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DISABILITY AND DEATH PROBABILITY TABLES FOR INSURED WORKERS BORN IN 1999

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Introduction

The Social Security program is not just a program for providing income during retirement. Workers who meet certain requirements for insured status may receive monthly cash benefits before retirement age if they have impairments resulting in disability.[1] Survivors may receive benefits after the death of an insured worker, retired worker, or a disabled worker. This note illustrates the likelihood that a young worker, while maintaining insured status, will become disabled or die, resulting in payment of disability or survivor benefits prior to becoming eligible for full retirement benefits. We make these illustrations using the intermediate assumptions of the 2019 Trustees Report. This note succeeds *Actuarial Note Number 2018.6*, which was based on the intermediate assumptions of the 2018 Trustees Report.

We make projections of the number of insured workers who die or become disabled each year for the next 75 years. These projections depend on age-sex-specific mortality and disabled-worker incidence rates, and age-sex-duration-specific disabled-life mortality and recovery rates. Additional information regarding these projections is provided in annual reports of the Board of Trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds (Trustees Reports) and in actuarial studies.[2]

Using projected rates of disabled-worker incidence, death, and recovery under the intermediate assumptions, we estimate the probability that an illustrative worker will become disabled or die before reaching normal retirement age (NRA). We define an illustrative worker in this note as one who: (a) is born in 1999, that is, belongs to the 1999 birth cohort; (b) becomes insured at age 20 in 2019; (c) maintains insured status thereafter; and (d) retires at NRA. The NRA, the age at which a person may first become entitled to retirement benefits without reduction based on age, is age 67 for our illustrative worker. Tables A and B compare these estimates using the 1999 birth cohort with those published in prior years. The projected probabilities of death before NRA have decreased between the 1966 and 1999 birth cohorts, reflecting in part the actual improvement in mortality experience between 1986 and 2019. The projected probability of becoming disabled before NRA has decreased for insured men between the 1966 and 1999 birth cohorts, but has increased for insured women. For the 1999 birth cohort, we project that the probability of surviving from age 20 to NRA without ever being disabled is 65 percent for males and 69 percent for females. Comparable probabilities projected for the 1966 birth cohort are 58 percent for males and 70 percent for females.

Table B shows the total projected probability of death as the sum of the probability of death and disability and the probability of death and no disability. Between the 1998 and 1999 birth cohorts, the projected probability of death before NRA increased for both males and females. However, the projected probability of becoming disabled (as shown in Table A) decreased between these cohorts.

Assumptions and Methods

Tables C and D provide illustrations of the expected survival and disability status of 1,000,000 insured males and females, respectively, who were born in 1999. These illustrations reflect projected annual death and disability rates by sex and single year of age (20 through 67) for the active, disabled, recovered, and total insured population. The active group is composed of insured workers who are alive and have never become disabled worker beneficiaries. The disabled group consists of workers who are currently entitled to receive a Social Security disabled-worker benefit. The recovered group consists of insured workers who have had a prior disability, but are not currently entitled to receive a disabled-worker benefit. The total group is the sum of the active, disabled, and recovered groups, otherwise known as the insured population. All workers are assumed to be fully and disability insured at all times after reaching age 20.[3] For each age, we calculate

[1] Disabled means inability to engage in any substantial gainful activity as a result of medically determinable physical or mental impairments that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers at ages 55 and over whose disability is based on blindness.

[2] These publications may be found at: http://www.ssa.gov/OACT/pubs.html.

[3] Computing disabled-worker incidence rates by age using insured workers gives a larger probability of disability entitlement than if all workers were included in the calculations.

deaths, entitlements to disabled-worker benefits, and recoveries from the disability rolls. For each population group (active, disabled, recovered, and total), we determine the number of persons alive at the beginning of the next year by adding or subtracting the relevant components of change to the number of persons alive at the beginning of the year.

