

MEASLES-RUBELLA

Table 1. Measles case classification and incidence by country and area, WHO Western Pacific Region, 2008–2013¹

Country	2009		2010		2011		2012		2013 ¹										
	Total confirmed ²	Measles incidence per 1 million pop.	Total confirmed ²	Measles incidence per 1 million pop.	Total confirmed ²	Measles incidence per 1 million pop.	Total confirmed ²	Measles incidence per 1 million pop.	Population (in millions) ³	Suspected measles cases	Confirmed measles cases			Annualized measles incidence per 1 million	Compatible cases	Discarded cases	Pending classification	Deaths due to measles	Rash onset of last measles case
											Lab	Epi-linked	Total						
Australia	104	5.0	70	3.3	192	8.5	199	8.7	23.21	N/A ⁴	7	1	8	2.1	0	0	0	0	26-Feb-13
Brunei Darussalam	2	5.0	0	0.0	4	9.9	1	2.4	0.42	2	0	0	0	0.0	0	2	0	0	-
Cambodia	865	58.9	1 156	76.8	722	50.5	0	0.0	14.66	71	0	0	0	0.0	0	64	7	0	-
China	52 461	39.5	38 159	28.5	9 943	7.4	6 183	4.6	1359.37	10 778	4 012	7	4 019	17.7	234	6 004	521	6	-
Hong Kong (China)	22	3.0	11	1.6	12	1.7	8	1.1	7.27	19	1	0	1	0.8	1	17	0	0	7-Mar-13
Macao (China)	0	0.0	0	0.0	1	1.8	1	1.8	0.58	3	0	0	0	0.0	0	3	0	0	-
Japan	705	5.5	432	3.4	411	3.2	228	1.8	126.35	85	21	0	21	1.0	23	0	0	0	22-Feb-13
Lao People's Democratic Republic	72	12.1	153	23.8	113	18.0	36	5.6	6.46	221	22	51	73	67.8	6	142	0	0	25-Feb-13
Malaysia	56	2.1	74	2.7	1 603	54.4	1 868	63.7	29.79	1 118	37	0	37	7.5	5	821	255	0	18-Feb-13
Mongolia	8	3.0	7	2.6	0	0.0	0	0.0	2.89	18	0	0	0	0.0	0	18	0	0	-
New Zealand	253	60.0	48	11.2	599	135.7	55	12.3	4.51	2	0	0	0	0.0	0	0	2	0	-
Papua New Guinea	0	0.0	0	0.0	0	0.0	0	0.0	7.33	7	0	0	0	0.0	0	7	0	0	-
Philippines	1 490	16.6	6 388	68.2	6 555	69.1	1 536	15.9	98.11	107	3	0	3	0.2	10	77	14	0	21-Jan-13
Republic of Korea	17	0.4	111	2.3	43	0.9	2	0.0	48.77	20	1	0	1	0.1	0	15	4	0	30-Jan-13
Singapore	16	3.6	54	11.2	143	27.6	40	7.6	5.30	15	1	0	1	1.1	0	12	1	0	5-Jan-13
Viet Nam	5 222	59.0	1 826	20.5	745	8.4	637	5.9	90.66	2	0	0	0	0.0	0	0	2	0	-
Pacific island countries and areas ⁵	4	1.3	1	0.3	2	1.0	0	0.0	3.23	5	0	0	0	0.0	0	5	0	0	-
Western Pacific Region	61 297	34.0	48 490	27.0	21 088	11.7	10 794	5.9	1828.90	12 473	4 105	59	4 164	13.7	279	7 187	806	6	

¹ Includes all cases reported to the Western Pacific Regional Office by 20 March 2013.

² Includes laboratory confirmed, epi-linked and clinically confirmed cases for 2009 to 2012.

³ United Nations, Department of Economic and Social Affairs, Population Division World Population Prospects.

⁴ Australia reports confirmed cases only.

⁵ Classification is provisional based on laboratory data only.

