News in Brief

- **Mark your calendar:** The 17th Meeting of the Technical Advisory Group for Vaccine Preventable Diseases will take place in Manila from July 7 to 11, 2008. The first three days will consist of an integrated surveillance and laboratory workshop and meeting, and the last two days will be devoted to formal TAG deliberations.
- Papua New Guinea is currently implementing a nationwide measles Supplementary Immunization Activity (SIA) targeting children from 6 months to 6 years, 11 months of age. Several provinces in China and Viet Nam are also conducting large-scale SIAs in 2008. In 2007, SIAs were successfully carried out in Cambodia; Hebei, Shaanxi and Sichuan provinces of China; the Lao People's Democratic Republic; Mongolia; the Philippines; and in 17 northern provinces of Viet Nam.
- A cluster of eight measles cases occurred in Queensland, Australia, in February and March, five of which were students ages 11-15. This cluster caused international concern because of potential contact with students from other countries preparing to return home on holiday. High population immunity was likely responsible for the apparently limited transmission of measles virus among these five cases only.
- China recently announced the introduction of a two-dose schedule of rubella containing vaccine into its routine immunization programme.

Monitoring Progress Towards Measles Elimination

Nearly three years have passed since the adoption of the Regional Committee resolution WPR/R54.R3 to eliminate measles by 2012; the Region has four more years to achieve the goal. The WHO Regional Office for the Western Pacific began monitoring indicators of progress towards measles elimination in 2007, and requested all Member States to do likewise. These 10 indicators are grouped into three categories: incidence, surveillance quality, and population immunity. The indicator data for 2007 in Table 1 provide a baseline from which regional progress can be monitored. It is important to note that many countries still do not report core variable data that form the basis for calculating these indicators, which explains why many indicators are so far below their respective targets. Nevertheless, several countries are demonstrating progress towards measles elimination, as is apparent from Table 3A.

Table 1: Indicators to monitor measles elimination progress, Western Pacific Region, 2007-2008*

Category	Target	2007	2008* (annualized rates)
Incidence:			
Confirmed measles cases (confirmed by lab, epidemiologic linkage or clinically)	< 1.0 per 1 000 000	2.1	0.51
Absence of endemic measles virus	Virus is absent	Virus is present	Virus is present
High Quality Surveillance:			
National reporting of non-measles suspected cases	≥ 2 per 100 000	0.4	0.1
% of districts reporting ≥ 1/100 000 non-measles suspected cases	≥ 80%	5.4%	1.0%
% of suspected cases with adequate investigation within 48 hours of notification	≥ 80%	1.7%	1.1%
% of suspected cases with adequate blood specimens	≥ 80%	4.1%	2.1%
% of specimens with lab results ≤ 7 days after arrival to the laboratory	≥ 80%	92.0%	95.2%
Transmission chains (outbreaks) with sufficient samples for virus isolation	≥ 80%	----	------
High Population Immunity:			
National Measles Containing Vaccine (MCV) 1 and MCV2 coverage †	≥ 95%	89.4% MCV1	------
Percentage of outbreaks or transmission foci with <10 cases	≥ 80%	------	------

* Surveillance data from January-March 2008 † Data from 2006 as reported in the 2007 Joint Reporting Form (JRF)

Completeness and timeliness of reporting to the Regional Office improved considerably in the first three months of 2008 compared to all of 2007 (Table 2). Countries with consistently high (≥ 80%) completeness and timeliness of reporting include Hong Kong (China), Macao (China), New Zealand and Singapore. We thank all countries and areas for sharing measles surveillance data with the Regional Office, and encourage all to collect and analyse all measles core variable data at national and subnational levels to monitor progress towards elimination and to share these data with the Regional Office by the 7th of every month.

