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DISABILITY INCIDENCE RATES UNDER OASDI SYSTEM FOR DISABILITY ONSETS OCCURRING IN 1956-64

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An important cost factor in the Disability Insurance portion of the Old-Age, Survivors, and Disability Insurance system is the rate at which insured workers become disabled and qualify for monthly disability benefits or for the "disability freeze."¹ This rate is generally referred to by actuaries and demographers as the "disability incidence rate."

This Actuarial Note presents the results of a study of disability incidence rates for disabilities that had an onset in 1956-64, as represented in the awards made through 1966, plus an estimate of the awards in subsequent years for such onsets.² The disability incidence rate for a given year is defined as the number of disability awards with onset in that year per 1,000 persons who possess the required insured status. In order to make a meaningful analysis properly taking into account the lags in filing and adjudicating claims, it is necessary to proceed on a "year of onset" basis, rather than on a "year of award" basis. Even so, the resulting rates will have some limitations, as indicated later in this note.

Table 1 shows the number of disability determination awards by year of award and

by year of onset for all awards in the period 1956-66. In this 11-year period, there were 2.4 million awards. The annual number was approximately 175,000 in 1957-60, with a sharp increase thereafter, which resulted from the elimination by the 1960 Amendments, of the age-50 requirements for monthly benefits. There was a further increase in 1965, due partly to the effect of the 1965 Amendments, which changed the definition of disability from an expected "permanent" or "long-term duration" basis to an "expected duration of at least 12 months" basis. In addition, there were the minor effects of the 1964 Amendments, which permitted the "freezing" of the insured status in cases of delayed filing of claim for benefits.

Relatively few awards are made in the year of onset, because of the effects of the waiting period³ and of the lags in filing and adjudicating claims. In recent years, awards in the year of onset have been only slightly above 20% of all awards made in the year. About 55% of the awards are for onsets in the previous calendar year. This proportion decreases slowly for earlier years of onset (see Table 1). It should be noted, however,

¹The "disability freeze" provision results in the disabled worker having his insured status and his average monthly wage for benefit purposes maintained as they were when he became disabled. Since the enactment of the 1960 Amendments, which eliminated the requirement of age 50 for monthly benefits, virtually all persons who qualify for the "disability freeze" also qualify for monthly benefits (an exception being certain blind persons).

²The results of similar studies covering shorter periods were presented in Actuarial Notes No. 18, No. 36, and No. 45.

³As the law is written, this period seems to be 6 months, but actually it is 7 to 8 months, because the 6-month period is measured from the beginning of the calendar month following onset, and the beneficiary must live until the end of the calendar month following the 6-month period to receive his first benefit check.

that until the enactment of legislation in 1964, any claims filed after June 1962 had a limitation on retroactivity insofar as determining the date of onset, and whether the person then had insured status (a maximum of 18 months).⁴ The percentage was lower in 1965 than in 1963-64 due to the 1964 and 1965 Amendments, under which a large number of cases were awarded with retroactive onsets. The movement of the awards toward the shorter durations is due to earlier filing by beneficiaries, especially those under age 50, who prior to the 1960 Amendments did not have an immediate financial incentive in the form of cash benefit payments for filing as soon as possible. Also, there has been more rapid adjudication of claims.

Table 2 shows the disability allowances made before 1966 by sex and age for each individual year of onset from 1956 to 1964. These data include a total of 1.7 million awards, or about 71% of the total awards that were made under the program in the period 1956-66 (as shown in Table 1).

It would not be proper analysis to base disability incidence rates only on awards actually made up to a certain date. Obviously, for any particular year of onset, there will be additional cases in the awards of later years, particularly for the most recent years of onset. For each age-sex group, the number of awards by year of onset were estimated by plotting the cumulative awards made as of the end of each subsequent year for which data are available. The curve was then projected by graphic extrapolation to an ultimate asymptotic value. Particular attention was given to the 1965 experience on awards, since there were changes in the definition of disability in that year.

The data for awards in 1965-66 for onsets after 1964 were not believed to be an adequate base for projection. Accordingly, this estimation procedure was utilized only for years of onset 1956-64. The resulting data

are shown in Table 3, with a subdivision of the group aged 60-64, to obtain those aged 60-61 and those aged 62-64 (since, as discussed later, these two groups should be expected to be different). It may be noted that some cases are included as awards at age 65, since "age" means "age on birthday in year of onset"; it is possible for such a person to have a qualifying disability onset in the early part of a calendar year if his 65th birthday is toward the end of the year.

