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DISABILITY AND DEATH PROBABILITY TABLES FOR INSURED WORKERS BORN IN 1997

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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 2017 Trustees Report. This note succeeds *Actuarial Note Number 2016.6*, which was based on the intermediate assumptions of the 2016 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 disability incidence rates, and age-sexduration-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 death, recovery, and disability incidence 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 follows: (a) born in 1997, that is, belongs to the 1997 birth cohort; (b) becomes insured at age 20 in 2017; (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 1997 birth cohort with those published in prior years. The projected probabilities of death before NRA have decreased between the 1966 and 1997 cohorts, reflecting in part the actual improvement in mortality experience between 1986 and 2017. The projected probability of becoming disabled before NRA has decreased for insured men between the 1966 and 1997 cohorts, but has increased for insured women. For the 1997 birth cohort, we project that the probability of surviving from age 20 to NRA without ever being disabled is 64 percent for males and 70 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 while disabled and the probability of death while not disabled. Between the 1996 and 1997 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 show disability and death probabilities for insured males and females, respectively, who were born in 1997. We derive death and disability rates by sex and single year of age (20 through 67) for four population groups: total, active, disabled, and recovered. The active group is composed of insured workers who are alive and have never been disabled. 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. All workers are assumed to be fully and disability insured at all times after reaching age $20.^3$ For each age, we calculate 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

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: <u>http://www.ssa.gov/OACT/pubs.html</u>.

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

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 1997, 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 population at the beginning of the year.⁴

We calculate deaths for the disabled population by applying age-sex-duration-specific⁵ mortality rates to the disabled 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 midyear. 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. Active deaths are the residual: we subtract the disabled deaths and recovered deaths from the total population deaths.

We develop cohort disability incidence rates for each sex, from age 20 to age 67, for those born in 1997. To calculate the number of new 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 1997. To calculate the number of recoveries from the disabled population, we apply age-sex-duration-specific⁵ recovery rates to the beginning of the year disabled population. We assume that newly entitled disabled-worker beneficiaries (in duration 0) are exposed for half a year.

Results

Table C provides tabulations which allow for the computation of various probabilities of survival, death, and disability for insured males born in 1997. Table D provides the same information for insured females born in 1997. For example, the probability that an insured female, age 25 in 2022, will survive to age 60 without ever becoming disabled is 79 percent. To get this result, we divide the number of active lives at age 60 (778,419) by the number of active lives at age 25 (990,671).

Table E uses the tabulations in tables C and D to derive various probabilities of disability, death, and survival for insured males and females born in 1997. 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 2017 has a 64 percent chance of surviving to age 67 without ever becoming disabled and a 36 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 while never 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 2017 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.

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.

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Trustees Report Year ¹		Prob	ability of Dis Before NRA	2		ty of Death V abled Before		Probability of Survival to NRA With No Disability			
(Year of Attainment of Age 20)	Year of Birth	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	

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

¹Calculations 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 while never disabled before NRA equals 6.1 percent for the 1997 birth cohort (80,261 + 42,069) / (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

		(.	$\mathbf{A}) = (\mathbf{B}) + (\mathbf{C})$	C)		(B)			(C)				
Trustees Report Year ¹ (Year of Attainment	Year of		bability of D Before NRA			oility of Death bled Before 1		Probability of Death While Not Disabled Before NRA ²					
of Age 20)	Birth	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			

¹Calculations 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 while disabled before NRA equals 5.3 percent for the 1997 birth cohort (61,169 + 45,034) / (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: Disability and Death Probabilities for the Male 1997 Birth Cohort

