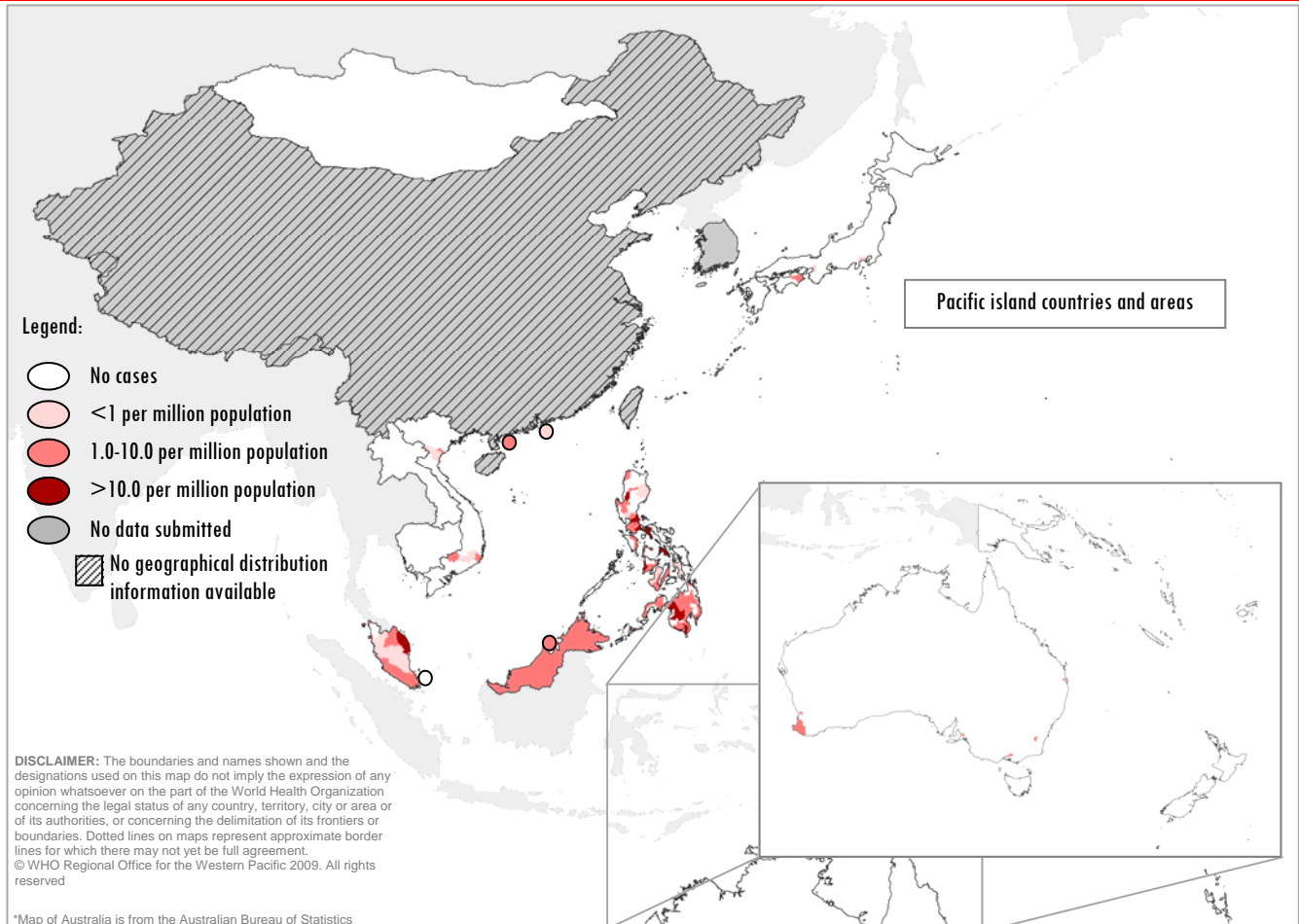


MEASLES-RUBELLA

Figure 1. Incidence rate of total (confirmed and compatible) measles cases with rash onset 1–31 December 2018, WHO Western Pacific Region



Source: Measles and rubella monthly country reports to the Western Pacific Regional Office by 20 January 2019

Table 1. Numbers of confirmed and total (confirmed and compatible) measles cases by month of rash onset, July–December 2018, WHO Western Pacific Region

