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Supplementary material

Supplementary Table 2.1. Questionnaire on national influenza surveillance systems used for the Global Influenza B Study.

Virological data:

1. Specimens (more than one response is possible):

Outpatients* Hospitalised patients (general) Hospitalised patients (SARI)

Other, please define:

Rough distribution (%) of total specimens for a typical flu season:

Outpatients* (%)	Hospitalised patients-general (%)	Hospitalised patients – SARI (%)	Other (%)

*For example, from the sentinel Outpatient (or General Practitioner) surveillance system

2. Method used to identify influenza viruses:

PCR Serology Culture Other, please specify:

3. Population denominator

- Total specimens tested Total population
- Other, please specify: _____ Unknown

4. Representativeness of data:

- National Regional, please define:

- Other, please define:

5. Characterization data: method

- Hemagglutination inhibition Sequencing Isolates
sent to Who CC for reference
- None

6. Characterization data: is a subset of your isolates sent to WHO CC for reference?

- No Yes, please specify:

Epidemiological data:

7. Case definition (more than one response is possible):

ILI case definition:

ARI case definition:

8. Population denominator

Total population served by reporting sites Total number of encounters
(consultations)

Other, please specify: _____ Unknown

9. Representativeness of data:

National Regional Other, please define:

Supplementary Table 2.2. Proportion of influenza B cases due to Victoria or Yamagata lineage virus, and mismatch with recommended World Health Organization (WHO) influenza vaccine. Seasons were only considered during which at least 20% of influenza cases were due to virus type B with at least 10% of these being characterized. The Global Influenza B Study.

Country	Season	% B	% characterized	% Victoria ^a	% Yamagata ^a	Vaccine B mismatch ^b
New Zealand	2000	23.4	100.0	0.0	100.0	no
New Zealand	2001	34.5	96.4	0.0	100.0	no
New Zealand	2002	21.3	58.4	98.8	1.2	yes
New Zealand	2005	86.9	91.8	81.6	18.4	yes
New Zealand	2007	21.9	89.5	1.3	98.7	yes
New Zealand	2008	59.8	73.3	76.7	23.3	yes
New Zealand	2011	46.7	47.3	98.5	1.5	no
Chile	2012	30.4	94.2	32.5	67.5	yes
Argentina (Santa Fe)	2010	29.4	100.0	100.0	0.0	no
Argentina (Santa Fe)	2012	43.7	100.0	96.5	3.5	no
South Africa	2010	61.0	43.2	90.7	9.3	no
South Africa	2011	38.4	48.0	44.2	55.8	yes
South Africa	2012	54.4	75.6	83.9	16.1	no
Madagascar	2005	40.8	79.0	38.7	61.3	no
Madagascar	2007	52.9	100.0	91.0	9.0	no
Madagascar	2011	50.6	79.1	100.0	0.0	no
Madagascar	2012	50.6	47.8	52.3	47.7	no
Madagascar	2013	58.2	67.0	0.0	100.0	no
Indonesia	2003	23.4	34.6	100.0	0.0	no
Indonesia	2004	30.8	67.9	57.1	42.9	no
Indonesia	2005	51.5	60.4	93.0	7.0	yes
Indonesia	2006	29.8	51.2	57.4	42.6	no
Indonesia	2007	34.6	38.7	34.9	65.1	yes
Singapore	2010	22.0	53.1	95.5	4.5	no
Singapore	2011	23.8	54.5	76.3	23.7	no
Singapore	2012	47.9	68.7	57.4	42.6	no

Country	Season	% B	% characterized	% Victoria ^a	% Yamagata ^a	Vaccine B mismatch ^b
Kenya	2008	26.6	25.0	5.6	94.4	no
Kenya	2011	42.8	12.9	100.0	0.0	no
China (south)	2006	36.1	29.0	79.3	20.7	no
China (south)	2007	39.6	91.3	17.4	82.6	yes
China (south)	2008	38.0	88.5	60.2	39.8	yes
China (south)	2010	53.8	24.4	74.2	25.8	no
China (south)	2011	48.8	40.6	72.9	27.1	no
China (south)	2012	44.9	53.0	90.0	10.0	yes
Turkey	2007	36.1	100.0	0.0	100.0	yes
Turkey	2008	32.6	100.0	100.0	0.0	yes
Turkey	2010	53.4	100.0	0.0	100.0	yes
China (north)	2007	66.2	95.4	21.2	78.8	yes
China (north)	2009	21.4	19.4	95.4	4.6	no
China (north)	2011	78.6	49.5	70.7	29.3	no
Ukraine	2004	86.0	100.0	0.0	100.0	no
Ukraine	2005	30.0	100.0	100.0	0.0	yes
Ukraine	2006	25.7	100.0	100.0	0.0	no
Ukraine	2007	27.9	35.9	17.4	82.6	yes
Ukraine	2010	67.5	60.7	100.0	0.0	no
Ukraine	2012	20.8	71.4	0.0	100.0	no
England	2005	64.2	17.7	94.4	5.6	yes
England	2007	25.4	28.6	0.0	100.0	yes
England	2010	39.4	48.6	93.4	6.6	no
England	2012	61.5	43.4	9.9	90.1	no

^(a) Percentages of Victoria and Yamagata were calculated over all influenza B cases that were characterized.

