

Global Measles and Rubella Update November 2019

Please note that all data contained within is provisional. The number of cases of measles and rubella officially reported by a member state is only available by July of each year (through the joint WHO UNICEF annual data collection exercise). If any numbers from this provisional data are quoted, they should be properly sourced with a date (i.e. "provisional data based on monthly data reported to WHO (Geneva) as of November 2019"). For official data from 1980-2018, please visit our website.

Data source for data contained within this slide deck

The Global Measles and Rubella Report is based on surveillance data reported by Member States to the regional offices weekly or monthly. The regional compilation is reported to HQ monthly. Data are to be reported from the regions on the 1st Friday of the month, and HQ attempts to release the monthly report by the 3rd Monday of the month.

- Numbers of cases might differ from the official numbers reported annually as part of the WHO/UNICEF Joint reporting process (JRF).
- The difference can be due to the time lag as the annual data might not be complete at the time of reporting.
- In addition the difference can be due to multiple surveillance systems at country level. In these cases, the monthly data are extracted from the case based surveillance system while the annual data can be from the aggregated system.

Types of data provided to WHO

- **Epidemiologic Data: Case-based and/or Aggregate Reporting to WHO**
 - Epidemiologic data comes from Member States in one of two forms
 - Case-based data, which is our recommendation, is provided by most member states.
 - At WHO HQ, we collect a limited set of variables, including, age, date of onset, country reporting, 1st/2nd administrative unit of residence, vaccination status (by recall), date related to specimen collection/testing, and final classification.
 - Regions might or might not collect more data than this.
 - Often suspected cases with recent date of onset are not classified; however, at HQ we classify pending cases as clinically compatible and update the data if/when new data are provided to HQ.
 - For AFR, we classify all cases that are rubella IgM positive as rubella laboratory-confirmed cases.
 - Aggregated data on number of suspected, lab-confirmed, epi-linked, and clinically compatible cases of measles/rubella, by month/year of onset, and by subnational area (though some member states do not provide this level of disaggregation).
 - Source for zero-reporting from some member-states though this is not a consistent process.
 - A few member states send us both case-based and aggregated data as they have two different surveillance systems in the country.
 - If both aggregate and case-based data are sent to HQ, numbers from aggregate surveillance are considered case counts for the country, while case-based data are used for the national slides to show age distribution, proportion vaccinated, and age-specific incidence.
 - **Limitations**
 - Reporting delays: It can take 2-3 months from the time a case is reported to public health in a member state to the time the data are provided to WHO HQ.
 - Some of this is due to normal reporting delays that are expected as it takes time to get information from a health center to Geneva based on reporting frequencies set by various levels
 - We are working to decrease the delays in reporting.
 - Underreporting/lack of reporting
 - Case definitions for suspect, epidemiologically linked and clinically compatible cases may vary between countries.
 - Completeness of the data reported to WHO is unknown
 - For this monthly update, pending cases are considered measles clinically compatible.
 - These cases may later be discarded or confirmed based on laboratory testing in which case historical case counts may vary from one report to another.
 - This could lead to differences between the Global monthly report and Regional or National surveillance bulletins published by WHO Offices and National authorities.
- **ELISA Laboratory Data from the Global Measles and Rubella Laboratory Network (GMRLN)**
 - The Global Measles Rubella Laboratory Network laboratories report the number of samples received as well as the number of samples tested for IgM serology, as well as the number positive, negative and equivocal.
 - These aggregated data are collected to account for the inadequate linking between laboratory and epidemiological data in some countries.
 - Numbers of cases reported may differ from the number of samples tested positive for various reasons
 - Samples tested positive in a laboratory may not reported to the surveillance system
 - IgG screening results are inappropriately included in the surveillance database
 - Inconsistent reporting from laboratories.
 - This is based on the number of SAMPLES tested, not the number of CASES tested. One case can have multiple samples being tested (e.g. different specimen types, repeat specimen collection based on timing of collection).
 - **Limitations**
 - Data are only from network laboratories
 - Non-network laboratories are not included
 - Some laboratories don't report
 - IgG results are sometimes inappropriately reported
- **Genotyping Data**
 - Genotyping data are obtained from the MeaNS (www.who-measles.org) and RubeNS (www.who-rubella.org).
 - **Limitations**
 - Inadequate sample collection for genotyping challenges interpretation of the data
 - Underreporting
 - WHO recommends that Member States submit genotyping data to these databases, but it is not currently a requirement so there is underreporting
 - Genotype data can't be linked to epidemiologic data at the global level

Measles

Number of Reported Measles Cases by WHO Regions



2019																			
Region	Member States*	Suspected cases	Measles cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	44/47	209069	187640	27319	148885	11436	48612	56264	46425	19031	9029	3023	2355	1451	1136	313	1	0	2019-11
AMR	33/35	62497	12655	1	0	12654	111	246	274	382	389	764	1661	4418	4251	159	0	0	2019-11
EMR	20/21	34542	17090	8915	2009	6166	3400	4177	3268	2631	1721	868	592	246	163	24	0	0	2019-11
EUR	53/53	110075	98717	58046	6847	33824	19288	18228	16954	15874	14113	7570	3683	1959	1036	12	0	0	2019-11
SEAR	11/11	65348	44360	30015	5266	9079	6213	7568	7245	6562	5296	3081	2768	2137	3048	442	0	0	2019-11
WPR	26/27	133384	52846	38132	1788	12926	6903	14352	11687	6570	3748	2788	2088	2178	2070	462	0	0	2019-11
Total	187/194	614915	413308	162428	164795	86085	84527	100835	85853	51050	34296	18094	13147	12389	11704	1412	1	0	

2018																			
Region	Member States*	Suspected cases	Measles cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	42/47	82851	55951	14270	33880	7801	2944	4307	5066	3888	2946	1769	1702	1296	1893	5187	10120	14833	2019-11
AMR	32/35	30756	16690	0	0	16690	3	16	84	152	291	204	410	140	645	2609	5952	6184	2019-11
EMR	20/21	81042	57960	29432	16271	12257	3936	4891	8101	8032	9526	5663	4495	2774	3036	3036	2395	2075	2019-11
EUR	53/53	102584	88692	51142	5376	32174	5966	7191	8610	8946	9926	7741	5598	3705	2790	5478	9942	12799	2019-11
SEAR	11/11	106379	83687	57217	19259	7211	8951	9134	14331	12284	10892	5052	3445	3811	3286	4416	3782	4303	2019-11
WPR	26/27	79603	30465	18020	1823	10622	1914	2472	3365	3209	3000	2274	2055	1756	1771	2422	3157	3070	2019-11
Total	184/194	483215	333445	170081	76609	86755	23714	28011	39557	36511	36581	22703	17705	13482	13421	23148	35348	43264	

Notes: Based on data received 2019-11 - This is surveillance data, hence for the last month, the data may be incomplete. * Member States Reporting / Total Member States in Region

Number of Reported Measles Cases by WHO Regions

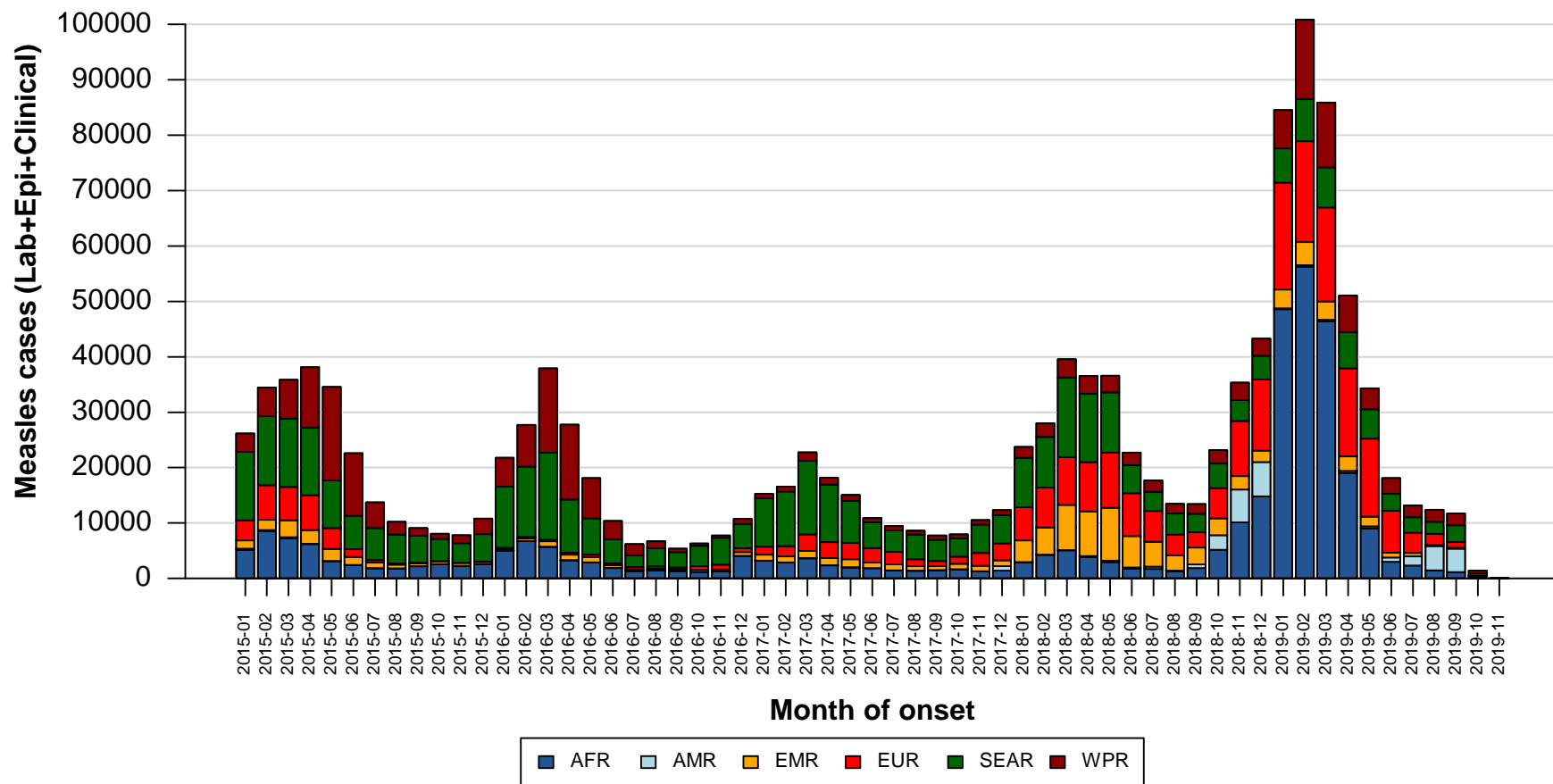


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EUR	53/53	110075	98717	58046	6847	33824	19288	18228	16954	15874	14113	7570	3683	1959	1036	12	0	0	2019-11
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WPR	26/27	133384	52846	38132	1788	12926	6903	14352	11687	6570	3748	2788	2088	2178	2070	462	0	0	2019-11
Total	187/194	614915	413308	162428	164795	86085	84527	100835	85853	51050	34296	18094	13147	12389	11704	1412	1	0	

2018																			
Region	Member States*	Suspected cases	Measles cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	42/47	44749	25494	12955	6897	5642	2998	4295	5058	3533	2547	1543	1564	1121	1399	1436	0	0	2018-11
AMR	32/35	24627	10342	0	0	10342	3	16	84	152	291	216	410	138	779	8253	0	0	2018-11
EMR	20/21	35676	19384	3975	6812	8597	2234	1744	2660	2710	3129	2245	2403	1157	996	106	0	0	2018-11
EUR	53/53	63873	54354	30579	2008	21767	5647	6589	7376	7658	8703	7037	5307	3611	2411	15	0	0	2018-11
SEAR	11/11	80556	61273	49884	8828	2561	7787	7600	12074	10789	10079	4786	2849	2983	2099	227	0	0	2018-11
WPR	26/27	52221	18545	10757	483	7305	1921	2478	3386	3232	2941	2098	1348	550	540	51	0	0	2018-11
Total	184/194	301702	189392	108150	25028	56214	20590	22722	30638	28074	27690	17925	13881	9560	8224	10088	0	0	

Notes: Based on data received 2019-11 and 2018-11- This is surveillance data, hence for the last month, the data may be incomplete. * Member States Reporting / Total Member States in Region

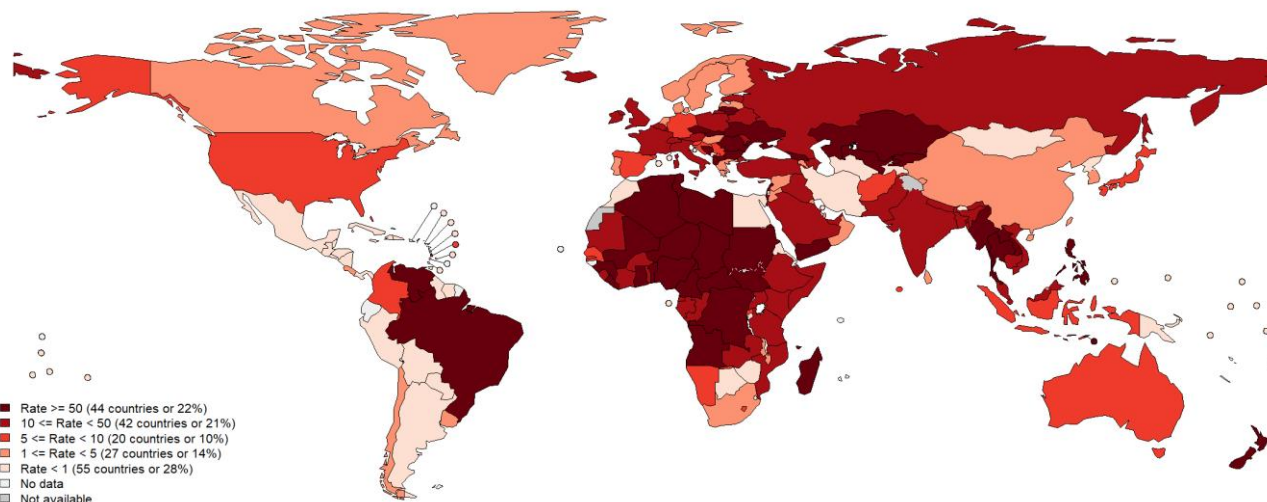
Measles case distribution by month and WHO Region (2015-2019)



Notes: Based on data received 2019-11 - Data Source: IVB Database - This is surveillance data, hence for the last month(s), the data may be incomplete.

Measles Incidence Rate per Million (12M period)

Top 10**		
Country	Cases	Rate
Madagascar	151032	6066.87
Ukraine	78708	1771.16
Philippines	49419	478.31
India****	36251	27.38
Nigeria	27954	150.3
Brazil	18927	91.15
Kazakhstan	10696	594.63
DR Congo	9245	117.42
Yemen	9156	331.93
Thailand	7738	112.37



Other countries with high incidence rates***		
Country	Cases	Rate
Georgia	4710	1199.88
The Republic of North Macedonia	1902	913.89
Kyrgyzstan	2839	476.68
Israel	3442	420.17
Bosnia and Herzegovina	1399	397.8
New Zealand	1672	358.73



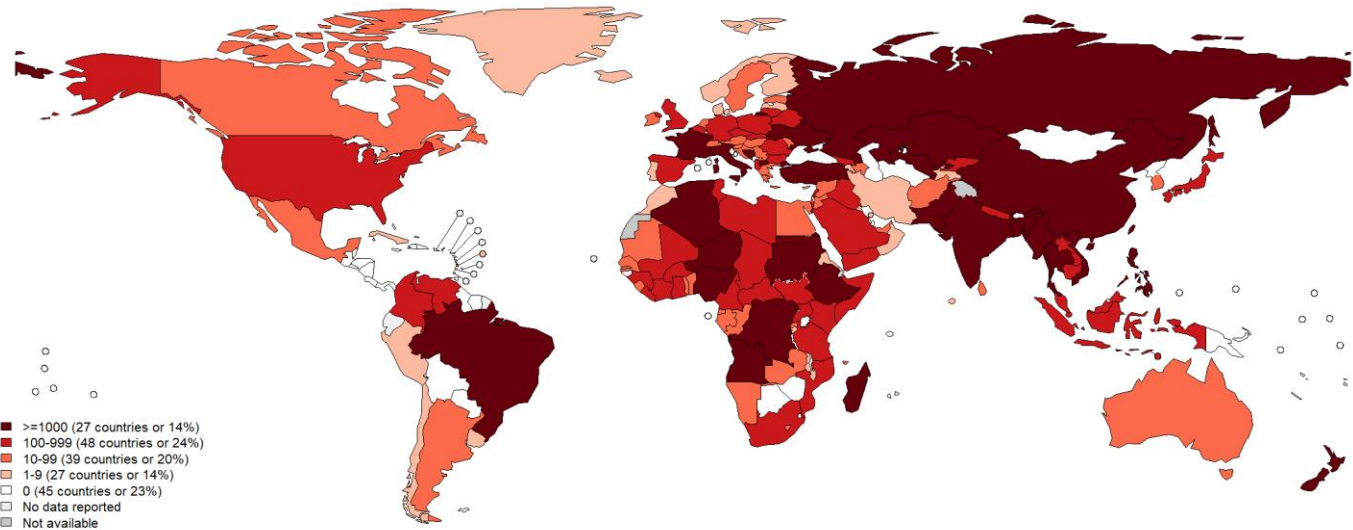
Map production: World Health Organization, WHO, 2019. All rights reserved
Data source: IVB Database

Disclaimer:
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Measles cases from countries with known discrepancies between case-based and aggregate surveillance, as reported by country				
Country	Year	Cases in Case-based	Cases in Aggregate	Data Source for aggregate #s
DR Congo	2018	5597	67072	SITUATION EPIDEMIOLOGIQUE DE LA ROUGEOLE EN RDC, Week of 05/11/2019
	2019	7526	233,337	
Somalia	2018	131	9135	Somali EPI/POL Weekly Update Week 43
	2019	185	3616	

Number of Reported Measles Cases (6M period)

Top 10*	
Country	Cases
Ukraine	22614
India**	15545
Philippines	12552
Nigeria	11976
Brazil	10241
Madagascar	8905
Kazakhstan	4794
DR Congo	3737
Angola	2467
Bangladesh	2413



Disclaimer:

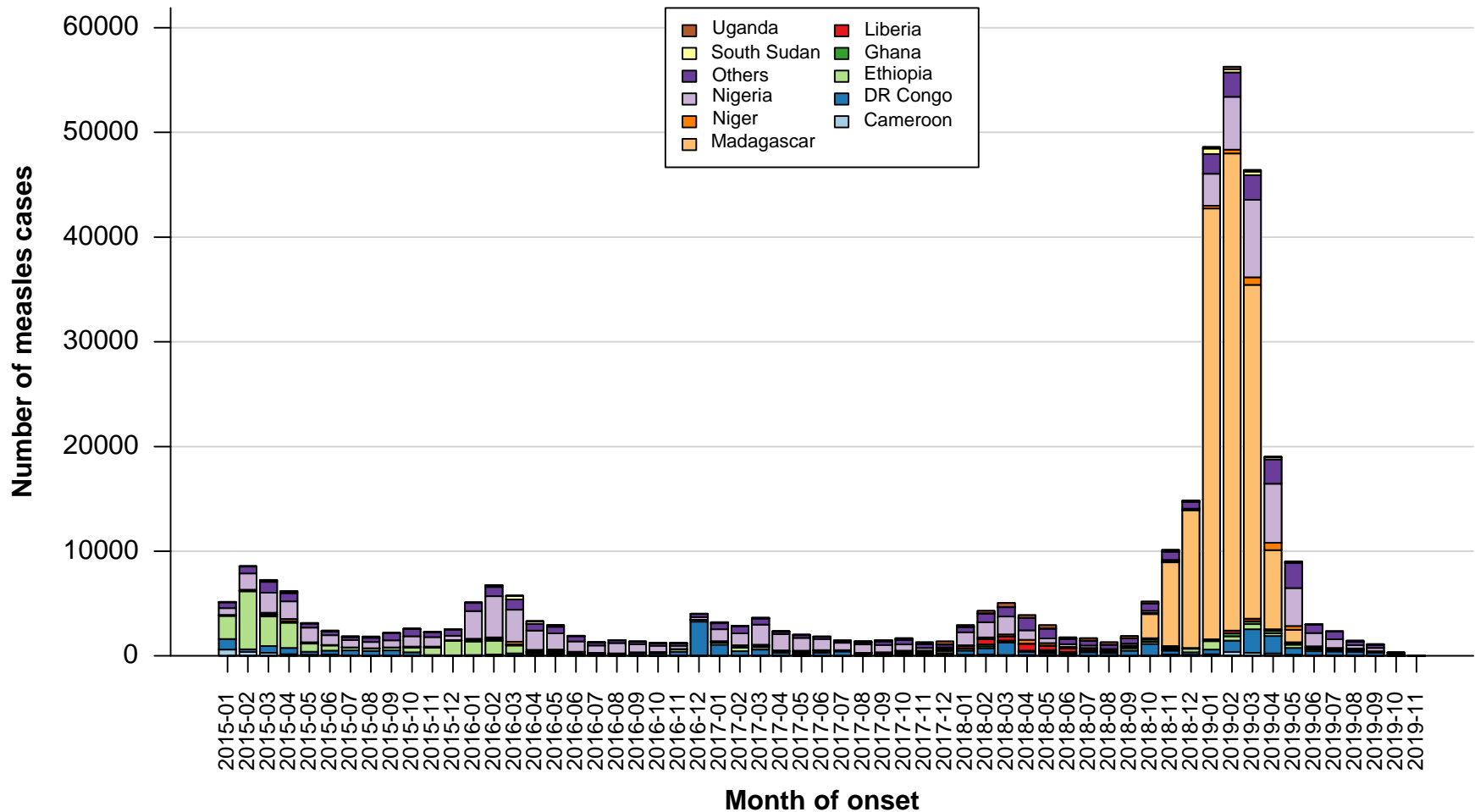
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Disclaimer

This document contains data provided to WHO by member states. Note that some member states only provide aggregate data to WHO, and for these, we are unable to generate a country profile. Some member states report all cases at one time point for the entire year, and thus epidemiologic curves generated are not accurate and a reporting artifact. For some countries, cases are reported by age category, not by exact age in months and/or years. Thus, age distribution/incidence is approximate. Cases classified as pending by countries are classified at WHO as clinically compatible at this time, and thus numbers might differ between data shown here and provided by the member state or WHO country/regional offices.

