objective measures can be observed and validated. If QOL was limited to just objective items, only physical dimensions would be included. Concepts such as pain, negative emotion, and social difficulties would be excluded, and the resulting measurement would not yield a fully faceted assessment of quality of life. Quality of life measurement requires both subjective and objective items, and well-implemented procedures can help to control for individuals who choose to "game" the subjective items. Such procedures include in-person administration by medical personnel rather than self-administration, comparisons to norms, and rater adjustment when QOL responses are inconsistent with the medical examination. Excluding subjectivity in QOL assessment is not advisable because it would limit too many dimensions of importance to quality of life.

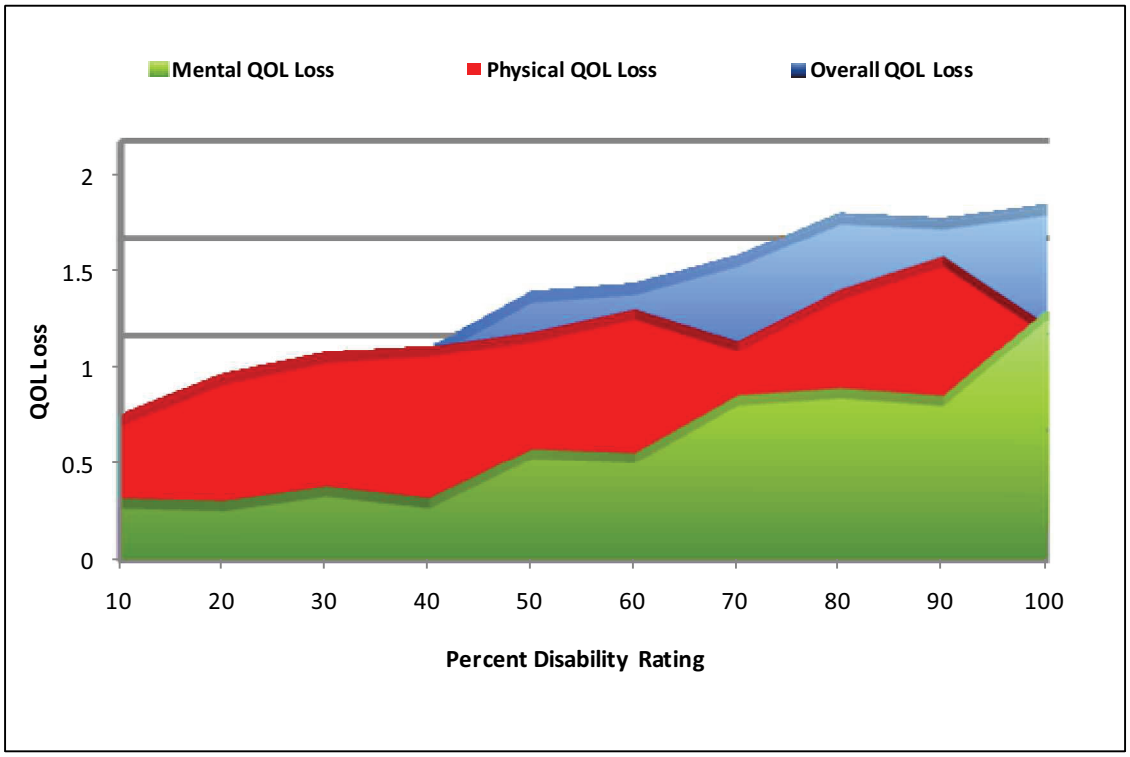
Loss of QOL Among Veterans Receiving VA Disability Compensation

The 2007 Survey of Disabled Veterans, conducted for the Veterans' Disability Benefits Commission, was analyzed to assess loss of quality of life among veterans with disabilities receiving VA disability compensation. Using non-SCD veterans as the norm,

loss of quality of life was established through a VR-12 measure enhanced with 28 additional QOL items and with preference scores.

The study team's analysis found loss of quality of life at every rating level and every body system, indicating that impairment to the body or the person produces loss of quality of life. Figure IX-1 shows the increase in overall, mental, and physical QOL loss as the VA Schedule for Rating Disabilities (VASRD) ratings increase from 10% to 100%, using the enhanced QOL measure developed for this study. The amount of mental loss of quality of life and physical loss of quality of life is not equivalent at each rating, because veterans with mental diagnoses are not evenly distributed at each rating level. Higher mental QOL loss is found in those ratings that have a higher proportion of veterans with mental health diagnoses.