		Deaths Newly Disabled																		
	L	iving At Beginr	ning Of Year	_	Tota	1	Acti	ve	Disab	led	Recove	red	Tot	al	Activ	ve	Recover	red	Newly Ree	covered
Age x	Total	Active	Disabled	Recovered	<i>x</i> to <i>x</i> +1	20 to x+1	x to x+1	20 to x+1	<i>x</i> to <i>x</i> +1	20 to x+1	x to x+1 2	0 to x+1	<i>x</i> to <i>x</i> +1	20 to x+1	<i>x</i> to <i>x</i> +1	20 to x+1	<i>x</i> to <i>x</i> +1	20 to x+1	x to x+1	20 to x+1
20	1,000,000	1,000,000	0	0	929	929	922	922	7	7	0	0	2,160	2,160	2,160	2,160	0	0	4	4
21	999,071	996,918	2,149	4	1,042	1,971	1,021	1,943	21	28	0	0	2,217	4,377	2,217	4,377	0	0	17	21
22	998,029	993,680	4,328	21	1,129	3,100	1,097	3,040	32	60	0	0	2,297	6,674	2,297	6,674	0	0	29	50
23	996,900	990,286	6,564	50	1,177	4,277	1,130	4,170	47	107	0	0	2,306	8,980	2,306	8,980	0	0	44	94
24	995,723	986,850	8,779	94	1,199	5,476	1,139	5,309	60	167	0	0	2,267	11,247	2,267	11,247	0	0	90	184
25	994,524	983,444	10,896	184	1,213	6,689	1,134	6,443	79	246	0	0	1,904	13,151	1,904	13,151	0	0	228	412
26	993,311	980,406	12,493	412	1,231	7,920	1,138	7,581	92	338	1	1	1,595	14,746	1,594	14,745	1	1	356	768
27	992,080	977,674	13,640	766	1,252	9,172	1,153	8,734	98	436	1	2	1,657	16,403	1,656	16,401	1	2	410	1,178
28	990,828	974,865	14,789	1,174	1,279	10,451	1,166	9,900	111	547	2	4	1,715	18,118	1,713	18,114	2	4	454	1,632
29	989,549	971,986	15,939	1,624	1,310	11,761	1,183	11,083	125	672	2	6 9	1,782	19,900	1,779	19,893	3	,	482	2,114 2,637
30 31	988,239 986,897	969,024 965,876	17,114 18,404	2,101 2,617	1,342 1,370	13,103 14,473	1,187 1,183	12,270 13,453	152 183	824	3 4	13	1,965 2,170	21,865 24,035	1,961	21,854 24,018	4	11 17	523 557	2,037 3,194
31	986,897 985,527	963,878 962,529	18,404	3,164	1,370	14,473	1,185	13,435	202	1,007 1,209	4 5	15	2,170	24,033	2,164 2,277	24,018	7	24	569	3,763
32	985,527 984,138	902,329 959,070	21,347	3,721	1,398	17,260	1,162	15,803	202	1,209	6	24	2,284	28,727	2,277	28,694	9	33	585	4,348
33	982,740	955,503	21,347	4,291	1,398	18,663	1,108	16,941	224	1,433	7	31	2,408	31,245	2,599	31,201	11	44	605	4,953
35	981,337	951,858	24,601	4,878	1,415	20,078	1,133	18,074	275	1,966	7	38	2,671	33,916	2,657	33,858	14	58	615	5,568
36	979,922	948,068	26,382	5,472	1,434	21,512	1,132	19,206	294	2,260	8	46	2,854	36,770	2,838	36,696	16	74	615	6,183
37	978,488	944,098	28,327	6,063	1,453	22,965	1,114	20,320	330	2,590	9	55	3,023	39,793	3,004	39,700	19	93	629	6,812
38	977,035	939,980	30,391	6,664	1,472	24,437	1,094	21,414	368	2,958	10	65	3,215	43,008	3,192	42,892	23	116	622	7,434
39	975,563	935,694	32,616	7,253	1,498	25,935	1,081	22,495	405	3,363	12	77	3,432	46,440	3,406	46,298	26	142	630	8,064
40	974,065	931,207	35,013	7,845	1,532	27,467	1,077	23,572	442	3,805	13	90	3,629	50,069	3,599	49,897	30	172	634	8,698
41	972,533	926,531	37,566	8,436	1,586	29,053	1,079	24,651	493	4,298	14	104	3,834	53,903	3,799	53,696	35	207	655	9,353
42	970,947	921,653	40,252	9,042	1,674	30,727	1,105	25,756	553	4,851	16	120	4,061	57,964	4,022	57,718	39	246	668	10,021
43	969,273	916,526	43,092	9,655	1,805	32,532	1,171	26,927	615	5,466	19	139	4,296	62,260	4,251	61,969	45	291	664	10,685
