

Supplemental Table 1. Number of nursing home residents included in calculating influenza vaccination estimates by select demographic characteristics, Minimum Data Set, United States, 2005-06 through 2014-15 influenza seasons*

	Influenza season									
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Total	2,446,647	2,454,611	2,485,267	2,480,464	2,496,339	2,530,382	2,541,893	2,586,703	2,574,900	2,640,219
Age										
18-24 years	4,547	4,341	4,134	4,171	3,861	3,804	3,930	3,832	3,851	3,721
25-44 years	47,918	46,091	44,090	43,204	41,914	41,024	40,798	40,490	41,111	40,814
45-54 years	97,945	9,122	100,873	103,440	104,867	105,386	105,844	104,616	105,267	103,993
55-64 years	182,839	190,605	199,662	208,902	221,985	236,142	248,092	255,405	267,298	276,416
65-74 years	362,102	367,441	377,558	389,670	403,471	420,561	435,995	462,447	481,798	504,363
75-84 years	826,741	814,071	808,571	789,728	775,575	773,745	763,361	762,881	746,160	757,212
≥85 years	924,555	932,940	950,379	941,349	944,666	949,720	943,873	957,032	929,415	953,700
Sex										
Female	1,643,241	1,644,451	1,655,698	1,640,740	1,641,162	1,650,738	1,650,692	1,663,468	1,641,106	1,668,896
Male	798,538	805,064	824,563	834,883	850,219	872,486	885,000	916,742	927,970	965,117
Inconsistent information	4,384	4,588	4,342	4,245	4,223	6,959	6,011	6,310	5,824	6,206
Missing	484	508	664	596	735	199	190	183	0	0
Race/ethnicity										
American Indian or Alaska Native	10,101	9,948	9,813	9,438	9,688	8,039	8,292	8,429	8,753	9,054
Asian or Pacific Islander	31,782	33,059	34,865	36,335	38,306	-†	-†	-†	-†	-†
Asian	‡	‡	‡	‡	‡	32,053	34,357	36,748	37,569	39,451
Native Hawaiian or Other Pacific Islander	‡	‡	‡	‡	‡	2,245	2,597	2,820	2,847	2,753
Black or African American, non-Hispanic	272,326	275,398	281,014	285,035	291,085	290,253	297,561	303,561	307,763	318,149
Hispanic or Latino	87,756	91,311	95,242	98,213	102,410	105,828	110,654	116,086	118,794	123,083
White, non-Hispanic	2,012,243	2,009,154	2,025,467	2,013,338	2,015,282	2,030,742	2,021,074	2,048,223	2,018,457	2,063,532
Multiple races, non-Hispanic	‡	‡	‡	‡	‡	3,130	3,684	3,708	3,916	4,565
Inconsistent information	24,188	22,506	22,265	21,125	21,009	42,651	32,805	34,024	34,519	35,218
Missing	8,251	13,235	16,601	16,980	18,559	15,441	30,869	33,104	42,282	44,414
Number of chronic medical conditions§										
0	‡	‡	‡	‡	‡	‡	239,803	268,711	277,542	293,838
1	‡	‡	‡	‡	‡	‡	524,288	582,691	591,470	617,057
2	‡	‡	‡	‡	‡	‡	524,981	581,448	592,557	615,295
≥3	‡	‡	‡	‡	‡	‡	644,715	725,119	742,617	770,855
Missing	‡	‡	‡	‡	‡	‡	608,106	428,743	370,941	343,864
Marital status										
Never married	273,976	279,953	285,450	293,513	299,529	355,730	368,342	381,404	390,791	405,662

Married	504,174	512,042	527,289	535,710	547,444	642,108	656,410	675,676	676,840	696,875
Widowed	1,015,557	1,010,495	1,008,256	989,425	972,181	1,104,325	1,083,268	1,075,553	1,035,885	1,042,865
Separated	29,585	28,914	28,260	27,563	27,075	29,993	30,059	29,728	30,650	30,849
Divorced	186,752	194,117	203,054	212,251	221,643	261,113	272,323	283,215	292,675	307,246
Inconsistent information	48,109	46,687	47,887	47,725	48,114	113,413	102,101	105,132	106,737	109,650
Missing	388,494	382,403	385,071	374,277	380,353	23,700	29,390	35,995	41,322	47,072

* Each influenza season is defined as the period from October 1 through March 31 of the following year.