For those born in 1999, we develop cohort insured life tables for each sex, from age 20 to age 67. To calculate total deaths for the insured population, we apply the age-sex-specific mortality rates of the general population to the total insured population at the beginning of the year.[4]

We calculate deaths for the disabled-worker population by applying age-sex-duration-specific[5] disabled-life mortality rates to the disabled-worker population at the beginning of the year. We assume that newly entitled disabled-worker beneficiaries, that is, those in duration 0, are exposed for half a year, because on average they become entitled at mid-year. We calculate deaths for those who have recovered from disability ("recovered deaths") by applying the age-sex-specific mortality rates of the general population to the recovered population at the beginning of the year, with adjustments. To make these adjustments, we add half of the newly recovered population and subtract half of those newly disabled from the recovered population for that year. Active deaths are the residual: we subtract the disabled deaths and recovered deaths from the total population deaths.

We develop cohort disabled-worker incidence rates for each sex, from age 20 to age 67, for those born in 1999. To calculate the number of newly entitled disabled-worker beneficiaries, we apply the age-sex-specific incidence rates to the active and recovered populations at the beginning of the year.

Finally, we develop rates of recovery from disability for each sex, from age 20 to age 67, for those born in 1999. To calculate the number of recoveries from the disabled-worker population, we apply age-sex-duration-specific[5] recovery rates to the beginning of the year disabled-worker population. We assume that newly entitled disabled-worker beneficiaries (in duration 0) are exposed for half a year in the year of their initial entitlement.

[4] Using general population mortality rates may slightly overstate death rates for the insured population because the group excluded, the uninsured, are likely to have higher death rates than the general population.

[5] Age is age at entitlement to a disabled-worker benefit. Duration refers to the complete number of years since entitlement to a disabled-worker benefit.

Results

Table C provides illustrations which allow for the computation of various probabilities of survival, death, and disability for insured males born in 1999. Table D provides the same information for insured females born in 1999. For example, the probability that an insured female, age 25 in 2024, will survive to age 60 without ever becoming disabled is 78 percent. To get this result, we divide the number of active lives at age 60 (775,910) by the number of active lives at age 25 (991,070).

Table E uses the illustrations in tables C and D to derive various probabilities of disability, death, and survival for insured males and females born in 1999. We calculate the probability of survival without disability from age 20 to age *x* by dividing the active insured population at the beginning of the year at age *x* by the active insured population at the beginning of the year at age 20. The probability of dying or becoming disabled after age 20 and before age *x* is calculated as the complement, that is, 1 minus the probability of surviving without disability from age 20 to age *x*. For example, we project that an insured male worker who attained age 20 in 2019 has a 65 percent chance of surviving to age 67 without ever becoming disabled and a 35 percent chance of either dying or becoming disabled prior to age 67.

Table E also includes probabilities of an insured worker becoming disabled and of an insured worker dying and never becoming disabled. These probabilities are shown from age 20 to age *x.* We calculate these values by dividing the total newly disabled and the total deaths from the active insured population from age 20 to age *x,* respectively, by the active insured population alive at the beginning of the year of attaining age 20. For example, we project that an insured female worker who attained age 20 in 2019 has a 19 percent chance of becoming disabled between age 20 and age 60. In addition, the probability that she will die between age 20 and age 60 without ever receiving Social Security disability benefits is only 3 percent.

Table A: Probability of Disability and Death for Illustrative Cases of Insured Workers

Trustees Report Year [1] *(Year of Attainment of Age 20)*	Year of Birth	Probability of Disability Before NRA			Probability of Death And Never Disabled Before NRA			Probability of Survival to NRA With No Disability		
		Male	Female	Total[2]	Male	Female	Total[2]	Male	Female	Total[2]
1986	1966	0.322	0.240	0.281	0.095	0.060	0.077	0.583	0.700	0.642
2011	1991	0.276	0.260	0.268	0.091	0.049	0.070	0.633	0.691	0.662
2012	1992	0.276	0.264	0.270	0.090	0.048	0.069	0.634	0.688	0.661
2013	1993	0.275	0.264	0.270	0.085	0.044	0.065	0.639	0.692	0.666
2014	1994	0.277	0.263	0.270	0.082	0.042	0.062	0.641	0.695	0.668
2015	1995	0.279	0.265	0.272	0.078	0.040	0.059	0.643	0.695	0.669
2016	1996	0.277	0.262	0.270	0.078	0.041	0.059	0.645	0.697	0.671
2017	1997	0.275	0.260	0.268	0.080	0.042	0.061	0.645	0.697	0.671
2018	1998	0.277	0.262	0.269	0.081	0.042	0.062	0.642	0.696	0.669
2019	1999	0.264	0.261	0.262	0.090	0.046	0.068	0.647	0.693	0.670

[1] Calculations are based on the intermediate assumptions of that year's Trustees Report (alternative II-B for the 1986 Trustees Report).
[2] Totals are obtained by combining tables C and D. For example, the probability of death and never disabled before NRA equals 6.8 percent for the 1999 birth cohort (89,683 + 45,507) / (1,000,000 + 1,000,000).