Table 2: Completeness and timeliness of reporting - Western Pacific Region, 2007 and 2008

Country	2007		2008							
	Completeness	Timeliness	Date of submission of data*						Completeness	Timeliness
			Jan	Feb	Mar	Apr	May	Jun		
Australia	50%	8%	20 Feb	07 Mar	08 Apr				100%	33%
Brunei Darussalam	0%	0%							0%	0%
Cambodia	33%	8%		12 Mar	31 Mar				67%	33%
China	75%	0%	14 Feb	13 Mar					67%	0%
Hong Kong (China)	75%	25%	05 Feb	07 Mar	07 Apr				100%	100%
Japan	0%	0%							0%	0%
Lao PDR	8%	0%							0%	0%
Macao (China)	92%	17%	06 Feb	05 Mar	02 Apr				100%	100%
Malaysia	25%	0%	22 Feb	24 Mar					67%	0%
Mongolia	67%	25%	22 Feb	05 Mar	04 Apr				100%	67%
New Zealand	83%	58%	04 Feb	03 Mar	07 Apr				100%	100%
Papua New Guinea	25%	8%	08 Feb	03 Mar	01 Apr				100%	67%
Philippines	75%	42%	07 Feb						33%	33%
Republic of Korea	33%	8%	26 Feb						33%	0%
Singapore	83%	25%	06 Feb	05 Mar	04 Apr				100%	100%
Viet Nam	42%	17%	07 Feb	22 Mar	07 Apr				100%	67%
Pacific island countries	100%	75%	18 Feb	15 Mar					67%	33%
Total Completeness	**51%**		76%	71%	53%				**67%**	
Total Timeliness		**19%**	35%	47%	47%					**43%**

* Deadline for submission is on the 7th of the following month of reporting, except for the PIC, which is on the 15th. Legend: black=timely report; red=late report

Table 3A: Measles case classification and incidence, by country, Western Pacific Region, 2007-2008*