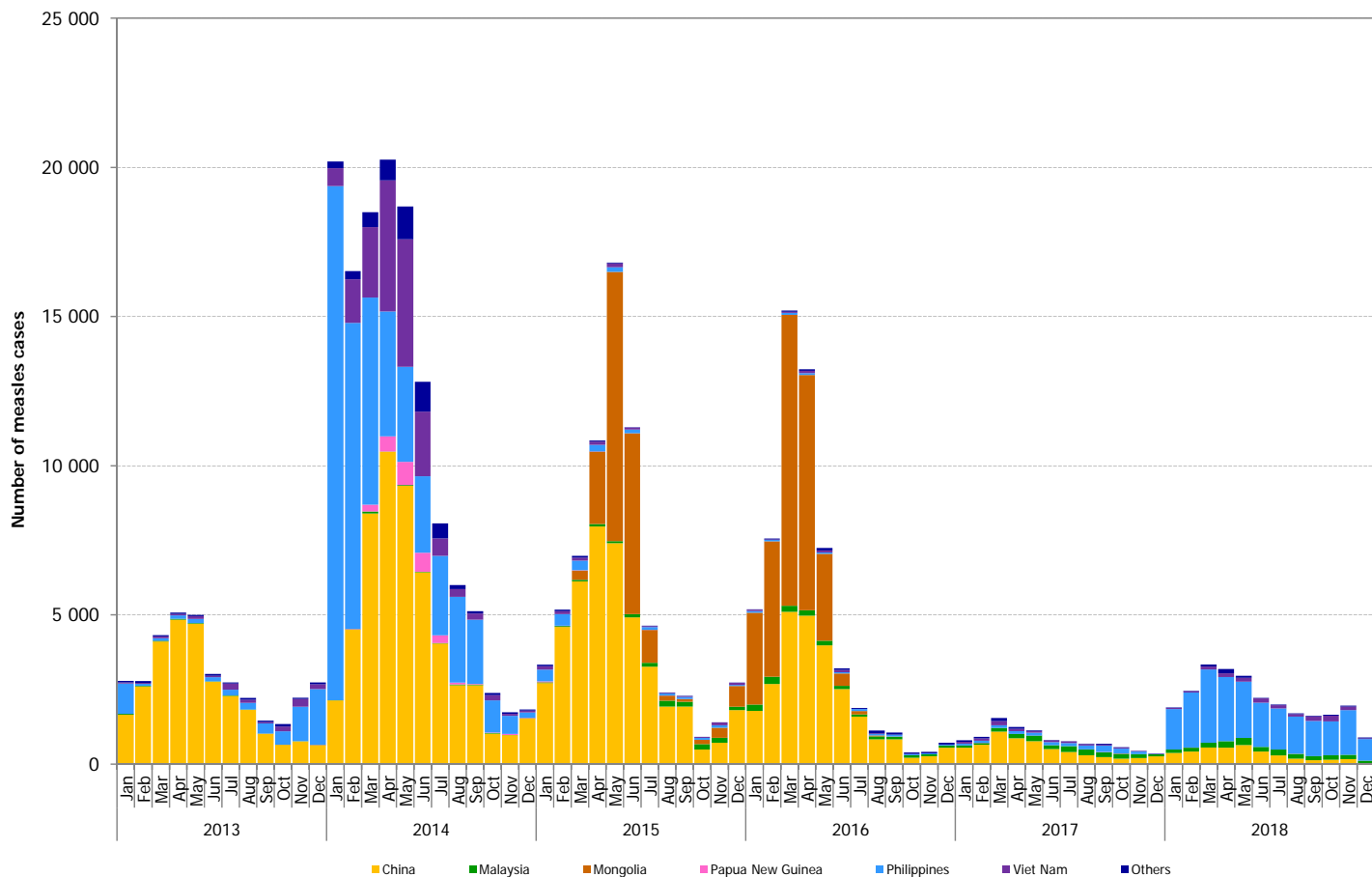
Country/area	2018											
	Jul		Aug		Sep		Oct		Nov		Dec	
	No. of confirmed	Total no. of cases	No. of confirmed	Total no. of cases	No. of confirmed	Total no. of cases	No. of confirmed	Total no. of cases	No. of confirmed	Total no. of cases	No. of confirmed	Total no. of cases
Australia ¹	6	6	20	20	4	4	3	3	7	7	10	10
Brunei Darussalam	0	0	0	0	0	0	0	0	0	0	1	1
Cambodia	0	0	2	2	0	0	0	0	0	0	0	0
China	275	285	177	182	122	125	139	145	109	165	-	-
China, Hong Kong SAR	0	0	0	0	1	1	0	0	1	1	3	3
China, Macao SAR	1	1	0	0	0	0	0	0	0	0	1	1
Japan	11	11	3	3	12	14	29	29	18	18	12	14
Lao People's Democratic Republic	0	0	0	0	0	0	1	1	0	0	0	0
Malaysia	197	199	155	163	130	139	143	147	140	147	90	116
Mongolia	0	0	0	0	0	0	0	0	0	0	0	0
New Zealand	0	0	0	0	0	0	0	0	5	5	0	0
Papua New Guinea	6	6	1	1	0	0	0	0	0	0	0	0
Philippines	301	1374	321	1250	345	1185	508	1143	537	1494	142	720
Republic of Korea	0	0	0	0	1	1	0	0	0	0	-	-
Singapore	2	3	2	2	0	1	1	1	4	4	0	0
Viet Nam	80	109	60	78	121	149	156	185	108	121	19	23
Pacific island countries and areas	0	0	0	0	0	0	0	0	0	0	0	0
Western Pacific Region	879	1994	741	1701	736	1619	980	1654	434	996	278	888

- - No data

¹ Reports only confirmed cases

Source: Case based and aggregate data reports to the Western Pacific Regional Office by 20 January 2019

Figure 2. Total (confirmed and compatible) measles cases by month of rash onset, WHO Western Pacific Region, 2013–2018 as of 20 January 2019



Source: Measles and rubella monthly country reports to WHO by 20 January 2019

Table 2. Status of verification of measles elimination, WHO Western Pacific Region

Country/area	Year verified	2016	2017					% of cases with known source of infection	2018					
		% of cases with known source of infection	No. of confirmed cases	Source of infection					No. of confirmed cases	Source of infection				% of cases with known source of infection
				Imported	Import-related	Endemic	Unknown / not reported			Imported	Import-related	Endemic	Unknown / not reported	
Australia	2014	49.5%	81	38	32	0	11	86.4%	101	54	38	0	9	91.1%
Brunei Darussalam	2015	100.0%	0	-	-	-	-	-	1	1	0	0	0	100.0%
Cambodia	2015	0.0%	10	0	0	0	10	0.0%	2	0	0	0	2	0.0%
China	-	0.0%	5 181	0	0	0	5 181	0.0%	3 945	0	0	0	3 945	0.0%
China, Hong Kong SAR	2016	11.1%	4	3	0	0	1	75.0%	15	6	0	0	9	40.0%
China, Macao SAR	2014	-	2	0	2	0	0	100.0%	3	2	0	0	1	66.7%
Japan	2015	81.6%	183	34	136	0	13	92.9%	268	36	189	0	43	84.0%
Lao People's Democratic Republic	-	0.0%	3	0	0	0	3	0.0%	10	0	0	0	10	0.0%
Malaysia	-	95.6%	1 624	5	0	1 056	563	65.3%	1 861	6	0	1 375	480	74.2%
Mongolia	-	100.0%	9	0	0	9	0	100.0%	0	-	-	-	-	-
New Zealand	2017	0.0%	14	0	0	0	14	0.0%	31	2	0	0	29	6.5%
Papua New Guinea	-	-	7	0	0	0	7	0.0%	10	0	0	0	10	0.0%
Philippines	-	28.4%	251	0	0	43	208	17.1%	5 120	144	11	3 018	1 947	62.0%
Republic of Korea	2014	100.0%	5	3	0	0	2	60.0%	12	3	2	0	7	41.7%
Singapore	2018	75.7%	68	20	22	0	26	61.8%	33	8	1	0	24	27.3%
Viet Nam	-	0.0%	100	0	0	0	100	0.0%	913	0	0	0	913	0.0%
Pacific island countries and areas	-	0.0%	1	0	0	0	1	0.0%	0	-	-	-	-	-
Total		18.2%	7 543	103	192	1 108	6 140	18.6%	12 325	262	241	4 393	7 429	39.7%

