

Highlights of Polio Fax Bulletin No. 1108 for Week 52 2019

I. Wild Poliovirus Transmission

Endemic countries (PAKISTAN & AFGHANISTAN): Following was reported this week – all from Pakistan:

- 6 new wild poliovirus type-1 (WPV1) cases & 9 new positive WPV1 environmental samples; and
 - 4 new circulating Vaccine Derived Poliovirus type-2 (cVDPV2) environmental samples.
- a. *Human samples:* 6 new WPV1 cases reported this week. Total WPV1 cases in 2019 to date are 143 (26 from Afghanistan and 117 from Pakistan). This compares with 32 cases in 2018 in the same period (Afghanistan – 21 and Pakistan – 11).
- Afghanistan: No new WPV1 cases reported this week.
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: Six new WPV1 cases reported this week and details are as follows:
 - Case (1): The case is from Sukkur district, Sindh province, with date of onset 27 October 2019. The case is an 84-month old female child. The child reportedly received 8 OPV doses out of which 1 dose was from routine and 7 doses from supplementary immunization activities (SIAs).
 - Case (2): The case is from the newly infected district Tando Allah Yar, Sindh province, with date of onset 10 November 2019. The case is a 22-month old male child. The child reportedly received 10 OPV doses out of which 3 doses were from routine and 7 doses from SIAs. The index case was identified as wild by a positive contact.
 - Case (3): The case is from Lakki Marwat district, Khyber Pakhtunkhwa (KP) province, with date of onset 16 November 2019. The case is a 60-month old male child. The child reportedly received 8 OPV doses out of which 1 dose was from routine and 7+ doses from SIAs.
 - Case (4): The case is from Bannu district, KP province, with date of onset 30 November 2019. The case is a 17-month old female child. The child received only 3 OPV doses from routine and none from SIAs.
 - Case (5): The case is from Tank district, KP province, with date of onset 8 December 2019. The case is a 15-month old male child. The child received only 7 OPV doses from SIAs and none from routine.
 - Case (6): The case is from Lakki Marwat district, KP province, with date of onset 12 December 2019. The case is a 60-month old male child. The child reportedly received 3 OPV doses from routine and 7+ doses from SIAs.

In 2019 to date, 117 WPV1 cases are reported from Pakistan. They include 72 from Khyber Pakhtunkhwa (KP) province, 11 from KP Tribal Districts (KPTD), 19 from Sindh province, 9 from Balochistan province and 6 from Punjab province. The most recent case has onset of paralysis on 12 December 2019.
- b. *Environmental samples:* Nine new WPV1 positive environmental samples reported this week - all from Pakistan:
- 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 356 WPV1 positive environmental samples including 7 combined (WPV1 and cVDPV2) with most recent positive sample collected on 11 December 2019.

II. Circulating Vaccine Derived Polioviruses (cVDPVs)

1. PAKISTAN: No new cVDPV2 isolates from human, but four 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 22nd 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 five positive environmental samples for cVDPV2, the recent most sample collected on 4 December 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 collected on 3 February 2019.

2 cVDPVs were isolated from environmental samples collected 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 (52/19) / Ending on : 29/12/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	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	W52 29 Dec 19
Afghanistan	3094	3378	3680	79	68	73	68	64	62	54	79	76	62	56	6
Bahrain	18	35	17	0	1	0	2	0	1	0	0	1	0	0	0
Djibouti	4	0	5	0	0	0	1	0	0	1	0	0	0	0	0
Egypt	1242	1246	1328	27	36	26	27	34	39	34	28	31	26	16	1
Iran	820	896	1012	11	16	26	24	31	43	33	25	21	10	1	
Iraq	699	1023	1125	19	23	24	29	28	26	36	33	31	18	10	
Jordan ****	116	115	112	0	1	2	4	0	1	2	0	4	1	1	
Kuwait	69	72	46	0	1	0	1	0	1	1	1	3	1	0	0
Lebanon ****	75	89	81	2	0	1	1	2	2	1	1	4	1	2	
Libya	88	122	101	5	4	1	2	1	1	2	1	3	4	2	
Morocco	143	212	233	8	4	10	3	4	4	8	10	12	1		
Oman	40	28	28	1	1	1	0	1	0	1	1	3	1	0	0
Pakistan	10319	12276	14327	300	279	314	298	297	312	322	296	312	262	74	0
Palestine ****	43	44	60	1	0	2	1	2	0	2	3	1	0	1	0
Qatar	18	10	7	0	0	0	0	1	0	0	0	0	0	0	0
Saudi Arabia	276	242	228	11	6	5	3	7	2	5	3	5	3	1	0
Somalia	345	353	353	7	5	6	6	4	7	5	3	11	6	3	0
Sudan	570	579	583	14	19	21	20	11	11	14	13	6	13	3	
Syria ****	362	362	368	3	4	6	6	6	3	13	8	11	16	6	
Tunisia	67	68	77	0	4	1	0	1	1	2	2	0	0		
U.A.E	58	40	46	1	0	1	3	2	2	1	3	1	0	0	0
Yemen	713	730	741	9	8	10	20	16	17	16	12	22	15	4	2
Total EMR	19179	21920	24558	498	480	530	519	512	535	553	522	558	440	180	9

