VA BENEFITS

Law Allows Compensation for Disabilities Unrelated to Military Service
July 31, 1989

To the President of the Senate and the Speaker of the House of Representatives

This report discusses the types of diseases and injuries for which veterans receive disability compensation. Our objective was to assist the Congress by providing information and analyses concerning a profile of beneficiaries and the origin of their disabilities.

We found that a large number of veterans receive compensation for diseases that arose while the veterans were in military service, but were neither caused nor aggravated by military service. We suggest that the Congress may wish to reconsider whether these diseases should be compensated as service-connected disabilities.

We are sending copies of this report to appropriate congressional committees; the Secretary of Veterans Affairs; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

Charles A. Bowsher
Comptroller General
of the United States
Executive Summary

Purpose

In fiscal year 1986, the Department of Veterans Affairs (VA) paid about $8.4 billion in compensation benefits to 2.2 million veterans with disabilities. VA pays compensation benefits to veterans disabled by injuries or diseases that are incurred or aggravated during military service. GAO reviewed the VA compensation program in order to assist the Congress by providing information and analyses concerning a profile of beneficiaries and the origin of their disabilities.

Background

VA calculates compensation by rating service-connected disabilities according to severity. Veterans awarded compensation are assigned single or combined (for multiple disabilities) ratings ranging from 0 to 100 percent, in increments of 10 percent. Veterans may work while receiving compensation, and the amount of payments is not affected by the veteran's military rank or by the amount of salary or wages earned in civilian life. Annual compensation for an unmarried veteran ranges from $876 to $17,616.

Under the law, veterans receive benefits if their disabilities result from diseases or injuries that occurred or were aggravated in the line of duty. The definition of "in the line of duty" includes all disabilities incurred or aggravated during military service, excluding those resulting from willful misconduct.

To obtain information on veterans receiving compensation under the current program, GAO selected a random sample of 400 such veterans in August 1986. Both GAO evaluators and physicians reviewed the veterans' cases to determine the origin and nature of the disabilities for which veterans received compensation. For veterans being compensated for more than one disability (about half of the veterans), GAO reviewed the two highest-rated disabilities.

Results in Brief

On the basis of GAO's random sample, GAO found that the cases (1) were about equally divided between disabilities resulting from diseases and from injuries and (2) occurred in both war and peace. About 56 percent of the veterans received compensation for disabilities rated less than 30 percent; about 6 percent are classified as totally disabled.

Veterans' compensation is based primarily on when a disability becomes manifest, and is not concerned with causality. Focusing on only the highest-rated disability for each veteran in the sample, GAO estimated that about 19 percent of compensated veterans had disabilities resulting...
from diseases that were probably neither caused nor aggravated by military service. Many of the diseases were related to heredity or life-style rather than to military service. Based on the sample, GAO estimates that benefits paid for these types of disabling diseases totaled about $1.7 billion in 1986.

### Principal Findings

#### Profile of Disease-Related Disabilities

About 49 percent of the veterans (and about 80 percent of those veterans rated totally disabled) received compensation for disabilities resulting from disease. GAO’s physicians who reviewed individual cases concluded that 17 percent had disabilities resulting from diseases that probably were caused or aggravated by military service; 19 percent had disabilities resulting from diseases that probably were neither caused nor aggravated by military service; and 13 percent had disabilities resulting from diseases for which the relationship to service could not be determined. (See pp. 20-21.)

Veterans with disabilities unrelated to service had many ordinary diseases of life, such as diabetes, chronic obstructive pulmonary diseases, osteoarthritis, arteriosclerotic heart disease, multiple sclerosis, and hemorrhoids. GAO’s physicians generally found no evidence that any aspect of military service caused or aggravated these diseases. (See pp. 22-27.)

#### Profile of Injury-Related Disabilities

About 51 percent of the veterans received compensation for disabilities resulting from injuries. Of all veterans, 19 percent were injured while in combat; 17 percent while performing a noncombat military task; 3 percent while on base, but not while performing a military task; 6 percent while off base and not performing a military-related task; and 7 percent occurred under other circumstances, including circumstances that could not be determined. (See pp. 17-20.)
Executive Summary

Matters for Consideration by the Congress

Current law does not require VA to determine if military service was a contributing factor in the cause of a disease. It only requires that the disease become manifest at the time of military service. As a result, at least 19 percent of veterans receive compensation for diseases that occurred while the veterans were in the military, but that probably were neither caused nor aggravated by military service.

The Congress may wish to reconsider whether these diseases should be compensated as service-connected disabilities. If it decides that these diseases should not receive compensation, the Congress might have to redefine "service connected" to require a direct causal link to military service, as opposed to medical developments coincident with service. VA would have to consider each disease on a case-by-case basis, considering the individual circumstances of each case. GAO suggests that any changes be prospective in order not to affect veterans already receiving compensation benefits.

Agency Comments

VA commented that this report correctly states the conditions under which VA compensates veterans. VA offered no comments on the "Matters for Consideration by the Congress" segment of the report.
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Abbreviations

GAO  General Accounting Office
VA   Department of Veterans Affairs
The Department of Veterans Affairs (VA) pays compensation to veterans who are disabled by injuries or diseases that are incurred or aggravated during military service. In fiscal year 1986, VA paid about $8.4 billion in compensation benefits to 2.2 million veterans with service-connected disabilities.

Federal involvement in compensating veterans for service-connected disabilities began in 1789, when the U.S. government took responsibility from the states for payments to disabled veterans. Over the years, the program has changed. Originally, it compensated only those disabled by an act or incident during official military duty. Now, the program pays for disabilities resulting from any injury incurred or disease contracted during military service (excluding those resulting from willful misconduct).

Program Eligibility

Under federal law (38 U.S.C. 310, 331, and 337 (1982)), veterans are entitled to compensation for disabilities resulting from injuries or diseases they incur or aggravate while “in the line of duty.” This means during a period of active military service.

Veterans are presumed physically sound at the time they enter military service except when (1) preexisting medical conditions are noted during entrance physicals or (2) other evidence establishes that a condition was preexistent. A preexisting condition is considered aggravated by service if it increases in severity during service. The law specifically excludes payment for aggravation if the increase in severity is caused by the expected natural progress of the disease or injury.

Veterans may also be entitled to compensation for certain medical conditions that become manifest after the veterans leave military service. For a disability to be presumed to be service connected, the law (38 U.S.C. 312, 333, and 337 (1982)) defines the conditions and prescribed periods during which they must become manifest. For example, certain chronic diseases such as diabetes and arthritis are considered to have been service connected if they become manifest within 1 year after separation from service; some other diseases, longer than 1 year. Multiple sclerosis, for example, is considered service connected if it becomes manifest within 7 years after the veteran’s separation from service. Diseases associated with being a prisoner of war, such as beriberi, can become manifest any time after a veteran’s separation from service and still be considered service connected.
"Service connection" means that a disease or injury resulting in disability was incurred coincident with (while in) military service or, if a preexisting condition, was aggravated by service. No causal connection need be made between the circumstances of the disability and official military duty. The general principles relating to service connection are explained in VA's regulations (38 C.F.R. 3.303 (a) (1988)).

Service connection connotes many factors but basically it means that the facts shown by evidence, establish that a particular injury or disease resulting in disability was incurred coincident with service in the Armed Forces, or if preexisting such service, was aggravated therein. This may be accomplished by affirmatively showing inception or aggravation during service or through the application of statutory presumptions. Each disabling condition shown by a veteran's service records, or for which he seeks a service connection[,] must be considered on the basis of the places, types and circumstances of his service as shown by service records, the official history of each organization in which he served, his medical records and all pertinent medical and lay evidence. Determinations as to service connection will be based on review of the entire evidence of record, with due consideration to the policy of the Veterans Administration to administer the law under a broad and liberal interpretation consistent with the facts in each individual case.