† Beginning in October 2010, “Asian or Pacific Islander” was separated into two categories on the Resident Assessment Instrument, “Asian” and “Native Hawaiian or other Pacific Islander”.

‡ Not collected on the Resident Assessment Instrument prior to October 2010.

§ Selected high-risk conditions for influenza-related complications, obtained from the “Active Diagnoses” section of the MDS from the residents’ most recent annual assessment prior to the start of each influenza season. Includes cancer, coronary artery disease, heart failure, cirrhosis, renal insufficiency, renal failure, or end-stage renal disease, diabetes, Alzheimer’s disease, cerebral palsy, cerebrovascular accident, transient ischemic attack, or stroke, non-Alzheimer’s dementia, hemiplegia or hemiparesis, paraplegia, quadriplegia, multiple sclerosis, Huntington’s disease, Parkinson’s disease, seizure disorder or epilepsy, traumatic brain injury, and asthma, chronic obstructive pulmonary disease, or chronic lung disease.

¶ Comparable data on chronic conditions not available in the MDS 2.0 in use prior to 2011.

Supplemental Table 2. Number of nursing home residents included in calculating influenza vaccination estimates by state, Minimum Data Set, United States, 2005-06 through 2014-15 influenza seasons*

	Influenza season									
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
All states	2,446,647	2,454,611	2,485,267	2,480,464	2,496,339	2,530,382	2,541,893	2,586,703	2,574,900	2,640,219
Alabama	36,920	37,891	38,662	38,532	39,198	39,387	39,673	40,412	40,383	41,673
Alaska	1,001	1,073	994	1,049	1,078	935	896	895	948	977
Arizona	32,264	31,122	31,108	30,126	31,157	32,816	32,810	34,399	34,816	36,169
Arkansas	26,091	26,362	27,119	26,809	27,142	26,666	26,729	27,168	26,954	27,630
California	203,042	199,631	201,919	200,551	204,022	207,153	212,260	219,453	218,294	224,097
Colorado	29,945	30,093	30,383	30,514	30,819	30,898	31,205	31,743	32,072	33,023
Connecticut	47,294	47,121	48,147	47,166	47,222	47,753	47,518	47,105	46,378	46,804
Delaware	6,654	6,842	7,132	7,353	7,527	7,834	7,971	8,076	8,358	8,568
District of Columbia	4,514	4,413	3,926	4,056	4,206	4,235	4,240	4,243	4,208	4,240
Florida	149,977	150,299	151,228	152,964	154,920	160,219	160,157	165,025	164,961	171,051
Georgia	52,381	52,084	52,326	53,114	54,110	54,541	55,431	56,002	56,039	57,405
Hawaii	6,281	6,336	6,367	6,600	6,624	6,853	6,918	6,799	7,070	7,466
Idaho	9,126	8,990	8,916	8,779	8,999	9,066	8,957	8,884	8,657	8,696
Illinois	127,650	128,337	130,085	128,409	127,821	129,210	127,730	128,498	127,404	130,497
Indiana	65,462	65,662	66,679	65,848	65,652	66,445	67,176	68,434	68,114	70,556
Iowa	39,754	39,517	39,680	39,043	38,499	37,566	37,284	37,632	37,591	37,845
Kansas	29,039	28,982	29,220	28,578	28,702	28,574	28,755	28,854	29,057	29,571
Kentucky	38,165	38,514	39,014	39,086	39,273	40,234	40,846	41,074	40,785	42,689
Louisiana	36,167	35,587	35,525	35,661	36,259	35,850	36,357	37,055	37,214	38,000
Maine	12,902	12,957	13,220	13,148	13,079	13,104	12,877	13,226	13,043	13,182
Maryland	47,994	48,299	48,516	48,649	48,308	49,235	49,397	50,377	50,381	52,341
Massachusetts	80,727	80,623	80,975	80,600	80,065	81,643	81,495	82,686	81,513	83,637
Michigan	71,451	72,762	75,214	75,645	76,807	79,099	79,400	81,099	82,062	85,797
Minnesota	54,665	53,898	54,205	53,310	52,179	52,795	52,053	52,573	51,344	51,439
Mississippi	22,210	22,414	22,830	23,074	23,339	23,831	23,906	24,513	24,573	25,031
Missouri	60,356	61,460	62,190	61,888	61,652	61,131	62,098	62,493	62,351	64,449
Montana	8,947	8,949	8,728	8,504	8,279	8,014	7,729	7,866	8,007	8,002
Nebraska	20,683	21,000	21,254	20,746	20,890	20,892	20,597	20,685	20,302	20,762
Nevada	10,373	10,570	10,493	10,585	11,341	11,256	11,801	11,868	12,022	12,673
New Hampshire	11,566	11,737	11,916	12,101	11,948	12,017	12,089	12,017	11,873	12,223
New Jersey	85,874	87,577	89,024	89,599	89,535	90,497	91,472	93,840	91,965	94,466
New Mexico	10,204	9,716	9,714	9,428	9,811	10,097	10,405	10,737	10,909	10,835