Figure IX-1. QOL Loss by CDD Rating Level, SCD Veterans without IU and without SMC



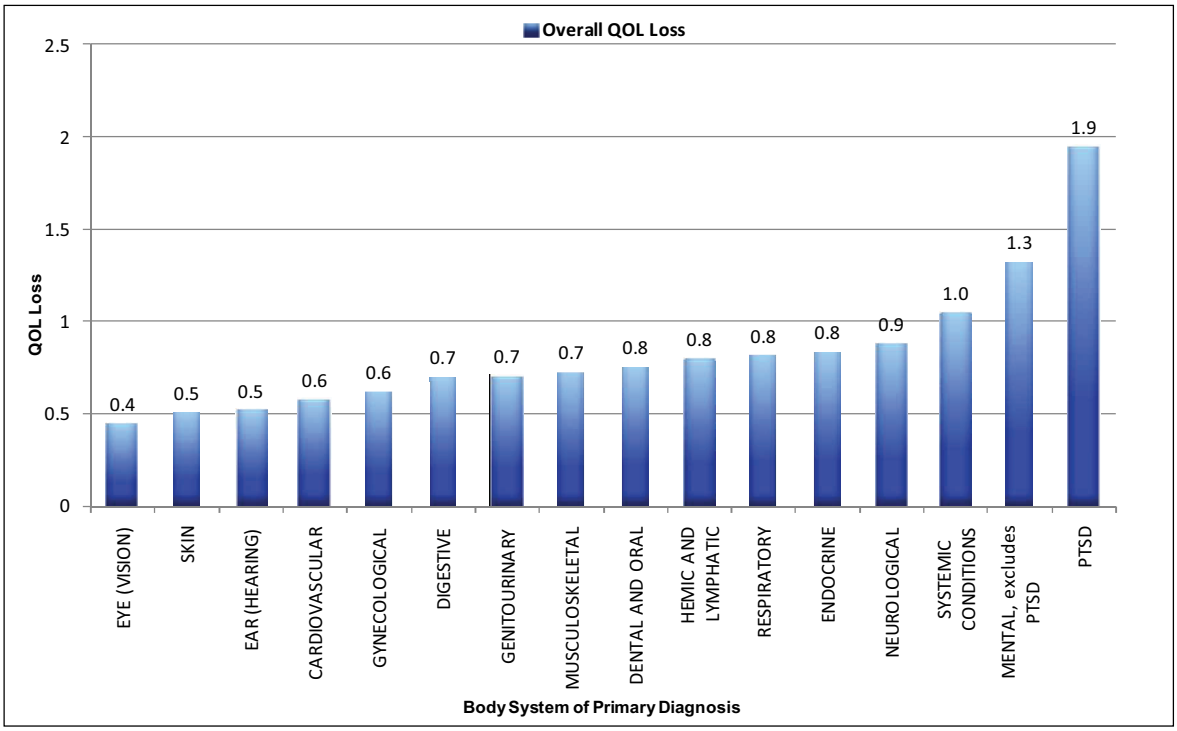
Source: Analysis of 15,906 veterans without IU and without SMC from the 2007 Survey of Disabled Veterans compared to norms from the 2001 National Survey of Veterans. QOL estimated between -2 and +4, with 0 = no loss of quality of life; means are national estimates.

In general, loss of QOL increases as disability increases, but it does not increase as sharply as degree of disability does. That is because loss of QOL and disability ratings have a low correlation (less than 0.4). If the correlation were perfect (1.0), loss of QOL at the 100% CDD would be 10 times that of QOL loss of QOL at the 10% disability rating. The preference-based scores show that loss of QOL for veterans rated at the 10% CDD is 10 percent of a healthy life, and a loss of QOL is 30 percent of a healthy life for veterans

rated at the 100% CDD. Another phenomenon is that veterans with the same disability can have very different levels of life quality. QOL itself is subjective, and it is influenced by the context of the veteran's life including how well the veteran adapts to the disabling condition. Part of the adaptation is a result of the services and assistive devices that VA provides as well as of the compensation provided through the disability benefits program.

Quality of life loss varies by body system. Figure IX-2 illustrates the relationship between overall loss of QOL and body system. The greatest loss of quality of life was found in the mental body system and for post-traumatic stress disorder (PTSD) in particular. The lowest levels of QOL loss were in the skin, ear, and eye systems. The literature cautions us that QOL loss in these systems is more difficult to capture with general measures of QOL such as that used here. Neurological, systemic, and mental body systems produce the highest loss of quality of life. Other body systems show similar loss of quality of life. Loss of quality of life for the body system with the greatest number of veterans with disabilities, musculoskeletal, is in the middle range of quality of life loss.