The eligibility criteria for the VA compensation program differ from those in workers' compensation programs, including the program for federal employees. Although military personnel are covered for almost any disease or injury that arises during service, workers' compensation generally covers only disabilities that arise out of and during employment. Despite differences between the states, most workers' compensation programs use language similar to "arising out of, and in the course of, employment," when defining the disabilities covered. This definition, though used somewhat differently in different jurisdictions, generally means that a worker's disability must happen at the workplace or because of work in order to be compensable.

VA rates the severity of all service-connected disabilities by using the Schedule for Rating Disabilities. The schedule lists types of disabilities and assigns each disability a percentage rating. The rating is intended to represent an average earning loss the veteran would experience in civilian occupations because of the disability. All veterans awarded service-connected compensation are assigned single or combined (for multiple disabilities) ratings, ranging from 0 to 100 percent in increments of 10 percent.

1Over 2 million federal civilian workers are protected against work-connected disabilities by the Federal Employees Compensation Act, which is administered by the Department of Labor.
As of December 1988, the basic annual compensation rates, which are set by law, for an unmarried veteran were as follows:

- 10 percent, $876;
- 20 percent, $1,656;
- 30 percent, $2,520;
- 40 percent, $3,600;
- 50 percent, $5,112;
- 60 percent, $6,445;
- 70 percent, $8,136;
- 80 percent, $9,408;
- 90 percent, $10,596, and
- 100 percent, $17,616.

Multiple disabilities do not always result in a higher rating because of the way in which benefits are calculated. For example, a veteran with one disability or combined disabilities rated 100 percent may not receive increased compensation for additional disabilities.

The basic compensation amount can be increased if a veteran has dependents or, if totally disabled, special needs. For example, a veteran rated 100-percent disabled who has a spouse and two children would have his benefit raised from $17,616 to $19,994 annually. For certain specific, severe disabilities (for example, losing three extremities or losing their use), VA can award additional compensation benefits.

Veterans are also entitled to increased ratings and higher compensation if their service-connected disabilities worsen. Such increases are common and generally occur as the veterans age. VA records show that as many as one-third of the veterans receiving compensation have increases in their ratings over their lifetime. Likewise, ratings can be lowered if medical improvements occur, although VA records show this in only a small percentage of cases.

Veterans are allowed to work while receiving compensation. In addition, the amount of payments is not affected by either the veteran's rank while in the service or the amount of salary or wages earned in civilian life. Payments continue for life or until the disability ends.

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\(^2\) This is also true for ratings less than 100 percent. For example, a veteran with an 80-percent rating for the loss of an arm might not receive any increased compensation with an additional disability rated at 20 percent.
Objectives, Scope, and Methodology

Our primary objectives were to examine the development, composition, and administration of the veterans’ compensation program, and determine the composition and profile of program recipients. We specifically wanted to determine the nature or origins of the disabling medical conditions for which veterans receive compensation.

We reviewed VA’s policies and procedures for awarding compensation. We also interviewed officials at the Department of Veterans Benefits at the VA Central Office, Washington, D.C., and the Los Angeles Regional Office. We reviewed program legislation and obtained the history of the compensation program from officials in VA’s Compensation and Pension Service and its Office of General Counsel.

Sample of All Veterans Receiving Compensation Benefits in 1986

We used case files and computer-based records, both maintained by VA, to develop a profile of veterans receiving compensation. We selected a random sample of 400 cases from the universe of 2,232,200 veterans receiving compensation as of August 1986. Although an individual veteran can have several disabilities, our analysis considered each veteran’s two highest-rated disabilities.

We selected a stratified sample of 400 cases from among four categories, classified on the basis of each veteran’s total combined rating (see app. II). We stratified our sample to determine characteristics of those veterans most typically drawing cash benefits and those veterans receiving most of the benefits. For example, according to VA statistics as of March 1987, 40 percent of the veterans on the compensation rolls drew benefits at the 10-percent rating; 6 percent drew benefits at the 100-percent rating. The veterans rated 100 percent received 31 percent of the total cash benefits paid; those rated 10 percent received 9 percent of the total cash benefits paid. We verified VA’s automated records using written records.

Determining the Relationship Between the Disability and Military Service

We contracted with physicians to review sampled case files and provide medical judgments about the origin and nature of disabilities resulting from diseases, as well as the usual course these diseases follow irrespective of military service. GAO’s chief medical advisor also reviewed case files and supervised the medical aspects of our review. Injuries did not receive physician review, unless the circumstances surrounding an injury were not clear from records in a veteran’s case file.

GAO’s chief medical advisor and one contract physician independently reviewed each case. If they differed on one of three points—time of...
onset of the disability, nature of the disability, and causation or aggravation—they met and reconciled their differences. Generally, when physicians had some doubts about the possibility of circumstances in the military contributing to the veteran's medical conditions, they considered such cases as service connected.

When reviewing sampled cases to determine the origin and nature of the veterans' disabilities, we generally had little difficulty deciding how to classify injuries. For the most part, the veterans' VA case files contained adequate information to determine what caused the injury, where the veteran was at the time, what the activities were, and other circumstances surrounding the occurrence. However, it was more difficult to determine (1) what caused veterans' diseases and, (2) specifically, whether the diseases were caused or aggravated by military service. Our physicians reviewed each veteran's case file and reached a conclusion based on the circumstances of the case.

We recognized from the onset of our work that it is difficult, and sometimes impossible, to determine the true origin of some diseases. For many diseases, such as multiple sclerosis or arteriosclerosis, there are no known precise origins, or the origins may include multiple factors, some of which remain unknown. Moreover, the effect of one factor over the others and the effects of the interaction of factors are often not understood.

To determine whether a disabling disease was caused or aggravated by military service, our physicians had to consider the natural history of the disease in addition to military service circumstances. This included factors predisposing the veteran to develop the disease, such as genetic factors or a positive family history, and life-style factors, such as obesity, smoking, or drinking. It also included consideration of the usual course for the disease to follow: for example, is it slowly progressive, usually undergoing remissions and exacerbations, or is it chronically disabling?

Because we were finding a significantly large percentage of cases with diseases that, in the opinions of our physicians, were not caused or aggravated by service, we wanted to obtain some other expert medical opinions. We requested and received opinions from representatives of seven specialty medical societies. The opinions concerned the causes of certain diseases, particularly the likelihood of military service causing or aggravating certain diseases. The medical societies were the
Our medical review differed from the criteria and the type of analysis required of VA adjudicative staff. As discussed earlier, the law does not require VA to look for causes of diseases, except for possible preexisting conditions.

We did our work between July 1986 and November 1988 following generally accepted government auditing standards.
The Causes of Compensated Disabilities Are Varied

Of the approximately 28 million veterans in the United States, about 2.2 million (8 percent) received VA disability compensation in August 1986. Considering only the highest-rated disability for each veteran receiving this compensation, about 49 percent (and about 80 percent of those rated 100-percent disabled) received compensation as a result of diseases, many of which were caused by a multiplicity of factors probably unrelated to military service. The other 51 percent received compensation for injuries that occurred as a result of (1) activities directly related to the performance of military service, often in combat, or (2) activities of a personal nature that occurred either on or off base.

