

**Measles and rubella surveillance summary and data analysis of selected performance indicators -EMR, Week 52 2018**

As of December 2018, case-based surveillance with laboratory confirmation of measles and rubella is functional in 22 EMR member states but operating nation wide in 21 countries of the EMR except Somalia.

**A. Measles reported data January to December 2017 and January to December 2018**

Country	Reported cases of measles suspects		No.cases tested for measles		Total Measles cases		Measles Laboratory confirmed		Measles incidence		Total Rubella cases	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Afghanistan	2321	2980	2321	2980	1511	2012	1511	2012	46.81	62.32	53	37
Bahrain	610	796	610	796	0	0	0	0	0.00	0.00	0	0
Djibouti*												
Iran	6025	6816	5896	6717	51	203	39	178	0.65	2.54	20	33
Iraq	404	1060	398	937	21	489	21	478	0.63	13.17	6	21
Jordan	86	132	86	132	0	0	0	0	0.00	0.00	0	0
Egypt	3180	3054	3165	3010	24	23	10	0	0.25	0.24	34	7
Kuwait	172	173	154	159	14	34	14	34	3.85	8.13	1	3
Lebanon	221	1187	149	792	126	943	54	548	21.95	164.24	10	13
Libya	220	1852	210	1036	8	1059	8	339	1.15	151.93	7	24
Morocco	285	463	281	446	4	8	4	8	0.12	0.23	7	10
Oman	2879	1326	2879	1285	9	0	4	0	2.04	0.00	3	0
Pakistan	11141	36223	11141	6692	6791	33007	6791	4172	38.35	154.45	388	564
Palestine	493	174	493	174	63	0	63	0	15.11	0.00	0	0
Qatar	155	288	154	270	9	2	9	2	5.19	0.73	2	0
Saudi Arabia	1502	2546	1471	2536	453	1161	453	1147	15.96	35.67	60	53
Somalia	23353	9135	288	142	23237	9124	171	131	1670.77	656.03	6	0
Sudan	2203	7274	1875	4226	665	4980	356	1932	14.32	107.25	259	349
Syria	1463	1220	1238	1130	738	329	513	237	32.94	13.47	1	6
Tunisia	245	321	215	318	5	12	4	12	0.44	1.05	11	21
UAE	649	499	618	463	121	172	87	126	13.21	18.86	38	12
Yemen	3524	15407	1630	2653	436	10640	166	1369	15.67	387.95	44	712
<b>Total EMR</b>	<b>61131</b>	<b>92926</b>	<b>35272</b>	<b>36894</b>	<b>34286</b>	<b>64198</b>	<b>10278</b>	<b>12725</b>	<b>54.18</b>	<b>95.09</b>	<b>950</b>	<b>1865</b>

**B. Surveillance performance indicators:**

Measles suspected cases tested between January to December 2018 were 36894 cases compared to 35272 between January to December 2017. The target of 80% of suspected cases tested for measles and rubella was met in 17 countries of the 22 countries reported between January to December 2018, 19 countries met this indicator between January to December 2017.

The indicator of 80% of measles cases with complete investigation was met in 17 countries between January to December 2018.

**C. Measles Laboratory performance:**

The target of 80% and more of the results reported back within 4 days between January to December 2018 was met in 13 countries of the 22 reported countries.

The target of 80% and more of the specimens to be received at the lab within 5 days of specimen collection date between January to December 2018 was met in 11 of the 22 reported countries.

The target of 80% and more of the specimens received at the Lab in good condition between January to December 2017 was met in 21 countries of the 22 reported countries.