Green < 1 confirmed measles case / 1 000 000 population
Yellow 1–9.9 confirmed measles case / 1 000 000 population
Red >= 10 confirmed cases / 1 000 000 population

Table 2. Measles surveillance performance indicators by country and area, WHO Western Pacific Region, 2012–2013¹

Country	2012				2013 ¹			
	Discarded non-measles rate per 100 000 pop	Second level units with ≥ 1 discarded cases per 100 000 pop (annualized)	Suspected cases with adequate investigation	Suspected cases with adequate blood specimens ²	Annualized discarded non-measles rate per 100 000 pop	Second level units with ≥ 1 discarded cases per 100 000 pop (annualized)	Suspected cases with adequate investigation	Suspected cases with adequate blood specimens ²
	≥ 2	≥ 80%	≥ 80%	≥ 80%	≥ 2	≥ 80%	≥ 80%	≥ 80%
Australia ³	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
Brunei Darussalam	1.5	100.0%	71.4%	85.7%	2.9	0.0%	100.0%	100.0%
Cambodia	6.8	58.3%	56.1%	99.2%	2.6	20.8%	42.3%	94.4%
China	2.3	71.0%	99.0%	97.9%	2.7	48.4%	97.7%	92.2%
Hong Kong (China)	2.5	100.0%	92.0%	97.3%	1.4	0.0%	94.7%	100.0%
Macao (China)	3.9	100.0%	95.7%	100.0%	3.1	100.0%	100.0%	100.0%
Japan	0.1	0.0%	Insufficient data	Insufficient data	0.0	0.0%	Insufficient data	Insufficient data
Lao People's Democratic Republic	7.6	64.7%	49.3%	76.6%	13.2	23.5%	18.8%	75.9%
Malaysia	22.7	93.8%	74.4%	83.4%	16.5	87.5%	80.5%	68.6%
Mongolia	22.0	40.9%	64.2%	100.0%	3.7	18.2%	33.3%	100.0%
New Zealand	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
Papua New Guinea	0.6	10.0%	61.9%	81.0%	0.6	0.0%	71.4%	28.6%
Philippines	2.1	64.7%	56.5%	79.4%	0.5	0.0%	70.1%	76.6%
Republic of Korea	0.3	6.3%	84.0%	90.4%	0.2	6.3%	65.0%	85.0%
Singapore	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
Viet Nam	0.9	25.0%	44.3%	55.0%	0.0	0.0%	50.0%	100.0%
Pacific island countries and areas	5.7	Insufficient data	0.0%	Insufficient data	0.9	Insufficient data	0.0%	Insufficient data
Western Pacific Region	2.4	35.1%	88.8%	93.1%	2.4	14.9%	94.3%	89.7%

¹ Includes all cases reported to the Western Pacific Regional Office by 20 March 2013.

² Excludes epidemiologically-linked cases.

³ Reports only confirmed cases.

Green Reached or surpassed target
Yellow Nearly reached target: 1.00–1.99 for non-measles suspected case rate; 10.1–25% for percent clinically confirmed cases; 60–79% for other indicators
Red Substantially below target

Table 3A. Measles and rubella laboratory performance, WHO Western Pacific Region, 2012¹