New York	176,203	178,346	179,848	180,396	181,666	184,201	182,771	184,487	182,459	186,957
North Carolina	63,882	64,915	66,220	66,360	66,975	69,741	70,452	72,009	72,277	74,261
North Dakota	8,599	8,613	8,483	8,393	8,353	8,329	8,371	8,137	8,005	7,960
Ohio	140,978	143,478	145,945	145,057	144,194	145,593	145,777	146,107	144,473	146,680
Oklahoma	30,873	30,021	31,074	30,260	30,276	29,630	29,831	30,106	29,572	29,834
Oregon	19,014	18,944	18,962	18,432	18,545	18,900	18,883	19,298	19,870	20,750
Pennsylvania	139,409	139,554	141,530	143,414	143,660	146,717	146,292	148,664	146,594	149,581
Rhode Island	13,856	13,798	13,808	13,770	14,016	14,027	13,999	14,230	14,347	15,080
South Carolina	27,475	27,821	28,421	29,107	29,898	31,100	31,083	32,155	32,305	33,856
South Dakota	9,424	9,482	9,366	9,233	9,208	9,220	9,068	9,004	8,933	8,962
Tennessee	54,328	53,959	53,830	54,130	55,270	54,903	54,849	56,638	56,090	57,839
Texas	139,176	140,551	144,931	145,052	147,346	150,001	153,422	158,476	160,072	163,112
Utah	12,313	12,423	12,414	12,151	12,693	13,195	13,746	14,225	14,225	15,247
Vermont	4,988	5,079	5,020	5,261	5,294	5,254	5,195	5,167	5,045	5,096
Virginia	49,986	50,689	52,422	53,167	54,263	55,295	56,107	57,618	57,855	59,310
Washington	39,986	39,655	39,383	38,894	39,219	39,825	39,587	40,095	40,076	40,176
West Virginia	16,226	16,317	16,594	16,668	16,399	16,398	16,390	16,381	16,262	16,326
Wisconsin	56,352	56,196	56,476	55,433	54,845	54,443	54,171	54,492	53,243	53,825
Wyoming	3,900	3,952	3,831	3,771	3,756	3,775	3,667	3,683	3,549	3,573

* Each influenza season is defined as the period from October 1 through March 31 of the following year.

Supplemental Table 3. Number of nursing home residents included in calculating pneumococcal vaccination estimates by select demographic characteristics, Minimum Data Set, United States, 2006-2014

