



**XPERIENCE
OF
DISABLED-
WORKER
BENEFITS
UNDER OASDI,**

1972-76

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EXPERIENCE OF DISABLED-WORKER BENEFITS
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A. Introduction

This Actuarial Study presents data on the incidence and termination experience (for 1972-75 and for 1973-76 respectively) for disabled-worker benefits under the Old-Age, Survivors, and Disability Insurance system (OASDI). Actuarial Study No. 74 presented data regarding the incidence and termination experience under the Disability Insurance program for 1965-73 and 1968-74 respectively. The results of the current study are based to a great degree on the methodology developed for Actuarial Study No. 74.

The primary purpose of this study is to present recent information on incidence and termination rates for the social security disability insurance (DI) program. Tables provide specific rates of the incidence and termination of disability by age and sex of the exposed population. Termination rates are further subdivided according to the length of time (duration) of entitlement to DI benefit.

These rates are an important basis for projection of future cost of the DI program. Projection of future cost requires the use of some hypotheses about future trends in incidence and termination rates. Such hypotheses can only be developed with an understanding of the forces which have influenced past disability trends. We have therefore included in this study sections B and D which provide an historic analysis of trends in disabled worker incidence and termination rates along with our hypotheses concerning the reasons for these trends. It should be emphasized that these hypotheses represent mostly our opinions and that other knowledgeable experts may disagree with us.

B. Analysis of Past Trends in the Incidence of Disability

An important cost factor in the disability insurance program is the rate at which insured workers become disabled and qualify for monthly disability benefits. This rate is generally referred to by actuaries and demographers as the "disability incidence rate".

Definitions

The disability allowance rate (the proportion of the claims filed that is awarded benefits) is not significant from a cost standpoint. This rate depends upon the number of non-qualifying claims that are filed, which may be affected by extraneous factors. As an example, many persons with non-disabling physical impairments would be likely to file claims at the time they lose their jobs in a recession. Since disability is defined as the "inability to engage in any substantial gainful activity", few if any of these persons should be awarded benefits thereby tending to decrease the allowance rate.

Table 1 presents a brief analysis of the gross disability incidence rates that have been observed from 1957-77. The gross disability incidence rate as used in Table 1 is defined as the total number of disabled-worker benefits awarded in a calendar year (all ages and both sexes combined) divided by the number of persons insured for disability at the beginning of the year (including those already receiving disability benefits). This is an approximation to the more precise definition of disability incidence rate which refers to the number of new entitlements to disability benefits in a year divided by the average number of insured workers in the year (excluding those already entitled to disability benefits). This is the only table in this study in which data are recorded according to the year of award; all other tables are by year of entitlement. Nevertheless, this table gives a good indication of the past trend in disability incidence rates.

The term "entitlement", as used in connection with the OASDI program, has a very special meaning. Entitlement occurs when all of the conditions of eligibility are satisfied (such as age, insured status, impairment, and waiting period), provided that a timely claim is filed and benefits will be awarded. The date of entitlement is not fully dependent on the date of the award. Most awards are made with retroactive benefit payments to an earlier month of entitlement. However, the month of entitlement can not be more than 12 months prior to the date of the original application.

Original and Subsequent Program Legislation

The gross disability incidence rate was initially high, due mainly to the fact that many of the benefits awarded in the early years of the program were to persons who were disabled before the inception of the program, rather than to persons who had recently become disabled. Another important factor was that only workers over age 50 could qualify for monthly benefits then, and disability incidence rates are much higher at those ages.

The gross disability incidence rate dropped significantly in 1960 with the elimination of the age 50 limitation (by bringing into the insured group a large number of younger workers with lower incidence rates). However, the effect of this change in the program did not stabilize for several years, because of the time lag in processing the awards of the newly eligible group. The new eligibility of those under age 50 resulted in so many applications from persons disabled before 1960 that the gross incidence rate for 1961 was not exceeded for over ten years.

In 1965, after the effects of the elimination of the age 50 limitations had stabilized, the definition of disability was expanded. The change in definition (from permanent disability to a disability of at least 12 months expected duration) had the effect of increasing the gross disability incidence rates. As before, the full effect of this change was not felt immediately, because of the time lag involved in processing the cases of newly eligible persons.

A provision in the 1967 Social Security Amendments eased the insured status requirements for persons under age 31.^{1/} This made many more young persons eligible for disability benefits, thus lowering the gross incidence rate (by bringing into the insured group additional young workers with lower than average incidence rates).

Economic and Social Factors in the 1970's

The gross disability incidence rate remained fairly stable from 1968 to 1970 but in the next five years (from 1970 to 1975) the gross incidence rate increased by almost 50% or at an average annual increase of 8%. This increase is far in excess of any growth that could normally be expected and cannot be explained in terms of legislated changes in the disability program, except for the small increase that may be attributable to the change in the waiting period from 6 months to 5 months in the 1972 Amendments.^{2/} We believe the major factors which contributed to higher incidence rates in the early 1970's include increasingly attractive benefit levels, a higher rate of unem-

^{1/} Insured status is defined by means of quarters of coverage. Prior to 1978 a quarter of coverage was earned for a calendar quarter if covered employment resulted in at least \$50 in wages paid in the calendar quarter or at least \$100 in self-employment earnings credited to the calendar quarter. Starting 1978 a worker earns one quarter of coverage for each \$250 in earnings from covered employment, but no more than four quarters of coverage during each calendar year. The \$250 amount will be increased each calendar year after 1978 to reflect increases in average covered wages. To be fully insured, a worker must have one quarter of coverage for each calendar year elapsing after attainment of age 21 (or the year 1950 if later) and prior to the onset of disability subject to a minimum of six quarters of coverage. To be disability insured, a worker must be both fully insured and recently connected to the labor force. Prior to the 1967 amendments, all workers needed 20 quarters of coverage out of the latest 40 calendar quarters ending with the calendar quarter of disability, to be recently connected. Since the enactment of the 1967 amendments, those workers under age 31 at onset of disability have had the advantage of an alternative and generally less restrictive definition of recent connection to the labor force. That is, they must be covered in no less than half the calendar quarters elapsing after the calendar quarter of attainment of age 21, and in no case less than 6 of the last 12 quarters, to be recently connected.

^{2/} The law as amended in 1972 makes provision for a 5-month waiting period. However, in practice this period is actually 6 to 7 months because it is measured from the beginning of the calendar month following the month of onset, and the beneficiary must live until the end of the calendar month following the 5-month waiting period to be entitled to his first benefit check.

ployment at the beginning of the decade, and an apparent increase in the social acceptance of Government benefits. The following three paragraphs explain the ways in which we feel these factors may have affected disability incidence.

Social security benefit levels rose rapidly after 1969, particularly when measured in terms of pre-disability earnings. The extent by which general benefit increases exceeded increases in prices and wages in this period is illustrated below.

	<u>General Benefit Increase</u>	<u>Average Wage and Salary Increase</u>	<u>CPI Increase</u>
From 1969 to 1973	52%	26%	21%
From 1969 to 1977	105%	68%	65%

In addition, effective in 1973, Medicare benefits became available to disabled worker beneficiaries who have been entitled for at least two years.

The increasing benefit levels in conjunction with the short computation period for young workers and additional benefits payable when the worker has dependents made it possible for some beneficiaries to receive considerably more in social security disability benefits than was included in their take home pay while they were working.^{3/} Benefits that are close to or in excess of take home pay become an incentive to file a claim for disability benefits and to pursue the claim through the appellate procedures.

For several years before 1970, unemployment rates remained below 4%. Since 1970 unemployed persons have made up over 5% of the labor force in every year except 1973 (4.9%). Economic changes affect more severely the physically impaired individuals. During a recession they are more likely to lose their jobs and to have more difficulties finding another. During expansionary times impaired individuals may keep their jobs or may settle for less demanding and lower paying jobs. Some of the additional applicants generated by high unemployment do meet the requirements for entitlement to disability benefits. Individuals who are very severely impaired (according to SSA Medical criteria for disability determinations) are generally awarded DI benefits even when previously they were engaging in substantial gainful activity with the same medical condition.

The rapid increase in Government transfer payments in general in recent years^{4/} may have resulted not just from greater availability of aid but also from increased social acceptance of this aid. As a result there may be somewhat less desire on the part of impaired individuals to be financially

^{3/} Replacement rates for a sample of over 10,000 awards made in October 1976 are shown in Actuarial Note No. 95, "Annual Replacement Rates for Disabled Worker Beneficiaries" by Francisco R. Bayo and Joseph F. Faber.

^{4/} Government transfer payments as a percent of total personal income in the U.S. have increased from 10.0% in 1970 to 13.5% in 1977. See "Economic Indicators, March 1978, Prepared for the Joint Economic Committee by the Council of Economic Advisors", page 5.

self-sufficient than there has been in the past. The attitudes of the society are difficult to assess; however, it is our opinion that in the recent past social acceptability of government aid has played some role in bringing about increased levels of disability incidence.

Other Factors Influencing Incidence Rates in the 1970's

We believe that the above factors are responsible for a large part of the increases in the OASDI disabled worker gross incidence rates from 1970 to 1975. It is doubtful however that these factors can fully account for the average annual 8% increase experienced in this time. In addition, these factors cannot fully account for the decline in the gross incidence rate that has been experienced since 1975. The fact that unemployment dropped from 8.5% of the labor force in 1975 to less than 7.0% by the end of 1977 may partially explain the corresponding decreases in disabled worker application and incidence rates. Two additional factors which we believe contributed to both the increases in incidence rates in the early 1970's and the subsequent decline since 1975 are the affect of the Supplemental Security Income (SSI) program and certain factors in the administration of the DI program.

The SSI Program

The surge of concurrent applications experienced when Supplemental Security Income (SSI) benefits became available in 1974 contributed to a higher gross incidence rate for the DI program in 1974 and 1975. SSI applicants under age 65 who are insured under the DI program are required to apply for DI benefits (award of DI benefits does not preclude receipt of SSI benefits if total income meets SSI criteria). Since the initial rush at the outset of the program the annual rate of SSI disability applications has decreased thereby contributing to the lower rates of application and incidence experienced by the DI program since 1975. With the maturing of the SSI program its influence on DI disabled worker application and incidence rates is expected to become more stable.

DI Program Administration

The influence of program administration on disabled worker incidence rates may be subject to more controversy than any factor mentioned so far. The size and complexity of the DI program along with the inherent level of subjectivity in the disability determination make consistent administration particularly difficult to achieve. There are two factors, however, which we feel have had a generally recognized and significant impact on incidence rates: the increasing role of the multi-step appeals process and changes in the scope of SSA central office review of initial DI determinations.