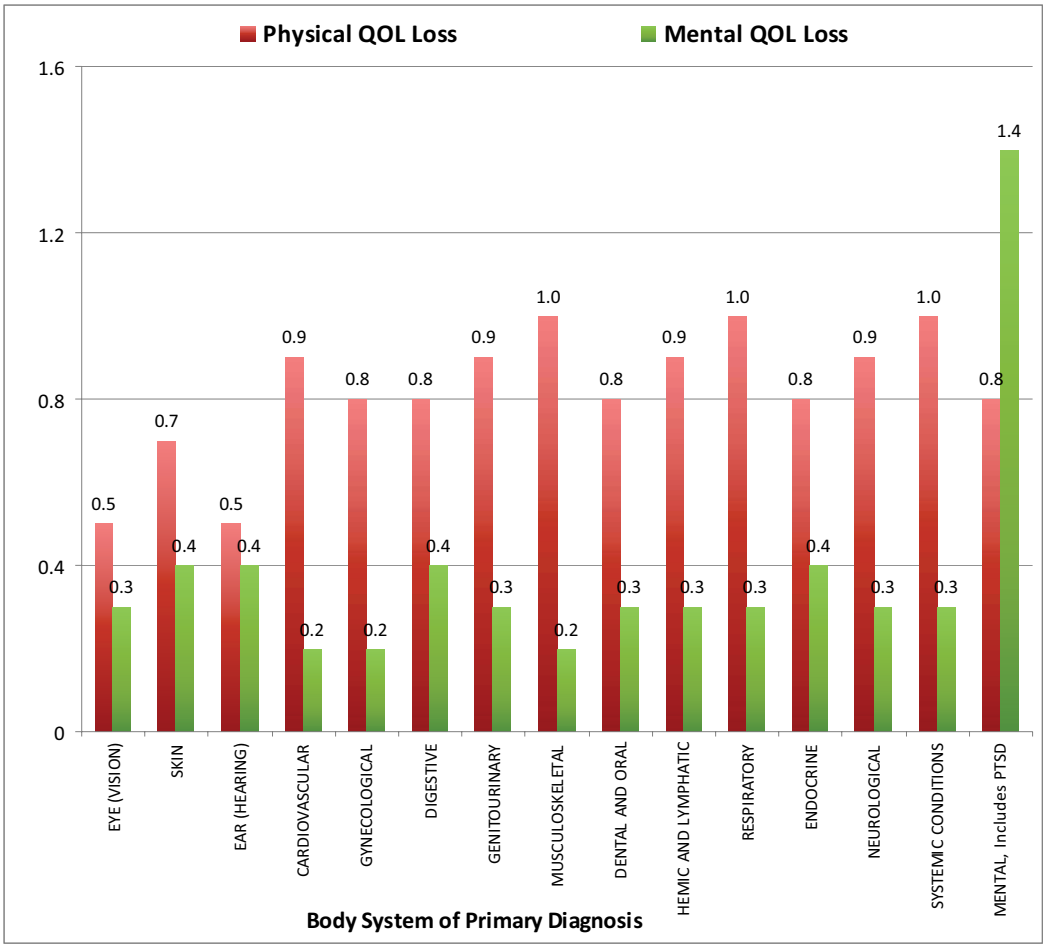
Figure IX-2. Overall QOL Loss by Body System of Primary Diagnosis, Veterans without IU and without SMC



Source: Analysis of 15,906 veterans without IU and without SMC from the 2007 Survey of Disabled Veterans compared to norms from the 2001 National Survey of Veterans. QOL estimated between -2 and +4, with 0 = no loss of quality of life; means are national estimates.

Figure IX-3 illustrates the mental and physical QOL loss by body system. Mental QOL loss is more pronounced in the mental body system, and mental health disabilities also produce a substantial physical QOL loss, indicating that mental health conditions also have a physical effect.

Figure IX-3. Mental and Physical Quality of Life Loss by Body System



Source: Analysis of 15,906 veterans without IU and without SMC from the 2007 Survey of Disabled Veterans compared to norms from the 2001 National Survey of Veterans. QOL estimated between -2 and +4, with 0 = no loss of quality of life; means are national estimates.