Blue No measles cases
 Green ≥80%
 Yellow 60–79%
 Red <60%

Source: Measles and rubella monthly country reports to WHO by 20 January 2019

Table 3. Measles case classification and incidence by country and area, WHO Western Pacific Region, 2014–2018 as of 20 January 2019

Country/area	2014		2015		2016		2017		2018										Rash onset of last confirmed measles case
	Total confirmed and compatible ¹	Measles incidence per 1 million pop.	Total confirmed and compatible ¹	Measles incidence per 1 million pop.	Total confirmed and compatible ¹	Measles incidence per 1 million pop.	Total confirmed and compatible ¹	Measles incidence per 1 million pop.	Population (in millions) ²	Suspected measles cases	Pending classification	Discarded cases ³	Confirmed and compatible measles cases					Deaths due to measles	
													Compatible cases	Lab	Epi-linked	Total confirmed and compatible	Annualized measles incidence per 1 million pop.		
Australia	340	14.5	74	3.1	99	4.1	81	3.3	24.8	101	0	0	0	94	7	101	4.1	0	31-Dec-18
Brunei Darussalam	0	0.0	4	9.6	1	2.4	0	0.0	0.4	24	0	23	0	1	0	1	2.3	0	7-Aug-16
Cambodia	0	0.0	18 372	1183.9	56	3.6	10	0.6	16.2	1 088	4	1 082	0	2	0	2	0.1	0	26-Aug-18
China	52 485	37.8	42 864	30.7	24 839	17.7	5 993	4.3	1415.0	39 157	309	30 886	115	3 916	29	4 060	2.9	1	31-Dec-18
China, Hong Kong SAR	50	6.9	18	2.5	9	1.2	4	0.5	7.4	32	0	17	0	15	0	15	2.0	0	11-Dec-18
China, Macao SAR	1	1.7	0	0.0	0	0.0	2	3.2	0.6	31	0	28	0	3	0	3	4.7	0	19-Dec-18
Japan	454	3.5	35	0.3	157	1.2	187	1.5	127.2	1 712	56	1 377	11	268	0	279	2.2	0	18-Dec-18
Lao People's Democratic Republic	70	10.6	56	8.4	8	1.2	3	0.4	7.0	817	79	728	0	3	7	10	1.4	0	25-Oct-18
Malaysia	222	7.3	1 318	42.9	1 587	50.9	1 648	52.1	32.0	10 574	568	8 072	73	1 811	50	1 934	60.4	5	31-Dec-18
Mongolia	0	0.0	20 374	6844.1	28 813	9517.4	9	2.9	3.1	266	19	246	1	0	0	1	0.3	0	5-May-17
New Zealand	274	60.0	13	2.8	104	22.3	15	3.2	4.7	45	0	14	0	28	3	31	6.5	0	30-Nov-18
Papua New Guinea	2 589	333.8	53	6.7	0	0.0	7	0.8	8.4	54	0	44	0	10	0	10	1.2	0	6-Aug-18
Philippines	54 669	546.1	2 003	19.7	641	6.2	1 224	11.7	106.5	21 810	2 420	985	13 285	3 466	1 654	18 405	172.8	59	29-Dec-18
Republic of Korea	442	8.8	7	0.1	18	0.4	7	0.1	51.2	610	0	594	4	12	0	16	0.3	0	21-Sep-18
Singapore	171	31.4	45	8.1	157	27.9	81	14.2	5.8	122	0	85	4	33	0	37	6.4	0	18-Nov-18
Viet Nam	16 741	180.9	884	9.4	368	3.9	588	6.2	96.5	3 844	1 675	918	336	913	0	1 249	12.9	1	24-Dec-19
Pacific island countries and areas ⁴	279	87.9	20	6.2	6	1.8	1	0.3	3.3	86	0	86	0	0	0	0	0.0	0	1-May-17
<i>Fiji</i>	1	1.1	1	1.1	5	5.6	1	1.1	0.9	86	0	86	0	0	0	0	0.0	0	1-May-17
<i>Federated States of Micronesia</i>	257	2470.8	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	26-Aug-14
<i>Guam</i>	1	6.2	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	14-Mar-14
<i>Solomon Islands</i>	15	26.1	-	-	1	1.7	0	0.0	0.6	-	-	-	-	-	-	-	-	-	21-Jan-16
<i>Vanuatu</i>	5	19.3	19	71.8	0	0.0	-	-	0.3	-	-	-	-	-	-	-	-	-	23-Sep-15
Western Pacific Region	128 786	68.9	67 768	36.0	56 868	30.1	9 860	5.2	1910.3	80 373	5 130	45 185	13 829	10 575	1 750	26 154	13.7	66	

¹ Includes compatible, laboratory confirmed and epi-linked confirmed cases

² United Nations, Department of Economic and Social Affairs, Population Division World Population Prospects 2017 revision.

³ Australia reports confirmed cases only.

⁴ 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 4. Measles surveillance performance indicators by country and area, WHO Western Pacific Region, 2017–2018 as of 20 January 2019

Country/area	2017				2018			
	Discarded non-measles rate per 100 000 pop	Second level units with ≥ 2 discarded cases per 100 000 pop [annualized] ¹	Suspected cases with adequate investigation	Suspected cases with adequate specimens for laboratory confirmation ²	Annualized discarded non-measles rate per 100 000 pop	Second level units with ≥ 2 discarded cases per 100 000 pop [annualized] ¹	Suspected cases with adequate investigation	Suspected cases with adequate specimens for laboratory confirmation 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	4.2	Not applicable	100.0%	100.0%	5.3	Not applicable	100.0%	100.0%
Cambodia	5.4	80.0%	81.9%	78.8%	6.7	84.0%	83.4%	99.4%
China	2.1	64.5%	97.8%	91.5%	2.2	58.1%	97.5%	92.3%
China, Hong Kong SAR	0.1	Not applicable	100.0%	100.0%	0.2	Not applicable	96.9%	96.9%
China, Macao SAR	2.6	Not applicable	83.3%	100.0%	4.4	Not applicable	77.4%	100.0%
Japan	0.4	0.0%	Insufficient data	Insufficient data	1.1	6.4%	Insufficient data	Insufficient data
Lao People's Democratic Republic	7.1	64.7%	82.1%	85.1%	10.5	88.2%	89.1%	89.0%
Malaysia	19.8	93.8%	84.4%	91.3%	25.2	93.8%	91.9%	89.8%
Mongolia	4.7	13.6%	88.3%	93.5%	7.9	50.0%	98.1%	96.2%
New Zealand	0.4	Insufficient data	Insufficient data	Insufficient data	0.3	Insufficient data	Insufficient data	Insufficient data
Papua New Guinea	0.5	10.0%	70.6%	84.3%	0.5	5.0%	74.1%	90.7%
Philippines	1.9	29.4%	46.0%	69.3%	0.9	5.6%	65.5%	58.2%
Republic of Korea	0.5	0.0%	71.2%	84.9%	1.2	6.3%	78.5%	96.4%
Singapore	1.4	Not applicable	65.8%	67.1%	1.5	Not applicable	90.2%	70.5%
Viet Nam	1.5	49.2%	55.5%	72.3%	1.0	22.2%	83.0%	83.0%
Pacific island countries and areas ⁴	2.8	4.3%	87.5%	82.3%	2.6	5.0%	48.8%	80.2%
Western Pacific Region	2.2	36.4%	89.9%	89.2%	9.4	34.2%	87.1%	84.0%