The multi-step appeals process provides that a claimant who has been denied benefits may request first a reconsideration, then a hearing before an Administrative Law Judge, then appeal the hearing to an Appeals Council and ultimately take the claim to court. In fiscal year 1968 less than 9% of

all DI disabled worker allowances were made through the appeals process after a denial at the initial determinations level. This percentage has risen steadily and has exceeded 16% since fiscal year 1973. The most significant increase in the role of the appeals process may have been at the hearing level where there is face to face contact between the claimant and the Administrative Law Judge. From fiscal year 1968 to fiscal year 1975 the percent of hearings determinations that reversed earlier denials increased from 33% to 49%.

The nature and extent of SSA central office review of State Agency initial disability determinations has been subject to frequent change in the past. Effective central office review with significant feedback to State Agency claims examiners is necessary in order to maintain consistent standards from state to state and from year to year. Prior to 1972, 100% of initial determinations were reviewed before adjudication. In 1972 the rate of review was limited to 5% of initial determinations. Subsequently, in order to reduce delay in processing time, reviews were made after the adjudication. We believe that these changes in review procedures have contributed to higher incidence rates since 1972. In 1977, however, the criteria upon which initial determinations are returned to State agencies was expanded. While the review is still postadjudicative and is only based on a small sample of initial determinations the number of cases returned to State Agencies was increased significantly. We believe this increased feedback is contributing significantly toward the relative stabilization of incidence rates experienced since 1976.

C. Analysis of Data on Incidence of Disability for 1972-75 OASDI Experience

Presented in Tables 2 and 3 are the results of a study of disability incidence rates based on entitlements. These rates are the number of entitlements in each year 1972 through 1975 according to awards recorded before October 1977, divided by the average number of insured workers during the year (excluding those already entitled to disability benefits).

Entitlement vs. Onset

The incidence rates resulting from calculations based on year of entitlement are slightly different from those based on year of onset. These represent two different concepts of incidence of disability. The former refers to the year for which benefit payments start, while the latter refers to the year in which the individual becomes sufficiently impaired to qualify for benefits (regardless of the waiting period or of the time elapsed before the first benefit payment was made). Most analysts prefer to work with values based on the "onset concept", mainly because to them the important event is the occurrence of the impairment. Some analysts prefer to work with values based on the "entitlement concept", mainly because to them the important event is the payment of benefits. We believe that the "onset concept" allows for a slightly better level of homogeneity in the data needed for studies on termination of benefits, but that in practical applications the "entitlement concept" may permit a substantially higher level of accuracy in the data. The rates calculated under the "entitlement concept" also have greater applicability in making cost estimates. Overall we prefer the "entitlement concept."

One very striking effect of the use of year of entitlement basis occurred as a result of a provision in the 1972 Amendments which changed the waiting period from 6 months to 5 months. As a result, entitlements in January 1973 reflect onsets of disability that occurred both 6 months and 5 months earlier. This explains a significant portion of the increase in incidence rates from 1972 to 1973 as shown in Table 3.

Scope of the Data

Table 2 shows the number of disability benefit awards made before October 1977 by sex and age for each single year of entitlement from 1972 to 1975. These data are based on available records for all (nearly 3 million) of the awards made under the DI program after 1971 and before October 1977.

The disability incidence rates in this analysis are slightly incomplete in that they are based only on disability benefit awards actually made before October 1977 and do not include awards made after that date with entitlement prior to 1976. Obviously, for any particular year of entitlement, there will be some additional cases which are awarded in and after October 1977. This happens because of delays in filing claims, delays in processing claims, reconsideration of original denials, and because of all the delays involved in the appellate process. It is believed that this limitation results in disability incidence rates that are understated by perhaps 2% for entitlements in 1975, by about 1% for entitlements in 1974, and by insignificant amounts for earlier years.

Table 3 shows the disability incidence rates by age and sex for years of entitlement 1972 to 1975 separately. Table 4 shows an estimate of the experience for 1977 which serves as the basis or starting point for projections of disabled worker DI incidence rates. This estimate is based on the actual detailed data through 1975 and on the gross award data (not classified by age, sex, or year of entitlement) through the end of 1977.

Analysis of Data

As would be anticipated, the rates rise steadily and significantly with advancing age. The large increases in incidence rates as age increases to levels of 50-54 and 55-59 are partially due to the fact that, by regulation, progressively greater consideration for vocational factors in the claims determination process is given to persons aged 50 and over than is given to younger claimants. The increase in incidence rates from the age group 55-59 to the age group 60-64 would be more pronounced if it were not for the availability of actuarially reduced old-age benefits beginning at age 62. The availability of these benefits results in many beneficiaries electing old-age benefits rather than attempting to obtain disability benefits, since the latter requires a waiting period, involves a slower and more complicated adjudication process and includes the possibility of denial.

The age-specific disability incidence rates for women are significantly lower than those for men. At the youngest ages, the female rates are only about 50% of the male rates; at the middle ages, they are about 90% of

the male rates; while at the age group 60-64 they are about 70% of the male rates. When comparing these incidence rates between men and women it must be kept in mind that insured men and women are far from homogeneous as to occupational risks, there generally being relatively few women engaged in the hazardous occupations where the incidence of disability is higher.

D. Analysis of Past Trends in Disability Termination

Definitions

There are two types of disabled-worker benefit terminations of actuarial importance: death of the beneficiary and recovery of the beneficiary from the disability. The experience for both are discussed in this Actuarial Study. Other types of terminations either are peculiar to OASDI only, such as age 65 termination,^{5/} or are of very limited overall significance.

Table 5 presents a brief analysis of the gross termination rates that have been observed from 1957 to 1977. The gross termination rate is defined as the ratio of the number of terminations in a year to the average number of benefits in force during the year. Both death and recovery rates have changed greatly over the years. These changes are mostly the result of changes in and maturation of the program. Significant changes have occurred both in legislation and administration of the DI program. By maturation, both initially and after each program change, we mean that several years must pass before the full impact in number of beneficiaries and their distribution by duration (length of time entitled to benefits) is realized. Duration of disability is important since recently disabled beneficiaries tend to have relatively higher termination rates.

The Gross Death Termination Rate

The gross death termination rate has been decreasing almost continuously since the beginning of the program. The rate was high initially, since the program then was limited to workers age 50-64. The elimination of the age-50 limitation in the 1960 Amendments brought in many young disabled workers with correspondingly lower mortality.

Legislative Changes

The 1965 Amendments altered the OASDI definition of disability so that the requirement of permanent disability was replaced with a requirement that disability must be expected to last at least 12 months. This change resulted in

^{5/} According to administrative procedures followed under OASDI, benefits to disabled workers are terminated upon attainment of age 65, and old-age retirement benefits are automatically awarded to replace them.

the awarding of DI benefits to many persons who were expected to recover from their disability in addition to those expected to remain disabled until death. We believe these beneficiaries experience lower death rates and have contributed toward the decline in disabled worker beneficiary mortality experienced since 1965.

The easing of the insured status requirement for persons under age 31 in the 1967 Amendments brought in more younger disabled workers, who normally experience lower mortality.

Continuing Decline in Mortality

The same factors that have contributed to the decline in the death rates in the general population, particularly improved medical procedures, may also account for some of the decline in the death rates of the disabled. The gross death rate for the total population has gone from 9.5 per thousand in 1960 to 8.6 per thousand in 1977, a decrease of 9 percent. Over the same period, however, the gross death rate for disabled-workers has gone from 109.6 per thousand to 50.3 per thousand, a decrease of 54 percent.

Although all of the above reasons have contributed to the decline in the gross death termination rate, it is doubtful that they can fully account for the rather rapid decrease that has been observed. We believe that progressively less severely impaired applicants were awarded disability benefits through 1975 and consequently there is a tendency for the overall mortality rate to decline. This belief is based, at least in part, on the fact that age-sex specific disability incidence rates have nearly doubled since 1965. We believe that an increase of this magnitude cannot be explained by changes in the prevalence of impairments in the nation. Surveys^{6/} indicate that the percent of the U.S. population that perceived itself to be severely or occupationally disabled was virtually the same in 1972 as in 1966. We believe that an additional factor in the decline of the rate of death terminations is the permitting of progressively less severely impaired individuals to remain on the rolls, as will be discussed later in this section.

The Gross Recovery Termination Rate

In the administration of the OASDI disability program, benefits are terminated due to recovery if it is determined that the beneficiary can engage in substantial gainful activity. There are two types of determinations which can lead to this conclusion. The first is a determination that the beneficiary has demonstrated ability to engage in substantial gainful activity by a return to work, regardless of his medical condition. The second is a determination that, although the beneficiary is not engaging in substantial gainful activity, the physical or mental condition of the beneficiary has improved to such an extent that he is capable of engaging in substantial gainful activity.

^{6/} "Social Security Survey of the Disabled, 1966", Report No. 3, Table 1, and "Social Security Survey of the Disabled, 1972", Report No. 1, Page 1.

When the disability insurance program began, the gross recovery termination rate was very low, since immediate recovery of an individual who has just been found to be permanently disabled is very unlikely. During the first few years of the program, the rate grew as beneficiaries had more time to recover.

Legislative Changes

The gross recovery rate was significantly affected during the 1960's by legislative changes in the DI program. In the 1960 Amendments, a trial-work-period was initiated.^{7/} The immediate effect was to delay some work related recoveries, but by 1962, when the work-encouraging effect of the trial-work-period started to be felt, the recovery rate began increasing. In addition, the elimination of the age-50 limitation for benefit payments brought in younger workers with higher recovery rates. This also tended to increase the gross recovery rate for all disabled workers.

The effect of some of the provisions in the 1965 Amendments was to increase the number of recoveries. Certain provisions allowed trust fund money to be spent on the rehabilitation of disabled worker beneficiaries. The changed definition of disability resulted in benefits awarded to many less severely impaired workers who were expected to recover relatively soon after the first 12 months of disability. The full effect of these provisions was not felt until 1967, when the recovery rate reached its highest level.

Benefit Levels and DI Program Administration in the 1970's

The gross recovery rate decreased rapidly during the period 1967 to 1976, as may be seen from Table 5. We believe that this significant decrease in recovery rates is largely due to two factors: increasingly high benefit levels and changes in the administration of the program.

We believe that the number of recoveries due to disabled workers returning to work is greatly influenced by the level of benefits, particularly when measured by replacement ratios. One possible definition of a replacement ratio that is useful for detecting trends pertains to theoretical steady workers whose earnings increase at the same rate as the median. In this case, the replacement ratio is computed as the annual amount of benefits received by the newly-entitled disabled worker and his dependents divided by his after tax earnings in the year before onset of disability. On this basis the average replacement ratio of newly-entitled disabled workers with median earnings and who have qualifying dependents increased from about 60% in 1967 to over 90% in 1976, an increase of about 50%. During this time the gross recovery rate decreased to only one-half of what it was in 1967. High benefits are a formidable incentive to maintain beneficiary status especially when the value of Medicare and other

^{7/} This provision encourages beneficiaries to work by permitting trial work for 9 months without loss of benefits. Thereafter, benefits may be terminated because of recovery, as demonstrated by substantial gainful activity, even though the medical impairment is unchanged.

benefits are considered. We believe that the incentive to return to permanent self-supporting work provided by the trial work period provisions has been largely negated by the prospect of losing the high benefits.