In general, veterans who receive VA disability compensation experience losses in quality of life. However, the current disability compensation system explicitly compensates only for earnings loss and not QOL loss.

Loss of QOL Among Veterans with IU Awards

Veterans with 60% to 90% CDD rating levels make up 20 percent of SCD veterans. About 7.2 percent of SCD veterans are awarded IU. About 43.5 percent of veterans with an IU rating have mental disorders as their primary disabilities. Although IU benefits focus on compensation for work disability, the QOL analysis shows that IU is strongly associated with greater loss of QOL. Veterans awarded IU have higher overall, physical, and mental QOL loss than veterans at the same disability ratings without IU. Overall loss of QOL for veterans with IU is approximately equivalent at the 60%, 70%, 80%, and 90% disability rating levels, and the overall QOL loss is approximately equivalent to the QOL loss experienced by veterans rated at the 100% disability rating level without IU and without SMCs. Since IU equates to a 100% disability rating level, this finding supports the assessment that the IU rating is being properly applied with respect to loss of QOL.

Loss of QOL Among Veterans with SMC Benefits

About 9 percent of SCD veterans receive SMC payments for physical conditions. No SMC payments are made for mental conditions, although veterans who require assistance (including some veterans with 100% mental ratings) can qualify for SMC payment. As of September 2007, about 190,000 veterans received SMC (K) and about 14,000 veterans received SMC (L), (M), (N), (O), or (P) for loss of or loss of use of multiple limbs or organs. Another group of about 46,000 veterans received SMC (S), (L), (R.1) or (R.2) for assistance or housebound. SMC (K) can be awarded to veterans at all levels of disability, while the disabilities required for all other SMCs result in a CDD rating level of 100%. Veterans receiving SMC exhibit higher scores for loss of QOL (1.26) than veterans who do not receive SMC payments (0.88). For veterans receiving SMC payments, mental and physical QOL loss is greater than for veterans not receiving SMC payments.

Policy Options for QOL Benefits

Basic Issue: One or Two Tracks of Benefits (Work Disability and QOL)?

VA currently makes a payment for loss of earnings capacity and makes QOL payments through SMCs for certain physical disabilities. VA currently makes earnings loss payments on the basis of the VASRD which is designed to reflect the degree of occupational impairment associated with particular impairments. If decisionmakers add QOL payments, consideration should be given to the existing earnings loss capacity payments and the fact that veterans in the low rating levels do not have actual earnings loss. Documented earnings loss could be required for an earnings loss payment if a QOL payment is also given.

Payments for SMC are based on objective definitions—qualifying conditions for SMC are often visible and they can all be documented objectively. There are no parallel payments for mental health conditions or for conditions that are less visible or conditions that cannot be measured objectively. VA could pay scheduled QOL payments for veterans receiving regular schedule payments and add an SMC-type payment for the

mental and other body systems. This could be accomplished by adding a 5 point scale to the current rating schedule. Criteria could be established to include or replace existing SMCs plus newly developed criteria for other serious injuries meriting an SMC-type payment (such as traumatic brain injury (TBI) and PTSD). The criteria need to be specific and well articulated, describing the lifestyle limitations of the qualifying disabilities. SMCs intended for aid and attendance and housebound (currently 48 percent of SMC (L), all SMC (R.1) and (R.2), and all SMC (S)) should provide adequate payments to purchase the support needed. Extreme disabilities are not limited to the set of primarily visible physical injuries currently covered by SMCs. VA's disability compensation system should provide adequate payments for the severe injuries experienced by today's Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) veterans, particularly veterans with TBI and PTSD and be flexible enough to include other injuries and illnesses that may emerge in the future.

Starting Point for QOL Benefits: VASRD or a New QOL Measure?

The analysis of QOL data indicates that while QOL loss increases with increased VASRD ratings, the increase in QOL loss is not proportional to increase in impairment. QOL loss is not highly correlated to the VASRD. Even if the VASRD is adjusted, the literature tells us that loss of QOL loss is not highly correlated with impairment. That is because QOL is an individualized perception, and people adjust to disability. About one-half of those individuals with severe disabilities report high degrees of life satisfaction. Should decisionmakers diminish QOL payments for severely disabled individuals because certain individuals assume a positive outlook?

If VA links the QOL payment to the VASRD, then QOL norms can be used to determine payments. If VA links QOL payments to QOL loss, then each veteran's QOL would have to be assessed. Providing payments based on actual QOL loss would be more fair and equitable, but would be less compatible with the current system. Linking QOL payments to the VASRD would be less equitable because VASRD ratings are not correlated sufficiently to QOL loss. At the same time, linking payments to disability ratings would prevent a QOL payment from being withheld from a severely disabled individual who has a positive outlook. Decisionmakers need to balance the difference between how veterans assess their situation and how society views their situation.