¹ This indicator is not applicable for countries which have no second-level administrative units

² Adequate specimen defined as blood specimen collected within 28 days of rash onset or other specimen (throat swab, nasopharyngeal swab, cerebrospinal fluid, urine) collected within 5 days of rash onset; excludes epidemiologically-linked cases.

³ Reports only confirmed cases

⁴ Surveillance performance indicators refer to all the Pacific island countries and areas as one epidemiological block; each country is considered as second level unit

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 5. Rubella case classification and incidence by country and area, WHO Western Pacific Region, 2014–2018 as of 20 January 2019

Country/area	2014		2015		2016		2017		2018										
	Total confirmed and compatible	Rubella incidence per 1 million pop.	Total confirmed and compatible	Rubella incidence per 1 million pop.	Total confirmed and compatible	Rubella incidence per 1 million pop.	Total confirmed and compatible	Rubella incidence per 1 million pop.	Population (in millions) ¹	Investigated for rubella	Pending classification	Discarded cases	Confirmed and compatible rubella cases					Congenital rubella syndrome	
													Compatible cases	Lab	Epi-linked	Total confirmed and compatible	Annualized rubella incidence per 1 million pop.		
Australia	-	-	-	-	-	-	-	-	24.77	-	-	-	-	-	-	-	-	-	-
Brunei Darussalam	0	0.0	0	0.0	0	0.0	0	0.0	0.43	24	0	24	0	0	0	0	0	0.0	-
Cambodia	31	2.0	18	1.2	4	0.3	7	0.4	16.25	1 088	4	1 081	0	3	0	3	0.2	-	
China	11 887	8.6	8 245	5.9	4 476	3.2	1 601	1.1	1 415.05	39 157	309	30 886	389	3 404	109	3 902	2.8	-	
China, Hong Kong SAR	1	0.1	12	1.7	3	0.4	1	0.1	7.43	11	0	0	4	7	0	11	1.5	-	
China, Macao SAR	0	0.0	2	3.3	1	1.6	0	0.0	0.63	31	1	28	0	1	0	1	1.6	-	
Japan ³	-	-	2	0.0	3	0.0	5	0.0	127.19	347	1	278	0	67	1	68	0.5	-	
Lao People's Democratic Republic	18	2.7	24	3.6	40	5.9	12	1.7	6.96	817	79	723	0	15	0	15	2.2	-	
Malaysia	226	7.5	34	1.1	68	2.2	113	3.6	32.04	10 681	568	9 933	0	180	0	180	5.6	-	
Mongolia	0	0.0	28	9.4	27	8.9	13	4.2	3.12	266	20	245	0	1	0	1	0.3	-	
New Zealand	-	-	-	-	-	-	-	-	4.75	0	-	-	-	-	-	-	-	-	
Papua New Guinea	-	-	4	0.5	2	0.2	1	0.1	8.42	54	0	53	0	1	0	1	0.1	-	
Philippines	343	3.4	154	1.5	165	1.6	448	4.3	106.51	21 810	2 430	19 251	0	129	0	129	1.2	-	
Republic of Korea	2	0.0	2	0.0	3	0.1	2	0.0	51.16	623	0	622	0	1	0	1	0.02	-	
Singapore	0	0.0	1	0.2	0	0.0	3	0.5	5.79	51	0	35	6	10	0	16	2.8	-	
Viet Nam	50	0.5	972	10.4	350	3.7	126	1.3	96.49	3 545	2 194	1 249	50	52	0	102	1.1	-	
Pacific island countries and areas ²	4	1.3	1	0.3	1	0.3	4	1.2	3.32	86	0	86	0	0	0	0	0.0	-	
<i>Fiji</i>	4	4.5	1	1.1	1	1.1	4	4.4	0.91	86	0	86	0	0	0	0	0.0	-	
<i>Solomon Islands</i>	-	-	-	-	-	-	0	0.0	0.62	0	-	-	-	-	-	-	-	-	
<i>Vanuatu</i>	0	0.0	0	0.0	0	0.0	-	-	0.28	0	-	-	-	-	-	-	-	-	
Western Pacific Region	675	0.4	1 253	0.7	667	0.4	2 336	1.2	1910.32	78 591	5 606	64 494	449	3 871	110	4 430	2.3	-	

¹ United Nations, Department of Economic and Social Affairs, Population Division World Population Prospects 2017 revision

² Classification is provisional based on laboratory data only.

³ Rubella cases are cases reported as suspected measles cases that were identified as rubella laboratory confirmed cases during the investigation. This represents a small proportion of a large number of rubella cases occurring in Japan during 2018

"-" No data

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
Gray	No data

Table 6A. Measles and rubella laboratory testing, WHO Western Pacific Region, 2017