Notes: Probabilities are determined assuming all illustrative workers are disability insured throughout their working lives.

For a recent historical perspective, see Actuarial Study 123, Social Security Disability Insurance Program Worker Experience, at: http://www.ssa.gov/OACT/NOTES/actstud.html.

Table B: Probability of Death for Illustrative Cases of Insured Workers by Disabled Status

Trustees Report Year[1] *(Year of Attainment of Age 20)*	Year of Birth	(A) = (B) + (C) Probability of Death Before NRA			(B) Probability of Death and Disability Before NRA			(C) Probability of Death and No Disability Before NRA[2]		
		Male	Female	Total[3]	Male	Female	Total[3]	Male	Female	Total[3]
1986	1966	0.221	0.129	0.175	0.121	0.067	0.094	0.100	0.062	0.081
2011	1991	0.155	0.096	0.125	0.061	0.045	0.053	0.094	0.050	0.072
2012	1992	0.153	0.095	0.124	0.061	0.045	0.053	0.092	0.049	0.071
2013	1993	0.149	0.090	0.119	0.061	0.045	0.053	0.088	0.045	0.066
2014	1994	0.145	0.088	0.116	0.061	0.045	0.053	0.084	0.043	0.064
2015	1995	0.143	0.087	0.115	0.063	0.045	0.054	0.080	0.042	0.061
2016	1996	0.142	0.087	0.115	0.062	0.045	0.053	0.081	0.042	0.061
2017	1997	0.144	0.088	0.116	0.061	0.045	0.053	0.082	0.043	0.063
2018	1998	0.146	0.090	0.118	0.063	0.046	0.055	0.083	0.044	0.063
2019	1999	0.152	0.093	0.122	0.060	0.046	0.053	0.092	0.047	0.069

[1] Calculations are based on the intermediate assumptions of that year's Trustees Report (alternative II-B for the 1986 Trustees Report).
[2] Includes workers who recovered from disabilities.
[3] Totals are obtained by combining tables C and D. For example, the probability of death and disability before NRA equals 5.3 percent for the 1999 birth cohort (60,098 + 46,273) / (1,000,000 + 1,000,000).

Notes:

1. Probabilities are determined assuming all illustrative workers are disability insured throughout their working lives.

For a recent historical perspective, see Actuarial Study 123, Social Security Disability Insurance Program Worker Experience, at: http://www.ssa.gov/OACT/NOTES/actstud.html.

2. Totals do not necessarily equal the sum of rounded components.

Table C: Illustrations of Survival and Disability Status for Insured Males Attaining Age 20 in 2019 (1999 Birth Cohort)