The causes or aggravation of the diseases that led to disabilities are, in some cases, related to military service. However, in over half of the disease cases we looked at, our physicians concluded that the diseases were either (1) caused by factors unrelated to military service or (2) the causes could not be determined.

The typical veteran receiving compensation is male (97 percent) and served in the army (64 percent). More served during World War II (42 percent) than in any other era. Those who served during the Vietnam conflict (17 percent) form the second largest group. Most of the disabled veterans (76 percent) served less than 5 years; about 8 percent served 20 years or more (see fig. 2.1).

Most veterans (66 percent) were 30 years of age or younger when they first received their disability rating, but most veterans (62 percent) drawing compensation are 56 years of age or older. About 64 percent of the veterans have drawn their benefits 20 years or longer. The length of time veterans have been receiving their compensation benefits is shown in figure 2.2.

About 64 percent of the veterans receive compensation for minor disabilities—their combined disabilities are rated 20 percent or less. About 86 percent receive compensation for disabilities rated 40 percent or less. About 6 percent are classified as totally (100 percent) disabled. Of those veterans, about 80 percent had diseases (as opposed to injuries). As pointed out on page 13, these 6 percent also receive almost one-third of all compensation paid by VA. Appendix I contains additional information on the general characteristics of veterans receiving compensation in August 1986.
Chapter 2
The Causes of Compensated Disabilities Are Varied

Figure 2.1: Most Disabled Veterans Served Less Than 5 Years in the Military

Considering just the highest-rated disability for each veteran, 51 percent of veterans receiving compensation in August 1986 had disabilities resulting from injuries. The veterans in our sample, projected to the universe, suffered their injuries while (1) in combat—19 percent, (2) performing a military task—17 percent, (3) on base but not performing a military task—3 percent, (4) off base and not performing military tasks—6 percent, or (5) engaged in other circumstances—7 percent (see fig. 2.3).

Injuries and Military Service

Combat-Related Injuries

On the basis of our sample, about 19 percent of the veterans received compensation for disabilities resulting from injuries incurred in combat. These combat-related injuries, including loss of limbs, resulted from such things as enemy gunfire and mortar rounds. Only 4 percent of the veterans with combat-related injuries are rated 100 percent. Seventy-six

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1 All figures presented on injuries and diseases in this chapter are for each veteran's highest-rated disability only. Information on the second highest-rated disability is discussed in chapter 3 and included in appendixes I and II. We did not examine beyond the two highest-rated disabilities for each veteran in our sample, and some veterans (about 28 percent in our sample) have three or more disabilities.
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Figure 2.2: Length of Time That Veterans Received Compensation Payments

Note: Number of years was calculated as of the survey date, August 1986

percent are rated less than 60 percent; about one-third are rated less than 30 percent.

Injuries Related to Military Tasks
On the basis of our sample, about 17 percent of compensated veterans had disabilities resulting from injuries that occurred not during combat, but while engaged in tasks directly related to their military service. These injuries tended to be less severe in nature, with over three-fourths (78 percent) rated under 30 percent. Only 5 percent were rated 60 percent or higher. The cases were clearly on-the-job injuries because the veterans were engaged in specific job tasks when the injuries occurred.

Injuries That Occurred on Base, but Not Related to Military Tasks
On the basis of our sample, about 3 percent of the compensated veterans had disabilities resulting from injuries that occurred on base, but not while performing tasks directly related to their military service. We found no examples of veterans in this category receiving 100-percent compensation. Eighty-eight percent of these veterans were rated less than 60 percent, with two-thirds under 30 percent.
Chapter 2
The Causes of Compensated Disabilities
Are Varied

Figure 2.3: Circumstances of Injuries, Highest-Rated Disability Only (1986)

Note: Other injuries include injuries that occurred before military service, during surgery, and injuries for which the circumstances could not be determined.

Injuries That Occurred Off Base and Not Related to Military Tasks

On the basis of our sample, about 6 percent of compensated veterans had injuries that occurred off base while the veteran pursued personal activities not related to military service. These injuries generally resulted from automobile and motorcycle accidents, hunting mishaps, and recreational or sporting activities.

As in the other circumstances, only a small percentage of these veterans appeared to have the most serious disabilities. According to our sample, only about 5 percent of the veterans compensated for off-base injuries of a personal nature are rated 60 percent or higher.

Other Injuries

A final circumstance in our sample was one in which a veteran’s highest-rated disability resulted from an injury that we classified as "other."
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These disabilities, about 7 percent of our sample, resulted from injuries that occurred (1) during surgery, (2) before service, but we could not determine if service aggravated the injury, or (3) in the service, but from the veteran's case file, we could not determine the circumstances surrounding the injury.

Diseases and Military Service

Considering just the highest-rated disability for each veteran, we estimate that 49 percent of the veterans receiving compensation in August 1986 had disabilities caused by diseases. Our physicians classified each disease as (1) probably caused or aggravated by military service—17 percent, (2) probably not caused or aggravated by military service—19 percent, or (3) uncertain whether caused or aggravated by military service—13 percent. The estimated number of veterans in the universe who have diseases under each of these circumstances is shown in figure 2.4.

Diseases Related to Military Service

Our sample showed that about 17 percent of compensated veterans had disabilities resulting from diseases that our physicians determined were probably caused or aggravated by military service. Included under this circumstance were certain psychoneurotic disorders, duodenal ulcers (because of their relationship to stress), and various communicable diseases, such as hepatitis and malaria. Eighty-eight percent of these veterans had disabilities rated under 60 percent, with the vast majority (70 percent) rated under 30 percent.

Diseases for Which the Relationship to Service Could Not Be Determined

We estimate that another 13 percent of compensated veterans had disabilities resulting from diseases for which our physicians could not determine if the military service caused or aggravated the conditions. This included cases in which (1) the veteran's file lacked sufficient information to make a determination on cause and (2) medical knowledge is too inconclusive. Included under this circumstance are many mental illnesses, hearing disorders, and skin diseases.

Diseases Unrelated to Military Service

Finally, our physicians concluded that considering just the highest-rated disability for each veteran, about 19 percent of the veterans received compensation for disabilities that resulted from diseases that were probably neither caused nor aggravated by their military service. About 32 percent of the veterans rated 100-percent disabled and 59 percent of those rated 60 percent or higher had these diseases.
Because of the large percentage of veterans with diseases under this circumstance, we analyzed these cases further, including their impact on VA's program costs. This analysis is discussed in detail in chapter 3.
Many Compensated Disabilities Resulted From Diseases Unrelated to Service

Considering just the highest-rated disability for each veteran, we estimate that about 19 percent of the veterans receiving compensation in August 1986 had disabilities that resulted from diseases that were neither caused nor aggravated by their military service. We estimate the 1986 payments for these disabilities to be about $1.7 billion.

The veterans with disabilities unrelated to service had various diseases related to such factors as heredity or life-style, rather than to military service. These diseases are also the types generally considered "ordinary diseases of life" and not compensated in workers' compensation programs.

Types of Diseases Neither Caused Nor Aggravated by Military Service

There were 71 different diagnoses in our sample of disease cases that our physicians concluded were neither caused nor aggravated by military service. Examples of these diseases are diabetes, chronic obstructive pulmonary disease, appendicitis, osteoarthritis, cerebral vascular accident (stroke), arteriosclerotic heart disease, multiple sclerosis, Hodgkin's disease, hemorrhoids, benign prostatic hypertrophy, uterine fibroids, Crohn's disease, and schizophrenia.

