

GAO

Report to the Chairman, Subcommittee  
on Civil Service, Committee on  
Government Reform and Oversight,  
House of Representatives

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August 1998

# FEDERAL EMPLOYEES' COMPENSATION ACT

## Percentages of Take-Home Pay Replaced by Compensation Benefits



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General Government Division

B-279234

August 17, 1998

The Honorable John L. Mica  
Chairman, Subcommittee on  
Civil Service  
Committee on Government Reform  
and Oversight  
House of Representatives

Dear Mr. Chairman:

This report responds to your request for information on workers' compensation benefits for lost wages provided to workers with job-related injuries under the Federal Employees' Compensation Act (FECA) (5 U.S.C. 8101 et seq., as amended). Specifically, you asked for information on (1) percentages of take-home pay that FECA benefits replaced<sup>1</sup> for beneficiaries on the long-term rolls<sup>2</sup> who were receiving full benefits; (2) career patterns of workers in selected occupations that were the same as the occupations of FECA beneficiaries, which might indicate the extent to which beneficiaries' injuries affected their career progression prospects; and (3) beneficiaries' characteristics such as current age, age when injured, compensation benefits paid in 1997, and pay at the time of injury adjusted to 1997 pay levels. As agreed with your office, we did not assess the fairness, adequacy, or equity of the benefits provided nor did we compare or contrast the different methods—gross pay or take-home pay—by which workers' compensation benefits are calculated under federal or states' workers' compensation laws.

In calculating percentages of take-home pay replaced by FECA benefits, we estimated gross pay and net take-home pay for over 23,250 beneficiaries who were receiving full FECA wage-loss compensation benefits of either 66-2/3 or 75 percent<sup>3</sup> of their gross pay as of June 1997. These beneficiaries lived in 19 states, 4 of which did not have a state income tax.<sup>4</sup> We estimated injured workers' gross pay at the time of their injury using

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<sup>1</sup>Unless otherwise noted, when we refer to the percentage of take-home pay replaced by FECA benefits (i.e., replacement rate), we are referring to the workers' gross pay at the time of their injuries, adjusted to 1997 pay levels less deductions for retirement contributions and federal and state income taxes, if applicable, and compared with amounts of FECA benefits received in June 1997.

<sup>2</sup>Beneficiaries on the long-term rolls are those with permanent disabilities or with injuries that have lasted or are expected to last for prolonged periods (over 1 year).

<sup>3</sup>Beneficiaries without dependents receive benefits based on 66-2/3 percent of pay. Beneficiaries with at least one dependent receive benefits of 75 percent of pay.

<sup>4</sup>One state with an income tax did not tax income from salaries and wages. We included this state as one of the four without an income tax.

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information on current FECA benefits, FECA cost-of-living increases, and average pay comparability increases for active workers. Like workers' compensation organizations, we defined take-home pay as gross pay less mandatory deductions for retirement and Medicare contributions and federal and state income taxes. To estimate take-home pay, we had to make assumptions about spouses' income and beneficiaries' dependents and deductions for income tax purposes. FECA benefits are not subject to federal or state income taxes.

For workers in (1) letter carrier and postal distribution occupations with the United States Postal Service, (2) nursing positions with the Department of Veterans Affairs (VA), and (3) air traffic control (ATC) positions with the Federal Aviation Administration (FAA), we obtained information on their career patterns and potential merit increases and promotions from agency officials familiar with their career progression to compare with available profile information for beneficiaries in the same occupations at the time of injury. We obtained profile and compensation benefit information on injured workers on FECA's long-term rolls from the Department of Labor's automated information systems used to manage FECA claims and pay FECA beneficiaries. Appendix I contains a detailed description of our scope and methodology.

We requested written comments on a draft of this report from the Secretary of Labor. Labor's comments are discussed at the end of this letter and reprinted in appendix IV. We performed our work from October 1997 to July 1998 in accordance with generally accepted government auditing standards.

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## Results in Brief

For the more than 23,250 beneficiaries on the long-term rolls for whom we developed replacement rates, we estimated that FECA benefits replaced, on average, over 95 percent of the take-home pay beneficiaries would have received had they not been injured. Estimated replacement rates ranged between about 76 and 136 percent. Compensation benefits equaled between an estimated 80 and 99 percent of take-home pay for about 70 percent of these beneficiaries and amounted to 100 percent or more in 29 percent of the cases.

Under assumptions<sup>5</sup> we needed to make to compute beneficiaries' income taxes and retirement contributions, replacement rates tended to be higher

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<sup>5</sup>For our principal analyses, we assumed that beneficiaries (1) claimed standard deductions for income tax purposes; (2) receiving the FECA dependent benefit, had a spouse with no taxable income; and (3) participated in the Civil Service Retirement System (CSRS).

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for beneficiaries who (1) received higher amounts of pay before their injury, (2) were injured before 1980, (3) received the FECA dependent benefit, and (4) lived in states with an income tax. Using different assumptions to show their effect on replacement rates, beneficiaries with more exemptions or deductions for income tax purposes would have had lower replacement rates because these rates generally decrease as taxable income decreases. Beneficiaries with a spouse who had taxable income would have higher replacement rates because replacement rates generally increase as spousal income increases. Single and married beneficiaries who had no income subject to income taxes while working—generally those with low incomes—would have replacement rates of about 73 and 82 percent, respectively.

Our analyses showed that about 70 percent of all beneficiaries were over 40 years old when they were injured, and the average adjusted pay of beneficiaries in the selected occupations approximated the average pay of active workers in the same occupations. These characteristics might suggest that the beneficiaries were not in the early stages of their careers at the time of their injuries. However, we were unable to determine the extent to which beneficiaries' career prospects were diminished by their on-the-job injuries because our analyses were limited to readily available data. Occupational data were available for only about one-third of the beneficiaries we analyzed, and data were not readily available on beneficiaries' career progression up to the time of their injuries.

Further, career patterns of individuals depended on a multitude of personal and employment factors as well as the specific jobs in which individuals are employed, according to agency officials familiar with career patterns of workers in selected Postal Service, FAA, and VA occupations. Profile information on FECA beneficiaries in these and other occupations is given beginning on page 9 and in appendix III.

Characteristics of the more than 23,250 beneficiaries for whom we developed replacement rate information and for approximately 6,800 of the other 11,460 FECA beneficiaries<sup>6</sup> on the long-term rolls who received FECA wage-loss compensation benefits of either 66-2/3 or 75 percent of their gross pay were

- About 65 percent of these 30,000 beneficiaries were over 55 years old, and the average age of these 30,000 beneficiaries was 61, as of June 1997.

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<sup>6</sup>See appendix I for details on which beneficiaries were included in our analyses.

- At their date of injury, almost 70 percent of them were over 40 years old, and their average age was over 45 years old.
- In June 1997, their annual compensation benefits averaged \$26,220, and their average gross pay at the time of injury adjusted to 1997 pay levels was \$34,833.

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## Background

The relationship between nontaxable workers' compensation benefits received by workers who were injured on the job and their income at the time of injury has been the subject of discussion among workers' compensation analysts for a long time. According to the 1972 Report of the National Commission on State Workmen's Compensation Laws,

"A basic objective of a modern workmen's compensation program is to provide protection to workers against loss of income from work-related injuries and diseases. To achieve this goal, the program must carefully weigh the worker's interest in substantial income benefits against factors such as the loss of incentive for rehabilitation, which some believe may occur if income benefits are too high."

The 1972 National Commission's Report recommended that workers' weekly benefits should replace at least 80 percent of their spendable weekly earnings, subject to a state's maximum weekly benefit. As states increased workers' compensation benefits following the National Commission's report, an issue arose as to whether benefits were so high that incentives for injured employees to return to work might be impaired. Workers' compensation program analysts are reluctant to take a position on what the "correct" level of workers' compensation benefits should be, leaving that matter to the judgment of legislators. According to a 1985 Workers Compensation Research Institute<sup>7</sup> report, legislatures in many states must walk a fine line between benefits that are high enough to provide adequate income, but not so high as to discourage an employee's return to work when he or she is no longer disabled.

In addition to discussions about the appropriateness of workers' compensation programs' benefit levels, some observers have made the point that beneficiaries with long-term or permanent disabilities who were injured early in their careers may have lost promotions or other opportunities to increase their pay relative to the compensation benefits they may be currently receiving.

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<sup>7</sup>The Workers Compensation Research Institute is a not-for-profit research organization whose mission is to provide objective information about public policy issues involving workers' compensation systems.

Under FECA, workers' compensation benefits for those who are totally disabled are 66-2/3 percent of wages for workers without dependents and 75 percent of wages for workers with one or more dependents. These benefits are not subject to federal or state income taxes. Most states' workers' compensation programs provide benefits ranging from 60 to 72 percent of gross wages.<sup>8</sup> Six states use a percentage of spendable earnings<sup>9</sup> (ranging from 75 to 80 percent) rather than wages as the basis for computing compensation benefits.

The Department of Labor's Office of Workers' Compensation Programs (OWCP) is responsible for administering FECA and adjudicating claims submitted on behalf of injured workers. For the year ending June 1997, FECA costs totaled about \$1.9 billion—\$1.3 billion for compensation benefits, \$444 million for medical benefits, and \$125 million for death benefits. For this period, OWCP paid medical benefits in about 238,450 cases, death benefits in over 6,260 cases, and compensation benefits in over 78,060 cases. Of these 78,060 cases, 51,265 were on the long-term rolls, as of June 1997. In these 51,265 cases, about 34,700 totally disabled individuals were receiving FECA wage-loss benefits at either the 66-2/3 or 75 percent rate.

