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## DISABILITY INCIDENCE RATES UNDER OASDI SYSTEM FOR DISABILITY ONSETS OCCURRING IN 1956-61

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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."<sup>1</sup> The rate of disability allowance (the proportion of the claims filed that is awarded benefits) is not significant from a cost standpoint; it depends upon how many non-qualifying claims are filed, which may be affected by extraneous factors.

This Actuarial Note presents the results of a study of disability incidence rates for disabilities that had an onset in 1955-61, as represented in the awards made through 1962, plus an estimate of the awards in subsequent years for such onsets. 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 described subsequently.

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

onset for all awards in the period 1955-62 (1955 being the first year that such awards were made). In this 8-year period, there were almost 1½ 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 requirement for monthly benefits.

Relatively few awards are made in the year of onset, because of the effect of the waiting period<sup>2</sup> and of the lags in filing and adjudicating claims. In recent years, awards in the year of onset have been only slightly above 10% of all awards made in the year. About 50% 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, 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).<sup>3</sup> As a result, the experience for

<sup>2</sup>The law states this period 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.

<sup>3</sup>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 a claim.

<sup>1</sup>The "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).

awards of 1963, and to some extent that for awards of 1964, may show a different picture from that presented in Table 1, where about 7% of the awards in recent years were for onsets that occurred 6 or more years before the year of award.

For purposes of analysis, it does not seem advisable to use data for years of onset that occurred before 1956, because for such years many of the disabilities would have terminated before 1955 when awards were first made. Table 2 shows the disability allowances made before 1963 by sex and age for each individual year of onset from 1955 to 1962. These data include a total of 990,000 awards, or 70% of the total awards that were made under the program through 1962 (as shown in Table 1).

It would not be a 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 is then projected by graphic extrapolation to an ultimate asymptotic value.

The data for "onset in 1962" awards did not seem to be an adequate base for projection. Accordingly, this estimation procedure was utilized only for years of onset 1956-61. The resulting data are shown in Table 3, with a subdivision of the group aged 60-65, to obtain those aged 60-61 and those aged 62-65 (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 1961 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 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 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 as much as 100% at the youngest ages and at least 50% at the older ages (exclusive of the experience at ages 62-64, which is not comparable, as indicated previously).

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 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 rates (now under analysis but not studied here) would be lower than would be the case with prompt filing, when more short-duration cases would be included in the data.

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.

For persons aged 50 and over, the disability incidence rates rose significantly from 1956 to 1959, but thereafter remained relatively constant, showing a small increase in certain cases (notably for men aged 50-54 and for women aged 60-61). For persons under age 50 at onset of disability, the incidence rates were generally significantly higher for 1960-61 onsets 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.

Table 1

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

Distribution by Year of Onset-Disabled in

Year of Award, t	Year t	Year t-1	Year t-2	Year t-3	Year t-4	Year t-5	Before Year t-5	Total
Number of Awards								
1955	913	8,228	7,715	6,530	5,897	5,244	22,694	57,221
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
1955-62	144,022	595,666	253,728	121,291	75,486	53,414	198,781	1,442,388

## Percentage Distribution of Awards by Year of Onset

1955	2%	14%	13%	11%	10%	9%	40%	100%
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

Table 2

DISABILITY DETERMINATION AWARDS BY AGE AT ONSET AND BY YEAR OF ONSET,  
BY SEX, FOR AWARDS BEFORE 1963

Age at Onset <sup>1</sup>	Year of Onset						
	1956	1957	1958	1959	1960	1961	1962
Men							
Under 25	752	580	586	603	687	539	100
25-29	1,977	2,238	2,107	2,123	2,804	2,286	536
30-34	2,659	3,187	3,402	3,627	4,714	3,970	939
35-39	3,229	4,166	4,559	4,998	7,153	6,260	1,454
40-44	4,550	5,457	6,304	7,169	10,418	9,214	2,440
45-49	8,183	9,576	10,659	12,261	16,216	14,324	3,712
50-54	15,679	19,178	22,357	24,351	26,974	24,337	6,518
55-59	24,620	29,462	33,569	37,582	39,801	35,726	10,527
60-65	31,323	37,284	45,637	49,997	52,685	36,963	11,391
Total	92,970	111,128	129,180	142,711	161,452	133,619	37,587
Women							
Under 25	138	124	124	96	129	93	11
25-29	485	455	495	466	542	438	89
30-34	653	723	772	843	882	733	169
35-39	825	998	1,117	1,308	1,583	1,275	289
40-44	1,258	1,517	1,670	1,908	2,597	2,209	531
45-49	2,608	3,128	3,251	3,619	4,525	4,031	902
50-54	4,908	5,651	6,709	7,217	7,769	7,277	1,878
55-59	6,188	7,647	8,858	10,119	11,130	10,628	2,943
60-65	2,701	3,492	4,851	5,561	6,779	6,875	2,368
Total	19,764	23,735	27,847	31,137	35,936	33,559	9,180

<sup>1</sup> Age on birthday in year of onset.