Country	2007										2008 *									Anualised measles incidence per 1 million pop.
	Population (in millions) †	Suspected measles cases	Confirmed measles cases				Discarded cases	Pending classification	Deaths due to measles	Confirmed measles cases (per 1million pop.)	Population (in millions)	Suspected measles cases	Confirmed measles cases				Discarded cases	Pending classification	Deaths due to measles	
			Lab	Epi-linked	Clinical	Total							Lab	Epi-linked	Clinical	Total				
Australia ‡	20.74	11	11	0	0	11	0	0	0	0.5	20.95	31	31	0	0	31	0	0	0	5.9
Brunei Darussalam	0.39	No data	No data	No data	No data	No data	No data	No data	No data	No data	0.40	No data	No data	No data	No data	No data	No data	No data	No data	No data
Cambodia	14.44	1 294	8	0	386	394	900	0	0	27.3	14.70	463	1	0	127	128	302	33	0	34.8
China	1 329	118 031	No data	No data	No data	No data	No data	No data	64	No data	1336.31	26 684	No data	No data	No data	No data	No data	No data	36	No data
Hong Kong (China)	7.21	106	70	0	18	88	18	0	0	12.2	7.28	20	8	0	1	9	4	7	0	4.9
Japan	127.97	No data	No data	No data	No data	No data	No data	No data	No data	No data	127.94	No data	No data	No data	No data	No data	No data	No data	No data	No data
Lao People's Democratic Republic	5.86	1 670	122	0	1548	1670	0	No data	12	285.0	5.96	43	0	0	10	10	5	28	No data	6.7
Macao (China)	0.48	1	0	0	0	0	1	0	0	0.0	0.48	0	0	0	0	0	0	0	0	0.00
Malaysia	26.57	1 544	37	0	703	740	793	11	0	27.8	27.03	134	1	0	10	11	49	74	0	1.6
Mongolia	2.63	110	10	0	100	110	0	0	0	41.8	2.65	47	0	0	0	0	47	0	0	0.00
New Zealand	4.18	26	4	3	14	21	0	1	0	5.0	4.21	2	0	0	1	1	0	1	0	0.95
Papua New Guinea	6.33	4	0	0	0	0	4	0	0	0.0	6.46	8	0	0	0	0	0	8	0	0.00
Philippines	87.96	888	174	12	314	500	387	1	3	5.7	89.65	32	3	0	24	27	0	5	0	1.2
Republic of Korea	48.22	451	181	0	37	218	233	0	0	4.5	48.39	5	0	0	0	0	5	0	0	0.00
Singapore ‡	4.44	15	15	0	0	15	0	0	0	3.4	4.49	10	10	0	0	10	0	0	0	8.9
Viet Nam	87.38	5 286	4	0	13	17	5209	0	0	0.2	88.54	119	1	0	2	3	62	49	0	0.14
Pacific island countries and areas																				
American Samoa	0.07	0	0	0	0	0	0	0	0	0.0	0.07	0	0	0	0	0	0	0	0	0.00
Cook Islands	0.02	0	0	0	0	0	0	0	0	0.0	0.02	0	0	0	0	0	0	0	0	0.00
Fiji	0.84	9	0	0	0	0	9	0	0	0.0	0.84	2	0	0	0	0	0	2	0	0.00
French Polynesia	0.26	0	0	0	0	0	0	0	0	0.0	0.27	0	0	0	0	0	0	0	0	0.00
Guam	0.17	0	0	0	0	0	0	0	0	0.0	0.18	0	0	0	0	0	0	0	0	0.00
Kiribati	0.09	0	0	0	0	0	0	0	0	0.0	0.09	0	0	0	0	0	0	0	0	0.00
Marshall Islands	0.06	3	0	0	0	0	0	3	0	0.0	0.06	0	0	0	0	0	0	0	0	0.00
Micronesia, Federated States of	0.11	0	0	0	0	0	0	0	0	0.0	0.11	0	0	0	0	0	0	0	0	0.00
Nauru	0.01	1	0	0	0	0	1	0	0	0.0	0.01	0	0	0	0	0	0	0	0	0.00
New Caledonia	0.24	3	0	0	0	0	2	1	0	0.0	0.25	0	0	0	0	0	0	0	0	0.00
Niue	0.00	0	0	0	0	0	0	0	0	0.0	0.00	0	0	0	0	0	0	0	0	0.00
Northern Mariana Islands	0.08	0	0	0	0	0	0	0	0	0.0	0.08	0	0	0	0	0	0	0	0	0.00
Palau	0.02	14	0	0	0	0	4	10	0	0.0	0.02	0	0	0	0	0	0	0	0	0.00
Pitcairn Islands	0.00	No data	No data	No data	No data	No data	No data	No data	No data	No data	0.00	No data	No data	No data	No data	No data	No data	No data	No data	No data
Samoa	0.19	2	0	0	0	0	0	2	0	0.0	0.19	0	0	0	0	0	0	0	0	0.00
Solomon Islands	0.50	0	0	0	0	0	0	0	0	0.0	0.51	0	0	0	0	0	0	0	0	0.00
Tokelau	0.00	1	0	0	0	0	0	1	0	0.0	0.00	0	0	0	0	0	0	0	0	0.00
Tonga	0.10	0	0	0	0	0	0	0	0	0.0	0.10	0	0	0	0	0	0	0	0	0.00
Tuvalu	0.01	0	0	0	0	0	0	0	0	0.0	0.01	0	0	0	0	0	0	0	0	0.00
Vanuatu	0.23	0	0	0	0	0	0	0	0	0.0	0.23	0	0	0	0	0	0	0	0	0.00
Wallis and Futuna	0.02	0	0	0	0	0	0	0	0	0.0	0.02	0	0	0	0	0	0	0	0	0.00
Western Pacific Region	1776.44	129 470	636	15	3133	3784	7561	30	79	2.1	1788.49	27 600	55	0	175	230	474	207	36	0.51

* Monthly reports from January - March 2008

† Population figures from World Population Prospects: The 2006 Revision, New York, United Nations, 2007.

‡ Reported cases for Australia and Singapore are laboratory confirmed

Green	Reached target of <1 confirmed measles case / 1 000 000 population
Yellow	1-1.9 confirmed measles case / 1 000 000 population
Red	> 2 confirmed cases / 1 000 000 population

Annualized measles incidence is >1 per million population in Australia, Cambodia, Hong Kong (China), the Lao People's Democratic Republic, Malaysia, the Philippines and Singapore (Table 3A). For the remaining countries with an annualized measles incidence consistent with elimination, it is necessary to review measles surveillance performance indicators to determine if surveillance data accurately portray measles virus circulation. Very low reported measles incidence in countries with non-measles suspected case rates < 2.0 per million can not be interpreted as suggesting absent or very low measles virus transmission. Moreover, annualized incidence based on a single quarter may not accurately predict the final incidence at year-end, as seasonal differences in measles virus transmission may occur.