*UN population data is used as the denominator for calculating incidence.

Measles case distribution (AFR), 2015-2019



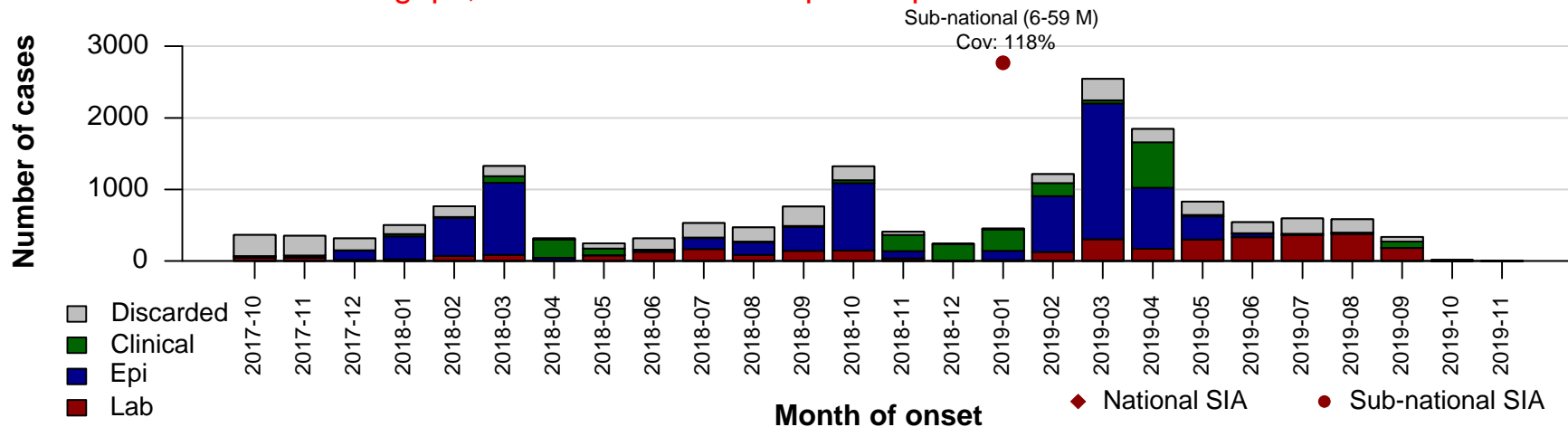
Notes: Based on data received 2019-11 - Data Source: IVB Database

DRC has experienced a nationwide epidemic that has affected all Provinces, however, only a small proportion of the measles cases in the IDSR aggregate reporting system are reflected in the case based data. As of 27 May 2013, South Sudan has reassigned to the Africa region (AFR) from the Eastern Mediterranean region (EMR). For data presentation and statistical purposes, South Sudan data is presented in AFR for all the years.

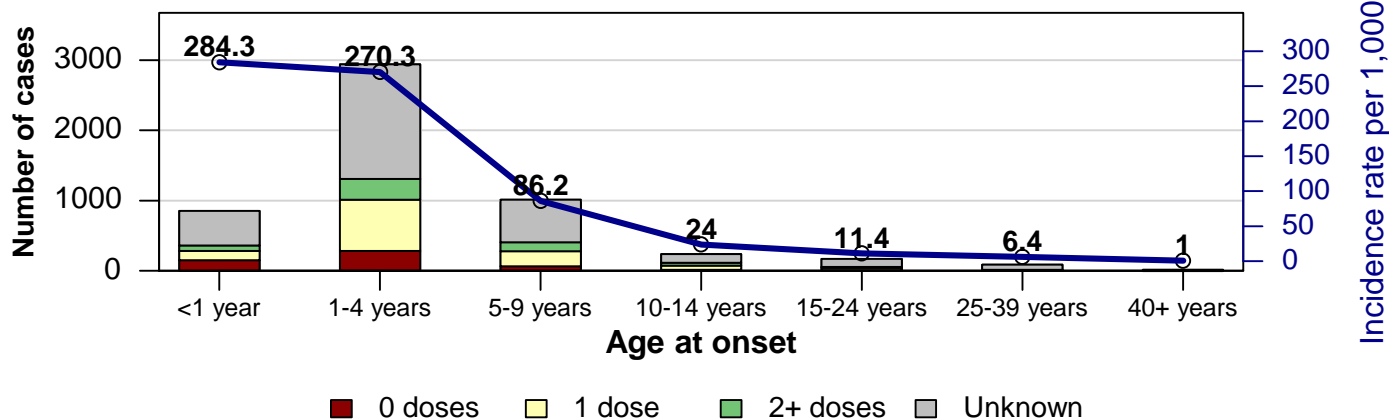
Measles cases: Democratic Republic of the Congo



Due to surveillance gaps, case-based data is a poor representation of the current situation in DRC

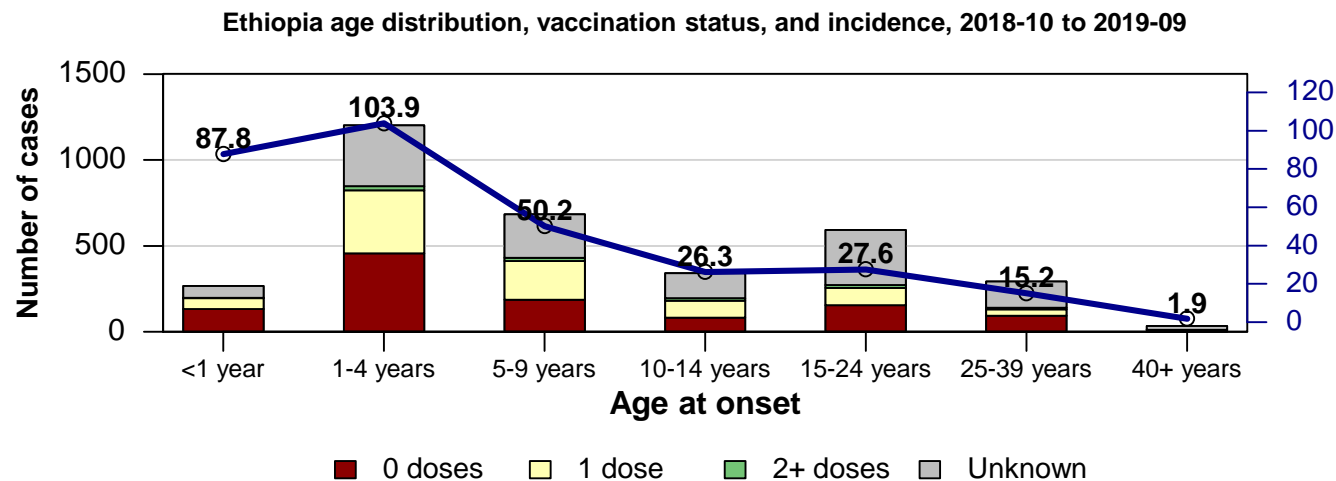
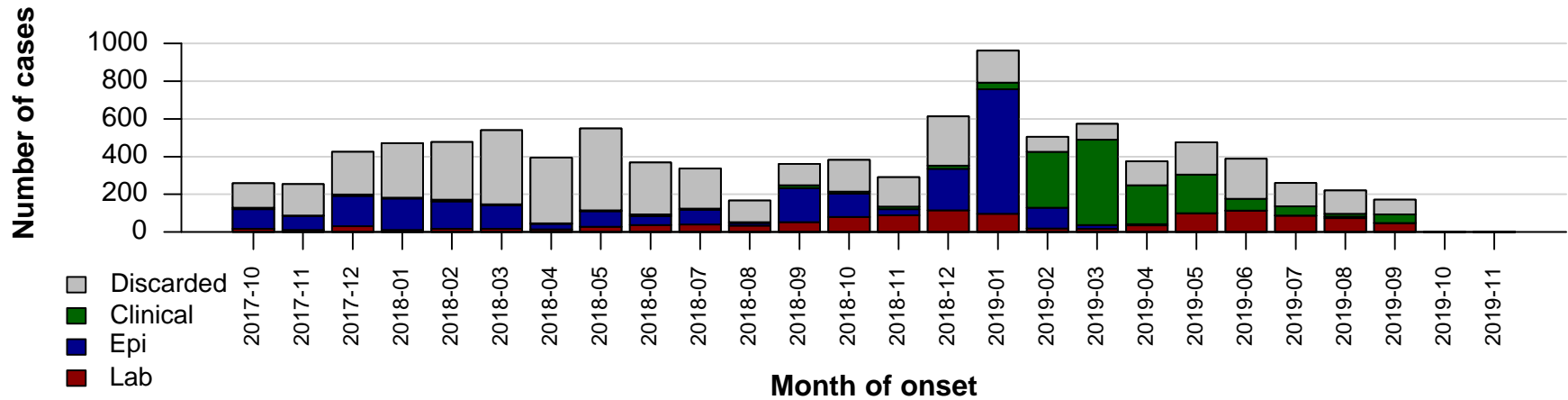


Democratic Republic of the Congo age distribution, vaccination status, and incidence, 2018-10 to 2019-09



Year	Confirmed Cases
2006	1012
2007	539
2008	214
2009	83
2010	208
2011	1651
2012	2332
2013	2527
2014	1649
2015	5029
2016	4860
2017	3597
2018	5624
2019	7526

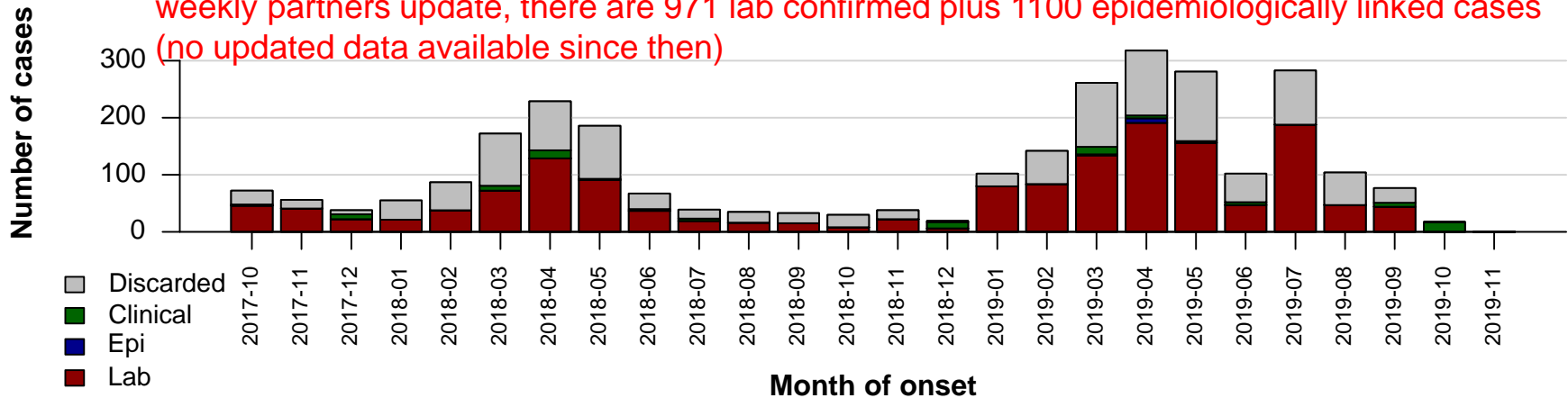
Measles cases: Ethiopia



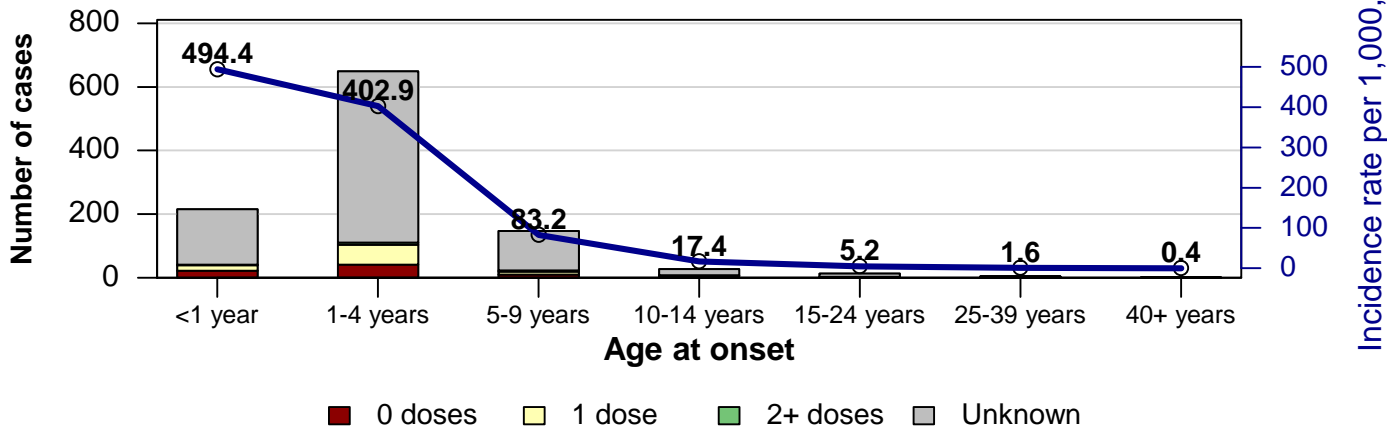
Year	Confirmed Cases
2006	1278
2007	1472
2008	3161
2009	2642
2010	6205
2011	3552
2012	4616
2013	6137
2014	14282
2015	17778
2016	4568
2017	1912
2018	1879
2019	2761

Measles cases: Guinea

Data has not been reported to WHO via case-based surveillance, but as of the October 2 AFRO weekly partners update, there are 971 lab confirmed plus 1100 epidemiologically linked cases (no updated data available since then)

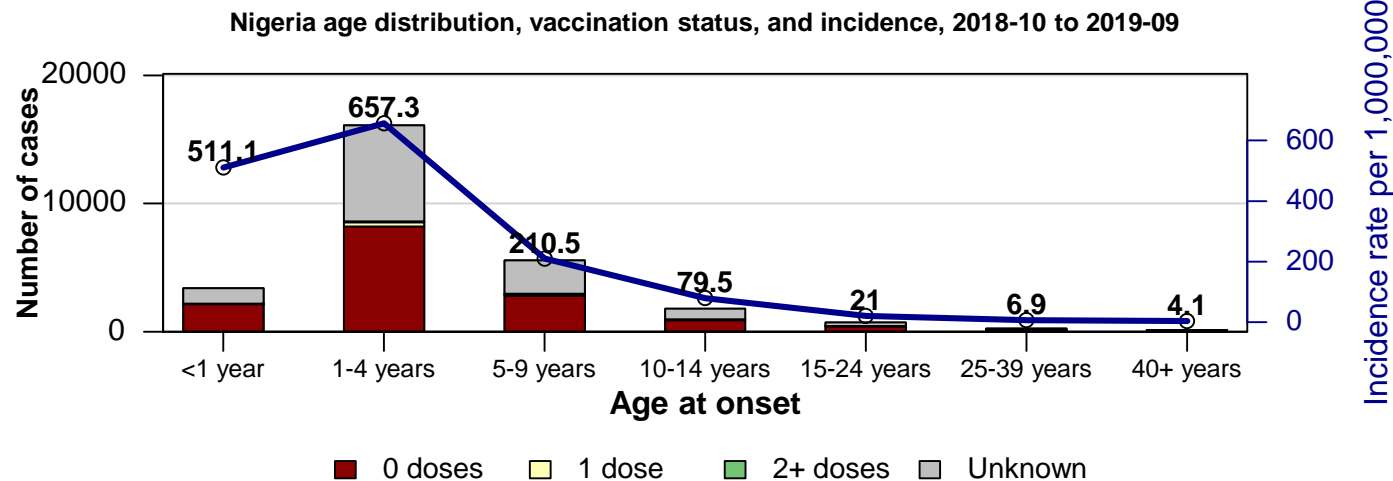
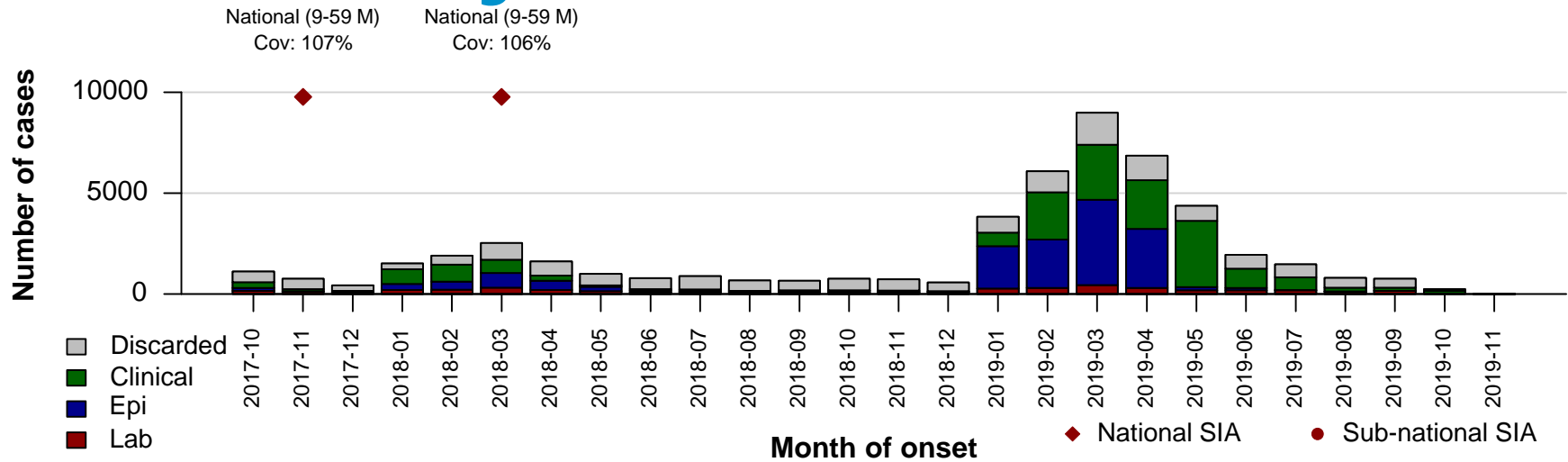


Guinea age distribution, vaccination status, and incidence, 2018-10 to 2019-09



Year	Confirmed Cases
2006	2
2007	6
2008	92
2009	216
2010	58
2011	20
2012	14
2013	59
2014	216
2015	29
2016	334
2017	596
2018	517
2019	1031

