

## Highlights of Polio Fax Bulletin No. 1107 for Week 51 2019

### I. Wild Poliovirus Transmission

**Endemic countries (PAKISTAN & AFGHANISTAN):** The following was all reported this week:

- 12 new wild poliovirus type-1 (WPV1) cases, 2 from Afghanistan and 10 from Pakistan;
  - 11 new positive WPV1 environmental samples, 2 from Afghanistan and 9 from Pakistan; and
  - 2 new coinfection WPV1-cVDPV2 environmental samples from Pakistan
- a. *Human samples:* 12 new WPV1 cases reported this week. Total WPV1 cases in 2019 to date are 137 (26 from Afghanistan and 111 from Pakistan). This compares with 30 cases in 2018 in the same period (Afghanistan – 21 and Pakistan – 9).
- Afghanistan: Two new WPV1 cases reported this week and details are as follows:
    - Case (1): The case is from the newly infected district Bakwa, and newly infected province Farah, with date of onset 14 November 2019. The case is an 18-month old female child. The child reportedly received only 5 OPV doses from supplementary immunization activities (SIAs) and none from routine.
    - Case (2): The case is from Spinboldak district, Kandahar province, with date of onset 22 November 2019. The case is an 11-month old female child. The child reportedly received only 5 OPV doses from SIAs and none from routine.

In 2019 to date, 26 WPV1 cases are reported. They include 9 cases from Uruzgan province, 5 cases from Hilmand province, 5 from Kandahar province, 2 from Paktika province and 1 each from Kunar, Nangarhar, Badghis, Baghlan and Farah provinces. The most recent case has onset of paralysis on 22 November 2019.
  - Pakistan: Ten new WPV1 cases reported this week and details are as follows:
    - Case (1): The case is from the newly infected district Mastung, Balochistan province, with date of onset 18 November 2019. The case is a 14-month old female child. The child reportedly received only 5 OPV doses from SIAs and none from routine. The index case was identified by two positive contacts.
    - Case (2): The case is from Lakki Marwat district, Khyber Pakhtunkhwa (KP) province, with date of onset 25 November 2019. The case is a 4-month old female child. The child did not receive any OPV doses neither from routine nor from SIAs, per recall.
    - Case (3): The case is from the newly infected district Muzaffargarh, Punjab province, with date of onset 26 November 2019. The case is a 7-month old female child. The child did not receive any OPV doses neither from routine nor from SIAs, per recall.
    - Case (4): The case is from Lakki Marwat district, KP province, with date of onset 27 November 2019. The case is an 8-month old male child. The child did not receive any OPV doses neither from routine nor from SIAs, per recall.
    - Case (5): The case is from Tank district, KP province, with date of onset 27 November 2019. The case is a 24-month old male child. The child reportedly received reportedly more than 7 OPV doses out of which 2 doses were from routine and more than 7 from SIAs.
    - Case (6): The case is from the newly infected district Badin, Sindh province, with date of onset 28 November 2019. The case is a 72-month old male child. The child reportedly received 3 OPV doses from routine and 7 doses from SIAs.
    - Case (7): The case is from Lakki Marwat district, KP province, with date of onset 1 December 2019. The case is a 30-month old male child. The child did not receive any OPV doses neither from routine nor from SIAs, per recall.
    - Cases (8 & 9): The cases are from Lakki Marwat district, KP province, with date of onset 3 December 2019. The cases are 4 & 21-month old male children respectively. Both did

not receive any OPV doses from routine, but received 1 dose and 4 doses respectively from SIAs.

Case (10): The case is from Nasirabad district, Balochistan province, with date of onset 5 December 2019. The case is a 16-month old male child. The child reportedly received 3 OPV doses from SIAs and none from routine.

In 2019 to date, 111 WPV1 cases are reported from Pakistan. They include 68 from Khyber Pakhtunkhwa (KP) province, 11 from KP Tribal Districts (KPTD), 17 from Sindh province, 9 from Balochistan province and 6 from Punjab province. The most recent case has onset of paralysis on 5 December 2019.

b. *Environmental samples*: Eleven new positive WPV1 environmental samples, 2 from Afghanistan and 9 from Pakistan were reported this week:

- Afghanistan: In 2019 to date, there are 50 wild positive environmental samples with most recent positive sample collected on 25 November 2019.
- Pakistan: In 2019 to date, there are 347 WPV1 positive environmental samples including 7 combined (WPV1 and cVDPV2) with most recent positive sample collected on 5 December 2019.

## II. Circulating Vaccine Derived Polioviruses (cVDPVs)

1. PAKISTAN: No new cVDPV2 isolates from human, but two new positive cVDPV2 isolates from environmental samples were reported this week.

In 2019 to date, 12 cVDPV2 cases reported (onset of the most recent case is 22<sup>nd</sup> November). Cases include four from Diamir district of Gilgit-Baltistan (GB) province; two each from Torghar and Kohistan Lower, one each from Charsadda, Kohistan Upper districts in KP; one each from Islamabad and Gujranwala district, Punjab province.

Environment: Twenty one positive environmental samples for cVDPV2, the recent most sample collected on 25 November 2019 (including seven combined WPV1 and cVDPV2).

In addition, cVDPV2 has been isolated from 16 healthy children and 7 contacts.

2. SOMALIA: No new cVDPV2 or cVDPV3 isolates from human or environmental samples were reported this week.

In 2019 to date, Somalia has reported three cVDPV2 cases. The most recent reported case has date of onset of paralysis on 8 May 2019.

aVDPV2 was isolated from an environmental sample on 3 February 2019. 2 cVDPVs were isolated from environmental samples on 10 November 2019.

In 2018: Somalia has reported a total of 12 cases due to cVDPVs, which include 5 due to cVDPV2, 6 due to cVDPV3 and 1 due to co-infection of cVDPV2 and cVDPV3. The last cVDPV3 was isolated from a sewage sample from Mogadishu collected on 23 August 2018.

## III. Surveillance performance indicators

In 2019, 20 of 22 member states are meeting the global target of both key surveillance indicators, namely non polio AFP rate of 2 per 100,000 children aged below 15 years and percent AFP cases with adequate specimen 80% and above.

- Djibouti has a non-polio AFP rate of 1.4
- Tunisia has a percentage of AFP cases with adequate stool specimens of 75.3%
- In Yemen there are AFP cases pending final classification more than 90 days due to delayed lab results because of delay in shipment of specimens to reference polio laboratories and high workload in the labs.