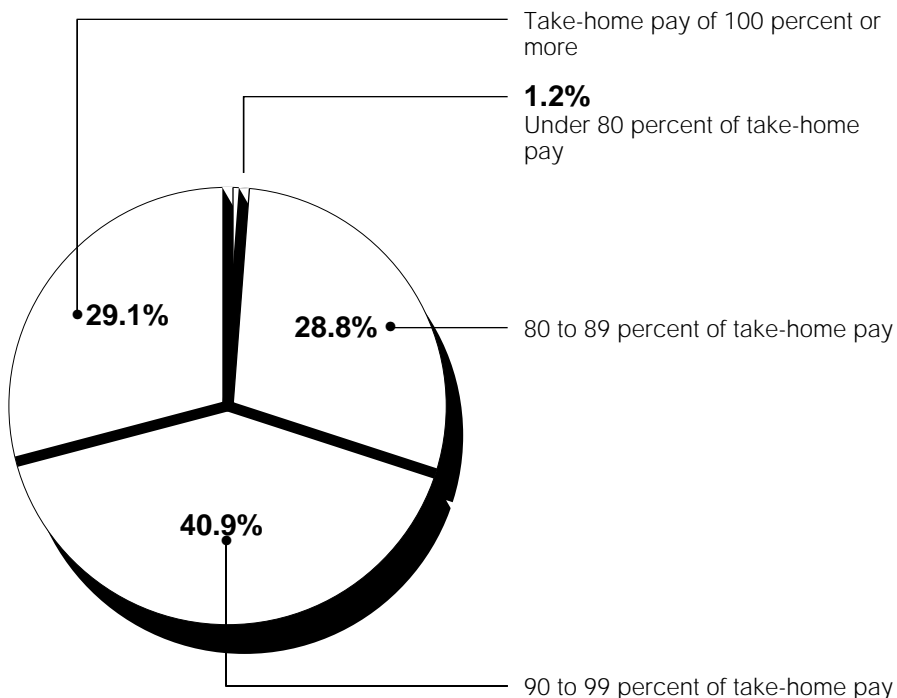
## Analyses of Take-Home Pay Replacement Rates

For the more than 23,250 beneficiaries included in our analyses, we estimated that FECA benefits replaced, on average, over 95 percent of the take-home pay they would have received had they not been injured. Figure 1 shows percentages of beneficiaries whose FECA benefits resulted in various ranges of take-home pay replacement rates.

<sup>8</sup>Our report entitled *Workers' Compensation: Selected Comparisons of Federal and State Laws* (GAO/GGD-96-76, Apr. 3, 1996) discusses and compares federal and state workers' compensation laws in more detail.

<sup>9</sup>Spendable earnings (take-home pay) for working employees are computed by taking an employee's before-tax earnings at the time of injury and subtracting Social Security taxes and federal and state income taxes. The taxes are taken from published withholding tables that are based on average tax rates, given an employee's actual exemptions and a standard deduction.

**Figure 1: Percentages of Beneficiaries and Their Take-Home Pay Replaced by FECA Benefits as of June 1997**



Note: In calculating these replacement rates, we assumed that beneficiaries (1) claimed standard deductions for income tax purposes; (2) receiving the FECA dependent benefit, had a spouse with no taxable income; and (3) participated in CSRS.

Source: GAO analysis of OWCP data.

Beneficiaries' estimated take-home pay replacement rates ranged from a low of about 76 percent to a high of 136 percent depending on when they were injured, their pay when injured, and whether they had dependents or lived in a state with an income tax. To calculate federal and state income taxes to use in computing beneficiaries' take-home pay, we had to make assumptions regarding the amount of taxable income earned by a beneficiary's spouse and the number of exemptions and amounts of deductions claimed for income tax purposes. Although OWCP's automated databases identified beneficiaries receiving FECA dependent's benefits, they did not contain information on spouses' income, additional exemptions, or additional deductions.



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Under our assumptions, replacement rates were affected by (1) beneficiaries' dates of injury, (2) pay levels and progressive income tax rate structures, (3) benefit rates based on the absence or presence of dependents, and (4) beneficiaries' states of residence. The effects of these variables on replacement rates are summarized below and discussed in more detail in appendix II.

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### Length of Time on Long-Term Rolls Increases Replacement Rate

In general, the older the date of injury, the higher the replacement rate. The older dates result in higher replacement rates because over long periods of time, FECA cost-of-living increases<sup>10</sup> exceeded general schedule (GS) pay increases that individuals would have received had they not been injured. To illustrate in one case, a worker with an injury date just before March 1, 1996, would have received the March 1, 1997, FECA cost-of-living increase of 3.3 percent. Workers who had not been injured would have received a general schedule pay increase averaging 3 percent in January 1997. In another case, a worker injured in January 1970 would have received FECA cost-of-living increases through March 1997 and, in absolute numbers, these increases would have totaled 139.5 percent of compensation. General schedule pay increases for workers who had not been injured would have averaged 118.7 percent of pay over the same period. The replacement rate for a single person receiving FECA benefits of \$20,000 in June 1997 in the first case would be 83.6 percent of take-home pay, whereas, in the second, older case, it would be 101.3 percent of take-home pay.

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### Higher Pay Levels and Progressive Income Tax Rates Increase Replacement Rates

Because the federal government and many states have progressive income tax rate structures, workers generally pay taxes at higher rates as their taxable income increases. In our analyses, applicable federal income tax rates ranged from 15 to 31 percent of taxable income and state income tax rates ranged from 0.5 to 9.3 percent of taxable income. For beneficiaries who earned higher pay, nontaxable FECA benefits replaced pay that would have been subject to higher tax rates. FECA benefits replaced an estimated 91 percent of take-home pay for beneficiaries whose pay before the injury, adjusted to 1997 pay levels, was under \$20,000. For beneficiaries with pay over \$60,000, FECA benefits replaced over 105 percent of take-home pay.

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<sup>10</sup>Starting in 1966, FECA provided for adjustments in compensation benefits based on the Consumer Price Index. These cost-of-living increases are provided to injured employees who stopped work on account of an injury more than 1 year prior to the effective date of the increase. In contrast, general schedule pay increases, although specified by statute, generally emerge from budget negotiations each year.

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**FECA Dependent Benefit  
Increases Replacement  
Rates**

Replacement rates for FECA beneficiaries receiving the dependent benefit averaged an estimated 97 percent compared with 92 percent for beneficiaries who did not receive this benefit. FECA authorizes an additional 8-1/3 percent in benefits for beneficiaries with dependents. If these additional benefits were not provided, some beneficiaries' replacement rates would be lower because their take-home pay would be compared with a compensation benefit of 66-2/3 percent rather than 75 percent of gross pay.

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**State Income Taxes  
Increase Replacement  
Rates**

Replacement rates for beneficiaries who lived in states that taxed income were, on average, an estimated 96 percent compared with about 94 percent for those living in states with no income tax. Like federal income taxes, income taxes that workers paid to states before they were injured would serve to further reduce their take-home pay, thereby increasing the portion of take-home pay replaced by nontaxable FECA benefits.

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**Different Assumptions  
Would Change Estimated  
Replacement Rates**

To calculate take-home pay replacement rates, we made certain assumptions about beneficiaries based on data that were readily available to us. The effects of using different assumptions on spouses' income, numbers of exemptions, and amounts of deductions are summarized below and discussed here and in more detail in appendix II.

Spouse's income. In estimating replacement rates for beneficiaries with a spouse, we assumed that their spouses did not have taxable income. If spouses had income, replacement rates could be higher. The presence of a spouse's income results in a higher effective rate of tax on the income earned by the beneficiary returning to work. A higher effective tax rate means that the returning worker's take-home pay could be lower and, therefore, the ratio of FECA benefits to take-home pay could be higher.

Number of dependents (exemptions). In computing federal income taxes, we assumed that beneficiaries who received augmented FECA benefits had one dependent and that the dependent was a spouse. In 1997, each exemption claimed was worth \$2,650 in computing taxable income. Replacement rates would have decreased by about 1.5 percent for each additional exemption. For example, the replacement rate for a married worker with 1 child (3 exemptions), with income of \$30,000, would have been 89.3 percent compared with 90.7 percent for a couple (2

exemptions). We did not assume additional exemptions for age or blindness.

Tax deduction amounts. In computing income taxes, we assumed that beneficiaries would have claimed federal standard deduction amounts of either \$4,150 if single, or \$6,900 if married. If these individuals had itemized deductions that were either double or triple the standard deduction amounts, their take-home pay replacement rates would have been lower than our estimates by percentages ranging from about 2 to 7 percent depending on (1) whether they were single or married and (2) their pay before being injured.

For beneficiaries who did not have taxable income while working either because they had low income, large deductions, or multiple dependents, replacement rates would have been about 73 percent if single, or about 82 percent if married. For beneficiaries who did not owe income taxes, their take-home pay would be gross pay minus deductions of 8.45 percent for retirement and Medicare benefits. The relationship between FECA benefits (either 66-2/3 or 75 percent of gross pay) and take-home pay would be the same (about 73 or 82 percent, respectively) at all pay levels.

## Career Patterns for Workers in Selected Occupations

We were unable to determine whether beneficiaries' career progression patterns were affected by their on-the-job injuries. Our analyses showed that about 70 percent of all beneficiaries were over 40 years old when they were injured, and the average adjusted pay of beneficiaries in the selected occupations approximated the average pay of active workers in the same occupations. These characteristics might suggest that the beneficiaries were not in the early stages of their careers at the time of their injuries. However, our analyses were limited because occupational data were available for only about one-third of the beneficiaries and because data were not readily available on beneficiaries' career progression up to the time of their injuries.

Career pattern information we obtained from agency officials for workers in selected occupations who were in the same occupations as selected FECA beneficiaries included in our analysis—letter carriers, postal distribution workers, registered nurses, practical nurses, nursing assistants, and air traffic controllers—indicated that career patterns can vary widely. These occupations were selected because they were either the occupations (1) that were the most frequently identified in the OWCP information we analyzed or (2) for which many beneficiaries were likely to

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be employed by the same agency. Career pattern information obtained from the above officials and information on FECA beneficiaries from OWCP's records are discussed in the following sections.

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## Letter Carrier and Postal Distribution Occupations

According to FECA data, at the time of injury, the average age for the 1,897 letter carriers and postal distribution workers we could identify was about 42 years old. The pay of these workers at the time of injury adjusted to 1997 pay levels averaged \$35,054 and \$36,588, respectively.