	2006	2007	2008	2009	Year 2010	2011	2012	2013	2014
Total	3,288,514	3,347,049	3,423,981	3,449,237	3,511,591	3,612,616	3,662,016	3,727,323	3,786,938
Age									
18-24 years	6,050	6,106	5,817	5,845	5,500	5,594	5,754	5,711	5,746
25-44 years	63,459	61,963	60,100	59,284	57,437	58,269	58,522	59,150	60,442
45-54 years	133,503	137,795	142,041	146,543	147,780	152,103	152,523	152,601	156,131
55-64 years	256,630	272,275	286,365	304,997	324,130	351,326	365,621	381,531	402,569
65-74 years	515,977	532,442	556,254	579,690	601,812	633,476	669,051	708,340	743,573
75-84 years	1,133,090	1,128,713	1,132,963	1,114,164	1,108,500	1,119,564	1,113,415	1,113,131	1,112,351
≥85 years	1,179,805	1,207,755	1,240,441	1,238,714	1,266,432	1,292,284	1,297,130	1,306,859	1,306,126
Sex									
Female	2,175,098	2,206,277	2,244,053	2,245,811	2,273,437	2,324,114	2,339,407	2,359,051	2,376,362
Male	1,105,562	1,132,812	1,171,658	1,195,578	1,228,771	1,277,070	1,311,883	1,358,132	1,400,366
Inconsistent information	7,144	6,949	7,033	6,718	8,281	11,059	10,389	10,030	10,210
Missing	710	1,011	1,237	1,130	1,102	373	337	110	0
Race/ethnicity									
American Indian or Alaska Native	12,995	13,016	12,633	12,888	12,137	11,052	11,543	12,053	12,740
Asian or Pacific Islander	42,420	45,326	48,327	50,795	23,828	-*	-*	-*	-*
Asian	-†	-†	-†	-†	7,053	45,851	48,965	52,512	53,760
Native Hawaiian or Other Pacific Islander	-†	-†	-†	-†	714	3,319	3,846	4,105	4,051
Black or African American, non-Hispanic	347,427	357,949	369,833	377,942	385,706	395,845	406,892	418,314	431,815
Hispanic or Latino	119,876	124,602	131,385	136,577	142,112	150,644	157,899	164,651	171,236
White, non-Hispanic	2,714,433	2,748,006	2,802,010	2,810,479	2,842,614	2,906,451	2,925,600	2,957,650	2,976,935
Multiple races, non-Hispanic	-†	-†	-†	-†	745	4,529	4,921	5,105	5,865
Inconsistent information	35,641	34,199	32,965	32,494	70,587	57,943	52,599	53,958	56,812
Missing	15,722	23,951	26,828	28,062	26,095	36,982	49,751	58,975	73,724
Number of chronic medical conditions†									
0	-\$	-\$	-\$	-\$	-\$	1,012,284	1,061,869	1,069,926	1,090,002
1	-\$	-\$	-\$	-\$	-\$	1,023,467	1,081,891	1,104,617	1,129,284
2	-\$	-\$	-\$	-\$	-\$	621,746	666,233	690,637	708,704
≥3	-\$	-\$	-\$	-\$	-\$	413,897	453,188	479,655	497,241
Missing	-\$	-\$	-\$	-\$	-\$	541,221	398,836	382,591	362,120
Marital status									
Never married	377,405	389,595	402,213	416,668	426,934	481,405	498,441	517,504	539,748

Married	781,344	804,325	835,570	859,550	885,991	1,001,714	1,028,474	1,054,884	1,075,784
Widowed	1,426,619	1,430,256	1,437,476	1,418,992	1,417,113	1,514,271	1,495,385	1,480,249	1,459,187
Separated	40,839	40,051	39,869	38,404	37,240	40,256	40,155	40,311	41,785
Divorced	266,578	282,415	298,735	315,005	329,636	369,120	384,581	401,928	421,316
Inconsistent information	78,010	76,875	79,689	78,919	129,683	164,248	164,061	171,226	177,333
Missing	317,719	323,532	330,429	321,699	284,994	41,602	50,919	61,221	71,785

*Beginning in October 2010, "Asian or Pacific Islander" was separated into two categories on the Resident Assessment Instrument, "Asian" and "Native Hawaiian or other Pacific Islander".

† Not collected on the Resident Assessment Instrument prior to October 2010.

‡ Selected high-risk conditions for invasive pneumococcal disease, obtained from the "Active Diagnoses" section of the MDS from the residents' annual assessment during the calendar year of interest. Includes cancer, coronary artery disease, heart failure, cirrhosis, renal insufficiency, renal failure, or end-stage renal disease, diabetes, and asthma, chronic obstructive pulmonary disease, or chronic lung disease.

§ Comparable data on chronic conditions not available in the MDS 2.0 in use prior to 2011.

Supplemental Table 4. Number of nursing home residents included in calculating pneumococcal vaccination estimates by state, Minimum Data Set, United States, 2006-2014