Table 4 shows the estimated disability incidence rates by age and sex for years of onset from 1956 to 1964 separately. As would be anticipated, the rates rise steadily and significantly with advancing age, except that for women, in all calendar years, there is a sharp drop for those aged 62-64 as compared with those aged 60-61, and in 1961-64 the same thing occurs for men. The explanation for this exception is that the availability of actuarially-reduced old-age benefits beginning at age 62 (available for women in accordance with the 1956 Amendments and for men in accordance with the 1961 Amendments) results in many beneficiaries electing such benefits rather than attempting to obtain disability benefits, which require a waiting period of 7-8 months, involve significantly longer adjudication periods than old-age benefits, and include the possibility that the disability benefit might be denied. It may be noted, however, that individuals can receive the actuarially-reduced old-age benefits after the waiting period, while the disability claim is being adjudicated (with the difference in benefit amount being paid retroactively if the disability determination is approved).

The foregoing situation was changed by the 1965 Amendments, so that now old-age benefits (on a reduced basis) can be received during the waiting period by those disabled at ages 62-64. Any disability benefit subsequently awarded is reduced to take into account the previous period during which

⁴ Benefit payments are made retroactively at the most for 12 months before the date of filing the claim (the date of award not being relevant). For example, if the date of onset were February 17, 1958, and if the claim was not filed until October 20, 1960—with award in January 1961—benefits would be payable beginning for October 1959. In this example, benefits would not be paid for the 13-month period September 1958-September 1959, because of delay in filing the claim.

old-age benefits were received (including the waiting period).

The age-specific disability incidence rates for women are significantly lower than those for men. The differentials of the male rates over the female rates are now as much as 60% at the youngest ages and at least 25% at the middle ages.

Perhaps the most important aspect of the analysis is the trend in the age-specific disability incidence rates by year of onset. It should be kept in mind, however, that because of the "projection" methodology necessarily used, the rates for the most recent years are subject to possible significant variations.

Any trends developing in regard to the disability incidence rates in the early years of operation of the program must be considered with caution, since increases therein are not necessarily indicative of truly higher disability experience. Some rise might be expected in the early years of operation as the persons covered by the system become more knowledgeable about the availability of the benefits. Individuals otherwise eligible who die before filing a claim cannot have a disability determination or award made. Thus, with all other factors being the same, if disability claims were not filed promptly in the early years (as the case has actually been), but rather more timely filing gradually occurred over the years, then the disability incidence rates would necessarily show a rising trend which would ultimately level off. However, this might not be as significant from a long-range cost standpoint as would at first seem to be the case.

If there are lags in filing claims, the disability incidence rates developed from the experience will be lower than the "true" rates based on prompt filing, but at the same time the disability termination rates⁵ would

be lower than would be the case with prompt filing, when more short-duration cases would be included in the data.

It should be kept in mind that there were changes in the definition of disability in 1965 and in the allowable retroactivity of the insured status determination in 1964. These changes had little effect on the rates for years prior to 1965. However, according to the preliminary data available, it is expected that, partly due to the change in the definition of disability, the incidence rates after 1964 will be about 5% higher for males and 6% higher for females than those shown in this Note.

The analysis of disability incidence rates by year of onset should be considered separately for ages at onset 50 and over and for younger ages at onset, because before the 1960 Amendments monthly benefits were not available until age 50. Under these circumstances, there appeared to be less incentive for younger persons to file disability claims, since they could receive only the disability freeze, plus the possibility of deferred monthly benefits beginning at age 50.

The disability incidence rates rose significantly until 1961, but thereafter remained relatively constant, showing small increases in certain cases (notably for ages 60-64). For persons under age 50 at onset of disability, the incidence rates were generally significantly higher for onsets occurring after 1959 than for those of earlier years; it is believed that this differential is due primarily to the elimination of the age-50 requirement in the 1960 Amendments, as discussed previously.

Crude analysis of the aggregate data on awards in 1967-68 seems to indicate that the incidence rates for years after 1965 may be higher than the rates for the previous years by more than the 5% to 6% indicated previously.

⁵ For an analysis of the disability termination rates, see *Actuarial Study No. 65*, "Termination Experience of Disabled-Worker Benefits Under OASDI, 1957-63."

Table 1

DISABILITY DETERMINATION AWARDS BY YEAR OF AWARD AND BY YEAR OF ONSET

Year of Award, t	Year of Onset							Total
	Year t	Year t-1	Year t-2	Year t-3	Year t-4	Year t-5	Before Year t-5	
Number of Awards								
1956	859	21,011	28,108	23,390	16,269	12,520	47,666	149,823
1957	6,007	51,716	32,629	18,200	12,747	8,879	34,825	165,003
1958	17,760	71,352	34,679	15,088	10,096	7,467	28,034	184,476
1959	22,290	83,401	29,983	11,635	6,607	5,057	19,979	178,952
1960	22,179	93,842	30,188	12,559	5,450	3,449	11,752	179,419
1961	27,247	125,185	40,302	16,475	9,217	5,055	17,579	241,060
1962	46,767	140,931	50,124	17,414	9,203	5,743	16,252	286,434
1963	48,616	125,736	30,790	9,554	4,069	2,076	3,388	224,229
1964	46,427	121,191	29,725	4,819	1,675	1,008	4,630	209,475
1965	55,679	136,109	38,164	12,949	6,216	4,092	14,529	267,738
1966	60,313	147,932	37,655	12,015	4,901	2,556	7,799	273,171
1956-66	354,144	1,118,406	382,347	154,098	86,450	57,902	206,433	2,359,780