					Deaths								Newly Disabled							
	Living At Beginning Of Year				Total		Active		Disabled		Recovered		Total		Active		Recovered		Newly Recovered	
Age x	Total	Active	Disabled	Recovered	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1
20	1,000,000	1,000,000	0	0	986	986	979	979	7	7	0	0	1,969	1,969	1,969	1,969	0	0	4	4
21	999,014	997,052	1,958	4	1,115	2,101	1,093	2,072	22	29	0	0	1,917	3,886	1,917	3,886	0	0	16	20
22	997,899	994,042	3,837	20	1,217	3,318	1,183	3,255	34	63	0	0	1,897	5,783	1,897	5,783	0	0	30	50
23	996,682	990,962	5,670	50	1,284	4,602	1,236	4,491	48	111	0	0	2,012	7,795	2,012	7,795	0	0	48	98
24	995,398	987,714	7,586	98	1,325	5,927	1,261	5,752	64	175	0	0	2,166	9,961	2,166	9,961	0	0	99	197
25	994,073	984,287	9,589	197	1,358	7,285	1,278	7,030	80	255	0	0	1,847	11,808	1,847	11,808	0	0	246	443
26	992,715	981,162	11,110	443	1,395	8,680	1,303	8,333	91	346	1	1	1,493	13,301	1,492	13,300	1	1	377	820
27	991,320	978,367	12,135	818	1,433	10,113	1,335	9,668	97	443	1	2	1,581	14,882	1,580	14,880	1	2	426	1,246
28	989,887	975,452	13,193	1,242	1,476	11,589	1,361	11,029	113	556	2	4	1,663	16,545	1,661	16,541	2	4	470	1,716
29	988,411	972,430	14,273	1,708	1,521	13,110	1,391	12,420	127	683	3	7	1,735	18,280	1,732	18,273	3	7	498	2,214
30	986,890	969,307	15,383	2,200	1,563	14,673	1,410	13,830	149	832	4	11	1,880	20,160	1,876	20,149	4	11	528	2,742
31	985,327	966,021	16,586	2,720	1,600	16,273	1,416	15,246	179	1,011	5	16	2,040	22,200	2,034	22,183	6	17	550	3,292
32	983,727	962,571	17,897	3,259	1,630	17,903	1,426	16,672	198	1,209	6	22	2,143	24,343	2,136	24,319	7	24	560	3,852
33	982,097	959,009	19,282	3,806	1,652	19,555	1,426	18,098	219	1,428	7	29	2,260	26,603	2,251	26,570	9	33	571	4,423
34	980,445	955,332	20,752	4,361	1,668	21,223	1,409	19,507	251	1,679	8	37	2,364	28,967	2,353	28,923	11	44	584	5,007
35	978,777	951,570	22,281	4,926	1,688	22,911	1,404	20,911	275	1,954	9	46	2,493	31,460	2,480	31,403	13	57	588	5,595
36	977,089	947,686	23,911	5,492	1,713	24,624	1,402	22,313	301	2,255	10	56	2,617	34,077	2,602	34,005	15	72	584	6,179
37	975,376	943,682	25,643	6,051	1,729	26,353	1,382	23,695	336	2,591	11	67	2,732	36,809	2,715	36,720	17	89	586	6,765
38	973,647	939,585	27,453	6,609	1,735	28,088	1,352	25,047	371	2,962	12	79	2,861	39,670	2,841	39,561	20	109	574	7,339
39	971,912	935,392	29,369	7,151	1,740	29,828	1,318	26,365	409	3,371	13	92	3,033	42,703	3,010	42,571	23	132	569	7,908
40	970,172	931,064	31,424	7,684	1,751	31,579	1,300	27,665	437	3,808	14	106	3,236	45,939	3,210	45,781	26	158	569	8,477
41	968,421	926,554	33,654	8,213	1,783	33,362	1,282	28,947	485	4,293	16	122	3,438	49,377	3,408	49,189	30	188	590	9,067
42	966,638	921,864	36,017	8,757	1,840	35,202	1,278	30,225	545	4,838	17	139	3,637	53,014	3,603	52,792	34	222	598	9,665
43	964,798	916,983	38,511	9,304	1,929	37,131	1,305	31,530	605	5,443	19	158	3,858	56,872	3,819	56,611	39	261	596	10,261
44	962,869	911,859	41,168	9,842	2,047	39,178	1,357	32,887	668	6,111	22	180	4,084	60,956	4,040	60,651	44	305	593	10,854
