

Supplementary Table 1: Studies included in Rapid Review

Author	Study Period	Setting	Country	N (pop.)	Age range	Available data (Probabilities)
Meier et al. (2000) (27)	1991 – 1996	Outpatient	UK	141.293	All ages	Pneumonia (0.38%), Otitis media (1.05%), Bronchitis (1.48%), Myocarditis (0.08%), Sinusitis (0.03%), Death (0.19%)
Oliveira et al. (2001) (28)	1999 – 2000	Inpatient	USA	35	25 – 92 Years	Pneumonia (48.5%), Death (29.4%), Pneumonia Recovery (80.5%)
Sessa et al. (2001) (29)	1998 – 1999	Outpatient	Italy	6192	All ages	Pneumonia (1.4%), Otitis media (1.6%), Bronchitis (14.7%), Sinusitis (3.2%)
Kaiser et al. (2003) (30)	1997 – 2000	Outpatient	USA, Northern Hemisphere, Southern Hemisphere	3564	13 – 97 Years	Pneumonia (1.8%), Bronchitis (8.2%)
Peltola et al. (2003) (31)	1980 – 1999	Inpatient	Finland	683	<18 Years	Pneumonia (9%), Otitis media (24%), Encephalitis (0.7%)
Heikkinen et al. (2004) (32)	2000 – 2002	Outpatient	Finland	372	<13 Years	Pneumonia (2.4%), Otitis media (23%), Sinusitis (3.5%)
Podewils et al (2005) (23) (cross-sectional)	2003 – 2004	Inpatient / Outpatient	USA	13.560	N/A	Death (0.4%)
Bhat et al. (2005) (24) (cross-sectional)	2003 – 2004	Inpatient / Outpatient	USA	153	<18 Years	Death (0.00021%)
Moore et al. (2006) (33)	2003 – 2004	Inpatient	Canada	505	N/A	Pneumonia (6.3%), Otitis media (3%), Myocarditis (0.4%), Sinusitis (0.4%), Death (0.6%)
Barr et al. (2007) (34)	2000 – 2004	Inpatient / Outpatient	USA	24.854	1 – 12 Years	Pneumonia (1.2%)
Coffin et al. (2007) (35)	2000 – 2004	Inpatient	USA	745	<21 Years	Pneumonia (15%), Death (1%)

Hjalmarsson et al. (2009) (36)	1987 – 1998	Inpatient	Sweden	14.250	All Ages	Encephalitis (0.07%), Death (4.1%)
Kwong et al. (2009) (37) (cross sectional)	2005	Inpatient	Hong-Kong	123	>18 Years	Pneumonia (13%), Otitis media (0.8%), Bronchitis (4.1%), Encephalitis (0.8%), Sinusitis (0.8%)
Lee et al. (2010) (38)	2007 – 2008	Inpatient	Hong-Kong	754	<18 Years	Pneumonia (43%), Bronchitis (5.4%), Death (5.2%)
Belongia, E.A. (2010) (39)	2007 – 2009	Inpatient / Outpatient	USA	1398	All Ages	Pneumonia (2%), Otitis media (9.5%), Sinusitis (6.6%)
Bassetti et al. (2011) (40)	2009	Inpatient	Italy	81	All Ages	Pneumonia (50%), Death (3%)
Lee et al. (2011) (41)	2007 – 2010	Inpatient	Hong-Kong	382	>16 Years	Pneumonia (34.3%), Death (3.1%)
Viasus et al. (2011) (42)	2009	Inpatient	Spain	542	>18 Years	Pneumonia (43%)
Mansour, M.M.H.K. & Al-Hadidi, K.H.A. (2012) (43)	2009 – 2010	Inpatient	Saudi-Arabia	89	<15 Years	Pneumonia (31.5%), Bronchitis (33.7%)
Jain et al. (2012) (44) (Case-Series)	2009	Inpatient	USA	451	All Ages	Pneumonia (43%), ARDS (6.2%), Sepsis (4.6%), Death (8.2%)
Wieching et al. (2012) (45)	2009 – 2010	Inpatient	Germany	94	<18 Years	Pneumonia (17%), Otitis media (3%), Bronchitis (21%), ARDS (1%)
Lee et al. (2012) (46)	2009	Inpatient / Outpatient	Taiwan	1158	All Ages	Pneumonia (1.9%), Otitis media (0.3%), Bronchitis (0.3%), Encephalitis (0.1%), Sinusitis (0.3%)
Hernández-Bou et al. (2013) (47) (Case-Series)	2009	Inpatient	Spain	308	<14 Years	Pneumonia (44.8%), Encephalitis (1.3%), Myocarditis (0.6%), Sepsis (3.9%), Death (1.9%)