In reviewing the medical records of these veterans, our physicians concluded that in each instance, the disease was not precipitated by any particular event occurring in military service. Our physicians did not conclude that such diseases would never be caused or aggravated by military service. But, after reviewing each veteran's case file and considering the circumstances in each case, they concluded that military service was not a contributing factor in these cases.

There are few diseases for which it might be accurate to conclude universally that the diseases are neither caused nor aggravated by military service. Representatives from some of the medical societies we spoke with (see pp. 14-15), however, did generally rule out causation by military service for certain types of diseases. Most of the representatives suggested, in addition, that aggravation was a factor to consider in virtually each case. We examined the evidence in each case file, looking for factors in military service that may have contributed to the veteran's condition, either causing or aggravating it.

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1 The percentage of veterans with diseases not caused or aggravated by military service increases to about 26 percent (about 568,000 veterans) when considering both the first and second highest-rated disabilities. Our estimate increases to about 92 percent when considering all disabilities veterans were being compensated for in 1986 (see app. II).
Chapter 3
Many Compensated Disabilities Resulted
From Diseases Unrelated to Service

The following are descriptions of eight common diseases for which our physicians concluded that for most veterans with these diseases, there was no relationship between the disease and military service.

**Arteriosclerotic Heart Disease**

In arteriosclerosis, the lining of the arteries becomes thickened and irregular with fatty deposits. When this condition affects the coronary arteries, which supply the heart with blood and nutrients, arteriosclerotic heart disease results. The coronary arteries become blocked and the blood supply to the heart is impeded, resulting in damage to the heart muscle and producing a “heart attack.” In most instances, not only are the coronary arteries thickened by arteriosclerosis, but clots form at the site of thickening and narrowing, often causing the sudden blockage that produces the heart attack.

The extent of the damage to the heart muscle depends on which vessel is blocked and the degree to which blood can be supplied to the heart muscle. The dead and injured heart muscle causes the heart to lose some of its effectiveness as a pump. Accordingly, the impairment of the heart may produce considerable subsequent disability.

**Diabetes**

About 1 in 20 Americans has diabetes. The disease interferes with the body’s ability to metabolize glucose for energy. Insulin, a hormone produced by the pancreas, is necessary for the body to be able to use glucose. In diabetes, either the body fails to produce insulin or the amount produced is insufficient.

Early symptoms of diabetes may be vague. Over a period of time, the disease may produce many serious complications, such as blood-vessel or eye disease, and it may become quite incapacitating. Two important risk factors for diabetes are a family history and obesity.

**Chronic Obstructive Pulmonary Disease**

Chronic bronchitis and emphysema, which together make up chronic obstructive pulmonary disease, are chronic disorders characterized by progressive limitation of the flow of air into and out of the lungs. In chronic bronchitis, airway obstruction is due to inflammatory changes that cause the bronchial walls to thicken. This, together with excessive mucus production, impedes air flow.

The primary purpose of the lungs is to provide the body with oxygen and remove carbon dioxide. Oxygen from inhaled air is taken up by red blood cells and delivered throughout the body. Similarly, carbon dioxide moves in the reverse direction and is exhaled.
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Chronic obstructive pulmonary disease interferes with this process of gas exchange, which is essential to life. It is, therefore, (1) responsible for a considerable amount of disability and (2) a major cause of death in the United States.

The most important risk factor for chronic obstructive pulmonary disease is smoking. If a person who is genetically inclined to develop the disease smokes, he or she will usually develop symptoms by early midlife. These symptoms include shortness of breath and morning cough. Later, this breathlessness becomes much more pronounced, leading to progressive incapacity.

Osteoarthritis
Most people 50 years of age or over have osteoarthritis. By the eighth decade of life there is evidence of the disease in 90 percent of people. It most often affects the weight-bearing joints, such as knees and hips, and results from long-term wear and tear of these joints. The disease steadily advances over a period of years, but the symptoms may be prominent in some people and minor or even absent in others, depending mainly on the extent of damage to the joint.

Hemorrhoids
At least 50 percent of people aged 50 or over have hemorrhoids, which are enlargements of the veins in the anal canal and lower part of the rectum. Most evidence points to their resulting from excessive straining during defecation. They are usually asymptomatic but may cause bleeding or discharge or both.

Multiple Sclerosis
This is a central nervous system disease of unknown cause, with symptoms that usually begin between 20 to 40 years of age. It is generally a slowly progressive disease whose early symptoms tend to come and go, and it takes many years, 15 to 20, before the patient becomes badly incapacitated.

It is a disease of the sheath that covers the nerve fibers. The disease process causes destruction of patches of this sheath in an erratic and seemingly random fashion. As a result, messages that travel down the nerve fibers are slowed or completely blocked, producing the varied symptoms of the disease. The type and severity of these symptoms are determined by the extent and location of the sheath damage and by the functions of the involved nerve fibers.
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The course of the disease is quite unpredictable yet unrelenting, and no treatment has, thus far, been found to produce any effect on it.

Uterine Fibroids

Fibroids, which are benign tumors of the uterine muscle, are estimated to be present in almost 25 percent of women of reproductive age. They are usually asymptomatic and normally grow only during the reproductive years. They can, however, produce a variety of problems, including hemorrhage and infertility, and may sometimes grow to enormous proportions and cause pressure symptoms on adjoining organs.

Crohn's Disease

This is a chronic, inflammatory disease of unknown cause, usually affecting the lower end of the small intestine and the adjoining sections of the large intestine. It is characterized by periods of remission and exacerbation; in other words, usually without warning, its symptoms may become severe or may subside, and this condition continues throughout life. The most significant symptoms are diarrhea and abdominal pain, but the disease can have serious complications and may become quite disabling. For reasons not understood, the disease has been steadily increasing over the last few decades.

As the descriptions suggest, the origin for each of these diseases is difficult to determine. People in all walks of life and in virtually all occupations are subject to these diseases. Our physicians generally found nothing unique about military service that caused or further aggravated the occurrence of these diseases among veterans. It is expected that at least in some cases, symptoms of the disease may appear during military service.

In the following examples, our physicians concluded that the diseases causing the veterans' disabilities were probably neither caused nor aggravated by military service:

Example 1

In 1971, 7 years after leaving the service, this Air Force veteran received a 30-percent rating for chronic obstructive lung disease; the rating was increased in 1975 to 60 percent. The veteran began smoking 10 years before entering the service and smoked 20 to 30 cigarettes a day until 1970, when he cut back to 10 to 20 cigarettes a day. The veteran had pneumonia before entering the service and suffered other lung diseases (bronchitis, pneumonia, chronic cough, influenza, and emphysema) while in the service. The physicians reviewing the case felt that
the veteran's smoking alone would have brought on his condition whether or not he went into the service.

Example 2

After 1 year in the Army, this veteran was given an administrative discharge for reasons unrelated to his service-connected disability. During the service, the veteran was treated for rheumatoid arthritis and received a 0-percent rating after discharge, which was later raised to 10 percent.

More than 20 years after leaving the service, the veteran had an automobile accident and sustained injuries that left him totally disabled. Four years after the accident, the veteran received a 60 percent rating for rheumatoid arthritis and unemployability benefits, which raised his benefits to the 100-percent rate. Our physicians believed that the arthritis was a chronic, progressive disease, probably unaffected by the 1 year in the service 20 years earlier.

Example 3

This veteran was born in 1923 and entered military service in 1943. He had no significant medical problems during the time he remained in the service and was discharged in apparent good health in 1945. Some time after leaving the service, he began to develop weakness of both legs and loss of balance, and since that time he has undergone progressive deterioration. In 1950, almost 5 years after his military discharge, multiple sclerosis was diagnosed.