## AFP SURVEILLANCE

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Table 1: Acute Flaccid Paralysis (AFP) cases by week of onset

Country	Reported AFP cases by week of onset - Week (51/19) / Ending on : 22/12/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	W40 06 Oct 19	W41 13 Oct 19	W42 20 Oct 19	W43 27 Oct 19	W44 03 Nov 19	W45 10 Nov 19	W46 17 Nov 19	W47 24 Nov 19	W48 01 Dec 19	W49 08 Dec 19	W50 15 Dec 19	W51 22 Dec 19
Afghanistan	3094	3378	3601	61	79	68	73	68	64	62	54	77	71	49	3
Bahrain	18	35	17	0	0	1	0	2	0	1	0	0	1	0	0
Djibouti	4	0	5	0	0	0	0	1	0	0	1	0	0	0	0
Egypt	1242	1246	1315	21	27	36	26	27	34	39	34	28	31	25	5
Iran	820	896	982	19	11	16	26	24	31	43	32	21	7		
Iraq	699	1023	1108	25	19	23	24	29	28	26	36	33	30	12	0
Jordan ****	116	115	111	1	0	1	2	4	0	1	2	0	4	1	
Kuwait	69	72	46	1	0	1	0	1	0	1	1	1	3	1	0
Lebanon ****	75	89	80	2	2	0	1	1	2	2	1	1	4	1	1
Libya	88	122	99	3	5	4	1	2	1	1	2	1	3	4	
Morocco	143	212	233	5	8	4	10	3	4	4	8	10	12	1	
Oman	40	28	26	1	1	1	1	0	1	0	1	0	3	0	
Pakistan	10319	12276	14031	271	300	279	314	296	295	301	317	289	274	106	2
Palestine ****	43	44	60	1	1	0	2	1	2	0	2	3	1	0	1
Qatar	18	10	7	1	0	0	0	0	1	0	0	0	0	0	0
Saudi Arabia	276	242	214	5	10	6	5	3	7	2	3	0			
Somalia	345	353	347	4	7	5	6	6	4	7	5	3	11	3	0
Sudan	570	579	577	21	14	19	21	20	11	11	14	13	6	10	0
Syria ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tunisia	362	362	356	5	3	4	6	6	6	3	13	8	11	10	
U.A.E	67	68	77	1	0	4	1	0	1	1	2	2	0	0	
Yemen	58	40	46	1	1	0	1	3	2	2	1	3	1		
<b>Total EMR</b>	<b>713</b>	<b>730</b>	<b>693</b>	<b>13</b>	<b>9</b>	<b>8</b>	<b>10</b>	<b>20</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>0</b>
No data =	19179	21920	24031	462	497	480	530	517	510	523	543	500	476	223	12

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	22/12		Confirmed polio cases by month of onset											
			2018	2019	January 2019	February 2019	March 2019	April 2019	May 2019	June 2019	July 2019	August 2019	September 2019	October 2019	November 2019	December 2019
Afghanistan	14	21	21	26	2	1	3	1	5	1	2	2	3	1	5	
Bahrain	0	0	0	0	0	0	0	0	0	0	0	0				
Djibouti	0	0	0	0	0	0	0	0	0	0	0		0			
Egypt	0	0	0	0	0	0	0	0	0	0	0					
Iran	0	0	0	0	0	0	0	0	0	0	0					
Iraq	0	0	0	0	0	0	0	0	0	0	0					
Jordan ****	0	0	0	0	0	0	0	0	0	0	0			0	0	
Kuwait	0	0	0	0	0	0	0	0	0	0	0				0	
Lebanon ****	0	0	0	0	0	0	0	0	0	0	0			0	0	
Libya	0	0	0	0	0	0	0	0	0	0	0			0	0	
Morocco	0	0	0	0	0				0							
Oman	0	0	0	0	0	0	0	0	0	0	0			0	0	
Pakistan	8	12	9	111	4	2	0	11	11	16	12	14	5	15	17	4
Palestine ****	0	0	0	0	0	0	0	0	0	0	0					
Qatar	0	0	0	0	0	0	0	0	0	0	0			0	0	
Saudi Arabia	0	0	0	0	0	0	0	0	0							
Somalia	0	0	0	0	0	0	0	0	0				0	0	0	
Sudan	0	0	0	0	0	0	0	0	0	0	0			0	0	
Syria ****	0	0	0	0	0	0	0	0	0	0	0			0	0	
Tunisia	0	0	0	0	0	0	0	0	0	0	0					
U.A.E	0	0	0	0	0	0	0	0	0	0	0					
Yemen	0	0	0	0			0									
<b>Total EMR</b>	<b>22</b>	<b>33</b>	<b>30</b>	<b>137</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>12</b>	<b>16</b>	<b>17</b>	<b>14</b>	<b>16</b>	<b>8</b>	<b>16</b>	<b>22</b>	<b>4</b>

\*\*\*\* UNRWA cases are included with those of country of residence

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Table 3: Investigation of AFP cases with paralysis onset in 2018 &amp; 2019 up to Week (51/19) / Ending on : 22/12/2019

COUNTRY	2018											2019											Latest line List Date		
	AFP									Specimen	Wild cases ****		AFP									Specimen		Wild cases ****	
	Total AFP cases onset 2018	Case classification					Non polio AFP rate **	AFP cases pending classification > 90 days from onset of paralysis	AFP cases pending classification and lab > 90 days from onset of paralysis	% with *** adequate specimens	Wild P1 Poliovirus	Wild P3 Poliovirus	Total AFP cases onset 2019	Case classification					Annualized Non polio AFP rate **	AFP cases pending classification > 90 days from onset of paralysis	AFP cases pending classification and lab > 90 days from onset of paralysis	% with *** adequate specimens		Wild P1 Poliovirus	Wild P3 Poliovirus
		Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV								Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV							
Afghanistan	3378	21	0	0	3357	0	16.6	0	0	93.8	21	0	3601	26	1	223	3351	0	18.1	21	0	94.2	26	0	22/12/2019
Bahrain	35	0	0	0	35	0	12.1	0	0	97.1	0	0	17	0	0	6	11	0	6.0	0	0	100.0	0	0	23/12/2019
Djibouti	0	0	0	0	0	0	0.0	0	0		0	0	5	0	0	5	0	0	1.4	3	2	80.0	0	0	15/12/2019
Egypt	1246	0	0	0	1245	1	3.2	0	0	93.2	0	0	1315	0	0	138	1177	0	3.6	1	0	90.7	0	0	19/12/2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	982	0	0	32	949	1	5.2	0	0	96.7	0	0	14/12/2019
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	1108	0	0	111	997	0	7.4	7	0	94.1	0	0	22/12/2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	111	0	0	2	109	0	4.1	0	0	100.0	0	0	19/12/2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	46	0	0	4	42	0	5.3	0	0	89.1	0	0	22/12/2019
Lebanon	89	0	0	0	89	0	4.8	0	0	96.6	0	0	80	0	0	16	64	0	4.4	8	0	88.8	0	0	20/12/2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	99	0	0	7	92	0	4.0	1	0	99.0	0	0	21/12/2019
Morocco	212	0	0	0	212	0	2.4	0	0	77.4	0	0	233	0	0	71	162	0	2.7	36	6	83.3	0	0	13/12/2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	26	0	0	3	23	0	3.0	0	0	84.6	0	0	15/12/2019
Pakistan	12276	12	1	0	12263	0	15.7	0	0	87.0	12	0	14031	111	2	924	12982	12	18.3	131	0	87.7	111	0	22/12/2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	60	0	0	12	48	0	3.3	0	0	98.3	0	0	22/12/2019
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	7	0	0	4	3	0	2.0	2	0	85.7	0	0	22/12/2019
Saudi Arabia	242	0	0	0	242	0	3.0	0	0	95.9	0	0	214	0	0	61	153	0	2.7	17	13	93.9	0	0	04/12/2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	347	0	0	24	320	3	5.6	3	3	95.4	0	0	22/12/2019
Sudan	579	0	0	0	579	0	3.2	0	0	97.2	0	0	577	0	0	29	548	0	3.3	0	0	97.2	0	0	22/12/2019
Syria	362	0	0	0	362	0	4.7	0	0	87.0	0	0	356	0	0	34	322	0	4.7	2	0	87.9	0	0	21/12/2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	77	0	0	6	70	1	2.9	0	0	75.3	0	0	20/12/2019
U.A.E	40	0	0	0	40	0	3.2	0	0	97.5	0	0	46	0	0	24	22	0	3.8	8	0	89.1	0	0	16/12/2019
Yemen	730	0	0	86	644	0	5.2	86	80	91.6	0	0	693	0	0	431	262	0	5.0	299	266	89.3	0	0	14/12/2019
EMR	21920	33	1	86	21785	15	8.7	86	80	89.8	33	0	24031	137	3	2167	21707	17	9.8	539	290	90.0	137	0	
2017	19179	22	3	8	19070	46	7.7	8	1	88.9	22	0													