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	29/12		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	0			
Djibouti	0	0	0	0	0	0	0	0	0	0	0	0	0			
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Iran	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Iraq	0	0	0	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	0	0	
Kuwait	0	0	0	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	0	0	
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pakistan	8	12	11	117	4	2	0	11	11	16	12	14	5	16	20	6
Palestine ****	0	0	0	0	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	0	0	
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Somalia	0	0	0	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	0	0	
Syria ****	0	0	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	0	0	0	0	
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Yemen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total EMR	22	33	32	143	6	3	3	12	16	17	14	16	8	17	25	6

**** 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 & 2019 up to Week (52/19) / Ending on : 29/12/2019

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	3680	26	1	211	3442	0	18.1	23	0	94.2	26	0	29/12/2019		
Bahrain	35	0	0	0	35	0	12.1	0	0	97.1	0	0	17	0	0	6	11	0	5.9	1	1	100.0	0	0	29/12/2019		
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	23/12/2019		
Egypt	1246	0	0	0	1245	1	3.2	0	0	93.2	0	0	1328	0	0	97	1231	0	3.5	0	0	91.6	0	0	29/12/2019		
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	1012	0	0	29	982	1	5.3	0	0	96.7	0	0	28/12/2019		
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	1125	0	0	100	1025	0	7.4	7	0	94.2	0	0	28/12/2019		
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	112	0	0	2	110	0	4.0	0	0	100.0	0	0	26/12/2019		
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	46	0	0	2	44	0	5.2	0	0	89.1	0	0	29/12/2019		
Lebanon	89	0	0	0	89	0	4.8	0	0	96.6	0	0	81	0	0	17	64	0	4.4	8	0	88.9	0	0	27/12/2019		
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	101	0	0	9	92	0	4.1	1	0	99.0	0	0	28/12/2019		
Morocco	212	0	0	0	212	0	2.4	0	0	77.4	0	0	233	0	0	71	162	0	2.6	36	6	83.3	0	0	13/12/2019		
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	28	0	0	2	26	0	3.1	0	0	89.3	0	0	29/12/2019		
Pakistan	12276	12	1	0	12263	0	15.7	0	0	87.0	12	0	14327	117	2	854	13342	12	18.3	132	0	87.6	117	0	29/12/2019		
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	60	0	0	12	48	0	3.2	0	0	98.3	0	0	29/12/2019		
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	7	0	0	2	5	0	2.0	0	0	85.7	0	0	29/12/2019		
Saudi Arabia	242	0	0	0	242	0	3.0	0	0	95.9	0	0	228	0	0	42	186	0	2.8	2	1	93.0	0	0	30/4/2019		
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	353	0	0	21	329	3	5.6	3	3	95.5	0	0	29/12/2019		
Sudan	579	0	0	0	579	0	3.2	0	0	97.2	0	0	583	0	0	19	564	0	3.3	0	0	97.3	0	0	26/12/2019		
Syria	362	0	0	0	362	0	4.7	0	0	87.0	0	0	368	0	0	41	327	0	4.8	2	0	88.3	0	0	28/12/2019		
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	77	0	0	6	70	1	2.8	0	0	75.3	0	0	13/12/2019		
U.A.E	40	0	0	0	40	0	3.2	0	0	97.5	0	0	46	0	0	24	22	0	3.7	9	0	89.1	0	0	29/12/2019		
Yemen	730	0	0	85	645	0	5.2	85	80	91.6	0	0	741	0	0	353	388	0	5.3	189	161	89.5	0	0	29/12/2019		
EMR	21920	33	1	85	21786	15	8.7	85	80	89.8	33	0	24558	143	3	1925	22470	17	9.8	416	174	90.0	143	0			
2017	19179	22	3	2	19076	76	7.7	2	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 <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	47	194	16
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	486	0	0	8	54	25
IRN	145	0	0	3	6	0	200	0	0	4	7	0
IRQ	811	0	0	22	93	9	593	0	0	8	33	42
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	2
PAK	4200	3	0	207	882	0	5253	18	6	192	911	169
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	1065	0	1	43	120	68
SUD	350	0	0	3	24	88	388	0	0	0	31	82
SYR	670	0	0	8	17	0	795	0	0	12	36	68
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	564	413	0	0	0	0	212
EMR	10760	7	10	366	1471	714	10501	26	7	319	1421	708