We believe that the rate of recovery due to a determination of medical improvement declined from the late 1960's to 1976 largely because of administrative practices. Detecting medical improvement requires careful monitoring of the beneficiary's condition, necessitating large expenditures of manpower and other resources. The black lung and Supplemental Security Income programs increased workload pressures on SSA and resulted in suspension or curtailment of some administrative practices. As an example, for State Agency determinations in which expected medical recovery had not been found, the rate of central office review was reduced from 100% to 10% in 1972. During 1969 and 1970 there were in excess of 20,000 terminations due to medical recovery per year. During 1973 and 1974 the rate of termination due to medical recovery per year dropped to about half this number.

In 1977 the gross recovery rate increased considerably over the level of recent years. The rate of recovery due to return to work changed little from 1976, but the rate of recovery due to medical condition doubled. We believe that there are two primary reasons for this increase in medical recoveries. First, in 1977 administrative policies were changed so that cases investigated for possible medical recovery are now decided according to whether the beneficiary would qualify as an initial claimant. Past policy required proof of actual improvement in medical condition in order to bring about termination. Second, and we believe even more important, for cases where State Agencies find that expected medical recovery has not occurred, central office review was increased from 10% to 100% in late 1976. This rate of review was reduced to 50% as of July 1977, however, and may be reduced further in the future.

E. Analysis of Data on the Termination of Disability for 1973-76 OASDI Experience

Duration of Disability

Historically, benefit termination rates for disabled persons have been found to be heavily dependent on the duration of the disability as well as on the age of the person. This has again been found to be the case in the experience of disabled-worker beneficiaries under OASDI, as can be seen from Table 8. Although actual terminations for the different durations in this table reflect different average dates of entitlement, the general relationship between probability of termination and duration of entitlement is valid.

Scope and Nature of the Data

The termination rates by age, sex, and duration presented in Tables 9 and 12 are based on the termination experience that was recorded before September 1977 and that occurred between anniversaries in the period 1973-76. Anniversaries are measured from the month of entitlement to disability benefits, rather than the usual month of onset of disability. Before 1973, when a 6-month waiting period was applicable, entitlement normally occurred about

six and one-half months after onset of disability. A 5-month waiting period was made effective in January 1973, due to a provision in the 1972 Amendments. Therefore, entitlements included in the calculation of termination rates after 1972 normally occurred about five and one-half months after onset of disability.

The most common situations where entitlement and onset of disability are separated by periods of different lengths than the waiting period are (1) where a potential beneficiary significantly delays his claim for benefits, or (2) where the beneficiary was previously entitled to disability benefits within the preceding five years. In the second situation, no waiting period is required and entitlement normally coincides with the new onset. In the first situation, OASDI benefits may be paid in event of late filing, to cover elapsed periods of disability of up to 12 months, and therefore entitlement may occur at almost any month after the end of the waiting period, depending on the length of time between onset of disability and filing. It is believed that neither of these situations occurs often enough to significantly distort the calculated rates.

The small theoretical loss of homogeneity in measuring durations from entitlement as compared to measuring from onset of disability is more than offset in actual practice by the greater applicability of the final rates in making cost estimates, and the much greater accuracy with which the needed information is recorded.

A total 474,360 terminations is included in this study. This is distributed as follows: 291,250 male deaths, 90,950 female deaths, 73,479 male recoveries, and 18,681 female recoveries. Graduated termination rate tables have been prepared for deaths and recoveries separately, but not for the total.^{8/}

Graduation of the Data

Observed termination rates were calculated by single years of age for ages 20 to 64, for durations 0 to 4 by integral year and for durations 5 and over combined. The graduations were performed using a two-dimensional Whittaker-Henderson Type B formula described in detail in the appendix of Actuarial Study No. 74.

The termination rates were arrayed in several different ways to obtain the form which would yield the best graduation. Entries along horizontal rows were assigned first with the same age at entitlement and second with the same attained age (age at entitlement plus duration). Assigning horizontal entries in the array by age at entitlement was found to give superior results.

^{8/} The total termination rates $q_{[x]+n}^{(t)}$ can be obtained from the death rates $a_{[x]+n}^{(d)}$ and the recovery rates $q_{[x]+n}^{(r)}$ by using the formula,

$$q_{[x]+n}^{(t)} = 1 - (1 - q_{[x]+n}^{(d)}) (1 - q_{[x]+n}^{(r)})$$

The horizontal and vertical coefficients of smoothness were chosen, after several trials, so as to obtain a smooth pattern in the rates while deviating as little as possible from the actual rates. The resulting ratios of actual terminations to expected terminations are shown in Tables 6 and 7.

It should be noted that since duration is measured from the month of entitlement, the rates for all durations, including duration zero, are based on the usual definition of one year probabilities.

Analysis of Data

Mortality rates for disabled workers generally exhibit the rapid increase with age that is characteristic of general population mortality. Exceptions occur only for higher ages at early durations. For duration zero mortality rates level off and actually begin to decline around age 55 for males and around age 50 for females. The decline in mortality rates is much steeper for females and, unlike males, occurs for duration one also. This effect is assumed to be primarily due to progressively greater consideration given to vocational factors (as opposed to purely medical factors) in the disability claims determination process for older claimants. As a result older newly-entitled beneficiaries are in relatively better physical condition.

The graduated death and recovery termination rates for females are compared with those for males in Tables 13 and 14. The female mortality rates are higher than the male rates at younger ages especially at early durations. But in general the female mortality rates are lower than the male rates, as is the case in general population mortality. However, the sex differential in mortality is lower for disabled beneficiaries than for the general population.

The female recovery rates are lower than the male rates at all ages and durations. There appears to be no significant trend by age or duration in the ratio of the female recovery rates to the male rates, with most female rates being about 50%-70% of the corresponding male rates.

The lower termination rates for females are reflected in their longer expected average duration of disability entitlement based on 1973-76 OASDI experience. Table 15 indicates that young females are expected to remain entitled to benefits for in excess of 22 years on average while expected average duration for young males is only about 17 years.

In table 16 disabled worker mortality is compared with general population mortality (according to the 1974 United States Life Tables) at similar attained ages. This table further illustrates the fact that older newly-entitled disability beneficiaries have relatively better health. For males in particular, the ratio of disabled mortality at duration zero to general population mortality decreases rapidly at ages 45 and over from fairly stable ratios around 17 to 1 for younger ages. Female ratios decrease similarly with advancing age from a fairly stable ratio of about 40 to 1 for ages under 40. By age 60, disabled worker mortality is only 3 to 5 times as great as general population mortality for both sexes at all durations.

Disability Annuities

Tables 19 through 22 provide present values of monthly annuities payable to disabled workers by age at entitlement for various rates of interest. Tables 19 and 20 assume cessation of annuity payments at attainment of actual age 65. Tables 21 and 22 assume continuation of annuity payments until death for those disabled workers who have not died or recovered prior to actual age 65. Death rates for disabled workers after attainment of age 65 were estimated to approach those of the general population as age increases with convergence by attained age 80. The present value for a newly entitled disability beneficiary of a life annuity which would start at age 65 if survival and disability continue to age 65 may be calculated as the difference between annuity values shown in tables 21 and 19 for males and tables 22 and 20 for females.

F. Comparison of Termination Rates Based on 1973-76 OASDI Data To Those Based on 1968-74 Data 9/

As indicated in Section D, gross termination rates for disabled-worker beneficiaries declined steadily from 1968 through 1976 for death and for recovery terminations. A comparison of age-sex-duration specific termination rates for OASDI experience for the periods 1973-76 and 1968-74 yields the expected general decline but not without interesting exceptions.

Death Rates

Tables 23 and 24 provide ratios of the graduated death termination rates for 1973-76 OASDI experience to rates based on 1968-74 experience. The more recent rates are lower for males for all durations and for all but the youngest ages. The ratios for female death rates at durations two and greater follow essentially the same pattern as for males, but at lower durations female ratios are significantly higher than those for males. In fact, female death rates have actually increased for ages through 59 at duration zero and for ages between 25 and 39 at duration one. We believe that this trend toward higher mortality for females may partly be a reflection of a recently increasing proportion of working females engaging in full-time, more physically demanding and even more hazardous work. Overall, age-duration adjusted death termination rates have decreased almost 10% for male disability beneficiaries, but less than 1% for females from the OASDI experience of 1968-74 to that of 1973-76.

Recovery Rates

Tables 25 and 26 provide ratios of the graduated recovery termination rates for 1973-76 OASDI experience to rates based on 1968-74 experience. For durations zero and one recovery termination rates have dropped considerably between these time periods. Rates at higher durations have changed little except at the youngest ages. Since most recoveries at duration zero and one

9/ Published in Actuarial Study No. 74.

are terminated for medical reasons (as opposed to return to work) lower recovery rates at these duration indicate that there may have been decreasing administrative emphasis on medical recovery for several years through 1976. Overall, age-duration adjusted recovery rates decreased about 20% for males and females from 1968-74 OASDI experience to that of 1973-76.

Young Beneficiaries

Wide variation in termination rates for the youngest ages is of little significance since meaningful comparison between 1973-76 termination rates and rates for 1968-74 is not possible for those entitled at ages under 30. Prior to 1968 very few disability benefit awards were made to persons below age 30. Therefore rates at higher durations for 1968-74 are based on very little exposure. Due to the easing of insured status requirements for this age group included in the 1967 amendments incidence, rates for those under age 30 show a temporary bulge from 1968 through 1971. As a result a large portion of new entitlements under age 30 during this time were made to persons with disability onset well over a year prior to entitlement.

TABLE 1

Number of Awards and Gross Incidence Rates
For Disabled-Worker Beneficiaries, 1957-1977

<u>Calendar Year</u>	<u>Number Insured on January 1 (in millions)</u>	<u>Number of Awards During the Year (in thousands)</u>	<u>Gross Incidence Rate by Year of Award (per thousand)</u>
1957	10.00	179	17.90
1958 ^{1/}	10.36	131	13.79
1959 ^{1/}	11.78	178	13.95
1960	46.36	208	4.49
1961	48.51	280	5.77
1962	50.47	251	4.97
1963	51.52	224	4.35
1964	52.30	208	3.98
1965	53.32	253	4.74
1966	54.99	278	5.06
1967	55.72	301	5.40
1968	67.96	323	4.75
1969	70.12	345	4.92
1970	72.36	350	4.84
1971	74.50	416	5.58
1972	76.14	455	5.98
1973	77.80	492	6.32
1974	80.44	536	6.66
1975	83.32	592	7.11
1976	85.24	552	6.48
1977	86.64	569	6.57

^{1/} For statistical purposes the years 1958 and 1959 were defined as covering the periods January 1, 1958 to November 30, 1958 and December 1, 1958 to December 31, 1959, respectively. However, the gross incidence rates are shown after conversion to an annual basis.