Esterman et al. (2013) (48)	2009	Inpatient	Australia	32	<6 Months	Pneumonia (22%), Encephalitis (1%)
Dawood et al. (2014) (49)	2003 – 2010	Inpatient	USA	6769	<18 Years	Pneumonia (36%), Otitis media (6%), Bronchitis (0.17%), Myocarditis (0.08%), Sepsis (3%), Sinusitis (0.25%), Death (1%)
Chiu et al. (2014) (50)	2011 – 2012	Inpatient	Taiwan	326	All Ages	Pneumonia (54%), Encephalitis (2.1%), ARDS (49.4%), Death (26.6%)
Reed et al. (2014) (51)	2005 – 2010	Inpatient	USA	10.232	>18 Years	Pneumonia (39%), Myocarditis (0.3%), Sepsis (7.8%), Death (3.8%)
Wilking et al. (2014) (52)	2009 – 2010	Inpatient	USA	365	<13 Years	Encephalitis (1.1%)
Hagerman et al. (2015) (53)	2009	Inpatient	Switzerland	326	<18 Years	Pneumonia (25.8%), Otitis media (8.3%), Death (0.6%)
Shah et al. (2015) (54)	2013 – 2014	Inpatient	USA	507	All Ages	Pneumonia (31%), ARDS (39.6%), Death (19.1%)
Puig-Barberá et al. (2016) (55)	2013 – 2014	Inpatient	Russia, Turkey, China, Spain	5303	All Ages	Pneumonia (17.9%), ARDS (0.9%)
Vardakas et al. (2016) (56)	2011 – 2012	Outpatient	Greece	410	All Ages	Pneumonia (2%), Otitis media (0.6%), Bronchitis (7.4%), Sinusitis (2.2%)
Zanuzdana et al. (2016) (57)	2012 – 2015	Outpatient	Germany	156.803	All Ages	Pneumonia (1.6%)
Topolous et al. (2019) (58)	2018	Inpatient	Germany	212	All Ages	Pneumonia (24.2%), Death (4.7%), Pneumonia Recovery (84%)
Chong et al. (2020) (59)	2013 – 2014	Inpatient	Singapore	1272	<19 Years	Pneumonia (4.4%), Otitis media (0.63%), Bronchitis (0.94%), Encephalitis (0.47%), ARDS (0.47%), Sinusitis

						(0.24%), Death (0.2%)
Mylonaki et al. (2020) (60)	2017 – 2018	Inpatient	Austria	874	>18 Years	Encephalitis (0.22%)
Teutsch et al. (2021) (61)	2008 – 2017	Inpatient	Australia	613	<15 Years	Pneumonia (54.3%), Myocarditis (2.4%), Death (4.9%)
Sharma et al. (2020) (62)	2016 – 2020	Inpatient	Australia	1846	<18 Years	Pneumonia (7.2%)
Piroth et al. (2021) (63)	2018 – 2019	Inpatient	France	45.189	All Ages	Death (5.8%)
Marano et al. (2021) (26)	2014 – 2017	Inpatient / Outpatient	Italy	953.193	>65 Years	Death (1.5%)
Arias-Fernández et al. (2021) (12)	2009 – 2015	Inpatient	Spain	1993	>60 Years	Pneumonia Recovery (83.6%)

Formula for population size weighting:

$$\sum \frac{n_{ix}}{N_{ix} \times p_x}$$

n_{ix} = Sample size of study i investigating complication x

N_{ix} = Total sample size of studies i investigating complication x

P_x = Probability of complication x

Supplementary Table 2: Calculation of Multiplication Factors

	Influenza-related consultations reported by AGI	Cases reported by RKI	Multiplication Factor
2014/2015	0 – 4: 370,000 5 – 14: 680,000 15 – 34: 1,500,000 35 – 59: 2,700,000 60+: 900,000	0 – 4: 10,497 5 – 14: 13,416 15 – 34: 12,374 35 – 59: 25,454 60+: 15,816	0 – 4: 35 5 – 14: 51 15 – 34: 121 35 – 59: 106 60+: 57

2015/2016	0 – 4: 400,000 5 – 14: 700,000 15 – 34: 1,100,000 35 – 59: 1,400,000 60+: 400,000	0 – 4: 11,545 5 – 14: 16,430 15 – 34: 13,300 35 – 59: 16,361 60+: 7123	0 – 4: 35 5 – 14: 43 15 – 34: 83 35 – 59: 86 60+: 56
2016/2017	0 – 4: 600,000 5 – 14: 700,000 15 – 34: 1,300,000 35 – 59: 2,400,000 60+: 900,000	0 – 4: 8853 5 – 14: 13,151 15 – 34: 15,938 35 – 59: 28,967 60+: 28,936	0 – 4: 68 5 – 14: 53 15 – 34: 82 35 – 59: 83 60+: 31
2017/2018	0 – 4: 800,000 5 – 14: 1,100,000 15 – 34: 2,000,000 35 – 59: 3,900,000 60+: 1,300,000	0 – 4: 26,632 5 – 14: 36,267 15 – 34: 39,342 35 – 59: 97,510 60+: 68,933	0 – 4: 30 5 – 14: 30 15 – 34: 50 35 – 59: 40 60+: 19
2018/2019	0 – 4: 440,000 5 – 14: 500,000 15 – 34: 900,000 35 – 59: 1,700,000 60+: 350,000	0 – 4: 26,602 5 – 14: 22,567 15 – 34: 34,941 35 – 59: 62,017 60+: 47,045	0 – 4: 17 5 – 14: 26 15 – 34: 22 35 – 59: 27 60+: 7
2019/2020*	- *Data not available, Mult. Factors assumed to be identical to season 2018/2019	-	0 – 4: 17 5 – 14: 26 15 – 34: 22 35 – 59: 27 60+: 7