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	18	5/Dec/19
2019 Total		26	5/Dec/19
2018	Afghanistan	4	7/Aug/18
	Pakistan	3	12/Oct/18
2018 Total		7	12/Oct/18

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	KHIORANGI	1	28-Aug-19	28-Aug-19	
			SUJAWAL	1	25-Sep-19	25-Sep-19	
			JAMSHORO	1	09-Oct-19	09-Oct-19	
		BALOCHSITAN	T. ALLAHYAR	1	10-Nov-19	10-Nov-19	
			MASTUNG	1	18-Nov-19	18-Nov-19	
			KILLABDULLAH	1	2-Jul-19	2-Jul-19	
	KHYBER PAKHTUNKHWA (KP)	SWABI	1	17-Nov-19	17-Nov-19		
		TANK	1	30-Oct-19	30-Oct-19		
		LAKKIMRWAT	3	27-May-19	04-Oct-19		
		TORGHAR	1	25-May-19	25-May-19		
	2019 Total				15	06-Mar-19	18-Nov-19
	2018	AFG	URUZGAN	PACHIERAGAM	1	17-Jul-18	17-Jul-18
SHAHID-E-HASSA				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	
			DUKKI	1	15-Apr-18	15-Apr-18	
2018 Total				4	15-Apr-18	01-Sep-18	

Table 5: Laboratory investigation of AFP cases with paralysis onset in 2019 up to Week (52/2019) / Ending on : (29/12/2019)