According to Postal Service officials, workers in letter carrier and postal distribution crafts are covered under union contracts with Postal Service management. Entry-level pay in March 1997 for workers in these crafts was \$26,375 and \$22,404, respectively. Upon completing contractual waiting periods, these workers would automatically receive longevity-step increases. Workers would normally progress from entry-level pay to maximum pay within the same grade in 12.4 years. For letter carriers whose entry level is grade 5, maximum pay was \$36,863 as of March 1997; for postal distribution workers whose entry level is grade 4, maximum pay was \$35,118. In addition to their basic pay, these workers may also receive premium pay for night or Sunday work.<sup>11</sup>

Postal Service officials told us that most letter carriers and postal distribution workers remain in the same pay grade throughout their careers. They usually receive longevity-step pay increases and twice yearly cost-of-living increases. As of September 1997, almost 80 percent of about 52,650 postal distribution workers were at grade 4 and almost 50 percent of the 40,877 workers in this pay grade were in the highest step. For the approximately 201,500 letter carriers, about 85 percent (172,590) were at grade 5 and of these, over 70 percent (123,250) were in the highest step.

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## Nursing Occupations

As table 1 shows, the average ages and adjusted pay of the 445 beneficiaries in nursing occupations approximated the average ages and pay of both VA and non-VA nurses.

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<sup>11</sup>Because FECA compensation benefits are based on gross pay amounts that may include premium pay for night or shift differentials and for Sunday and holiday work, Postal Service workers' pay adjusted to 1997 pay levels may be somewhat inflated when compared with the maximum basic pay of letter carriers and postal distribution workers.

**Table 1: Pay and Age Information for Workers in Nursing Occupations**

<b>Occupations</b>	<b>FECA data<sup>a</sup></b>	<b>VA data</b>	<b>OPM data for non-VA nurses</b>
Registered nurses	185	32,643	7,066
Average age	48.6	46.7	46.5
Average pay	\$43,254	\$47,530	\$44,623
Practical nurses	127	9,294	2,056
Average age	47.4	44.8	47.4
Average pay	\$27,577	\$27,514	\$25,576
Nursing assistants	133	10,095	1,346
Average age	46.9	46.0	44.9
Average pay	\$24,937	\$23,614	\$22,023

<sup>a</sup>Information on beneficiaries' ages at time of injury and pay at time of injury adjusted to 1997 pay levels.

Source: GAO analysis of FECA, VA, and Office of Personnel Management (OPM) information.

The entry level for most of VA's registered nurses in clinical practice is generally somewhere between the equivalent of a GS-6 and GS-8, according to a VA official familiar with the typical career patterns of VA nurses. Licensed practical nurses generally start at the equivalent of a GS-4, and nursing assistants are generally hired at the equivalent of a GS-3.

According to the official, registered nurses with a bachelor of science degree generally advance to the equivalent of a GS-11 in 3 to 5 years; nurses without a bachelor's degree generally advance to the equivalent of a GS-9. Nurses who reach the equivalent of a GS-12 would usually have a bachelor of science degree and function in positions with responsibilities beyond the staff nurse. These additional responsibilities would include being a nurse manager, head nurse, care manager, or instructor. Furthermore, for nurses to advance beyond the GS-12 level, they generally would have to have a master's degree. In addition to clinical practice, some VA registered nurses become involved in education and training, administration, or research activities for which they would generally be paid at the GS-12 or GS-13 levels. According to VA pay information, about 700 of VA's 32,600 registered nurses serve in executive, supervisory, or management positions with pay equivalents in the GS-14/15 range.

The VA official told us that over a 3- to 5-year period, the highest grade to which VA's nursing assistants would likely advance would be the equivalent of a GS-5. Most nursing assistants would be at the GS-4 level. Within about 2 years, VA's licensed practical nurses could reach the

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equivalent of a GS-5 and within 4 to 5 years a GS-6. Most practical nurses would function at the GS-5 level. To receive higher pay, some nursing assistants would change career patterns and work as radiological or medical technicians, or as physical therapists. Some practical nurses return to school to become registered nurses or transfer to other VA departments.

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## Air Traffic Control (ATC) Occupations

For the 74 beneficiaries we identified in ATC occupations, FECA information showed that at the time of injury, their average age was 39.4 and their average pay adjusted to 1997 pay levels was \$68,074. According to 1997 OPM information, individuals in ATC occupations averaged almost 42 years of age with average pay of over \$65,230. About 43 percent of these individuals were at the GS-14 level with average pay of about \$74,750.

According to an FAA official, most individuals in ATC occupations begin their careers as GS-7s. About 75 percent of these individuals have ATC responsibilities at either air route traffic control centers or at FAA towers or terminals. Other individuals in ATC occupations serve as flight service station specialists and have responsibility for providing pilots with weather briefings and receiving flight plans filed by airlines and pilots. The size and type of FAA facility at which air traffic controllers serve generally determine their typical career patterns. According to the official, controllers stationed at air route traffic control centers and the busier airports would generally reach the GS-14 level. Those serving at smaller airports would generally reach the GS-12 or GS-13 level depending on the amount of air traffic serviced by the facility.

FECA and OPM information for individuals in additional occupations is shown in appendix III.

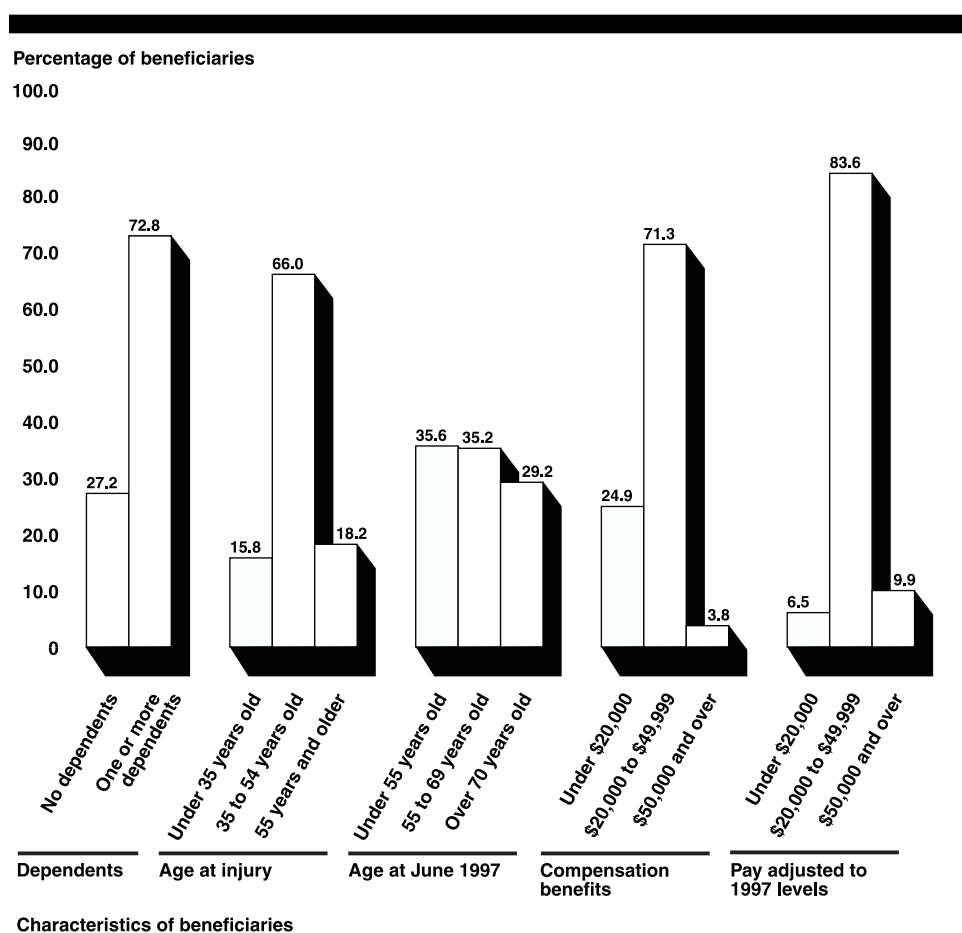
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## Profiles of FECA Beneficiaries

For the more than 30,000 beneficiaries we profiled, annual compensation benefits averaged about \$26,220, and the current value of their gross pay before they were injured averaged \$34,833. About 70 percent of the beneficiaries were over 40 years old when injured. As of June 1997, about 65 percent were over 55 years old. About 73 percent of the beneficiaries had a spouse or at least one dependent. For about 90 percent of the 30,000 beneficiaries, the current value of their pay before they were injured was under \$50,000 after adjusting for pay comparability increases.

Figure 2 contains profile information on the percentages of beneficiaries with and without dependents, by age ranges when they were injured and as of June 1997, by amounts of annualized workers' compensation benefits, and by amounts of pay received at the time of injury adjusted to 1997 pay levels.

**Figure 2: Profile Information on Selected FECA Beneficiaries on the Long-Term Compensation Rolls as of June 1997**



Source: GAO analysis of OWCP data.

In addition, over 18 percent (5,549) of the more than 30,000 beneficiaries lived in states that did not have an income tax. As of June 1997, about

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74 percent of the beneficiaries lived in the same state as the one where they were injured.

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## Agency Comments and Our Evaluation

We obtained written comments on a draft of this report from the Department of Labor. Labor commented that the report did a good job of describing the various assumptions and methodology we used to develop the replacement rate estimates and was very clear on how changes in each individual assumption would generally affect the replacement rates for classes of workers.

Labor also suggested that our analysis might have been better informed, if instead of assuming that all beneficiaries receiving augmented benefits had a nonworking spouse, we could have used readily available data and statistical sampling techniques to develop replacement rate estimates that took into consideration the incidence of dual earners, the amounts of income earned by these couples, and estimates of the number and distribution of additional dependents by household. Labor added that in general it might have been more useful if we had offered some estimates based on likely combinations of assumptions and that varying assumptions one by one, while it illustrated an impact or tendency, was probably misleading when applied universally to all cases.