TABLE 2

Number of Disability Entitlements by Calendar Year of Entitlement, Age at Entitlement, and Sex, for Awards Made Before October 1977

Calendar Age at Entitlement	Calendar Year of Entitlement			
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>MALES</u>				
Under 25	10,011	12,812	15,129	15,586
25-29	10,920	13,815	15,456	16,059
30-34	11,301	14,355	15,969	15,970
35-39	14,378	17,039	18,018	17,793
40-44	21,169	24,607	25,796	24,357
45-49	33,558	39,289	39,326	37,523
50-54	52,513	62,419	63,325	61,925
55-59	81,224	95,611	92,196	91,239
60-64 ^{1/}	97,661	114,252	107,332	103,813
Total	332,735	394,199	392,547	384,265
<u>FEMALES</u>				
Under 25	2,796	4,209	4,983	5,171
25-29	3,609	5,215	5,964	6,067
30-34	3,789	5,506	6,023	5,964
35-39	4,897	6,796	7,218	6,633
40-44	8,431	10,672	11,456	10,639
45-49	15,227	19,120	19,424	17,551
50-54	25,183	31,966	32,972	30,581
55-59	36,499	46,392	46,631	43,390
60-64 ^{1/}	33,267	42,278	42,783	40,744
Total	133,707	172,154	177,454	166,740

^{1/} Includes the limited number of cases of persons who attain age 65 in the year of entitlement.

TABLE 3

Disability Incidence Rates by Calendar Year of Entitlement, Age at Entitlement, and Sex, Based on Awards Made Before October 1977
(Rates per Thousand)

Calendar Age at Entitlement	Calendar Year of Entitlement			
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>MALES</u>				
Under 25	1.1	1.4	1.5	1.5
25-29	1.5	1.8	2.0	2.0
30-34	2.0	2.4	2.6	2.5
35-39	3.0	3.4	3.5	3.4
40-44	4.2	5.0	5.3	5.1
45-49	6.6	7.8	7.9	7.7
50-54	11.2	13.2	13.4	13.0
55-59	20.0	23.5	22.8	22.5
60-64 ^{1/}	27.6	32.2	29.4	28.8
<u>FEMALES</u>				
Under 25	.5	.7	.8	.7
25-29	.9	1.2	1.3	1.2
30-34	1.7	2.2	2.2	2.0
35-39	2.6	3.4	3.4	3.0
40-44	3.9	4.8	5.1	4.7
45-49	5.9	7.4	7.4	6.7
50-54	9.6	11.9	12.0	11.0
55-59	15.9	19.6	19.2	17.6
60-64 ^{1/}	16.5	20.6	20.4	19.0

^{1/} Includes the limited amount of experience before age 65 for persons who attain age 65 in the year of entitlement.

TABLE 4

Estimated Disability Incidence Rates by Age at Entitlement and Sex for Entitlements in Calendar Year 1977

<u>Calendar Age at Entitlement</u>	<u>Rate per Thousand</u>	
	<u>Males</u>	<u>Females</u>
Under 25	1.43	.70
25-29	1.89	1.17
30-34	2.42	2.05
35-39	3.40	3.10
40-44	4.98	4.62
45-49	7.70	6.84
50-54	12.98	11.05
55-59	22.71	18.01
60-64 ^{1/}	30.19	19.00

^{1/} Includes the limited amount of experience before age 65 for persons who attain age 65 in the year of entitlement.

Number of Terminations and Gross Termination Rates
For Disabled-Worker Beneficiaries, 1957-77

Calendar Year	Average Number In Force	Number of Terminations		Gross Termination Rates (Per Thousand)		
		Death	Recovery	Death	Recovery	Death and Recovery
1957	81,149	8,931	52	110.1	0.6	110.7
1958 ^{1/}	201,386	28,099	1,397	152.2	7.6	159.8
1959 ^{1/}	288,858	42,771	3,228	136.7	10.3	147.0
1960	397,241 ^{2/}	43,543	3,124	109.6	7.9	117.5
1961	539,876	60,538	2,936	112.1	5.4	117.5
1962	684,406	67,020	9,555	97.9	14.0	111.9
1963	789,720	73,344	12,931	92.9	16.4	109.3
1964	866,702	75,812	16,487	87.5	19.0	106.5
1965	948,294	79,823	18,441	84.2	19.4	103.6
1966	1,053,265	84,399	23,111	80.1	21.9	102.0
1967	1,158,987	92,084	37,151	79.5	32.1	111.6
1968	1,258,928	99,924	37,723	79.4	30.0	109.4
1969	1,360,423	108,762	38,108	79.9	28.0	107.9
1970	1,460,007	105,799	40,802	72.5	27.9	100.4
1971	1,586,287	109,883	42,981	69.3	27.1	96.4
1972	1,753,554	108,663	39,393	62.0	22.5	84.5
1973	1,937,430	125,582	36,696	64.8	18.9	83.7
1974	2,141,194	135,083	38,000 ^{3/}	63.1	17.7 ^{3/}	80.8 ^{3/}
1975	2,376,680	139,809	39,000 ^{3/}	58.8	16.4 ^{3/}	75.2 ^{3/}
1976	2,594,634	137,141	40,000 ^{3/}	52.9	15.4 ^{3/}	68.3 ^{3/}
1977	2,769,400	139,418	60,000 ^{3/}	50.3	21.7 ^{3/}	72.0 ^{3/}

^{1/} For statistical purposes the years 1958 and 1959 were defined as covering the periods January 1, 1958 to November 30, 1958 and December 1, 1958 to December 31, 1959, respectively. However, the gross termination rates are shown after conversion to an annual basis.

^{2/} This figure has been adjusted to take into account the elimination of the age 50 limitation in the year.

^{3/} From September 1974 through June 1977 procedures for identifying recovery terminations were defective. Numbers of recovery terminations have been estimated for years 1974 through 1977 on the basis of data from other sources.

TABLE 6

Ratio of Actual Number of Terminations to Expected Number of Terminations^{1/} by Sex and Age at Entitlement, 1973-76 OASDI Experience

<u>Calendar Age at Entitlement</u>	<u>Death Terminations</u>		<u>Recovery Terminations</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Under 25	1.00	1.02	1.00	1.02
25-29	1.01	1.01	.99	.97
30-34	1.00	.99	1.01	.97
35-39	1.00	.97	1.00	1.03
40-44	.99	.99	.99	1.02
45-49	1.01	1.02	1.01	1.02
50-54	.99	1.00	.98	.97
55-59	1.00	1.00	1.01	1.00
60-64	1.00	1.00	1.00	1.05
Total	1.00	1.00	1.00	1.00

^{1/} The expected number of terminations is computed according to the actual exposure and the graduated age-sex-duration specific termination rates.

TABLE 7

Ratio of Actual Number of Terminations to Expected
Number of Terminations^{1/} by Sex and Duration,
1973-76 OASDI Experience

<u>Duration</u>	<u>Death Terminations</u>		<u>Recovery Terminations</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
0	1.01	1.01	.98	.96
1	.98	.97	1.02	1.04
2	1.00	.99	.98	.97
3	1.01	1.02	.99	.98
4	1.01	1.01	1.01	.99
5 and Over	1.00	1.00	1.00	1.01
Total	1.00	1.00	1.00	1.00

^{1/} The expected number of terminations is computed according to the actual exposure and the graduated age-sex-duration specific termination rates.

TABLE 8

Ratio of Actual Number of Disabled Worker Terminations
To Number Expected Based on Non-Select Termination Rates, $\frac{1}{2}$
By Sex and By Duration, 1973-76 OASDI Experience

Duration	Termination By Death			Termination By Recovery		
	Male	Female	Total	Male	Female	Total
0	1.48	1.67	1.53	.80	.75	.79
1	1.01	1.07	1.03	2.21	2.17	2.20
2	.89	.82	.87	1.34	1.37	1.35
3	.87	.76	.84	.81	.77	.80
4	.85	.72	.82	.56	.47	.54
5	.89	.77	.86	.47	.42	.46
6	.79	.70	.77	.38	.35	.37
7	.79	.70	.77	.31	.31	.31
8	.72	.65	.71	.26	.25	.26
9	.74	.68	.72	.23	.28	.24
10	.75	.74	.75	.17	.20	.18
11	.73	.76	.74	.19	.22	.20
12	.74	.71	.74	.17	.19	.17
13	.77	.76	.77	.15	.21	.16
14	.74	.72	.74	.12	.19	.13

$\frac{1}{2}$ Expected terminations are actual age-sex-duration specific exposures multiplied by ungraduated age-sex specific termination rates for all durations combined.

TABLE 9

Graduated Select and Ultimate Death Termination Rates
For Male Disabled Workers, 1973-76 QASDI Experience

(Per Thousand)

x	$q_{[x]}^{(d)}$	$q_{[x]+1}^{(d)}$	$q_{[x]+2}^{(d)}$	$q_{[x]+3}^{(d)}$	$q_{[x]+4}^{(d)}$	$q_{x+5}^{(d)}$	x+5
20	29.9	19.5	13.7	10.9	9.5	8.8	25
21	30.5	20.0	14.2	11.6	10.2	9.4	26
22	31.0	20.5	14.8	12.2	11.0	9.9	27
23	31.6	21.0	15.3	12.9	11.7	10.5	28
24	32.3	21.6	16.0	13.6	12.4	11.0	29
25	33.0	22.2	16.6	14.3	13.1	11.5	30
26	33.8	22.8	17.3	15.1	13.8	12.0	31
27	34.7	23.5	18.1	15.8	14.5	12.6	32
28	35.6	24.3	18.9	16.6	15.2	13.1	33
29	36.7	25.2	19.7	17.5	16.0	13.7	34
30	37.8	26.0	20.6	18.4	16.8	14.3	35
31	39.1	26.9	21.4	19.3	17.7	15.1	36
32	40.5	27.9	22.3	20.2	18.7	16.0	37
33	42.2	29.0	23.3	21.3	19.8	17.1	38
34	44.0	30.3	24.3	22.3	20.9	18.2	39
35	46.0	31.7	25.5	23.5	22.1	19.4	40
36	48.2	33.3	26.6	24.8	23.3	20.6	41
37	50.5	35.0	27.9	26.1	24.5	21.9	42
38	53.2	36.9	29.2	27.5	25.8	23.2	43
39	56.3	38.7	30.5	28.9	27.1	24.5	44
40	59.7	40.7	32.0	30.4	28.5	25.9	45
41	63.3	42.9	33.6	31.9	30.0	27.3	46
42	67.2	45.1	35.3	33.4	31.6	28.8	47
43	71.2	47.3	37.1	35.0	33.3	30.5	48
44	75.1	49.4	38.9	36.7	35.2	32.4	49
45	78.9	51.3	40.8	38.4	37.2	34.5	50
46	82.3	53.1	42.7	40.3	39.3	36.7	51
47	85.3	54.6	44.5	42.2	41.4	39.0	52
48	87.7	56.0	46.2	44.1	43.6	41.3	53
49	89.4	57.4	47.8	46.0	45.8	43.8	54
50	90.6	58.8	49.2	47.8	48.0	46.3	55
51	91.6	60.0	50.7	49.6	50.3	48.9	56
52	92.6	61.3	52.2	51.3	52.6	51.6	57
53	93.5	62.7	53.8	53.2	55.1	54.2	58
54	94.3	63.9	55.5	55.2	57.5	56.9	59
55	94.7	65.1	57.1	57.4	59.8	59.3	60
56	94.9	66.2	58.6	59.6	62.0	61.6	61
57	94.7	67.1	60.2	61.7	63.9	63.6	62
58	94.3	67.8	61.6	63.7	65.6	65.2	63
59	93.5	68.4	63.1	65.5	67.0	66.5	64
60	92.1	68.9	64.6	67.1	68.3	—	65
61	90.4	69.5	66.0	68.6	—	—	66
62	88.4	70.2	67.3	—	—	—	67
63	86.8	71.0	—	—	—	—	68
64	85.6	—	—	—	—	—	69

Explanatory Notes: [x] denotes calendar age at entitlement.
 $q_{[x]}^{(d)}$ denotes the annual rate of death during the first year of entitlement for those lives who became entitled to disability benefits at age x.
 $q_{[x]+i}^{(d)}$ denotes the annual rate of death during the (i+1) year of entitlement for those lives who became entitled to disability benefits at age x.
 $q_{x+5}^{(d)}$ denotes the annual rate of death during the year of entitlement commencing at attained age x+5 for those lives who became entitled to disability benefits at age x or younger.