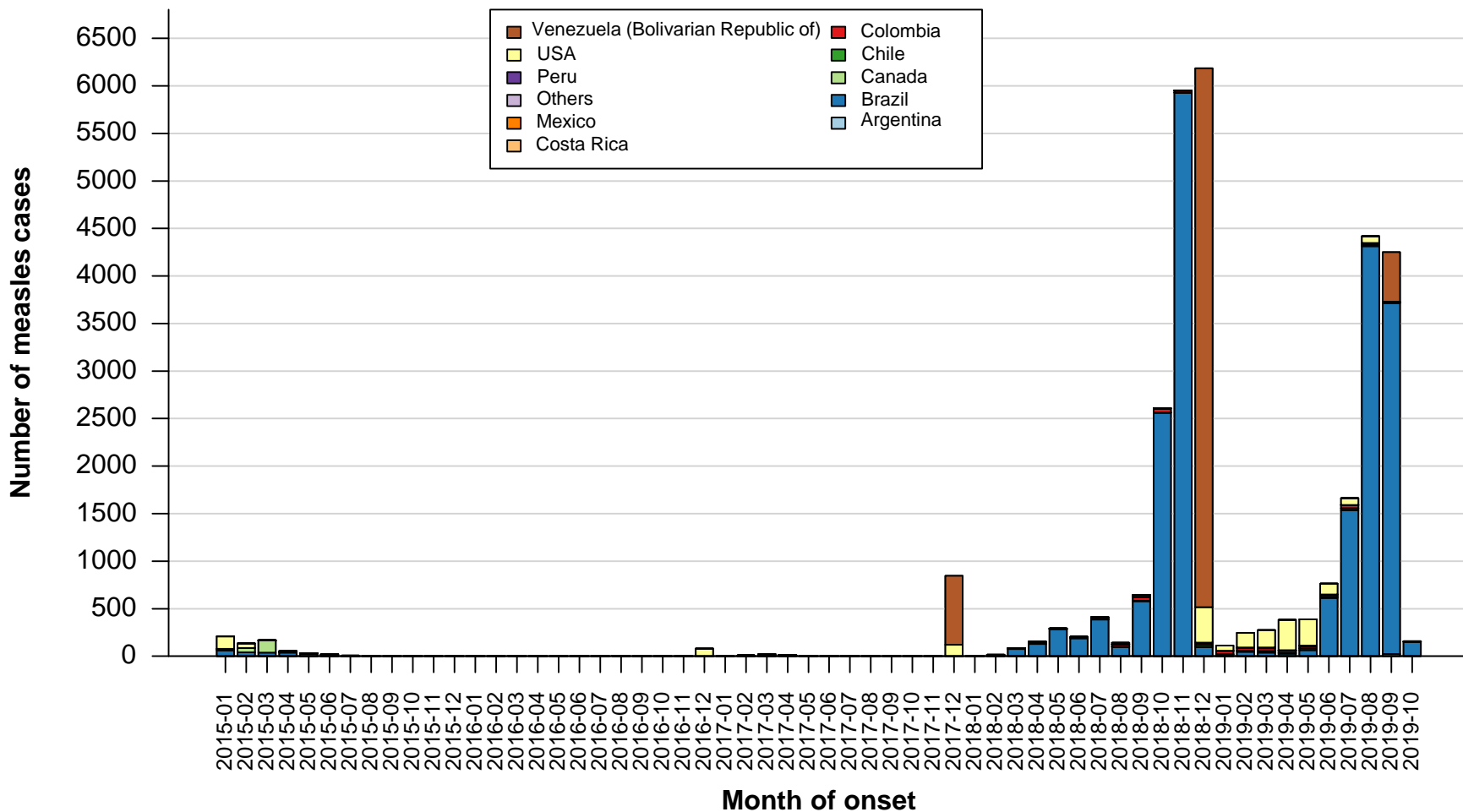
Measles cases: Nigeria



Year	Confirmed Cases
2006	1019
2007	3129
2008	10453
2009	1498
2010	9072
2011	19062
2012	6423
2013	55392
2014	6850
2015	12391
2016	17581
2017	11188
2018	7018
2019	27602

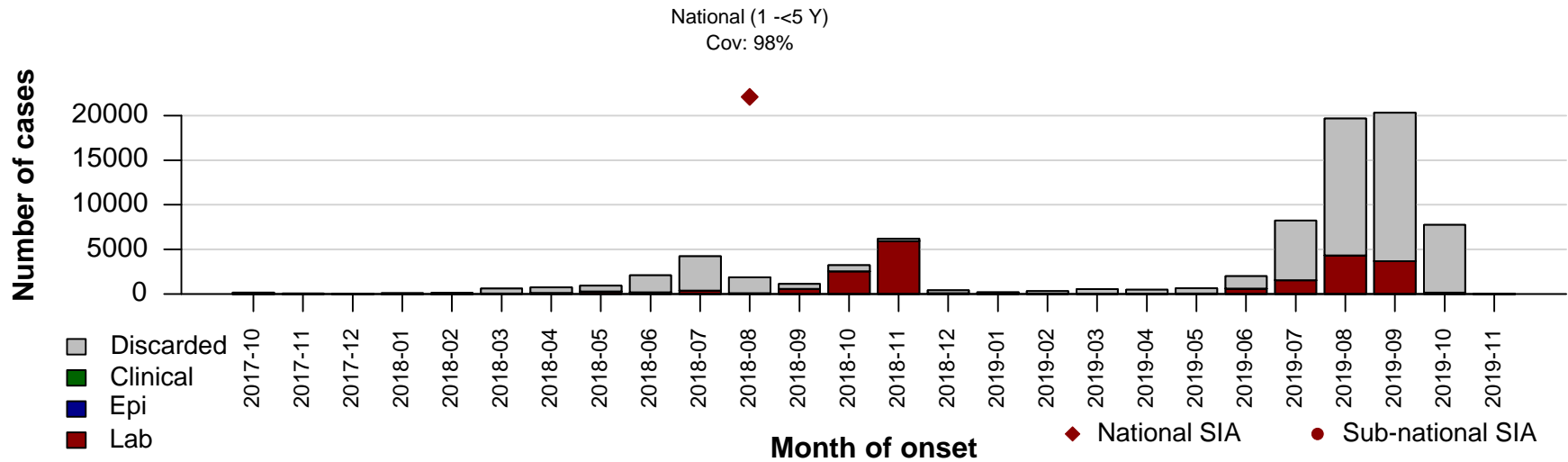
Measles case distribution (AMR), 2015-2019

Clustering at specific time points for certain countries is an artifact of surveillance reporting to WHO



Notes: Based on data received 2019-11 - Data Source: IVB Database

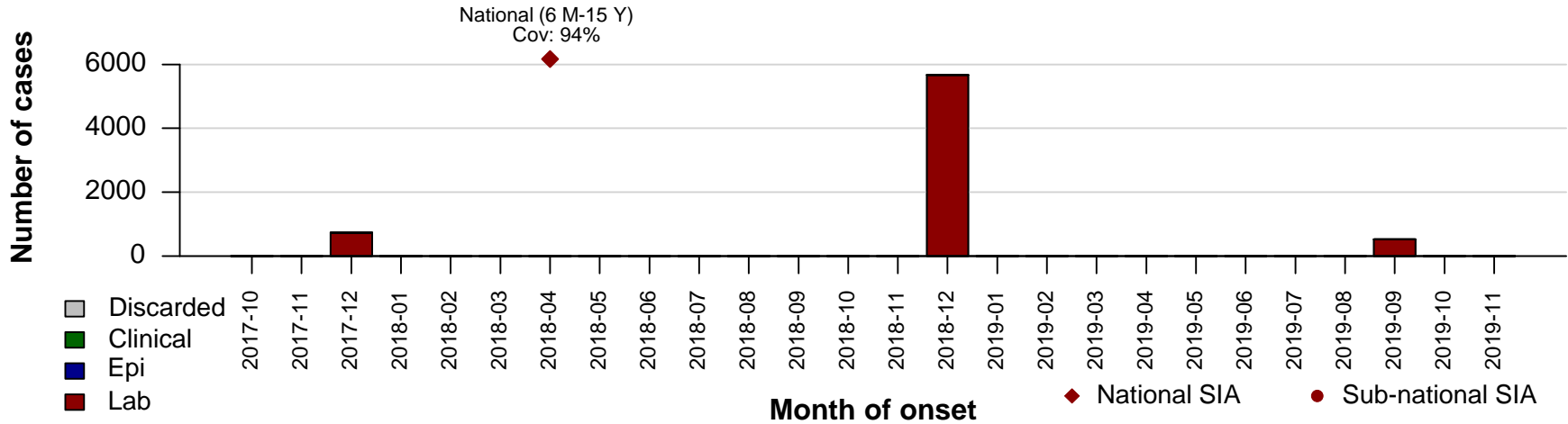
Measles cases: Brazil



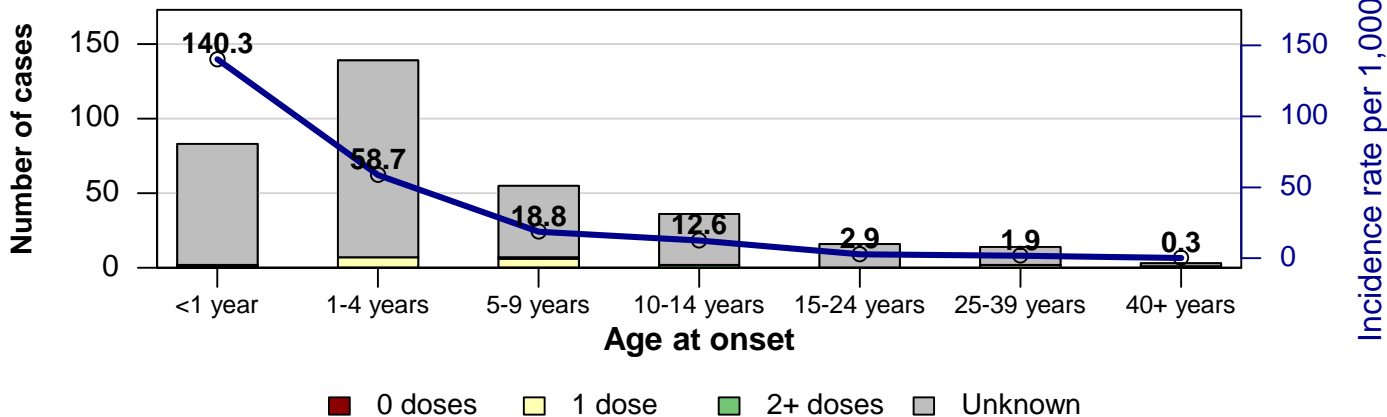
Year	Confirmed Cases
2008	0
2009	0
2010	68
2012	2
2013	192
2014	708
2015	214
2016	0
2017	0
2018	10326
2019	10484

Measles cases: Venezuela (Bolivarian Republic of)

Clustering at specific time points is an artifact of surveillance reporting to WHO

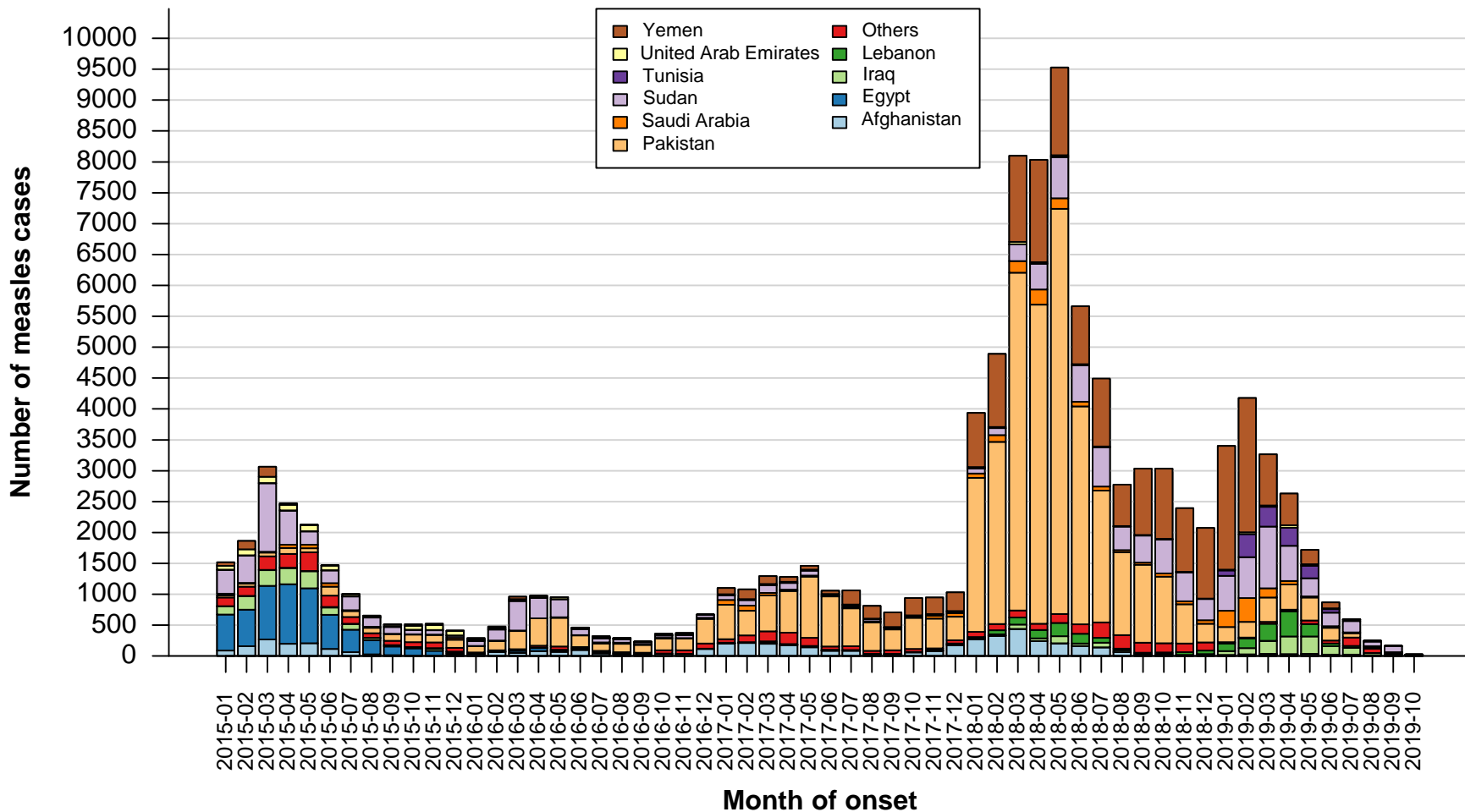


Venezuela (Bolivarian Republic of) age distribution, vaccination status, and incidence, 2018-10 to 2019-09



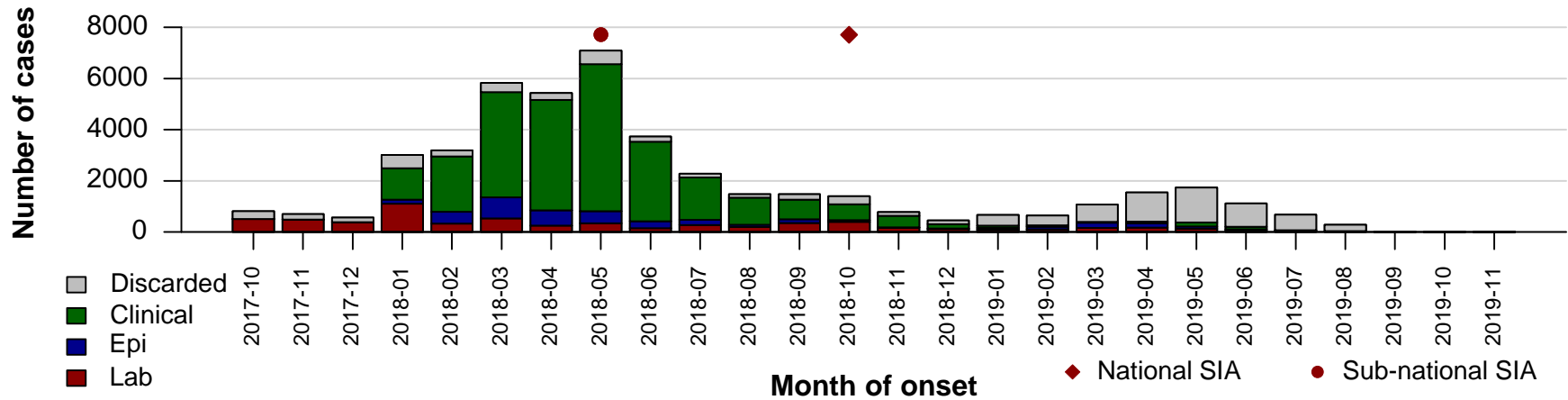
Year	Confirmed Cases
2008	0
2009	0
2010	0
2011	0
2012	1
2013	0
2014	0
2015	0
2016	1
2017	727
2018	5668
2019	520