44	967,468	911,104	46,109	10,255	1,970	34,502	1,267	28,194	681	6,147	22	161	4,543	66,803	4,492	66,461	51	342	665	11,350
45	965,498	905,345	49,306	10,847	2,158	36,660	1,379	29,573	754	6,901	25	186	4,784	71,587	4,727	71,188	57	399	696	12,046
46	963,340	899,239	52,640	11,461	2,357	39,017	1,497	31,070	831	7,732	29	215	5,038	76,625	4,975	76,163	63	462	740	12,786
47	960,983	892,767	56,107	12,109	2,568	41,585	1,603	32,673	932	8,664	33	248	5,296	81,921	5,225	81,388	71	533	734	13,520
48	958,415	885,939	59,737	12,739	2,784	44,369	1,703	34,376	1,043	9,707	38	286	5,504	87,425	5,426	86,814	78	611	717	14,237
49	955,631	878,810	63,481	13,340	3,009	47,378	1,830	36,206	1,136	10,843	43	329	5,694	93,119	5,609	92,423	85	696	663	14,900
50	952,622	871,371	67,376	13,875	3,238	50,616	1,980	38,186	1,210	12,053	48	377	6,927	100,046	6,818	99,241	109	805	685	15,585
51	949,384	862,573	72,408	14,403	3,483	54,099	2,084	40,270	1,345	13,398	54	431	8,386	108,432	8,248	107,489	138	943	714	16,299
52	945,901	852,241	78,735	14,925	3,768	57,867	2,187	42,457	1,520	14,918	61	492	8,513	116,945	8,366	115,855	147	1,090	677	16,976
53	942,133	841,688	85,051	15,394	4,102	61,969	2,338	44,795	1,696	16,614	68	560	8,451	125,396	8,299	124,154	152	1,242	655	17,631
54 55	938,031 933,568	831,051	91,151 97,390	15,829	4,463 4,864	66,432	2,510	47,305	1,877	18,491	76	636 722	8,717	134,113	8,554 10,112	132,708 142,820	163 200	1,405	601	18,232
55 56	933,568 928,704	819,987 807,154	97,390 105,001	16,191 16,549	4,864 5,251	71,296	2,721 2,853	50,026	2,057 2,303	20,548 22,851	86 95	817	10,312 12,221	144,425 156,646	10,112	142,820 154,795		1,605 1,851	644	18,876 19,544
57	928,704 923,453	792,326	114,251	16,349	5,251	76,547 82,098	2,833	52,879 55,777	2,503	22,831	103	920	12,221	169,085	12,180	166,975	246 259	2,110	668 666	20,210
58	923,433 917,902	792,320	114,231	10,870	5,733	82,098	2,898	58,638	2,330	23,401 28,165	103	1,028	12,439	181,586	12,180	179,206	239	2,110	641	20,210
59	917,902	762,156	132,570	17,180	5,846	93,677	2,801	61,380	2,704	31,156	108	1,028	12,501	194,733	12,251	192,059	270 294	2,580	593	20,851
60	906,323	746,561	142,133	17,443	5,948	99,625	2,742	63,973	3,238	34,394	113	1,141	13,147	208,629	12,855	205,634	321	2,074	708	22,152
61	900,325	730,393	152,083	17,899	6,123	105,748	2,393	66,367	3,606	38,000	123	1,381	14,681	223,310	14,330	219,964	351	3,346	844	22,192
62	894,252	713,669	162,314	18,269	6,420	112,168	2,327	68,694	3,960	41,960	133	1,514	15,092	238,402	14,715	234,679	377	3,723	803	23,799
63	887,832	696,627	172,643	18,562	6,885	119,053	2,327	71,021	4,413	46,373	145	1,659	14,404	252,806	14,030	248,709	374	4,097	748	24,547
64	880,947	680,270	181,886	18,791	7,487	126,540	2,514	73,535	4,812	51,185	161	1,820	12,095	264,901	11,770	260,479	325	4,422	647	25,194
65	873,460	665,986	188,522	18,952	8,186	134,726	3,066	76,601	4,941	56,126	179	1,999	8,897	273,798	8,651	269,130	246	4,668	507	25,701
66	865,274	654,269	191,971	19,034	8,900	143,626	3,660	80,261	5,043	61,169	197	2,196	6,063	279,861	5,892	275,022	171	4,839	446	26,147
67	856,374	644,717	192,545	19,112																