TABLE 10

Graduated Select and Ultimate Death Termination Rates
For Female Disabled Workers, 1973-76 OASDI Experience
(Per Thousand)

<u>x</u>	<u>^(d) q_[x]</u>	<u>^(d) q_{[x]+1}</u>	<u>^(d) q_{[x]+2}</u>	<u>^(d) q_{[x]+3}</u>	<u>^(d) q_{[x]+4}</u>	<u>^(d) q_{x+5}</u>	<u>x+5</u>
20	27.5	20.6	16.0	13.9	13.2	11.2	25
21	28.7	21.3	16.5	14.1	13.4	11.4	26
22	29.9	22.0	16.9	14.3	13.5	11.7	27
23	31.1	22.7	17.3	14.5	13.6	11.9	28
24	32.4	23.4	17.7	14.7	13.7	12.1	29
25	33.6	24.2	18.1	15.0	13.7	12.4	30
26	35.0	24.9	18.5	15.2	13.8	12.6	31
27	36.4	25.6	18.9	15.4	13.9	12.8	32
28	37.8	26.3	19.3	15.6	14.1	13.0	33
29	39.3	27.0	19.6	15.9	14.2	13.2	34
30	40.8	27.8	20.0	16.2	14.4	13.4	35
31	42.2	28.6	20.4	16.6	14.7	13.7	36
32	43.7	28.5	20.8	16.9	15.0	14.0	37
33	45.3	30.3	21.3	17.3	15.3	14.3	38
34	46.9	31.2	21.8	17.7	15.7	14.7	39
35	48.7	32.2	22.4	18.2	16.1	15.1	40
36	50.5	33.2	23.0	18.6	16.5	15.5	41
37	52.5	34.3	23.7	19.1	17.0	16.0	42
38	54.7	35.5	24.4	19.7	17.6	16.6	43
39	56.9	36.7	25.2	20.2	18.2	17.2	44
40	59.2	38.0	25.9	20.8	18.8	17.9	45
41	61.5	39.3	26.7	21.4	19.5	18.7	46
42	63.8	40.5	27.5	22.0	20.3	19.6	47
43	66.0	41.6	28.3	22.6	21.1	20.6	48
44	68.0	42.6	29.0	23.2	21.9	21.6	49
45	69.9	43.5	29.7	23.8	22.8	22.7	50
46	71.4	44.2	30.3	24.5	23.6	23.7	51
47	72.5	44.7	30.7	25.1	24.5	24.8	52
48	73.2	49.1	31.0	25.8	25.4	25.9	53
49	73.5	45.4	31.3	26.5	26.3	26.9	54
50	73.4	45.6	31.6	27.3	27.1	27.8	55
51	72.9	45.7	31.9	28.1	28.0	28.6	56
52	72.2	45.7	32.3	29.0	28.8	29.5	57
53	71.2	45.6	32.8	29.9	29.6	30.5	58
54	70.1	45.4	33.2	30.9	30.4	31.5	59
55	69.1	49.1	33.6	31.8	31.2	32.4	60
56	68.2	44.8	34.1	32.7	32.0	33.4	61
57	67.2	44.6	34.5	33.6	32.9	34.3	62
58	66.2	44.3	34.9	34.5	34.0	35.2	63
59	64.9	44.1	35.3	35.3	35.0	36.1	64
60	63.3	43.9	35.9	36.2	36.0	—	65
61	61.4	43.7	36.6	37.0	—	—	66
62	59.3	43.7	37.4	—	—	—	67
63	57.1	43.7	—	—	—	—	68
64	55.0	—	—	—	—	—	69

See explanatory notes at bottom of Table 9.

TABLE 11

Graduated Select and Ultimate Recovery Termination Rates
For Male Disabled Workers, 1973-76 OASDI Experience
(Per Thousand)

x	$q_{[x]}^{(r)}$	$q_{[x]+1}^{(r)}$	$q_{[x]+2}^{(r)}$	$q_{[x]+3}^{(r)}$	$q_{[x]+4}^{(r)}$	$q_{[x]+5}^{(r)}$	x+5
20	45.7	119.5	90.2	59.9	43.3	39.9	25
21	45.4	117.2	87.6	57.6	41.2	37.0	26
22	45.2	115.0	85.1	55.3	39.1	34.0	27
23	45.0	113.0	82.7	53.0	37.1	30.9	28
24	44.9	111.2	80.4	50.9	35.1	27.9	29
25	44.8	109.7	78.3	48.8	33.1	25.0	30
26	44.7	108.3	76.3	46.9	31.3	22.2	31
27	44.6	107.0	74.4	45.0	29.5	19.6	32
28	44.4	105.6	72.7	43.2	27.9	17.3	33
29	44.2	104.2	71.0	41.4	26.4	15.3	34
30	43.8	102.6	69.4	39.7	25.1	13.7	35
31	43.3	100.8	67.8	37.9	23.8	12.3	36
32	42.7	98.8	66.0	36.2	22.6	11.3	37
33	41.8	96.5	64.0	34.6	21.5	10.4	38
34	40.6	94.1	61.9	32.9	20.4	9.6	39
35	39.2	91.4	59.5	31.2	19.4	9.0	40
36	37.6	88.3	56.9	29.6	18.3	8.4	41
37	35.8	85.0	54.1	27.9	17.2	8.0	42
38	33.9	81.4	51.2	26.2	16.1	7.5	43
39	32.1	77.5	48.2	24.4	15.1	7.1	44
40	30.2	73.6	45.1	22.7	14.0	6.5	45
41	28.4	69.4	41.9	21.0	12.9	5.9	46
42	26.7	65.2	38.8	19.4	11.9	5.4	47
43	25.0	60.9	35.7	17.8	10.9	4.9	48
44	23.4	56.6	32.6	16.2	9.8	4.4	49
45	21.8	52.4	29.4	14.6	8.8	3.9	50
46	20.1	48.2	26.3	13.1	7.8	3.5	51
47	18.5	44.1	23.2	11.6	6.8	3.1	52
48	16.8	39.9	20.3	10.2	6.0	2.7	53
49	15.1	36.0	17.7	9.0	5.2	2.3	54
50	13.5	32.4	15.2	7.8	4.5	2.0	55
51	11.9	29.0	13.1	6.8	3.9	1.8	56
52	10.4	26.0	11.2	5.9	3.4	1.6	57
53	9.1	23.3	9.6	5.1	3.0	1.4	58
54	7.9	20.7	8.3	4.3	2.6	1.3	59
55	6.8	18.3	7.1	3.7	2.2	1.1	60
56	5.8	15.9	6.1	3.1	1.9	.9	61
57	5.0	13.8	5.1	2.5	1.6	.8	62
58	4.2	11.7	4.3	2.0	1.3	.5	63
59	3.4	9.7	3.4	1.5	.9	.3	64
60	2.6	7.7	2.7	1.1	.6	—	65
61	2.0	5.7	1.9	.6	—	—	66
62	1.3	3.7	1.1	—	—	—	67
63	.7	1.7	—	—	—	—	68
64	.1	—	—	—	—	—	69

Explanatory Notes: [x] denotes calendar age at entitlement.

$q_{[x]}^{(r)}$ denotes the annual rate of recovery during the first year of entitlement for those lives who became entitled to disability benefits at age x.

$q_{[x]+i}^{(r)}$ denotes the annual rate of recovery during the (i+1) year of entitlement for those lives who became entitled to disability benefits at age x.

$q_{x+5}^{(r)}$ denotes the annual rate of recovery during the year of entitlement commencing at attained age x+5 for those lives who became entitled to disability benefits at age x or younger.

TABLE 12

Graduated Select and Ultimate Recovery Termination Rates
For Female Disabled Workers, 1973-76 OASDI Experience

(Per Thousand)

<u>x</u>	<u>q^(r)_[x]</u>	<u>q^(r)_{[x]+1}</u>	<u>q^(r)_{[x]+2}</u>	<u>q^(r)_{[x]+3}</u>	<u>q^(r)_{[x]+4}</u>	<u>q^(r)_{[x]+5}</u>	<u>x+5</u>
20	28.9	69.1	56.6	37.5	23.2	15.3	25
21	28.1	67.5	54.5	35.5	21.9	14.5	26
22	27.3	65.8	52.4	33.5	20.6	13.8	27
23	26.4	64.1	50.4	31.6	19.3	13.0	28
24	25.6	62.4	40.4	29.7	18.0	12.2	29
25	24.8	60.7	46.5	28.0	16.8	11.4	30
26	24.1	58.9	44.8	26.4	15.6	10.7	31
27	23.4	57.3	43.1	25.0	14.6	10.0	32
28	22.7	55.8	41.6	23.7	13.6	9.3	33
29	22.1	54.4	40.1	22.6	12.8	8.7	34
30	21.4	53.2	38.9	21.6	12.1	8.1	35
31	20.8	52.1	37.7	20.8	11.4	7.6	36
32	20.2	51.1	36.7	20.0	10.9	7.1	37
33	19.6	50.1	35.8	19.4	10.4	6.6	38
34	19.1	49.2	34.9	18.8	10.0	6.2	39
35	18.6	48.4	34.0	18.2	9.6	5.9	40
36	18.1	47.4	33.1	17.6	9.2	5.6	41
37	17.7	46.4	32.1	17.0	8.9	5.4	42
38	17.3	45.3	31.1	16.3	8.5	5.1	43
39	16.9	44.0	30.0	15.6	8.1	4.8	44
40	16.4	42.5	28.8	14.8	7.7	4.6	45
41	15.8	40.9	27.5	14.0	7.3	4.3	46
42	15.1	39.0	26.2	13.1	6.8	4.0	47
43	14.4	37.1	24.7	12.2	6.2	3.7	48
44	13.7	35.0	23.1	11.2	5.7	3.4	49
45	12.9	32.8	21.3	10.2	5.1	3.1	50
46	12.1	30.6	19.3	9.2	4.6	2.3	51
47	11.3	28.2	17.3	8.2	4.2	2.5	52
48	10.4	25.8	15.3	7.2	3.7	2.3	53
49	9.6	23.5	13.4	6.3	3.3	2.0	54
50	8.7	21.2	11.5	5.5	2.9	1.7	55
51	7.9	19.0	9.9	4.7	2.5	1.5	56
52	7.1	16.9	8.5	4.0	2.2	1.2	57
53	6.3	14.9	7.2	3.4	1.9	1.0	58
54	5.6	13.1	6.1	2.8	1.5	.8	59
55	4.9	11.4	5.2	2.3	1.3	.7	60
56	4.3	9.9	4.3	1.8	1.0	.5	61
57	3.7	8.5	3.5	1.4	.8	.4	62
58	3.1	7.1	2.8	1.1	.5	.3	63
59	2.5	5.8	2.2	.7	.3	.1	64
60	2.0	4.6	1.6	.4	.1	—	65
61	1.5	3.4	1.0	.1	—	—	66
62	1.0	2.2	.5	—	—	—	67
63	.5	1.0	—	—	—	—	68
64	.0	—	—	—	—	—	69

See explanatory notes at bottom of Table 11.