Current annualized non-measles suspected case rates (Table 3B) suggest that Cambodia and Mongolia are well on the way to achieving non-measles suspected case rates ≥2. Several countries have collected blood specimens from ≥ 80% of suspected cases, including Mongolia, Republic of Korea, Singapore and Viet Nam. The most noteworthy improvement occurred in Mongolia, which increased its percentage of suspected cases with blood specimens from 7.3% in 2007 to 100% in the first quarter of 2008.

Table 3B: Measles surveillance performance indicators, by country, Western Pacific Region, 2007-2008*

Country	2008 Population (in millions) †	2007					2008 *				
		Non-measles case rate (per 100 000 pop.)	Districts with ≥ 1 non-measles suspected case (per 100 000 pop.)	Suspected cases with adequate investigation	Suspected cases with adequate blood specimens	Laboratory results ≤ 7 days	Anualised non-measles rate per 100 000 pop.	Districts with ≥ 1 non-measles suspected case (per 100 000 pop.)	Suspected cases with adequate investigation	Suspected cases with adequate blood specimens	Laboratory results ≤ 7 days
		≥ 2	≥ 80%	≥ 80%	≥ 80%	≥ 80%	≥ 2.0	≥ 80%	≥ 80%	≥ 80%	≥ 80%
Australia ‡	20.95	0.0	No data	0 (0.0%)	0 (0.0%)	No data	0.00	No data	0 (0.0%)	0 (0.0%)	No data
Brunei Darussalam	0.40	No data	No data	No data	No data	No data		No data	No data	No data	No data
Cambodia	14.70	6.2	72 (40.0%)	550 (42.5%)	874 (67.5%)	No data	8.22	36 (20.0%)	183 (39.5%)	328 (70.8%)	No data
China	1336.31	No data	No data	No data	No data	No data		No data	No data	No data	No data
Hong Kong (China)	7.28	0.2	0 (0.0%)	64 (60.4%)	79 (74.5%)	82 (94.3%)	0.22	0 (0.0%)	4 (20.0%)	10 (50.0%)	11 (100%)
Japan	127.94	No data	No data	No data	No data	No data		No data	No data	No data	No data
Lao People's Democratic Republic	5.96	0.0	No data	No data	No data	No data	0.34	No data	No data	No data	No data
Macao (China)	0.48	0.2	0 (0.0%)	0 (0.0%)	0 (0.0%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	Not applicable
Malaysia	27.03	3.0	No data	No data	No data	No data	0.73	No data	2 (1.5%)	66 (49.3%)	47 (95.9%)
Mongolia	2.65	0.0	No data	0 (0.0%)	8 (7.3%)	10 (100%)	7.08	No data	21 (44.7%)	47 (100.0%)	47 (100%)
New Zealand	4.21	0.0	No data	0 (0.0%)	0 (0.0%)	No data	0.00	No data	0 (0.0%)	0 (0.0%)	No data
Papua New Guinea	6.46	0.1	No data	0 (0.0%)	4 (100%)	No data	0.00	No data	2 (25.0%)	4 (50.0%)	0 (0.0%)
Philippines	89.65	0.4	10 (5.4%)	76 (8.6%)	423 (47.6%)	486 (85.7%)	0.00	0 (0.0%)	2 (6.3%)	16 (50.0%)	No data
Republic of Korea	48.39	0.5	No data	132 (29.3%)	382 (84.7%)	413 (98.3%)	0.04	No data	0 (0.0%)	4 (80.0%)	5 (100%)
Singapore ‡	4.49	0.0	0 (0.0%)	0 (0.0%)	0 (0.0%)	15 (100%)	0.00	0 (0.0%)	3 (30.0%)	8 (80.0%)	9 (90.0%)
Viet Nam	88.54	6.0	193 (28.7%)	1375 (26.0%)	3522 (66.6%)	No data	0.28	13 (1.9%)	92 (77.3%)	99 (83.2%)	No data
Pacific island countries and areas											
American Samoa	0.07	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Cook Islands	0.02	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Fiji	0.84	1.1	1 (100.0%)	0 (0.0%)	0 (0.0%)	No data	0.00	0 (0.0%)	0 (0.0%)	0 (0.0%)	No data
French Polynesia	0.27	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Guam	0.18	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Kiribati	0.09	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Marshall Islands	0.06	0.0	0 (0.0%)	1 (33.3%)	1 (33.3%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Micronesia, Federated States of	0.11	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Nauru	0.01	9.9	1 (100.0%)	0 (0.0%)	0 (0.0%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
New Caledonia	0.25	0.8	0 (0.0%)	0 (0.0%)	2 (66.7%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Niue	0.00	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Northern Mariana Islands	0.08	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Palau	0.02	20.0	1 (100.0%)	0 (0.0%)	1 (7.1%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Pitcairn Islands	0.00	No data	No data	No data	No data	No data		No data	No data	No data	No data
Samoa	0.19	0.0	0 (0.0%)	0 (0.0%)	0 (0.0%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Solomon Islands	0.51	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Tokelau	0.00	0.0	0 (0.0%)	0 (0.0%)	0 (0.0%)	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Tonga	0.10	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Tuvalu	0.01	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Vanuatu	0.23	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Wallis and Futuna	0.02	0.0	0 (0.0%)	Not applicable	Not applicable	No data	0.00	0 (0.0%)	Not applicable	Not applicable	No data
Western Pacific Region	1788.49	0.4	278 (5.4%)	2198 (1.7%)	5 296 (4.1%)	1011 (92.0%)	0.11	49 (1.0%)	309 (1.1%)	582 (2.1%)	119 (95.2%)