Supplementary Table 3: Population Data

	2015		2016		2017	
Average number of cases per year	Female	Male	Female	Male	Female	Male
	0: 536	0: 700	0: 595	0: 787	0: 594	0: 618
	1 – 4: 4,305	1 – 4: 4,914	1 – 4: 4,749	1 – 4: 5,377	1 – 4: 3,649	1 – 4: 3,972
	5 – 9: 3,703	5 – 9: 4,306	5 – 9: 5,592	5 – 9: 6,287	5 – 9: 3,241	5 – 9: 3,688
	10 – 14: 2,399	10 – 14: 2,913	10 – 14: 2,528	10 – 14: 2,879	10 – 14: 2,885	10 – 14: 3,315
	15 – 19: 1,716	15 – 19: 2,019	15 – 19: 1,677	15 – 19: 2,026	15 – 19: 2,626	15 – 19: 2,702
	20 – 24: 1,026	20 – 24: 893	20 – 24: 1,061	20 – 24: 940	20 – 24: 1,624	20 – 24: 1,298
	25 – 29: 1,598	25 – 29: 1,122	25 – 29: 1,949	25 – 29: 1,513	25 – 29: 1,937	25 – 29: 1,581
	30 – 34: 2,133	30 – 34: 1,706	30 – 34: 2,266	30 – 34: 1,824	30 – 34: 2,295	30 – 34: 1,841
	35 – 39: 2,374	35 – 39: 2,122	35 – 39: 1,941	35 – 39: 1,615	35 – 39: 2,403	35 – 39: 2,006
	40 – 44: 2,390	40 – 44: 2,181	40 – 44: 1,557	40 – 44: 1,446	40 – 44: 2,299	40 – 44: 2,032
	45 – 49: 2,842	45 – 49: 2,853	45 – 49: 1,743	45 – 49: 1,717	45 – 49: 3,141	45 – 49: 2,784
	50 – 54: 2,955	50 – 54: 2,705	50 – 54: 1,751	50 – 54: 1,591	50 – 54: 3,791	50 – 54: 3,372
	55 – 59: 2,640	55 – 59: 2,296	55 – 59: 1,633	55 – 59: 1,361	55 – 59: 3,909	55 – 59: 3,169
	60 – 64: 1,871	60 – 64: 1,716	60 – 64: 1,069	60 – 64: 1,001	60 – 64: 2,970	60 – 64: 2,486
	65 – 69: 1,029	65 – 69: 1,062	65 – 69: 749	65 – 69: 656	65 – 69: 2,027	65 – 69: 2,010
	70 – 74: 1,212	70 – 74: 1,281	70 – 74: 643	70 – 74: 586	70 – 74: 1,918	70 – 74: 1,923
	75 – 79: 1,346	75 – 79: 1,405	75 – 79: 599	75 – 79: 617	75 – 79: 2,782	75 – 79: 2,752
	80 – 84: 1,510	80 – 84: 913	80 – 84: 325	80 – 84: 270	80 – 84: 2,916	80 – 84: 2,087
	85+: 1,510	85+: 913	85+: 325	85+: 270	85+: 2,916	85+: 2,087