Country	Measles and rubella		Measles													Rubella				
			Serology									Virus detection				Serum and blood (includes DBS)				
	Total number of cases tested	Total number of samples received	Serum					Blood		Results ≤ 7 days	Measles virus isolation/detection (swab, urine and others)		Measles Reverse Transcription-Polymerase Chain Reaction		Total number of lab confirmed cases	Samples tested for rubella IgM	Rubella IgM (+)	Rubella IgM equiv	Rubella IgM pending	
			Samples tested for measles IgM	Measles IgM (+)	Measles IgM equiv	Measles IgM (-)		Measles IgM pending	DBS samples		No. of samples tested	No. of isolates	No. of samples tested	No. of (+)						
No.	No.	No.	No.	%	No.	No. received	No. (+)	%	No. of samples tested	No. of isolates	No. of samples tested	No. of (+)	No.	No.	No.	No.				
Australia	116	133	14	9	1	4	28.6	0	0	-	100.0	0	0	112	108	104	14	7	0	0
Cambodia	985	987	872	0	1	871	99.9	0	112	0	98.3	0	0	0	0	0	962	185	0	0
China																				
Hong Kong (China)	489	560	511	6	8	497	97.3	0	0	-	98.7	18	3	29	7	7	470	21	5	0
Macao (China)	58	58	58	2	0	56	96.6	0	0	-	96.6	0	0	0	0	2	58	3	0	0
Japan ²	362	462	248	142	39	67	27.0	0	0	-	No data	214	78	0	0	184	3	0	0	0
Lao People's Democratic Republic	396	396	396	7	6	383	96.7	0	0	-	73.7	0	0	0	0	7	396	50	68	0
Malaysia	9 195	9 644	8 619	1 829	128	6 662	77.3	0	0	-	97.7	1 512	87	0	0	1 863	6 732	1 011	318	1
Mongolia	627	628	606	0	0	606	100.0	0	0	-	100.0	2	0	22	0	0	626	240	10	0
New Zealand	331	362	171	11	5	155	90.6	0	0	-	99.3	4	0	165	46	54	51	5	2	1
Papua New Guinea	66	66	66	0	0	66	100.0	0	0	-	57.6	0	0	0	0	0	66	24	8	0
Philippines	3 065	3 080	3 048	654	125	2 269	74.4	0	3	0	95.3	62	3	12	2	657	2 405	131	147	0
Republic of Korea	243	251	249	18	15	216	86.7	0	0	-	100.0	1	0	30	0	18	242	13	23	0
Singapore	590	781	249	14	5	230	92.4	0	0	-	96.9	179	4	0	0	18	406	23	14	0
Viet Nam (northern)	563	563	483	5	9	465	96.3	4	0	-	82.3	0	0	0	0	5	563	97	35	7
Viet Nam (southern)	349	370	349	1	1	347	99.4	0	0	-	97.7	21	0	21	0	1	349	24	19	0
Fiji	182	183	181	0	1	180	99.4	0	2	0	93.4	0	0	0	0	0	183	25	9	0
Samoa ³	10	16	5	0	0	5	100.0	0	0	-	No data	0	0	0	0	0	9	0	0	3
Solomon Islands ³	10	10	4	0	0	4	100.0	0	0	-	No data	0	0	0	0	0	10	3	3	0
Total	17 637	18 550	16 129	2 698	344	13 083	81.1	4	117	0	96.0	2 013	175	391	163	2 920	13 545	1 862	661	12

¹ National measles laboratory monthly reports received in the Western Pacific Regional Office by 20th of January 2013