\* Confirmed polio cases refer to wild isolation from AFP cases or from contacts of negative index AFP cases

\*\* Non-polio AFP per 100,000 children &lt;15 years

\*\*\* Adequate here refers to two stool specimens collected at least 24 hours apart, within 14 days of paralysis onset and specimens received in the lab in Good Condition

\*\*\*\* AFP cases co infected with P1 and P3 are counted separately as wild isolates

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COUNTRY	2018						2019					
	# OF CONTACTS	LAB RESULTS					# OF CONTACTS	LAB RESULTS				
		WILD	VDPV	SL	NPEV	PENDING		WILD	VDPV	SL	NPEV	PENDING
AFG	1009	4	0	52	217	0	1106	8	0	46	192	50
BAH	2	0	0	0	0	0	0	0	0	0	0	0
DJI	0	0	0	0	0	0	1	0	0	0	0	1
EGY	495	0	0	11	58	17	477	0	0	8	52	46
IRN	145	0	0	3	6	0	175	0	0	4	6	0
IRQ	811	0	0	22	93	9	557	0	0	7	27	46
JOR	0	0	0	0	0	0	0	0	0	0	0	0
KUW	0	0	0	0	0	0	0	0	0	0	0	0
LEB	229	0	0	3	16	22	24	0	0	0	3	2
LIB	1	0	0	0	0	0	6	0	0	0	3	0
MOR	161	0	0	0	9	9	71	0	0	3	1	21
OMA	70	0	0	2	16	0	74	0	0	2	26	3
PAK	4200	3	0	207	882	0	5155	17	6	180	899	209
PAL	0	0	0	0	0	0	0	0	0	0	0	0
QAT	0	0	0	0	0	0	0	0	0	0	0	0
SAA	5	0	0	0	0	5	0	0	0	0	0	0
SOM	1052	0	10	55	133	0	1047	0	1	43	116	74
SUD	350	0	0	3	24	88	388	0	0	0	31	94
SYR	670	0	0	8	17	0	770	0	0	12	36	53
TUN	1	0	0	0	0	0	26	0	0	0	2	0
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	1559	0	0	0	0	566	396	0	0	0	0	195
<b>EMR</b>	<b>10760</b>	<b>7</b>	<b>10</b>	<b>366</b>	<b>1471</b>	<b>716</b>	<b>10273</b>	<b>25</b>	<b>7</b>	<b>305</b>	<b>1394</b>	<b>794</b>

Table 4 (B): Most recent wild contacts in EMRO, 2018-2019

Year	Country	Data	
		Count of wild contacts	Date of Most Recent stool collection
2019	Afghanistan	8	17/Aug/19
	Pakistan	17	5/Dec/19
<b>2019 Total</b>		<b>25</b>	<b>5/Dec/19</b>
2018	Afghanistan	4	7/Aug/18
	Pakistan	3	12/Oct/18
<b>2018 Total</b>		<b>7</b>	<b>12/Oct/18</b>

Table 4 (C): Number of distribution by district of -ve index AFP cases identified as wild positive by contact in EMR, 2018-2019

YEAR	COUNTRY	PROVINCE	DISTRICT	COUNT	First case	Last case		
2019	AFG	URUZGAN	TIRINKOT	1	2-Aug-19	2-Aug-19		
			MUSAQALAH	1	05-Jun-19	05-Jun-19		
			SANGIN	1	06-Mar-19	06-Mar-19		
	PAK	SINDH	KHJORANGI	1	28-Aug-19	28-Aug-19		
			SUJAWAL	1	25-Sep-19	25-Sep-19		
			JAMSHORO	1	09-Oct-19	09-Oct-19		
		BALOCHSITAN	MASTUNG	1	18-Nov-19	18-Nov-19		
			KILABDULLAH	1	2-Jul-19	2-Jul-19		
			SWABI	1	17-Nov-19	17-Nov-19		
			TANK	1	30-Oct-19	30-Oct-19		
		KHYBER PAKHTUNKHWA (KP)	LAKKIMRWAT	3	27-May-19	04-Oct-19		
			TORGHAR	1	25-May-19	25-May-19		
		<b>2019 Total</b>				<b>14</b>	<b>06-Mar-19</b>	<b>18-Nov-19</b>
		2018	AFG	NANGARHAR	PACHIERAGAM	1	17-Jul-18	17-Jul-18
URUZGAN	1				8-Jul-18	8-Jul-18		
PAK	KHYBER PAKHTUNKHWA TRIBAL DISTRICTS (KPTD)		BAJOUR	1	1-Sep-18	1-Sep-18		
			BALOCHSITAN	1	15-Apr-18	15-Apr-18		
<b>2018 Total</b>				<b>4</b>	<b>15-Apr-18</b>	<b>01-Sep-18</b>		

**Table 5: Laboratory investigation of AFP cases with paralysis onset in 2019 up to Week (51/2019) / Ending on : (22/12/2019)**