45	960,822	906,462	43,991	10,369	2,186	41,364	1,439	34,326	723	6,834	24	204	4,338	65,294	4,289	64,940	49	354	619	11,473
46	958,636	900,734	46,987	10,915	2,343	43,707	1,535	35,861	781	7,615	27	231	4,603	69,897	4,548	69,488	55	409	658	12,131
47	956,293	894,651	50,151	11,491	2,528	46,235	1,616	37,477	881	8,496	31	262	4,858	74,755	4,796	74,284	62	471	656	12,787
48	953,765	888,239	53,472	12,054	2,742	48,977	1,724	39,201	983	9,479	35	297	5,066	79,821	4,998	79,282	68	539	641	13,428
49	951,023	881,517	56,914	12,592	2,981	51,958	1,864	41,065	1,077	10,556	40	337	5,223	85,044	5,149	84,431	74	613	593	14,021
50	948,042	874,504	60,467	13,071	3,234	55,192	2,049	43,114	1,140	11,696	45	382	6,539	91,583	6,443	90,874	96	709	616	14,637
51	944,808	866,012	65,250	13,546	3,504	58,696	2,192	45,306	1,261	12,957	51	433	8,085	99,668	7,960	98,834	125	834	640	15,277
52	941,304	855,860	71,434	14,010	3,806	62,502	2,305	47,611	1,443	14,400	58	491	8,138	107,806	8,007	106,841	131	965	614	15,891
53	937,498	845,548	77,515	14,435	4,143	66,645	2,466	50,077	1,612	16,012	65	556	8,030	115,836	7,895	114,736	135	1,100	595	16,486
54	933,355	835,187	83,338	14,830	4,503	71,148	2,642	52,719	1,788	17,800	73	629	8,293	124,129	8,148	122,884	145	1,245	547	17,033
55	928,852	824,397	89,296	15,159	4,890	76,038	2,846	55,565	1,963	19,763	81	710	10,158	134,287	9,975	132,859	183	1,428	594	17,627
56	923,962	811,576	96,897	15,489	5,277	81,315	2,977	58,542	2,210	21,973	90	800	12,290	146,577	12,060	144,919	230	1,658	615	18,242
57	918,685	796,539	106,362	15,784	5,617	86,932	3,049	61,591	2,470	24,443	98	898	12,368	158,945	12,128	157,047	240	1,898	621	18,863
58	913,068	781,362	115,639	16,067	5,889	92,821	3,102	64,693	2,682	27,125	105	1,003	12,338	171,283	12,089	169,136	249	2,147	597	19,460
59	907,179	766,171	124,698	16,310	6,123	98,944	3,102	67,795	2,910	30,035	111	1,114	12,957	184,240	12,687	181,823	270	2,417	558	20,018
60	901,056	750,382	134,187	16,487	6,361	105,305	3,043	70,838	3,200	33,235	118	1,232	13,659	197,899	13,365	195,188	294	2,711	664	20,682
61	894,695	733,974	143,982	16,739	6,644	111,949	2,908	73,746	3,610	36,845	126	1,358	14,406	212,305	14,085	209,273	321	3,032	804	21,486
62	888,051	716,981	153,974	17,096	6,988	118,937	2,878	76,624	3,974	40,819	136	1,494	14,805	227,110	14,460	223,733	345	3,377	769	22,255
63	881,063	699,643	164,036	17,384	7,419	126,356	2,838	79,462	4,433	45,252	148	1,642	14,125	241,235	13,783	237,516	342	3,719	713	22,968
64	873,644	683,022	173,015	17,607	7,930	134,286	2,937	82,399	4,832	50,084	161	1,803	11,857	253,092	11,559	249,075	298	4,017	623	23,591
65	865,714	668,526	179,417	17,771	8,520	142,806	3,364	85,763	4,980	55,064	176	1,979	8,859	261,951	8,630	257,705	229	4,246	487	24,078
66	857,194	656,532	182,809	17,853	9,146	151,952	3,920	89,683	5,034	60,098	192	2,171	6,169	268,120	6,006	263,711	163	4,409	426	24,504
67	848,048	646,606	183,518	17,924																