Table D: Disability and Death Probabilities for the Female 1997 Birth Cohort

				_					Deaths						Newly Di	sabled				
	Li	iving At Beginn	ing Of Year		Tota	1	Acti	ve	Disab	led	Recover	red	Total Active Recovered		ed	Newly Rec	overed:			
Age x	Total	Active	Disabled	Recovered	<i>x</i> to <i>x</i> +1	20 to x+1	<i>x</i> to <i>x</i> +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 2	20 to x+1
20	1,000,000	1,000,000	-	-	344	344	339	339	5	5	-	-	1,397	1,397	1,397	1,397	-	-	3	3
21	999,656	998,264	1,389	3	381	725	367	706	14	19	-	-	1,448	2,845	1,448	2,845	-	-	13	16
22	999,275	996,449	2,810	16	415	1,140	393	1,099	22	41	-	-	1,513	4,358	1,513	4,358	-	-	22	38
23	998,860	994,543	4,279	38	443	1,583	412	1,511	31	72	-	-	1,520	5,878	1,520	5,878	-	-	32	70
24	998,417	992,611	5,736	70	468	2,051	428	1,939	40	112	-	-	1,512	7,390	1,512	7,390	-	-	59	129
25	997,949	990,671	7,149	129	493	2,544	440	2,379	53	165	-	-	1,370	8,760	1,370	8,760	-	-	129	258
26	997,456	988,861	8,337	258	520	3,064	456	2,835	64	229	-	-	1,269	10,029	1,269	10,029	-	-	202	460
27	996,936	987,136	9,340	460	546	3,610	475	3,310	71	300	-	-	1,354	11,383	1,353	11,382	1	1	241	70
28	996,390	985,308	10,382	700	572	4,182	495	3,805	77	377	-	-	1,430	12,813	1,429	12,811	1	2	273	974
29	995,818	983,384	11,462	972	598	4,780	507	4,312	90	467	1	1	1,511	14,324	1,510	14,321	1	3	287	1,261
30	995,220	981,367	12,596	1,257	625	5,405	513	4,825	111	578	1	2	1,756	16,080	1,754	16,075	2	5	318	1,579
31	994,595	979,100	13,923	1,572	653	6,058	516	5,341	136	714	1	3	2,055	18,135	2,052	18,127	3	8	352	1,931
32	993,942	976,532	15,490	1,920	682	6,740	525	5,866	156	870	1	4	2,243	20,378	2,239	20,366	4	12	371	2,302
33	993,260	973,768	17,206	2,286	711	7,451	528	6,394	181	1,051	2	6	2,457	22,835	2,451	22,817	6	18	389	2,691
34	992,549	970,789	19,093	2,667	742	8,193	534	6,928	206	1,257	2	8	2,689	25,524	2,682	25,499	7	25	410	3,101
35	991,807	967,573	21,166	3,068	779	8,972	547	7,475	229	1,486	3	11	2,910	28,434	2,901	28,400	9	34	429	3,530
36	991,028	964,125	23,418	3,485	820	9,792	559	8,034	258	1,744	3	14	3,093	31,527	3,082	31,482	11	45	448	3,978
37	990,208	960,484	25,805	3,919	859	10,651	570	8,604	285	2,029	4	18	3,287	34,814	3,274	34,756	13	58	484	4,462
38	989,349	956,640	28,323	4,386	895	11,546	573	9,177	318	2,347	4	22	3,493	38,307	3,477	38,233	16	74	502	4,964
39 40	988,454	952,590	30,996	4,868	934 978	12,480	573	9,750	356	2,703	5	27 33	3,714	42,021	3,695	41,928	19 22	93	522	5,486
	987,520	948,322	33,832	5,366		13,458	584	10,334	388	3,091	6		3,930	45,951	3,908	45,836		115	568	6,054
41 42	986,542 985,509	943,830	36,806 39,947	5,906 6,475	1,033 1,108	14,491 15,599	615	10,949 11,582	412	3,503 3,970	6 8	39 47	4,154 4,373	50,105	4,128	49,964	26 30	141 171	601	6,655
42 43	,	939,087	,	,	,	,	633	,	467	,	8 9	47 56	<i>,</i>	54,478	4,343	54,307			616	7,271
43 44	984,401 983,194	934,111 928,846	43,237 46,701	7,053 7,647	1,207 1,324	16,806 18,130	682 741	12,264 13,005	516 572	4,486 5,058	11	50 67	4,618 4,843	59,096 63,939	4,583 4,803	58,890 63,693	35 40	206 246	638 641	7,909 8,550