	Year								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
All states	3,288,514	3,347,049	3,423,981	3,449,237	3,511,591	3,612,616	3,662,016	3,727,323	3,786,938
Alabama	49,125	50,811	52,481	53,226	53,586	55,505	56,623	57,281	58,015
Alaska	1,405	1,360	1,382	1,446	1,359	1,293	1,236	1,257	1,335
Arizona	47,931	46,106	46,550	47,326	49,468	51,936	52,786	54,973	57,744
Arkansas	33,578	34,269	35,130	34,748	35,674	36,261	36,431	36,627	37,152
California	281,180	283,227	289,461	292,909	297,914	307,663	316,303	325,635	330,165
Colorado	41,717	41,534	42,911	43,168	44,061	45,888	46,446	47,341	48,829
Connecticut	62,623	63,798	65,565	65,272	65,927	67,879	67,487	67,301	67,615
Delaware	9,162	9,522	10,041	10,270	10,709	11,389	11,394	11,868	12,275
District of Columbia	6,018	5,573	5,388	5,795	5,746	5,950	5,888	5,975	5,875
Florida	213,429	217,724	222,132	225,795	231,868	238,686	244,769	249,646	256,717
Georgia	66,316	67,050	68,924	70,344	72,602	75,268	76,883	77,766	79,338
Hawaii	8,491	8,797	8,999	9,376	9,384	9,956	9,882	10,088	10,459
Idaho	12,934	12,786	12,735	13,038	13,058	13,621	13,538	13,457	13,450
Illinois	165,397	169,263	173,002	173,116	175,662	179,750	179,769	181,877	184,950
Indiana	86,472	87,148	89,370	88,648	90,279	92,537	94,266	96,221	98,214
Iowa	50,196	50,264	50,951	49,961	49,655	50,065	50,168	51,047	51,622
Kansas	36,369	37,151	37,199	36,933	37,564	38,644	38,952	39,676	40,731
Kentucky	51,168	51,520	53,155	53,245	54,399	56,448	57,171	58,205	59,203
Louisiana	41,890	43,177	44,513	44,978	45,720	46,735	47,803	48,522	49,615
Maine	17,684	18,365	18,715	19,212	18,917	19,262	19,187	19,449	19,393
Maryland	67,164	68,057	69,240	69,578	70,448	72,447	73,209	74,511	75,626
Massachusetts	109,675	111,327	112,686	112,706	113,594	117,214	117,231	118,220	119,742
Michigan	98,754	101,156	105,481	108,157	111,772	115,849	117,046	122,035	125,721
Minnesota	70,404	71,415	73,328	72,404	73,130	74,445	75,147	75,628	75,005
Mississippi	26,741	28,088	29,102	29,671	30,444	31,191	31,685	32,875	33,066
Missouri	79,748	80,898	83,143	82,177	83,105	83,708	84,979	86,571	88,229
Montana	11,897	12,119	11,703	11,240	11,154	11,013	10,996	11,245	11,521
Nebraska	27,289	27,956	28,211	27,797	28,374	28,611	28,654	29,066	29,202
Nevada	15,271	15,140	15,877	17,295	17,006	17,552	18,098	18,546	19,164
New Hampshire	15,381	16,017	16,490	16,540	16,612	16,966	16,590	16,706	17,145
New Jersey	122,342	124,497	127,446	128,761	130,236	133,576	135,172	136,159	137,850
New Mexico	12,805	12,421	12,590	13,086	13,901	15,310	15,423	15,836	16,251

New York	234,618	239,706	243,168	245,999	248,491	253,668	253,828	254,942	258,287
North Carolina	84,691	88,566	91,346	91,842	95,493	99,683	102,074	104,991	107,193
North Dakota	10,895	10,923	10,892	10,951	10,910	11,072	11,039	10,766	10,496
Ohio	192,592	196,183	202,269	201,400	202,972	208,909	210,647	211,897	212,671
Oklahoma	39,397	39,889	40,434	39,647	40,200	40,451	40,852	41,395	41,996
Oregon	27,545	27,827	28,088	28,362	28,693	29,610	30,812	31,933	33,348
Pennsylvania	187,812	191,703	195,727	198,993	201,884	207,464	208,568	211,830	212,028
Rhode Island	18,237	18,255	18,409	18,740	18,915	19,762	19,609	19,963	20,586
South Carolina	36,553	37,941	39,449	40,683	42,388	44,162	45,568	47,228	48,023
South Dakota	11,936	11,742	11,731	11,699	11,807	11,870	11,856	11,808	11,931
Tennessee	71,301	71,943	72,591	74,331	75,282	76,950	79,234	81,067	82,971
Texas	181,915	188,449	194,340	194,425	201,930	211,451	217,768	225,020	230,404
Utah	18,548	18,496	18,701	19,025	20,005	20,981	22,144	22,593	23,630
Vermont	6,655	6,672	6,863	7,276	7,381	7,599	7,567	7,604	7,270
Virginia	65,894	69,678	73,630	75,623	78,224	80,631	82,702	84,956	86,710
Washington	57,095	57,424	57,490	58,257	59,043	60,042	60,879	61,469	62,054
West Virginia	22,191	22,318	22,721	22,559	22,798	23,037	22,980	22,946	22,718
Wisconsin	74,984	75,749	77,308	76,266	76,787	77,570	77,694	78,305	78,452
Wyoming	5,099	5,049	4,923	4,941	5,060	5,086	4,983	5,000	4,951