TABLE 13

Ratio of Female to Male Graduated Mortality Rates for
Disabled Workers Based on 1973-76 OASDI Experience

<u>Calendar Age at Entitlement</u>	<u>Duration</u>					
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5 and Over</u> ^{1/}
20	.92	1.06	1.17	1.28	1.39	1.27
25	1.02	1.09	1.09	1.05	1.05	1.07
30	1.08	1.07	.97	.88	.86	.94
35	1.06	1.02	.88	.77	.73	.78
40	.99	.93	.81	.68	.66	.69
45	.89	.85	.73	.62	.61	.66
50	.81	.78	.64	.57	.56	.60
55	.73	.69	.59	.55	.52	.57
60	.69	.64	.56	.54	.53	--

^{1/} Calculated at attained age 5 years older than age at entitlement.

TABLE 14

Ratio of Female to Male Graduated Recovery Rates for Disabled Workers Based on 1973-76 OASDI Experience

Calendar Age at Entitlement	Duration					
	0	1	2	3	4	5 and Over ^{1/}
20	.63	.58	.63	.63	.54	.38
25	.55	.55	.60	.57	.51	.46
30	.49	.52	.56	.54	.48	.59
35	.47	.53	.57	.58	.49	.66
40	.54	.58	.64	.65	.55	.71
45	.59	.63	.72	.70	.58	.79
50	.64	.65	.76	.71	.64	.85
55	.72	.62	.73	.62	.59	.64
60	.77	.60	.59	.36	.17	--

^{1/} Calculated at attained age 5 years older than age at entitlement.

TABLE 15

Expected Average Duration of Disability Entitlement Prior To
Termination Due to Death, Recovery or Attainment of Age 65,
Based on 1973-76 OASDI Experience

<u>Calendar Age at Entitlement</u>	<u>Expected Average Duration of Disability Entitlement (In Years)</u>	
	<u>Male</u>	<u>Female</u>
20	17.2	23.0
25	17.4	22.2
30	16.5	20.7
35	14.9	18.5
40	13.3	16.0
45	11.3	13.4
50	9.3	10.9
55	7.0	8.0
60	4.1	4.4

TABLE 16

Ratio of Disabled Worker Graduated Mortality Rates Based on
1973-76 OASDI Experience by Age, Sex, and Duration of Entitlement
to 1974 United States Population
Mortality Rates by Age and Sex

Attained Calendar Age	Duration					
	0	1	2	3	4	5 and Over
MALE						
20	14.96	---	---	---	---	---
25	16.18	10.59	7.50	5.98	5.00	4.31
30	18.82	12.55	9.41	7.87	6.87	5.78
35	18.72	12.33	9.48	8.22	7.20	5.82
40	16.85	10.92	8.24	7.37	6.58	5.45
45	13.55	8.48	6.37	5.74	5.15	4.45
50	10.11	6.41	5.17	4.71	4.39	3.85
55	6.79	4.58	3.85	3.68	3.60	3.32
60	4.24	3.15	2.83	2.84	2.85	2.73
FEMALE						
20	41.98	---	---	---	---	---
25	45.47	31.66	23.41	19.35	18.13	15.16
30	46.00	30.44	21.65	17.36	15.56	13.98
35	38.20	24.47	16.71	13.25	11.53	10.51
40	28.06	17.39	11.56	9.10	7.82	7.16
45	21.60	13.16	8.75	6.80	6.03	5.56
50	15.30	9.46	6.46	5.23	4.92	4.73
55	9.71	6.38	4.61	4.07	3.93	3.91
60	5.86	4.08	3.23	3.11	2.96	3.00

TABLE 17

Select and Ultimate Life Table for Male Disabled Workers
Based on Termination Rates for Death and Recovery,
1973-76 QASDI Experience

<u>x</u>	<u>$^1[x]$</u>	<u>$^1[x]+1$</u>	<u>$^1[x]+2$</u>	<u>$^1[x]+3$</u>	<u>$^1[x]+4$</u>	<u>$^1_{x+5}$</u>	<u>x+5</u>
20	100,000	92,572	79,915	71,712	66,680	63,186	25
21	94,455	87,416	75,628	68,021	63,363	60,130	26
22	89,473	82,779	71,761	64,686	60,363	57,365	27
23	85,021	78,629	68,281	61,676	57,651	54,865	28
24	81,072	74,934	65,162	58,965	55,205	52,609	29
25	77,567	71,646	62,369	56,530	53,000	50,575	30
26	74,449	68,714	59,871	54,344	51,018	48,743	31
27	71,668	66,096	57,637	52,382	49,234	47,088	32
28	69,172	63,744	55,625	50,608	47,618	45,584	33
29	66,906	61,607	53,801	48,993	46,144	44,207	34
30	64,817	59,637	52,127	47,511	44,789	42,933	35
31	62,859	57,790	50,569	46,133	43,527	41,738	36
32	61,000	56,033	49,091	44,831	42,332	40,600	37
33	59,206	54,341	47,672	43,582	41,182	39,499	38
34	57,449	52,690	46,288	42,369	40,061	38,422	39
35	55,710	51,064	44,928	41,181	38,958	37,361	40
36	53,982	49,453	43,584	40,010	37,866	36,309	41
37	52,263	47,847	42,248	38,848	36,780	35,262	42
38	50,560	46,245	40,917	37,690	35,697	34,215	43
39	48,881	44,652	39,594	36,537	34,615	33,169	44
40	47,244	43,084	38,289	35,394	33,540	32,127	45
41	45,652	41,548	37,007	34,264	32,474	31,091	46
42	44,104	40,044	35,747	33,146	31,417	30,062	47
43	42,589	38,568	34,507	32,041	30,369	29,039	48
44	41,082	37,108	33,279	30,942	29,324	28,014	49
45	39,574	35,660	32,057	29,843	28,277	26,987	50
46	38,049	34,215	30,838	28,745	27,228	25,955	51
47	36,504	32,773	29,619	27,643	26,171	24,915	52
48	34,937	31,338	28,401	26,537	25,108	23,870	53
49	33,362	29,919	27,185	25,429	24,042	22,822	54
50	31,784	28,514	25,970	24,316	22,973	21,772	55
51	30,229	27,134	24,765	23,203	21,904	20,722	56
52	28,714	25,784	23,573	22,092	20,836	19,673	57
53	27,235	24,462	22,396	20,987	19,771	18,628	58
54	25,784	23,168	21,238	19,894	18,714	17,593	59
55	24,346	21,890	20,091	18,810	17,665	16,572	60
56	22,928	20,632	18,960	17,740	16,631	15,571	61
57	21,532	19,396	17,847	16,688	15,619	14,598	62
58	20,169	18,191	16,760	15,661	14,635	13,659	63
59	18,849	17,030	15,712	14,671	13,690	12,761	64
60	17,578	15,917	14,707	13,721	12,788	11,908	65
61	16,369	14,861	13,750	12,819	11,933	—	66
62	15,188	13,828	12,811	11,936	—	—	67
63	14,091	12,859	11,926	—	—	—	68
64	13,103	11,980	—	—	—	—	69

Explanatory Note: 1x denotes calendar age at entitlement.
 $^1[x]$ denotes the number of lives who became entitled to disability benefits at age x.
 $^1[x]+i$ denotes the number of lives remaining disabled at age x+i of the $^1[x]$ lives who became entitled to benefits at age x.
 $^1_{x+5}$ denotes the number of lives remaining disabled at age x+5 for each life table cohort of lives who became entitled to benefits at age x or younger.

TABLE 18

Select and Ultimate Life Table for Female Disabled Workers
Based on Termination Rates for Death and Recovery,
1973-76 OASDI Experience

<u>x</u>	<u>l_x</u>	<u>l_{x+1}</u>	<u>l_{x+2}</u>	<u>l_{x+3}</u>	<u>l_{x+4}</u>	<u>l_{x+5}</u>	<u>x+5</u>
20	100,000	94,438	86,098	79,922	75,857	73,116	25
21	96,822	91,405	83,421	77,575	73,768	71,191	26
22	93,808	88,526	80,879	75,344	71,778	69,356	27
23	90,950	85,792	78,464	73,221	69,881	67,605	28
24	88,241	83,198	76,178	71,205	68,072	65,934	29
25	85,687	80,747	74,018	69,293	66,348	64,339	30
26	83,283	78,436	71,981	67,485	64,707	62,815	31
27	81,039	76,267	70,062	65,776	63,146	61,359	32
28	78,951	74,241	68,259	64,163	61,663	59,967	33
29	77,007	72,350	66,564	62,639	60,251	58,634	34
30	75,192	70,583	64,971	61,199	58,905	57,354	35
31	73,495	68,928	63,470	59,830	57,618	56,123	36
32	71,901	67,369	62,048	58,527	56,385	54,935	37
33	70,397	65,892	60,692	57,277	55,196	53,785	38
34	68,970	64,480	59,390	56,070	54,044	52,665	39
35	67,600	63,115	58,129	54,897	52,921	51,569	40
36	66,272	61,782	56,895	53,747	51,819	50,491	41
37	64,969	60,466	55,680	52,615	50,733	49,427	42
38	63,685	59,162	54,477	51,496	49,660	48,373	43
39	62,404	57,861	53,283	50,386	48,597	47,327	44
40	61,114	56,555	52,092	49,281	47,540	46,286	45
41	59,803	55,238	50,900	48,177	46,485	45,247	46
42	58,462	53,904	49,702	47,070	45,430	44,208	47
43	57,078	52,545	48,491	45,957	44,370	43,165	48
44	55,657	51,163	47,268	44,838	43,306	42,118	49
45	54,192	49,756	46,031	43,715	42,238	41,065	50
46	52,685	48,331	44,785	42,590	41,167	40,008	51
47	51,137	46,893	43,533	41,465	40,094	38,948	52
48	49,562	45,453	42,281	40,341	39,017	37,885	53
49	47,970	44,019	41,034	39,219	37,939	36,821	54
50	46,393	42,614	39,809	38,107	36,865	35,761	55
51	44,837	41,240	38,609	37,007	35,797	34,708	56
52	43,313	39,903	37,436	35,919	34,738	33,665	57
53	41,816	38,595	36,286	34,843	33,687	32,631	58
54	40,353	37,314	35,154	33,778	32,644	31,604	59
55	38,919	36,052	34,033	32,719	31,607	30,584	60
56	37,526	34,819	32,929	31,671	30,580	29,572	61
57	36,168	33,611	31,842	30,637	29,566	28,570	62
58	34,833	32,426	30,770	29,613	28,563	27,579	63
59	33,519	31,264	29,714	28,602	27,572	26,599	64
60	32,229	30,129	28,676	27,604	26,594	25,634	65
61	30,961	29,018	27,657	26,618	25,630	—	66
62	29,733	27,945	26,666	25,657	—	—	67
63	28,517	26,875	25,675	—	—	—	68
64	27,362	25,858	—	—	—	—	69