In view of the time constraints we faced when we started this assignment, we chose to develop take-home pay replacement rates based on a methodology that was similar to those that had been used in other workers' compensation studies, such as those conducted by the Workers Compensation Research Institute. We agree with Labor that it may have been possible to develop a more refined estimate of the overall replacement rate had we used other sources of information to make additional assumptions about FECA beneficiaries. We also agree that had we developed and analyzed likely combinations of other assumptions, we could have presented different estimates of take-home pay replacement rates. However, we believe that our methodology provided a useful overall replacement rate estimate that was based on reasonable assumptions. Because we recognized that our result was dependent on the different assumptions we made, we both acknowledged this and provided a set of analyses that illustrated the sensitivity of our result to alternative assumptions.

Had we developed alternative estimates using additional data or combinations of alternatives as Labor suggested, those estimates would



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have been dependent on limitations inherent in these additional sources of data and any further assumptions about the beneficiary population. In any event, the alternative replacement rate estimates suggested by Labor may or may not reflect FECA beneficiaries' actual replacement rates. For example, regarding marital status, we assumed that all beneficiaries who received the augmented dependent benefit had a spouse because the automated database did not distinguish between beneficiaries who were married or unmarried. Although the presence of spousal income would influence replacement rates, income of other dependents generally would not. Because an unknown number of beneficiaries may not have had a spouse, but rather a dependent such as a child or parent, we chose not to estimate the amount of income that may be associated with an unknown number of spouses. Recognizing that this would tend to understate our replacement rate calculations, we supplemented our primary analysis with examples of how changes in assumptions on spousal income would affect our replacement rate calculations, but we did not intend that the examples be applied universally to all cases.

Labor also provided several other suggestions for expanding our analysis. These suggestions and our detailed responses to them are contained in appendix IV.

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As agreed with your office, unless you announce the contents of this report earlier, we plan no further distribution of this report until 10 days after its issue date. At that time we will send copies of this report to the Chairmen and Ranking Minority Members of the House Committee on Education and the Workforce and its Subcommittee on Workforce Protections; the House Committee on Government Reform and Oversight and its Subcommittee on Government Management, Information, and Technology; the Senate Committee on Governmental Affairs and its Subcommittee on International Security, Proliferation and Federal Services; other interested congressional committees and members; the Secretaries of Labor, Transportation, and VA; the Postmaster General of the United States; and the Directors of the Office of Management and Budget and OPM. Copies will be made available to others on request.

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Major contributors to this report are listed in appendix V. Please contact me at (202) 512-8676 if you or your staff have any questions concerning this report.

Sincerely yours,

A handwritten signature in black ink that reads "Michael Brostek". The signature is written in a cursive style with a large, stylized "M" and "B".

Michael Brostek  
Associate Director  
Federal Management and  
Workforce Issues



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## Abbreviations

ATC	Air traffic control
CSRS	Civil Service Retirement System
FAA	Federal Aviation Administration
FECA	Federal Employees' Compensation Act
FERS	Federal Employees Retirement System
GS	general schedule
IRS	Internal Revenue Service
OPM	Office of Personnel Management
OWCP	Office of Workers' Compensation Programs
VA	Department of Veterans Affairs
WEC	Wage-earning capacity

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# Scope and Methodology

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## Replacement Rates

To estimate the percentages of take-home pay replaced by FECA benefits, we first identified, for the “chargeback year”<sup>12</sup> ending in June 1997, beneficiaries on the long-term rolls who received unreduced wage-loss compensation benefits and the dollar amounts of their benefits. Because collecting this information from beneficiaries’ case files maintained in OWCP’s district offices would have been time consuming and expensive, we used OWCP’s automated claims management and compensation payment systems to obtain this information. We did not independently verify the data obtained from these automated systems.

We then estimated beneficiaries’ take-home pay by calculating the current value of their pay at the time of injury and deducting amounts for retirement benefit contributions and federal and state income taxes. Various workers’ compensation organizations define take-home pay as the difference between an employee’s estimated gross wages less deductions for the employee’s share of mandatory retirement contributions; federal income taxes; and, if applicable, state income taxes. We did not take into consideration discretionary deductions that employees could take for items such as thrift savings plan contributions, health and life insurance, and savings bonds because they are not commonly taken into account in workers’ compensation take-home pay calculations. For our calculations, we made assumptions about beneficiaries’ federal retirement plan participation, marital status, numbers of dependents, amounts of deductions to determine taxable income, and spouses’ incomes. Finally, we estimated beneficiaries’ replacement rates by dividing their FECA benefits by their take-home pay.

Of the approximately 78,000 beneficiaries who received compensation benefits for the year ending in June 1997, 51,265 were on OWCP’s long-term rolls. OWCP had placed most of these 51,265 beneficiaries into one of the following three wage-earning capacity (WEC) categories based on the extent of their disability.

No WEC. In general, totally disabled beneficiaries who have little or no reemployment potential. These beneficiaries receive unreduced workers’ compensation benefits.

WEC undetermined. Beneficiaries with temporary total disabilities who also receive unreduced workers’ compensation benefits. Labor’s procedures call for it to review the status of these cases once a year.

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<sup>12</sup>A chargeback year is the FECA billing year for which accumulated benefit outlays are billed to employing agencies for whom injured employees once worked.

WEC established. Beneficiaries who received reduced compensation benefits because they were partially disabled and either were working or had the ability to work. Compensation benefits are determined by a formula that takes actual or potential earnings into consideration.

We obtained information on 30,057 beneficiaries on the long-term rolls who either did not have a WEC or had an undetermined WEC and whose last two benefit payment checks for the 1997 chargeback year were for the same amount. We selected cases in which the last two checks were the same to eliminate cases in which beneficiaries received either lump-sum payments or payments for only a portion of the 4-week period normally covered by a payment.

For our analyses, we excluded FECA beneficiaries who (1) were expected to receive benefits for relatively short periods before returning to work; (2) received schedule awards;<sup>13</sup> (3) had established WECS; (4) lived overseas; or (5) received FECA benefits that were less than the minimum authorized under FECA because they were part-time or nonfederal employees (e.g., Civil Air Patrol).

In many cases, the calculation of take-home pay replacement rates required the computation of individual states' income taxes. To limit the number of states for which we needed to make these calculations, we limited our replacement rate analyses to about 75 percent of the 30,057 beneficiaries selected. We chose states where the largest number of these beneficiaries resided as of June 1997, until we had selected enough states—19—to include about 75 percent of beneficiaries. We then developed replacement rate information for 23,257 beneficiaries (77 percent), who resided in 19 states, 4 of which did not have an income tax.<sup>14</sup>

Beneficiaries' actual pay at the time of injury could not be efficiently determined because this information is only available from beneficiaries' case files located in OWCP's district offices. We therefore made several calculations to estimate the current value of beneficiaries' take-home pay. First, we recomputed beneficiaries' workers' compensation benefits to reflect benefits received at the time of injury by reducing their June 1997

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<sup>13</sup>Schedule awards are benefits for the permanent loss of, or loss of use of, certain parts or functions of the body. Benefits are calculated on the basis of schedules in the law that specify the number of weeks employees are to receive benefits.

<sup>14</sup>We categorized one state as a nonincome tax state because, although it had an income tax, it did not tax income from salaries and wages.

benefits by the amount of periodic cost-of-living allowances they received. Second, based on this recomputation of benefits received at the time of injury and whether they had at least one dependent as of June 1997, we calculated employees' pay before their injury based on either the 66-2/3 or 75 percent benefit level. Third, by increasing employees' pay at the time of injury by average federal pay comparability increases<sup>15</sup> authorized since then, we calculated the current value of beneficiaries' pay<sup>16</sup> at the time of injury. Fourth, from this amount, we made deductions for retirement benefit contributions; federal income taxes; and, where applicable, state income taxes in computing the current value of beneficiaries' take-home pay. Lastly, we compared current FECA benefits received to these take-home pay amounts to determine take-home pay replacement rates.

Postal Service, blue-collar, and certain other federal employees are in pay plans that differ from the general schedule plan that covers most federal civilian workers. In computing the current value of workers' pay before the injury, we used OPM information on average federal pay comparability increases applicable to the general schedule because OWCP's automated databases did not contain sufficient information to identify either the occupations of over two-thirds of the beneficiaries we analyzed or the pay plans of beneficiaries.

From OWCP and OPM information, we determined FECA benefit levels, the presence or absence of dependents, whether the beneficiary resided in a state with an income tax, and beneficiaries' estimated pay at the time of injury. However, to develop our estimates of take-home pay replacement rates, we also needed to make assumptions regarding beneficiaries' retirement and Medicare contributions, numbers of exemptions, amounts of itemized deductions (if taken), and spousal income. Changing the assumptions would change the estimated ratio of FECA benefits to take-home pay. The assumptions we made in calculating take-home pay replacement rates for our principal analyses follow. While information was not readily available to support different assumptions, we used different assumptions about numbers of exemptions, income tax deductions, and spousal income to illustrate how they could influence take-home pay replacement rates.

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<sup>15</sup>We used average pay comparability increases because in some years pay rate increases were not the same for all employees. For example, beginning in 1994 federal workers received different locality-based comparability adjustments based on disparities between federal and nonfederal salaries where they worked.

<sup>16</sup>About 4 percent of the employees were injured before 1966, the first year in which cost-of-living increases were paid under FECA. Because this percentage was relatively small, we did not adjust for pay increases received before 1966. If we had considered pre-1966 pay increases, take-home pay replacement rates would have been lower.



Retirement and Medicare contributions. We assumed that all beneficiaries participated in CSRS and Medicare and that total deductions for these programs were 8.45 percent. Our profile information indicated that a high percentage of FECA beneficiaries on the long-term rolls were over 55 years old or were injured many years ago. Because the Federal Employees Retirement System (FERS) was not established until 1986, we assumed that most beneficiaries would have been CSRS participants.

Under both CSRS and FERS, deductions for retirement and Medicare benefits totaled 8.45 percent. Under CSRS, deductions in 1997 were 7 percent for retirement benefits and 1.45 percent for Medicare benefits. Under FERS, deductions were 6.2 percent for Social Security retirement benefits, 0.8 percent for a FERS annuity, and 1.45 percent for Medicare benefits. However, under FERS, the 6.2 percent contribution for Social Security retirement benefits applied to only the first \$65,400 of pay in 1997. Thus, take-home pay under our assumptions would be understated for the relatively small number of FECA beneficiaries whose 1997 pay was over \$65,400 and who were in FERS. In these cases, replacement rates would be lower.