**Notes:**

\*Djibouti did not report for 2016, 2017 and 2018

## EMR cumulative indigenous Measles/Rubella cases counts and surveillance indicators

Between 01/01/2018 and 31/12/2018

Country	Measles case finding report							Rubella case finding report						Measles incidence/100,000 *	Rubella incidence/100,000 **	Reporting rate ***	Indicators: target ≥80%					Last date reported	Genotypes reported
	Total suspected cases for M/R	Specimens tested for Measles	Measles lab confirmed	Measles Epi-Linked	Measles clinically compatible	Total Measles	Measles discarded cases	Specimens tested for Rubella	Rubella lab confirmed	Rubella Epi-Linked	Rubella clinically compatible	Total Rubella	Rubella discarded				suspects tested for Measles ****	cases with complete investigation	specimens received at the lab within 5 days	specimens with adequate condition	results reported back within 4 days		
Afghanistan	2980	2980	2012	0	0	2012	931	961	37	0	0	37	924	62.32	1.15	2.88	100%	0%	53%	97%	99%	28/12/2018	B3
Bahrain	796	796	0	0	0	0	786	796	0	0	0	0	796	0.00	0.00	53.03	100%	100%	100%	100%	88%	31/12/2018	D8, B3 imp
<b>Djibouti</b>																							
Iran	6816	6717	178	3	22	203	6365	6717	33	0	0	33	6684	2.54	0.41	8.23	99%	99%	95%	100%	87%	31/12/2018	B3
Iraq	1060	937	478	11	0	489	555	967	21	0	0	21	946	13.17	0.57	1.48	89%	67%	48%	100%	81%	30/12/2018	
Jordan	132	132	0	0	0	0	130	130	0	0	0	0	130	0.00	0.00	1.31	100%	89%	75%	100%	21%	21/12/2018	
Egypt	3054	3010	0	23	0	23	2999	3005	6	0	1	7	2998	0.24	0.07	3.13	99%	99%	100%	100%	58%	31/12/2018	B3
Kuwait	173	159	34	0	0	34	134	159	3	0	0	3	156	8.13	0.72	3.25	92%	94%	99%	100%	17%	29/12/2018	
Lebanon	1187	792	548	26	369	943	231	70	5	0	8	13	57	164.24	2.26	4.16	68%	99%	19%	100%	25%	28/12/2018	D8
Libya	1852	1036	339	720	0	1059	779	1082	24	0	0	24	1058	151.93	3.44	11.03	92%	83%	51%	100%	82%	30/12/2018	B3
Morocco	463	446	8	0	0	8	446	363	10	0	0	10	353	0.23	0.29	1.28	96%	97%	93%	100%	80%	30/12/2018	
Oman	1326	1285	0	0	0	0	1254	1284	0	0	0	0	1284	0.00	0.00	29.08	97%	91%	88%	100%	93%	31/12/2018	D8, B3 imp
Pakistan #	36223	6692	4172	3366	25469	33007	2657	6736	328	236	0	564	6172	154.45	2.64	1.24	21%	10%	76%	100%	11%	31/12/2018	B3
Palestine	174	174	0	0	0	0	161	174	0	0	0	0	174	0.00	0.00	3.70	100%	100%	91%	100%	85%	24/12/2018	
Qatar	288	270	2	0	0	2	240	194	0	0	0	0	194	0.73	0.00	10.50	94%	100%	94%	100%	80%	28/12/2018	
Saudi Arabia	2546	2536	1147	14	0	1161	1340	2535	53	0	0	53	2482	35.67	1.63	4.09	100%	99%	100%	100%	100%	29/12/2018	
<b>Somalia ★</b>	9135	142	131	0	8993	9124	11	11	0	0	0	0	11	656.03	0.00	0.08	2%	2%	84%	99%	41%	31/12/2018	
Sudan	7274	4226	1932	2999	49	4980	1945	4221	347	0	2	349	3872	107.25	7.52	4.19	99%	100%	77%	96%	95%	31/12/2018	B3
Syria	1220	1130	237	90	2	329	848	909	5	0	1	6	903	13.47	0.25	3.63	100%	100%	54%	100%	98%	29/12/2018	
Tunisia	321	318	12	0	0	12	280	296	21	0	0	21	275	1.05	1.83	2.52	99%	84%	64%	100%	91%	29/12/2018	B3
UAE	499	463	126	11	35	172	306	392	10	0	2	12	380	18.86	1.32	3.48	95%	100%	90%	100%	83%	26/12/2018	
Yemen #	15407	2653	1369	9195	76	10640	898	2657	499	77	136	712	1945	387.95	25.96	15.28	43%	96%	37%	100%	20%	31/12/2018	
<b>Total</b>	<b>92926</b>	<b>36894</b>	<b>12725</b>	<b>16458</b>	<b>35015</b>	<b>64198</b>	<b>23296</b>	<b>33659</b>	<b>1402</b>	<b>313</b>	<b>150</b>	<b>1865</b>	<b>31794</b>	<b>95.09</b>	<b>2.76</b>	<b>4.33</b>	<b>55%</b>	<b>86%</b>	<b>76%</b>	<b>98%</b>	<b>68%</b>		