Percentage Distribution of Awards by Year of Onset

1956	1%	14%	19%	16%	11%	8%	32%	100%
1957	4	31	20	11	8	5	21	100
1958	10	39	19	8	5	4	15	100
1959	12	47	17	7	4	3	11	100
1960	12	52	17	7	3	2	7	100
1961	11	52	17	7	4	2	7	100
1962	16	49	17	6	3	2	6	100
1963	22	56	14	4	2	1	2	100
1964	22	58	14	2	1	1	2	100
1965	21	51	14	5	2	2	5	100
1966	22	54	14	4	2	1	3	100

¹ Less than ½%.

Table 2

DISABILITY DETERMINATION AWARDS BY AGE AT ONSET AND BY
YEAR OF ONSET, BY SEX, FOR AWARDS BEFORE 1967

Age at Onset ¹	Year of Onset								
	1956	1957	1958	1959	1960	1961	1962	1963	1964
Men									
Under 25	834	681	693	722	868	889	886	828	884
25-29	2,216	2,518	2,419	2,468	3,357	3,398	3,406	3,231	3,282
30-34	2,917	3,492	3,747	4,082	5,527	5,578	5,617	5,313	5,362
35-39	3,476	4,509	4,990	5,637	8,279	8,633	8,848	8,493	8,491
40-44	4,822	5,852	6,781	7,866	11,712	12,377	13,162	12,874	13,106
45-49	8,441	9,984	11,207	13,183	17,985	18,722	19,353	19,167	18,796
50-54	15,944	19,610	22,980	25,440	29,230	30,692	31,341	31,050	30,332
55-59	24,736	29,756	34,161	38,749	42,714	45,315	47,906	48,038	46,530
60-64 ²	31,340	37,311	45,717	50,247	53,529	41,207	40,096	40,710	42,300
Total	94,726	113,713	132,695	148,394	173,201	166,811	170,615	169,704	169,083
Women									
Under 25	163	148	153	133	183	172	157	162	146
25-29	585	571	633	674	768	846	767	755	744
30-34	788	915	968	1,050	1,180	1,269	1,342	1,243	1,162
35-39	948	1,192	1,331	1,598	1,990	2,095	2,249	2,262	2,105
40-44	1,451	1,742	1,942	2,334	3,236	3,434	3,947	3,809	3,870
45-49	2,806	3,413	3,628	4,221	5,468	6,008	6,343	6,430	6,310
50-54	5,075	5,955	7,161	7,836	8,952	10,031	10,746	10,817	10,769
55-59	6,235	7,767	9,135	10,725	12,460	13,972	15,275	15,474	15,800
60-64 ²	2,703	3,495	4,864	5,595	6,957	7,921	8,577	9,330	10,202
Total	20,754	25,198	29,815	34,166	41,199	45,748	49,433	50,282	51,108

¹ Age on birthday in year of onset.

² Includes the limited number of cases of persons who attain age 65 in the year of onset.

Table 3

ESTIMATED DISABILITY DETERMINATION AWARDS BY AGE AT ONSET
AND SEX, FOR ONSETS IN 1956-64, ACTUAL AWARDS BEFORE
1967 AND ESTIMATED AWARDS AFTER 1966