Alternatively, a new rating schedule specifically designed for QOL loss payments could be developed where the relationship between rating levels and medical impairment (type of disability) would be extensively revised. However, this would require new survey data and analysis conducted at the diagnostic code level (which could not be done with existing data). To make this manageable, the most frequent diagnostic codes in each body system could be assessed for QOL loss and an average given to all others.

The Structure of QOL Benefits

Foreign countries that award QOL payments link them closely to impairment and consider the circumstances of the individual veteran. QOL payments are considered the primary disability benefit and earnings loss payments are made only for actual earnings loss or a specified loss of earnings capacity. A veteran in Canada, for instance, must demonstrate inability to work in order to receive an earnings loss payment in addition to a QOL payment and must complete three years of vocational rehabilitation that results in unemployment before receiving ongoing earnings loss payments.

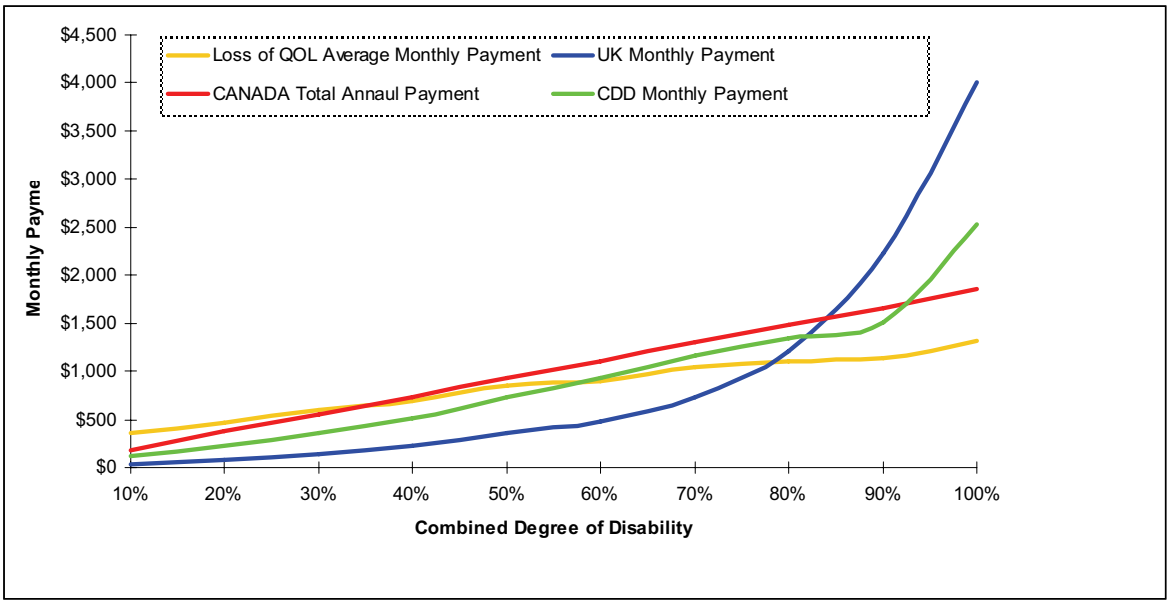
VA could structure its disability benefits like the foreign programs so that they are based primarily on QOL. QOL could be inferred from impairment, or it could be measured directly, with earnings loss paid only when an actual earnings loss occurred.

The systems used in both the United Kingdom (UK) and Canada pay QOL in lump sum payments and have several low rating levels for QOL payments. For instance, Canada has 5 ratings below 10%. While making QOL payments in all 15 of its ratings, the UK system does not pay for earnings loss in the 4 lowest ratings of its 15-point rating scale. The Canadian schedule increases proportionally. In 2008, after the 10% rating, each 5% rating increase in Canada has a payment increase of $12,909. The UK payments do not increase with a multiplicative constant. For instance, the highest payment is $565,000, the second highest payment is $399,000, the third highest is $228,000. The lowest pain and suffering payment in UK is $2,080. These benchmarks suggest great flexibility for VA in establishing payment levels.