Country/area	Laboratory	Measles and rubella			Measles													Rubella				
					Serology						Virus detection				Total number of lab confirmed cases	Serum and blood (includes DBS)						
		Serum			Blood		% of samples with results ≤4 days	Measles Virus isolation/detection (swab, urine and others)		Measles Reverse Transcription-Polymerase Chain Reaction		Samples tested for rubella IgM	Rubella IgM (+)			Rubella IgM equiv						
		No.	No.	%	No.	%		No. received	No. (+)	No. of samples tested	No. of isolates		No. of samples tested	No. (+)		No.	No.	%	No.	%		
Australia	VIDRL	84	84	69	13	7	53.8	1	8%	0	-	84.6	1	0	73	71	68	1	0	-	0	-
Brunei Darussalam	DLS	20	20	20	20	0	0.0	2	10%	0	-	100.0	0	-	0	-	0	20	0	0.0	0	0%
Cambodia	NIPH	929	929	929	774	10	1.3	0	0%	155	0	80.6	0	-	0	-	10	928	5	0.5	0	0%
China	CCDC	-	-	-	-	-	-	-	-	-	-	91.2	-	-	-	-	-	-	-	-	-	-
China, Hong Kong SAR	PHLC	289	289	242	248	4	1.6	5	2%	0	-	94.0	7	3	43	9	5	239	0	0.0	2	1%
China, Macao SAR	PHL	65	65	65	65	3	4.6	4	6%	0	-	100.0	0	-	6	2	3	65	0	0.0	1	2%
Japan	NIID	1 120	1 120	601	157	44	28.0	22	14%	0	-	-	0	-	516	173	183	8	0	-	0	0%
Lao People's Democratic Republic	NCLC	409	409	409	409	2	0.5	9	2%	0	-	81.6	0	-	0	-	2	409	12	2.9	14	3%
Malaysia	NPHL	11 946	11 946	9 069	8 672	1 874	21.6	223	3%	0	-	95.5	1 807	129	0	-	1 922	6 479	186	2.9	176	3%
Mongolia	NCCD	640	640	640	634	3	0.5	13	2%	0	-	100.0	0	-	6	0	3	611	7	1.1	29	5%
New Zealand	CHL	325	325	299	123	4	3.3	9	7%	0	-	98.4	0	-	181	10	10	121	0	0.0	1	1%
Papua New Guinea	CPHL	51	51	51	49	7	14.3	0	0%	0	-	80.4	0	-	0	-	6	45	1	2.2	2	4%
Philippines	RITM	2 964	2 964	2 948	2 873	188	6.5	27	1%	70	10	97.2	172	6	221	30	220	2 862	313	10.9	129	5%
Republic of Korea	KCDC	529	529	448	350	39	11.1	22	6%	0	-	77.3	0	-	149	2	39	197	33	16.8	27	14%
Singapore	NPHL	549	549	565	102	11	10.8	0	0%	0	-	100.0	45	20	458	52	62	96	12	12.5	0	0%
Viet Nam national lab (Northern)	NIHE	620	620	620	611	15	2.5	6	1%	0	-	97.9	8	1	9	0	16	611	18	2.9	36	6%
Viet Nam national lab (Southern)	PI	366	366	342	333	10	3.0	5	2%	0	-	88.9	33	0	33	0	10	333	52	15.6	20	6%
Viet Nam subnational lab (Central)	PI	214	214	214	213	0	-	2	1%	0	-	37.6	0	-	1	0	0	213	3	-	2	1%
Viet Nam subnational lab (Highland)	IHE	65	65	65	65	0	-	0	0%	0	-	33.8	0	-	0	-	0	65	0	0.0	0	0%
Fiji	FCCDC	93	93	93	85	1	1.2	0	0%	4	0	-	0	-	0	-	1	88	4	4.5	2	2%
Total		21 278	21 278	17 689	15 796	2 222	14.1	350	2%	229	10	93.4	2 073	159	1 696	349	2 560	13 391	646	4.8	441	3%

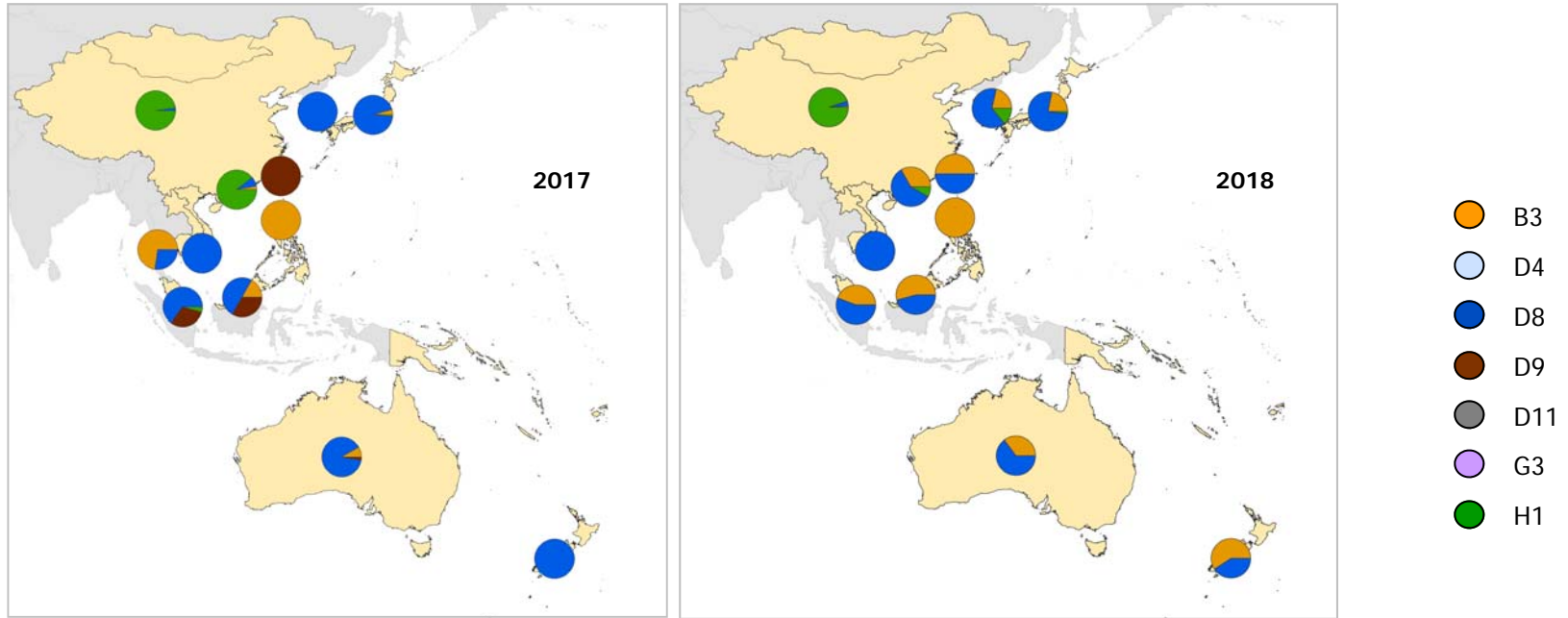
"-" No data

Table 6B. Measles and rubella laboratory testing, WHO Western Pacific Region, 2018 as of 20 January 2019