Age at Onset ¹	Year of Onset								
	1956	1957	1958	1959	1960	1961	1962	1963	1964
Men									
Under 25	840	690	720	755	940	965	990	980	1,100
25-29	2,230	2,530	2,530	2,620	3,500	3,600	3,700	3,600	3,900
30-34	2,930	3,520	3,840	4,200	5,630	5,750	6,000	5,900	6,400
35-39	3,490	4,540	5,050	5,760	8,400	8,900	9,400	9,300	9,800
40-44	4,840	5,900	6,880	8,080	11,900	12,900	13,800	13,700	14,700
45-49	8,460	10,200	11,290	13,350	18,500	19,500	20,500	20,600	21,600
50-54	15,970	19,800	23,100	25,750	29,750	31,200	32,000	32,700	33,000
55-59	24,750	29,800	34,300	39,000	43,200	46,000	48,500	49,800	50,400
60-64 ²	31,340	37,320	45,750	50,260	53,600	41,500	41,000	42,000	43,000
60-61	(14,535)	(16,420)	(19,250)	(20,360)	(22,750)	(22,700)	(24,200)	(25,100)	(24,600)
62-64 ²	(16,805)	(20,900)	(26,500)	(29,900)	(30,850)	(18,800)	(16,800)	(16,900)	(18,400)
Total	94,850	114,300	133,460	149,775	175,420	170,315	175,890	178,580	183,900
Women									
Under 25	165	150	155	140	190	185	185	195	200
25-29	590	580	650	725	830	920	880	910	1,000
30-34	795	940	1,020	1,120	1,270	1,380	1,480	1,450	1,500
35-39	955	1,250	1,400	1,730	2,150	2,210	2,550	2,600	2,600
40-44	1,460	1,820	2,050	2,510	3,450	3,590	4,300	4,300	4,600
45-49	2,820	3,510	3,760	4,420	5,770	6,250	6,800	7,200	7,600
50-54	5,090	6,100	7,350	7,980	9,350	10,300	11,500	11,800	12,500
55-59	6,240	7,800	9,200	10,800	12,850	14,300	15,600	16,300	17,500
60-64 ²	2,705	3,500	4,870	5,600	6,970	8,010	8,750	9,600	10,500
60-61	(2,160)	(2,610)	(3,490)	(4,030)	(5,010)	(6,080)	(6,500)	(7,300)	(7,500)
62-64 ²	(545)	(890)	(1,380)	(1,570)	(1,960)	(1,930)	(2,250)	(2,300)	(3,000)
Total	20,820	25,650	30,455	35,025	42,830	47,145	52,045	54,355	58,000

¹ Age on birthday in year of onset.

² Includes the limited number of cases of persons who attain age 65 in the year of onset.

Table 4
 ESTIMATED DISABILITY INCIDENCE RATES BY AGE AT ONSET AND SEX,
 FOR ONSETS IN 1956-64, BASED ON ACTUAL AWARDS
 BEFORE 1967 AND ESTIMATED AWARDS AFTER 1966
 (rates per thousand)

Age at Onset ¹	Year of Onset								
	1956	1957	1958	1959	1960	1961	1962	1963	1964
Men									
Under 25	1.1	.8	.6	.5	.6	.5	.5	.5	.5
25-29	.7	.8	.8	.8	.9	.9	.8	.8	.8
30-34	.7	.8	.8	.9	1.2	1.2	1.2	1.2	1.3
35-39	.8	1.0	1.1	1.2	1.7	1.7	1.8	1.8	1.9
40-44	1.2	1.4	1.6	1.8	2.5	2.6	2.7	2.6	2.8
45-49	2.3	2.6	2.8	3.1	4.1	4.2	4.3	4.3	4.5
50-54	5.2	6.1	6.8	7.1	7.7	7.7	7.8	7.8	7.7
55-59	10.4	11.8	12.9	13.8	14.0	14.1	14.4	14.3	14.1
60-64 ²	16.8	18.7	22.2	22.7	22.3	17.8	18.7	19.1	19.2
60-61	(16.3)	(17.2)	(21.1)	(20.7)	(21.3)	(21.1)	(22.3)	(22.3)	(21.3)
62-64 ²	(17.1)	(19.9)	(23.1)	(24.3)	(23.2)	(15.0)	(15.2)	(15.8)	(17.0)
Women									
Under 25	.2	.2	.2	.2	.3	.3	.3	.3	.3
25-29	.4	.3	.4	.4	.5	.5	.5	.5	.5
30-34	.5	.6	.6	.7	.8	.8	.9	.9	.9
35-39	.7	.8	.9	1.0	1.2	1.3	1.4	1.5	1.5
40-44	1.0	1.2	1.3	1.5	1.9	1.9	2.2	2.1	2.2
45-49	1.9	2.2	2.2	2.5	3.1	3.2	3.4	3.4	3.5
50-54	4.1	4.4	5.0	5.0	5.4	5.6	6.0	6.0	6.1
55-59	7.0	7.9	8.5	9.0	9.8	10.1	10.3	10.1	10.2
60-64 ²	5.4	5.7	8.0	8.5	9.6	10.2	10.4	10.7	11.1
60-61	(7.4)	(7.3)	(10.3)	(10.6)	(12.1)	(13.7)	(13.4)	(13.9)	(13.3)
62-64 ²	(2.6)	(3.5)	(5.1)	(5.6)	(6.3)	(5.7)	(6.4)	(6.2)	(7.8)

¹ Age on birthday in year of onset.

² Includes the limited amount of experience before age 65 for persons who attain age 65 in the year of onset.