Figure IX-4 illustrates how the payments increase for Canada and UK's QOL payments and VA's CDD payment. It also shows how payments based on QOL analysis in this study increase as loss of QOL increases. All payments except the loss of QOL payment based on veteran QOL survey data start with low payments and increase as impairment increases. The QOL loss payment starts at a much higher level but provides the lowest payment for the most severe level of disability. In contrast, both CDD and UK payments begin at very low levels and curve upward steeply at the highest levels of disability. These payment schedules reflect society's view that severe disability merits very high QOL payments and low levels of disability merit recognition payments. The Canadian QOL payment schedule follows this pattern, but has equal increases at every level, rather than a steep increase at the highest levels.

In the data used for this study the highest QOL loss was an individual with an 84 percent loss based on preference scoring. When combined into an average, 100% disabled veterans experience a 30 percent loss of healthy life. For many observers, paying a veteran with an 84 percent QOL loss a 30% payment would be considered grossly inequitable. Few veterans fall into the highest loss of QOL levels, but they are the individuals who most need the highest payment possible. This example argues that decisionmakers should adopt a program where QOL payments can be adjusted based on the individual veteran. It is expected that most veterans would be equitably treated with average payments, but VA must provide sufficient system flexibility to cover extreme situations. This could be accomplished by comparing the veteran's QOL rating to the average and basing any increase on the rest of the information in the file.

Figure IX-4. QOL Payments for Veterans in UK and Canada Compared to Possible QOL Payments in the U.S. and CDD Payments



Source: EconSys Study Team compilation.UK and Canadian lump sum payments converted into monthly payments. QOL loss payments based on allocating 2008 CDD payments on the basis of QOL..

Potential Effects of QOL Options on Rating Process

Three broad options were considered for implementing a QOL payment:

1. Statutory rates by combined degree of disability
2. Separate empirically-based normative rates for earnings and QOL loss
3. Individual clinical and rater assessments plus separate empirically-based rates for earnings and QOL loss

All three options would require periodic analysis of earnings loss and QOL impact to ensure that the appropriate levels of benefits are provided for both. This would require

surveys to assess QOL and matches with Social Security Administration earnings data to assess earnings loss.

Options 1 and 2 above are similar from an operational standpoint in that no changes would be made to basic processes used for medical examinations and rating decisions. Veterans would not be evaluated on an individual basis for either earnings loss or QOL. Raters would follow the same processes to assign diagnostic codes, individual diagnosis ratings, and CDD ratings. A computer program would apply rate scales to determine award amounts. Therefore, we estimate very modest or no additional operational costs for these options.

Option 2 requires additional computer programming of the rate scales. The scales would result in veterans with similar CDD receiving different amounts of benefit, and this would require education of the veteran community. Option 2 would require surveys with larger sample sizes and increased costs in order to assess QOL impact for many individual diagnoses rather than at the body system level as the previous 2007 survey was conducted.

Option 3 is by far the most complex and costly of the three options. Assessment of each individual veteran every time he or she files a claim would require greater time spent on each application by both the medical examiners and the raters.

Veterans would not be able to appeal the QOL decision under either Option 1 or Option 2 if Congress approves the QOL rate scale. However, the rate scale will presumably be much more complex (including perhaps 100 to 200 groupings of individual diagnoses) than the current rates for 10 levels of CDD, and Congress may not want to be involved in that level of complexity.

Designing a Comprehensive QOL Benefit

QOL payments were calculated using five benchmarks. The five benchmarks include three that come from VA (disability compensation received by veterans over age 65, average SMC payments, and VA/DoD death benefits) and two external benchmarks (the Canadian veteran disability system and median U.S. jury awards). The outcome of the analysis is that payments parallel QOL loss; that is, there is a threshold payment for veterans at the 10% disability rating, and the maximum payment at the 100% disability rating is 3 to 4 times the payment for veterans rated at the 10% disability rating.

Since the earnings loss analysis indicates that veterans at low disability ratings do not have earnings loss, should VA pay QOL payments in addition to earnings loss for these veterans? It appears that their earnings loss overpayments compensate for loss of quality of life. For veterans at higher rating levels, QOL payments are justified, but earnings loss overpayments being subtracted from QOL payments is an option that VA could consider.

There are numerous QOL payment levels that can be justified by referencing payment values to the benchmarks included in this study. If VA continues its practice of compensating for SMCs, corresponding SMCs should be added for mental conditions.

Cost Effects of Changes Resulting from the QOL Loss Analysis

In Volume III we present several options for implementing a QOL payment using different benchmarks and approaches.

