Measles and rubella surveillance summary and data analysis of selected performance indicators -EMR, Week 52 2017

As of December 2017, 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 2016 and January to December 2017

Country	Reported cases of measles suspects		No. cases tested for measles		Total Measles cases		Measles Laboratory confirmed		Measles incidence		Total Rubella cases	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Afghanistan	1121	2321	1120	2321	641	1511	641	1511	19.86	46.81	42	53
Bahrain	398	610	398	610	0	0	0	0	0.00	0.00	0	0
Djibouti*												
Iran	4482	6025	4374	5896	83	51	63	39	1.05	0.65	18	20
Iraq	359	404	326	398	27	21	27	21	0.81	0.63	1	6
Jordan	36	86	36	86	0	0	0	0	0.00	0.00	0	0
Egypt	2528	3180	2424	3165	225	24	122	10	2.52	0.25	28	34
Kuwait	176	172	174	154	8	14	8	14	2.20	3.85	3	1
Lebanon	127	221	94	149	44	126	13	54	7.66	21.95	10	10
Libya	48	220	43	210	28	8	28	8	4.82	1.15	0	7
Morocco	191	285	186	281	4	4	4	4	0.12	0.12	0	7
Oman	1844	2879	1817	2879	153	9	114	4	34.66	2.04	7	3
Pakistan	5871	11141	5871	11141	2845	6791	2845	6791	16.06	38.35	645	388
Palestine	192	493	191	493	0	63	0	63	0.00	15.11	0	0
Qatar	251	155	246	154	30	9	27	9	17.31	5.19	20	2
Saudi Arabia	944	1502	942	1471	112	453	112	453	3.95	15.96	24	60
Somalia	35	23353	35	288	29	23237	29	171	3.33	1670.77	0	6
Sudan	4533	2203	3572	1875	1767	665	863	356	42.94	14.32	996	259
Syria	586	1463	586	1238	66	738	66	513	2.95	32.94	1	1
Tunisia	238	245	212	215	7	5	5	4	0.66	0.44	19	11
UAE	835	649	736	618	219	121	137	87	23.92	13.21	138	38
Yemen	3430	3524	1173	1630	143	436	97	166	5.14	15.67	56	44
Total EMR	28225	61131	24556	35272	6431	34286	5201	10278	10.36	54.18	2008	950

B. Surveillance performance indicators:

Measles suspected cases tested between January to December 2017 were 35272 cases compared to 24556 between January to December 2016. The target of 80% of suspected cases tested for measles and rubella was met in 19 countries of the 22 countries reported between January to December 2017, 19 countries met this indicator between January to December 2016.

The indicator of 80% of measles cases with complete investigation was met in 18 countries between January to December 2017.

C. Measles Laboratory performance:

The target of 80% and more of the results reported back within 4 days between January to December 2017 was met in 14 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 2017 was met in 13 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 and 2017

EMR cumulative indigenous Measles/Rubella cases counts and surveillance indicators
Between 01/01/2017 and 31/12/2017