\*The sum of the measles lab confirmed cases +measles epi-linked cases + measles clinically compatible cases/million population  
 \*\*The sum of the rubella lab confirmed cases +rubella epi-linked cases + rubella clinically compatible cases/million population  
 \*\*\*Reporting rate of discarded non-measles non-rubella cases at the national level per 100,000 total population  
 \*\*\*\*Excluding measles and rubella epi-linked cases

Green cells= indicator met.  
 Yellow cells=indicator not met.  
 Red cells=missing data for calculating indicator.

Adequate investigation includes the following data elements:  
 -District. -Age. -Gender.  
 -Date of rash onset, case notification and investigation  
 -Vaccination status. -Date of last vaccination with MCV  
 -Date specimen collected.  
 -Travel history

Countries that did not report

★ Somalia reported aggregate data

# Results reported back within 4 days did not meet 80% for Pakistan and Yemen due to shortage of MR kits

## Measles final classification and distribution by Month

Between 01/01/2018 and 31/12/2018

Country	Total Suspected cases for measles	Total specimens tested	Imported Measles cases	Measles import related	Unknown source	Vaccine related	Measles Lab confirmed	Measles Epi-Linked	Measles clinically compatible	Total Measles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Afghanistan	2980	2980	0	0	0	0	2012	0	0	2012	269	330	551	241	205	166	140	61	12	14	11	12
Bahrain	796	796	2	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Djibouti																						
Iran	6816	6717	0	0	0	178	178	3	22	203	5	26	50	33	27	24	15	6	1	5	5	6
Iraq	1060	937	0	0	0	0	478	11	0	489	17	22	73	44	116	36	76	33	24	22	9	17
Jordan	132	132	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	3054	3010	4	20	1	0	0	23	0	23	0	0	0	0	0	0	0	0	10	8	0	5
Kuwait	173	159	0	0	0	2	34	0	0	34	0	0	4	6	12	5	7	0	0	0	0	0
Lebanon	1187	792	0	0	0	0	548	26	369	943	24	64	114	137	216	159	80	24	10	19	42	54
Libya	1852	1036	0	0	0	0	339	720	0	1059	0	0	1	11	16	78	201	197	157	137	141	120
Morocco	463	446	0	0	0	0	8	0	0	8	0	1	2	1	1	1	1	0	0	0	0	1
Oman	1326	1285	9	3	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	36223	6692	0	0	0	0	4172	3366	25469	33007	2504	2952	5476	5167	6567	3548	2139	1343	1276	1090	637	308
Palestine	174	174	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qatar	288	270	2	0	0	3	2	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0
Saudi Arabia	2546	2536	0	0	0	0	1147	14	0	1161	75	107	191	245	171	74	65	40	36	52	48	57
Somalia	9135	142	0	0	0	0	131	0	8993	9124	1655	1609	1032	947	651	524	436	442	332	374	571	551
Sudan	7274	4226	0	0	0	0	1932	2999	49	4980	83	117	271	415	668	596	638	382	437	554	475	344
Syria	1220	1130	0	0	0	12	237	90	2	329	55	62	43	33	65	36	14	8	3	2	2	6
Tunisia	321	318	6	0	0	2	12	0	0	12	0	0	0	4	2	2	1	2	0	0	1	0
UAE	499	463	0	0	0	9	126	11	35	172	18	18	40	21	25	10	8	6	10	8	4	4
Yemen	15407	2653	0	0	0	0	1369	9195	76	10640	778	975	1188	1370	1172	810	987	609	813	825	564	549
<b>Total</b>	<b>92926</b>	<b>36894</b>	<b>23</b>	<b>25</b>	<b>1</b>	<b>278</b>	<b>12725</b>	<b>16458</b>	<b>35015</b>	<b>64198</b>	<b>5483</b>	<b>6283</b>	<b>9036</b>	<b>8676</b>	<b>9914</b>	<b>6069</b>	<b>4809</b>	<b>3153</b>	<b>3121</b>	<b>3110</b>	<b>2510</b>	<b>2034</b>