* Monthly reports from January - March 2008

† Population figures from World Population Prospects: The 2006 Revision, New York, United Nations, 2007.

‡ Reported cases for Australia and Singapore are laboratory confirmed

Green	Reached or surpased the target
Yellow	Nearly reached target: 1.00-1.99 for non-measles suspected case rate; 60%-79% for other indicators
Red	Substantially below target

Table 4: Rubella data reported by the Measles Laboratory Network, Western Pacific Region, 2007-2008*

Country	Routine MCV1 type (age) §	Routine MCV2 type (age) §	Last year of MR/MMR SIA §	2007							2008 *						
				Number of measles IgM (–) cases	Specimens tested for Rubella	Rubella tests / measles IgM(-) case †	Number of Rubella IgM(–) cases	specimens tested for Measles	Measles tests / Rubella IgM(-) case ‡	Number of Rubella IgM(+) cases	Number of measles IgM (–) cases	Specimens tested for Rubella	Rubella tests / measles IgM(-) case †	Number of Rubella IgM(–) cases	specimens tested for Measles	Measles tests / Rubella IgM(-) case ‡	Number of Rubella IgM(+) cases
Australia	MMR (12m)	MMR (4y)	None								8	10	1.3	8	13	1.6	2
Brunei Darussalam	MMR (12m)	MMR (10-12y)	None	11	322	29.3	313	11	0.0	0		322					
Cambodia	M (9m)		None	777	781	1.0	623	781	1.3	158	414	417	1.0	286	417	1.5	131
China	MMR (8m)	MMR (18-24m)	None														
Hong Kong (China)	MMR (12m)	MMR (6y)	2002	0	0		0	305		0	44	17	0.4	14	55	3.9	3
Japan	MR (12m)	MR (5-7y)	None														
Lao People's Democratic Rep.	M (9m)		None								16	16	1.0	15	16	1.1	1
Macao (China)	MMR (12m)	MMR (18m)	None														
Malaysia	MMR (12m)	MMR (7y)	None	1070	0			1130			125	0			200		
Mongolia	M (8-11m)	M (14m)	None	1778	1567	0.9	553	2022	3.7	964	47	47	1.0	43	47	1.1	4
New Zealand	MMR (15m)	MMR (4y)	None	49	142	2.9	141	52	0.4	1							
Papua New Guinea	M (9m)		None														
Philippines	M (9m)	M (18m)	None	373	554	1.5	355	557	1.6	171	158	249	1.6	160	249	1.6	77
Republic of Korea	MMR (12m)	MMR (4y)	None	233	440	1.9	389	440	1.1	17	29	29	1.0	25	34	1.4	3
Singapore	MMR (12m)	MMR (11y)	None	134	344	2.6	330	147	0.4	10	46	94	2.0	89	58	0.7	5
Viet Nam	M (9m)	M (6y)	None	3972	3980	1.0	1385	4022	2.9	2547	156	164	1.1	61	164	2.7	102
Pacific island countries and areas																	
American Samoa	MMR (12m)	MMR (4y)	None														
Cook Islands	MR (12m)	MR (15m)	2006														
Fiji	MR (12m)	MR (6y)	2006	11	12	1.1	10	12	1.2	1							
French Polynesia	MMR (12m)	MMR (2y)	None														
Guam	MMR (12m)	MMR (4y)	2003														
Kiribati	MR (12m)	MR (6y)	2006														
Marshall Islands	MMR (12m)	MMR (13m)	2004														
Micronesia, Federated States of	MMR (12m)	MMR (13m)	2004														
Nauru	M (12m)	MR (15m)	2003														
New Caledonia	MMR (12m)	MMR (2y)	None														
Niue	MMR (15m)	MMR (4y)	2003														
Northern Mariana Islands	MMR (12m)	MMR (4y)	None														
Palau	MMR (12m)	MMR (15m)	None														
Samoa	MR (12m)	MR (13m) #	2005														
Solomon Islands	M (9m)		None														
Tokelau	MR (12m)	MR (15m)	2003														
Tonga	MR (12m)	MR (18m)	None														
Tuvalu	MR (12m)	MR (18m)	2005														
Vanuatu	M (12m)		None														
Wallis and Futuna	MMR (12m)	MMR (2y)	None														
				8408	8142	1.0	4099	9479	2.3	3869	1043	1365	1.3	701	1253	1.8	328