Our physicians believe military service had no influence on this man’s condition. He developed a neurological disease of unknown cause, and his condition has continued to deteriorate as is normal for a person with this diagnosis.

Example 4

This veteran, who was born in 1918, first developed intestinal symptoms in 1939, 3 years before entering military service. At that time, he had a severe episode of watery diarrhea, lasting about 7 weeks, during which time he lost 47 pounds. A similar, but milder episode occurred later that year, but he subsequently remained fairly well for several years and gained back his weight. He entered the Army in 1942, was discharged in 1945, and had many more episodes of diarrhea and abdominal pain, both during and after his military service. He also had intestinal surgery.

"Unemployability" benefits are paid to certain veterans who are not 100-percent disabled, but whose service-connected disabilities make them unemployable. When VA determines that a veteran is unemployable, the veteran's compensation benefit equals that for total (100-percent) disability.
The diagnosis in this case was Crohn’s disease, a chronic disease that traditionally undergoes periods of remission and exacerbation. Our physicians believe it is significant that his first symptoms occurred before his admission to service and that he continued to develop symptoms both during and after service. This is exactly what one would expect in a person with this diagnosis.

Example 5

Within 3 months after his induction, this Navy veteran was hospitalized for a heart condition. Rheumatic heart disease was discovered dating back to his childhood, and he was subsequently discharged. He received a 60-percent rating for the heart condition after discharge, which, 30 years later, was raised to 100 percent. Our physicians believed that this veteran’s heart condition, dating from childhood, was unrelated to his brief military service.

Example 6

This Army veteran had a heart murmur at induction and, when discharged after 3 years of service, received a 10-percent rating for the murmur. Forty years after leaving the service, the veteran suffered congestive heart failure, and the rating was increased to 60 percent. Our physicians noted that the heart murmur was a preexisting condition and that many years of smoking and drinking noted in the veteran’s medical file probably contributed more to the worsening heart condition than 3 years in the service 40 years earlier.

As discussed in chapter 1, our physicians used different criteria in reaching conclusions about service connection than VA does under the law. The physicians reviewed each case for factors causing the disease. VA does not have to do that.
Chapter 3
Many Compensated Disabilities Resulted
From Diseases Unrelated to Service

VA Paid $1.7 Billion for Disabilities Unrelated to Military Service

On the basis of each veteran's highest-rated disability, we estimate that about 19 percent of veterans have disabilities unrelated to service. In 1986, these veterans received about $1.7 billion in compensation for disabilities that resulted from diseases that our physicians concluded were neither caused nor aggravated by service.

Characteristics of Veterans With Diseases Unrelated to Service

Generally, the veterans receiving compensation for disabilities resulting from diseases unrelated to service reflect the same characteristics as the population of all veterans receiving compensation (see p. 16). There are, however, some differences.

Proportionally, veterans with diseases we considered unrelated to service served longer in the military (29 percent served 15 years or more) and were older when they first began receiving benefits (52 percent were over 35 years of age at the time of their first benefits) than were all veterans receiving compensation. Proportionally, these veterans also served more often in peacetime than during periods of war (30 percent served between Korea and Vietnam or after Vietnam) when compared with all veterans receiving compensation. Further, proportionally, more served in the Air Force (26 percent) and fewer served in the Navy and Marines (14 percent) than did all veterans receiving compensation. In appendix I, the characteristics of the veterans receiving compensation for disabilities resulting from diseases unrelated to service (considering both first and second highest-rated disabilities) are compared with those of all veterans receiving compensation.

Conclusions

Most veterans receive compensation for disabilities that were caused or aggravated by military service. We found, however, that many veterans receive compensation for diseases that we believe were not caused or aggravated by service.

At least 19 percent of the veterans receiving compensation in August 1986 were compensated for disabilities resulting from diseases that were neither caused nor aggravated by their military service. VA paid about $1.7 billion for those disabilities during 1986.

'As explained in the footnote on page 22, our analysis also considered the veterans' second highest-rated disabilities, which increases to 26 percent the percentage of veterans with diseases we believe were not caused or aggravated by military service. Our analysis also resulted in an estimate of 32 percent of veterans having such diseases when considering all disabilities being compensated for in 1986 (also see app. III).
The diseases not caused or aggravated by military service are ordinary diseases of life. Although the origin of a disease is often difficult to determine, we found nothing contributory about military service in the cases of the veterans we sampled.

Under the law, the current concept of service connection does not require VA to examine the nature of certain diseases or to determine a causal connection to military service. VA adjudicative staff only have to determine if a disease (1) arose during service, (2) was contracted coincident with service, or (3) was aggravated therein. The law would have to be changed to permit VA to deny compensation for the types of cases we considered as resulting from ordinary diseases of life rather than military service.

Matters for Consideration by the Congress

A large number of veterans receive compensation for diseases that arose while the veterans were in military service, but which probably were neither caused nor aggravated by military service. The Congress may wish to reconsider whether these diseases should be compensated as service-connected disabilities.

Some basic aspects of the current law would have to be changed so that VA could deny compensation to veterans for the types of diseases we noted in our study. Among the changes that might be necessary would be the definition of "service connected." Such a change would require legislative action and should include a requirement that there be a direct causal link to military service, as opposed to medical developments coincident with service. We suggest that any changes be prospective in order not to affect veterans already receiving compensation benefits.

Agency Comments

In a May 9, 1989 letter, VA commented that this report correctly states the conditions under which VA compensates veterans (see app. III). VA offered no comments on the matters for consideration by the Congress.
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

The following series of figures and tables provide additional information on some of the characteristics of the total disabled veteran population. A comparison is also provided in certain instances with the group of disabled veterans with diseases we determined were probably not caused or aggravated by military service. We refer to this group in the figures and tables as "veterans with diseases unrelated to service."

Figure I.1: Low Female Representation Among Disabled Veterans (1986)

1Except where otherwise noted, we have projected the characteristics from our sample to the universe of 2.2 million disabled veterans receiving compensation as of August 1986. We also estimate that there were 568,000 veterans receiving compensation for diseases that our physicians determined were probably neither caused nor aggravated by military service.
Figure I.2: Proportionally, More Veterans With Diseases Unrelated to Service Served in the Air Force Than Did All Disabled Veterans (1986)
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.3: More Disabled Veterans Served in World War II Than in Other Eras

Eras at Induction Date

- Veterans With Diseases Unrelated to Service
- All Other Disabled Veterans

Note: Some of the veterans with diseases we determined were not caused or aggravated by military service had other medical conditions that were caused or aggravated by service. However, they are only counted once in this figure.
Figure I.4: Proportion of Mental Impairments for Veterans With Diseases Unrelated to Service and All Other Disabled Veterans

Proportion of Mental Impairments (1985)

- No Mental Impairments
- At Least One Mental Impairment
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

<table>
<thead>
<tr>
<th>Disabilities in Veteran's Rating</th>
<th>Percent of All Disabled Veterans (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>50%</td>
</tr>
<tr>
<td>Two</td>
<td>20%</td>
</tr>
<tr>
<td>Three</td>
<td>10%</td>
</tr>
<tr>
<td>Four</td>
<td>7%</td>
</tr>
<tr>
<td>Five</td>
<td>5%</td>
</tr>
<tr>
<td>Six</td>
<td>4%</td>
</tr>
<tr>
<td>Seven</td>
<td>2%</td>
</tr>
<tr>
<td>Eight</td>
<td>1%</td>
</tr>
<tr>
<td>Over Eight</td>
<td>0%</td>
</tr>
</tbody>
</table>