Measles case distribution (EMR), 2015-2019

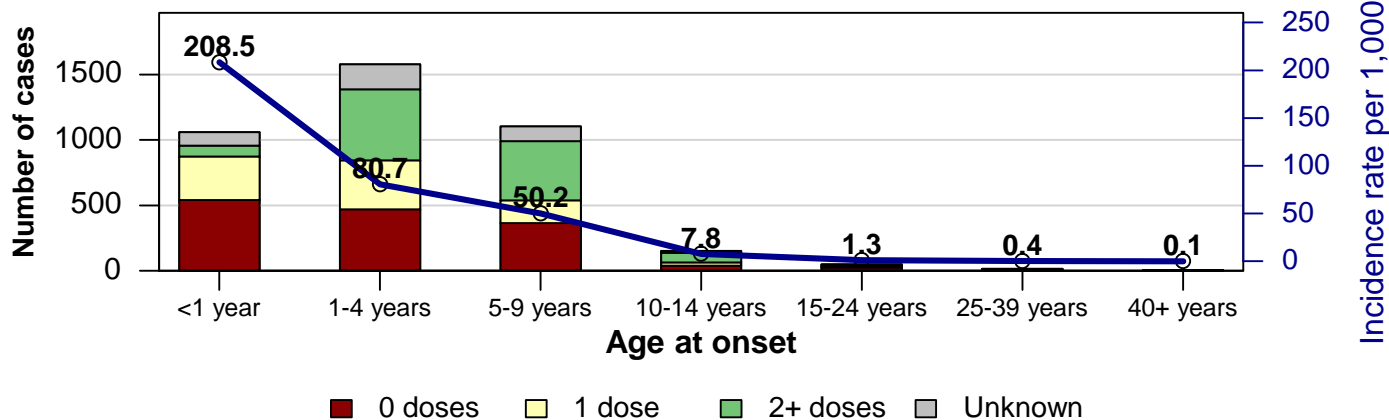


Notes: Based on data received 2019-11 - Data Source: IVB Database

Measles cases: Pakistan

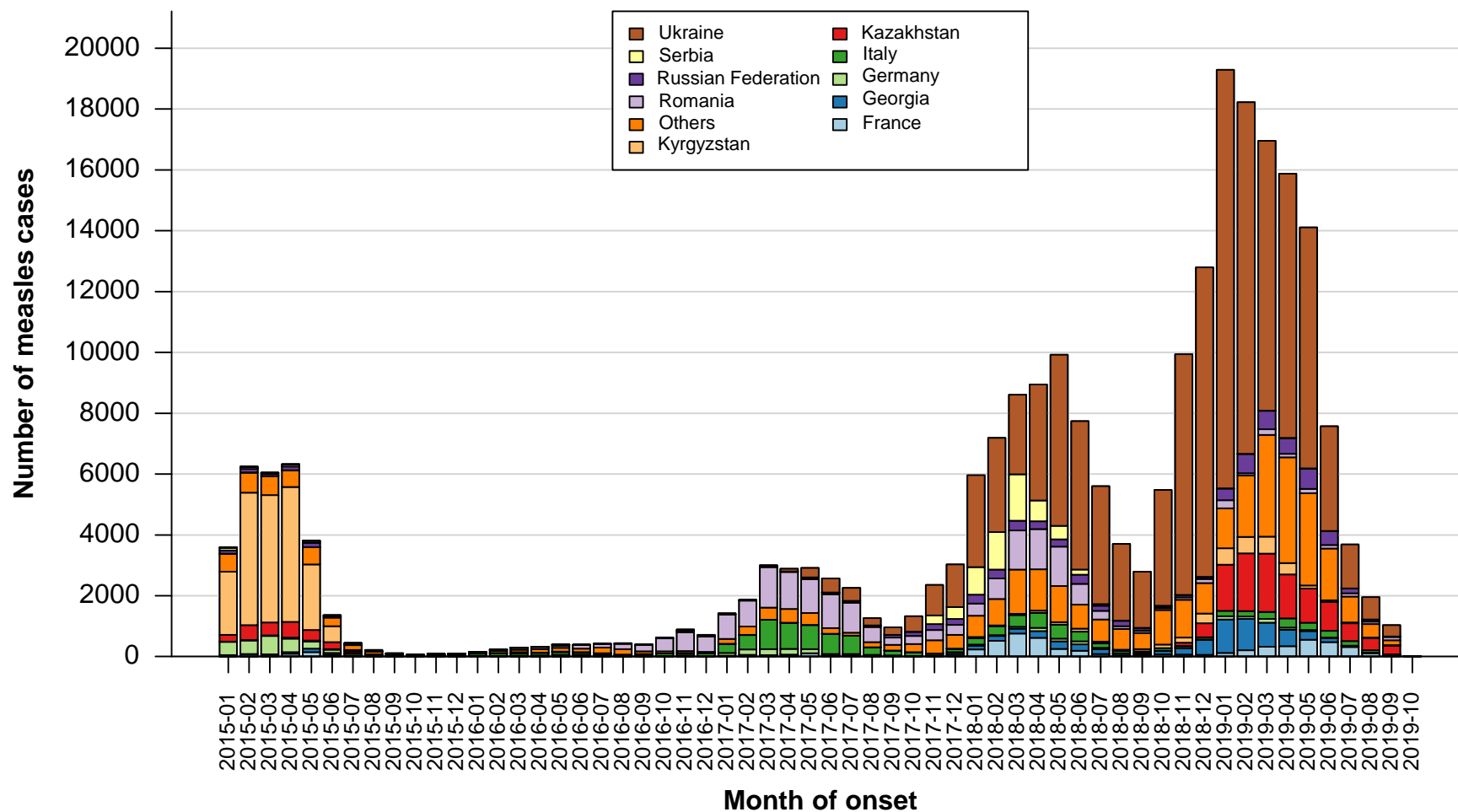


Pakistan age distribution, vaccination status, and incidence, 2018-10 to 2019-09



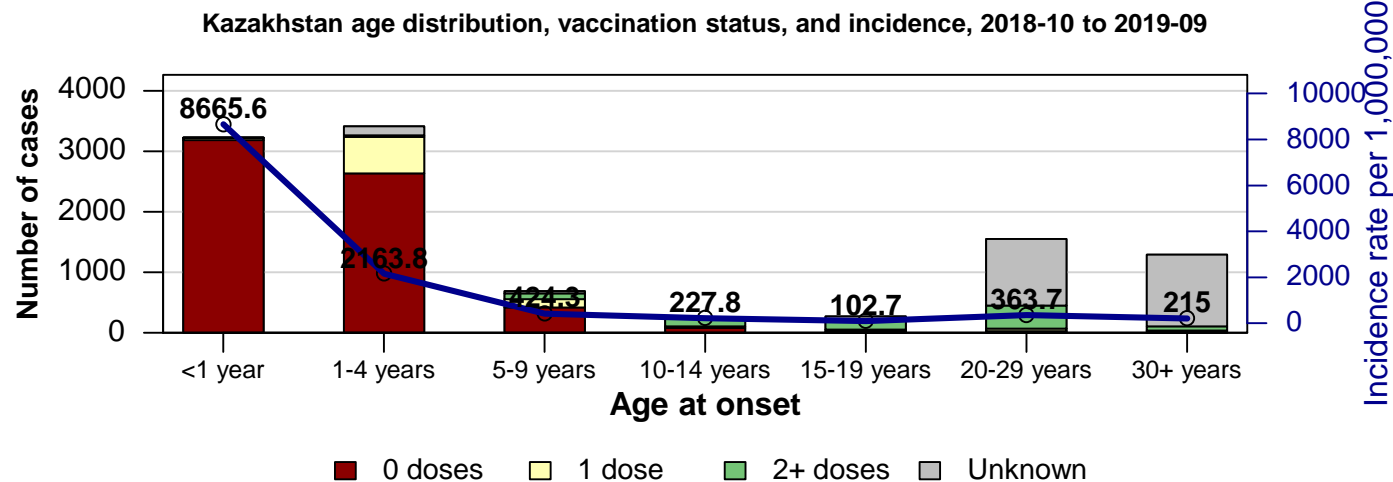
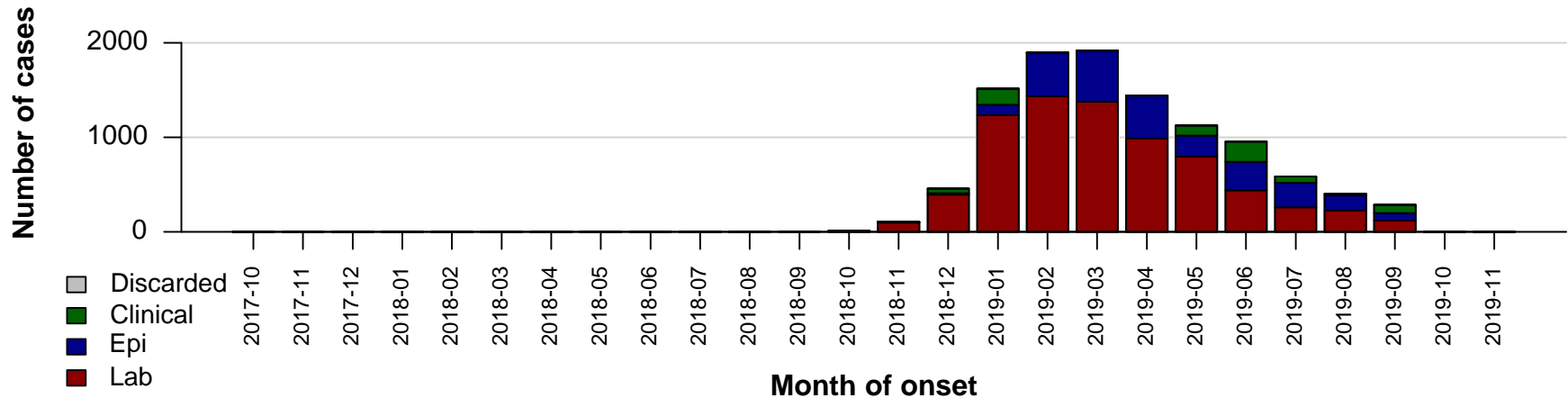
Year	Confirmed Cases
2006	35
2007	33
2008	53
2009	472
2010	1111
2011	2676
2012	8048
2013	8030
2014	1370
2015	1117
2016	2806
2017	6780
2018	32921
2019	1978

Measles case distribution (EUR), 2015-2019



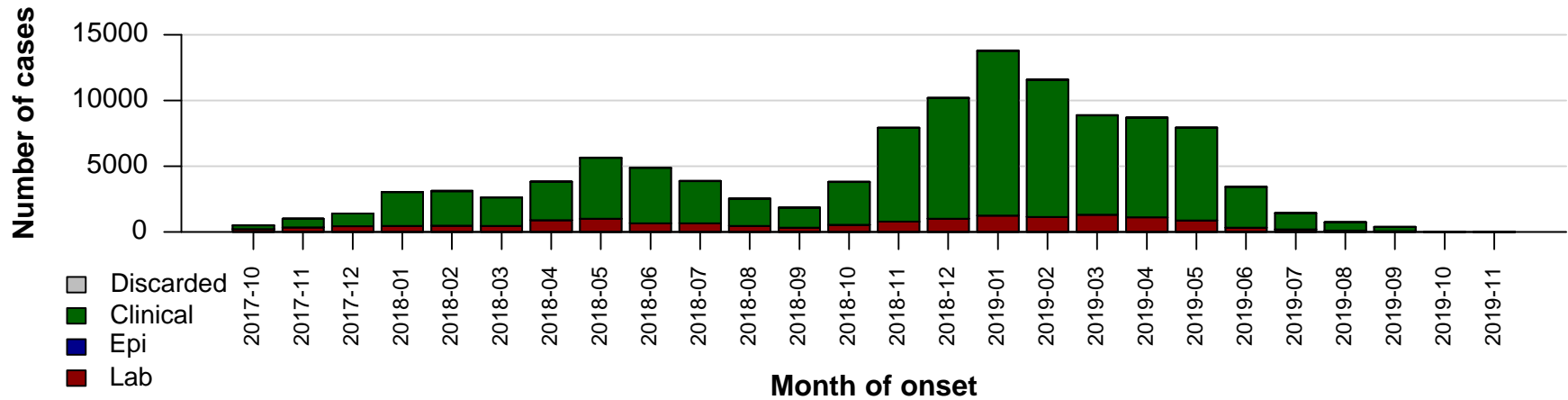
Notes: Based on data received 2019-11 - Data Source: IVB Database

Measles cases: Kazakhstan

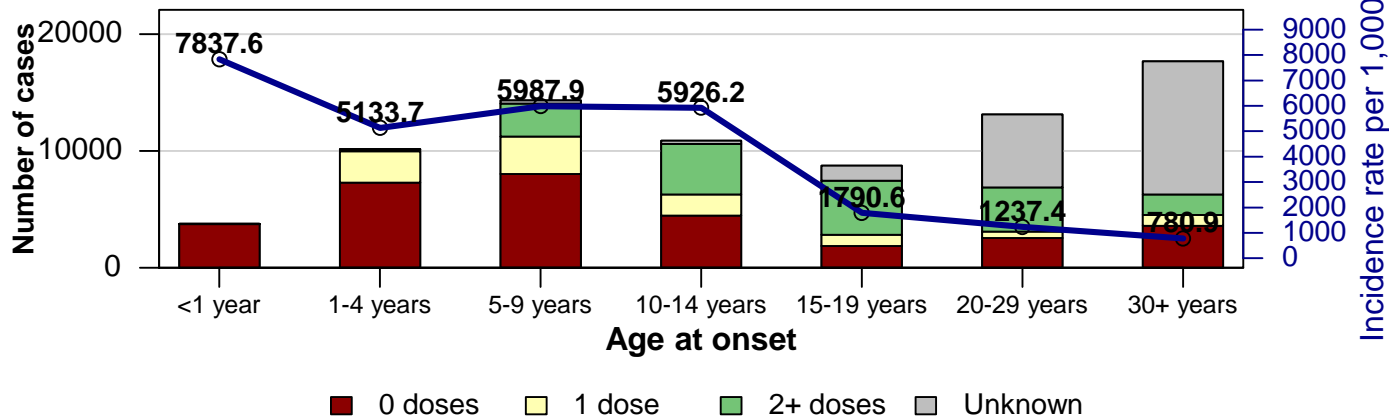


Year	Confirmed Cases
2006	87
2007	6
2008	24
2009	0
2011	30
2012	109
2013	73
2014	317
2015	2340
2016	110
2017	2
2018	576
2019	10126

Measles cases: Ukraine

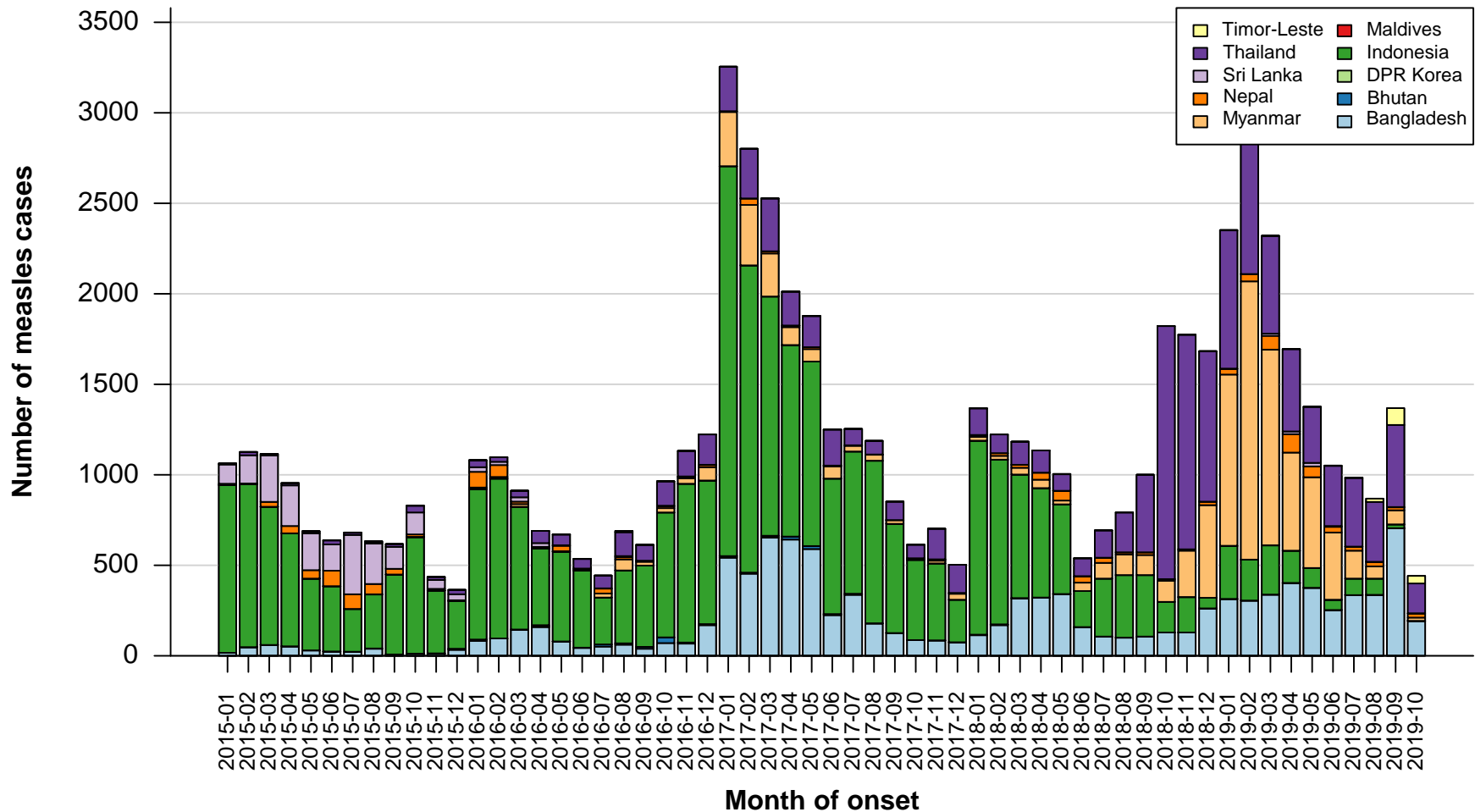


Ukraine age distribution, vaccination status, and incidence, 2018-10 to 2019-09



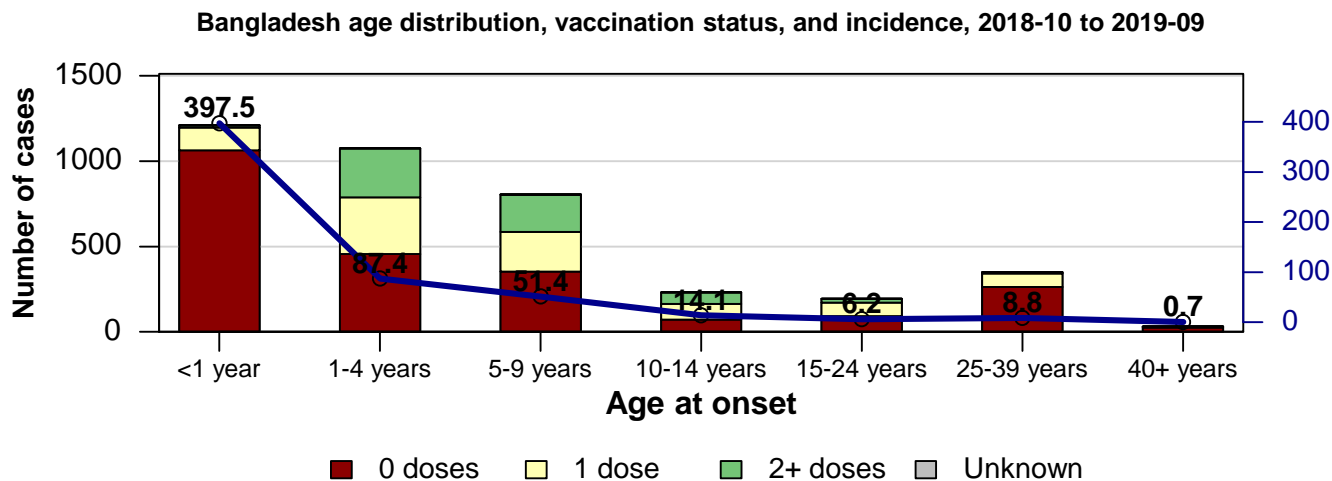
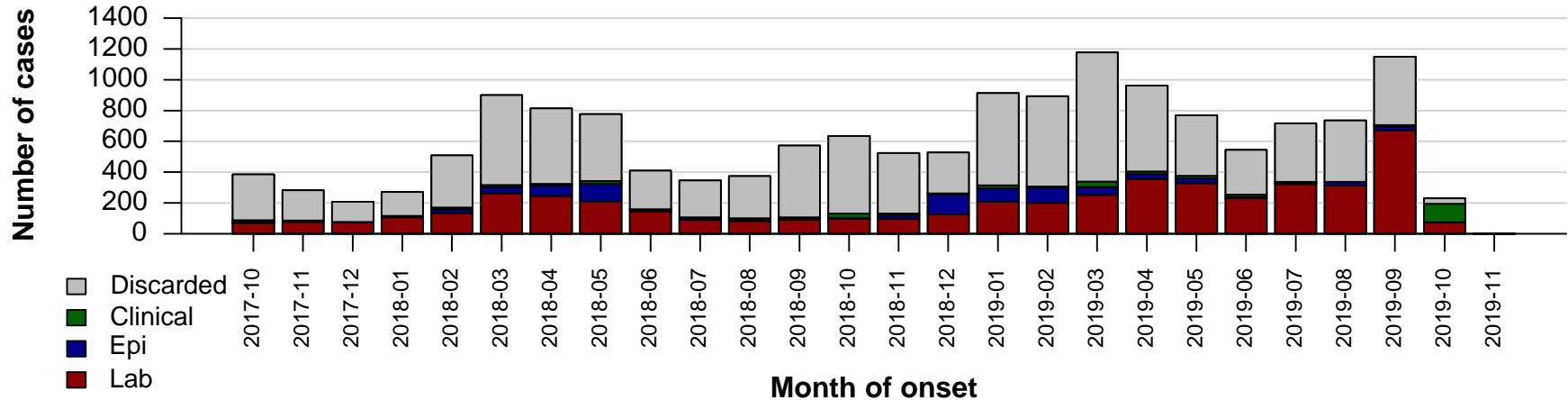
Year	Confirmed Cases
2006	945
2007	232
2008	41
2009	24
2010	42
2011	1313
2012	12744
2013	3308
2014	2326
2015	141
2016	90
2017	4782
2018	53218
2019	56802

Measles case distribution (SEAR (excl. India)), 2015-2019



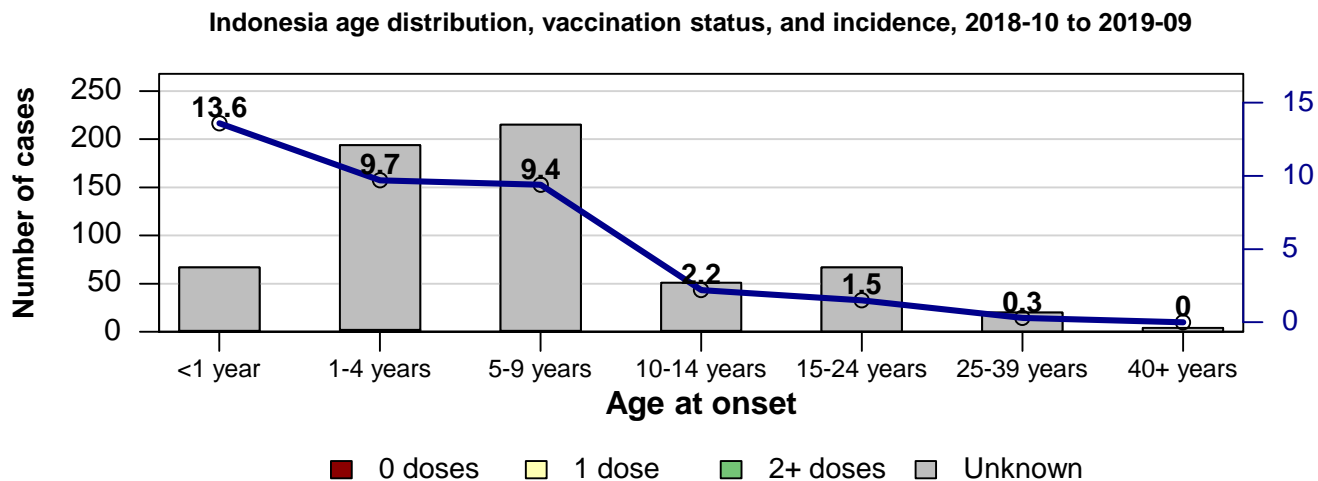
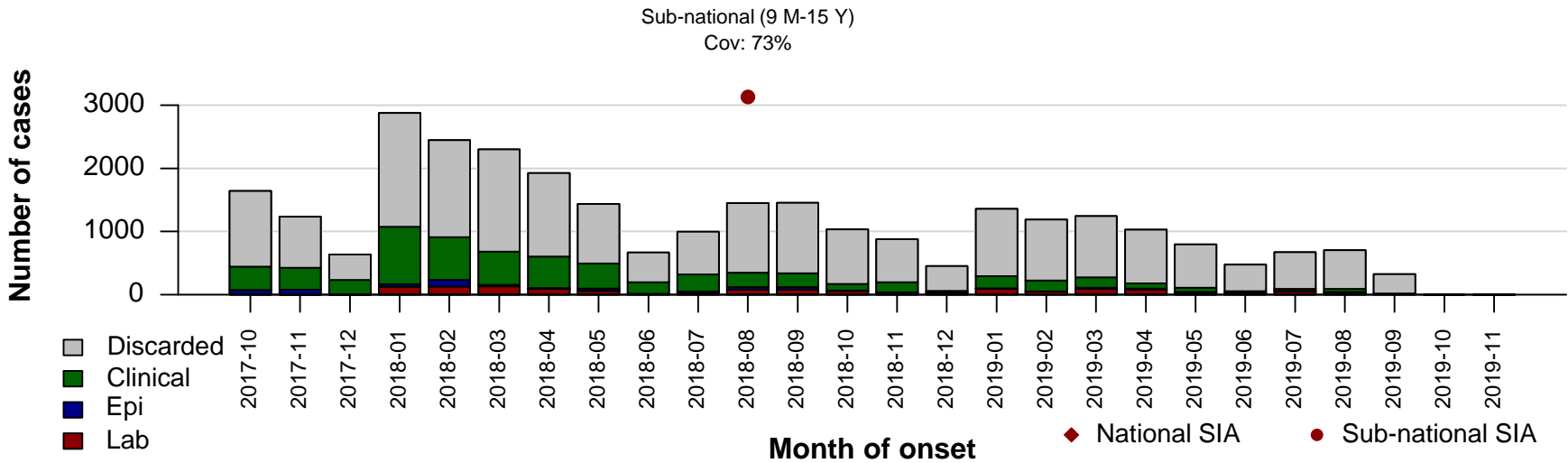
Notes: Based on data received 2019-11 - Data Source: IVB Database