Exemptions (dependents). In those cases in which FECA beneficiaries received augmented FECA benefits of 8-1/3 percent, the database did not indicate the exact number of dependents because the benefit is the same whether the beneficiary had one or more dependents. We assumed that such beneficiaries had only one dependent and that the dependent was a spouse. We made this assumption based on the average age of the beneficiaries analyzed and to simplify our tax and take-home pay calculations. In cases where there is more than one dependent, and therefore more exemptions for tax purposes, take-home pay would be higher and the replacement rate would be lower. Appendix II, table II.6 shows the effects of different exemption assumptions on take-home pay replacement rates. Because few beneficiaries were injured and added to the long-term rolls after they were 65 years old, we did not consider whether additional exemptions for age or blindness may have applied in computing take-home pay.

Itemized deductions. In our computations of federal and state income taxes, we used federal and state standard deduction amounts for both single and married beneficiaries except in cases where state taxes could have exceeded federal standard deduction amounts. In these cases, our computations of federal income taxes used itemized deductions based on state income tax amounts rather than standard deduction amounts. To

support our use of the standard deduction for computing income taxes, we used 1995 Internal Revenue Service (IRS) information on tax filers who itemized deductions to show that lower income tax filers generally did not itemize deductions. Appendix II, table II.4 shows how the use of different itemized deduction amounts in computing federal income taxes would reduce take-home pay replacement rates. Appendix II, figure II.5 shows the range of take-home pay replacement rates by amount of pay for single and married beneficiaries claiming different deduction amounts.

Spousal income. We assumed that if a FECA beneficiary received the dependent benefit, the dependent was a spouse. For our principal analyses, we assumed the spouse had no income. If spouses did have income, the beneficiaries' effective take-home pay replacement rates would have been higher. Examples of the effect of spousal income on take-home pay replacement rates are shown in appendix II, figure II.4.

In estimating federal income taxes for our principal analyses, we generally computed taxable income by deducting amounts for federal standard deductions (i.e., \$4,150 for a single individual or \$6,900 for a couple filing a joint return) and exemptions (i.e., \$2,650 for each exemption) from beneficiaries' gross pay adjusted to 1997 levels and applied 1997 federal income tax rates. Because over 25 percent of the FECA beneficiaries analyzed were single and because the average age of all beneficiaries analyzed was 61, we did not consider the effects of earned income tax credits<sup>17</sup> in computing federal income taxes. If we had considered this credit for eligible FECA beneficiaries, effective take-home pay replacement rates would have been lower.

In computing take-home pay for FECA beneficiaries who resided in states with an income tax, we took into account amounts the states allowed for standard deductions, spousal exemptions, and, where appropriate, other deductions or tax credits that were based on gross income in computing state income taxes. We obtained information on 1997 state income tax rates, exemptions, and standard deductions from the Research Institute of America's All States Tax Handbook and individual state's income tax forms and instructions. The residents of some states could be subject to county or city income taxes. However, we did not attempt to identify and

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<sup>17</sup>In 1997, tax filers with earned income under \$25,760, if there were one qualifying child, or \$29,290, if there were more than one qualifying child, may have been eligible for an earned income tax credit that would have either reduced their taxes or enabled them to receive a cash payment from the federal government. The amount of the credit would have depended on the filer's income and could have amounted to as much as \$2,210, if there were one qualifying child, or \$3,656, if there were more than one qualifying child.

take these types of taxes into consideration in computing FECA beneficiaries' take-home pay because it would have been time consuming and expensive to do so. If applicable, deductions for these taxes from pay would serve to increase take-home pay replacement rates.

Our comparison of FECA benefits with the current value of take-home pay did not take into consideration beneficiaries' projected salary growth that might have resulted from merit pay increases or promotions had they not been injured. Assumptions about beneficiaries' potential promotions would have been very speculative. Also, other studies we reviewed in developing our replacement rate methodology did not consider future promotion potential to be a factor in calculating replacement rates.

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## Career Patterns

To obtain information on the career patterns of workers in selected occupations that were the same as the occupations of FECA beneficiaries, we first used occupational code data from OWCP's automated systems to identify the most frequently coded occupations of FECA beneficiaries. Usable information on beneficiaries' occupations was available for only 9,900 of the 30,057 workers we analyzed. According to an OWCP analyst, Labor has required agencies to furnish occupational code information for injured workers since October 1986. However, many of the cases that we analyzed were established before then.

For the 9,900 FECA beneficiaries for which occupational code information existed, over 550 different occupations were represented. As agreed with your office, we developed career pattern information for workers in the following occupations—letter carrier, postal distribution, nurses, and air traffic controllers. We selected these occupations because they were either the occupations (1) that were coded the most frequently or (2) for which many beneficiaries were likely to be employed by the same agency. We interviewed officials from the Postal Service, FAA, and VA who were familiar with the career patterns of employees in these occupations. We supplemented and compared this information with readily available personnel data on active employees obtained from either these agencies or OPM. In addition, for workers in other frequently cited occupations, we compared aggregate age and pay information from OPM's Central Personnel Data File<sup>18</sup> with FECA information on beneficiaries with the same occupations. Due to time constraints, it was beyond the scope of our review to analyze the many factors that could be involved in determining

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<sup>18</sup>The Central Personnel Data File is an automated information system containing individual records for most federal civilian employees. Information on an employee's date of birth, occupation, and basic pay is included in this system.

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the extent to which beneficiaries' career progression was affected by their injuries.

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## **Characteristics of Beneficiaries**

To determine beneficiaries' FECA benefit amounts, current ages, ages when injured, and other characteristics, we relied on data from OWCP's automated claims management and compensation payment system. We developed information on beneficiaries' characteristics for 30,057 beneficiaries—nearly 23,250 beneficiaries for whom we developed replacement rate information and approximately 6,800 of the remaining 11,460 beneficiaries on the long-term rolls who were receiving FECA wage-loss compensation benefits of either 66-2/3 or 75 percent of gross pay.

We did not verify the information on beneficiaries' characteristics obtained from OWCP's automated systems. According to OWCP officials, they generally believed the information from these systems to be highly reliable when used in the aggregate. For purposes of our analyses, we used the date of injury for computing FECA benefits and pay at the time of injury. An OWCP analyst told us that information on effective dates of some beneficiaries' pay rates may not always be available or accurate because beneficiaries may have (1) been on and off the rolls over a period of years or (2) suffered from occupational diseases rather than traumatic injuries.

Our work was done in Washington, D.C., between October 1997 and July 1998 in accordance with generally accepted government auditing standards. We requested comments on a draft of this report from the Secretary of Labor. Labor's comments are summarized at the end of the letter and are presented in full in appendix IV.



# Additional Information on Factors and Assumptions Affecting Replacement Rates

The following sections discuss in more detail the factors and assumptions that influenced the estimated replacement rates presented in the letter.

Dates of Injury Influenced Replacement Rates

More recently injured beneficiaries generally had lower replacement rates, on average, than those who were injured many years ago. Over the years, FECA benefits were increased by cost-of-living allowances that exceeded general schedule pay comparability increases that beneficiaries would have received had they not been injured. Table II.1 shows average replacement rates based on year of injury and the number of beneficiaries injured during each period.

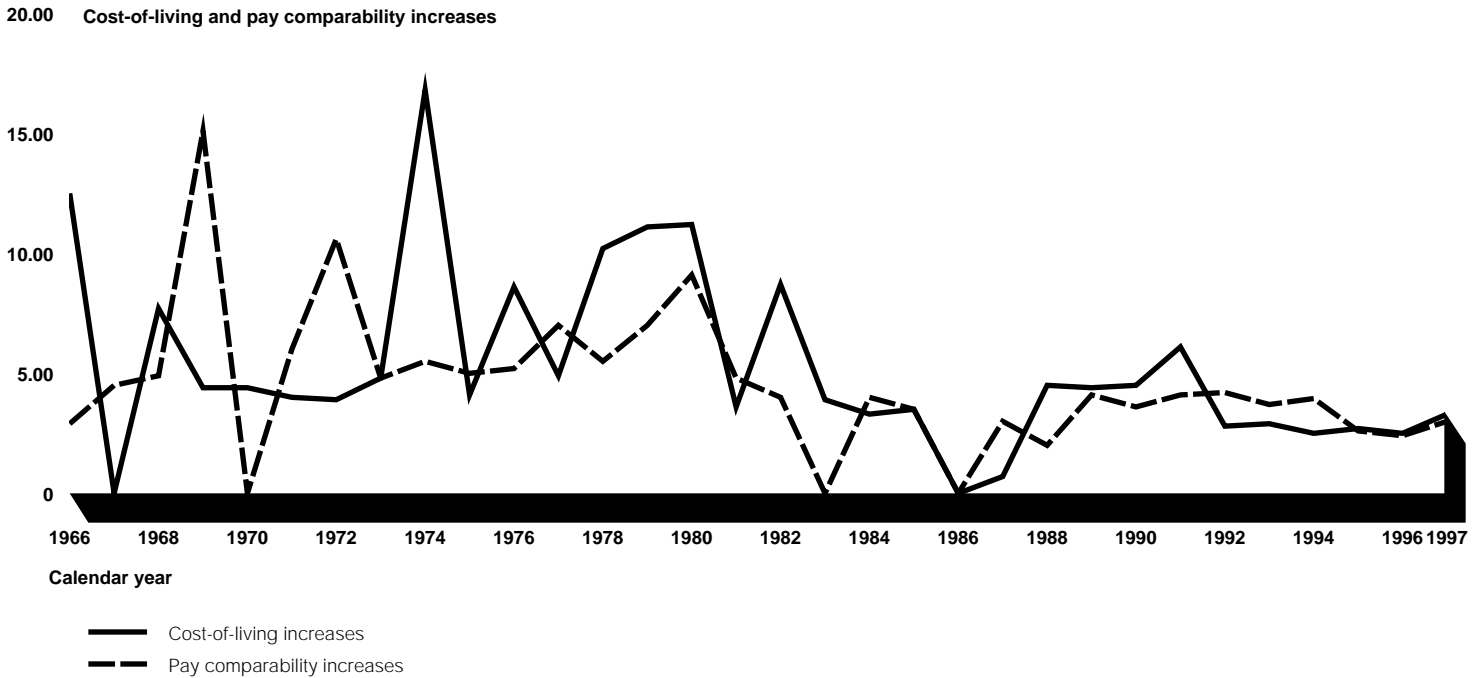
Table II.1: Replacement Rates Based on Date of Injury

Dates of injury	Number of beneficiaries	Average replacement rates
After 1989	4,408	90.2
1985 to 1989	5,674	90.3
1980 to 1984	3,669	90.2
1975 to 1979	4,204	98.6
1970 to 1974	3,170	108.5
Before 1970	2,132	105.8

Source: GAO analyses of OWCP data.