Country/area	Laboratory	Measles and rubella			Measles													Rubella					
					Serology						Virus detection				Total number of lab confirmed cases	Serum and blood (includes DBS)							
		Serum			Blood		% of samples with results ≤4 days	Measles Virus isolation/detection (swab, urine and others)		Measles Reverse Transcription-Polymerase Chain Reaction		Samples tested for rubella IgM	Rubella IgM (+)			Rubella IgM equiv							
		No.	No.	%	No.	%		No. received	No. (+)	No. of samples tested	No. of isolates		No. of samples tested	No. (+)		No.	No.	%	No.	%			
Australia	VIDRL	73	73	61	9	9	100.0	0	0%	0	-	66.7	0	-	63	63	59	0	-	-	-	-	-
Brunei Darussalam	DLS	25	24	24	24	1	4.2	0	0%	0	-	100.0	0	-	0	-	0	24	0	0%	0	0%	
Cambodia	NIPH	1 080	1 080	1 080	940	2	0.2	0	0%	140	0	67.6	0	-	0	-	0	1 076	0	0%	0	0%	
China	CCDC	-	-	-	-	-	-	-	-	-	-	91.2	-	-	-	-	-	-	-	-	-	-	-
China, Hong Kong SAR	PHLC	531	531	430	394	14	3.6	6	2%	0	-	90.3	8	2	129	15	19	351	10	3%	4	1%	
China, Macao SAR	PHL	153	153	153	153	9	5.9	5	3%	0	-	100.0	0	-	9	2	9	150	11	7%	0	0%	
Japan	NIID	4 091	3 631	2 091	508	63	12.4	76	15%	0	-	-	0	-	1 558	320	349	25	6	-	0	-	
Lao People's Democratic Republic	NCLE	660	660	660	660	3	0.5	12	2%	0	-	85.1	0	-	0	-	3	658	16	2%	43	7%	
Malaysia	NPHL	14 825	14 825	10 754	10 319	1 882	18.2	292	3%	0	-	93.7	2 172	143	0	-	1 924	7 412	307	4%	198	3%	
Mongolia	NCCD	244	244	244	244	0	0.0	0	0%	0	-	100.0	0	-	0	-	0	241	1	0%	0	0%	
New Zealand	CHL	379	379	319	89	11	12.4	1	1%	0	-	94.2	1	0	273	28	32	51	1	2%	3	6%	
Papua New Guinea	CPHL	95	95	92	90	13	14.4	1	1%	0	-	76.9	0	-	0	-	13	90	3	3%	7	8%	
Philippines	RITM	17 378	15 452	13 321	12 452	1 922	15.4	67	1%	139	18	19.2	2 297	270	2 334	1 803	3 540	11 316	91	1%	51	0%	
Republic of Korea	KCDC	875	875	635	551	57	10.3	48	9%	0	-	60.8	11	3	368	32	80	340	61	18%	39	11%	
Singapore	NPHL	628	628	610	55	5	9.1	2	4%	0	-	98.2	36	10	592	41	41	55	5	9%	9	16%	
Viet Nam national lab (Northern)	NIHE	1 359	1 359	1 280	1 054	575	54.6	39	4%	0	-	99.1	292	3	311	228	753	897	50	6%	38	4%	
Viet Nam national lab (Southern)	PI	1 172	1 172	1 133	1 113	415	37.3	1	0%	0	-	99.2	59	0	59	0	415	1 110	55	5%	43	4%	
Viet Nam subnational lab (Central)	PI	357	357	357	349	49	14.0	1	0%	0	-	44.3	0	-	8	2	51	352	4	1%	0	0%	
Viet Nam subnational lab (Highland)	IHE	144	144	144	144	62	43.1	1	1%	0	-	68.8	0	-	0	-	62	144	0	0%	1	1%	
Fiji	FCCDC	89	81	81	77	0	0.0	1	1%	12	0	No data	0	-	0	-	0	89	0	0%	3	3%	
Total		44 158	41 763	33 469	29 225	5 092	17.4	553	2%	291	18	77.2	4 876	431	5 704	2 534	7 350	24 381	621	3%	439	2%	

..- No data

Figure 3. Measles genotype distribution of cases with rash onset in 2017 and 2018, WHO Western Pacific Region



The boundaries and names shown and the designations used on the maps do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.
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Table 7. Measles genotype distribution of cases with rash onset in January to December 2018, WHO Western Pacific Region

Country/area	2018																																							
	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec																	
	B3	D8	D9	H1	B3	D8	D9	H1	B3	D8	D9	H1	B3	D8	D9	H1	B3	D8	D9	H1	B3	D8	D9	H1																
Australia	1	3			1				11	10			13				2	2			1	3			1	1			1	6	3	2	1	1	1	1	3	7		
Brunei Darussalam																																				1				
Cambodia																																								
China				16			28	6	82	1		49	1	43																						2				
China, Hong Kong SAR							1	1					2	1																						2				
China, Macao SAR																																				1				
Japan	8	9			2	4			10				12				2	32			3	9	2	9	7		3	2			3		1	5	1	12		2		
Lao People's Democratic Republic																																								
Malaysia	7	13			16	6			17	5			12	6			11	7			8	13			12	6			7	8	3	7	6	8	9	13	3	10		
Mongolia																																								
New Zealand		1				4			2				8	1			2																			3	1			
Papua New Guinea																																								
Philippines	4				19				35				3				5				11				10				9				21			24	14			
Republic of Korea		1												5								2														3	1			
Singapore	1	4				2			2	2			1	3			1	2											2							3				
Viet Nam										5				39				17								22				13				1		11		32		4
Pacific island countries and areas																																								

Sources: Includes all cases reported to the Western Pacific Regional Office by 20 January 2019 and the Measles Nucleotide Surveillance online database (MeaNS).