Measles cases: Bangladesh



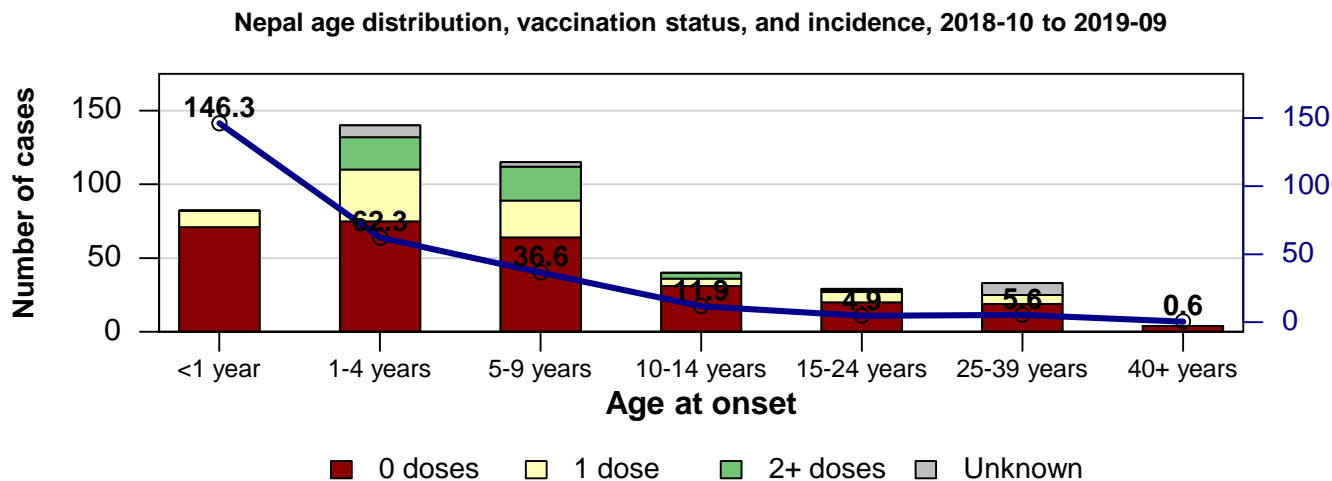
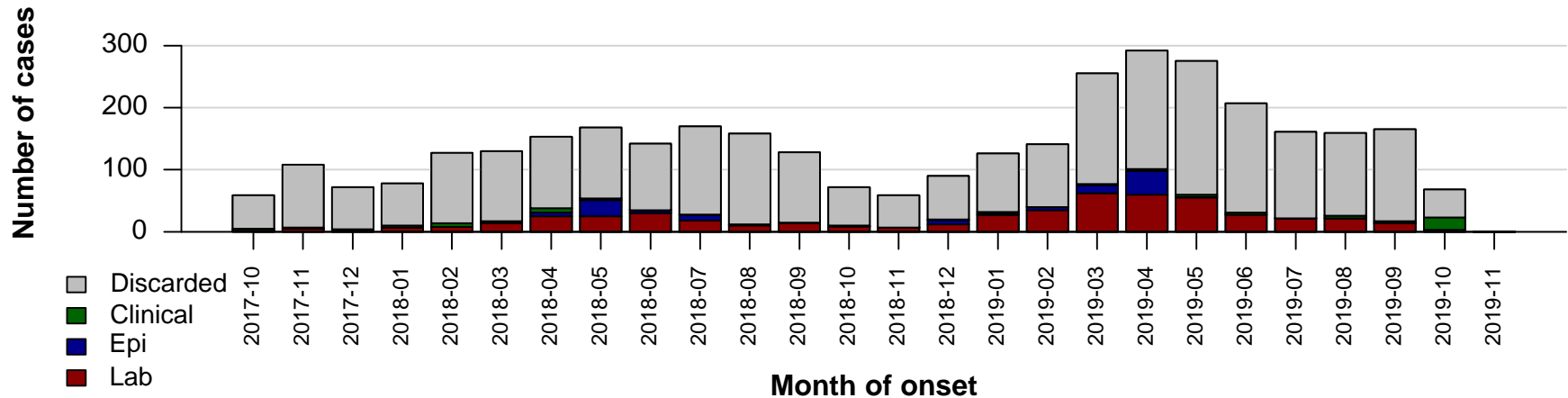
Year	Confirmed Cases
2006	6028
2007	15977
2008	10180
2009	15107
2010	14704
2011	4715
2012	1804
2013	292
2014	336
2015	359
2016	1069
2017	4001
2018	2263
2019	3567

Measles cases: Indonesia



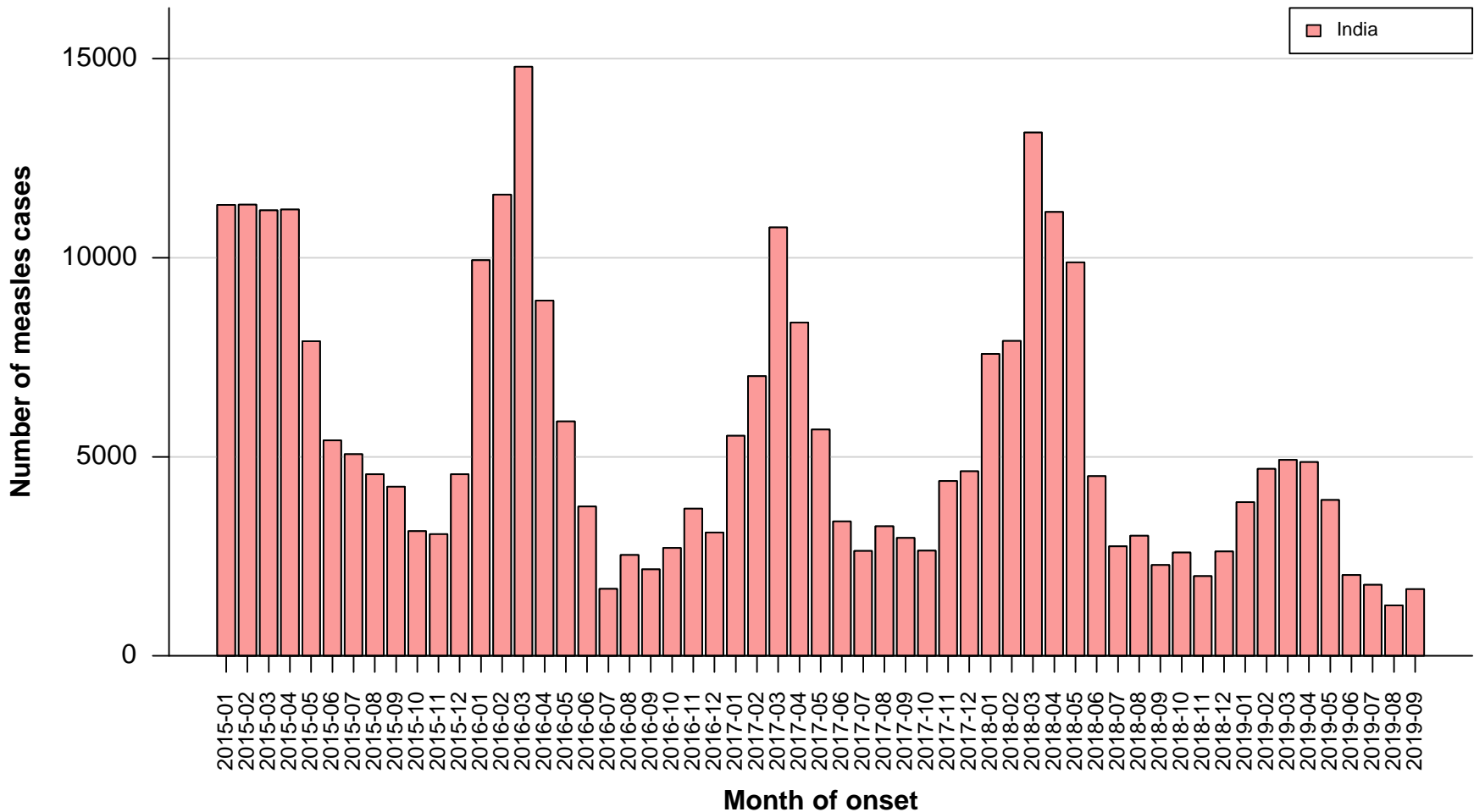
Year	Confirmed Cases
2006	21911
2007	20837
2008	16417
2009	21008
2010	23471
2011	23510
2012	16786
2013	10093
2014	9498
2015	6209
2016	7204
2017	11389
2018	5389
2019	1335

Measles cases: Nepal



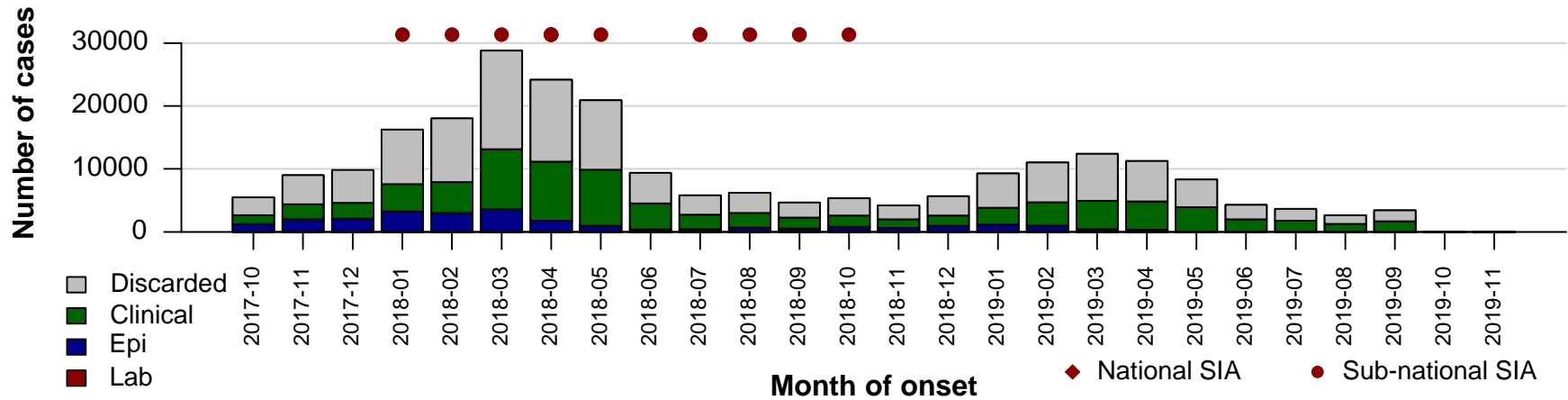
Year	Confirmed Cases
2006	938
2007	572
2008	1226
2009	1783
2010	999
2011	1087
2012	515
2013	46
2014	67
2015	400
2016	285
2017	99
2018	260
2019	429

Measles case distribution (SEAR, India), 2015-2019

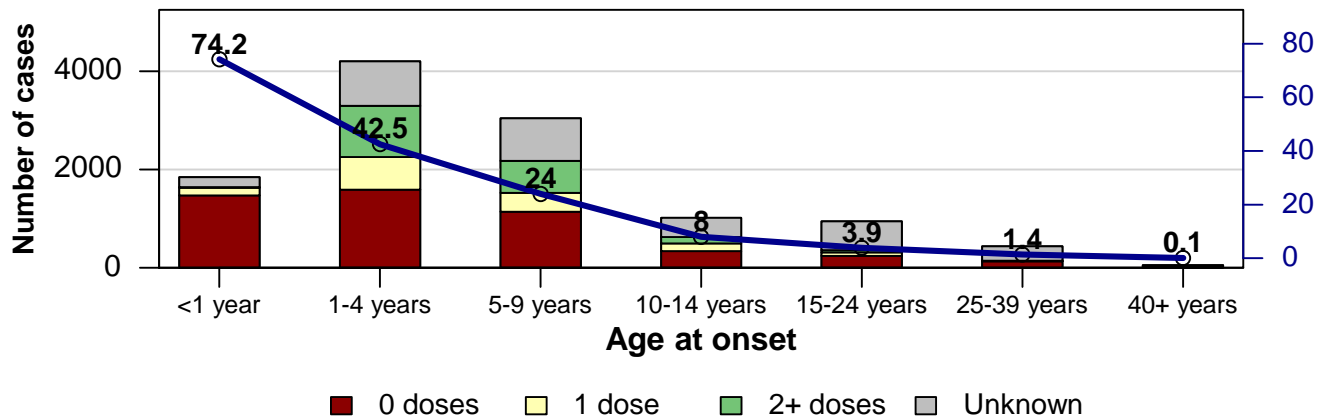


Notes: Based on data received 2019-11 - Data Source: IVB Database

Measles cases: India

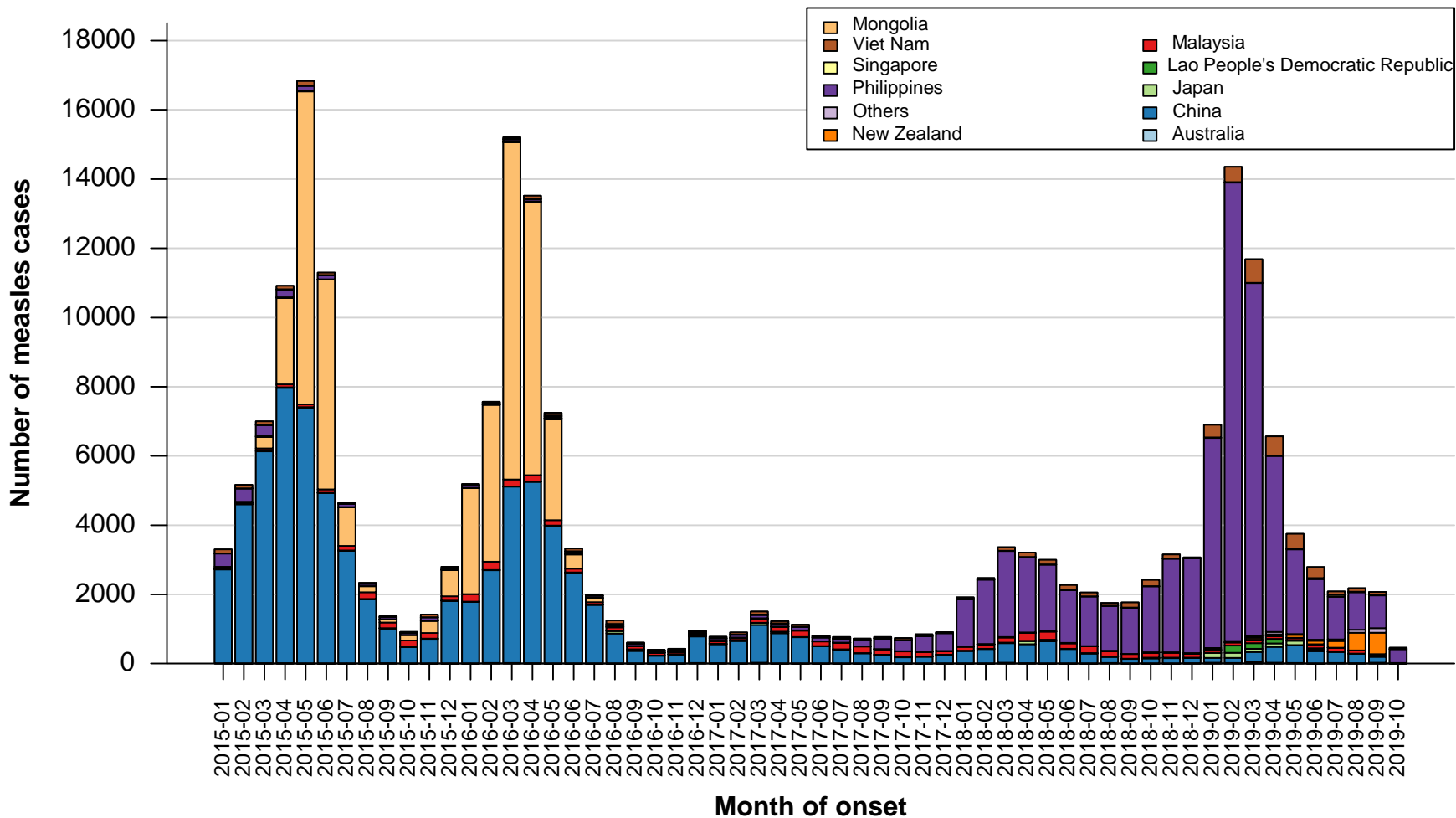


India age distribution, vaccination status, and incidence, 2018-10 to 2019-09



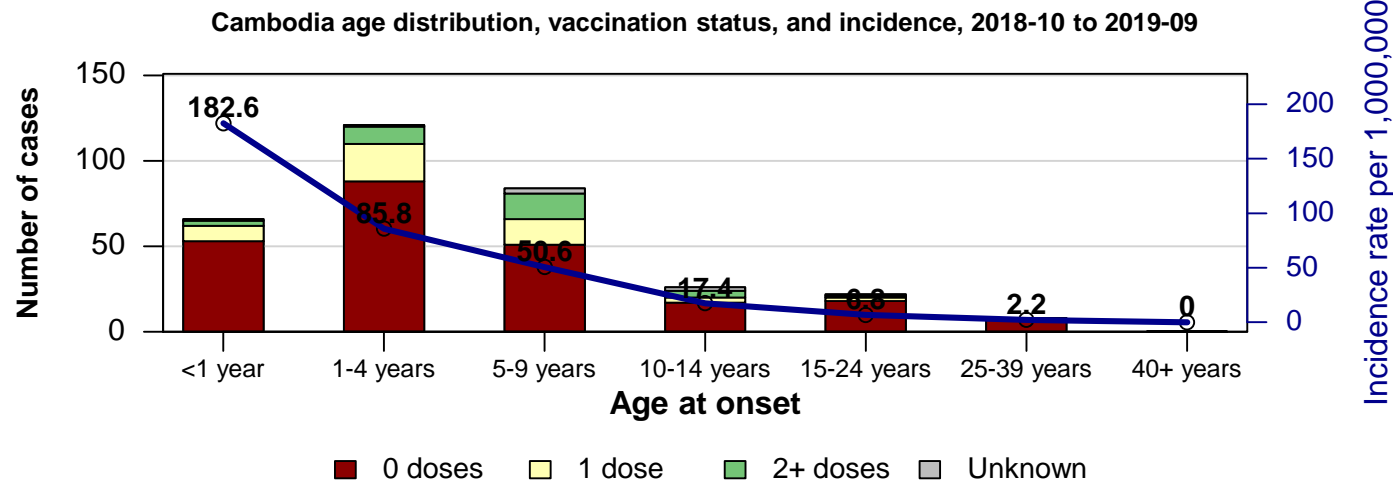
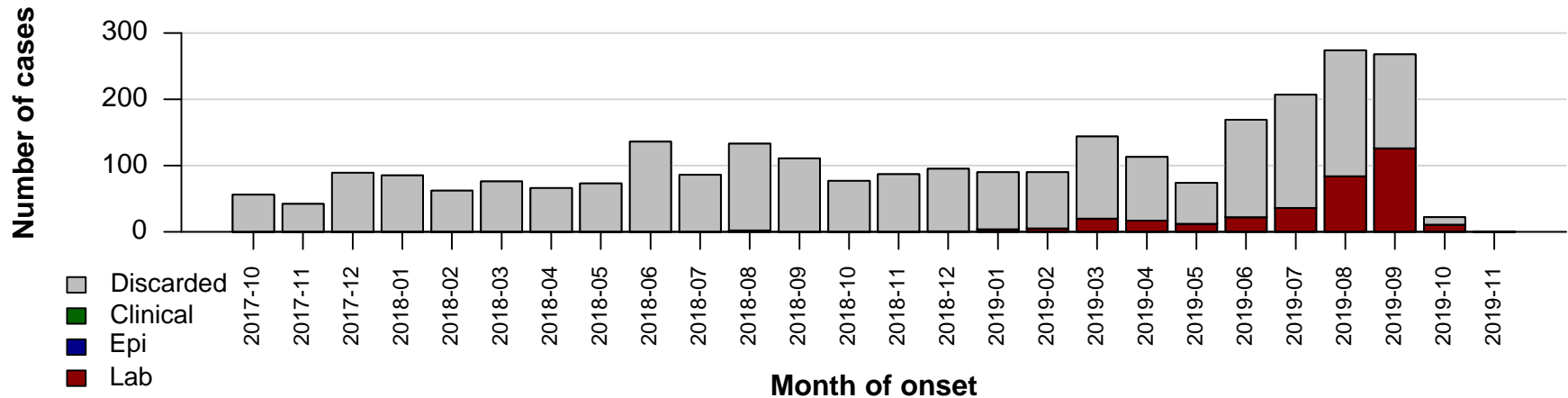
Year	Confirmed Cases
2014	80306
2015	83026
2016	70798
2017	61288
2018	69461
2019	29031