² Data from the national measles surveillance report received in the Western Pacific Regional Office by 20th of January 2013

³ Specimens were tested in Victorian Infectious Diseases Reference Laboratory, Australia

Table 3B. Measles and rubella laboratory performance, WHO Western Pacific Region, 2013¹

Country	Measles and rubella		Measles													Rubella				
			Serology									Virus detection				Serum and blood (includes DBS)				
	Total number of cases tested	Total number of samples received	Serum					Blood		Results ≤ 7 days	Measles Virus isolation/detection (swab, urine and others)		Measles Reverse Transcription-Polymerase Chain Reaction		Total number of lab confirmed cases	Samples tested for rubella IgM	Rubella IgM (+)	Rubella IgM equiv	Rubella IgM pending	
			Samples tested for measles IgM	Measles IgM (+)	Measles IgM equiv	Measles IgM (-)		Measles IgM pending	DBS samples		No. of samples tested	No. of isolates	No. of samples tested	No. of (+)						
No.	No.	No.	No.	%	No.	No. received	No. (+)	%	No. of samples tested	No. of isolates	No. of samples tested	No. of (+)	No.	No.	No.	No.				
Australia	1	1	0	0	0	0	-	0	0	-	-	0	0	1	1	1	0	0	0	0
Cambodia	71	71	59	0	0	52	88%	7	12	0	100%	0	0	0	0	0	64	30	0	0
China																				
Hong Kong (China)	82	96	89	1	0	88	99%	0	0	-	100%	2	0	3	2	1	82	3	1	0
Macao (China)	5	5	5	0	0	5	100%	0	0	-	100%	0	0	0	0	0	5	0	0	0
Japan ²	85	71	42	25	0	16	38%	0	0	-	No data	29	1	0	0	26	No data	No data	No data	No data
Lao People's Democratic Republic	136	152	136	25	17	94	69%	0	0	-	93%	0	0	0	0	25	136	6	20	0
Malaysia	1 357	1 579	1 280	65	11	1 197	94%	2	0	-	94%	297	3	0	0	68	1 205	185	34	0
Mongolia	18	18	18	0	0	18	100%	0	0	-	94%	0	0	0	0	0	18	0	0	0
New Zealand	22	22	12	0	1	10	83%	1	0	-	88%	0	0	6	1	2	10	2	0	0
Papua New Guinea	6	6	3	0	0	3	-	0	3	0	-	0	0	0	0	0	6	0	0	0
Philippines	390	404	388	12	1	363	94%	12	2	0	100%	4	0	0	0	12	374	30	27	12
Republic of Korea	38	38	38	6	4	28	74%	0	0	-	100%	0	0	7	0	6	38	1	2	0
Singapore	78	109	82	0	0	42	51%	0	0	-	100%	34	0	0	0	0	55	3	1	0
Viet Nam (northern)	42	42	42	0	0	42	100%	0	0	-	100%	0	0	0	0	0	42	0	0	0
Viet Nam (southern)	16	16	16	0	0	16	100%	0	0	-	88%	0	0	0	0	0	16	0	0	0
Fiji	6	6	6	0	0	6	100%	0	0	-	100%	0	0	0	0	0	6	1	0	0
Total	2 353	2 636	2 216	134	34	1 980	89%	22	17	0	96.1%	366	4	17	4	141	2 057	261	85	12