Explanatory Note: x denotes calendar age at entitlement.
 l_x denotes the number of lives who become entitled to disability benefits at age x .
 l_{x+1} denotes the number of lives remaining disabled at age $x+1$ of the l_x lives who became entitled to benefits at age x .
 l_{x+5} denotes the number of lives remaining disabled at age $x+5$ for each life table cohort of lives who became entitled to benefits at age x or younger.

TABLE 19

Present Value at Entitlement of a Monthly Annuity Payable
To a Male Disabled Worker Until Recovery, Death or Age 65,
Whichever Occurs First, Based on 1973-76 OASDI Experience

Calendar Age at Entitlement	Present Value of Annuity at ^{1/}						
	0%	1%	2%	3%	4%	5%	6%
20	206.50	177.08	154.14	135.98	121.41	109.56	99.79
21	208.12	178.76	155.76	137.51	122.81	110.83	100.94
22	209.29	180.08	157.12	138.82	124.05	111.97	101.98
23	209.93	180.09	158.14	139.87	125.07	112.93	102.88
24	209.94	181.40	158.76	140.59	125.82	113.68	103.59
25	209.34	181.31	158.97	140.97	126.29	114.19	104.11
26	208.14	180.72	158.78	141.02	126.49	114.47	104.43
27	206.36	179.66	158.19	140.74	126.41	114.52	104.56
28	204.06	178.16	157.23	140.15	126.07	114.35	104.50
29	201.31	176.27	155.94	139.28	125.49	113.98	104.27
30	198.20	174.08	154.40	138.19	124.73	113.44	103.91
31	194.82	171.64	152.63	136.92	123.81	112.78	103.43
32	191.22	169.00	150.69	135.49	122.75	111.99	102.85
33	187.49	166.22	148.62	133.94	121.59	111.12	102.19
34	183.64	163.35	146.46	132.31	120.35	110.18	101.47
35	179.75	160.41	144.24	130.62	119.06	109.20	100.72
36	175.84	157.43	141.96	128.87	117.73	108.17	99.93
37	171.88	154.40	139.63	127.07	116.33	107.09	99.09
38	167.85	151.28	137.21	125.19	114.87	105.94	98.19
39	163.73	148.06	134.68	123.21	113.30	104.71	97.21
40	159.46	144.68	132.01	121.07	111.60	103.34	95.12
41	155.03	141.14	129.17	118.79	109.75	101.85	94.90
42	150.44	137.43	126.16	116.34	107.75	100.21	93.55
43	145.72	133.58	123.01	113.75	105.62	98.44	92.08
44	140.93	129.64	119.76	111.06	103.38	96.57	90.52
45	136.10	125.64	116.43	108.28	101.06	94.63	88.88
46	131.26	121.60	113.05	105.45	98.68	92.62	87.18
47	126.43	117.54	109.63	102.56	96.23	90.55	85.42
48	121.59	113.45	106.16	99.62	93.73	88.41	83.60
49	116.71	109.29	102.61	96.58	91.12	86.18	81.68
50	111.75	105.03	98.94	93.41	88.39	83.82	79.64
51	106.63	100.58	95.08	90.05	85.47	81.26	77.41
52	101.28	95.89	90.96	86.43	82.28	78.46	74.93
53	95.70	90.95	86.58	82.55	78.83	75.39	72.20
54	89.91	85.78	81.95	78.40	75.11	72.05	69.20
55	83.92	80.37	77.07	73.99	71.12	68.43	65.92
56	77.68	74.69	71.89	69.27	66.81	64.50	62.32
57	71.16	68.70	66.38	64.19	62.13	60.18	58.34
58	64.29	62.32	60.45	58.68	57.00	55.41	53.89
59	57.00	55.48	54.04	52.66	51.35	50.10	48.90
60	49.23	48.13	47.07	46.06	45.08	44.15	43.25
61	40.88	40.14	39.43	38.74	38.08	37.44	36.82
62	31.87	31.44	31.01	30.60	30.21	29.82	29.44
63	22.11	21.91	21.71	21.52	21.33	21.15	20.97
64	11.53	11.48	11.43	11.38	11.34	11.29	11.24

^{1/} Present value at the time of the first monthly benefit payments
calculated on the basis of one unit payment per month during
continuance of disability, but not beyond attainment of age 65.

TABLE 20

Present Value at Entitlement of a Monthly Annuity Payable
To a Female Disabled Worker Until Recovery, Death or Age 65,
Whichever Occurs First, Based on 1973-76 OASDI Experience

Calendar Age at Entitlement	Present Value of Annuity at ^{1/}						
	0%	1%	2%	3%	4%	5%	6%
20	276.67	232.71	198.96	172.68	151.90	135.24	121.70
21	275.22	232.12	198.89	172.89	152.26	135.68	122.16
22	273.52	231.34	198.65	172.98	152.53	136.04	122.57
23	271.55	230.34	198.25	172.93	152.70	136.32	122.91
24	269.31	229.12	197.67	172.75	152.75	136.52	123.18
25	266.75	227.64	196.87	172.39	152.67	136.60	123.36
26	263.87	225.88	195.85	171.84	152.43	136.56	123.44
27	260.60	223.80	194.55	171.07	152.00	136.35	123.38
28	256.95	221.38	192.97	170.05	152.36	135.98	123.18
29	252.91	218.62	191.10	168.79	150.53	135.43	122.84
30	248.52	215.56	188.96	167.30	149.49	134.71	122.34
31	243.79	212.19	186.55	165.57	148.25	133.82	121.71
32	238.77	208.54	183.90	163.63	146.83	132.77	120.93
33	233.46	204.64	181.01	161.48	145.22	131.56	120.01
34	227.92	200.50	177.91	159.14	143.43	130.20	118.96
35	222.18	196.17	174.61	156.62	141.50	128.70	117.79
36	216.30	191.68	171.16	153.96	139.43	127.07	116.51
37	210.30	187.06	167.58	151.17	137.42	125.35	115.13
38	204.21	182.32	163.88	148.26	134.94	123.51	113.67
39	198.07	177.51	160.09	145.25	132.54	121.60	112.12
40	191.91	172.64	156.22	142.17	130.07	119.61	110.51
41	185.75	167.73	152.30	139.03	127.54	117.56	108.84
42	179.61	162.81	148.35	135.83	124.95	115.45	107.13
43	173.51	157.90	144.37	132.60	122.32	113.31	105.37
44	167.44	152.96	140.35	129.37	119.63	111.10	103.55
45	161.39	148.01	136.29	125.98	116.89	108.83	101.68
46	155.36	143.04	132.18	122.59	114.07	106.50	99.74
47	149.33	138.03	128.02	119.12	111.18	104.08	97.72
48	143.25	132.94	123.75	115.54	108.17	101.55	95.59
49	137.10	127.74	119.35	111.81	105.01	98.87	93.32
50	130.76	122.33	114.73	107.86	101.63	95.98	90.83
51	124.24	116.70	109.87	103.66	98.00	92.83	88.11
52	117.47	110.81	104.73	99.17	94.07	89.40	85.10
53	110.47	104.64	99.29	94.37	89.84	85.65	81.79
54	103.19	98.16	93.52	89.22	85.24	81.55	78.12
55	95.63	91.36	87.39	83.70	80.26	77.06	74.06
56	87.75	84.19	80.87	77.77	74.85	72.12	69.56
57	79.54	76.66	73.95	71.40	68.99	66.72	64.58
58	71.02	68.76	66.61	64.58	62.65	60.82	59.08
59	62.17	60.46	58.83	57.27	55.79	54.37	53.02
60	52.95	60.46	58.83	49.43	48.35	47.32	46.33
61	43.34	42.53	41.76	41.01	40.29	39.59	38.92
62	33.29	32.82	32.37	31.94	31.51	31.10	30.70
63	22.76	22.55	22.35	22.15	21.95	21.76	21.58
64	11.70	11.65	11.60	11.55	11.50	11.45	11.40

^{1/} Present value at the time of first monthly benefit payment
calculated on the basis of one unit payment per month during
continuance of disability, but not beyond attainment of age 65.