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	3606	284	28	563	2632	102		23	206						197	1	2	1	7	14%	96%	100%	98%	28/12/2019	
Bahrain	NPL Oman / CDC	11			2	9															14%	100%		0%	23/12/2019	
Djibouti	NPL Kenya / CDC	5					5																		23/12/2019	
Egypt***	RRL Egypt	1295	35	8	128	1073	44	7								21	1			11	3	10%	96%	100%	99%	26/12/2019
Iran	NPL Iran / CDC	1034	13		22	978	21		3	1						10						3%	100%	100%	99%	28/12/2019
Iraq	RRL Egypt	1194	16		157	953	47	23		11						13						12%	99%	79%	96%	29/12/2019
Jordan	NPL Jordan / RRL EGYPT	112			16	94	2															15%	99%		100%	29/12/2019
Kuwait	RRL Kuwait / RIVM	51			2	49																6%	92%		100%	26/12/2019
Lebanon	NPL Jordan / RRL EGYPT	78	1		9	60	2	6								1						13%	100%	100%	0%	29/12/2019
Libya	RRL Tunisia / RIVM	101			6	90	5															7%	99%		99%	27/12/2019
Morocco	NPL Morocco / RRL Tunisia	219	2		3	202	4	8								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	13932	510	48	2284	10649	421	8	105	253			20	11		252		5	1	17	14%	97%	99%	97%	28/12/2019	
Palestine & UNRWA		60			7	47	1	5														13%	32%		100%	29/12/2019
Qatar	NPL Oman / CDC	7				7																0%	100%		100%	23/12/2019
Saudi Arabia	NPL Saudi Arabia / CDC	230	4		2	216	6	2								4						1%	95%	100%	100%	26/12/2019
Somalia	NPL Kenya / CDC	353	25		69	238	6	15		7			12	3		9						21%	14%		98%	29/12/2019
Sudan	NPL Sudan / RRL Egypt	586	7		81	480	17	1		5						2			1			12%	76%	100%	63%	29/12/2019
Syria	NPL Syria / RRL Egypt	354	14		16	297	22	5		5						10						6%	100%	100%	53%	26/12/2019
Tunisia	RRL Tunisia	69			5	63	1															11%	100%		99%	27/12/2019
U.A.E	NPL Oman / CDC	38			4	30		4														10%	100%		50%	23/12/2019
Yemen	NPL Kenya / CDC	174	3		10	38		123														20%	4%		0%	29/12/2019
Total EMR 2019		23537	914	84	3390	18227	703	212	128	506	1		32	14		521	1	1	18	6	24	13%	95%	99%	97%	
Total EMR 2018		20792	902	90	3514	16233		49	29	590	3		6	6 #		628	7 #		22	1	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	182
	Negative	3	6	9	5	3
	Pending					15
AFG Total		149	185	316	336	250
EGY	EV/SL	455	492	481	508	642
	Negative	41	36	41	32	35
	Pending					18
	EGY Total		496	528	522	540
IRN	Wild			5	51	62
	EV/SL			1	3	3
	Negative					3
	Pending					3
IRN Total				6	54	71
JOR	EV/SL		2	29	36	32
	Negative			2		
	Pending					4
	JOR Total			2	31	36
KUW	EV/SL				3	3
	Negative					8
	Pending					
	KUW Total					3
LEB	EV/SL		2	26	44	37
	Negative		2	1	1	3
	Pending					4
	LEB Total			4	27	45
PAK	Wild	82	60	106	139	349
	Wild+cVDPV2	2	2			7
	cVDPV2	5	2			18
	aVDPV2	3	3	4		1
	EV/SL	344	456	523	531	389
	Negative	3	6		3	4
	Pending					55
	PAK Total		439	529	633	673
SOM	cVDPV2			2	19	2
	cVDPV3				11	
	aVDPV2				2	1
	EV/SL			20	43	25
	Negative			14	138	27
SOM Total				36	213	63
SUD	EV/SL				15	37
	Negative					1
	Pending					22
	SUD Total					15
SYR	EV/SL			4	81	142
	Negative				21	29
	Pending					10
	SYR Total				4	102
TOTAL		1084	1248	1575	2017	2234

Table 7: Environmental Wild/VPV isolate by site

YEAR	COUNTRY	LAB RESULTS	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	
			AFG Total			83	8/Jan/18
	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	
PAK Total			139	1/Jan/18	27/Dec/18		
SOM	cVDPV2	BANADIR	19	4/Jan/18	11/Oct/18		
		BANADIR	11	1/Feb/18	23/Aug/18		
		BANADIR	2	1/Mar/18	13/Sep/18		
SOM Total			32	4/Jan/18	11/Oct/18		
2018 Total				254	1/Jan/18	27/Dec/18	
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	
	AFG Total			50	6/Jan/19	25/Nov/19	
	IRN	Wild	S & B	3	22/Apr/19	20/May/19	
	IRN Total			3	22/Apr/19	20/May/19	
	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	30	8/Jan/19	7/Dec/19	
			PUNJAB	91	5/Jan/19	6/Dec/19	
			SINDH	151	2/Jan/19	11/Dec/19	
			Wild+cVDPV2	PUNJAB	4	6/Aug/19	15/Nov/19
			SINDH	3	7/Oct/19	7/Nov/19	
			cVDPV2	GBALTISTAN	5	24/Aug/19	6/Nov/19
				ISLAMABAD	1	12/Nov/19	12/Nov/19
		KPAKHTUNKHWA		6	9/Oct/19	27/Nov/19	
		PUNJAB		6	21/Aug/19	4/Dec/19	
		aVDPV2	PUNJAB	1	11/Apr/19	11/Apr/19	
		PAK Total			375	1/Jan/19	11/Dec/19
SOM	cVDPV2	BANADIR	2	10/Nov/19	10/Nov/19		
		BANADIR	1	3/Feb/19	3/Feb/19		
SOM Total			3	3/Feb/19	10/Nov/19		
2019 Total				431	1/Jan/19	11/Dec/19	
TOTAL				685	1/Jan/18	11/Dec/19	