Table 3

ESTIMATED DISABILITY DETERMINATION AWARDS BY AGE AT ONSET AND SEX, FOR ONSETS  
IN 1956-61, ACTUAL AWARDS BEFORE 1963 AND ESTIMATED AWARDS AFTER 1962

Age at Onset <sup>1</sup>	Year of Onset					
	1956	1957	1958	1959	1960	1961
	Men					
Under 25	800	600	700	700	900	900
25-29	2,100	2,300	2,400	3,000	3,600	3,600
30-34	2,800	3,500	3,900	4,500	6,200	6,300
35-39	3,200	4,400	5,100	5,800	8,400	8,500
40-44	5,000	6,000	7,500	8,700	13,100	13,600
45-49	8,500	10,100	11,700	14,200	20,500	21,800
50-54	16,000	20,100	23,500	27,000	32,100	34,000
55-59	25,000	30,100	35,000	41,800	44,600	46,500
60-65	31,600	37,100	46,200	50,500	56,000	46,500
60-61	14,700	16,200	19,600	21,000	24,300	24,200
62-65	16,900	20,900	26,600	29,500	31,700	22,300
Total	95,000	114,200	135,700	157,200	184,600	184,200
	Women					
Under 25	100	100	100	100	100	100
25-29	500	500	600	700	800	800
30-34	700	800	900	900	1,000	1,000
35-39	900	1,100	1,300	1,600	1,900	1,900
40-44	1,400	1,700	2,000	2,400	3,300	3,400
45-49	2,600	3,500	3,800	4,400	6,300	6,400
50-54	4,900	5,900	7,100	7,800	8,900	9,200
55-59	6,200	7,800	9,300	11,600	13,400	13,800
60-65	2,600	3,400	4,700	5,400	7,300	8,000
60-61	2,100	2,600	3,500	4,000	5,500	6,100
62-65	500	800	1,200	1,400	1,800	1,900
Total	19,900	24,800	29,800	35,000	43,000	44,600

<sup>1</sup> Age on birthday in year of onset.

Table 4

ESTIMATED DISABILITY INCIDENCE RATES BY AGE AT ONSET AND SEX  
FOR ONSETS IN 1956-61, BASED ON ACTUAL AWARDS BEFORE 1963 AND  
ESTIMATED AWARDS AFTER 1962

(rates per thousand)

Age at Onset <sup>1</sup>	Year of Onset					
	1956	1957	1958	1959	1960	1961
Men						
Under 25	1.0	.7	.6	.5	.5	.5
25-29	.7	.8	.7	.9	1.0	.9
30-34	.6	.8	.9	1.0	1.3	1.3
35-39	.7	1.0	1.1	1.2	1.7	1.6
40-44	1.2	1.4	1.7	1.9	2.8	2.8
45-49	2.3	2.6	2.9	3.3	4.6	4.7
50-54	5.2	6.2	6.9	7.5	8.3	8.4
55-59	10.5	11.9	13.2	14.7	14.5	14.3
60-64 <sup>2</sup>	17.0	18.8	22.7	23.0	23.6	19.8
60-61	16.5	17.0	20.0	19.9	21.3	21.4
62-64	17.2	19.9	24.7	25.4	25.2	17.9
Women						
Under 25	.1	.2	.1	.1	.1	.1
25-29	.3	.3	.3	.4	.5	.5
30-34	.4	.5	.5	.6	.6	.6
35-39	.6	.7	.8	1.0	1.1	1.1
40-44	1.0	1.1	1.2	1.4	1.8	1.8
45-49	1.8	2.2	2.3	2.5	3.4	3.3
50-54	4.0	4.2	4.8	4.8	5.1	5.0
55-59	7.0	7.9	8.6	9.6	10.2	9.8
60-64 <sup>2</sup>	5.4	5.7	8.1	8.5	10.3	10.8
60-61	7.2	7.3	9.9	10.3	12.9	13.5
62-64	2.4	3.2	4.8	5.1	6.0	6.0

<sup>1</sup> Age on birthday in year of onset.<sup>2</sup> Includes the limited amount of experience before age 65 for persons who attain age 65 in the year.