44	985,194	923,302	50,331	8,237	1,524	19,580	815	13,820	622	5,680	11	80	5,194	69,133	5,148	68,841	40	240	687	9,237
43 46	981,870	923,302 917,339	54,216	8,257	1,450	21,160	815	13,820	690	6,370	15	80 95	5,557	74,690	5,504	74,345	53	345	740	9,237
40	980,420 978,840	910,960	58,343	9,537	1,580	22,887	875 954	15,649	756	7,126	15	112	5,781	80,471	5,721	80,066	60	405	740	10,719
48	977,113	904,285	62,626	10,202	1,727	22,887	1,030	16,679	837	7,963	20	132	5,975	86,446	5,908	85,974	67	403	742	11,460
49	975,226	897,347	67,023	10,202	2,059	26,833	1,050	17,773	941	8,904	20	152	6,142	92,588	6,069	92,043	73	545	706	12,166
50	973,167	890,184	71,518	11,465	2,037	29,070	1,094	18,999	984	9,888	27	183	7,439	100,027	7,344	99,387	95	640	729	12,100
51	970,930	881,614	77,244	12,072	2,237	31,486	1,220	20,300	1,084	10,972	31	214	8,922	108,949	8,801	108,188	121	761	725	13,620
52	968,514	871,512	84,357	12,645	2,583	34,069	1,325	21,625	1,223	12,195	35	249	8,903	117,852	8,776	116,964	127	888	718	14,338
53	965,931	861,411	91,319	13,201	2,735	36,804	1,366	22,991	1,331	13,526	38	287	8,756	126,608	8,624	125,588	132	1,020	715	15,053
54	963,196	851,421	98,029	13,746	2,875	39,679	1,368	24,359	1,465	14,991	42	329	8,933	135,541	8,791	134,379	142	1,162	651	15,704
55	960,321	841,262	104,846	14,213	3,042	42,721	1,455	25,814	1,541	16,532	46	375	10,078	145,619	9,911	144,290	167	1,329	672	16,376
56	957,279	829,896	112,711	14,672	3,219	45,940	1,524	27,338	1,645	18,177	50	425	11,495	157,114	11,295	155,585	200	1,529	682	17,058
57	954,060	817,077	121,879	15,104	3,354	49,294	1,511	28,849	1,789	19,966	54	479	11,610	168,724	11,399	166,984	211	1,740	641	17,699
58	950,706	804,167	131,059	15,480	3,428	52,722	1,376	30,225	1,995	21,961	57	536	11,614	180,338	11,395	178,379	219	1,959	628	18,327
59	947,278	791,396	140,050	15,832	3,478	56,200	1,185	31,410	2,234	24,195	59	595	12,028	192,366	11,792	190,171	236	2,195	597	18,924
60	943,800	778,419	149,247	16,134	3,526	59,726	1,144	32,554	2,321	26,516	61	656	11,953	204,319	11,710	201,881	243	2,438	669	19,593
61	940,274	765,565	158,210	16,499	3,641	63,367	1,084	33,638	2,492	29,008	65	721	11,960	216,279	11,708	213,589	252	2,690	720	20,313
62	936,633	752,773	166,958	16,902	3,892	67,259	1,074	34,712	2,747	31,755	71	792	12,243	228,522	11,974	225,563	269	2,959	643	20,956
63	932,741	739,725	175,811	17,205	4,320	71,579	1,195	35,907	3,045	34,800	80	872	11,729	240,251	11,462	237,025	267	3,226	520	21,476
64	928,421	727,068	183,975	17,378	4,892	76,471	1,477	37,384	3,323	38,123	92	964	9,949	250,200	9,717	246,742	232	3,458	460	21,936
65	923,529	715,874	190,141	17,514	5,566	82,037	2,087	39,471	3,373	41,496	106	1,070	7,982	258,182	7,791	254,533	191	3,649	355	22,291
66	917,963	705,996	194,395	17,572	6,256	88,293	2,598	42,069	3,538	45,034	120	1,190	6,050	264,232	5,903	260,436	147	3,796	294	22,585
67	911,707	697,495	196,613	17,599																