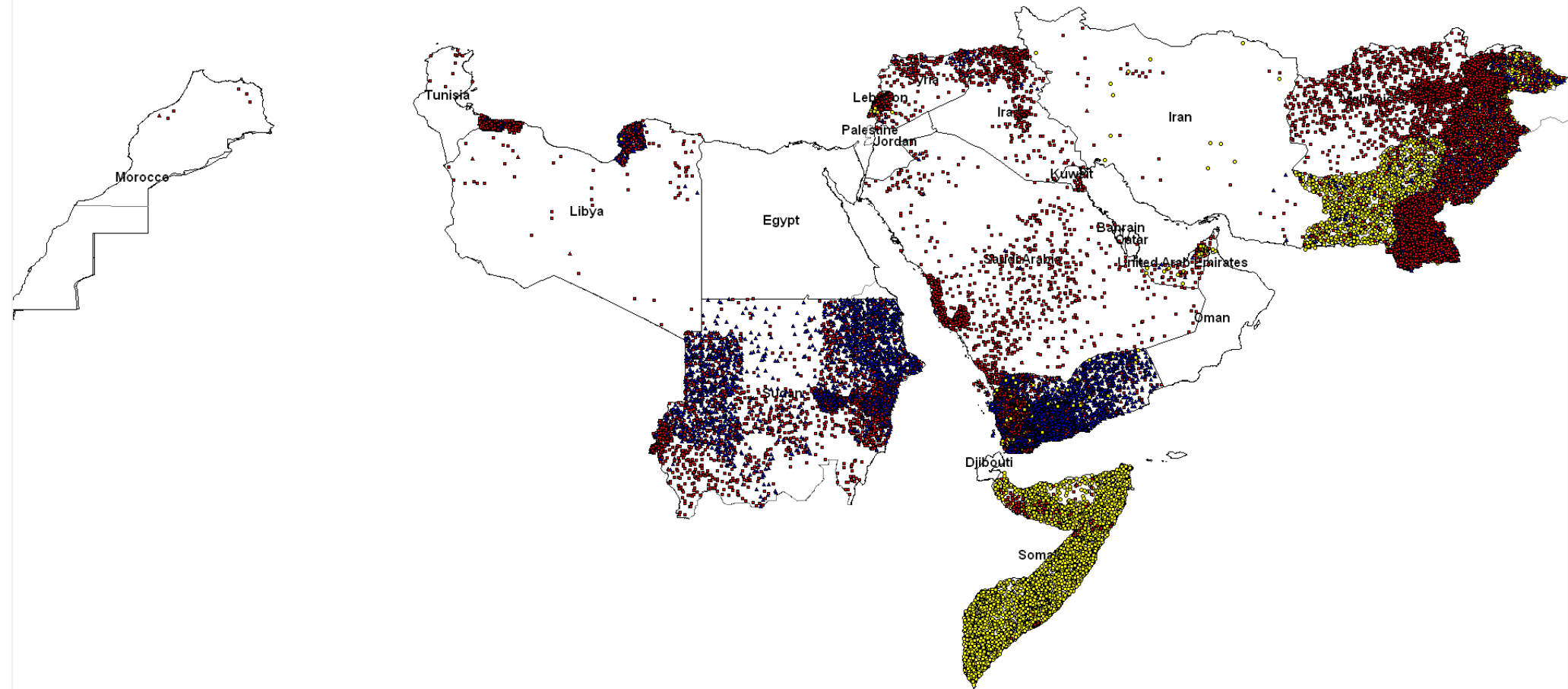
\* Imported measles/rubella case – a case exposed to measles outside the country during the 7-21 days prior to rash onset and supported by epidemiological or virological evidence (for rubella the exposure would be during the 12-23 days prior to rash onset)