Figure 1.5: Most Disabled Veterans Were Being Compensated for One or Two Disabilities

<table>
<thead>
<tr>
<th>Disabilities in Veteran's Rating</th>
<th>Percent of Veterans With Diseases Unrelated to Service (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>30%</td>
</tr>
<tr>
<td>Two</td>
<td>20%</td>
</tr>
<tr>
<td>Three</td>
<td>10%</td>
</tr>
<tr>
<td>Four</td>
<td>7%</td>
</tr>
<tr>
<td>Five</td>
<td>5%</td>
</tr>
<tr>
<td>Six</td>
<td>4%</td>
</tr>
<tr>
<td>Seven</td>
<td>2%</td>
</tr>
<tr>
<td>Eight</td>
<td>1%</td>
</tr>
<tr>
<td>Over Eight</td>
<td>0%</td>
</tr>
</tbody>
</table>

Figure 1.6: Most Veterans With Diseases Unrelated to Service Were Being Compensated for One or Two Disabilities
Appendix I
Characteristics of All Disabled Veterans and
Only Veterans With Diseases Probably Not
Caused or Aggravated by Military Service

Figure I.7: Most Disabled Veterans Served Less Than 5 Years in Service

Percent of All Disabled Veterans (1986)

<table>
<thead>
<tr>
<th>Years Served in the Military</th>
<th>Veterans With Diseases Unrelated to Service</th>
<th>All Other Disabled Veterans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than 5</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>5 to 9</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>10 to 14</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>15 to 19</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>20 to 24</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>25 to 29</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>30 to 34</td>
<td></td>
<td>Black</td>
</tr>
</tbody>
</table>
Figure 1.8: Most Disabled Veterans Are 56 Years of Age or Over

Veterans' Ages (as of Aug. 18, 1986)

- Veterans With Diseases Unrelated to Service
- All Other Disabled Veterans

Percent of All Disabled Veterans (1986)
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.9: Age When Veterans First Received Disability Ratings

Veterans' Ages at Initial Rating
- Veterans With Diseases Unrelated to Service
- All Other Disabled Veterans

Percent of All Disabled Veterans (1986)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 or Younger</td>
<td>40</td>
</tr>
<tr>
<td>21 to 25</td>
<td>35</td>
</tr>
<tr>
<td>26 to 30</td>
<td>30</td>
</tr>
<tr>
<td>31 to 35</td>
<td>25</td>
</tr>
<tr>
<td>36 to 40</td>
<td>20</td>
</tr>
<tr>
<td>41 to 45</td>
<td>15</td>
</tr>
<tr>
<td>46 to 50</td>
<td>10</td>
</tr>
<tr>
<td>51 to 55</td>
<td>5</td>
</tr>
<tr>
<td>56 and Over</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.10: Most Disabled Veterans Received Their First Ratings Within 1 Year From Discharge

[Graph showing percentage of All Disabled Veterans (1996) with data points for years: Within 1, 1 to 5, 6 to 9, 10 to 19, 20 Years or More.]

- Veterans With Diseases Unrelated to Service
- All Other Disabled Veterans
Figure I.11: Disabled Veterans' Initial Ratings Generally Do Not Decrease Over Time

- All Disabled Veterans
- Veterans With Diseases Unrelated to Service

Changes From Initial Rating to Current Rating (1990)

- Increased
- Decreased
- No Change
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.12: Years Disabled Veterans Have Been Receiving Compensation

- 40 Percent of All Disabled Veterans (1996)
- Number of Years Receiving Disability Payments
  - Less Than 5
  - 5 to 9
  - 10 to 14
  - 15 to 19
  - 20 to 24
  - 25 to 29
  - 30 to 34
  - 35 to 39
  - 40 to 44
  - 45 or More

- Veterans With Diseases Unrelated to Service
- All Other Disabled Veterans
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.13: Relationship of Diseases to Military Service, Highest-Rated Disability Only

<table>
<thead>
<tr>
<th>Percent of All Veterans in Each Rating Category (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

GAO Categorization of Veterans' Diseases

- Caused or Aggravated by Service
- Not Caused or Aggravated by Service
- Could Not Determine Relationship to Service
Appendix I
Characteristics of All Disabled Veterans and
Only Veterans With Diseases Probably Not
Caused or Aggravated by Military Service

Figure I.14: Relationship of Injuries to
Military Service, Highest-Rated Disability
Only

35 Percent of All Veterans in Each Rating Category (1986)

GAO Categorization of Veterans' Injuries

- Related to Combat
- Related to Military Task (Non-combat)
- On Base, Unrelated to Military Task
- Off Base, Unrelated to Military Task
- Other
Appendix I
Characteristics of All Disabled Veterans and Only Veterans With Diseases Probably Not Caused or Aggravated by Military Service

Figure I.15: Relationship of Diseases and Injuries to Military Service, Second Highest-Rated Disability Only

<table>
<thead>
<tr>
<th>Disease or Injury</th>
<th>Percent of All Disabled Veterans (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest-rated disability</td>
<td>15</td>
</tr>
<tr>
<td>Second highest-rated disability</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
</tr>
<tr>
<td>Caused or Aggravated by Service</td>
<td>6</td>
</tr>
<tr>
<td>Not Caused or Aggravated by Service</td>
<td>12</td>
</tr>
</tbody>
</table>

Table I.1: Veterans With a Disability Granted During a Presumptive Period

<table>
<thead>
<tr>
<th>Disability</th>
<th>Veterans</th>
<th>Veterans (in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest-rated disability</td>
<td>24,000</td>
<td>11</td>
</tr>
<tr>
<td>Second highest-rated disability</td>
<td>8,000</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: See page 10 of the report for a discussion of presumptive period
Table 1.2: Total Veteran Population (as of Sept 30 1986)

<table>
<thead>
<tr>
<th>Period of veteran's service</th>
<th>Veterans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wartime</strong></td>
<td></td>
</tr>
<tr>
<td>Vietnam conflict</td>
<td>8,264,000</td>
</tr>
<tr>
<td>Korean conflict</td>
<td>5,105,000</td>
</tr>
<tr>
<td>World War II</td>
<td>10,076,000</td>
</tr>
<tr>
<td>World War I</td>
<td>171,000</td>
</tr>
<tr>
<td><strong>Wartime total</strong></td>
<td>22,017,000*</td>
</tr>
<tr>
<td><strong>Peacetime</strong></td>
<td></td>
</tr>
<tr>
<td>Between Korean conflict and Vietnam conflict</td>
<td>3,004,000</td>
</tr>
<tr>
<td>Post-Vietnam conflict</td>
<td>2,283,000</td>
</tr>
<tr>
<td>Other peacetime</td>
<td>378,000</td>
</tr>
<tr>
<td><strong>Peacetime total</strong></td>
<td>5,665,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27,682,000</td>
</tr>
</tbody>
</table>

Note: These data represent the number of veterans living in the United States and Puerto Rico
*The total for wartime veterans is less than the sum of all four eras because many veterans served in more than one era.

In order to develop a profile of the veterans receiving disability benefits and to identify the circumstances that led to their disabilities, we obtained a random sample of case files of veterans receiving benefits. The analysis of these cases, however, was complicated because veterans may be rated for more than one injury or disease. Since only 28 percent of the veterans had more than two disability ratings, we simplified our work by limiting our review to the two highest-rated disabilities.