Country	Polio laboratories  ITD / Nucleotide Sequencing (Nucleotide Sequencing performed by EGY, PAK, TUN, CDC and RIVM laboratories)	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results #										Indicators				Latest report Date			
			Referred for ITD		NPEV only	Negative	Pending		Type 1			Type 2			Type 3			Discordant pending sequence	NPEV by PCR	Non-EV	Pending ITD	% specimens positive for NPEV*		% AFP cases with culture results within 14 days	% AFP cases with ITD results within 7 days	% AFP cases with ITD results within 45 days of onset**
			L20B+	L20B+/NPEV			received < / = 14 days	received > 14 days ago	Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV									
Afghanistan	RRL Pakistan	3547	280	27	555	2560	125	2	23	201						190	1	2	1	11	14%	96%	100%	98%	22/12/2019	
Bahrain	NPL Oman / CDC	11			2	9															14%	100%		0%	23/12/2019	
Djibouti	NPL Kenya / CDC	5					5																		15/12/2019	
Egypt***	RRL Egypt	1277	33	8	127	1047	53	9		15					20			11	3		10%	96%	100%	99%	19/12/2019	
Iran	NPL Iran / CDC	1013	12		22	958	21		3	1				9							3%	100%	100%	99%	21/12/2019	
Iraq	RRL Egypt	1177	16		153	925	48	37		11					14						12%	100%	79%	96%	21/12/2019	
Jordan	NPL Jordan / RRL EGYPT	111			16	94	1														15%	99%		100%	22/12/2019	
Kuwait	RRL Kuwait / RIVM	51			2	45	2	2													6%	91%		100%	19/12/2019	
Lebanon	NPL Jordan / RRL EGYPT	76	1		9	60	5	1							1						13%	100%	100%	0%	22/12/2019	
Libya	RRL Tunisia / RIVM	96			6	89	1														7%	99%		99%	20/12/2019	
Morocco	NPL Morocco / RRL Tunisia	219	2		3	202	12								2						2%	100%	100%	95%	20/12/2019	
Oman	NPL Oman / CDC	28			4	22	2														21%	100%		100%	23/12/2019	
Pakistan	RRL Pakistan	13660	503	46	2247	10335	516	9	100	251		4	11		250		5	1	35		14%	97%	99%	97%	22/12/2019	
Palestine & UNRWA		60			7	45	2	6													13%	33%		100%	22/12/2019	
Qatar	NPL Oman / CDC	7			7																0%	100%		100%	23/12/2019	
Saudi Arabia	NPL Saudi Arabia / CDC	216	4		2	200	11								4						2%	95%	100%	100%	11/12/2019	
Somalia	NPL Kenya / CDC	347	25		65	233	9	15		7			12	3	9						20%	14%		98%	22/12/2019	
Sudan	NPL Sudan / RRL Egypt	577	6		78	466	24	3		5					2				1		12%	75%	100%	63%	22/12/2019	
Syria	NPL Syria / RRL Egypt	342	14		16	292	17	3		5					10						6%	100%	100%	53%	19/12/2019	
Tunisia	RRL Tunisia	68			5	62	1														11%	100%		99%	20/12/2019	
U.A.E	NPL Oman / CDC	38			4	30	4														10%	100%		50%	23/12/2019	
Yemen	NPL Kenya / CDC	174	3		6	35	21	109													14%	5%		0%	14/12/2019	
<b>Total EMR 2019</b>		23100	899	81	3329	17716	864	212	123	498	1	16	14	511	1	18	6	46			13%	95%	99%	97%		
<b>Total EMR 2018</b>		20792	902	90	3513	16224		59	29	590	3	6	6 #	628	7 #		22	2	3		14%	92%	99%	97%		
* Specimens from all sources including non-AFP cases, excluding environmental samples									# Somalia in 2018 has a total of 12 cVDPV cases (5 cVDPV2, 6 cVDPV3 & 1 coinfection cVDPV2/cVDPV3)																	
** This indicator reflects surveillance and laboratory activities																										

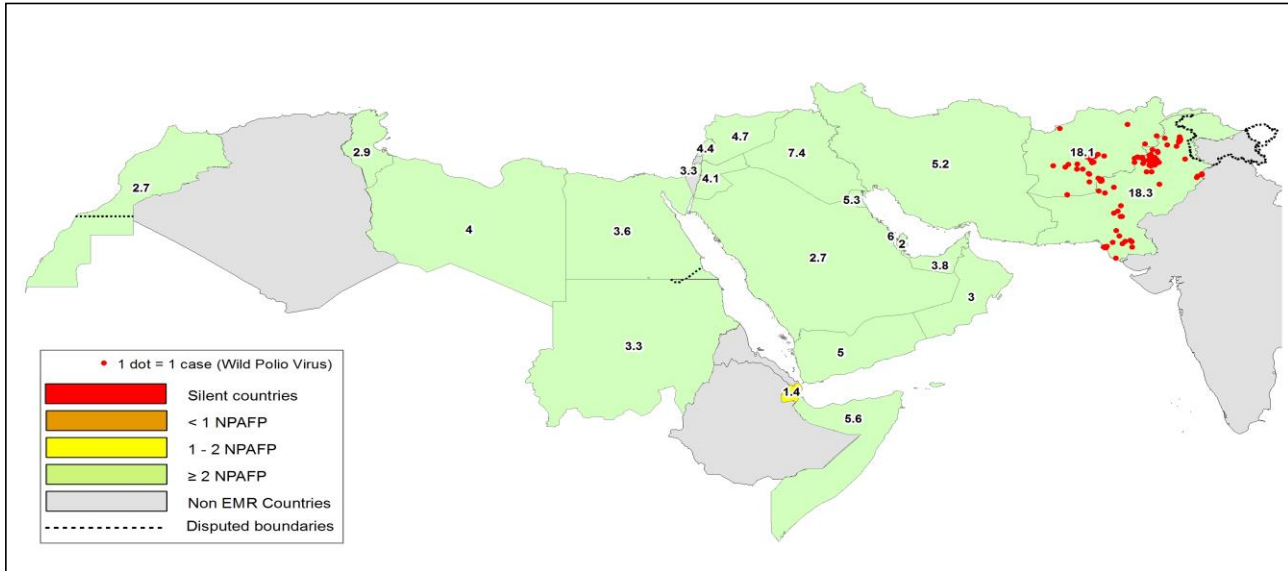
Table 6: Environmental isolate by year and type