\*\* Importation related measles/rubella case – a locally acquired infection occurring as part of a chain of transmission originating from an imported case as supported by epidemiological or virological evidence

\*\*\*Vaccine related case – a suspect case that has a rash like illness without respiratory symptoms and the rash had onset 7-14 days following vaccination and the lab detected IgM in the blood specimen that was collected 8-56 days after vaccination and there were no secondary cases identified. OR any suspect case from which virus is isolated and genotyping test reveals the virus to be a vaccine strain

# Total confirmed cases; include all cases confirmed by laboratory testing or epi linkage, plus those clinical cases that were reported without a laboratory specimen or epi linkage

# Cumulative geographic distribution of Measles cases in the EMR countries December 2018



- Measles Lab confirmed **N=12725**
- ▲ Measles Epi Linked **N=16458**
- Measles Clinically compatible **N=35015**

## Rubella final classification and distribution by Month

Between 01/01/2018 and 31/12/2018

Country	Total Suspected cases for Rubella	Total specimens tested	Imported Rubella cases	Rubella import related	Unknown source	Vaccine related	Rubella Lab confirmed	Rubella Epi-Linked	Rubella clinically compatible	Total Rubella	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Afghanistan	2980	961	0	0	0	0	37	0	0	37	4	5	9	6	4	4	1	2	2	0	0	0
Bahrain	796	796	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Djibouti																						
Iran	6816	6717	0	0	0	59	33	0	0	33	3	2	9	5	4	1	5	1	1	1	0	1
Iraq	1060	967	0	0	0	0	21	0	0	21	17	0	0	0	1	0	0	0	0	3	0	0
Jordan	132	130	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	3054	3005	0	0	0	0	6	0	1	7	0	0	0	1	0	0	0	0	0	2	1	3
Kuwait	173	159	0	0	0	1	3	0	0	3	0	1	1	1	0	0	0	0	0	0	0	0
Lebanon	1187	70	0	0	0	0	5	0	8	13	3	2	1	2	4	0	0	0	1	0	0	0
Libya	1852	1082	0	0	0	0	24	0	0	24	0	0	0	1	4	4	0	1	1	2	8	3
Morocco	463	363	0	0	0	0	10	0	0	10	0	0	1	0	3	2	0	0	0	3	0	1
Oman	1326	1284	1	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	36223	6736	0	0	0	0	328	236	0	564	45	66	112	99	125	38	15	8	12	19	15	10
Palestine	174	174	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qatar	288	194	40	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saudi Arabia	2546	2535	0	0	0	0	53	0	0	53	3	3	5	7	4	5	1	6	8	5	3	3
Somalia	9135	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sudan	7274	4221	0	0	0	0	347	0	2	349	40	71	73	54	20	13	16	14	15	8	12	13
Syria	1220	909	0	0	0	27	5	0	1	6	0	2	0	0	2	0	1	0	1	0	0	0
Tunisia	321	296	0	0	0	2	21	0	0	21	1	0	1	3	2	2	4	4	0	1	1	2
UAE	499	392	0	0	0	4	10	0	2	12	0	2	0	1	3	1	2	0	0	1	0	2
Yemen	15407	2657	0	0	0	0	499	77	136	712	40	26	40	36	56	92	123	78	94	96	31	0
<b>Total</b>	<b>92926</b>	<b>33659</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>1402</b>	<b>313</b>	<b>150</b>	<b>1865</b>	<b>156</b>	<b>180</b>	<b>252</b>	<b>216</b>	<b>232</b>	<b>162</b>	<b>168</b>	<b>114</b>	<b>135</b>	<b>141</b>	<b>71</b>	<b>38</b>