Measles case distribution (WPR), 2015-2019



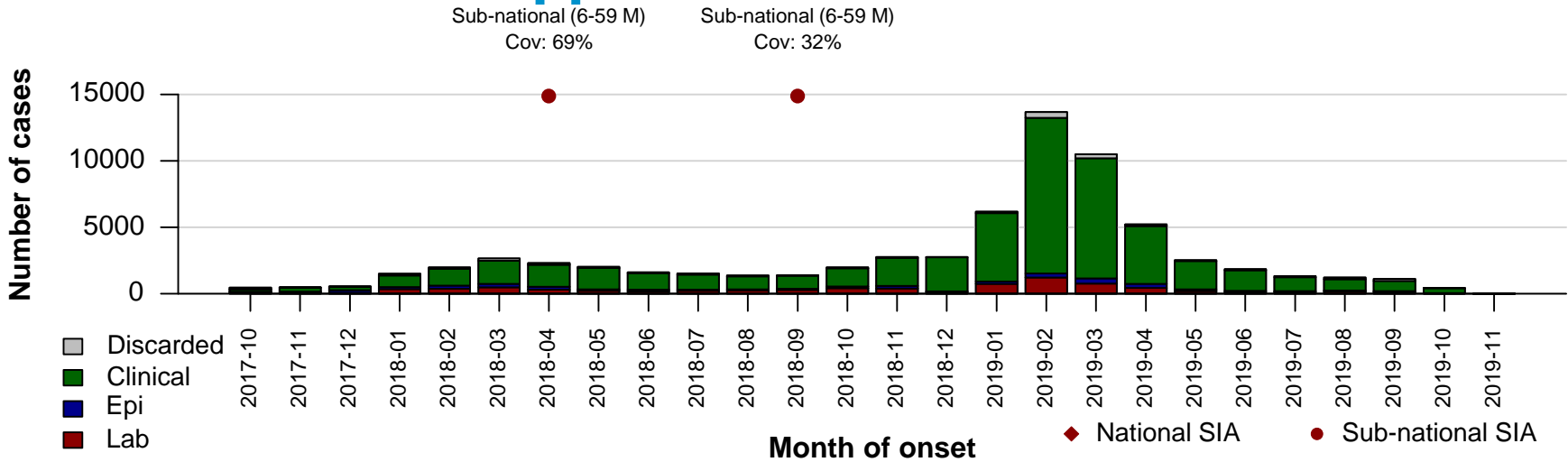
Notes: Based on data received 2019-11 - Data Source: IVB Database

Measles cases: Cambodia

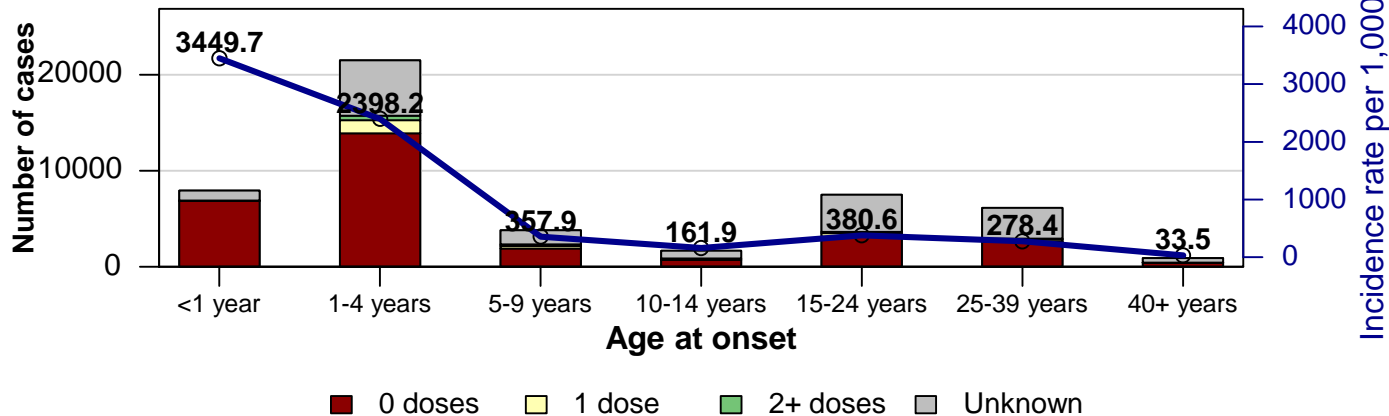


Year	Confirmed Cases
2006	188
2007	394
2008	1765
2009	865
2010	1156
2011	722
2012	0
2013	0
2014	0
2015	0
2016	56
2017	10
2018	3
2019	337

Measles cases: Philippines

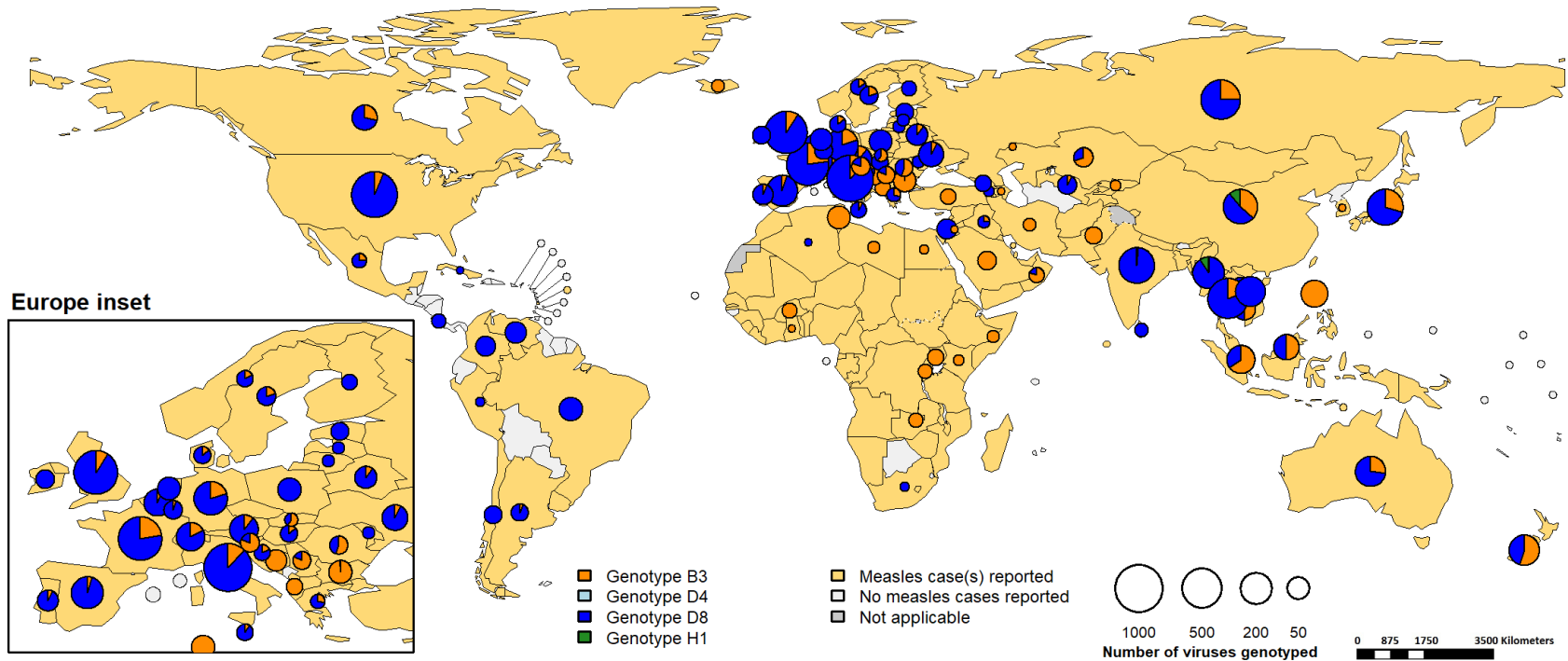


Philippines age distribution, vaccination status, and incidence, 2018-10 to 2019-09



Year	Confirmed Cases
2006	216
2007	612
2008	836
2009	1351
2010	6361
2011	6520
2012	1509
2013	4855
2014	53906
2015	2021
2016	647
2017	2407
2018	22787
2019	42467

Distribution of measles genotypes (last 12 months)



Disclaimer:

The boundaries and names shown and the designations used on this map 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 and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Rubella

Number of Reported Rubella Cases by WHO Regions



2019																		
Region	Member States*	Rubella cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	40/47	3204	0	0	3204	241	384	671	592	320	296	293	251	142	14	0	0	2019-11
AMR	28/35	4	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	2019-11
EMR	19/21	1509	14	7	1488	46	98	212	403	400	215	102	25	8	0	0	0	2019-11
EUR	30/53	533	403	6	124	75	77	68	70	71	41	48	51	32	0	0	0	2019-11
SEAR	11/11	3388	0	1319	2069	248	581	1216	641	276	144	98	93	73	18	0	0	2019-11
WPR	14/27	32061	2977	2356	26728	1156	1306	4200	7680	9150	5617	1846	681	421	4	0	0	2019-11
Total	142/194	40699	3394	3688	33617	1766	2446	6367	9388	10219	6313	2387	1101	676	36	0	0	

2018																		
Region	Member States*	Rubella cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	42/47	3487	0	0	3487	345	367	571	373	353	262	228	239	180	207	194	168	2019-11
AMR	27/35	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	2019-11
EMR	20/21	1521	149	313	1059	151	173	242	206	206	115	113	83	71	80	46	35	2019-11
EUR	36/53	838	722	7	109	81	97	75	97	89	81	60	71	48	43	46	50	2019-11
SEAR	11/11	4456	0	1445	3011	337	490	868	963	570	203	132	191	226	213	163	100	2019-11
WPR	15/27	4422	358	132	3932	106	100	281	495	757	341	265	221	288	342	411	815	2019-11
Total	151/194	14726	1229	1897	11600	1020	1228	2037	2135	1975	1002	798	805	813	885	860	1168	

Notes: Based on data received 2019-11 - This is surveillance data, hence for the last month, the data may be incomplete. * Member States Reporting / Total Member States in Region

Number of Reported Rubella Cases by WHO Regions

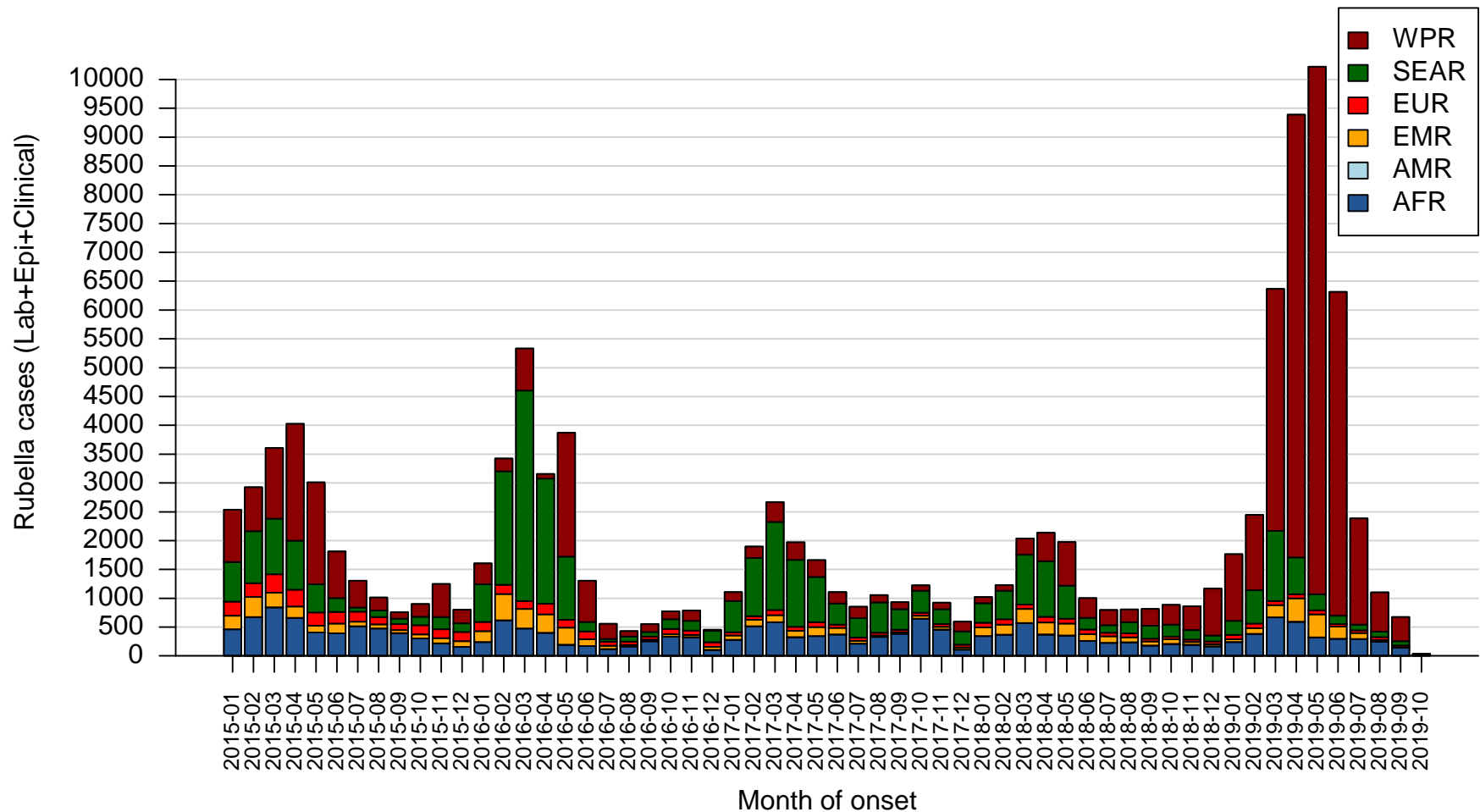


2019																		
Region	Member States*	Rubella cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	40/47	3204	0	0	3204	241	384	671	592	320	296	293	251	142	14	0	0	2019-11
AMR	28/35	4	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	2019-11
EMR	19/21	1509	14	7	1488	46	98	212	403	400	215	102	25	8	0	0	0	2019-11
EUR	30/53	533	403	6	124	75	77	68	70	71	41	48	51	32	0	0	0	2019-11
SEAR	11/11	3388	0	1319	2069	248	581	1216	641	276	144	98	93	73	18	0	0	2019-11
WPR	14/27	32061	2977	2356	26728	1156	1306	4200	7680	9150	5617	1846	681	421	4	0	0	2019-11
Total	142/194	40699	3394	3688	33617	1766	2446	6367	9388	10219	6313	2387	1101	676	36	0	0	

2018																		
Region	Member States*	Rubella cases	Clin	Epi	Lab	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Date Received
AFR	42/47	2774	0	0	2774	337	362	562	357	352	253	236	196	101	18	0	0	2018-11
AMR	26/35	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	2018-11
EMR	20/21	928	111	48	769	104	116	160	128	131	92	111	75	10	1	0	0	2018-11
EUR	36/53	704	620	6	78	82	96	75	96	92	78	63	76	46	0	0	0	2018-11
SEAR	11/11	2245	0	557	1688	297	411	543	332	342	147	49	74	34	16	0	0	2018-11
WPR	15/27	2846	159	47	2640	113	104	290	507	750	337	252	226	266	1	0	0	2018-11
Total	150/194	9499	890	658	7951	933	1090	1630	1421	1667	907	711	647	457	36	0	0	

Notes: Based on data received 2019-11 and 2018-11 - This is surveillance data, hence for the last month, the data may be incomplete. * Member States Reporting / Total Member States in Region

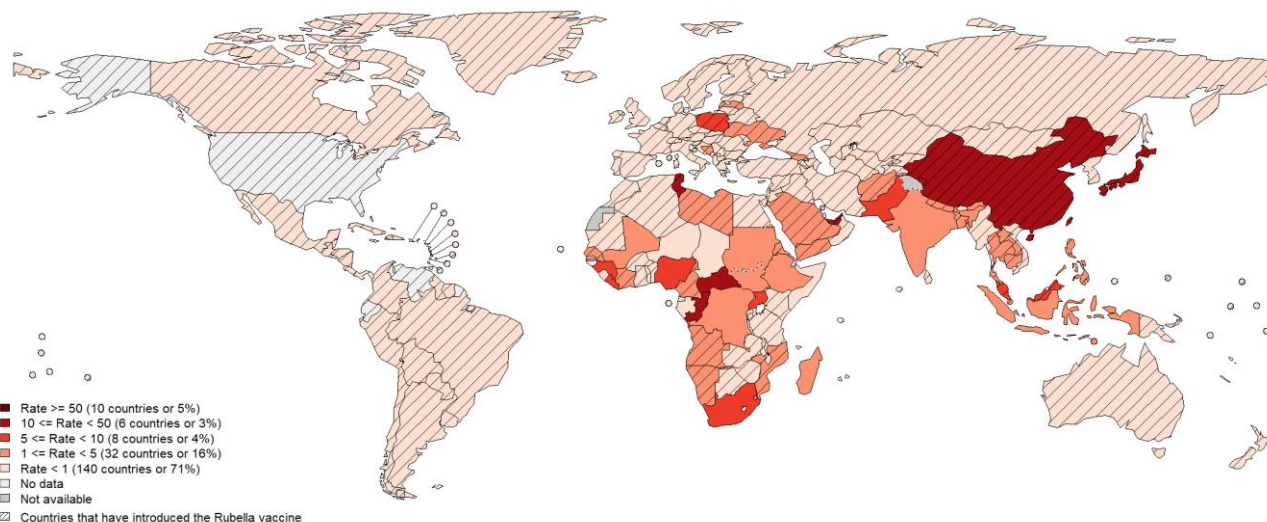
Rubella Case Distribution by Month and WHO Region (2015-2019)



Notes: Based on data received 2019-11 - Data Source: IVB Database - This is surveillance data, hence for the last month(s), the data may be incomplete.

Rubella Reported Cases per Million (12M period)

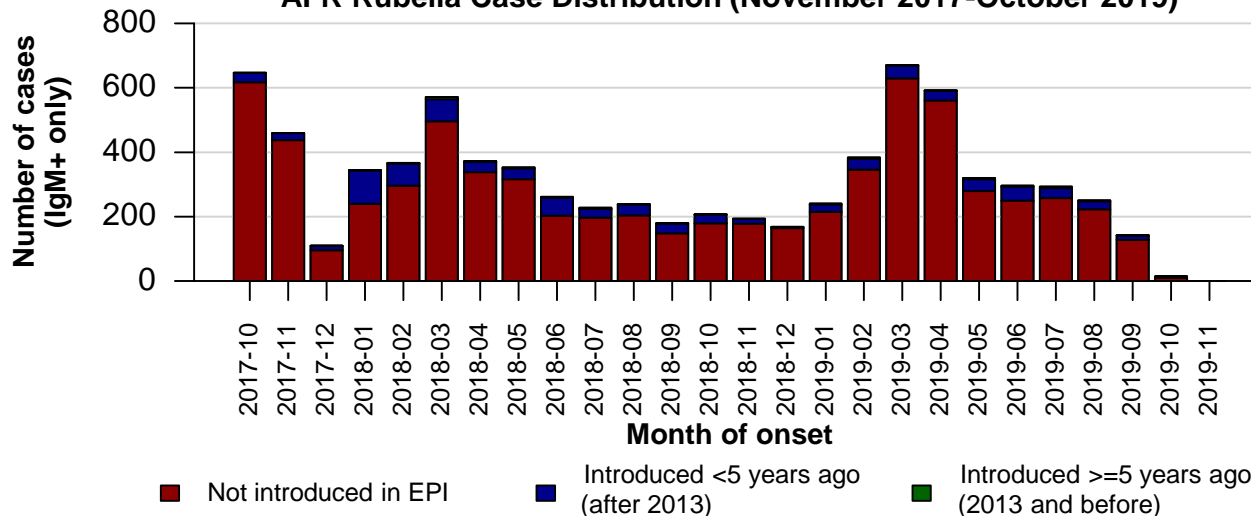
Top 10**		
Country	Cases	Rate
China	30912	22.020
India	2745	2.070
Japan	2316	18.130
Nigeria	1430	7.690
Pakistan	1075	5.560
Indonesia	736	2.820
South Africa	513	9.160
Uganda	389	9.380
DR Congo	340	4.320
Poland	321	8.400



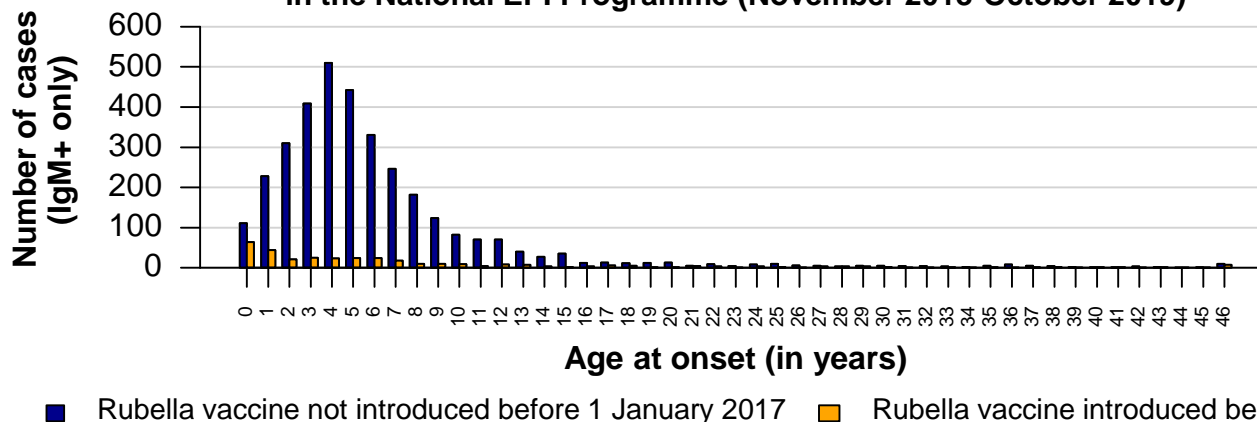
Other countries with high incidence rates***		
Country	Cases	Rate
Central African Republic	175	38.090
Congo	58	11.320
United Arab Emirates	103	11.110
Tunisia	122	10.700
Liberia	39	8.450

Rubella cases: AFR

AFR Rubella Case Distribution (November 2017-October 2019)