^(b) By assuming that all tropical countries adopted the WHO recommendations for the Southern Hemisphere.

Supplementary Table 2.3. Proportion of influenza A versus B cases across age categories, median age and interquartile range (IQR), in countries (from southern- to northernmost) participating in the Global Influenza B Study.

Country	Virus type	Cases (n)	% of influenza cases aged:						Median age (IQR)	p value
			≤4 years	5–17 years	18–64 years	≥65 years				
Southern Hemisphere										
New Zealand	A	14 168	16.6	18.3	54.9	10.2	NA	-		
	B	2862	16.9	33.4	44.2	5.5	NA			
Chile	A	9423	31.3	19.3	37.1	12.3	17 (3–49)	<0.001		
	B	944	26.9	42.3	23.5	7.3	9 (4–28)			
Argentina (Santa Fe)	A	267	19.5	30.3	46.8	3.4	18 (6–40)	0.003		
	B	110	21.8	45.5	30.0	2.7	10 (6–23)			
South Africa	A	1021	49.7	5.0	41.0	4.3	NA	-		
	B	584	36.3	4.3	53.6	5.8	NA			
Australia	A	150 252	14.8	22.6%	53.1%	9.6	26 (10–46)	<0.001		
	B	28 673	14.4	33.0%	44.2%	8.4	19 (8–40)			
Inter-tropical belt										
Madagascar	A	2626	31.6	39.8	28.0	0.6	9 (4–20)	0.001		
	B	1251	31.9	44.2	23.3	0.6	8 (3–17)			
Brazil	A	2399	25.0	23.9	48.2	2.9	18 (4–32)	0.010		
	B	883	21.0	22.3	54.7	2.0	21 (7–33)			
Indonesia	A	2303	15.3	29.0	54.6	1.0	21 (7–35)	<0.001		
	B	307	13.3	41.9	43.7	1.1	14 (7–30)			
Singapore	A	4070	4.4	31.4	61.3	2.9	NA	-		
	B	1483	3.6	44.6	49.6	2.2	NA			
Kenya	A	2933	64.8	23.4	11.5	0.3	NA	-		
	B	1492	62.6	26.0	10.7	0.7	NA			
Cameroon	A	490	61.8	18.6	19.4	0.2	3 (1–12)	0.298		
	B	227	61.7	23.4	14.5	0.4	3 (1–7)			
Ivory Coast	A	916	50.8	14.3	34.4	0.5	4 (1–27)	0.507		
	B	585	47.7	13.3	38.3	0.7	5 (1–29)			
Panama	A	1868	25.7	32.9	38.3	3.1	NA	-		
	B	323	38.4	30.3	28.2	3.1	NA			
Costa Rica	A	5265	12.4	25.3	56.8	5.5	NA	-		
	B	488	24.4	29.7	40.6	5.3	NA			

Country	Virus type	Cases (n)	% of influenza cases aged:								Median age (IQR)	p value
			≤4 years	5–17 years	18–64 years	≥65 years						
Nicaragua	A	4882	24.4	B 35.2	B 35.7	A 4.7	A	NA	-			
	B	752	35.4	55.8	6.2	2.5	NA					
El Salvador	A	1907	22.5	B 36.4	A 35.9	A 5.2	=	NA	-			
	B	490	37.8	30.4	24.5	7.3	NA					
Honduras	A	1436	21.1	B 32.0	= 44.2	= 2.7	=	NA	-			
	B	166	28.3	31.3	39.2	1.2	NA					
Guatemala	A	3568	30.1	B 28.3	B 38.7	A 2.9	=	NA	-			
	B	500	39.4	38.8	18.4	3.4	NA					
Vietnam	A	5634	36.7	= 29.7	B 31.8	A 1.8	=	NA	-			
	B	2982	34.8	39.1	24.4	1.7	NA					
Northern Hemisphere												
Bhutan	A	938	10.5	= 38.7	B 50.4	A 0.4	=	18 (10–27)	0.001			
	B	406	11.8	47.8	39.4	1.0	15 (8–25)					
China (south)	A	86 305	20.2	B 36.2	B 41.3	A 2.3	=	NA	-			
	B	35 910	22.7	38.3	36.8	2.2	NA					
Turkey	A	1624	11.8	= 31.2	= 54.4	= 2.6	B 21 (11–32)	<0.001				
	B	390	9.7	28.7	53.1	8.5	30 (9–46)					
China (north)	A	44 350	18.7	B 39.1	B 39.9	A 2.3	A	NA	-			
	B	19 956	25.2	41.3	31.8	1.7	NA					
Italy	A	6129	19.1	A 22.5	B 48.4	A 10.0	A	27 (6–48)	<0.001			
	B	635	12.4	51.7	30.7	5.2	11 (7–32)					
Ukraine	A	958	25.4	A 34.1	B 38.7	= 1.8	=	13 (4–26)	0.064			
	B	309	16.2	45.6	36.6	1.6	14 (8–26)					
England	A	4687	9.4	A 25.4	B 61.4	A 3.8	=	27 (12–42)	0.008			
	B	1560	7.6	33.9	55.6	2.9	23 (10–42)					