Figure 4. Rubella genotype distribution of cases with rash onset in 2017 and 2018, WHO Western Pacific Region

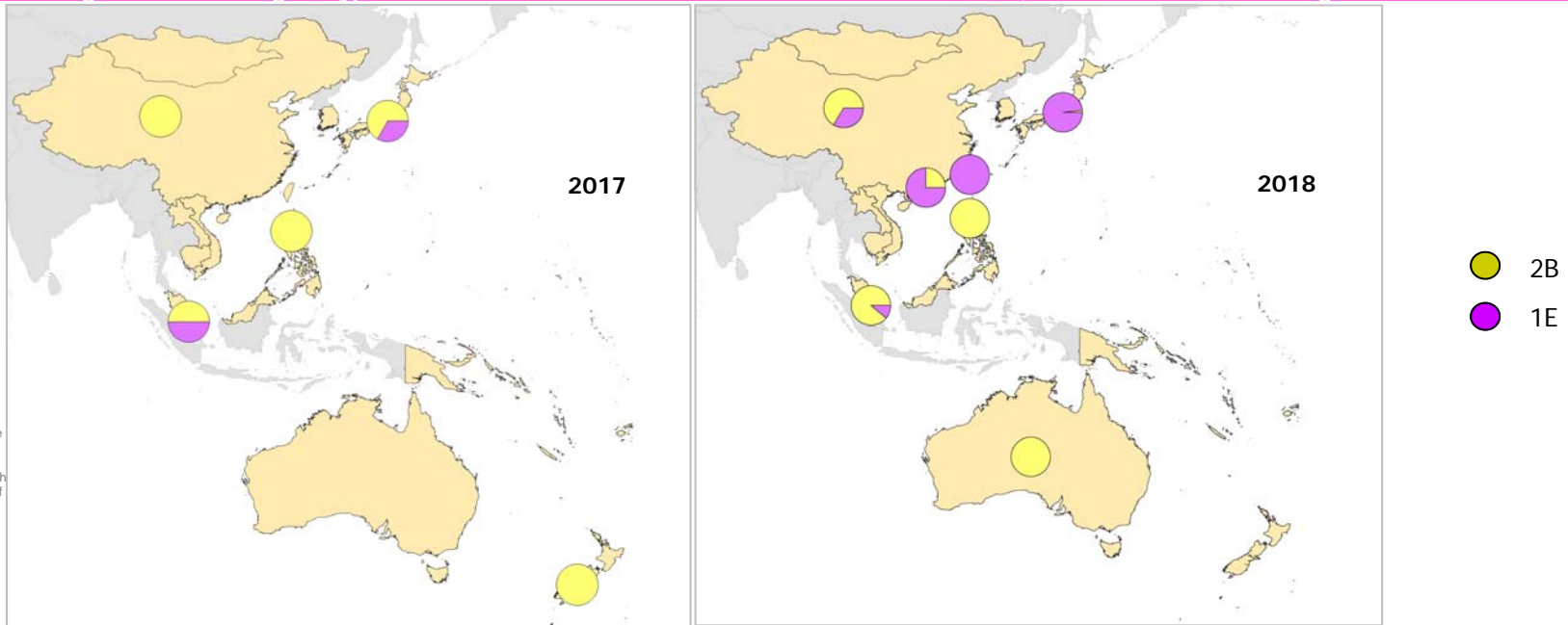


Table 8. Rubella genotype distribution of cases with rash onset in January to December 2018, WHO Western Pacific Region

Country/area	2018																								
	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		
	2B	1E	1J	2B	1E	1J	2B	1E	1J	2B	1E	1J	2B	1E	1J	2B	1E	1J	2B	1E	1J	2B	1E	1J	
Australia														1											
Brunei Darussalam																									
Cambodia																									
China	1			1	1		7	2		11	4		14	8	3	3		1	2	1	3		2	3	1
China, Hong Kong SAR												1	1										1		1
China, Macao SAR																									
Japan							2			1	4		1	6		26	1	95		93		59			
Lao People's Democratic Republic																									
Malaysia																									
Mongolia																									
New Zealand																									
Papua New Guinea																									
Philippines						1			3										1						
Republic of Korea																									
Singapore										1						6			2						
Viet Nam																									
Pacific island countries and areas																									

Sources: Includes all cases reported to the Western Pacific Regional Office by 20 January 2019 and the Rubella Nucleotide Surveillance online database (RubeNS).

Table 9A. Completeness and timeliness of epidemiologic reporting, WHO Western Pacific Region, 2017–2018

Country	2017		2018 ¹												Completeness ²	Timeliness ³
	Completeness ²	Timeliness ³	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Australia	100%	100%	08 Feb	08 Mar	10 Apr	16 May	12 Jun	09 Jul	07 Aug	05 Sep	08 Oct	07 Nov	06 Dec	10 Jan	100%	92%
Brunei Darussalam	100%	100%	07 Feb	06 Mar	07 Apr	07 May	05 Jun	07 Jul	06 Aug	04 Sep	04 Oct	05 Nov	04 Dec	05 Jan	100%	100%
Cambodia	100%	100%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	100%
China	100%	75%	13 Feb	12 Mar	15 Apr	16 May	05 Jul	12 Jul	13 Aug	12 Sep	14 Oct	28 Nov	11 Dec	13 Jan	100%	83%
China, Hong Kong SAR	100%	100%	06 Feb	06 Mar	09 Apr	07 May	06 Jun	09 Jul	06 Aug	07 Sep	08 Oct	08 Nov	10 Dec	08 Jan	100%	100%
China, Macao SAR	100%	100%	08 Feb	08 Mar	04 Apr	07 May	06 Jun	09 Jul	07 Aug	06 Sep	08 Oct	07 Nov	06 Dec	08 Jan	100%	100%
Japan	100%	92%	09 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	08 Aug	10 Sep	10 Oct	10 Nov	12 Dec	07 Jan	100%	92%
Lao People's Democratic Republic	100%	100%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	100%
Malaysia	100%	100%	08 Feb	09 Mar	06 Apr	10 May	10 Jun	10 Jul	09 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	100%
Mongolia	100%	100%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	100%
New Zealand	100%	100%	08 Feb	07 Mar	10 Apr	08 May	06 Jun	05 Jul	06 Aug	07 Sep	09 Oct	06 Nov	06 Dec	08 Jan	100%	100%
Papua New Guinea	100%	92%	-	14 Mar	17 Apr	10 May	08 Jun	17 Jul	-	-	01 Nov	-	11 Dec	-	58%	17%
Philippines	58%	25%	02 Mar	-	27 Apr	22 May	21 Jun	24 Jul	17 Aug	-	02 Oct	28 Nov	27 Dec	31 Jan	83%	8%
Republic of Korea	100%	92%	08 Feb	10 Mar	10 Apr	10 May	10 Jun	13 Jul	09 Aug	10 Sep	10 Oct	18 Nov	21 Dec	23 Jan	100%	67%
Singapore	100%	92%	08 Feb	10 Mar	07 Apr	10 May	07 Jun	07 Jul	10 Aug	10 Sep	08 Oct	07 Nov	08 Dec	09 Jan	100%	100%
Viet Nam	100%	92%	09 Feb	09 Mar	10 Apr	09 May	08 Jun	09 Jul	10 Aug	10 Sep	11 Oct	10 Nov	10 Dec	10 Jan	100%	92%
Pacific island countries and areas	100%	67%	16 Feb	10 Mar	07 Apr	14 May	08 Jun	13 Jul	13 Aug	14 Sep	12 Oct	12 Nov	12 Dec	14 Jan	100%	92%
Completeness	98%		94%	94%	100%	100%	100%	100%	94%	88%	100%	94%	100%	94%	100%	
Timeliness		92%	82%	88%	88%	88%	88%	82%	88%	88%	88%	82%	76%	82%		85%