Table D: Illustrations of Survival and Disability Status for Insured Females Attaining Age 20 in 2019 (1999 Birth Cohort)

					Deaths								Newly Disabled							
	Living At Beginning Of Year				Total		Active		Disabled		Recovered		Total		Active		Recovered		Newly Recovered	
Age x	Total	Active	Disabled	Recovered	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1	x to x+1	20 to x+1
20	1,000,000	1,000,000	-	-	373	373	368	368	5	5	-	-	1,368	1,368	1,368	1,368	-	-	3	3
21	999,627	998,264	1,360	3	415	788	402	770	13	18	-	-	1,307	2,675	1,307	2,675	-	-	11	14
22	999,212	996,555	2,643	14	453	1,241	432	1,202	21	39	-	-	1,267	3,942	1,267	3,942	-	-	21	35
23	998,759	994,856	3,868	35	485	1,726	457	1,659	28	67	-	-	1,361	5,303	1,361	5,303	-	-	33	68
24	998,274	993,038	5,168	68	514	2,240	475	2,134	39	106	-	-	1,493	6,796	1,493	6,796	-	-	61	129
25	997,760	991,070	6,561	129	542	2,782	489	2,623	53	159	-	-	1,392	8,188	1,392	8,188	-	-	149	278
26	997,218	989,189	7,751	278	571	3,353	508	3,131	63	222	-	-	1,276	9,464	1,276	9,464	-	-	238	516
27	996,647	987,405	8,726	516	605	3,958	534	3,665	71	293	-	-	1,388	10,852	1,387	10,851	1	1	277	793
28	996,042	985,484	9,766	792	643	4,601	562	4,227	80	373	1	1	1,489	12,341	1,488	12,339	1	2	309	1,102
29	995,399	983,434	10,866	1,099	686	5,287	595	4,822	90	463	1	2	1,588	13,929	1,586	13,925	2	4	329	1,431
30	994,713	981,253	12,035	1,425	730	6,017	611	5,433	118	581	1	3	1,812	15,741	1,809	15,734	3	7	352	1,783
31	993,983	978,833	13,377	1,773	773	6,790	625	6,058	146	727	2	5	2,058	17,799	2,054	17,788	4	11	376	2,159
32	993,210	976,154	14,913	2,143	811	7,601	641	6,699	168	895	2	7	2,218	20,017	2,213	20,001	5	16	394	2,553
33	992,399	973,300	16,569	2,530	845	8,446	650	7,349	193	1,088	2	9	2,404	22,421	2,398	22,399	6	22	410	2,963
34	991,554	970,252	18,370	2,932	874	9,320	652	8,001	219	1,307	3	12	2,592	25,013	2,584	24,983	8	30	426	3,389
35	990,680	967,016	20,317	3,347	906	10,226	666	8,667	237	1,544	3	15	2,807	27,820	2,797	27,780	10	40	443	3,832
36	989,774	963,553	22,444	3,777	942	11,168	681	9,348	257	1,801	4	19	3,005	30,825	2,993	30,773	12	52	454	4,286
37	988,832	959,879	24,738	4,215	976	12,144	688	10,036	284	2,085	4	23	3,168	33,993	3,154	33,927	14	66	484	4,770
38	987,856	956,037	27,138	4,681	1,006	13,150	683	10,719	318	2,403	5	28	3,331	37,324	3,315	37,242	16	82	494	5,264
39	986,850	952,039	29,657	5,154	1,036	14,186	674	11,393	356	2,759	6	34	3,532	40,856	3,513	40,755	19	101	504	5,768
40	985,814	947,852	32,329	5,633	1,073	15,259	676	12,069	391	3,150	6	40	3,851	44,707	3,828	44,583	23	124	546	6,314
41	984,741	943,348	35,243	6,150	1,120	16,379	695	12,764	418	3,568	7	47	4,159	48,866	4,132	48,715	27	151	574	6,888
42	983,621	938,521	38,410	6,690	1,180	17,559	695	13,459	477	4,045	8	55	4,353	53,219	4,322	53,037	31	182	592	7,480
43	982,441	933,504	41,694	7,243	1,259	18,818	723	14,182	526	4,571	10	65	4,602	57,821	4,567	57,604	35	217	614	8,094