¹ National measles laboratory monthly reports received in the Western Pacific Regional Office by 20th of March 2013

² Data from the national measles surveillance report received in the Western Pacific Regional Office by 20th of March 2013

Figure 1. Measles genotype distribution of cases with onset in 2012, WHO Western Pacific Region

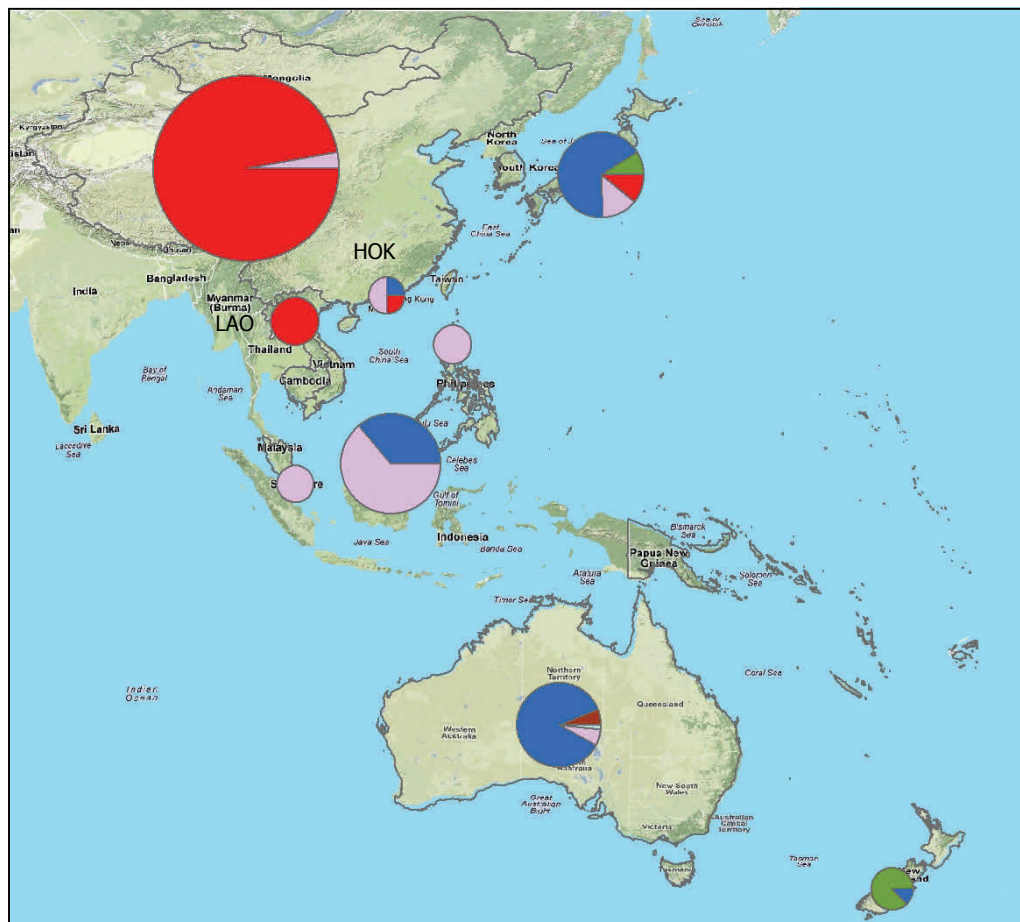
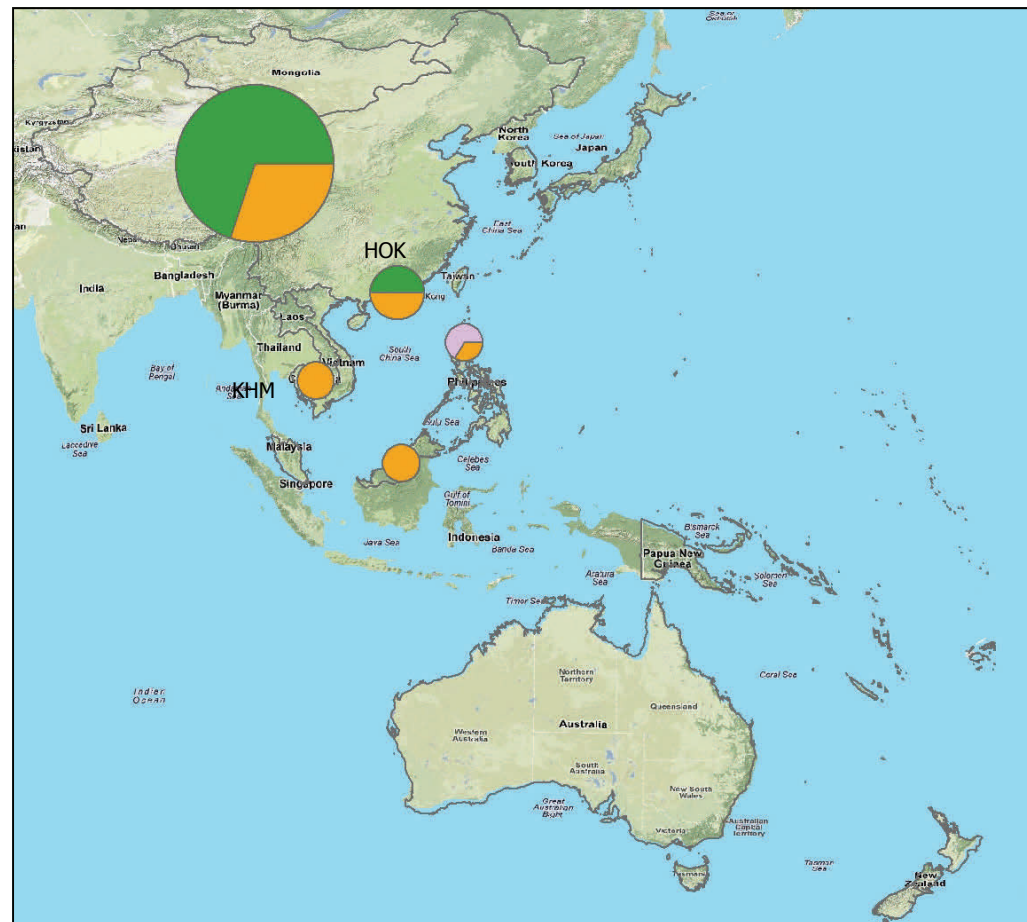


Figure 2. Rubella genotype distribution of cases with onset in 2012, WHO Western Pacific Region



Sources: National and regional measles reference laboratory monthly reports from February 2013 and the Measles Nucleotide Sequence online database (MeaNS).