COUNTRY	LAB RESULTS	2015	2016	2017	2018	2019
AFG	Wild	20	2	42	83	50
	EV/SL	126	177	265	248	175
	Negative	3	6	9	5	3
	Pending					5
AFG Total		149	185	316	336	233
EGY	EV/SL	455	492	481	508	622
	Negative	41	36	41	32	32
	Pending					19
EGY Total		496	528	522	540	673
IRN	Wild					3
	EV/SL			5	51	60
	Negative			1	3	3
	Pending					2
IRN Total				6	54	68
JOR	EV/SL		2	29	36	31
	Negative			2		
	Pending					4
JOR Total			2	31	36	35
KUW	EV/SL				3	3
	Pending					8
KUW Total					3	11
LEB	EV/SL		2	26	44	35
	Negative		2	1	1	3
	Pending					6
LEB Total			4	27	45	44
PAK	Wild	82	60	106	139	340
	Wild+cVDPV2	2	2			7
	cVDPV2	5	2			14
	aVDPV2	3	3	4		1
	EV/SL	344	456	523	531	380
	Negative	3	6		3	4
	Pending					30
PAK Total		439	529	633	673	776
SOM	cVDPV2			2	19	2
	cVDPV3				11	
	aVDPV2				2	1
	EV/SL			20	43	25
	Negative			14	138	27
SOM Total				36	213	59
SUD	EV/SL				15	34
	Negative					1
	Pending					20
SUD Total					15	55
SYR	EV/SL			4	81	139
	Negative				21	26
	Pending					11
SYR Total				4	102	176
TOTAL		1084	1248	1575	2017	2130

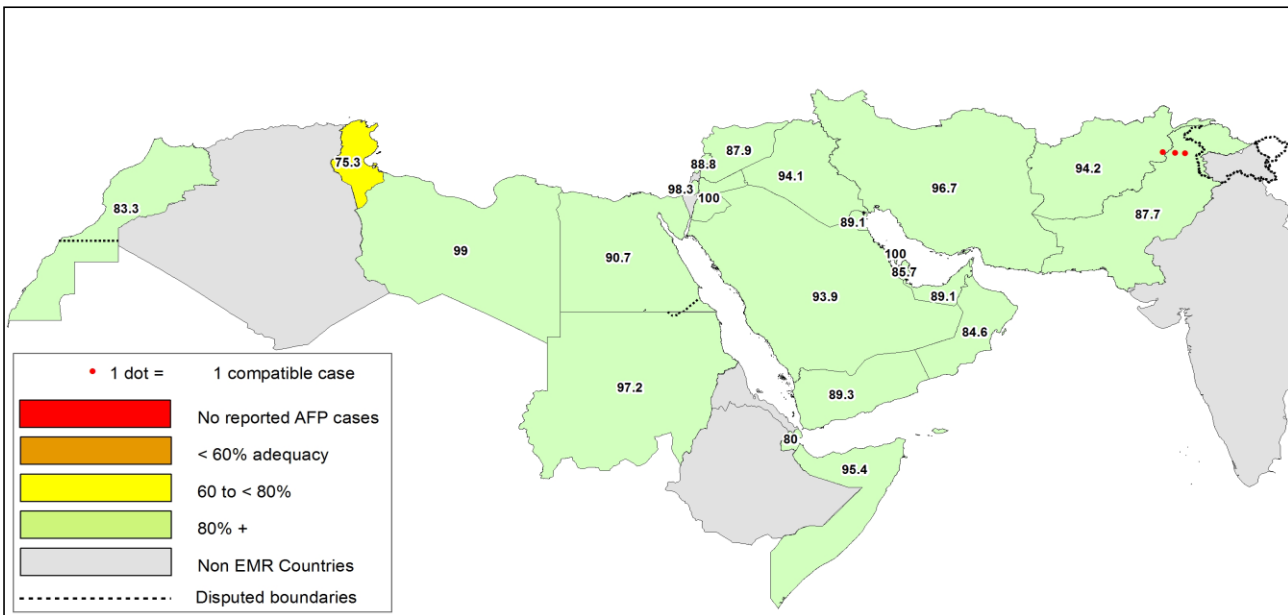
Table 7: Environmental (Wild/VDPV) isolate by type by province

YEAR	COUNTRY	RESULTS_OV	PROVINCE	Count	First date	Last date	
2018	AFG	Wild	HILMAND	12	8/Jan/18	26/Dec/18	
			HIRAT	1	25/Jun/18	25/Jun/18	
			KABUL	3	26/Feb/18	26/Jun/18	
			KANDAHAR	42	8/Jan/18	26/Dec/18	
			KHOST	1	25/Sep/18	25/Sep/18	
			KUNAR	2	24/Apr/18	25/Sep/18	
			NANGARHAR	22	27/Jan/18	26/Dec/18	
			<b>AFG Total</b>	<b>83</b>	<b>8/Jan/18</b>	<b>26/Dec/18</b>	
	PAK	Wild	BALOCHISTAN	24	1/Jan/18	20/Dec/18	
			FATA	7	19/May/18	27/Dec/18	
			ISLAMABAD	7	10/Jan/18	10/Nov/18	
			KPAKHTUNKHWA	36	5/Jan/18	27/Dec/18	
			PUNJAB	29	10/Jan/18	18/Dec/18	
			SINDH	36	1/Jan/18	14/Dec/18	
	<b>PAK Total</b>	<b>139</b>	<b>1/Jan/18</b>	<b>27/Dec/18</b>			
	SOM	cVDPV2	BANADIR	19	4/Jan/18	11/Oct/18	
			cVDPV3	BANADIR	11	1/Feb/18	23/Aug/18
aVDPV2				BANADIR	2	1/Mar/18	13/Sep/18
<b>SOM Total</b>		<b>32</b>	<b>4/Jan/18</b>	<b>11/Oct/18</b>			
<b>2018 Total</b>				<b>254</b>	<b>1/Jan/18</b>	<b>27/Dec/18</b>	
2019	AFG	Wild	HILMAND	18	6/Jan/19	25/Nov/19	
			KANDAHAR	23	6/Jan/19	24/Sep/19	
			NANGARHAR	9	26/Jan/19	25/Nov/19	
	<b>AFG Total</b>		<b>50</b>	<b>6/Jan/19</b>	<b>25/Nov/19</b>		
	IRN	Wild	S & B	3	22/Apr/19	20/May/19	
			<b>IRN Total</b>		<b>3</b>	<b>22/Apr/19</b>	<b>20/May/19</b>
	PAK	Wild	BALOCHISTAN	66	1/Jan/19	28/Nov/19	
			FATA	8	15/Jan/19	4/Dec/19	
			ISLAMABAD	3	12/Apr/19	21/Aug/19	
			KPAKHTUNKHWA	29	8/Jan/19	28/Nov/19	
			PUNJAB	90	5/Jan/19	2/Dec/19	
			SINDH	144	2/Jan/19	5/Dec/19	
			Wild+cVDPV2	PUNJAB	4	6/Aug/19	15/Nov/19
				SINDH	3	7/Oct/19	7/Nov/19
			cVDPV2	GBALISTAN	5	24/Aug/19	6/Nov/19
				ISLAMABAD	1	12/Nov/19	12/Nov/19
				KPAKHTUNKHWA	5	9/Oct/19	25/Nov/19
				PUNJAB	3	21/Aug/19	15/Nov/19
				PUNJAB	1	11/Apr/19	11/Apr/19
			<b>PAK Total</b>		<b>362</b>	<b>1/Jan/19</b>	<b>5/Dec/19</b>
SOM	cVDPV2	BANADIR	2	10/Nov/19	10/Nov/19		
		aVDPV2	BANADIR	1	3/Feb/19	3/Feb/19	
<b>SOM Total</b>		<b>3</b>	<b>3/Feb/19</b>	<b>10/Nov/19</b>			
<b>2019 Total</b>				<b>418</b>	<b>1/Jan/19</b>	<b>5/Dec/19</b>	
<b>TOTAL</b>				<b>672</b>	<b>1/Jan/18</b>	<b>5/Dec/19</b>	

**Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 22/12/2019**



**Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 22/12/2019**

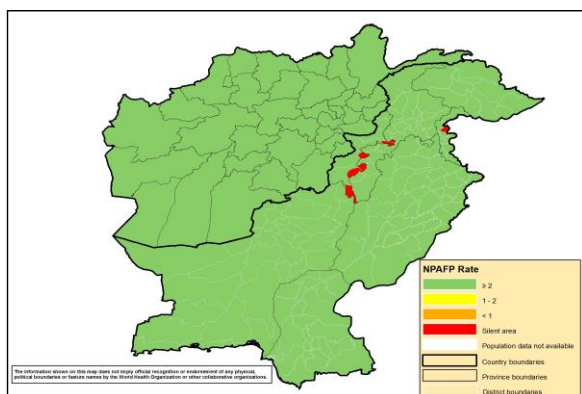


**Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019**

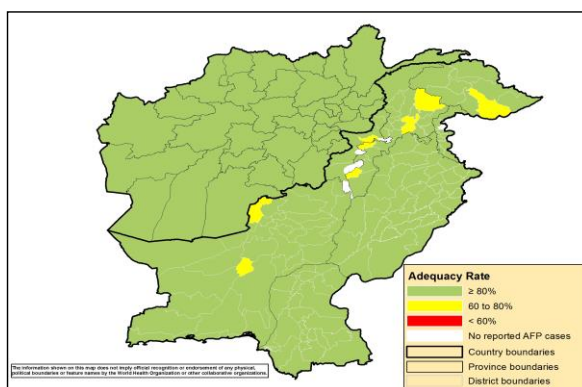
Year	COUNTRY	Count	First Case	Last Case
2018	AFG	21	1-Jan-18	6-Nov-18
	PAK	12	8-Mar-18	31-Dec-18
<b>2018 Total</b>		<b>33</b>	<b>1-Jan-18</b>	<b>31-Dec-18</b>
2019	AFG	26	4-Jan-19	22-Nov-19
	PAK	111	15-Jan-19	5-Dec-19
<b>2019 Total</b>		<b>137</b>	<b>4-Jan-19</b>	<b>5-Dec-19</b>



**Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2019 - 22/12/2019**

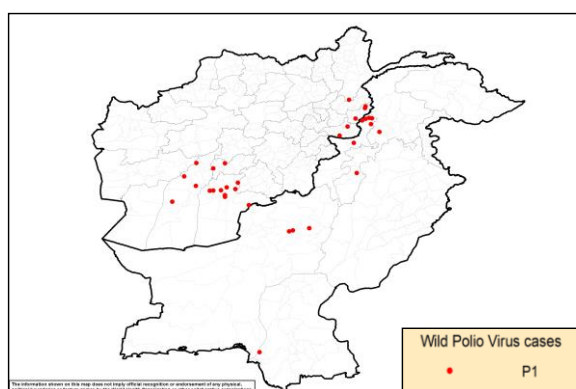


**Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 22/12/2019**

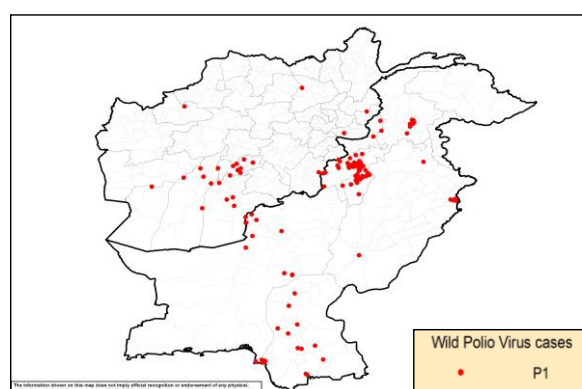


**Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan**

**5(a) 01/01/2018 - 31/12/2018**



**5(b) 01/01/2019 - 22/12/2019**



## World Health Organization – Regional Office for Eastern Mediterranean

## AFP SURVEILLANCE

Week 51, ending 22 December 2019

23-Dec-19

Number 1107

ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	HILMAND	NAWZAD	3	1-Sep-18	6-Nov-18	
		NAD-E-ALI	1	1-Jun-18	1-Jun-18	
	URUZGAN	SHAHID-E-HASSAS	2	8-Jul-18	9-Oct-18	
	NURISTAN	PORUNS	1	26-Sep-18	26-Sep-18	
	KANDAHAR	MAYWAND	1	24-Sep-18	24-Sep-18	
		KANDAHAR	2	11-Aug-18	27-Aug-18	
		ARGHANDAB (K)	1	17-Jul-18	17-Jul-18	
		SHAHWALIKOT	3	5-Jan-18	27-Apr-18	
		KHAKREZ	1	25-Feb-18	25-Feb-18	
		SPINBOLDAK	1	6-Jan-18	6-Jan-18	
	NANGARHAR	PACHIERGAM	1	17-Jul-18	17-Jul-18	
		KAMA	1	1-Jan-18	1-Jan-18	
	KUNAR	CHAWKAY	1	22-Jun-18	22-Jun-18	
GHAZIABAD		2	14-Feb-18	3-Mar-18		
<b>2018 Total</b>			<b>21</b>	<b>1-Jan-18</b>	<b>6-Nov-18</b>	
2019	KANDAHAR	SPINBOLDAK	2	4-Jan-19	22-Nov-19	
		KANDAHAR	2	17-Aug-19	10-Nov-19	
		GHORAK	1	12-Jan-19	12-Jan-19	
	BAGHLAN	PUL-E-KHUMRI	1	14-Nov-19	14-Nov-19	
	FARAH	BAKWA	1	14-Nov-19	14-Nov-19	
	URUZGAN	KHASURUZGAN	1	2-Nov-19	2-Nov-19	
		TIRINKOT	4	19-May-19	2-Aug-19	
		CHORA	3	20-Mar-19	23-Jul-19	
		SHAHID-E-HASSAS	1	25-Feb-19	25-Feb-19	
	BADGHIS	BALAMURGHAB	1	17-Oct-19	17-Oct-19	
	PAKTIKA	BERMEL	2	15-Sep-19	28-Sep-19	
	NANGARHAR	KHOGYANI	1	18-Sep-19	18-Sep-19	
	HILMAND	GARMSER	1	26-May-19	26-May-19	
		MUSAQALAH	1	5-May-19	5-May-19	
		NAWZAD	1	3-Apr-19	3-Apr-19	
		WASHER	1	23-Mar-19	23-Mar-19	
		SANGIN	1	6-Mar-19	6-Mar-19	
	KUNAR	WATAPUR	1	8-May-19	8-May-19	
	<b>2019 Total</b>			<b>26</b>	<b>4-Jan-19</b>	<b>22-Nov-19</b>

