

Table S1. Blended composite of sero-protection based on gradient of immunity defined as ½SPR40, ¾SPR80 and SPR160 with and without also incorporating ¼SPR20**A. Not incorporating ¼SPR20**

Age Categories (Years)	Proportion (%) considered sero-protected by virus scenario			
	Pre-H1N1pdm09	Post-H1N1pdm09	H3N2v	Post-Brisbane
< 2	0.0	39.1	0.0	5.0
2-5	0.6	57.5	0.0	32.1
6-11	0.5	43.3	9.8	57.2
12-17	5.8	39.2	23.6	35.1
18-24	1.6	18.3	38.5	23.4
25-44	5.0	18.0	20.9	17.2
45-64	2.7	8.6	3.2	14.8
65+	27.4	24.6	11.3	28.8

B. Incorporating ¼SPR20

Age Categories (Years)	Proportion (%) considered sero-protected by virus scenario			
	Pre-H1N1pdm09	Post-H1N1pdm09	H3N2v	Post-Brisbane
< 2	0.0	39.4	0.0	5.0
2-5	0.6	57.5	0.2	32.1
6-11	0.8	43.5	10.6	57.8
12-17	6.2	39.2	23.6	36.5
18-24	1.6	18.6	41.7	23.7
25-44	5.0	18.7	21.4	17.5
45-64	2.9	9.1	4.1	15.7
65+	28.3	25.1	12.0	29.4

SPR = Sero-protection rate – defined as ½SPR40 (i.e. 50% of those with titre 40-79 protected), ¾SPR80, (i.e. 75% of those with titre 80-159 protected) and SPR160 (i.e. all with titre 160 or higher protected) without (A) and with (B) also incorporating ¼SPR20 (i.e. 25% with titre 20-39 protected).

pre-H1N1pdm09: 2009 H1N1 pandemic virus; SPR presented based on PRE-pandemic antibody levels measured in 2009 or earlier

post-H1N1pdm09: 2009 H1N1 pandemic virus; SPR presented based on POST-pandemic antibody levels measured in fall 2010

H3N2v: swine-origin H3N2 variant strain; SPR presented based on antibody levels measured in sera collected in fall 2010

post-Brisbane: a contemporary seasonal human influenza H3N2 virus; SPR presented based on post-circulation antibody levels in sera collected in fall 2010