Country	Measles case finding report							Rubella case finding report						Measles incidence/1000,000 *	Rubella incidence/100 00,000 **	Reporting rate ***	Indicators: terget ≥80%					Last date reported	Genotypes reorted
	Total suspected cases for M/R	Specimens tested for Measles	Measles lab confirmed	Measles Epi-Linked	Measles clinicaly compatible	Total Measles	Measles discarded cases	Specimns tested for Rubella	Rubella lab confirmed	Rubella Epi-Linked	Rubella clinically compatable	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	2321	2321	1511	0	0	1511	810	811	53	0	0	53	758	46.81	1.64	2.34	100%	0%	54%	99%	98%	31/12/2017	B3
Bahrain	610	610	0	0	0	0	610	610	0	0	0	0	610	0.00	0.00	49.39	100%	100%	100%	100%	97%	31/12/2017	D8 ,B3 imp.
Iran	6025	5896	39	1	11	51	5974	5896	18	0	2	20	5876	0.65	0.25	7.57	98%	100%	93%	100%	95%	31/12/2017	B3
Iraq	404	398	21	0	0	21	383	394	6	0	0	6	388	0.63	0.18	1.13	99%	76%	52%	100%	87%	26/12/2017	
Jordan	86	86	0	0	0	0	86	86	0	0	0	0	86	0.00	0.00	1.41	100%	85%	87%	100%	27%	24/11/2017	
Egypt	3180	3165	10	0	14	24	3156	3163	34	0	0	34	3129	0.25	0.35	3.24	100%	99%	100%	100%	87%	31/12/2017	B3
Kuwait	172	154	14	0	0	14	158	154	1	0	0	1	153	3.85	0.28	4.32	90%	96%	99%	100%	14%	30/12/2017	
Lebanon	221	149	54	13	59	126	95	94	5	0	5	10	84	21.95	1.74	1.57	72%	95%	54%	100%	85%	28/12/2017	D8
Libya	220	210	8	0	0	8	212	210	7	0	0	7	203	1.15	1.00	2.94	95%	96%	40%	98%	93%	30/12/2017	B3
Morocco	285	281	4	0	0	4	281	260	7	0	0	7	253	0.12	0.22	0.85	99%	96%	94%	100%	82%	28/12/2017	
Oman	2879	2879	4	0	5	9	2870	2879	2	0	1	3	2876	2.04	0.68	64.97	100%	91%	80%	100%	93%	31/12/2017	D8 ,D4 ,B3
Pakistan	11141	11141	6791	0	0	6791	4350	11141	388	0	0	388	10753	38.35	2.19	2.24	100%	0%	75%	100%	21%	31/12/2017	
Palestine	493	493	63	0	0	63	430	493	0	0	0	0	493	15.11	0.00	10.31	100%	92%	85%	100%	90%	27/12/2017	B3
Qatar	155	154	9	0	0	9	146	86	2	0	0	2	84	5.19	1.15	8.31	99%	100%	99%	100%	61%	08/12/2017	
Saudi Arabia	1502	1471	453	0	0	453	1049	1471	60	0	0	60	1411	15.96	2.11	3.49	98%	99%	96%	100%	100%	30/12/2017	
Somalia ★	23353	288	171	1	23065	23237	116	210	6	0	0	6	204	1670.77	0.43	0.79	*1.23%*	*1.24%*	80%	100%	48%	31/12/2017	
Sudan	2203	1875	356	275	34	665	1538	1874	256	0	3	259	1615	16.16	5.58	2.76	97%	100%	83%	97%	95%	30/12/2017	
Syria	1463	1238	513	225	0	738	725	789	1	0	0	1	788	32.94	0.04	3.23	100%	100%	58%	98%	94%	31/12/2017	
Tunisia	245	215	4	0	1	5	240	212	8	0	3	11	201	0.44	0.96	2.03	88%	91%	65%	100%	76%	27/12/2017	
UAE	649	618	87	3	31	121	528	578	33	1	4	38	540	13.21	4.15	5.39	96%	96%	95%	100%	89%	27/12/2017	
Yemen	3524	1630	166	175	95	436	3088	1806	19	0	25	44	1762	15.67	1.58	11.03	49%	91%	60%	98%	19%	31/12/2017	
Total	61131	35272	10278	693	23315	34286	26845	33217	906	1	43	950	32267	54.18	1.50	4.12	94%	85%	79%	99%	76%		