* Monthly reports from January - March 2008; Empty cells indicate no reported data; # = "not scheduled for next 3 years" (JRF 2007)

† number of cases with specimens tested for rubella per measles IgM-negative case; ‡ number of cases with specimens tested for measles per rubella IgM negative case § Source: WHO/UNICEF JRF 2008 reports;

Rubella

As case-based surveillance for measles improves and transmission of the measles virus decreases, most countries discover an increasing number of suspected measles cases that are confirmed as rubella, revealing a potential risk for rubella infection among pregnant women. As many as 85% of children born to women infected with rubella during their first trimester have congenital rubella syndrome (CRS). CRS can present as deafness, congenital cardiac disease, cataracts, microcephaly, mental retardation and other pathologic conditions. Administration of rubella vaccine as either measles-rubella (MR) or measles-mumps-rubella (MMR) is an easy way to prevent rubella infection in children. Rubella elimination strategies often include vaccination of child-bearing age women and, if a rapid decrease in the force of infection is desired, adolescents and young adults of both sexes. One dose of MR vaccine costs $0.30 more than measles vaccine alone when procured through UNICEF. To date, 27 countries and areas of the Western Pacific Region provide MR or MMR vaccine to children through their routine immunization programme, and 12 have conducted large-scale, wide age-range SIAs that include rubella containing vaccine (RCV) (Table 4). Many that do not yet offer RCV, including Mongolia, the Philippines and Viet Nam, are considering this option. China's recent decision to introduce RCV (as either MR or MMR) in its routine immunization programme should result in a very large decrease in rubella cases regionally.

The Regional Office recommends that all suspected measles cases that are IgM negative for measles should be tested for rubella. Moreover, using a more simplified surveillance case definition such as acute fever and rash (AFR) to identify potential measles and rubella cases can increase surveillance sensitivity for both diseases. When measles incidence is very low, and case-based measles surveillance is adequately sensitive, blood specimens from AFR cases may be tested first for rubella IgM, with all rubella IgM negative specimens then tested for measles IgM.

A summary of measles and rubella lab data are presented in Table 4. Lab reports on rubella testing were received from nine countries in 2007 and in 2008. A total of 3869 laboratory confirmed cases of rubella were reported in 2007 (14.8 per 1 million population), and 328 have been reported in the first quarter of 2008 (annualized rate of 5.0 per 1 million population). The ratio of rubella tests to measles IgM negative specimens is an indicator of the surveillance system's capacity to identify rubella cases among reported suspected measles cases. A ratio of 1.0 suggests that the country is testing all measles IgM negative samples for rubella. In Cambodia, Mongolia and Vietnam, the ratio was approximately 1.0 in both 2007 and the first quarter of 2008. Malaysia, with a ratio of 0.0, apparently does not evaluate any measles IgM negative specimens for rubella. The ratio of 0.4 in Hong Kong (China) in the first quarter of 2008 suggests that the national lab evaluates approximately 40% of measles IgM negative samples for rubella. The Philippines and Singapore had ratios well in excess of 1.0 in both 2007 and 2008, indicating that more samples are tested for rubella than were negative for measles IgM.