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 29/12/2019

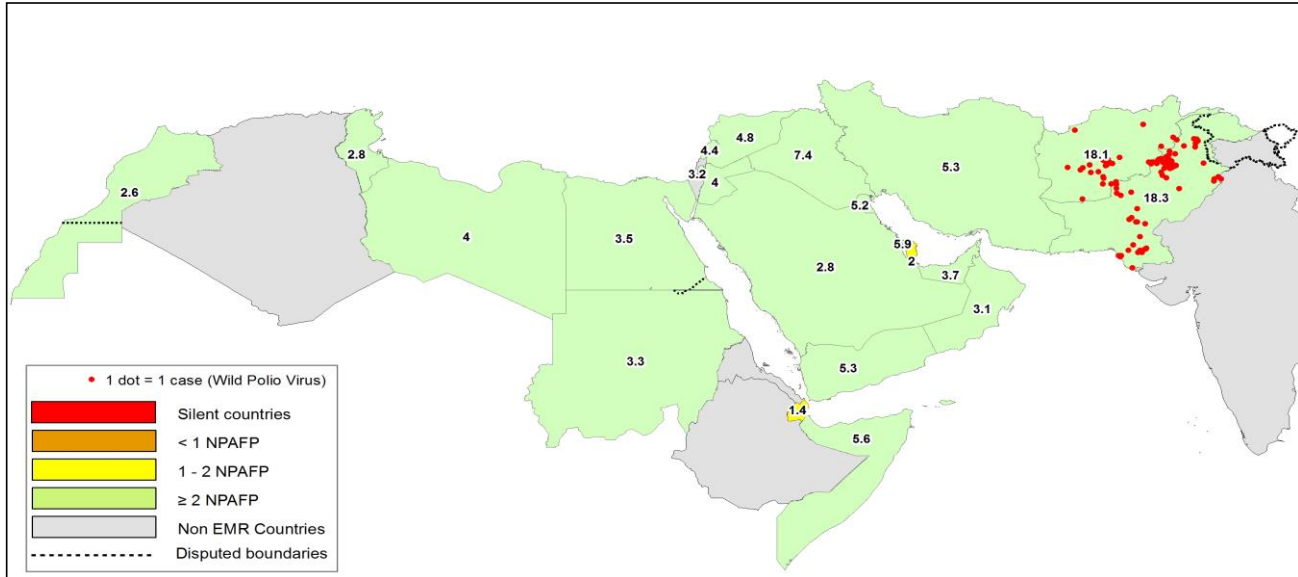


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 29/12/2019

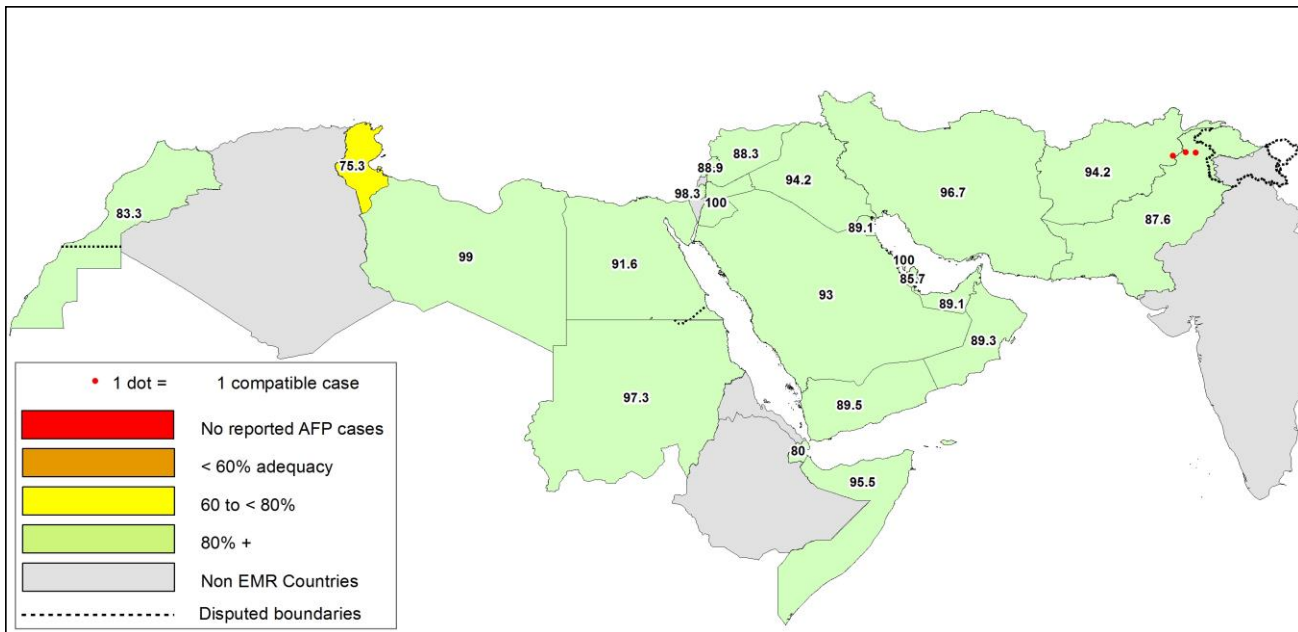


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

Year	COUNTRY	Count	First Case	Last Case
2018	AFG	21	1-Jan-18	6-Nov-18
	PAK	12	8-Mar-18	31-Dec-18
2018 Total		33	1-Jan-18	31-Dec-18