Underestimation (Multiplication Factor)	Female		Male		Female		Male		Female		Male	
	0: 35		0: 35		0: 35		0: 35		0: 68		0: 68	
	1 – 4: 35		1 – 4: 35		1 – 4: 35		1 – 4: 35		1 – 4: 68		1 – 4: 68	
	5 – 9: 51		5 – 9: 51		5 – 9: 43		5 – 9: 43		5 – 9: 53		5 – 9: 53	
	10 – 14: 51		10 – 14: 51		10 – 14: 43		10 – 14: 43		10 – 14: 53		10 – 14: 53	
	15 – 19: 121		15 – 19: 121		15 – 19: 83		15 – 19: 83		15 – 19: 82		15 – 19: 82	
	20 – 24: 121		20 – 24: 121		20 – 24: 83		20 – 24: 83		20 – 24: 82		20 – 24: 82	
	25 – 29: 121		25 – 29: 121		25 – 29: 83		25 – 29: 83		25 – 29: 82		25 – 29: 82	
	30 – 34: 121		30 – 34: 121		30 – 34: 83		30 – 34: 83		30 – 34: 82		30 – 34: 82	
	35 – 39: 106		35 – 39: 106		35 – 39: 86		35 – 39: 86		35 – 39: 83		35 – 39: 83	
	40 – 44: 106		40 – 44: 106		40 – 44: 86		40 – 44: 86		40 – 44: 83		40 – 44: 83	
	45 – 49: 106		45 – 49: 106		45 – 49: 86		45 – 49: 86		45 – 49: 83		45 – 49: 83	
	50 – 54: 106		50 – 54: 106		50 – 54: 86		50 – 54: 86		50 – 54: 83		50 – 54: 83	
	55 – 59: 106		55 – 59: 106		55 – 59: 86		55 – 59: 86		55 – 59: 83		55 – 59: 83	
	60 – 64: 57		60 – 64: 57		60 – 64: 56		60 – 64: 56		60 – 64: 31		60 – 64: 31	
	65 – 69: 57		65 – 69: 57		65 – 69: 56		65 – 69: 56		65 – 69: 31		65 – 69: 31	
	70 – 74: 57		70 – 74: 57		70 – 74: 56		70 – 74: 56		70 – 74: 31		70 – 74: 31	
	75 – 79: 57		75 – 79: 57		75 – 79: 56		75 – 79: 56		75 – 79: 31		75 – 79: 31	
	80 – 84: 57		80 – 84: 57		80 – 84: 56		80 – 84: 56		80 – 84: 31		80 – 84: 31	
	85+: 57		85+: 57		85+: 56		85+: 56		85+: 31		85+: 31	
	Average 80.4	MF:	Average 80.4	MF:	Average 60	MF:	Average 60	MF:	Average 61.6	MF:	Average 61.6	MF:

Age distribution Data	Female		Male		Female		Male		Female		Male	
	0:	348,856	0:	367,563	0:	362,170	0:	367,563	0:	384,735	0:	403,564
	1	–	4:	1	–	4:	1	–	4:	1	–	4:
	1,349,615		1,420,377		1,395,083		1,420,377		1,443,123		1,525,024	
	5	–	9:	5	–	9:	5	–	9:	5	–	9:
	1,669,514		1,791,964		1,736,124		1,791,964		1,756,737		1,857,190	
	10	–	14:	10	–	14:	10	–	14:	10	–	14:
	1,805,090		1,903,744		1,793,698		1,903,744		1,784,673		1,893,522	
	15	–	19:	15	–	19:	15	–	19:	15	–	19:
	1,972,135		2,094,653		2,000,494		2,094,653		1,985,471		2,187,398	
	20	–	24:	20	–	24:	20	–	24:	20	–	24:
	2,228,424		2,357,904		2,189,310		2,357,904		2,178,101		2,395,930	
	25	–	29:	25	–	29:	25	–	29:	25	–	29:
	2,514,805		2,652,021		2,588,966		2,652,021		2,579,651		2,787,105	
	30	–	34:	30	–	34:	30	–	34:	30	–	34:
	2,498,026		2,576,055		2,520,791		2,576,055		2,544,895		2,676,180	
	35	–	39:	35	–	39:	35	–	39:	35	–	39:
	2,359,171		2,399,445		2,444,464		2,399,445		2,500,432		2,557,606	
	40	–	44:	40	–	44:	40	–	44:	40	–	44:
	2,573,135		2,611,144		2,471,280		2,611,144		2,393,629		2,428,357	
	45	–	49:	45	–	49:	45	–	49:	45	–	49:
	3,318,228		3,404,196		3,221,159		3,404,196		3,097,169		3,162,743	
	50	–	54:	50	–	54:	50	–	54:	50	–	54:
	3,401,848		3,454,804		3,443,938		3,454,804		3,458,055		3,526,252	
	55	–	59:	55	–	59:	55	–	59:	55	–	59:
	2,937,399		2,915,733		3,026,149		2,915,733		3,118,379		3,104,747	
	60	–	64:	60	–	64:	60	–	64:	60	–	64:
	2,650,848		2,502,129		2,672,798		2,502,129		2,707,823		2,573,457	
	65	–	69:	65	–	69:	65	–	69:	65	–	69:
	2,082,925		1,925,969		2,251,562		1,925,969		2,376,693		2,186,608	
	70	–	74:	70	–	74:	70	–	74:	70	–	74:
	2,366,354		2,059,860		2,121,822		2,059,860		1,951,223		1,703,714	
	75	–	79:	75	–	79:	75	–	79:	75	–	79:
	2,297,800		1,811,505		2,380,229		1,811,505		2,418,877		1,930,680	
	80	–	84:	80	–	84:	80	–	84:	80	–	84:
	1,441,588		955,114		1,504,935		955,114		1,595,430		1,099,541	
	85+:		85+:	631,277	85+:		85+:	631,277	85+:		85+:	697,500
	1,516,319				1,536,589				1,549,439			