*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**

Djibouti

Measles final classification and distribution by Month

Between 01/01/2017 and 31/12/2017

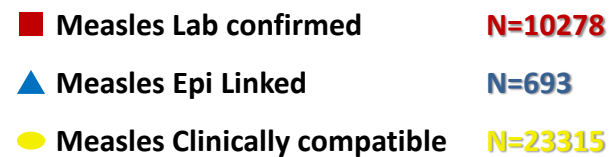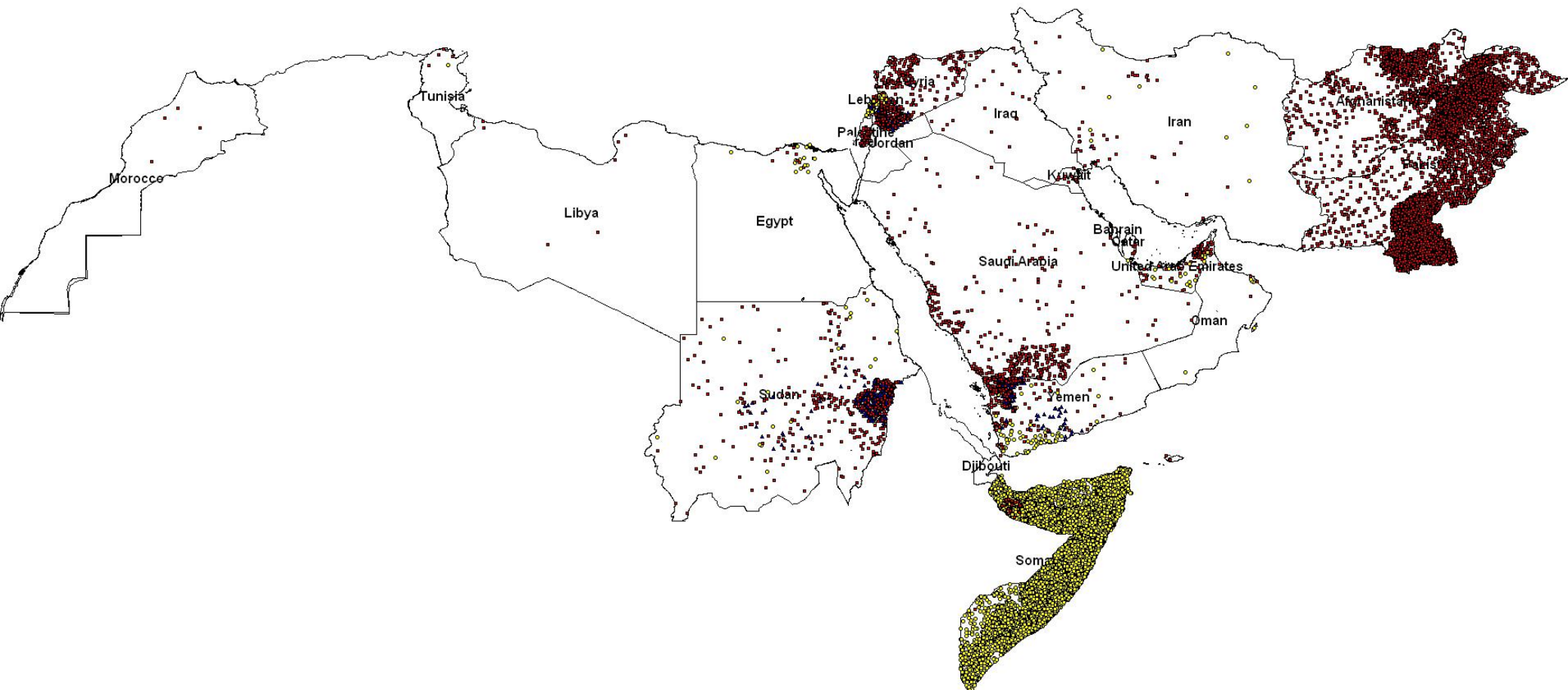| Country	Total Suspected cases for measles	Total specimens tested	Imported Measles cases	Measles import related	Vaccine related	Measles Lab confirmed	Measles Epi-Linked	Measles clinically compatible	Total Measles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Afghanistan	2321	2321	0	0	0	1511	0	0	1511	209	213	201	180	144	89	88	32	30	61	85	179
Bahrain	610	610	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iran	6025	5896	14	6	150	39	1	11	51	13	10	9	5	3	1	5	0	1	2	0	2
Iraq	404	398	0	0	0	21	0	0	21	0	0	0	1	3	2	0	1	5	1	3	5
Jordan	86	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	3180	3165	0	0	0	10	0	14	24	0	4	9	3	2	0	2	1	0	1	1	1
Kuwait	172	154	0	0	6	14	0	0	14	0	3	4	4	0	1	1	0	0	0	0	1
Lebanon	221	149	0	0	0	54	13	59	126	6	8	29	10	17	11	8	4	2	6	8	17