2019	AFG	26	4-Jan-19	22-Nov-19
	PAK	117	15-Jan-19	12-Dec-19
2019 Total		143	4-Jan-19	12-Dec-19

Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2019 - 29/12/2019

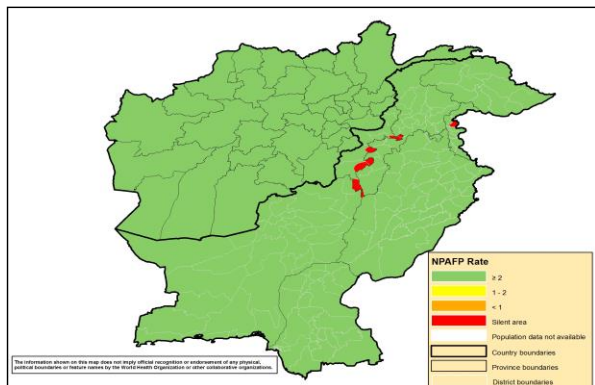


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 29/12/2019

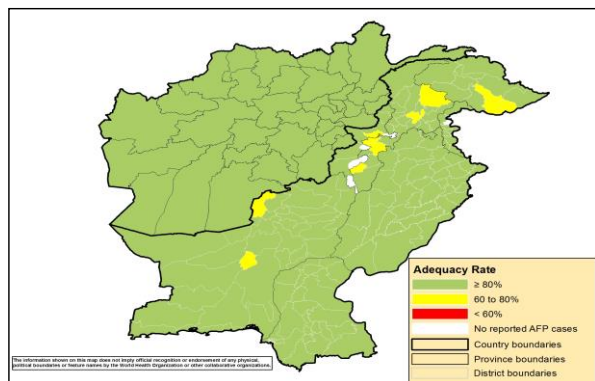
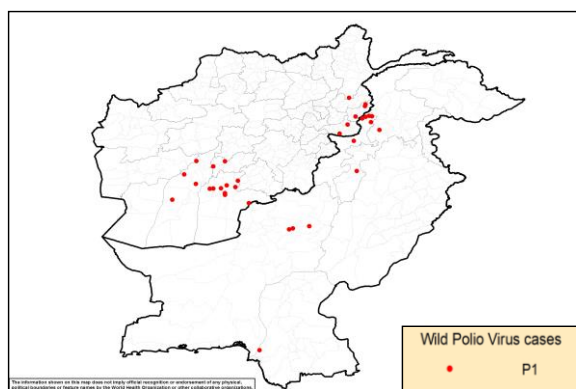
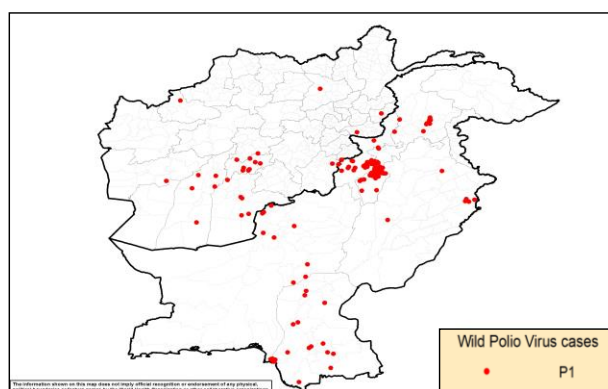