TABLE 21

Present Value at Entitlement of a Monthly Annuity Payable
To a Male Disabled Worker Until Recovery Before Age 65 or Death,
Whichever Occurs First, Based on 1973-76 OASDI Experience

Calendar Age at Entitlement	Present Value of Annuity at ^{1/}						
	0%	1%	2%	3%	4%	5%	6%
20	222.14	186.30	159.62	139.27	123.40	110.77	100.54
21	224.68	188.61	161.68	141.09	125.00	112.18	101.77
22	226.78	190.59	163.49	142.72	126.45	113.46	102.91
23	228.33	192.16	164.99	144.09	127.70	114.59	103.92
24	229.24	193.23	166.08	145.15	128.69	115.49	104.75
25	229.51	193.80	166.78	145.88	129.41	116.18	105.39
26	229.15	193.86	167.07	146.29	129.87	116.65	105.85
27	228.19	193.45	166.97	146.38	130.06	116.90	106.12
28	226.68	192.59	166.51	146.17	130.00	116.94	106.22
29	224.69	191.34	165.73	145.69	129.72	116.79	106.15
30	222.34	189.79	164.70	145.01	129.27	116.49	105.97
31	219.71	188.00	163.48	144.16	128.68	116.08	105.68
32	216.87	186.03	162.09	143.17	127.97	115.56	105.30
33	213.90	183.94	160.60	142.09	127.18	114.98	104.87
34	210.87	181.79	159.05	140.96	126.35	114.36	104.40
35	207.84	179.62	157.48	139.81	125.49	113.72	103.92
36	204.82	177.45	155.90	138.65	124.63	113.07	103.43
37	201.82	175.28	154.31	137.47	123.75	112.41	102.93
38	198.80	173.09	152.69	136.26	122.83	111.72	102.40
39	195.74	170.84	151.02	135.00	121.87	110.97	101.82
40	192.58	168.49	149.25	133.64	120.82	110.15	101.17
41	189.30	166.03	147.36	132.19	119.68	109.25	100.45
42	185.92	163.45	145.37	130.63	118.44	108.25	99.64
43	182.46	160.79	143.30	128.99	117.12	107.18	98.76
44	179.02	158.13	141.22	127.33	115.79	106.09	97.86
45	175.64	155.51	139.15	125.68	114.45	105.00	96.96
46	172.39	152.98	137.16	124.09	113.17	103.95	96.09
47	196.29	150.57	135.26	122.57	111.94	102.95	95.27
48	166.38	148.31	133.47	121.15	110.80	102.02	94.50
49	163.61	146.16	131.78	119.80	109.71	101.14	93.78
50	160.98	144.12	130.17	118.52	108.69	100.31	93.10
51	158.39	142.09	128.57	117.25	107.66	99.47	92.41
52	155.77	140.03	126.93	115.92	106.58	98.58	91.68
53	153.15	137.95	125.26	114.57	105.47	97.66	90.91
54	150.60	135.92	123.63	113.24	104.37	96.75	90.15
55	148.19	134.01	122.09	111.99	103.35	95.91	89.44
56	145.93	132.22	120.66	110.83	102.41	95.13	88.79
57	143.83	130.56	119.34	109.77	101.55	94.43	88.22
58	141.86	129.02	118.12	108.80	100.77	93.80	87.70
59	140.01	129.02	118.12	107.91	100.06	93.23	87.25
60	138.24	126.20	115.92	107.07	99.40	92.71	86.84
61	136.67	125.00	115.00	106.37	98.87	92.31	86.54
62	135.13	123.83	114.11	105.70	98.36	91.93	86.27
63	133.31	122.41	112.99	104.82	97.67	91.39	85.84
64	131.66	121.13	112.01	104.06	97.10	90.96	85.52

^{1/} Present value at the time of the first monthly benefit payments
calculated on the basis of one unit payment per month during
continuance of disability, and if still disabled at age 65, until
death thereafter.

TABLE 22

Present Value at Entitlement of a Monthly Annuity Payable
To a Female Disabled Worker Until Recovery Before Age 65 or Death,
Whichever Occurs First, Based on 1973-76 OASDI Experience

Calendar Age at Entitlement	Present Value of Annuity at ^{1/}						
	0%	1%	2%	3%	4%	5%	6%
20	321.55	258.74	214.22	181.71	157.29	138.49	123.67
21	321.57	259.58	214.96	182.50	158.06	139.20	124.33
22	321.36	259.65	215.58	183.19	158.76	139.87	124.94
23	320.89	259.83	216.06	183.79	159.38	140.47	125.50
24	320.16	259.82	216.39	184.27	159.91	141.00	126.01
25	319.12	259.57	216.54	184.61	160.33	141.45	126.45
26	317.75	259.06	216.49	184.79	160.63	141.79	126.81
27	315.98	258.24	216.19	184.78	160.76	142.00	127.06
28	313.79	257.08	215.62	184.55	160.72	142.07	127.18
29	311.18	255.60	214.78	184.10	160.50	141.99	127.18
30	308.20	253.80	213.70	183.44	160.11	141.76	127.06
31	304.85	251.71	212.37	182.59	159.56	141.40	126.82
32	301.18	249.34	210.82	181.55	158.85	140.90	126.46
33	297.21	246.73	209.05	180.33	157.99	140.28	126.00
34	292.99	243.89	207.10	178.95	156.99	139.54	125.44
35	288.57	240.88	205.00	177.44	155.88	138.71	124.80
36	284.01	237.74	202.77	175.83	154.68	137.79	124.09
37	279.37	234.51	200.47	174.15	153.42	136.83	123.33
38	274.68	231.22	198.11	172.41	152.11	135.81	122.53
39	269.98	227.90	195.71	170.64	150.77	134.78	121.72
40	265.34	224.61	193.33	168.87	149.43	133.74	120.90
41	260.79	221.38	190.98	167.13	148.11	132.72	120.09
42	256.37	218.24	188.70	165.44	146.84	131.74	119.32
43	252.14	215.23	186.53	163.84	145.63	130.82	118.61
44	248.07	212.35	184.45	162.31	144.49	129.96	117.94
45	244.20	209.62	182.49	160.89	143.44	129.17	117.35
46	240.54	207.04	180.65	159.56	142.48	128.46	116.82
47	237.09	204.63	178.95	158.36	141.62	127.85	116.38
48	233.80	202.35	177.36	157.24	140.83	127.30	116.00
49	230.65	200.16	175.84	156.19	140.11	126.80	115.67
50	227.50	197.97	174.31	155.12	139.37	126.30	115.33
51	224.33	195.75	172.75	154.03	138.61	125.77	114.98
52	221.08	193.45	171.12	152.88	137.80	125.20	114.59
53	217.79	191.10	169.44	151.67	136.93	124.59	114.16
54	214.40	188.65	167.66	150.38	136.00	123.92	113.68
55	210.94	186.12	165.81	149.02	135.00	123.18	113.14
56	207.33	183.45	163.83	147.54	133.89	122.35	112.52
57	203.62	180.68	161.74	145.96	132.69	121.44	111.83
58	199.86	177.84	159.59	144.32	131.44	120.48	111.09
59	196.05	174.95	157.38	142.63	130.14	119.48	110.31
60	192.19	171.99	155.10	140.87	128.77	118.41	109.48
61	188.26	168.95	152.75	139.03	127.33	117.28	108.59
62	184.35	165.92	150.38	137.18	125.88	116.14	107.69
63	180.38	162.81	147.94	135.25	124.35	114.92	106.72
64	177.14	160.34	146.06	133.82	123.27	114.12	106.14

^{1/} Present value at the time of the first monthly benefit payments calculated on the basis of one unit payment per month during continuance of disability, and if still disabled at age 65, until death thereafter.

TABLE 23

Adjusted^{1/} Ratios of Male Disabled Worker Termination Rates Based on 1973-76 OASDI Experience to Those Based on 1968-74 OASDI Experience, By Age at Entitlement and Duration

Calendar Age At Entitlement	Duration						Total
	0	1	2	3	4	5+	
Under 25	1.060	.977	.989	1.058	1.113	1.097	1.039
25-29	.910	.858	.896	.976	1.039	1.005	.922
30-34	.845	.802	.853	.943	.986	.941	.871
35-39	.841	.798	.833	.923	.951	.909	.863
40-44	.878	.829	.843	.908	.923	.904	.878
45-49	.918	.843	.877	.915	.933	.916	.901
50-54	.917	.857	.890	.919	.942	.931	.910
55-59	.929	.876	.907	.931	.943	.929	.920
60-64	.879	.866	.918	.951	.944	---	.889
Total	.904	.861	.898	.931	.944	.927	.905

^{1/} Ratio of Number of Terminations Based on 1973-76 Graduated Ratios to Number Based on 1968-74 Graduated Ratios, Both Applied to 1973-76 Disability Beneficiary Population.

TABLE 24

Adjusted^{1/} Ratios of Female Disabled Worker Termination Rates Based on 1973-76 OASDI Experience to Those Based on 1968-74 OASDI Experience, By Age at Entitlement and Duration

Calendar Age At Entitlement	Duration						Total
	0	1	2	3	4	5+	
Under 25	1.099	.973	.918	.961	1.106	1.190	1.036
25-29	1.289	1.062	.947	.923	.963	.997	1.098
30-34	1.295	1.052	.915	.887	.895	.909	1.063
35-39	1.226	1.020	.907	.892	.913	.943	1.039
40-44	1.185	.975	.883	.877	.930	.997	1.025
45-49	1.167	.961	.881	.890	.944	.980	1.011
50-54	1.136	.958	.886	.918	.952	.986	1.005
55-59	1.118	.950	.901	.945	.940	.958	.987
60-64	.991	.903	.904	.987	.991	---	.953
Total	1.107	.950	.897	.933	.947	.970	.995

^{1/} Ratio of Number of Terminations Based on 1973-76 Graduated Ratios to Number Based on 1968-74 Graduated Ratios, Both Applied to 1973-76 Disability Beneficiary Population.

TABLE 25

Adjusted^{1/} Ratios of Male Disabled Worker Recovery Termination Rates Based on 1973-76 OASDI Experience to Those Based on 1968-74 OASDI Experience, By Age at Entitlement and Duration

Calendar Age At Entitlement	Duration						Total
	0	1	2	3	4	5+	
Under 25	.498	.675	.860	1.077	1.343	1.758	.758
25-29	.574	.751	.921	1.038	1.112	1.185	.790
30-34	.610	.774	.932	.981	.985	.943	.789
35-39	.618	.774	.906	.915	.905	.931	.785
40-44	.636	.787	.919	.928	.920	1.017	.804
45-49	.657	.804	.918	.947	.957	.988	.812
50-54	.675	.809	.871	.914	.935	.857	.798
55-59	.682	.812	.769	.702	.654	.508	.739
60-64	.536	.496	.384	.280	.267	---	.469
Total	.609	.756	.869	.926	.982	1.002	.772

^{1/} Ratio of Number of Terminations Based on 1973-76 Graduated Ratios to Number Based on 1968-74 Graduated Ratios, Both Applied to 1973-76 Disability Beneficiary Population.

TABLE 26

Adjusted^{1/}Ratios of Female Disabled Worker Recovery Termination Rates Based on 1973-76 OASDI Experience to Those Based on 1968-74 OASDI Experience, By Age at Entitlement and Duration

Calendar Age At Entitlement	Duration						Total
	0	1	2	3	4	5+	
Under 25	.508	.759	.970	1.239	1.491	1.953	.788
25-29	.616	.832	1.034	1.153	1.140	1.239	.860
30-34	.657	.869	1.031	1.017	.884	.976	.864
35-39	.633	.838	.974	.975	.834	.982	.835
40-44	.660	.805	.955	1.022	.897	1.056	.837
45-49	.690	.822	1.000	1.013	.886	1.013	.851
50-54	.733	.844	.942	.943	.840	.928	.844
55-59	.729	.767	.714	.596	.472	.376	.693
60-64	.546	.434	.332	.144	.056	---	.419
Total	.652	.791	.919	.945	.866	.927	.801

^{1/} Ratio of Number of Terminations Based on 1973-76 Graduated Ratios to Number Based on 1968-74 Graduated Ratios, Both Applied to 1973-76 Disability Beneficiary Population.