The magnitude of the costs for the various options is very large, and there are many decisions that must be made in terms of implementation. Table IX-1 depicts the high and low range of estimated monthly benefit and annual costs for options using the following benchmarks: Enhanced Measure, Preference-Based Scores, QOL Schedule, and Hybrid (see Chapter IX in Volume III for discussion of options). These estimated costs are based on the 2,627,900 service-connected disabled veterans receiving disability benefits as of September 2007. As can be seen, the estimated annual costs would range from $3.1 billion to $30.7 billion.

Table IX-1. Range of Annual Costs by Option

Options	Low Monthly Benefit Average	High Monthly Benefit Average	Low Annual Costs ($Billions)	High Annual Costs ($Billions)
CDD-Based	$317	$974	$10.0	$30.7
Preference Score-Based	$286	$703	$9.0	$22.2
QOL Schedule (with Negative Scores)	$332	$815	$10.5	$25.7
Hybrid	$99	$218	$3.1	$6.9

Source: EconSys Study Team analysis.

X. ASSISTIVE TECHNOLOGY

In a 2003 report, the Government Accountability Office (GAO) stated that the VA Schedule for Rating Disabilities (VASRD) does not account for advances in medicine and assistive technology when determining compensation for veterans with service-connected disabilities (SCDs).[12] GAO also argued that consideration of these advances would cause a financial benefit for VA because veterans with SCDs are able to more easily participate in the workforce.

In past decades, the number of available assistive technology devices has grown significantly. ABLEDATA,[13] a website that provides information and resources on assistive technology products, maintains a database of over 22,000 such products. These products include personal care devices (for example, long-handled sponges and zipper pulls) and mobility devices (for example, wheelchairs and Segways).

Benefits of Assistive Technology

When a veteran is properly provided with an assistive technology device and appropriate training is provided, the benefits for users can outweigh the costs of said technology. The first potential benefit of assistive technology is an improved quality of life. The introduction of assistive technology may allow the veteran to perform tasks which were previously not possible and also increase the individual's functional independence. The second potential benefit is an increase in the number of available job opportunities and an increase in earnings capacity. With the aid of assistive technology, individuals with disabilities can perform on-the-job tasks that were once too difficult or tiring. Along those lines, assistive technology also allows the user to save time and energy on other tasks such as bathing and mobility. This gives the individual more time and energy to spend working and enjoying life.

Issues with Assistive Technology

The study team identified two main issues/problems associated with assistive technology. The first issue is device abandonment. While assistive technology may aid users in performing tasks, there is still an alarmingly high rate of abandonment (between 30 and 50 percent).[14] Three factors were determined to be the cause of abandonment. They are:

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[12] U.S. Government Accountability Office. (2003). *Military and veterans' benefits: Observations on the concurrent receipt of military retirement and VA disability compensation: GAO-03575T* (p. 10). Retrieved August 4, 2008, from http://www.gao.gov/new.items/d03575t.pdf

[13] ABLEDATA. (n.d.). *About ABLEDATA: What is ABLEDATA?* Retrieved August 4, 2008, from http://www.abledata.com/abledata.cfm?pageid=19332&ksectionid=19329

[14] Fuhrer, M. J. (2001). Assistive technology outcomes research: Challenges met and yet unmet (p. 529). *American Journal of Physical Medicine and Rehabilitation, 80*(7), 528-535.

- Psychosocial – The appearance of the assistive technology affects the user's self-esteem and sense of control.
- Physical/functional – The device does not perform as expected, causes discomfort when using, or is difficult to use.
- Financial/economic – The device may have maintenance and replacement costs which the user is unable to pay.

The second issue associated with assistive technology is the lack of outcomes research. While there is currently some outcomes research on assistive technology, more research needs to be conducted in these areas:

- Effective measurement tools – Very few measurement tools being used look at functionality and performance. Tools accounting for these two areas would allow occupational therapists and raters to gain a better understanding of the benefits of assistive technology.
- Selection – Occupational therapists currently assign assistive technology in a clinical setting with limited choices. More testing of devices in a "real world" setting would allow for better understanding related to the benefits patients accrue with assistive technologies.
- Costs of assistive technology – While current research can easily quantify the initial cost of an assistive technology device, the study team has found that little research has been conducted on long-term costs. More research is needed to on the fiscal (maintenance and replacement), physiological (labor intensity and wear and tear on other parts of the body), and social (societal acceptability and perception) costs.