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Table 4A. Completeness and timeliness of epidemiologic reporting, WHO Western Pacific Region, 2011–2013

Country	2011		2012		2013 ¹			
	Completeness	Timeliness	Completeness	Timeliness	Jan	Feb	Completeness ²	Timeliness ³
					10 Feb	10 Mar		
Australia	100%	100%	100%	100%	07 Feb	06 Mar	100%	100%
Brunei Darussalam	100%	100%	100%	100%	10 Feb	09 Mar	100%	100%
Cambodia	75%	42%	100%	92%	10 Feb	10 Mar	100%	100%
China	100%	100%	100%	83%	13 Feb	13 Mar	100%	100%
Hong Kong (China)	100%	100%	100%	100%	08 Feb	07 Mar	100%	100%
Macao (China)	100%	100%	100%	100%	05 Feb	04 Mar	100%	100%
Japan	100%	100%	100%	100%	13 Feb	08 Mar	100%	50%
Lao People's Democratic Republic	92%	92%	100%	75%	06 Feb	10 Mar	100%	100%
Malaysia	100%	92%	100%	92%	09 Feb	08 Mar	100%	100%
Mongolia	100%	100%	100%	100%	08 Feb	07 Mar	100%	100%
New Zealand	100%	83%	100%	83%	08 Feb	08 Mar	100%	100%
Papua New Guinea	75%	42%	83%	33%	08 Feb	05 Mar	100%	100%
Philippines	100%	92%	100%	100%	08 Feb	10 Mar	100%	100%
Republic of Korea	100%	92%	100%	100%	07 Feb	08 Mar	100%	100%
Singapore	100%	92%	100%	100%	04 Feb	05 Mar	100%	100%
Viet Nam	75%	50%	100%	92%	10 Feb	10 Mar	100%	100%
Pacific island countries and areas	75%	67%	100%	100%	06 Feb	05 Mar	100%	100%
Completeness	95%		99%		100%	100%	100%	
Timeliness		89%		92%	94%	100%		97%

¹ National measles surveillance monthly reports from February 2013.

Legend: black = timely report; red = untimely report

² Completeness is defined as the number of reports received by the end of the reporting month divided by the number of expected reports for the year.³ Countries and areas should submit reports by the 10th (or the next working day) of the following month; Pacific island countries and areas and China may report to the Regional Office by the 15th (or the next working day) of the following month.**Table 4B. Completeness and timeliness of laboratory reporting, WHO Western Pacific Region, 2011–2013**

Country	2011		2012		2013 ¹		Completeness ²	Timeliness ³
	Completeness	Timeliness	Completeness	Timeliness	Jan	Feb		
					09 Feb	01 Mar		
Australia	100%	100%	100%	100%	05 Feb	01 Mar	100%	100%
Cambodia	100%	100%	100%	100%	08 Feb	10 Mar	100%	100%
China	0%	0%	17%	17%	09 Feb	01 Mar	100%	100%
Hong Kong (China)	100%	100%	100%	100%	08 Feb	08 Mar	100%	100%
Macao (China)	100%	100%	100%	100%	07 Feb	05 Mar	100%	100%
Japan	100%	100%	100%	100%	08 Feb	08 Mar	100%	100%
Lao People's Democratic Republic	100%	100%	100%	92%	08 Feb	10 Mar	100%	100%
Malaysia	100%	100%	100%	58%	08 Feb	05 Mar	100%	100%
Mongolia	100%	100%	100%	100%	07 Feb	08 Mar	100%	100%
New Zealand	100%	92%	100%	100%	08 Feb	07 Mar	100%	100%
Papua New Guinea	83%	67%	92%	50%	10 Feb	08 Mar	100%	100%
Philippines	100%	100%	100%	92%	06 Feb	08 Mar	100%	100%
Republic of Korea	100%	100%	100%	100%	08 Feb	08 Mar	100%	100%
Singapore	100%	100%	100%	100%	08 Feb	08 Mar	100%	100%
Viet Nam (northern)	100%	75%	92%	83%	07 Feb	12 Mar	100%	50%
Viet Nam (southern)	100%	100%	83%	83%	09 Feb	08 Mar	100%	100%
Fiji	92%	58%	100%	100%	06 Feb	05 Mar	100%	100%
Completeness	93%		93%		100%	100%	100%	
Timeliness		88%		87%	100%	94%		97%

¹ National measles laboratory monthly reports from February 2013.² Completeness is defined as the number of reports received by the end of the reporting month divided by the number of expected reports for the year.³ National measles and rubella laboratories should submit monthly reports by the 10th (or the next working day) of the following month.