Since 1966, FECA cost-of-living and general schedule pay comparability increases have generally differed in amounts and effective dates. Amounts of cost-of-living or pay comparability increases to which beneficiaries would have been entitled depended on their dates of injury. Figure II.1 compares FECA cost-of-living increases with pay comparability increases for each year from 1966 to 1997.

Figure II.1: Comparison of Cost-of-Living and Average Pay Comparability Percentage Increases (1966 to 1997)



Source: GAO analysis of OWCP and OPM information.

Table II.2 shows the cumulative amount of cost-of-living and pay comparability increases that beneficiaries injured before selected dates would have received through June 1997.

**Table II.2: Cumulative Amounts of Cost-of-Living and Pay Comparability Increases for Selected Beneficiaries<sup>a</sup> From Date of Injury to June 1997**

Beneficiaries injured before January	Increases between January 1970 and June 1997	
	Sum of FECA cost-of-living increases (percent)	Sum of average pay comparability increases if not injured (percent)
1970	143.9	118.7
1975	110.0	91.8
1980	71.1	62.1
1985	40.4	40.2
1990	27.3	27.6
1995	8.5	8.0

<sup>a</sup>Cost-of-living increases are provided to injured employees who stopped work on account of an injury more than 1 year prior to the effective date of the increase.

Source: GAO analyses of OWCP and OPM data.

## Higher Pay and Progressive Tax Rates Increased Replacement Rates

Replacement rates vary for workers receiving different amounts of pay. Because federal and many state tax rates are progressive, higher pay levels generally mean higher taxes. Higher tax rates reduce take-home pay, thereby increasing replacement rates. Conversely, in states with no state income taxes, replacement rates for beneficiaries with the same income would be lower than they would be in states with an income tax.

In 1997, for single individuals, federal income tax rates were 15 percent on taxable income up to \$24,650, 28 percent on taxable income up to \$59,750, and 31 percent on taxable income up to \$124,650. For married individuals filing jointly, federal income tax rates were 15 percent of taxable income up to \$41,200, and 28 percent of taxable income up to \$99,600.<sup>19</sup>

Table II.3 shows that average replacement rates generally increased as beneficiaries' pay increased. Higher pay would generally be subject to higher income tax rates, which cause an increase in replacement rates.

<sup>19</sup>While higher federal income tax rates exist for single and married taxpayers, these rates would generally not apply to federal workers unless they had income from sources other than their salaries or their spouses had taxable income.



**Appendix II**  
**Additional Information on Factors and**  
**Assumptions Affecting Replacement Rates**

**Table II.3: Average Take-Home Pay Replacement Rates for Beneficiaries at Various Pay Levels Before Their Injury as of June 1997**

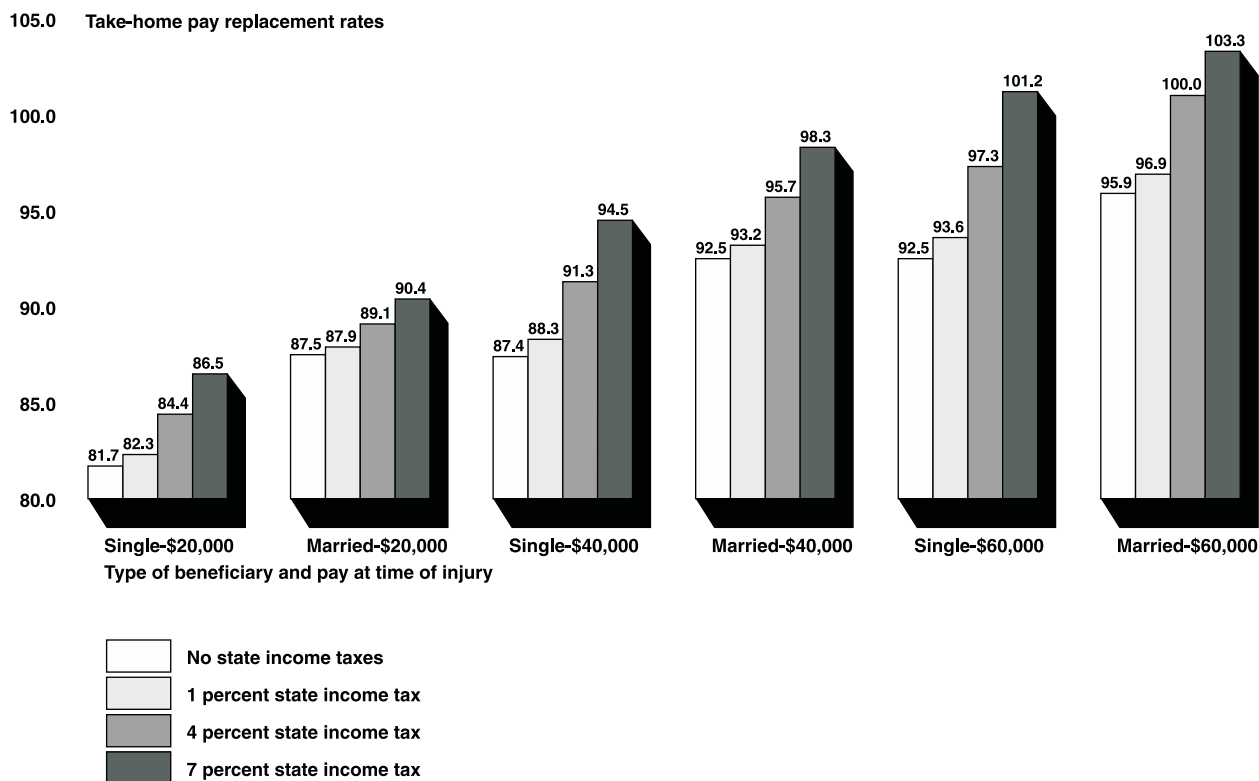
Current value of pay	Number of beneficiaries	Average replacement rate
Under \$20,000	1,407	90.7
20,000 to 29,999	7,204	94.9
30,000 to 39,999	9,293	95.1
40,000 to 49,999	3,019	95.8
50,000 to 59,999	1,074	100.1
60,000 to 69,999	654	105.7
70,000 to 79,999	349	107.4
80,000 and over	257	106.5

Source: GAO analysis of OWCP data.

In addition to changes in take-home pay replacement rates related to progressive federal income tax rates, many FECA beneficiaries lived in states that also taxed income. Beneficiaries living in states with income taxes would have less take-home pay and thus higher replacement rates. Of the 23,257 beneficiaries for whom we developed replacement rate information, about 17,200 lived in 15 states with a state income tax. Of these 15 states, 3 had flat tax rates ranging from 2.8 to 5.95 percent of income, and 12 had progressive tax rates ranging from 0.5 to 9.3 percent of income. In addition, one state had an income tax but did not tax earnings from salaries or wages. In computing state income taxes, we considered exemption and standard deduction amounts allowed by the states in making our calculations.

Our estimate of the average take-home pay replacement rate for all beneficiaries for whom we developed information was about 95 percent; for beneficiaries in states without an income tax, about 94 percent; and for beneficiaries in states with an income tax about, 96 percent. Figure II.2 shows how different state income tax rates would influence replacement rates for beneficiaries earning various amounts of pay.

Figure II.2: Influence of State Income Tax Rates on Replacement Rates



Note: For these scenarios, in which no specific states' income tax laws apply, we computed state income taxes based on federal taxable income amounts. Using these amounts has the effect of slightly understating amounts of state taxes paid because federal standard deduction and exemption amounts were generally higher than amounts allowed by the states.

Source: GAO computations.

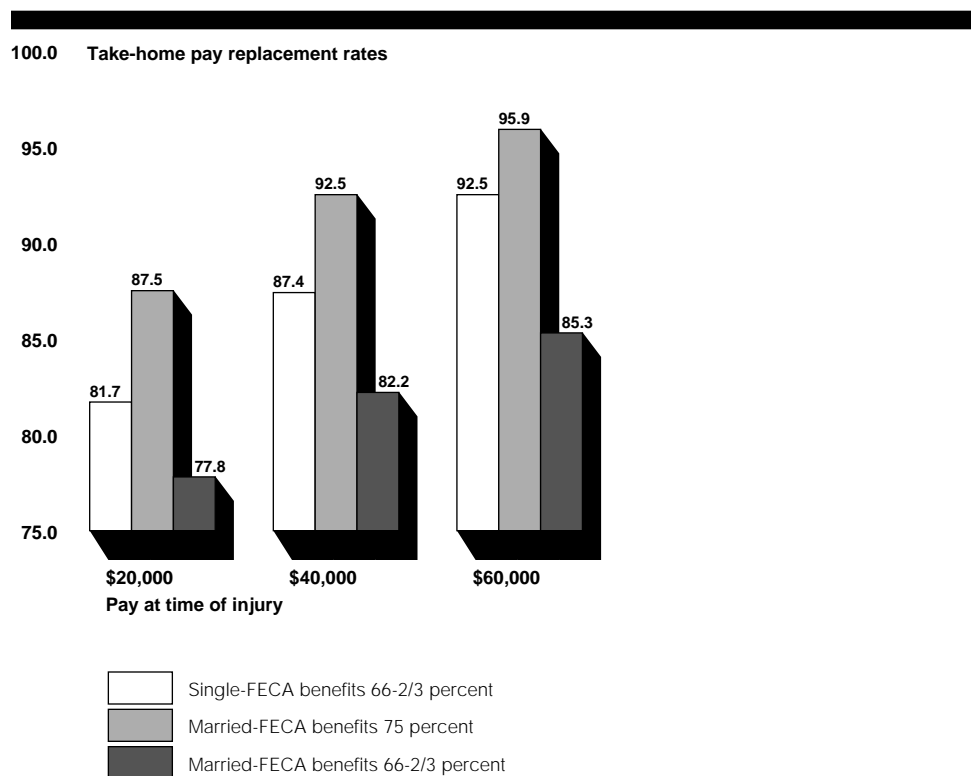
Some beneficiaries lived in areas, such as counties and cities, that also taxed income. For our analysis, however, we did not identify or consider amounts of income taxes paid to local jurisdictions. Had we included these taxes, they would have further reduced beneficiaries' take-home pay and increased replacement rates.