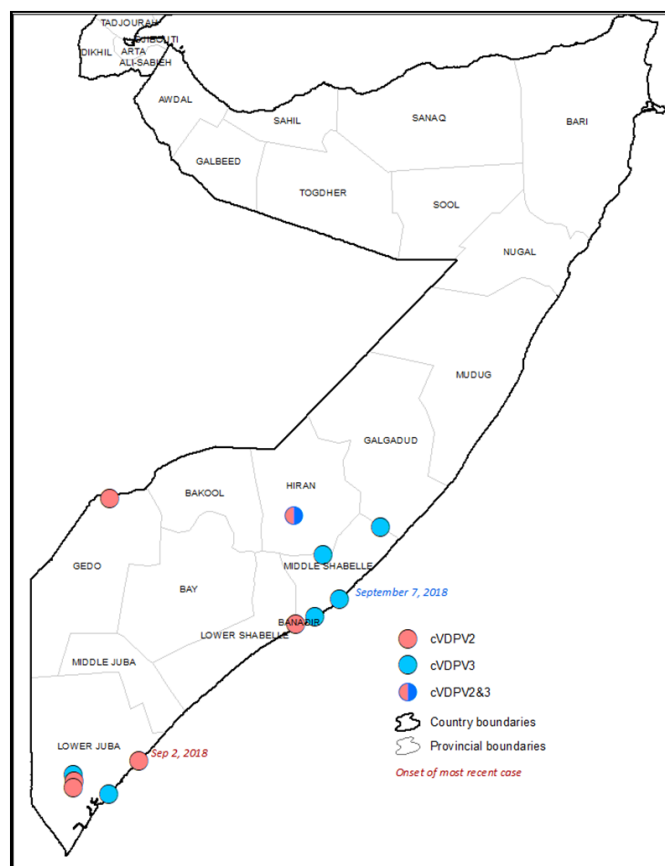
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	KP TRIBAL DISTRICTS	BAJOUR	5	1-Sep-18	31-Dec-18	
		KHYBER	1	25-Sep-18	25-Sep-18	
	KHYBER PAKHTUNKHWA	LAKKIMRWT	1	16-Dec-18	16-Dec-18	
		CHARSADA	1	1-Aug-18	1-Aug-18	
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18	
BALOCHISTAN	DUKKI	3	8-Mar-18	18-May-18		
<b>2018 Total</b>			<b>12</b>	<b>8-Mar-18</b>	<b>31-Dec-18</b>	
2019	BALOCHISTAN	NSIRABAD	1	5-Dec-19	5-Dec-19	
		MASTUNG	1	18-Nov-19	18-Nov-19	
		HARNAI	1	27-Sep-19	27-Sep-19	
		JAFARABAD	2	28-May-19	13-Sep-19	
		KABDULAH	3	9-Jun-19	8-Aug-19	
		QUETTA	1	6-Jul-19	6-Jul-19	
		KHYBER PAKHTUNKHWA	LAKKIMRWT	27	27-May-19	3-Dec-19
			TANK	3	11-Oct-19	27-Nov-19
			SWABI	1	17-Nov-19	17-Nov-19
			DIKHAN	2	5-May-19	16-Nov-19
	BANNU		24	15-Jan-19	31-Oct-19	
	TORGHAR		7	25-May-19	13-Sep-19	
	HANGU		2	20-Jan-19	28-Jul-19	
	CHARSADA		1	21-Jul-19	21-Jul-19	
	SHANGLA		1	18-May-19	18-May-19	
	SINDH		BADIN	1	28-Nov-19	28-Nov-19
		MIRPURKHAS	2	17-Nov-19	20-Nov-19	
		LARKANA	2	17-Apr-19	9-Nov-19	
		KHIKAMARI	1	29-Oct-19	29-Oct-19	
		KHIJAMSHEED	1	24-Oct-19	24-Oct-19	
		SBENAZIRABAD	1	19-Oct-19	19-Oct-19	
		JAMSHORO	2	23-Aug-19	9-Oct-19	
		SUJAWAL	1	25-Sep-19	25-Sep-19	
		KHIORANGI	2	20-Aug-19	26-Aug-19	
		HYDERABAD	2	20-Jul-19	5-Aug-19	
	PUNJAB	KHIGIQBAL	1	29-Apr-19	29-Apr-19	
		KHILAYARI	1	25-Feb-19	25-Feb-19	
		MUZFARGARH	1	26-Nov-19	26-Nov-19	
		LAHORE	4	20-Jan-19	22-Jun-19	
		JHELUM	1	21-Jun-19	21-Jun-19	
KP TRIBAL DISTRICTS		WAZIR-S	1	20-Aug-19	20-Aug-19	
		WAZIR-N	8	4-Apr-19	21-Jul-19	
	KHYBER	1	14-Feb-19	14-Feb-19		
BAJOUR	1	18-Jan-19	18-Jan-19			
<b>2019 Total</b>			<b>111</b>	<b>15-Jan-19</b>	<b>5-Dec-19</b>	