Table E: Probabilities of Disability, Death, and Survival for Insured Workers Attaining Age 20 in 2017(1997 Birth Cohort)

_		Males Attaining	Age 20 in 2017		_	Females Attaining Age 20 in 2017						
Age <i>x</i>	Probability of Survival With No Disability From Age 20 To Age <i>x</i>	Probability of Disability From Age 20 To Age <i>x</i>	Probability of Death While Never Disabled From Age 20 To Age <i>x</i>	Probability of Death or Disability From Age 20 To Age <i>x</i>	Age <i>x</i>	Probability of Survival With No Disability From Age 20 To Age <i>x</i>	Probability of Disability From Age 20 To Age <i>x</i>	Probability of Death While Never Disabled From Age 20 To Age <i>x</i>	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			
21	99.4	0.2	0.2	0.6	21	99.6	0.3	0.1	0.2			
22	99.0	0.7	0.3	1.0	22	99.5	0.4	0.1	0.5			
23	98.7	0.9	0.4	1.3	23	99.3	0.4	0.2	0.5			
25	98.3	1.1	0.5	1.7	25	99.1	0.7	0.2	0.9			
26	98.0	1.3	0.6	2.0	26	98.9	0.9	0.2	1.1			
20	97.8	1.5	0.8	2.0	20	98.7	1.0	0.2	1.3			
28	97.5	1.5	0.9	2.2	28	98.5	1.0	0.3	1.5			
29	97.2	1.8	1.0	2.8	20	98.3	1.3	0.4	1.5			
30	96.9	2.0	1.0	3.1	30	98.1	1.5	0.4	1.9			
31	96.6	2.0	1.2	3.4	31	97.9	1.4	0.5	2.1			
32	96.3	2.2	1.2	3.7	32	97.7	1.8	0.5	2.3			
32	95.9	2.4	1.5	4.1	33	97.4	2.0	0.6	2.5			
34	95.6	2.0	1.5	4.4	33	97.4	2.0	0.6	2.0			
35	95.2	3.1	1.0	4.8	35	96.8	2.5	0.0	3.2			
36	93.2	3.4	1.7	5.2	36	96.4	2.5	0.7	3.6			
30	94.8	3.4	1.8	5.6	30	96.0	3.1	0.7	4.0			
38	94.4	4.0	2.0	5.0 6.0	38	95.7	3.5	0.8	4.0			
38 39	93.6	4.0	2.0	6.4	38 39	95.3	3.3	0.9	4.3			
40	93.0	4.5	2.1	6.9	40	93.3	4.2	1.0	5.2			
40	92.7	4.0 5.0	2.2	7.3	40	94.8	4.2	1.0	5.6			
42	92.7	5.4	2.4	7.3	41	93.9	5.0	1.0	5.0 6.1			
42	92.2	5.8	2.5	8.3	42	93.9 93.4	5.4	1.1	6.6			
44	91.7	6.2	2.0	8.9	44	92.9	5.9	1.2	7.1			
45	90.5	6.6	2.7	9.5	44	92.3	6.4	1.2	7.1			
46	89.9	7.1	3.0	10.1	46	91.7	6.9	1.5	8.3			
47	89.3	7.6	3.1	10.1	40	91.7	7.4	1.4	8.9			
48	88.6	8.1	3.3	11.4	48	90.4	8.0	1.5	9.6			
49	87.9	8.7	3.4	11.4	48 49	89.7	8.6	1.0	10.3			
50	87.1	9.2	3.6	12.1	50	89.0	9.2	1.7	11.0			
51	86.3	9.2	3.8	13.7	51	88.2	9.2	1.8	11.0			
52	85.2	10.7	4.0	14.8	52	87.2	10.8	2.0	12.8			
53	84.2	11.6	4.0	15.8	53	86.1	11.7	2.0	13.9			
54	83.1	12.4	4.5	16.9	54	85.1	12.6	2.2	14.9			
55	82.0	13.3	4.7	18.0	55	84.1	13.4	2.4	15.9			
56	80.7	14.3	5.0	19.3	56	83.0	14.4	2.6	17.0			
57	79.2	15.5	5.3	20.8	57	81.7	15.6	2.7	18.3			
58	79.2	16.7	5.6	20.8	58	80.4	15.0	2.9	19.6			
59	76.2	17.9	5.9	23.8	58 59	79.1	17.8	3.0	20.9			
60	76.2	17.9	6.1	25.3	60	79.1	17.8	3.0	20.9			
61	73.0	20.6	6.4	25.5	61	76.6	20.2	3.3	22.2			
62	73.0	20.0	6.6	27.0	62	75.3	20.2	3.4	23.4			
63	69.7	22.0	6.9	30.3	63	73.3	21.4 22.6	3.4	24.7			
64	68.0	23.3	7.1	30.3	64	74.0	22.0	3.6	20.0			
65	66.6	24.9	7.1	32.0	65	71.6	23.7	3.0	27.5			
65 66	65.4	26.0	7.4	33.4 34.6	66	70.6	24.7	3.7	28.4 29.4			
67	64.5	20.9	8.0	34.0	67	69.7	25.5	4.2	30.3			

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