## Augmented Benefits Increased Replacement Rates

Under FECA, injured workers with one or more dependents receive workers' compensation benefits based on 75 percent of their pay before they were injured compared with benefits of 66-2/3 percent of pay for beneficiaries without dependents. Without the additional dependent's

allowance, married injured workers whose spouses did not work would have lower take-home pay replacement rates than those who were single because their standard deduction and exemption amounts would be higher than single beneficiaries and thus their taxes would be lower. Figure II.3 shows replacement rates for (1) single beneficiaries and beneficiaries with dependents based on their respective benefit levels and various pay amounts received and (2) beneficiaries with dependents if additional FECA benefits of 8-1/3 percent were not provided.

**Figure II.3: Replacement Rates for Beneficiaries Under Different Dependent and Benefit Rate Assumptions**



Source: GAO computations.

## Different Income Tax Assumptions Change Replacement Rates

In addition to the above discussed factors that affected replacement rates, the rates we computed would have been different if we had used different assumptions in calculating federal and state income taxes for each beneficiary. For example, replacement rates would have increased if we had assumed that a beneficiary's spouse had taxable income. Replacement

rates would have decreased if we had assumed that the number of exemptions or amounts of itemized deductions claimed for income tax purposes were greater than the amounts we used in our calculations.

Each of these factors and the extent of their effects are discussed in more detail in the following subsections.

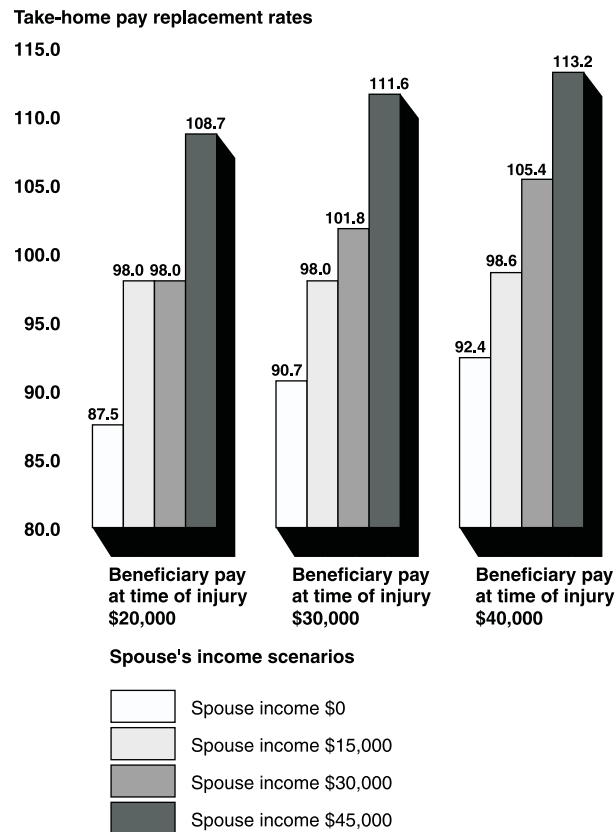
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**Spouses' Income Could  
Increase Replacement  
Rates**

The presence of a spouse with income could raise the value of nontaxable workers' compensation benefits because the couple's combined taxable income had there not been an injury might be subject to a higher tax rate. Higher tax rates equate to higher wage replacement rates. Pay earned by married workers when they returned to work after they had been injured would not be accompanied by additional exemptions or, in most cases, deductions for the couple. However, additional taxable wages based on both incomes could be subject to the same or higher tax rates than the last dollars earned by the injured worker's spouse. Compared with single-income couples, replacement rates for two-income couples are typically higher at both lower and higher incomes, according to a Workers Compensation Research Institute study.

Figure II.4 shows for beneficiaries receiving different amounts of benefits that the more taxable income a beneficiary's spouse had, the higher the replacement rate.

**Figure II.4: Replacement Rates for Beneficiaries With Spouses With Different Amounts of Taxable Income**



Source: GAO computations.

## More Tax Deductions Reduce Replacement Rates

Standard deductions for 1997 federal income tax purposes for single and joint return filers were \$4,150 and \$6,900, respectively. Using these deduction amounts and our other assumptions, percentages of pay at the time of injury adjusted to 1997 pay levels replaced by FECA benefits for single beneficiaries and beneficiaries with dependents were 92 and 97 percent, respectively. If itemized deductions were two or three times higher than the standard deduction amounts we used, replacement rates would decrease by amounts ranging from about 2 to 7 percent depending on beneficiaries' pay. Table II.4 shows examples of changes in replacement rates for single and married beneficiaries with pay of \$30,000 or \$60,000 if their itemized deductions were double or triple the 1997 standard deduction amounts.

**Appendix II**  
**Additional Information on Factors and**  
**Assumptions Affecting Replacement Rates**

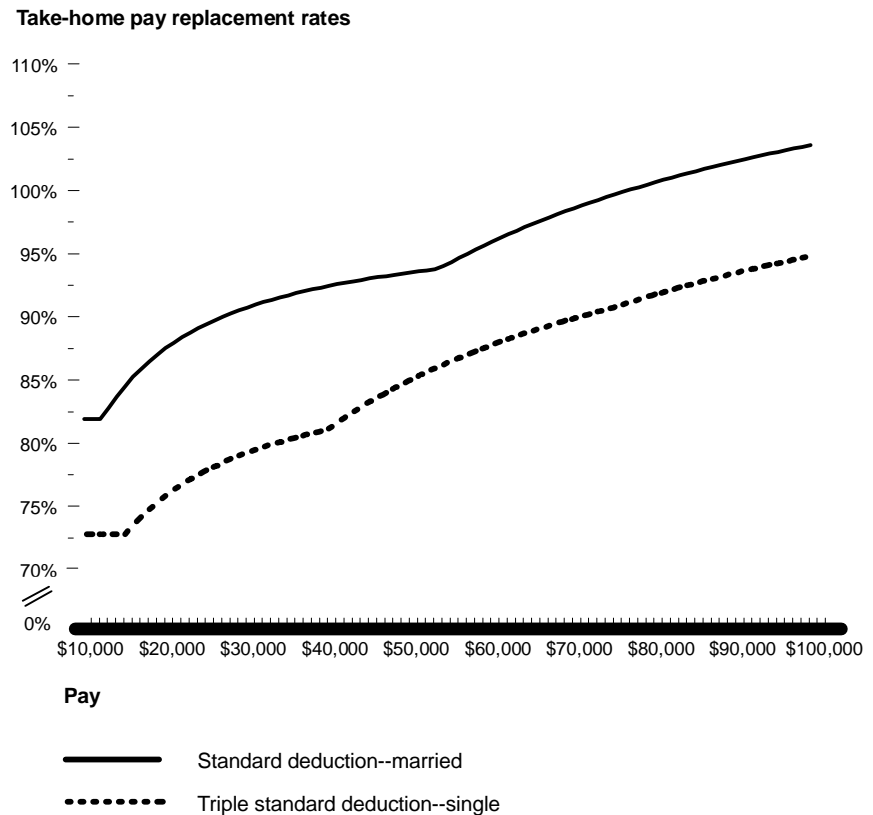
**Table II.4: Replacement Rates Based  
on Different Deduction Amounts**

	Single	Married	Single	Married
	Example 1	Example 2	Example 3	Example 4
Income	\$30,000	\$30,000	\$60,000	\$60,000
FECA benefits	20,000	22,500	40,000	45,000
CSRS contributions	2,535	2,535	5,070	5,070
Exemption(s)	2,650	5,300	2,650	5,300
Deductions				
Standard	4,150	6,900	4,150	6,900
Double	8,300	13,800	8,300	13,800
Triple	12,450	20,700	12,450	20,700
Federal taxes				
Standard	3,480	2,670	11,692	8,028
Double	2,858	1,635	10,530	6,135
Triple	2,235	600	9,368	5,100
Take-home pay				
Standard	23,985	24,795	43,239	46,902
Double	24,608	25,830	44,401	48,795
Triple	25,230	26,865	45,563	49,830
FECA as a percentage of take-home pay				
Standard	83.4	90.7	92.5	95.9
Double	81.3	87.1	90.1	92.2
Triple	79.3	83.8	87.8	90.3

Source: GAO computations.

As shown, replacement rates were highest for married beneficiaries at the higher income level who claimed standard deductions and lowest for single beneficiaries at the lower income level whose itemized deductions were three times the standard deduction amount. Figure II.5 shows these differences across different income levels. Other single or married beneficiaries whose itemized deductions were two or three times the standard deduction amounts would have replacement rates that would fall between these rates.

**Figure II.5: Deduction Amounts Influence Take-Home Pay Replacement Rates**



Source: GAO computations.

The number of FECA beneficiaries who would itemize their deductions versus those who would use the standard deduction is unknown. According to IRS data on 1995 income tax filers with adjusted gross incomes between \$10,000 and \$99,999, of the 50.9 million single taxpayers, 42.7 million (84 percent) did not itemize deductions. Of the 49.0 million taxpayers filing jointly, 25.5 million (52 percent) did not itemize deductions. IRS information shows that as income increases, the percentage of taxpayers itemizing deductions increases. While average amounts of itemized deductions increased with income, these increases were relatively small. Table II.5 shows, for various income groups, the percentage of returns claiming itemized deductions and the average amounts of deductions claimed. In 1995, standard deduction amounts for single and married beneficiaries were \$3,900 and \$6,550, respectively.