**Table 11: Circulating VDPV cases and date of onset of paralysis in EMR countries by districts 2018-2019**

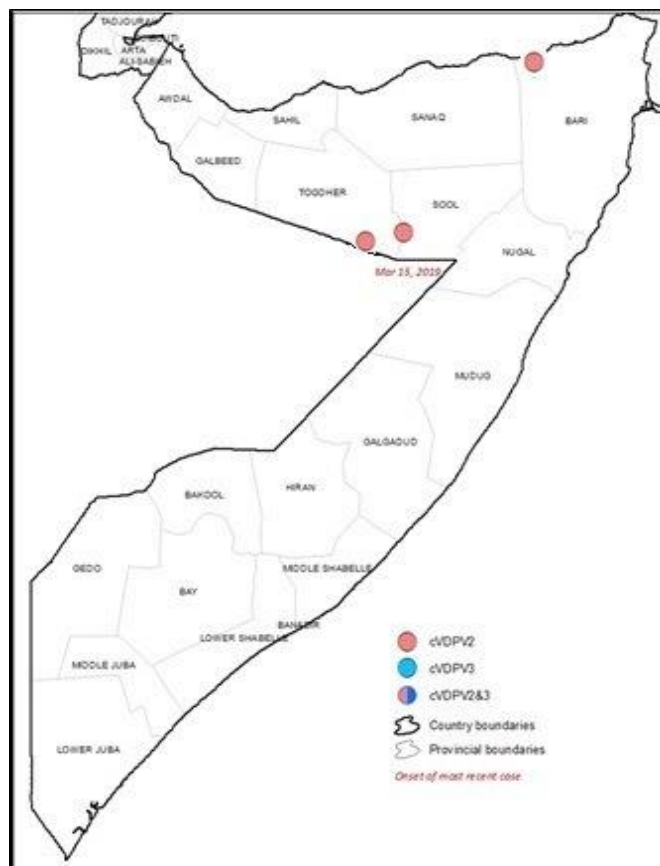
COUNTRY	YEAR	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
PAK	2019	PUNJAB	GUJRANWALA	1	22-Nov-19	22-Nov-19			
			CHARSADA	1	3-Nov-19	3-Nov-19			
		KHYBER PAKHTUNKHWA	KOHISTANUPPER	1	27-Oct-19	27-Oct-19			
			KOHISTANLOWER	2	6-Oct-19	11-Oct-19			
			TORGHAR	2	4-Sep-19	28-Oct-19			
		ISLAMABAD	CDA	1	11-Sep-19	11-Sep-19			
		GILGIT BALTISTAN	DIAMER	4	7-Jul-19	28-Aug-19			
SOM	2019	BARI	BOSSASO	1	8-May-19	8-May-19			
		TOGDHER	BUHODLE	1	21-Apr-19	21-Apr-19			
		SOOL	LAS ANOD	1	15-Mar-19	15-Mar-19			
<b>Total 2019</b>				<b>15</b>	<b>15-Mar-19</b>	<b>22-Nov-19</b>			
SOM	2018	LOWER JUBA	JAMAAME WEST	1	02-Sep-18	02-Sep-18			
			KISMAYO	2	29-Jul-18	30-Jul-18	2	4-Jul-18	27-Jul-18
		MIDDLE SHABELLE	RUNINGOD				1	07-Sep-18	07-Sep-18
			MAHADAY				1	29-Jun-18	29-Jun-18
			WARSHEIKH				2	16-May-18	23-May-18
		BANADIR	DANYILE	1	10-Jul-18	10-Jul-18			
		HIRAN	BULO BURTI	1	11-May-18	11-May-18	1	11-May-18	11-May-18
GEDO	DOLO	1	26-May-18	26-May-18					
<b>Total 2018</b>				<b>6</b>	<b>11-May-18</b>	<b>2-Sep-18</b>	<b>7</b>	<b>11-May-18</b>	<b>7-Sep-18</b>

**Figure 6: Somalia cVDPV cases by type and district**

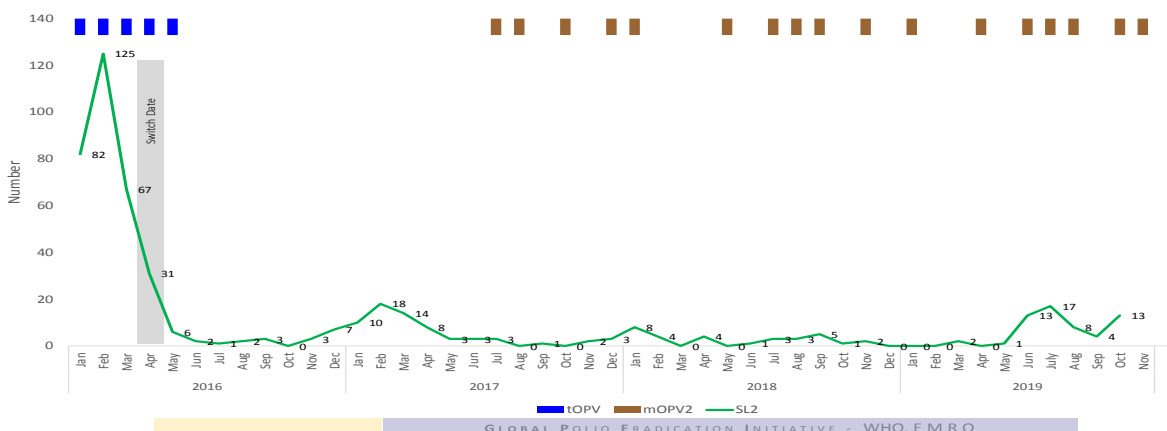
**6(a) 01/01/2018 - 31/12/2018**



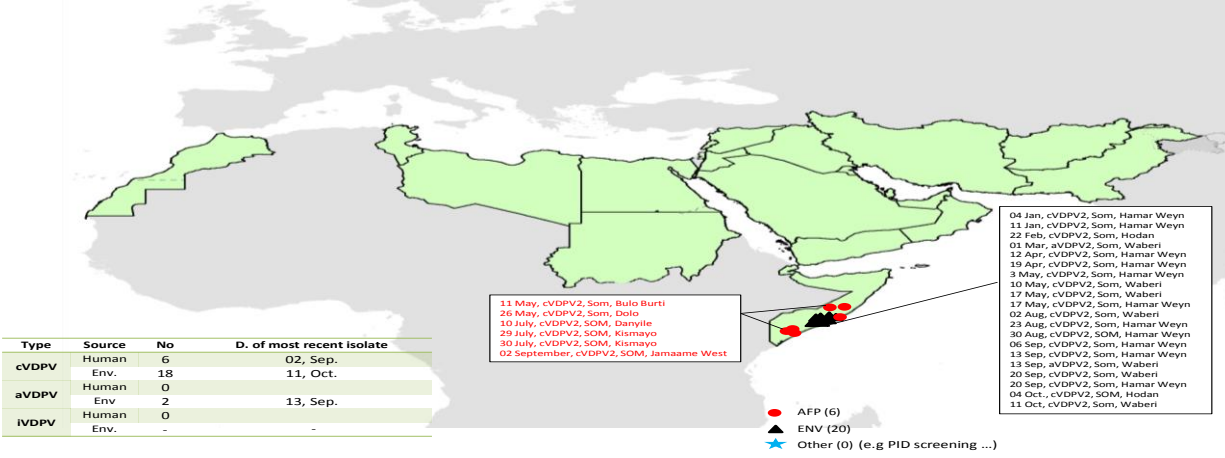
**6(b) 01/01/2019 - 22/12/2019**



### Sabin like type-2 poliovirus isolates (H&E) and vaccine types used during SIAs, EMRO, 2016 to 2019



### VDPV2 isolates, EMR countries, 2018



### VDPV2 isolates, EMR countries, 2019