¹ National measles surveillance monthly reports from December 2018.

Legend: black = timely report; red = untimely report

² Completeness is defined as the number of reports received by the end of the 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

Table 9B. Completeness and timeliness of laboratory reporting, WHO Western Pacific Region, 2017–2018

Country/area	2017		2018 ¹												Completeness ²	Timeliness ³	Genotype results by source of data					
	Completeness ²	Timeliness ³	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			Completeness ²	Timeliness ³	Measles		Rubella	
																			MeaNS	Submission to WPRO	Rubens	Submission to WPRO
Australia	100%	100%	07 Feb	01 Mar	04 Apr	04 May	07 Jun	06 Jul	08 Aug	06 Sep	03 Oct	02 Nov	05 Dec	07 Jan	100%	92%	75	46	1	1		
Brunei Darussalam	100%	100%	05 Feb	01 Mar	31 Mar	07 May	30 May	30 Jun	01 Aug	03 Sep	01 Oct	06 Nov	12 Dec	29 Dec	100%	83%	1	0	0	0		
Cambodia	100%	100%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	92%	0	0	0	0		
China	100%	100%	06 Feb	06 Mar	02 Apr	02 May	05 Jun	02 Jul	06 Aug	10 Sep	03 Oct	06 Nov	10 Dec	07 Jan	100%	100%	270	272	51	71		
China, Hong Kong SAR	100%	100%	06 Feb	06 Mar	10 Apr	07 May	07 Jun	09 Jul	06 Aug	06 Sep	09 Oct	06 Nov	06 Dec	07 Jan	100%	100%	12	12	4	4		
China, Macao SAR	100%	100%	08 Feb	09 Mar	06 Apr	08 May	10 Jun	06 Jul	08 Aug	10 Sep	09 Oct	08 Nov	06 Dec	08 Jan	100%	100%	2	1	1	1		
Japan	100%	92%	09 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	08 Aug	10 Sep	10 Oct	10 Oct	12 Dec	07 Jan	100%	92%	66	138	288	17		
Lao People's Democratic Republic	100%	100%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Oct	10 Dec	10 Jan	100%	100%	0	0	0	0		
Malaysia	100%	100%	09 Feb	09 Mar	11 Apr	14 May	02 Jul	10 Jul	09 Aug	12 Sep	08 Oct	09 Nov	10 Dec	-	100%	75%	0	0	0	0		
Mongolia	100%	83%	10 Feb	10 Mar	10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct	10 Nov	10 Dec	10 Jan	100%	100%	0	0	0	0		
New Zealand	100%	100%	08 Feb	07 Mar	10 Apr	08 May	05 Jun	05 Jul	06 Aug	07 Sep	09 Oct	06 Nov	06 Dec	08 Jan	100%	100%	22	21	0	0		
Papua New Guinea	100%	67%	08 Feb	10 Mar	04 Apr	10 May	08 Jun	04 Jul	09 Aug	10 Sep	10 Oct	10 Nov	10 Dec	-	100%	92%	0	0	0	0		
Philippines	100%	92%	10 Feb	10 Mar	10 Apr	09 May	13 Jun	10 Jul	10 Aug	07 Sep	09 Oct	10 Nov	10 Dec	10 Jan	100%	92%	155	150	5	5		
Republic of Korea	100%	100%	09 Feb	09 Mar	10 Apr	10 May	08 Jun	10 Jul	10 Aug	10 Sep	10 Oct	09 Nov	10 Dec	10 Jan	100%	100%	8	14	0	0		
Singapore	100%	100%	08 Feb	10 Mar	07 Apr	10 May	07 Jun	07 Jul	10 Aug	10 Sep	08 Oct	07 Nov	08 Dec	09 Jan	100%	100%	23	26	6	9		
Viet Nam national lab (Northern)	100%	100%	09 Feb	05 Mar	09 Apr	09 May	06 Jun	10 Jul	07 Aug	10 Sep	08 Oct	07 Nov	10 Dec	07 Jan	100%	100%	129	16	0	0		
Viet Nam national lab (Southern)	100%	100%	08 Feb	08 Mar	09 Apr	09 May	10 Jun	09 Jul	08 Aug	10 Sep	09 Oct	07 Nov	10 Dec	10 Jan	100%	100%	4	0	0	0		
Viet Nam subnational lab (Central)	100%	100%	09 Feb	05 Mar	09 Apr	09 May	06 Jun	10 Jul	07 Aug	10 Sep	08 Oct	07 Nov	10 Dec	07 Jan	100%	100%	0	0	0	0		
Viet Nam subnational lab (Highland)	100%	100%	09 Feb	05 Mar	09 Apr	09 May	06 Jun	10 Jul	07 Aug	10 Sep	08 Oct	07 Nov	10 Dec	07 Jan	100%	100%	0	0	0	0		
Fiji	100%	75%	16 Feb	16 Mar	07 Apr	14 May	08 Jun	13 Jul	13 Aug	14 Sep	12 Oct	10 Nov	12 Dec	14 Jan	100%	83%	0	0	0	0		
Completeness	100%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		980	696	356	108		
Timeliness		95%	95%	95%	100%	95%	90%	100%	100%	100%	100%	90%	90%			95%						

¹ National measles laboratory monthly reports from December 2018.

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.

**Expanded Programme on Immunization
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World Health Organization**

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Please send your comments and monthly data before the 10th of the month to:
WPROEPIdata@who.int
*More detailed information available in the
Regional and country profile of measles elimination*