44	981,182	928,214	45,156	7,812	1,353	20,171	756	14,938	586	5,157	11	76	4,870	62,691	4,829	62,433	41	258	620	8,714
45	979,829	922,629	48,820	8,380	1,456	21,627	809	15,747	634	5,791	13	89	5,151	67,842	5,105	67,538	46	304	665	9,379
46	978,373	916,715	52,672	8,986	1,569	23,196	858	16,605	696	6,487	15	104	5,434	73,276	5,381	72,919	53	357	717	10,096
47	976,804	910,476	56,693	9,635	1,705	24,901	928	17,533	760	7,247	17	121	5,683	78,959	5,623	78,542	60	417	720	10,816
48	975,099	903,925	60,896	10,278	1,867	26,768	1,004	18,537	843	8,090	20	141	5,879	84,838	5,813	84,355	66	483	718	11,534
49	973,232	897,108	65,214	10,910	2,049	28,817	1,084	19,621	941	9,031	24	165	6,021	90,859	5,949	90,304	72	555	690	12,224
50	971,183	890,075	69,604	11,504	2,238	31,055	1,232	20,853	979	10,010	27	192	7,387	98,246	7,293	97,597	94	649	716	12,940
51	968,945	881,550	75,296	12,099	2,427	33,482	1,322	22,175	1,074	11,084	31	223	8,957	107,203	8,836	106,433	121	770	705	13,645
52	966,518	871,392	82,474	12,652	2,621	36,103	1,372	23,547	1,214	12,298	35	258	8,874	116,077	8,747	115,180	127	897	703	14,348
53	963,897	861,273	89,431	13,193	2,818	38,921	1,461	25,008	1,318	13,616	39	297	8,617	124,694	8,487	123,667	130	1,027	699	15,047
54	961,079	851,325	96,031	13,723	3,014	41,935	1,512	26,520	1,458	15,074	44	341	8,780	133,474	8,641	132,308	139	1,166	635	15,682
55	958,065	841,172	102,718	14,175	3,238	45,173	1,620	28,140	1,569	16,643	49	390	10,304	143,778	10,133	142,441	171	1,337	661	16,343
56	954,827	829,419	110,792	14,616	3,464	48,637	1,693	29,833	1,717	18,360	54	444	12,014	155,792	11,806	154,247	208	1,545	674	17,017
57	951,363	815,920	120,415	15,028	3,630	52,267	1,694	31,527	1,878	20,238	58	502	11,972	167,764	11,755	166,002	217	1,762	634	17,651
58	947,733	802,471	129,875	15,387	3,717	55,984	1,558	33,085	2,098	22,336	61	563	11,856	179,620	11,633	177,635	223	1,985	620	18,271
59	944,016	789,280	139,013	15,723	3,761	59,745	1,352	34,437	2,346	24,682	63	626	12,257	191,877	12,018	189,653	239	2,224	584	18,855
60	940,255	775,910	148,340	16,005	3,804	63,549	1,320	35,757	2,418	27,100	66	692	12,281	204,158	12,033	201,686	248	2,472	661	19,516
61	936,451	762,557	157,542	16,352	3,913	67,462	1,267	37,024	2,577	29,677	69	761	12,388	216,546	12,128	213,814	260	2,732	721	20,237
62	932,538	749,162	166,632	16,744	4,139	71,601	1,214	38,238	2,850	32,527	75	836	12,669	229,215	12,392	226,206	277	3,009	643	20,880
63	928,399	735,556	175,808	17,035	4,519	76,120	1,268	39,506	3,167	35,694	84	920	12,127	241,342	11,853	238,059	274	3,283	523	21,403
64	923,880	722,435	184,245	17,200	5,028	81,148	1,476	40,982	3,458	39,152	94	1,014	10,280	251,622	10,041	248,100	239	3,522	461	21,864
65	918,852	710,918	190,606	17,328	5,625	86,773	2,012	42,994	3,506	42,658	107	1,121	7,805	259,427	7,619	255,719	186	3,708	361	22,225
66	913,227	701,287	194,544	17,396	6,248	93,021	2,513	45,507	3,615	46,273	120	1,241	5,528	264,955	5,394	261,113	134	3,842	294	22,519
67	906,979	693,380	196,163	17,436																