Libya	220	210	0	0	0	8	0	0	8	0	0	0	0	1	0	0	3	1	3	0	0
Morocco	285	281	0	0	0	4	0	0	4	0	0	2	0	0	1	0	0	0	1	0	0
Oman	2879	2879	8	80	46	4	0	5	9	4	0	1	2	0	2	0	0	0	0	0	0
Pakistan	11141	11141	0	0	0	6791	0	0	6791	561	397	580	675	991	810	612	462	337	504	481	381
Palestine	493	493	0	0	7	63	0	0	63	0	0	7	27	18	7	3	0	0	1	0	0
Qatar	155	154	12	0	1	9	0	0	9	2	1	1	1	0	0	1	0	0	2	1	0
Saudi Arabia	1502	1471	0	0	6	453	0	0	453	76	85	44	22	16	7	19	17	26	27	51	63
Somalia	23353	288	0	0	0	171	1	23065	23237	1150	1427	1892	2522	2772	2513	2033	1595	1239	2063	2091	1940
Sudan	2203	1875	0	0	0	356	275	34	665	78	93	126	112	84	27	33	36	11	18	18	29
Syria	1463	1238	0	0	22	513	225	0	738	25	77	136	169	124	40	50	40	18	14	11	34
Tunisia	245	215	0	0	0	4	0	1	5	0	0	1	0	0	1	2	0	0	0	1	0
UAE	649	618	0	0	3	87	3	31	121	17	12	17	15	15	9	7	7	10	2	5	5
Yemen	3524	1630	0	0	0	166	175	95	436	81	120	97	38	26	3	0	1	23	29	6	12
Total	61131	35272	38	86	247	10278	693	23315	34286	2222	2450	3156	3786	4216	3524	2864	2199	1703	2735	2762	2669