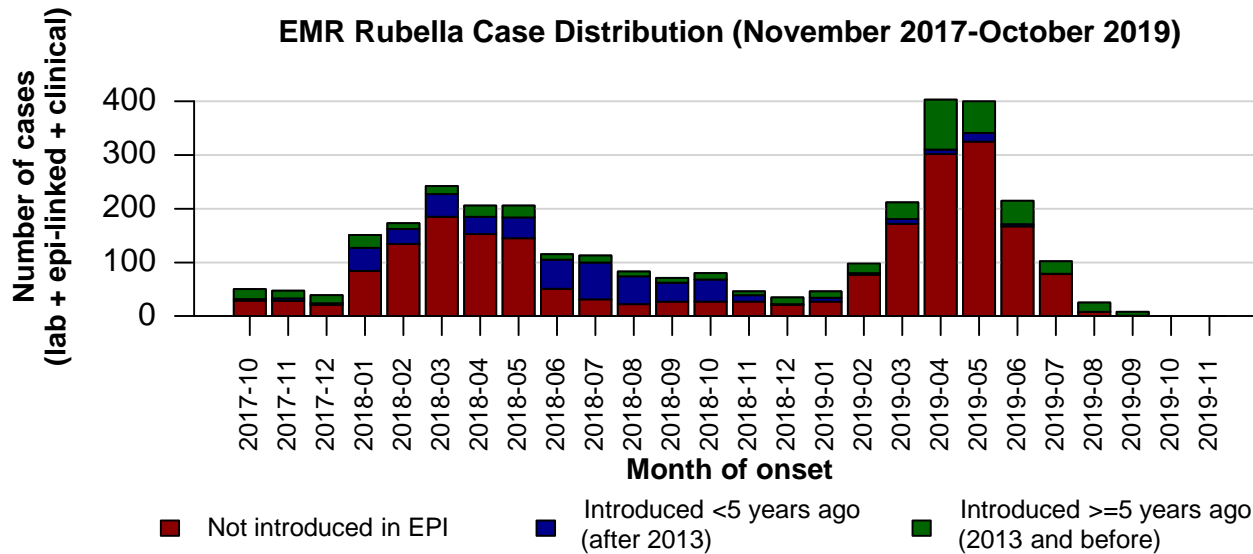
AFR Age distribution of Rubella IgM+ cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)



Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
Nigeria	No	1416	40
South Africa	No	474	13
Others	-	364	10
Uganda	No	356	10
DR Congo	No	295	8
Ethiopia	No	261	7
Central African Republic	No	175	5
Guinea	No	78	2
Cote d'Ivoire	2018	61	2
Congo	No	45	1
Mozambique	2018	41	1

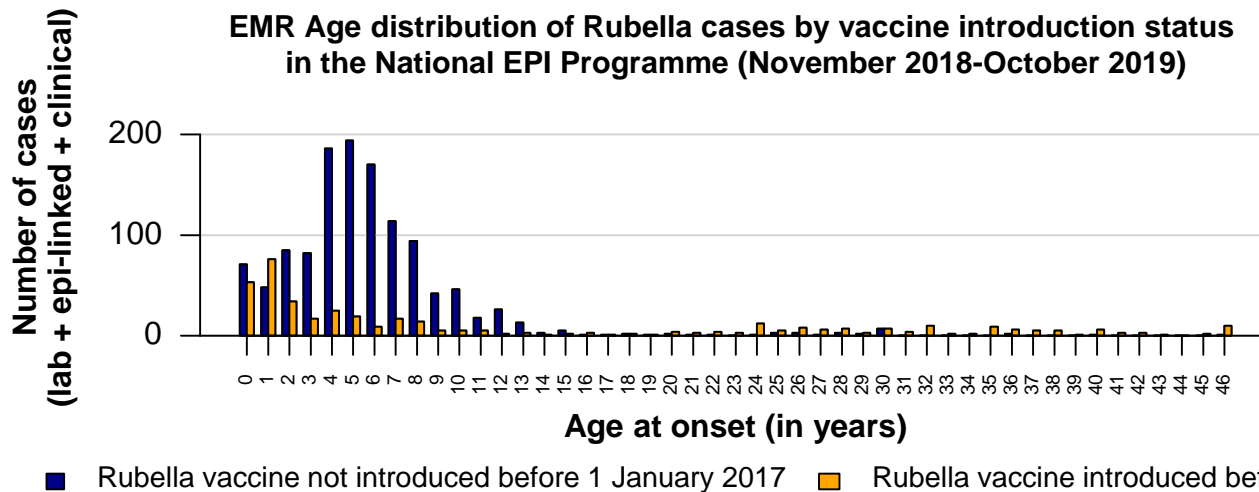
Rubella cases: EMR

EMR Rubella Case Distribution (November 2017-October 2019)



Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
Pakistan	No	1056	66
Sudan	No	148	9
Tunisia	2004	121	8
United Arab Emirates	1985	102	6
Afghanistan	2018	43	3
Saudi Arabia	1991	38	2
Others	-	25	2
Libya	1995	24	2
Iran (Islamic Republic of)	2004	14	1
Yemen	2015	12	1
Morocco	2014	7	0

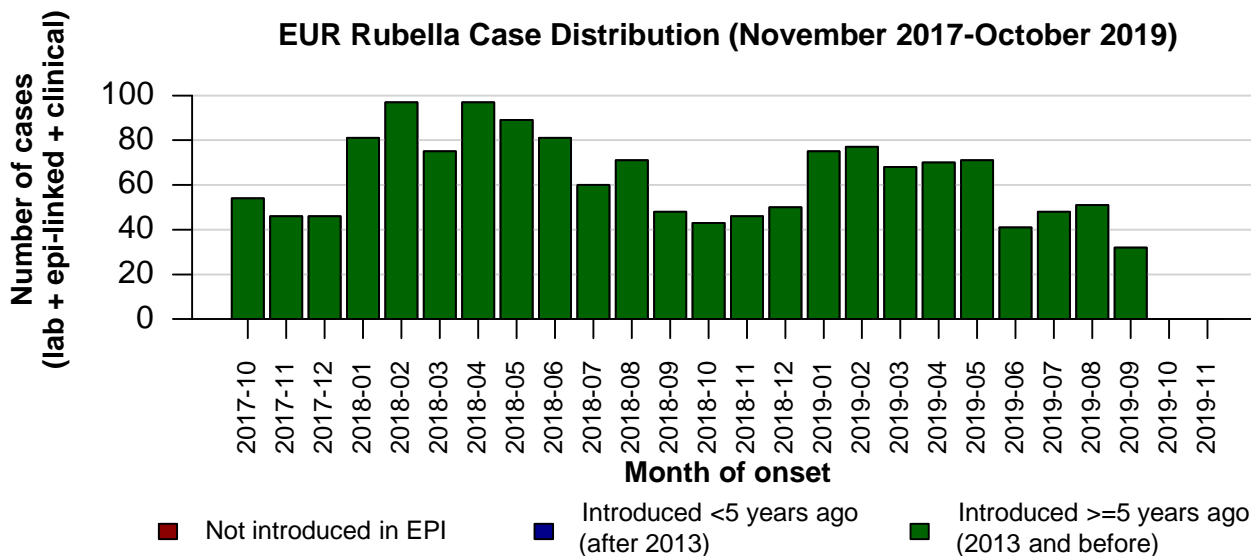
EMR Age distribution of Rubella cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)



Notes: Based on data received 2019-11 Data Source: IVB Database. RCV in RI: Rubella-containing vaccine in Routine Immunization as of 31 Dec 2016.

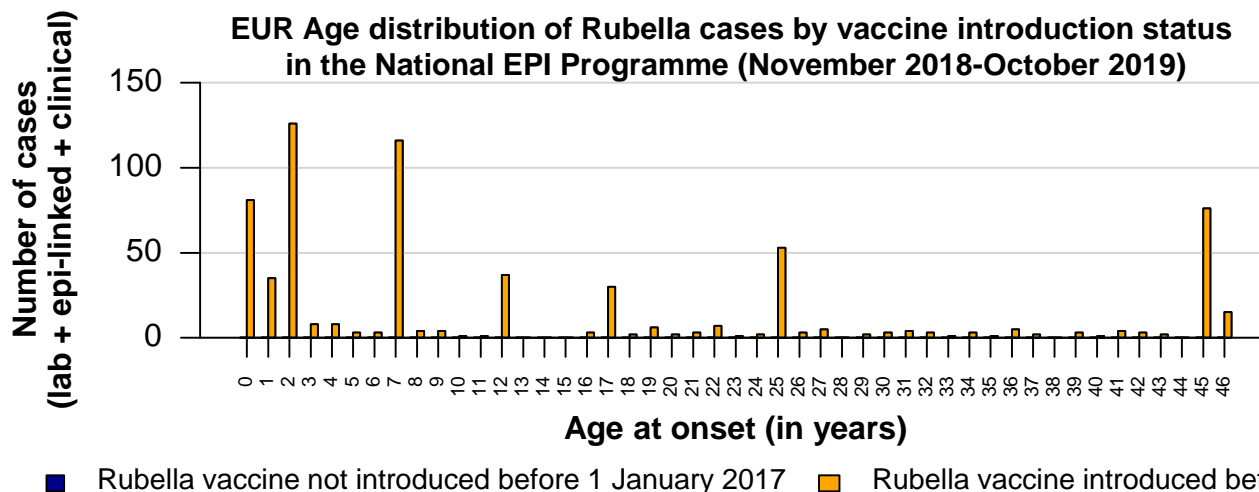
Rubella cases: EUR

EUR Rubella Case Distribution (November 2017-October 2019)



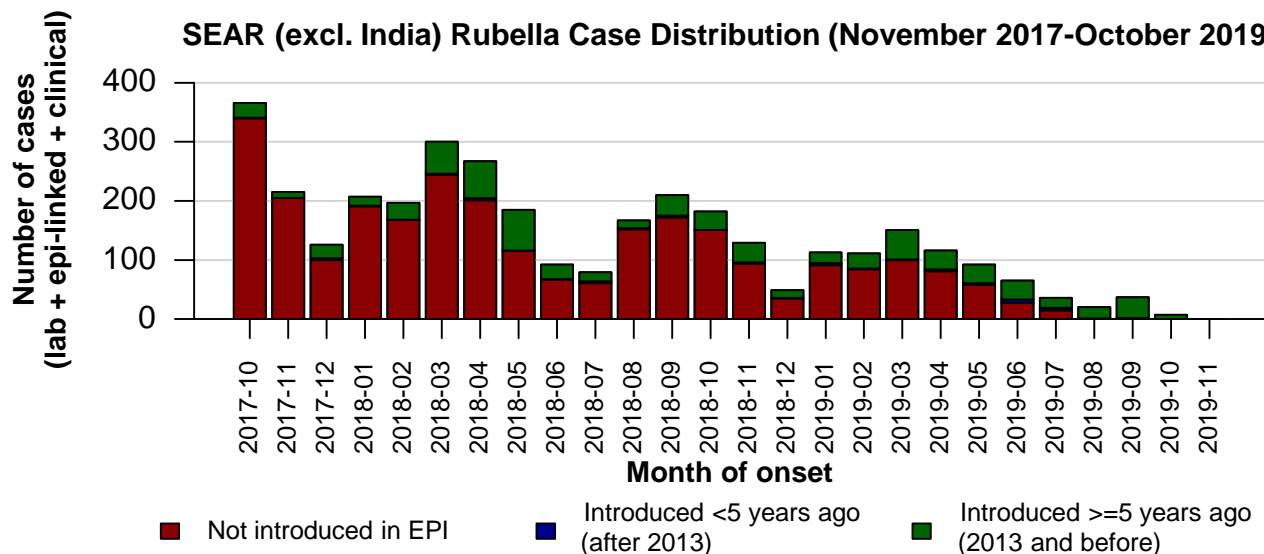
Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
Poland	1988	296	47
Ukraine	2001	152	24
Germany	1991	50	8
Turkey	2006	42	7
Russian Federation	2000	25	4
Italy	1972	19	3
Others	-	16	3
Spain	1978	12	2
Georgia	2004	8	1
Kazakhstan	2004	5	1
Bosnia and Herzegovina	1976	4	1

EUR Age distribution of Rubella cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)



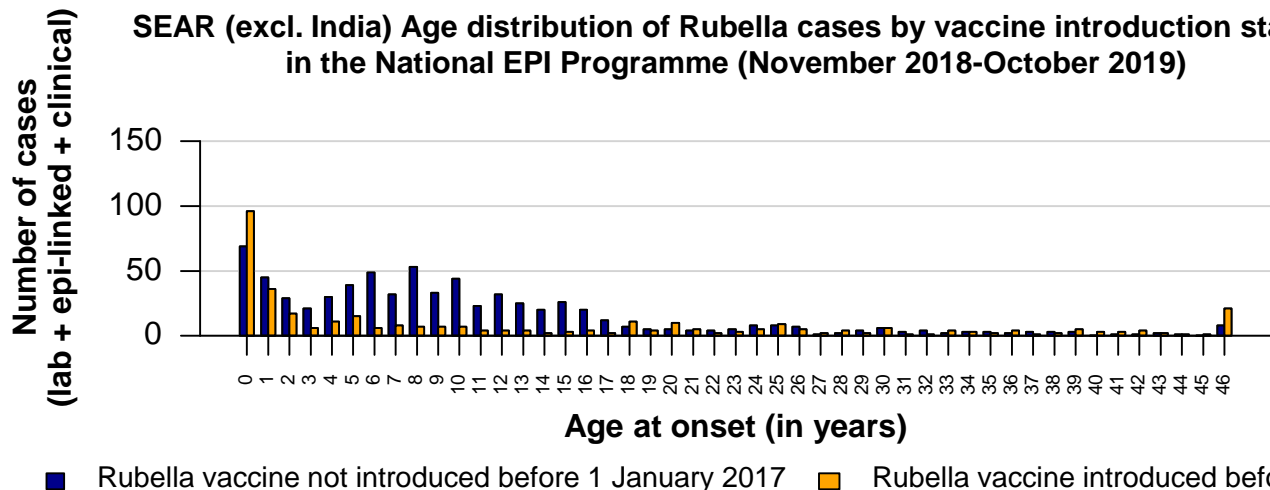
Rubella cases: SEAR (excl. India)

SEAR (excl. India) Rubella Case Distribution (November 2017-October 2019)



Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
Indonesia	No	585	63
Bangladesh	2012	148	16
Thailand	1993	133	14
Nepal	2013	31	3
Myanmar	2015	24	3
Timor-Leste	2016	5	1

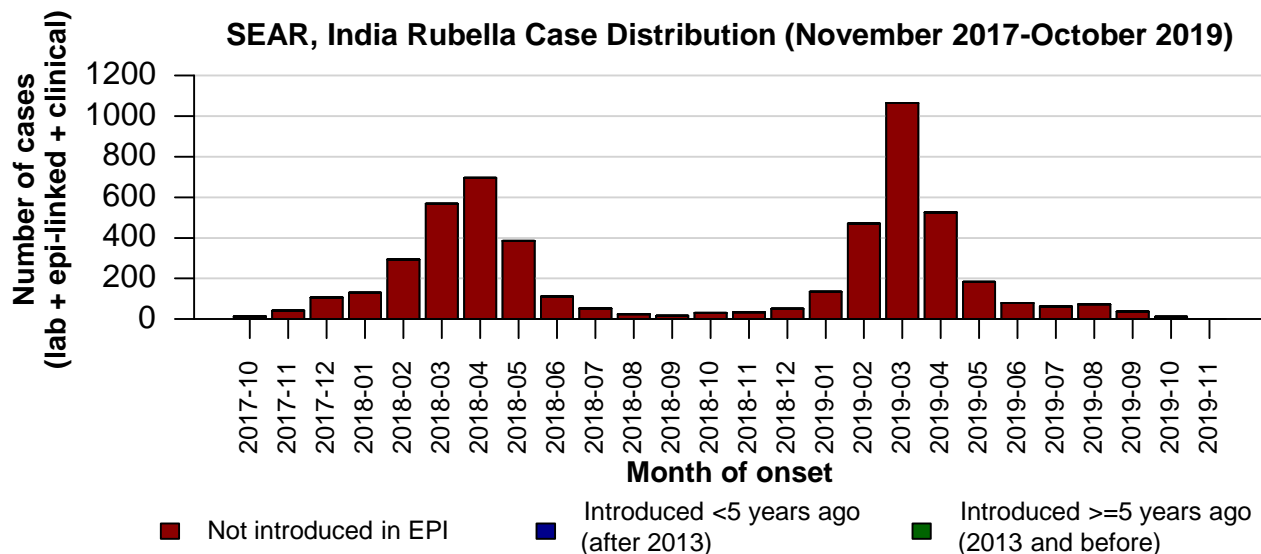
SEAR (excl. India) Age distribution of Rubella cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)



Notes: Based on data received 2019-11 Data Source: IVB Database. RCV in RI: Rubella-containing vaccine in Routine Immunization as of 31 Dec 2016.

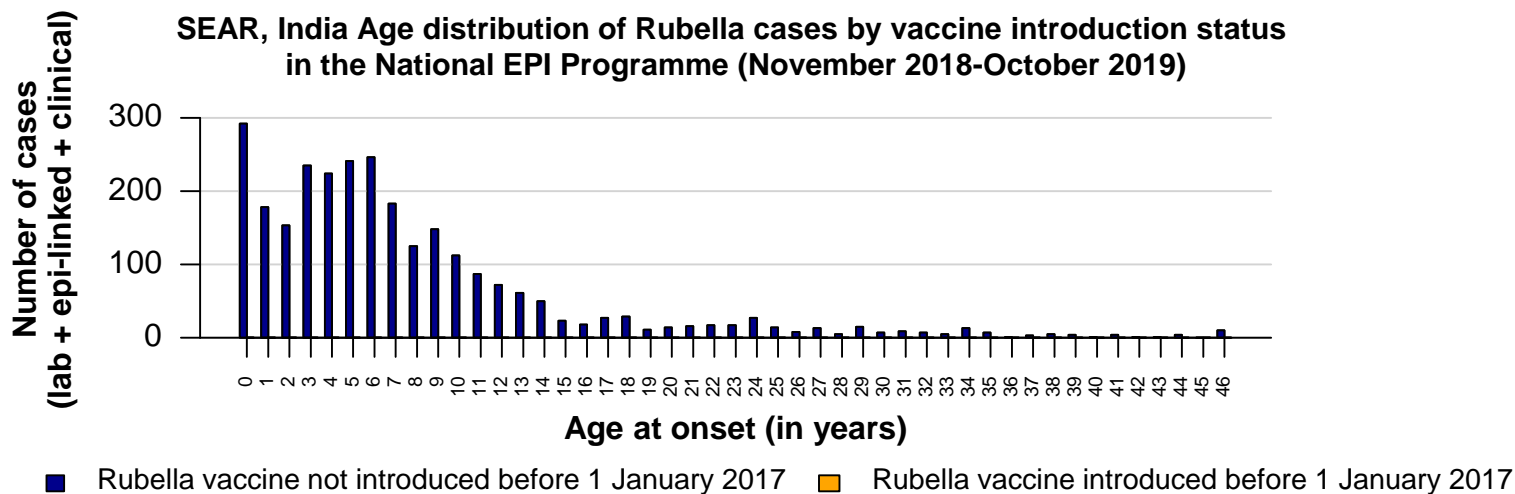
Rubella cases: SEAR, India

SEAR, India Rubella Case Distribution (November 2017-October 2019)



Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
India	No	2725	100

SEAR, India Age distribution of Rubella cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)

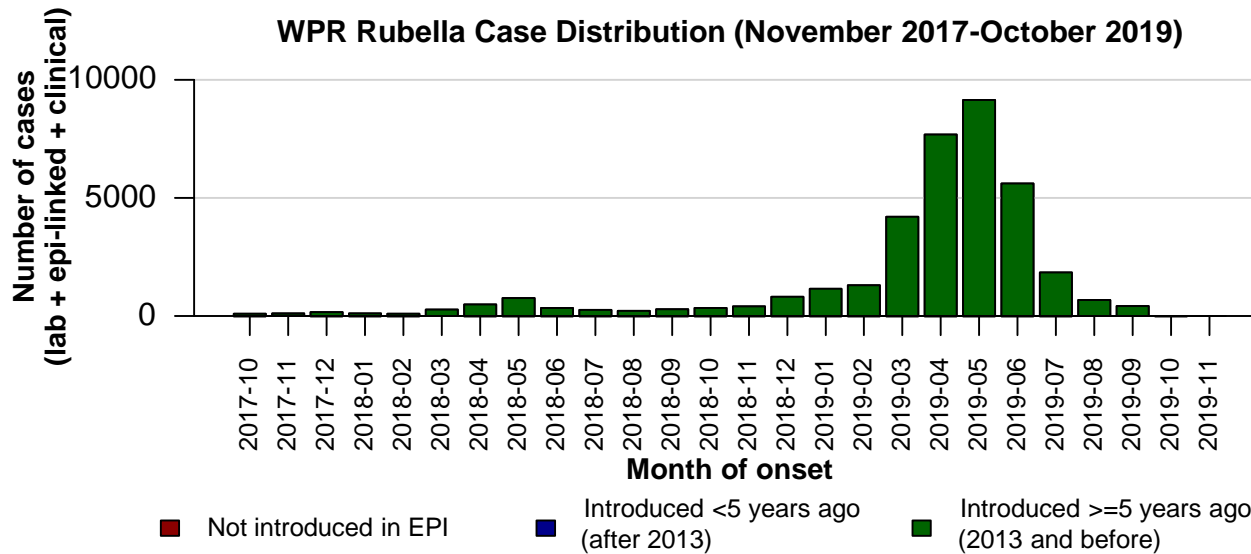


Notes: Based on data received 2019-11 Data Source: IVB Database. RCV in RI: Rubella-containing vaccine in Routine Immunization as of 31 Dec 2016.