Table E: Probabilities of Disability, Death, and Survival for Insured Workers Attaining Age 20 in 2019 (1999 Birth Cohort)

	Males Attaining Age 20 in 2019					Females Attaining Age 20 in 2019				
Age *x*	Probability of Survival With No Disability From Age 20 To Age *x*	Probability of Disability From Age 20 To Age *x*	Probability of Death And Never Disabled From Age 20 To Age *x*	Probability of Death or Disability From Age 20 To Age *x*	Age *x*	Probability of Survival With No Disability From Age 20 To Age *x*	Probability of Disability From Age 20 To Age *x*	Probability of Death And Never Disabled From Age 20 To Age *x*	Probability of Death or Disability From Age 20 To Age *x*
21	99.7	0.2	0.1	0.3	21	99.8	0.1	0.0	0.2
22	99.4	0.4	0.2	0.6	22	99.7	0.3	0.1	0.3
23	99.1	0.6	0.3	0.9	23	99.5	0.4	0.1	0.5
24	98.8	0.8	0.4	1.2	24	99.3	0.5	0.2	0.7
25	98.4	1.0	0.6	1.6	25	99.1	0.7	0.2	0.9
26	98.1	1.2	0.7	1.9	26	98.9	0.8	0.3	1.1
27	97.8	1.3	0.8	2.2	27	98.7	0.9	0.3	1.3
28	97.5	1.5	1.0	2.5	28	98.5	1.1	0.4	1.5
29	97.2	1.7	1.1	2.8	29	98.3	1.2	0.4	1.7
30	96.9	1.8	1.2	3.1	30	98.1	1.4	0.5	1.9
31	96.6	2.0	1.4	3.4	31	97.9	1.6	0.5	2.1
32	96.3	2.2	1.5	3.7	32	97.6	1.8	0.6	2.4
33	95.9	2.4	1.7	4.1	33	97.3	2.0	0.7	2.7
34	95.5	2.7	1.8	4.5	34	97.0	2.2	0.7	3.0
35	95.2	2.9	2.0	4.8	35	96.7	2.5	0.8	3.3
36	94.8	3.1	2.1	5.2	36	96.4	2.8	0.9	3.6
37	94.4	3.4	2.2	5.6	37	96.0	3.1	0.9	4.0
38	94.0	3.7	2.4	6.0	38	95.6	3.4	1.0	4.4
39	93.5	4.0	2.5	6.5	39	95.2	3.7	1.1	4.8
40	93.1	4.3	2.6	6.9	40	94.8	4.1	1.1	5.2
41	92.7	4.6	2.8	7.3	41	94.3	4.5	1.2	5.7
42	92.2	4.9	2.9	7.8	42	93.9	4.9	1.3	6.1
43	91.7	5.3	3.0	8.3	43	93.4	5.3	1.3	6.6
44	91.2	5.7	3.2	8.8	44	92.8	5.8	1.4	7.2
45	90.6	6.1	3.3	9.4	45	92.3	6.2	1.5	7.7
46	90.1	6.5	3.4	9.9	46	91.7	6.8	1.6	8.3
47	89.5	6.9	3.6	10.5	47	91.0	7.3	1.7	9.0
48	88.8	7.4	3.7	11.2	48	90.4	7.9	1.8	9.6
49	88.2	7.9	3.9	11.8	49	89.7	8.4	1.9	10.3
50	87.5	8.4	4.1	12.5	50	89.0	9.0	2.0	11.0
51	86.6	9.1	4.3	13.4	51	88.2	9.8	2.1	11.8
52	85.6	9.9	4.5	14.4	52	87.1	10.6	2.2	12.9
53	84.6	10.7	4.8	15.4	53	86.1	11.5	2.4	13.9
54	83.5	11.5	5.0	16.5	54	85.1	12.4	2.5	14.9
55	82.4	12.3	5.3	17.6	55	84.1	13.2	2.7	15.9
56	81.2	13.3	5.6	18.8	56	82.9	14.2	2.8	17.1
57	79.7	14.5	5.9	20.3	57	81.6	15.4	3.0	18.4
58	78.1	15.7	6.2	21.9	58	80.2	16.6	3.2	19.8
59	76.6	16.9	6.5	23.4	59	78.9	17.8	3.3	21.1
60	75.0	18.2	6.8	25.0	60	77.6	19.0	3.4	22.4
61	73.4	19.5	7.1	26.6	61	76.3	20.2	3.6	23.7
62	71.7	20.9	7.4	28.3	62	74.9	21.4	3.7	25.1
63	70.0	22.4	7.7	30.0	63	73.6	22.6	3.8	26.4
64	68.3	23.8	7.9	31.7	64	72.2	23.8	4.0	27.8
65	66.9	24.9	8.2	33.1	65	71.1	24.8	4.1	28.9
66	65.7	25.8	8.6	34.3	66	70.1	25.6	4.3	29.9
67	64.7	26.4	9.0	35.3	67	69.3	26.1	4.6	30.7

Note: Totals do not necessarily equal the sums of rounded components.