Sampling Plan

From a computerized list of beneficiaries that VA maintains, we randomly selected medical case files of veterans who were receiving benefits in August of 1986. VA uses this list to automate the tracking and payment of individual veterans. We used a subset of the file that VA annually provides to us, which contains a 5-percent random sample of the complete file of 2.2 million veterans.

We stratified the 5-percent sample of cases into four categories, according to the total combined rating for each veteran. We chose to examine 100 cases, for a total sample size of 400 cases, in each of these four categories. This sampling plan is summarized in table II.1.

Table II.1: Sampling Plan

<table>
<thead>
<tr>
<th>Combined rating</th>
<th>Total population estimate</th>
<th>5-percent sample size</th>
<th>GAO sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0: 00.20</td>
<td>1,259,660</td>
<td>62.983</td>
<td>100</td>
</tr>
<tr>
<td>30: 40.50</td>
<td>608,040</td>
<td>30.402</td>
<td>100</td>
</tr>
<tr>
<td>60: 70.80.90</td>
<td>230,200</td>
<td>11.510</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>134,300</td>
<td>6.715</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>2,232,200</td>
<td>111,610</td>
<td>400</td>
</tr>
</tbody>
</table>

Once we obtained the complete case folder for each of the veterans in our sample, we compared the information in the original folder with VA’s automated data file. We found that the automated data file was accurate enough for the purposes of this analysis.

On standard data collection forms that we designed, we recorded descriptive information from each veteran’s original case folder. Two physicians reviewed each case in which at least one disease was listed as a veteran’s first or second highest-rated disability. The physicians

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1This approach results in a reduced estimate of the total number of veterans who have nonservice-connected diseases. We do not believe that this estimate significantly affects (1) our estimate of the number of veterans whose entire benefits are due to these diseases or (2) our estimate of the costs of these benefits.
Analysis of Nonservice-Connected Diseases

Our sample of veteran case folders yielded general information on the connection of disabilities to military service for the total population of veterans; we selected too few cases, however, to provide detailed information on the extent to which specific diseases or types of injuries are present. The results of the analysis have been weighted so that they represent all the veterans who were receiving disability benefits in August 1986. When considering all the veterans in our sample, our estimates are accurate to + or - 5.2 percentage points at the 95-percent level of confidence. When considered by one of our stratification categories, our estimates are accurate to + or - 9.6 percentage points at the 95-percent level of confidence.

As mentioned above, the analysis of the circumstances of an injury or disease is complicated because each veteran may be rated for more than one injury or disease. Since only 28 percent of the veterans had more than two disability ratings, we simplified our work by only considering the two highest-disability ratings. Thus, this analysis underestimates the number of veterans with a nonservice-connected disease. Given this limitation, we concluded that about one-fourth of the veterans receive compensation for one or two diseases that they would have contracted whether or not they had served in the military (see table II.2).

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated number of veterans</th>
<th>Proportion (in percent)</th>
<th>Sample error (in percent, plus or minus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One or two nonservice-connected diseases</td>
<td>568,111</td>
<td>25.5</td>
<td>5.2</td>
</tr>
<tr>
<td>All other disabilities</td>
<td>1,664,089</td>
<td>74.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Total</td>
<td>2,232,200</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

This same information is shown in more detail in table II.3, including (1) how we categorized the circumstances of each veteran's injury or disease, (2) what proportion of veterans were in each category, according to their two highest-rated disabilities, (3) what proportion of veterans—who had one or two diseases that our doctors found to be neither...
caused nor aggravated by military service—were in each category, and
(4) the sample error estimates for each of these proportions.

Table II.3: GAO Classification of Connection of First and Second Highest-Rated Disabilities to Military Service (as of Aug. 1986)
Numbers in percent

<table>
<thead>
<tr>
<th>Connection to military service</th>
<th>All veterans</th>
<th>Sample error (+/-)</th>
<th>All veterans</th>
<th>Sample error (+/-)</th>
<th>All veterans</th>
<th>Sample error (+/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caused or aggravated</td>
<td>16.9</td>
<td>4.9</td>
<td>50</td>
<td>4.9</td>
<td>15</td>
<td>3.4</td>
</tr>
<tr>
<td>Not caused and not aggravated</td>
<td>10.6</td>
<td>4.4</td>
<td>72.9</td>
<td>10.5</td>
<td>12.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Cannot determine</td>
<td>13.4</td>
<td>4.2</td>
<td>12.4</td>
<td>8.6</td>
<td>7.6</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Injury                          |             |                    |             |                    |             |                    |
| Combat                        | 18.5        | 4.4                | 22          | 4.2                | 13.0        | 3.3                |
| Military task                 | 16.6        | 5.0                | 1.0         | 1.2                | 4.5         | 2.7                |
| On-base                       | 25          | 2.1                | 0.0         | 0.0                | 1.5         | 1.6                |
| Off-duty off-base             | 6.1         | 3.0                | 1.1         | 2.1                | 2.6         | 1.7                |
| Not during service            | 18          | 1.7                | 0.0         | 0.0                | 0.5         | 0.7                |
| During surgery                | 13          | 1.6                | 0.4         | 0.8                | 0.6         | 1.1                |
| Cannot determine              | 4.1         | 2.7                | 4.8         | 5.9                | 3.9         | 2.5                |
| No diagnosis                  | 0.0         | 0.0                | 0.0         | 0.0                | 45.6        | 6.0                |

Total percent                  | 99.8        | 99.8               | 100.0       | 100.0              | 100.0       | 100.0              |
Total number                   | 2,232,200   | 568,111            | 2,232,200   | 568,111            | 321         | 110                |

Notes: We calculated sample errors at a 95 percent level of confidence. Totals may not add to 100 percent due to rounding.
*Consists of veterans whose first or second highest-rated disability or both resulted from a disease we concluded was not related to military service. For example, for 72.9 percent of that group, their highest-rated disability resulted from such a disease; for 49.7 percent of that group, their second-rated disability also resulted from such a disease.

Recalculation of Combined Rating

Once we found that a particular rating for a veteran in our sample was for a disease that was not caused or aggravated by military service, according to our physicians, we recalculated the combined rating for that veteran, omitting the rating for that disease. We used the ratings for up to eight disabilities for each veteran in our sample and recalculated the combined rating according to the VA's Combined Rating Table, July 1, 1987, edition. The results of this analysis—both for the total population of veterans who receive disability benefits and for those
who, we found, have one or more disabilities that were neither caused nor aggravated by military service—are shown in table II.4.

Table II.4: Combined Ratings Before and After Omitting Nonservice-Connected Diseases (as of Aug 1986)

<table>
<thead>
<tr>
<th>Combined rating (in percent)</th>
<th>Combined ratings in 1986</th>
<th>Combined ratings omitting diseases not caused or aggravated by service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All veterans</td>
<td>Only veterans with diseases not caused and not aggravated by military service</td>
</tr>
<tr>
<td></td>
<td>Proportion</td>
<td>Sample error (+/-)</td>
</tr>
<tr>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>10</td>
<td>36.7</td>
<td>5.3</td>
</tr>
<tr>
<td>20</td>
<td>19.2</td>
<td>5.2</td>
</tr>
<tr>
<td>30</td>
<td>13.4</td>
<td>2.9</td>
</tr>
<tr>
<td>40</td>
<td>10.1</td>
<td>2.6</td>
</tr>
<tr>
<td>50</td>
<td>4.2</td>
<td>1.9</td>
</tr>
<tr>
<td>60</td>
<td>5.8</td>
<td>1.1</td>
</tr>
<tr>
<td>70</td>
<td>2.2</td>
<td>0.8</td>
</tr>
<tr>
<td>80</td>
<td>1.8</td>
<td>0.8</td>
</tr>
<tr>
<td>90</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>100</td>
<td>0.1</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Total percent: 100.1% | 99.8% | 100.1% | 100.0%

Total number: 2,232,200 | 568,111 | 2,232,200 | 568,111

Notes: We calculated sample errors at a 90-percent level of confidence. Totals may not add to 100 percent because of rounding.