* 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 2017

Morocco
Tunisia
Libya
Egypt
Sudan
Syria
Lebanon
Palestine
Jordan
Iraq
Iran
Kuwait
Bahrain
Qatar
United Arab Emirates
Saudi Arabia
Oman
Yemen
Djibouti
Somalia
Afghanistan
Pakistan

■ Measles Lab confirmed   N=10278

▲ Measles Epi Linked   N=693

● Measles Clinically compatible   N=23315

Rubella final classification and distribution by Month
Between 01/01/2017 and 31/12/2017

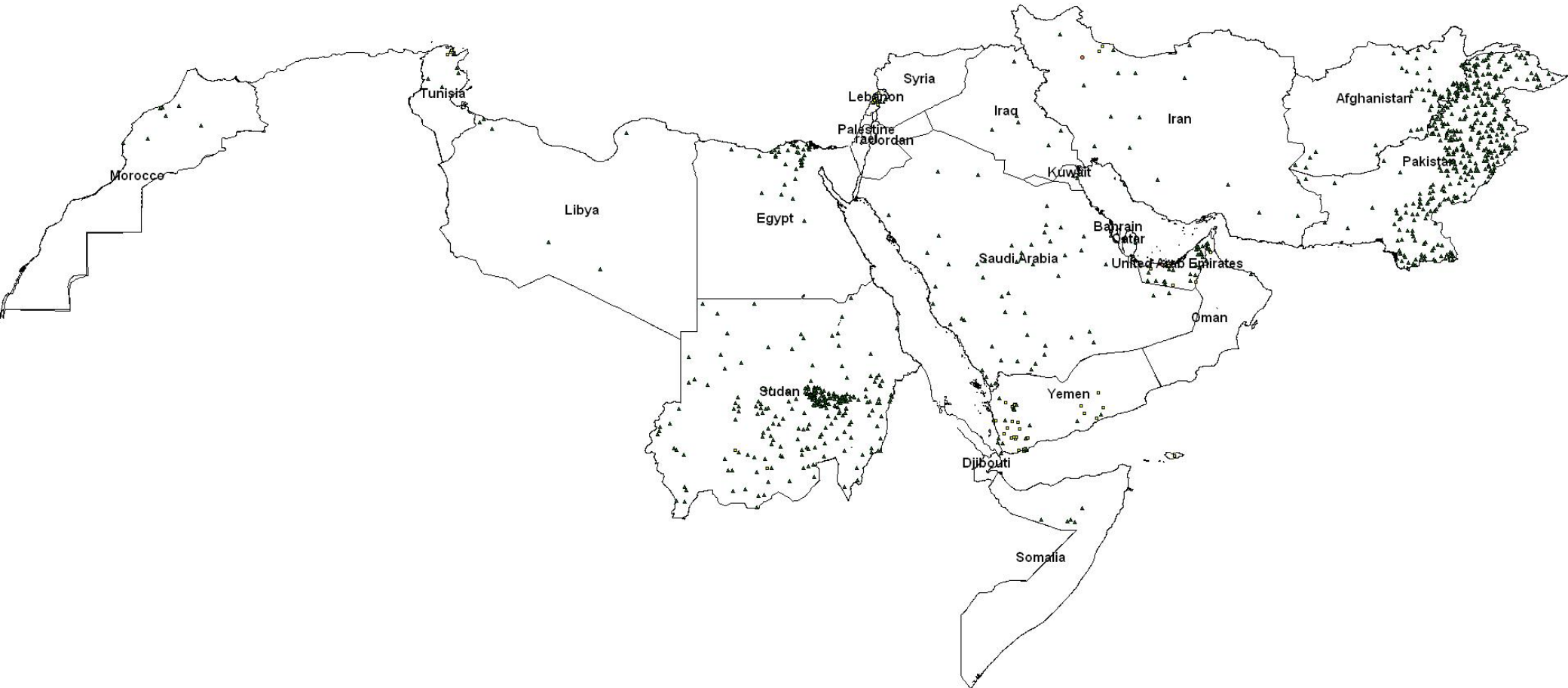| Country	Total Suspected cases for Rubella	Total specimens tested	Imported Rubella cases	Rubella import related	Vaccine related	Rubella Lab confirmed	Rubella Epi-Linked	Rubella clinically compatible	Total Rubella	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Afghanistan	2321	811	0	0	0	53	0	0	53	8	7	13	8	3	3	3	0	0	1	4	3
Bahrain	610	610	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iran	6025	5896	0	6	57	18	0	2	20	0	1	2	2	3	0	0	2	1	2	4	3
Iraq	404	394	0	0	0	6	0	0	6	1	0	0	1	1	1	1	0	0	0	0	1
Jordan	86	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	3180	3163	0	0	0	34	0	0	34	0	6	7	3	2	1	1	2	3	3	3	3
Kuwait	172	154	0	0	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Lebanon	221	94	0	0	0	5	0	5	10	0	1	0	0	4	1	2	1	1	0	0	0
Libya	220	210	0	0	0	7	0	0	7	0	0	0	0	1	0	0	0	3	3	0	0
Morocco	285	260	0	0	0	7	0	0	7	0	0	0	1	1	2	0	0	0	2	1	0
Oman	2879	2879	1	80	56	2	0	1	3	0	0	0	0	0	1	0	2	0	0	0	0
Pakistan	11141	11141	0	0	0	388	0	0	388	7	10	23	51	115	88	34	9	8	18	15	10
Palestine	493	493	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qatar	155	86	0	0	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	1	0
Saudi Arabia	1502	1471	0	0	1	60	0	0	60	3	3	5	1	2	0	1	3	11	18	5	8
Somalia	23353	210	0	0	0	6	0	0	6	0	0	1	0	0	0	0	0	0	5	0	0
Sudan	2203	1874	0	0	0	256	0	3	259	43	70	62	26	16	6	1	2	2	7	13	11
Syria	1463	789	0	0	23	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Tunisia	245	212	0	0	0	8	0	3	11	1	1	1	2	2	1	0	0	0	1	1	1
UAE	649	578	0	0	1	33	1	4	38	2	3	5	2	5	6	6	1	4	2	1	1
Yemen	3524	1806	0	0	0	19	0	25	44	12	11	7	8	3	3	0	0	0	0	0	0
Total	61131	33217	1	86	144	906	1	43	950	77	113	126	106	158	114	49	22	34	62	48	41