**Table II.5: Percentages of Returns Claiming Itemized Deductions and Average Amount of Deductions Claimed for Single and Married Income Groups (1995)**

Adjusted gross income <sup>a</sup>	Single		Married	
	Percentage of returns with itemized deductions	Average amount of itemized deductions	Percentage of returns with itemized deductions	Average amount of itemized deductions
\$10,000 to \$19,999	8.6	\$9,650	11.4	\$11,435
20,000 to 29,999	18.1	8,332	20.0	11,741
30,000 to 39,999	35.6	9,282	30.7	11,536
40,000 to 49,999	50.7	10,468	47.2	11,954
50,000 to 74,999	72.1	12,491	69.1	13,247
75,000 to 99,999	83.8	17,970	86.8	16,918

<sup>a</sup>Data provided for filers with incomes over \$10,000 or under \$100,000 because the pay for most FECA beneficiaries would be within this range.

Source: GAO analysis of 1995 IRS data.

In general, if FECA beneficiaries were similar to all individuals filing income tax returns in 1995, FECA beneficiaries with more pay at the time of injury would be more likely to claim itemized deductions in excess of standard deduction amounts than would those with lower pay. In such cases, our replacement rates would be overstated, particularly for beneficiaries at higher income levels. Likewise, if beneficiaries' deductions were equal to or greater than their income (thereby owing no tax), the replacement rate for single and married beneficiaries would be about 73 and 82 percent, respectively, because the relationship between take-home pay (gross pay less retirement and Medicaid contributions) and FECA benefits would always be the same.

## More Exemptions/ Dependents Reduce Replacement Rates

FECA beneficiaries are entitled to augmented benefits if they have one or more dependents. However, information on the specific number of dependents claimed by each beneficiary is not available from FECA automated data. Beneficiaries receiving the dependent benefit allowance who were eligible to claim more than the two we assumed in our income tax calculations would have lower take-home pay replacement rates than those shown in our analyses.

In 1997, taxpayers were allowed to reduce their taxable income by \$2,650 for each exemption claimed on their tax return. Table II.6 shows examples



of how increases in the number of exemptions would decrease replacement rates.

**Table II.6: Number of Exemptions Influences Take-Home Pay Replacement Rates**

<b>Income</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$60,000</b>	<b>\$60,000</b>	<b>\$60,000</b>
Number of exemptions	2	3	4	2	3	4
Exemption amount	\$5,300	\$7,950	\$10,600	\$5,300	\$7,950	\$10,600
Take-home pay	24,795	25,192	25,590	46,902	47,644	48,386
Take-home pay replacement rate	90.7	89.3	87.9	95.9	94.5	93.0

Source: GAO.

In general, each additional exemption decreased the replacement rate by about 1.5 percent.

## Other Factors Influence Replacement Rates

In addition to the above factors, workers' actual take-home pay could be affected by other deductions that we did not consider in our calculations of FECA take-home pay replacement rates because employees have a choice of whether to have their take-home pay reduced by their share of the cost of fringe and other benefits to which they may be entitled.

Examples of the deductions not included in our calculations of take-home pay were employees' thrift savings plan contributions, allotments for U.S. savings bonds, and deductions for health, life, or disability insurance. Typically, these deductions are discretionary. In the case of health and life insurance, injured workers are eligible to participate in these federal programs and could have payments for these types of insurance withheld from their workers' compensation benefits.

# Comparison of FECA and OPM Information for Individuals in the Same Occupations

Occupations	FECA information (June 1997)			OPM information (September 1997)		
	Number	Average age at time of injury	Estimated current value of pay at time of injury	Number	Average age	Average pay
Pipefitter	274	43.8	\$39,251	3,935	47.1	\$38,569
Laborer	234	43.5	26,555	4,380	39.7	22,494
Secretary	210	45.3	26,741	63,453	44.7	28,301
Material handler	164	43.6	29,058	15,347	46.5	30,208
Clerk/assistant	161	46.4	25,303	60,100	43.3	26,621
Electrician	156	46.2	39,275	2,048	46.6	42,643
Motor vehicle operator	144	47.3	31,266	6,943	48.5	30,983
Carpenter	140	44.7	34,196	2,721	48.6	35,637
Miscellaneous occupations	128	40.0	28,648	175	43.0	37,081
Custodial worker	125	47.0	24,780	11,306	47.7	22,998
Maintenance mechanic	125	45.7	34,538	11,271	47.5	35,291

Source: GAO analysis of FECA and OPM data.

# Comments From the Department of Labor

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

**U.S. Department of Labor**

Assistant Secretary for  
Employment Standards  
Washington D.C. 20210



**JUL 20 1998**

Mr. Michael Brostek  
Associate Director  
Federal Management  
and Workforce Issues  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Brostek:

This is in reply to your letter to the Secretary of Labor requesting comments on the GAO report entitled Federal Employees' Compensation Act: Percentages of Take-home Pay Replaced by Compensation Benefits.

The report does a good job of describing the various assumptions and methodology used to develop the estimates. It is very clear on how changes in each individual assumption will generally affect the replacement rates for classes of workers.

One underlying assumption which is made but not stated is that the state in which individuals currently reside is where they lived when injured, which is important in calculating state income tax. About 26 percent do not live in the state where they were injured, but the report does not state how many or what income groups moved from states with income tax to states without income tax.

Although the likelihood of promotions is analyzed for a few occupations, it was not possible to incorporate them into any calculations. Therefore, the "Results in Brief" on page 3, the end of line 4, should probably add "and had they not received any promotions from the time of injury through the present." (A similar qualification is probably needed in the section titled "Analyses of Take Home Pay Replacement Rates" on page 7). It is almost certain that some percentage of injured workers would have received promotions, thus lowering the replacement rate.

*Working for America's Workforce*

See comment 1.

See comment 2.

2

It is clear from Table II. 5 that higher income individuals and couples itemize deductions much more frequently and generally have higher deductions than their lower income counterparts. It seems, therefore, that when the report states, in connection with Table II. 4, that "replacement rates were highest for married beneficiaries at the higher income level who claimed standard deductions and lowest for single beneficiaries at the lower income level whose itemized deductions were three times the standard deduction amount," it is technically correct but somewhat misleading, as are the figures in the table. At the higher income level much smaller numbers of individuals take the standard deduction, so the 95.9 percent replacement rate is not reflective of the norm for that group. Similarly, single beneficiaries at the lower income levels are much more likely to take a standard deduction and even if they itemize, very few are likely to have deductions at three times the standard deduction, so the 79.3 replacement rate again is not reflective of the norm for that group.

See comment 3.

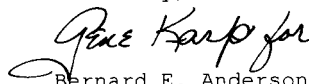
In the same vein, there is readily available information about two-earner households and the incidence of dual earnings at different income levels. This data might better inform the analysis than the assumption that all FECA beneficiaries receiving augmented compensation have a non-working spouse; standard statistical sampling techniques could enable an estimate of the number and distribution of additional dependents by household.

See p. 14.

In general, it might have been useful had GAO offered some estimates based on likely combinations of assumptions for which data is available, such as data on the relationship of income level and the likelihood of a working spouse, the likelihood of itemized deductions, and the number of exemptions claimed. When the assumptions are varied one by one, it illustrates an impact or tendency, but is probably misleading when applied universally to all cases.

The Department appreciates the opportunity to provide comments on this report.

Sincerely,



Bernard E. Anderson

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The following are comments on the Department of Labor's letter dated July 20, 1998.

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## GAO Comments

1. Labor said we made an underlying but unstated assumption that the state where beneficiaries currently resided was the state where they lived when injured. Labor added that about 26 percent of the beneficiaries did not live in the state in which they were injured, but the report did not state how many individuals or what income groups moved from states with an income tax to states without an income tax.

Regarding Labor's comment that we made an unstated assumption about beneficiaries residing in states where they lived when they were injured, we did not need to make such an assumption. Although our profile information showed that about 26 percent of the beneficiaries currently lived in states that were different from the ones in which they were injured, any differences between beneficiaries' states of residence at the time of injury and their current residences were not relevant to our computation of beneficiaries' current take-home pay replacement rates.

2. Labor suggested that our estimates of take-home pay replaced by FECA benefits be further qualified by adding language stating that we assumed beneficiaries had not received any promotions from the time of injury through the present. Labor said that it was almost certain that some percentage of injured workers would have received promotions, thus lowering the replacement rate.

Labor is in effect saying that for at least some workers the take-home pay replacement rates we developed were overstated because our estimated replacement rates were based on pay at the time of injury adjusted to 1997 pay levels and did not take into consideration the possibility that some workers, had they not been injured, would have received promotions. Higher pay rates reflecting assumed promotions, if compared to compensation benefits based on pay at the time of injury, would result in lower replacement rates.

While the subject of forgone promotions may be relevant to assessing the effects of work-related injuries on individuals' careers, neither we nor the workers' compensation studies we reviewed in developing our replacement rate methodology considered future promotion potential to be a factor in calculating replacement rates. In addition, although some employees may have been promoted had they not been injured, an

assumption by us on which employees would have received one or more promotions would be very speculative. Therefore, we did not consider it necessary to further qualify our estimates of take-home pay replaced by FECA benefits. We have revised our scope and methodology to note the reasons why we did not make an assumption regarding forgone promotions and merit pay increases.

3. In commenting on table II.4, Labor said that our estimated replacement rate of 95.9 percent for a married beneficiary who was paid \$60,000 and who took the standard deduction would not be reflective of the norm for that group because higher income individuals tend to itemize deductions. Likewise, Labor noted that our replacement rate of 79.3 percent based on a single person who was paid \$20,000 and whose itemized deductions were three times the standard deduction amount would not be reflective of the norm for that group because most single people with pay of \$20,000 would not be itemizing deductions. We did not intend the information in table II.4 to be reflective of norms for those groups of individuals. Rather, we provided these hypothetical examples to show the sensitivity of our replacement rate analyses to different assumptions about individual beneficiaries' standard or itemized deductions.

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