Life Expectancy Data	Female	Male	Female	Male	Female	Male
	0: 83.18	0: 78.36	0: 83.18	0: 78.36	0: 83.18	0: 78.36
	1 – 4: 79.48	1 – 4: 74.68	1 – 4: 79.48	1 – 4: 74.68	1 – 4: 79.48	1 – 4: 74.68
	5 – 9: 74.51	5 – 9: 69.71	5 – 9: 74.51	5 – 9: 69.71	5 – 9: 74.51	5 – 9: 69.71
	10 – 14: 69.54	10 – 14: 64.74	10 – 14: 69.54	10 – 14: 64.74	10 – 14: 69.54	10 – 14: 64.74
	15 – 19: 64.58	15 – 19: 59.81	15 – 19: 64.58	15 – 19: 59.81	15 – 19: 64.58	15 – 19: 59.81
	20 – 24: 59.64	20 – 24: 54.93	20 – 24: 59.64	20 – 24: 54.93	20 – 24: 59.64	20 – 24: 54.93
	25 – 29: 54.70	25 – 29: 50.06	25 – 29: 54.70	25 – 29: 50.06	25 – 29: 54.70	25 – 29: 50.06
	30 – 34: 49.78	30 – 34: 45.21	30 – 34: 49.78	30 – 34: 45.21	30 – 34: 49.78	30 – 34: 45.21
	35 – 39: 44.89	35 – 39: 40.41	35 – 39: 44.89	35 – 39: 40.41	35 – 39: 44.89	35 – 39: 40.41
	40 – 44: 40.05	40 – 44: 35.66	40 – 44: 40.05	40 – 44: 35.66	40 – 44: 40.05	40 – 44: 35.66
	45 – 49: 35.29	45 – 49: 31.03	45 – 49: 35.29	45 – 49: 31.03	45 – 49: 35.29	45 – 49: 31.03
	50 – 54: 30.65	50 – 54: 26.59	50 – 54: 30.65	50 – 54: 26.59	50 – 54: 30.65	50 – 54: 26.59
	55 – 59: 26.16	55 – 59: 22.42	55 – 59: 26.16	55 – 59: 22.42	55 – 59: 26.16	55 – 59: 22.42
	60 – 64: 21.85	60 – 64: 18.54	60 – 64: 21.85	60 – 64: 18.54	60 – 64: 21.85	60 – 64: 18.54
	65 – 69: 17.72	65 – 69: 14.94	65 – 69: 17.72	65 – 69: 14.94	65 – 69: 17.72	65 – 69: 14.94
	70 – 74: 13.79	70 – 74: 11.58	70 – 74: 13.79	70 – 74: 11.58	70 – 74: 13.79	70 – 74: 11.58
	75 – 79: 10.10	75 – 79: 8.49	75 – 79: 10.10	75 – 79: 8.49	75 – 79: 10.10	75 – 79: 8.49
	80 – 84: 6.99	80 – 84: 5.91	80 – 84: 6.99	80 – 84: 5.91	80 – 84: 6.99	80 – 84: 5.91
	85+: 2.24	85+: 2.02	85+: 2.24	85+: 2.02	85+: 2.24	85+: 2.02

	2018		2019		2020	
Average number of cases per year	Female	Male	Female	Male	Female	Male
	0: 1,517	0: 1,851	0: 1,480	0: 1,788	0: 1,522	0: 1,881
	1 – 4: 10,911	1 – 4: 12,235	1 – 4: 11,002	1 – 4: 12,161	1 – 4: 11,781	1 – 4: 13,143
	5 – 9: 10,661	5 – 9: 11,795	5 – 9: 7,186	5 – 9: 8,078	5 – 9: 10,331	5 – 9: 11,640
	10 – 14: 6,533	10 – 14: 7,182	10 – 14: 3,335	10 – 14: 3,843	10 – 14: 6,015	10 – 14: 7,206
	15 – 19: 5,662	15 – 19: 6,071	15 – 19: 3,580	15 – 19: 3,712	15 – 19: 4,844	15 – 19: 5,662
	20 – 24: 3,930	20 – 24: 3,294	20 – 24: 3,718	20 – 24: 3,002	20 – 24: 4,199	20 – 24: 3,629
	25 – 29: 4,684	25 – 29: 3,567	25 – 29: 5,000	25 – 29: 3,810	25 – 29: 5,775	25 – 29: 4,399
	30 – 34: 6,842	30 – 34: 5,197	30 – 34: 6,339	30 – 34: 5,245	30 – 34: 7,335	30 – 34: 6,121
	35 – 39: 9,654	35 – 39: 7,636	35 – 39: 6,378	35 – 39: 5,597	35 – 39: 6,604	35 – 39: 5,677
	40 – 44: 9,289	40 – 44: 7,932	40 – 44: 5,478	40 – 44: 5,112	40 – 44: 5,329	40 – 44: 4,889
	45 – 49: 10,831	45 – 49: 9,674	45 – 49: 5,829	45 – 49: 5,554	45 – 49: 5,093	45 – 49: 4,826
	50 – 54: 12,763	50 – 54: 11,246	50 – 54: 7,325	50 – 54: 6,640	50 – 54: 5,715	50 – 54: 5,645
	55 – 59: 12,649	55 – 59: 10,530	55 – 59: 7,444	55 – 59: 6,378	55 – 59: 5,680	55 – 59: 4,974
	60 – 64: 9,451	60 – 64: 7,984	60 – 64: 5,590	60 – 64: 4,998	60 – 64: 4,217	60 – 64: 3,725
	65 – 69: 5,925	65 – 69: 5,478	65 – 69: 3,793	65 – 69: 3,677	65 – 69: 2,633	65 – 69: 2,561
	70 – 74: 4,764	70 – 74: 4,572	70 – 74: 3,121	70 – 74: 3,304	70 – 74: 2,069	70 – 74: 2,248
	75 – 79: 6,399	75 – 79: 5,787	75 – 79: 3,951	75 – 79: 3,929	75 – 79: 2,306	75 – 79: 2,309
	80 – 84: 5,543	80 – 84: 3,675	80 – 84: 4,174	80 – 84: 3,072	80 – 84: 2,649	80 – 84: 1,927
	85+: 5,543	85+: 3,675	85+: 4,174	85+: 3,072	85+: 2,649	85+: 1,927