Policy Options

Assistive technology can allow veterans with SCDs to become more functionally independent, gain useful employment, and also improve their quality of life (QOL). As stated above, the current disability rating assessment does not take into account the use of these devices. The study team recommends that decisionmakers:

- Assess or reassess veterans who use assistive technology to determine if secondary functions are affected by the technology.
- Research new measurement tools which would aid raters with analyzing the functional impact of assistive technology on the capacity of veterans with SCDs to participate in the workplace.
- Fund research directed towards quantifying the fiscal, physiologic, and social costs of assistive technology which would yield a more complete determination of the net benefits of assistive technology and allow determination of degree of disability and proper interventions more completely.

XI. NON-VA DISABILITY PROGRAMS AND QUALITY OF LIFE

Non-VA disability programs were reviewed in order to gain insight into transition benefits and return to work programs and into disability compensation for earnings loss and quality of life impact. The non-VA programs reviewed included workers' compensation in the U.S. states and nine foreign countries (Canada, Australia, Germany, the United Kingdom (UK), Japan, the Netherlands, Norway, Sweden, and Denmark.) Four U.S. national disability programs were reviewed (Social Security Disability Insurance, Federal Employees Compensation Act, Longshore and Harbor Workers' Compensation Act, and Energy Employees Occupational Illness Program.) Private insurance programs were also reviewed. And finally, five foreign veterans programs were reviewed (Australia, Canada, Germany, Israel, and UK.)

Among the more important findings regarding transition and return to work were that early entry into vocational rehabilitation has proven to enhance success and support for families and caregivers assists not only the families and caregivers but also those participating in vocational rehabilitation. Support was especially important for caregivers of individuals with PTSD. Also of interest was that the Canadian veterans program requires participation in vocational rehabilitation.

Concerning earnings loss, benefits are typically limited to two-thirds of wage-loss in workers' compensation and other programs to encourage return to work. Actual wage-loss rather than impairment assessment may not be appropriate for younger workers (or veterans) who have limited work experience prior to injury. One workers' compensation program (Yukon Territory) includes an annual two percent increase to allow for promotion and advancement that would have occurred but for the disability.

Foreign veterans programs that include quality of life (QOL) payments often involve self assessment and degree of impairment as considerations in determining QOL loss. Of the three foreign veterans programs that include QOL payments, two (UK and Canada) provide only lump sum payments and one (Australia) offers lump sum or monthly payments as an option. The amount of QOL payments were based on research on their workers' compensation programs and injury awards. Other U.S. programs are silent on QOL while Canadian workers' compensation and veterans programs use dual award systems, one for earnings loss and one for QOL.

ABBREVIATIONS

ABBREVIATION	WORD	ORIGIN
ADL	Activities of Daily Living	U.S.
AMA	American Medical Association	U.S.
AQoL	Assessment of Quality of Life	U.S.
AT	Assistive Technologies	U.S.
CES	Consumer Expenditure Survey	U.S.
CDD	Combined Degree of Disability	U.S.
CLAMES	Classification and Measurement System of Functional Health	U.S.
CPS	Current Population Survey	U.S.
DOD	Department of Defense	U.S.
DVI	Disabled Veterans' Indemnification	U.S.
GAO	Government Accountability Office	U.S.
IADL	Instrumental Activities of Daily Living	U.S.
ICF	International Classification of Functioning, Disability and Health	General
IL	Independent Living	U.S.
IU	Individual Unemployability	General
MGIB	Montgomery GI Bill	U.S.
MMI	Maximum Medical Improvement	General
OEF	Operation Enduring Freedom	U.S.
OIF	Operation Iraqi Freedom	U.S.
PPD	Permanent Partial Disability	General
PTD	Permanent Total Disability	General
PTSD	Post-traumatic Stress Disorder	General
QOL	Quality of Life	General
SCD	Service-Connected Disabled/Disability	General
SMC	Special Monthly Compensation	U.S.
SSDI	Social Security Disability Insurance	U.S.
SSI	Supplemental Security Income	U.S.
TBI	Traumatic Brain Injury	U.S., General
TPD	Temporary Partial Disability	General
TTD	Temporary Total Disability	General
TTW	Ticket to Work Program	U.S.
TWP	Trial Work Period	General
UK	The United Kingdom	U.K.
VA	U.S. Department of Veterans Affairs	U.S.
VASRD	VA Schedule for Rating Disabilities	U.S.
VDBC	Veterans' Disability Benefits Commission	U.S.
VR	Vocational Rehabilitation	General
VR&E	Vocational Rehabilitation and Employment	U.S.