Individual Benefit Amounts and Program Costs

After we recalculated the combined rating, we estimated the effect of omitting "nonservice-connected diseases" on the size of each veteran's benefit payment. Since the combined rating determines how much a veteran receives, we were able to convert each combined rating into a payment amount using the 1980 VA payment schedule. Although we estimate that 25.5 percent of the veterans have nonservice-connected diseases, only 14.1 percent of them would lose their entire benefits (see table II.5).

*We use the term "nonservice-connected" when our conclusion on a given case was that the disease was not actually caused or aggravated by military service. This should not be confused with VAS eligibility criteria, which allow for service connection based on when a disease became manifest as opposed to actual cause.
Appendix II
Sample Plan and Analysis

Table II.5: Estimated Impact on Individual
Benefit Amounts of Omitting
"Nonservice-Connected Diseases" (as of Aug 1986)

<table>
<thead>
<tr>
<th>Estimated impact</th>
<th>Veterans</th>
<th>Proportion (in percent)</th>
<th>Sample error (in percent, plus or minus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterans with 1 or 2 diseases that were not caused or aggravated by military service</td>
<td>568,110</td>
<td>25.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Benefit eliminated</td>
<td>314,069</td>
<td>14.1</td>
<td>4.0</td>
</tr>
<tr>
<td>Benefit reduced</td>
<td>129,154</td>
<td>5.8</td>
<td>2.5</td>
</tr>
<tr>
<td>No change in benefit</td>
<td>124,887</td>
<td>5.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Other veterans</td>
<td>1,664,089</td>
<td>74.5</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Note: We calculated sample errors at a 95 percent level of confidence.

We then summed the individual benefit amounts to estimate the total cost to the program. This, however, underestimates the total program costs because some veterans may be entitled to additional benefits that are not based on their combined rating. Our estimates are based only on combined ratings, before and after omitting ratings for diseases that we concluded were not caused and not aggravated by military service (see Table II.6).

Table II.6: Estimated Program Costs
Based Solely on Combined Ratings, Before and After Omitting Nonservice-Connected Diseases (as of Aug 1986)

<table>
<thead>
<tr>
<th>Estimated cost</th>
<th>Total</th>
<th>Sample error (plus or minus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 1986</td>
<td>7.06</td>
<td>0.16</td>
</tr>
<tr>
<td>After omitting diseases not caused or aggravated by military service</td>
<td>5.34</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Note: We calculated sample errors at a 95 percent level of confidence.

Further Analysis

Although our methodology underestimates the number of veterans with one or more diseases that were not caused or aggravated by military service, we do not believe that it significantly underestimates (1) the cost of paying for these diagnoses or (2) the number of veterans whose entire benefits are because of such diseases. By making certain assumptions, on the basis of our study of the two highest-rated disabilities, we can estimate how many veterans would be in a disease category if we had studied all of each veteran’s ratings.

Since we found that the distribution of veterans across our diagnosis categories was about the same, we may assume that the rate of occurrence of nonservice-connected diseases would remain constant for other ratings. Then, since we know how many ratings each veteran has, we
Appendix II
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can estimate how many would have nonservice-connected diseases at each rating level.

All that remains is to estimate how many veterans would have nonservice-connected diseases at more than one rating level. In our study, we observed that about one-half of the veterans who had a second highest-rated disability that was a nonservice-connected disease also had a highest-rated disability that was a nonservice-connected disease. If we apply this duplication rate to our estimate of the number of veterans with nonservice-connected diseases at other rating levels, we can estimate the number of veterans with one or more nonservice-connected diseases.

On the basis of these two assumptions, we estimate that about 32 percent of the veterans receiving compensation in 1986 had one or more nonservice-connected diseases (see table II.7).

### Table II.7: Estimate of Veterans With One or More Diseases Not Caused or Aggravated by Military Service (as of Aug 1986)

<table>
<thead>
<tr>
<th>Number of ratings</th>
<th>Total veterans</th>
<th>With at least this number of ratings</th>
<th>With nonservice-connected diseases</th>
<th>All veterans (in percent)</th>
<th>Adjusted for duplicates (in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>1,035,656</td>
<td>2,232,200</td>
<td>446,440</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Two</td>
<td>578,476</td>
<td>1,196,544</td>
<td>239,309</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Three</td>
<td>269,376</td>
<td>618,068</td>
<td>123,614</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Four</td>
<td>140,217</td>
<td>348,692</td>
<td>69,738</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Five</td>
<td>90,068</td>
<td>208,475</td>
<td>41,695</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Six</td>
<td>34,730</td>
<td>118,407</td>
<td>23,681</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Seven</td>
<td>17,974</td>
<td>83,668</td>
<td>16,734</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Eight</td>
<td>24,056</td>
<td>65,694</td>
<td>13,139</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Over eight</td>
<td>41,639</td>
<td>41,639</td>
<td>8,328</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2,232,200</td>
<td></td>
<td></td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

*Assuming 20 percent of the veterans at each rating level have a nonservice-connected disease

*Assuming 50 percent of the veterans with a nonservice-connected disease in a rating after the highest diagnosis also have another nonservice-connected disease.

Although this analysis results in a much higher estimate of the number of veterans who have one or more of these diseases (that is, 32 percent with one or more nonservice-connected diseases instead of the 25.5 percent that we estimated earlier), we would not expect the analysis to greatly affect (1) our estimate of the number of veterans who would have their benefits reduced or eliminated (table II.5) or (2) our estimate of the program cost (table II.6). This is because of several factors, but
most important, the way that individual ratings are combined to determine benefit amounts. Since we know that the additional number of veterans identified in table II.7 have two higher ratings, omitting a smaller rating for a nonservice-connected disease cannot reduce their combined ratings to zero. Further, any reduction in the combined rating would be small, if it occurred at all, because the first two ratings generally account for most of the benefit amount.
Veterans Administration

MAY 9 1989

Mr. Lawrence H. Thompson
Assistant Comptroller General
Human Resources Division
U. S. General Accounting Office
Washington, DC 20548

Dear Mr. Thompson:

This responds to your request that the Department of Veterans Affairs (VA) review and comment on the General Accounting Office (GAO) March 23, 1989, draft report VA DISABILITY BENEFITS: Compensation Paid for Many Medical Conditions Unrelated to Military Service. This report presents a profile of VA compensation program beneficiaries and the sources of their disabilities.

It contains the suggestion that the Congress may want to reconsider if diseases that arose while the veterans were in military service, but which probably were neither caused nor aggravated by military service, should be compensated as service-connected disabilities.

As your report correctly states, under the law, VA pays compensation benefits for disabilities resulting from a disease or injury incurred in the line of duty. "In the line of duty" is defined as including all disabilities resulting from wounds or diseases incurred or contracted while in military service, as long as that injury or disease is not the result of the individual's own willful misconduct. VA is not required to examine the nature of certain diseases or to determine a causal connection to military service.

We request that you consider changing the report title. GAO found no fault with VA's decisions concerning compensation benefits in general or in the cases reviewed, yet the current title implies an unfair criticism of VA.

Sincerely yours,

Edward J. Derwinski
Secretary
Appendix IV

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