Underestimation (Multiplication Factor)	Female		Male		Female		Male		Female		Male	
	0: 30		0: 30		0: 19		0: 19		0: 19		0: 19	
	1 – 4: 30		1 – 4: 30		1 – 4: 19		1 – 4: 19		1 – 4: 19		1 – 4: 19	
	5 – 9: 30		5 – 9: 30		5 – 9: 17		5 – 9: 17		5 – 9: 17		5 – 9: 17	
	10 – 14: 30		10 – 14: 30		10 – 14: 17		10 – 14: 17		10 – 14: 17		10 – 14: 17	
	15 – 19: 50		15 – 19: 50		15 – 19: 22		15 – 19: 22		15 – 19: 22		15 – 19: 22	
	20 – 24: 50		20 – 24: 50		20 – 24: 22		20 – 24: 22		20 – 24: 22		20 – 24: 22	
	25 – 29: 50		25 – 29: 50		25 – 29: 22		25 – 29: 22		25 – 29: 22		25 – 29: 22	
	30 – 34: 50		30 – 34: 50		30 – 34: 22		30 – 34: 22		30 – 34: 22		30 – 34: 22	
	35 – 39: 40		35 – 39: 40		35 – 39: 26		35 – 39: 26		35 – 39: 26		35 – 39: 26	
	40 – 44: 40		40 – 44: 40		40 – 44: 26		40 – 44: 26		40 – 44: 26		40 – 44: 26	
	45 – 49: 40		45 – 49: 40		45 – 49: 26		45 – 49: 26		45 – 49: 26		45 – 49: 26	
	50 – 54: 40		50 – 54: 40		50 – 54: 26		50 – 54: 26		50 – 54: 26		50 – 54: 26	
	55 – 59: 40		55 – 59: 40		55 – 59: 26		55 – 59: 26		55 – 59: 26		55 – 59: 26	
	60 – 64: 19		60 – 64: 19		60 – 64: 7		60 – 64: 7		60 – 64: 7		60 – 64: 7	
	65 – 69: 19		65 – 69: 19		65 – 69: 7		65 – 69: 7		65 – 69: 7		65 – 69: 7	
	70 – 74: 19		70 – 74: 19		70 – 74: 7		70 – 74: 7		70 – 74: 7		70 – 74: 7	
	75 – 79: 19		75 – 79: 19		75 – 79: 7		75 – 79: 7		75 – 79: 7		75 – 79: 7	
	80 – 84: 19		80 – 84: 19		80 – 84: 7		80 – 84: 7		80 – 84: 7		80 – 84: 7	
	85+: 19		85+: 19		85+: 7		85+: 7		85+: 7		85+: 7	
	Average 33.3	MF:	Average 33.3	MF:	Average 17.4	MF:	Average 17.4	MF:	Average 17.4	MF:	Average 17.4	MF:

Age distribution Data	Female	Male	Female	Male	Female	Male
	0: 382,505	0: 402,569	0: 381,896	0: 402,082	0: 377,310	0: 397,560
	1 – 4: 1,490,055	1 – 4: 1,571,649	1 – 4: 1,530,404	1 – 4: 1,612,015	1 – 4: 1,552,357	1 – 4: 1,634,149
	5 – 9: 1,770,798	5 – 9: 1,871,418	5 – 9: 1,780,063	5 – 9: 1,882,175	5 – 9: 1,812,127	5 – 9: 1,914,843
	10 – 14: 1,787,506	10 – 14: 1,895,259	10 – 14: 1,797,750	10 – 14: 1,904,430	10 – 14: 1,797,762	10 – 14: 1,905,151
	15 – 19: 1,949,255	15 – 19: 2,131,312	15 – 19: 1,920,778	15 – 19: 2,082,699	15 – 19: 1,900,397	15 – 19: 2,038,846
	20 – 24: 2,189,438	20 – 24: 2,413,076	20 – 24: 2,192,260	20 – 24: 2,415,012	20 – 24: 2,191,934	20 – 24: 2,416,497
	25 – 29: 2,548,258	25 – 29: 2,749,822	25 – 29: 2,497,399	25 – 29: 2,695,936	25 – 29: 2,438,489	25 – 29: 2,635,982
	30 – 34: 2,573,555	30 – 34: 2,716,697	30 – 34: 2,624,948	30 – 34: 2,784,081	30 – 34: 2,665,455	30 – 34: 2,830,265
	35 – 39: 2,550,417	35 – 39: 2,612,793	35 – 39: 2,584,099	35 – 39: 2,653,317	35 – 39: 2,606,089	35 – 39: 2,683,121
	40 – 44: 2,377,131	40 – 44: 2,411,226	40 – 44: 2,402,780	40 – 44: 2,438,958	40 – 44: 2,438,092	40 – 44: 2,470,934
	45 – 49: 2,944,060	45 – 49: 2,999,227	45 – 49: 2,772,302	45 – 49: 2,812,217	45 – 49: 2,624,418	45 – 49: 2,648,940
	50 – 54: 3,450,056	50 – 54: 3,517,989	50 – 54: 3,405,726	50 – 54: 3,470,222	50 – 54: 3,326,464	50 – 54: 3,383,771
	55 – 59: 3,205,222	55 – 59: 3,196,294	55 – 59: 3,300,544	55 – 59: 3,297,674	55 – 59: 3,366,915	55 – 59: 3,370,390
	60 – 64: 2,747,063	60 – 64: 2,627,990	60 – 64: 2,798,189	60 – 64: 2,695,725	60 – 64: 2,868,318	60 – 64: 2,779,453
	65 – 69: 2,459,543	65 – 69: 2,252,151	65 – 69: 2,516,863	65 – 69: 2,291,634	65 – 69: 2,546,505	65 – 69: 2,312,527
	70 – 74: 1,927,417	70 – 74: 1,684,492	70 – 74: 1,916,659	70 – 74: 1,679,886	70 – 74: 1,955,815	70 – 74: 1,718,280
	75 – 79: 2,350,988	75 – 79: 1,884,435	75 – 79: 2,265,773	75 – 79: 1,823,611	75 – 79: 2,143,390	75 – 79: 1,733,030
	80 – 84: 1,698,543	80 – 84: 1,186,669	80 – 84: 1,824,473	80 – 84: 1,287,124	80 – 84: 1,923,991	80 – 84: 1,370,290
	85+: 1,546,976	85+: 718,497	85+: 1,539,616	85+: 737,893	85+: 1,923,991	85+: 793,584

Life Expectancy Data	Female	Male	Female	Male	Female	Male
	0: 83.40	0: 83.40	0: 83.40	0: 83.40	0: 83.40	0: 83.40
	1 – 4: 79.68	1 – 4: 79.68	1 – 4: 79.68	1 – 4: 79.68	1 – 4: 79.68	1 – 4: 79.68
	5 – 9: 74.71	5 – 9: 74.71	5 – 9: 74.71	5 – 9: 74.71	5 – 9: 74.71	5 – 9: 74.71
	10 – 14: 69.73	10 – 14: 69.73	10 – 14: 69.73	10 – 14: 69.73	10 – 14: 69.73	10 – 14: 69.73
	15 – 19: 64.77	15 – 19: 64.77	15 – 19: 64.77	15 – 19: 64.77	15 – 19: 64.77	15 – 19: 64.77
	20 – 24: 59.82	20 – 24: 59.82	20 – 24: 59.82	20 – 24: 59.82	20 – 24: 59.82	20 – 24: 59.82
	25 – 29: 54.88	25 – 29: 54.88	25 – 29: 54.88	25 – 29: 54.88	25 – 29: 54.88	25 – 29: 54.88
	30 – 34: 49.96	30 – 34: 49.96	30 – 34: 49.96	30 – 34: 49.96	30 – 34: 49.96	30 – 34: 49.96
	35 – 39: 45.07	35 – 39: 45.07	35 – 39: 45.07	35 – 39: 45.07	35 – 39: 45.07	35 – 39: 45.07
	40 – 44: 40.23	40 – 44: 40.23	40 – 44: 40.23	40 – 44: 40.23	40 – 44: 40.23	40 – 44: 40.23
	45 – 49: 35.46	45 – 49: 35.46	45 – 49: 35.46	45 – 49: 35.46	45 – 49: 35.46	45 – 49: 35.46
	50 – 54: 30.08	50 – 54: 30.08	50 – 54: 30.08	50 – 54: 30.08	50 – 54: 30.08	50 – 54: 30.08
	55 – 59: 26.29	55 – 59: 26.29	55 – 59: 26.29	55 – 59: 26.29	55 – 59: 26.29	55 – 59: 26.29
	60 – 64: 21.96	60 – 64: 21.96	60 – 64: 21.96	60 – 64: 21.96	60 – 64: 21.96	60 – 64: 21.96
	65 – 69: 17.83	65 – 69: 17.83	65 – 69: 17.83	65 – 69: 17.83	65 – 69: 17.83	65 – 69: 17.83
	70 – 74: 13.93	70 – 74: 13.93	70 – 74: 13.93	70 – 74: 13.93	70 – 74: 13.93	70 – 74: 13.93
	75 – 79: 10.28	75 – 79: 10.28	75 – 79: 10.28	75 – 79: 10.28	75 – 79: 10.28	75 – 79: 10.28
	80 – 84: 7.08	80 – 84: 7.08	80 – 84: 7.08	80 – 84: 7.08	80 – 84: 7.08	80 – 84: 7.08
	85+: 2.15	85+: 2.15	85+: 2.15	85+: 2.15	85+: 2.15	85+: 2.15