Table 5: Epidemiologic surveillance and laboratory data from country reports, Western Pacific Region, 2007-2008*

Country	Year	Suspected measles cases				Measles						Rubella		
		Epid reports †		Lab reports ‡										
		Total suspected cases	Suspected cases with specimens	Suspected cases with specimens	Epid to Lab suspected case ratio	Number of IgM neg. cases (Epid)	Number of IgM neg. cases (Lab)	Epid to Lab discarded case ratio	Number of IgM pos. cases (Epid)	Number of IgM pos. cases (Lab)	Epid to Lab confirmed case ratio	Rubella pos. cases (Epid)	Rubella pos. cases (Lab)	Epid to Lab rubella case ratio
Australia	2007	11	11	11	1.0	0			11					
	2008	*17*	*17*	*15*	*1.1*	*0*	*8*	*0.0*	*17*	*5*	*3.4*		*2*	
Cambodia	2007	1294	908	781	1.2	900	777	1.2	8	4	2.0	174	158	1.1
	2008	*463*	*336*	*417*	*0.8*	*302*	*414*	*0.7*	*1*	*3*	*0.3*		*131*	
Hong Kong (China)	2007	106	89	300	0.3	18	0		71	67	1.1		0	
	2008	*13*	*6*	*55*	*0.1*	*4*	*44*	*0.1*	*2*	*10*	*0.2*		*3*	
Malaysia	2007	1544	510	1130	0.5		1070		37	44	0.8		0	
	2008	*134*	*72*	*200*	*0.4*	*50*	*125*	*0.4*	*2*	*5*	*0.4*		*0*	
Mongolia	2007	110	110	2022	0.1	0	1778	0.0	10	12	0.8	100	964	0.1
	2008	*47*	*47*	*47*	*1.0*	*47*	*47*	*1.0*	*0*	*0*			*4*	
Philippines	2007	888	574	557	1.0	381	373	1.0	175	166	1.1	173	171	1.0
	2008	*32*	*25*	*249*	*0.1*	*4*	*158*	*0.0*	*3*	*88*	*0.0*		*77*	
Republic of Korea	2007	451	421	640	0.7	204	233	0.9	195	160	1.2	2	17	0.1
	2008	*5*	*5*	*34*	*0.1*	*5*	*29*	*0.2*	*0*	*4*	*0.0*		*3*	
Singapore	2007	15	15	648	0.0	0	134	0.0	15	10	1.5		10	
	2008	*8*	*8*	*186*	*0.0*	*0*	*46*	*0.0*	*8*	*7*	*1.1*		*5*	
Viet Nam	2007	5286	3822	4235	0.9	3650	3972	0.9	7	26	0.3		2547	
	2008	*119*	*119*	*164*	*0.7*	*52*	*156*	*0.3*	*1*	*3*	*0.3*		*102*	

* Monthly reports from Jan - Mar 2008; † Epid: data reported through epidemiologic surveillance administered by either epidemiology or program units ‡ Lab = Data reported by the national measles laboratory
Epid to Lab case ratio: if >1.0, the epidemiologic surveillance/program unit reports more cases than the national measles laboratory by that factor
if < 1.0, the epidemiologic surveillance/program unit reports fewer cases than the national measles laboratory by that factor

Data Quality

Table 5 reviews discrepancies between data submitted by members of the measles laboratory network (MLN) and epidemiology/programme units from selected member states. It is noteworthy that, in general, member laboratories of the MLN report more suspected cases tested, discarded and confirmed as measles and rubella than do national epidemiology/programme units.

In fact, very few national epidemiology/programme units report any rubella cases. These data suggest that communication between national measles laboratories and epidemiology and immunization programme units is inadequate in most countries, leading to potentially misinformed programmatic decision-making at every level. To ensure adequate programme monitoring and appropriate decision-making, communication between laboratories, epidemiology and programme units should be conducted regularly and institutionalized so that data are shared, reconciled and updated in a timely manner.

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