* 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 Rubella cases in the EMR countries December 2017

▲ **Rubella Lab confirmed**   **N=906**

🟠 **Rubella Epi Linked**   **N=1**

🟨 **Rubella clinically compatible**   **N=43**

Measles and Rubella laboratory summary report

Between   01/01/2017   and   31/12/2017

Country	Measles								Rubella								Reported to EPI within 4days
	specimens tested	%	Positive	%	Negative	%	Equivocal	%	specimens tested	%	Positive	%	Negative	%	Equivocal	%	
Afghanistan	2321	100%	1511	65%	810	35%	0	0%	811	35%	57	7%	754	93%	0	0%	98%
Bahrain	610	100%	15	2%	590	97%	5	1%	610	100%	9	1%	594	97%	7	1%	97%
Iran	5896	98%	208	4%	5687	96%	1	0%	5896	98%	85	1%	5811	99%	0	0%	95%
Iraq	398	99%	21	5%	377	95%	0	0%	394	98%	6	2%	388	98%	0	0%	87%
Jordan	86	100%	0	0%	85	99%	1	1%	86	100%	0	0%	86	100%	0	0%	27%
Egypt	3165	100%	20	1%	3145	99%	0	0%	3163	99%	54	2%	3109	98%	0	0%	87%
Kuwait	154	90%	20	13%	134	87%	0	0%	154	90%	2	1%	152	99%	0	0%	14%
Lebanon	149	67%	54	36%	91	61%	4	3%	94	43%	5	5%	88	94%	1	1%	85%
Libya	210	95%	8	4%	200	95%	2	1%	210	95%	7	3%	199	95%	4	2%	93%
Morocco	281	99%	4	1%	275	98%	2	1%	260	91%	7	3%	249	96%	4	2%	82%
Oman	2879	100%	111	4%	2725	95%	43	1%	2879	100%	55	2%	2788	97%	36	1%	93%
Pakistan	11141	100%	6791	61%	4350	39%	0	0%	11141	100%	388	3%	10753	97%	0	0%	21%
Palestine	493	100%	71	14%	410	83%	12	2%	493	100%	4	1%	479	97%	10	2%	90%
Qatar	154	99%	23	15%	131	85%	0	0%	86	55%	4	5%	82	95%	0	0%	61%
Saudi Arabia	1471	98%	459	31%	1012	69%	0	0%	1471	98%	61	4%	1410	96%	0	0%	100%
Somalia	288	100%	171	59%	117	41%	0	0%	210	73%	6	3%	204	97%	0	0%	48%
Sudan	1875	85%	356	19%	1519	81%	0	0%	1874	85%	284	15%	1589	85%	1	0%	95%
Syria	1238	85%	529	43%	702	57%	7	1%	789	54%	13	2%	763	97%	13	2%	94%
Tunisia	215	88%	4	2%	211	98%	0	0%	212	87%	8	4%	204	96%	0	0%	76%
UAE	618	95%	89	14%	519	84%	10	2%	578	89%	35	6%	542	94%	1	0%	89%
Yemen	1630	46%	166	10%	1412	87%	52	3%	1806	51%	19	1%	1755	97%	32	2%	19%