Supplementary Table 4: Scenario Input Parameters

Sequelae	Probability	Disability weight	Duration (in years)	Source
Pneumonia	Lower bound: 0.016	RandPert(0.051, 0.1, 0.133)	0.04	IHME 2019 Rapid Review
	Baseline: 0.016			
	Upper bound: 0.036			
Pneumonia death	Lower bound: 0.16	-	-	Arias-Fernandez et al., 2021 Boyd et al., 2006 Theilacker et al., 2021 Topoulus et al., 2019
	Baseline: 0.16			
	Upper bound: 0.16			
Bronchitis	Lower bound: 0.0213	RandUniform(0.051, 0.133)	0.04	IHME 2019 Rapid Review
	Baseline: 0.0213			
	Upper bound: 0.0213			
Chronic Bronchitis	Lower bound: 0.028	RandPert(0.019, 0.225, 0.408)	Rem. Life exp.	IHME 2019 Edmond et al., 2012
	Baseline: 0.028			
	Upper bound: 0.028			
Otitis Media	Lower bound: 0.0065	RandPert(0.007, 0.013, 0.024)	RandUniform(0.038, 0.057)	IHME 2019 Wielders et al., 2010 Monasta et al., 2012
	Baseline: 0.0151			
	Upper bound: 0.0151			
Deafness	Lower bound: 0.00006	0.23	Rem. Life exp.	Meier et al., 2000 Wielders et al., 2010 Plass et al., 2014
	Baseline: 0.00006			
	Upper bound: 0.00006			
Encephalitis	Lower bound: 0.002	RandPert(0.088, 0.133, 0.19)	0.06	IHME 2019 Rapid Review
	Baseline: 0.002			
	Upper bound: 0.002			
Encephalitis death	Lower bound: RandUniform(0.041, 0.056)	-	-	George et al., 2014 Hjalmarsson et al., 2009
	Baseline: 0.16			
	Upper bound: 0.16			
Myocarditis	Lower bound: 0.001		0.04	IHME 2019

Sequelae	Probability	Disability weight	Duration (in years)	Source
	Baseline: 0.001 Upper bound: 0.001	RandPert(0.032, 0.051, 0.074)		Rapid Review
Myocarditis death	Lower bound: 0.081 Baseline: 0.2 Upper bound: 0.2	-	-	Kang & An, 2021 Kuehl & Schultheiss, 2012
ARDS	Lower bound: 0.00023 Baseline: 0.00023 Upper bound: 0 – 4: 0.0019 5 – 34: 0.0078 35 – 59: 0.003 60 – 79: 0.01 80 – 85+: 0.02	RandPert(0.019, 0.225, 0.408)	0.09	IHME 2019 Wielders et al., 2010
ARDS death	Lower bound: 0.35 Baseline: 0.4 Upper bound: 0.4	-	-	Lewis et al., 2019
Permanent disability due to ARDS	Lower bound: 0.56 Baseline: 0.56 Upper bound: 0.56	0.18	Rem. Life exp.	Stouthard et al., 1997
Sepsis	Lower bound: 0.000097 Baseline: 0.000097 Upper bound: 0.000097	RandPert(0.579, 0.655, 0.727)	RandUniform(0.027, 0.038)	IHME 2019 Cassini et al., 2018
Sepsis death	Lower bound: RandPert(0.198, 0.22, 0.243) Baseline: RandPert(0.198, 0.22, 0.243) Upper bound: RandPert(0.198, 0.22, 0.243)	-	-	
	Lower bound: 0.17 Baseline: 0.17	0.28	Rem. Life exp.	Plass et al., 2014

Sequelae	Probability	Disability weight	Duration (in years)	Source
Permanent disability due to sepsis	Upper bound: 0.17			
Sinusitis	Lower bound: 0.0024	RandUniform(0.051, 0.133)	0.04	IHME 2019
	Baseline: 0.0024			
	Upper bound: 0.0024			
Death (for previous modeling approach only, see Supplement 6)	Lower bound: 0.001	-	-	Cassini et al., 2018 Rapid Review
	Baseline: 0.001			
	Upper bound: 0.0156			
Symptomatic infection	-	RandPert(0.007, 0.051, 0.125)	0.01	IHME 2019