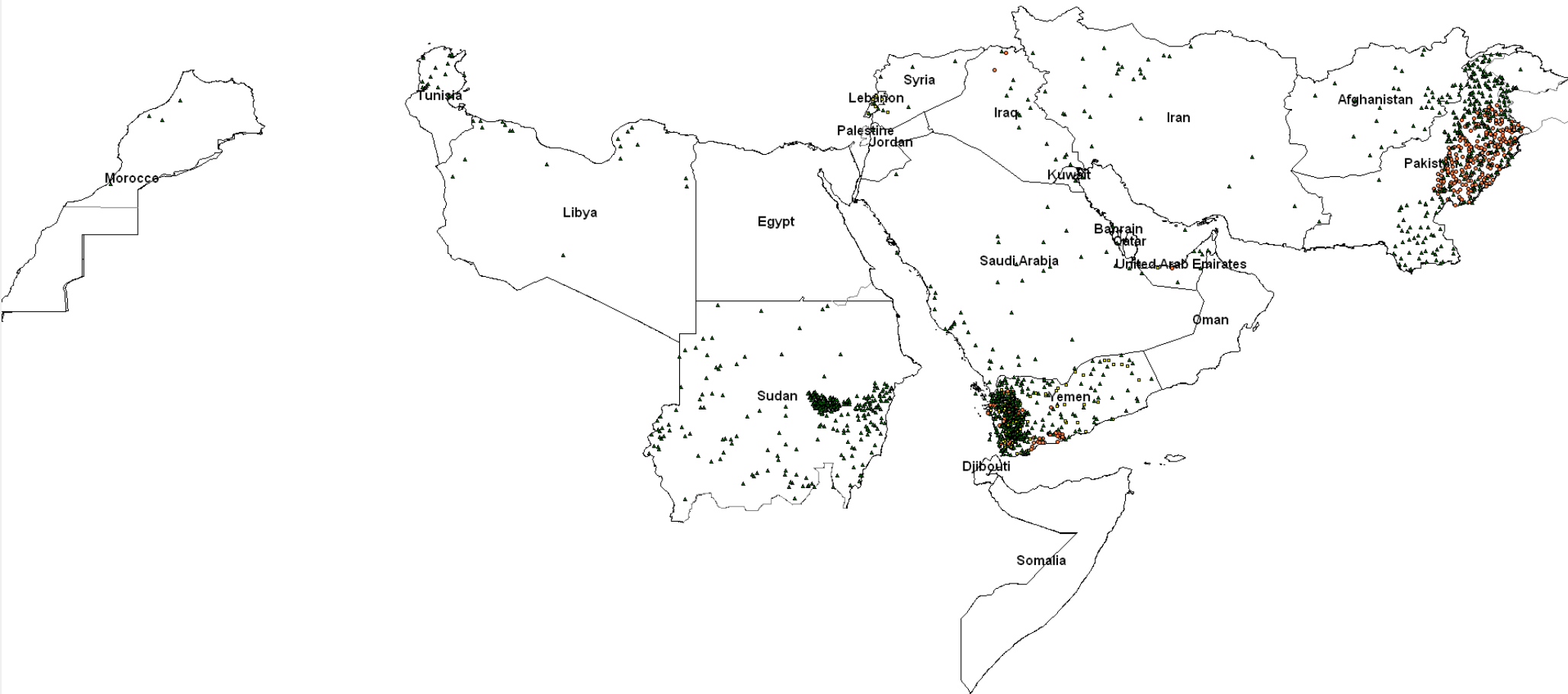
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\*\*\*Vaccine related case – a suspect case that has a rash like illness without respiratory symptoms and the rash had onset 7-14 days following vaccination and the lab detected IgM in the blood specimen that was collected 8-56 days after vaccination and there were no secondary cases identified. OR any suspect case from which virus is isolated and genotyping test reveals the virus to be a vaccine strain