Rubella cases: WPR

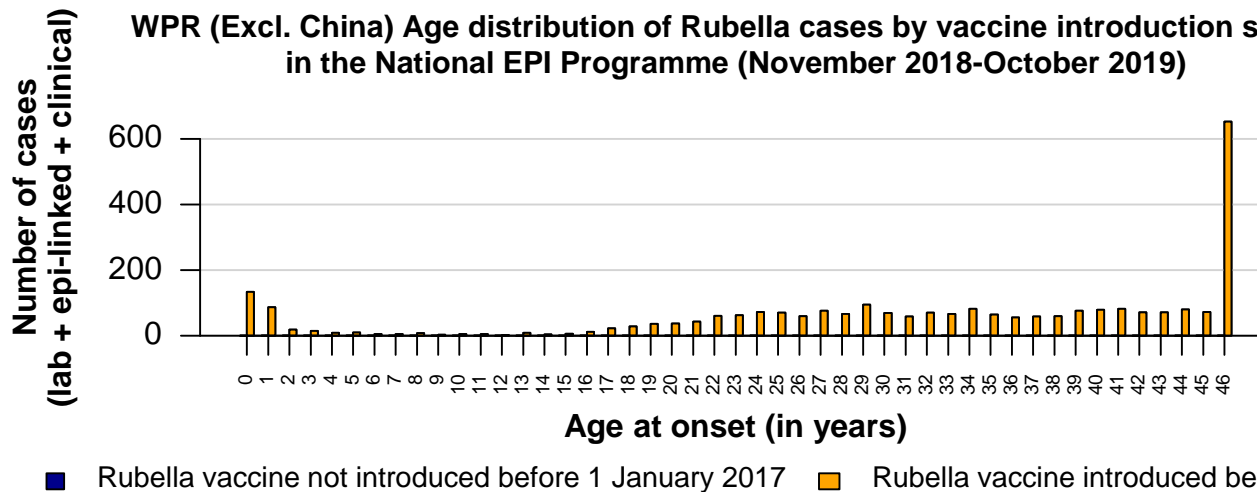


WPR Rubella Case Distribution (November 2017-October 2019)



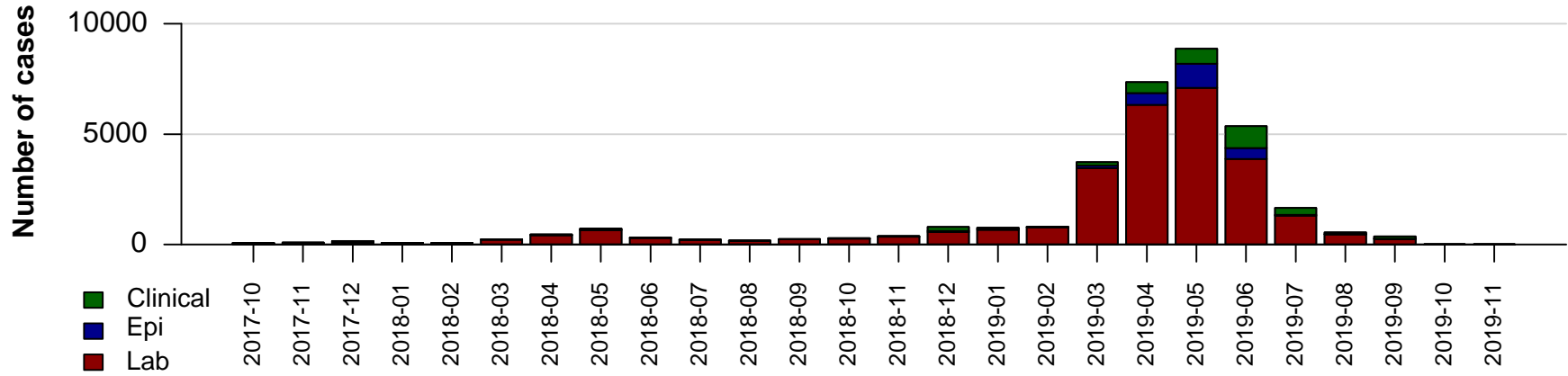
Top 10 countries (last 12 M)			
label	RCV in RI	Cases	% of Total
China	2008	30626	92
Japan	1989	2300	7
Philippines	2010	148	0
Malaysia	1998	138	0
Cambodia	2013	26	0
Viet Nam	2015	25	0
Republic of Korea	1982	6	0
Singapore	1990	6	0
Lao People's Democratic Republic	2012	5	0
Papua New Guinea	2015	5	0
Others	-	2	0

WPR (Excl. China) Age distribution of Rubella cases by vaccine introduction status in the National EPI Programme (November 2018-October 2019)



Notes: Based on data received 2019-11 Data Source: IVB Database. RCV in RI: Rubella-containing vaccine in Routine Immunization as of 31 Dec 2016.

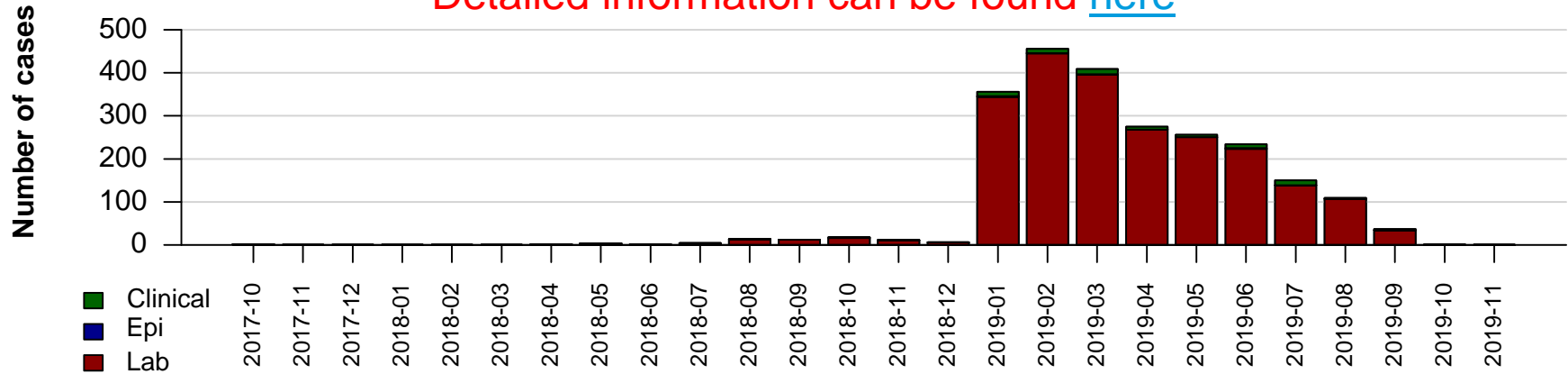
Rubella cases: China



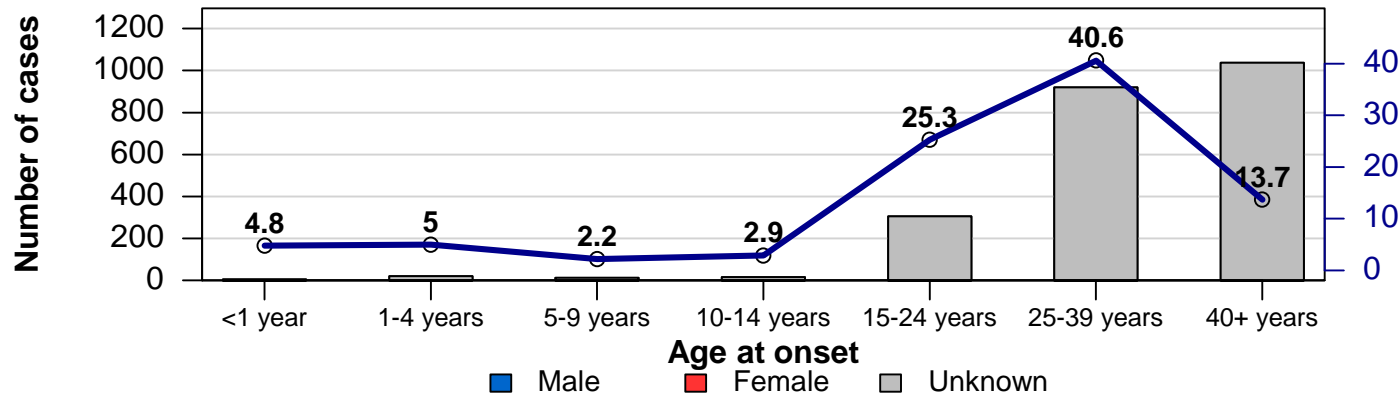
Year	Confirmed Cases
2014	11888
2015	8247
2016	4477
2017	1601
2018	3946
2019	29452

Rubella cases: Japan

Detailed information can be found [here](#)



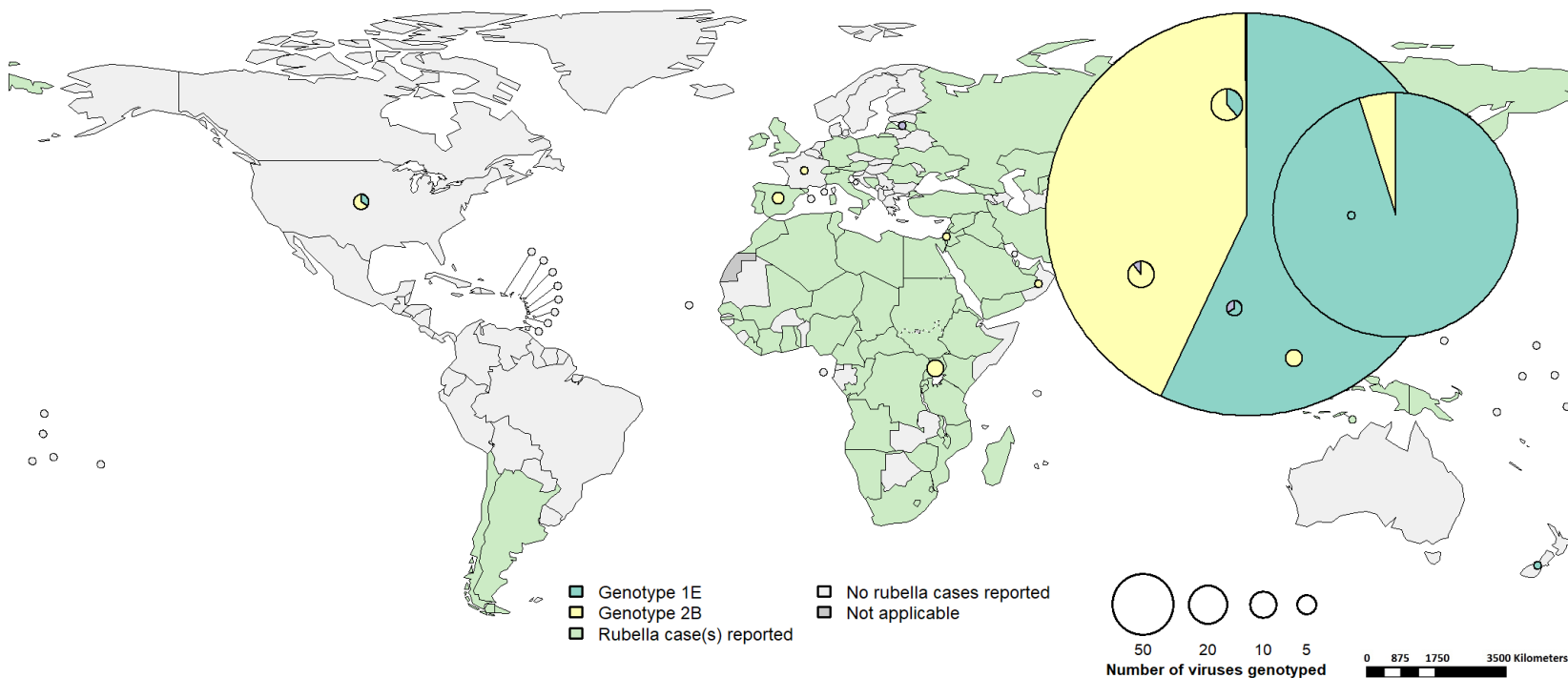
Japan age distribution, sex, and incidence, 2018-10 to 2019-09



Incidence rate per 1,000,000

Year	Confirmed Cases
2014	0
2015	2
2016	3
2017	5
2018	68
2019	2283

Distribution of rubella genotypes (last 12 months)



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Laboratory

Measles and Rubella IgM Data Summary

2019										
Region	Member States*	Specimens received	Measles tested	Measles positive n(%)	Measles equivocal n(%)	Measles negative n(%)	Rubella tested	Rubella positive n(%)	Rubella equivocal n(%)	Rubella negative n(%)
AFR	37/47	36126	36126	12139 (34)	1057 (3)	22930 (63)	25883	3817 (15)	1156 (4)	20910 (81)
AMR	30/35	11176	11383	567 (5)	121 (1)	10446 (92)	10758	477 (4)	219 (2)	9610 (89)
EMR	20/21	28888	24537	6738 (27)	142 (1)	17657 (72)	22810	1889 (8)	288 (1)	20633 (90)
EUR	40/53	92910	85618	36390 (43)	681 (1)	46508 (54)	48137	1423 (3)	140 (0)	46527 (97)
SEAR	11/11	38909	34692	11665 (34)	689 (2)	22353 (64)	23714	2012 (8)	448 (2)	21279 (90)
WPR	15/27	51976	49040	9878 (20)	644 (1)	18072 (37)	37834	1767 (5)	284 (1)	13187 (35)
Total	153/194	259985	241396	77377 (32)	3334 (1)	137966 (57)	169136	11385 (7)	2535 (1)	132146 (78)

2018										
Region	Member States*	Specimens received	Measles tested	Measles positive n(%)	Measles equivocal n(%)	Measles negative n(%)	Rubella tested	Rubella positive n(%)	Rubella equivocal n(%)	Rubella negative n(%)
AFR	41/47	48222	48222	10098 (21)	1250 (3)	36874 (76)	37135	5019 (14)	2065 (6)	30051 (81)
AMR	30/35	21200	23456	1844 (8)	218 (1)	20845 (89)	19796	588 (3)	432 (2)	18192 (92)
EMR	20/21	60852	36723	13053 (36)	168 (0)	23502 (64)	33488	1726 (5)	361 (1)	31401 (94)
EUR	38/53	120487	109983	36782 (33)	644 (1)	71997 (65)	71582	1382 (2)	248 (0)	69904 (98)
SEAR	11/11	34284	31336	11966 (38)	791 (3)	18559 (59)	21052	2570 (12)	534 (3)	17948 (85)
WPR	27/27	34896	30327	5630 (19)	570 (2)	14368 (47)	24972	646 (3)	456 (2)	12961 (52)
Total	167/194	319941	280047	79373 (28)	3641 (1)	186145 (66)	208025	11931 (6)	4096 (2)	180457 (87)

Notes: Based on data received 2019-11 - * Member States Reporting / Total Member States in Region

Measles and Rubella IgM Data Summary

Notes: Based on data received 2019-11 - * Member States Reporting / Total Member States in Region

2019										
Region	Member States*	Specimens received	Measles tested	Measles positive n(%)	Measles equivocal n(%)	Measles negative n(%)	Rubella tested	Rubella positive n(%)	Rubella equivocal n(%)	Rubella negative n(%)
AFR	37/47	36126	36126	12139 (34)	1057 (3)	22930 (63)	25883	3817 (15)	1156 (4)	20910 (81)
AMR	30/35	11176	11383	567 (5)	121 (1)	10446 (92)	10758	477 (4)	219 (2)	9610 (89)
EMR	20/21	28888	24537	6738 (27)	142 (1)	17657 (72)	22810	1889 (8)	288 (1)	20633 (90)
EUR	40/53	92910	85618	36390 (43)	681 (1)	46508 (54)	48137	1423 (3)	140 (0)	46527 (97)
SEAR	11/11	38909	34692	11665 (34)	689 (2)	22353 (64)	23714	2012 (8)	448 (2)	21279 (90)
WPR	15/27	51976	49040	9878 (20)	644 (1)	18072 (37)	37834	1767 (5)	284 (1)	13187 (35)
Total	153/194	259985	241396	77377 (32)	3334 (1)	137966 (57)	169136	11385 (7)	2535 (1)	132146 (78)

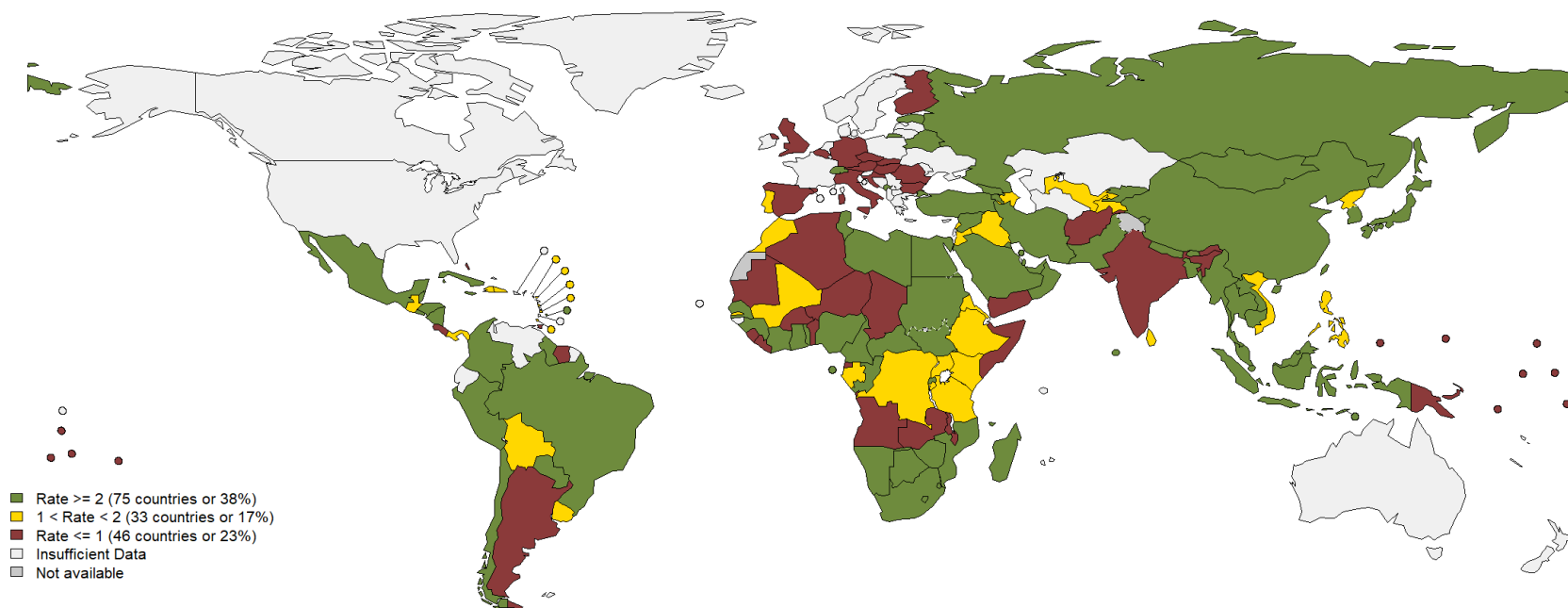
Notes: Based on data received 2018-11 - * Member States Reporting / Total Member States in Region

2018										
Region	Member States*	Specimens received	Measles tested	Measles positive n(%)	Measles equivocal n(%)	Measles negative n(%)	Rubella tested	Rubella positive n(%)	Rubella equivocal n(%)	Rubella negative n(%)
AFR	38/47	27213	27213	5376 (20)	648 (2)	21189 (78)	20507	3189 (16)	1142 (6)	16176 (79)
AMR	29/35	9356	8120	972 (12)	65 (1)	6670 (82)	6445	277 (4)	159 (2)	5630 (87)
EMR	20/21	31047	26469	9312 (35)	153 (1)	17004 (64)	23418	1198 (5)	385 (2)	21835 (93)
EUR	37/53	45831	41700	14012 (34)	241 (1)	27171 (65)	25500	584 (2)	57 (0)	24838 (97)
SEAR	11/11	22191	17899	6541 (37)	453 (3)	10895 (61)	12139	1805 (15)	361 (3)	9969 (82)
WPR	27/27	26809	20574	3643 (18)	441 (2)	10962 (53)	16244	487 (3)	319 (2)	9161 (56)
Total	162/194	162447	141975	39856 (28)	2001 (1)	93891 (66)	104253	7540 (7)	2423 (2)	87609 (84)

Notes: Based on data received 2019-11 - * Member States Reporting / Total Member States in Region

Performance of Surveillance

Surveillance sensitivity reporting rate of measles and rubella (12 months, discarded cases* per 100,000 population)



Map production: World Health Organization, WHO, 2019. All rights reserved
Data source: IVB Database

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Notes: Based on data received 2019-11 and covering the period between 2018-10 and 2019-09 - Target: ≥ 2 discarded cases* / 100,000 population** - * Suspected cases investigated and discarded as non-measles non-rubella using laboratory testing and/or epidemiological linkage to another etiology ** World population prospects, 2017 revision

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