# Total confirmed cases; include all cases confirmed by laboratory testing or epi linkage, plus those clinical cases that were reported without a laboratory specimen or epi linkage

# Cumulative geographic distribution of Rubella cases in the EMR countries December 2018



▲ Rubella Lab confirmed	N=1402
● Rubella Epi Linked	N=313
■ Rubella clinically compatible	N=150

# Measles and Rubella laboratory summary report

Between 01/01/2018 and 31/12/2018

Country	Measles								Rubella								Reported to EPI within 4days
	specimens tested	%	Positive	%	Negative	%	Equivocal	%	specimens tested	%	Positive	%	Negative	%	Equivocal	%	
Afghanistan	2980	100%	2012	68%	968	32%	0	0%	961	32%	37	4%	924	96%	0	0%	99%
Bahrain	796	100%	15	2%	776	97%	5	1%	796	100%	13	2%	778	98%	5	1%	88%
Iran	6717	99%	356	5%	6360	95%	1	0%	6717	99%	107	2%	6609	98%	1	0%	87%
Iraq	937	88%	478	51%	459	49%	0	0%	967	91%	21	2%	946	98%	0	0%	81%
Jordan	132	100%	1	1%	124	94%	7	5%	130	98%	1	1%	127	98%	2	2%	21%
Egypt	3010	99%	36	1%	2963	98%	11	0%	3005	98%	37	1%	2933	98%	35	1%	58%
Kuwait	159	92%	36	23%	123	77%	0	0%	159	92%	4	3%	155	97%	0	0%	17%
Lebanon	792	67%	548	69%	244	31%	0	0%	70	6%	5	7%	57	81%	8	11%	25%
Libya	1036	56%	339	33%	670	65%	27	3%	1082	58%	24	2%	1012	94%	46	4%	82%
Morocco	446	96%	8	2%	434	97%	4	1%	363	78%	11	3%	345	95%	7	2%	80%
Oman	1285	97%	60	5%	1205	94%	20	2%	1284	97%	51	4%	1205	94%	28	2%	93%
Pakistan	6692	18%	4172	62%	2520	38%	0	0%	6736	19%	328	5%	6408	95%	0	0%	11%
Palestine	174	100%	12	7%	160	92%	2	1%	174	100%	4	2%	169	97%	1	1%	85%
Qatar	270	94%	7	3%	262	97%	1	0%	194	67%	41	21%	149	77%	4	2%	80%
Saudi Arabia	2536	100%	1147	45%	1389	55%	0	0%	2535	100%	53	2%	2482	98%	0	0%	100%
Somalia	142	100%	131	92%	11	8%	0	0%	11	8%	0	0%	11	100%	0	0%	41%
Sudan	4226	58%	1932	46%	2290	54%	4	0%	4221	58%	427	10%	3787	90%	7	0%	95%
Syria	1130	93%	247	22%	878	78%	5	0%	909	75%	24	3%	867	95%	18	2%	98%
Tunisia	318	99%	24	8%	294	92%	0	0%	296	92%	28	9%	268	91%	0	0%	91%
UAE	463	93%	135	29%	319	69%	9	2%	392	79%	14	4%	376	96%	2	1%	83%
Yemen	2653	17%	1369	52%	1210	46%	74	3%	2657	17%	499	19%	1960	74%	198	7%	20%