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2019 - 29/12/2019



World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

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Table 9: Wild Polio cases by district and date of onset of paralysis, Afghanistan 2018-2019						
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	
		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	PACHIERAGAM	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		
2018 Total			21	1-Jan-18	6-Nov-18	
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	
	2019 Total			26	4-Jan-19	22-Nov-19

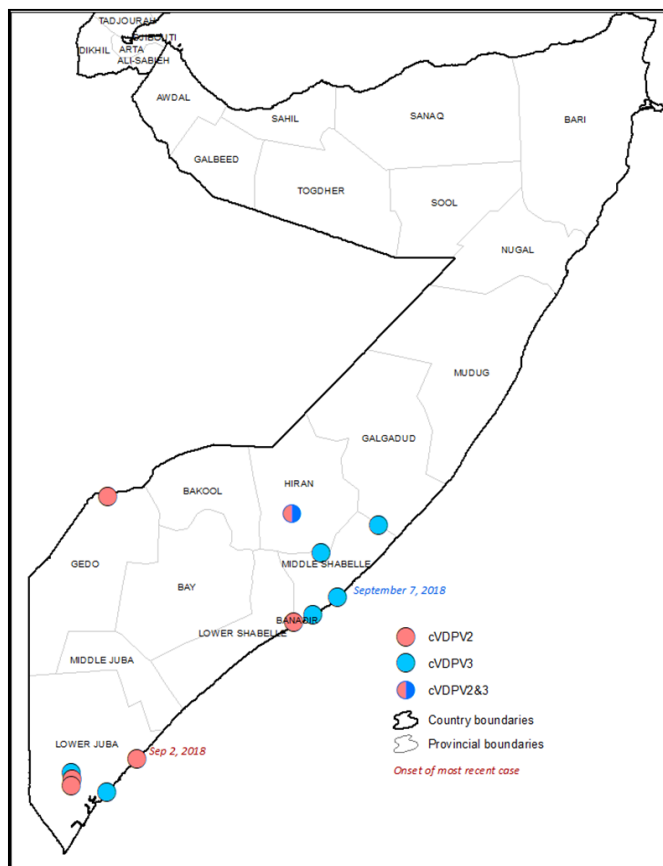
Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2018-2019						
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	KP TRIBAL DISTRICTS	BAJOUR	5	1-Sep-18	31-Dec-18	
		KHYBER	1	25-Sep-18	25-Sep-18	
	KHYBER PAKHTUNKHWA	LAKKIMRWT	1	16-Dec-18	16-Dec-18	
		CHARSADA	1	1-Aug-18	1-Aug-18	
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18	
BALUCHISTAN	DUKKI	3	8-Mar-18	18-May-18		
2018 Total			12	8-Mar-18	31-Dec-18	
2019	KHYBER PAKHTUNKHWA	LAKKIMRWT	29	27-May-19	12-Dec-19	
		TANK	4	11-Oct-19	8-Dec-19	
		BANNU	25	15-Jan-19	30-Nov-19	
		SWABI	1	17-Nov-19	17-Nov-19	
		DIKHAN	2	5-May-19	16-Nov-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	
		BALUCHISTAN	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	
	SINDH	BADIN	1	28-Nov-19	28-Nov-19	
		MIRPURKHAS	2	17-Nov-19	20-Nov-19	
		T.ALLAHYAR	1	10-Nov-19	10-Nov-19	
		LARKANA	2	17-Apr-19	9-Nov-19	
		KHIKAMARI	1	29-Oct-19	29-Oct-19	
		SUKKUR	1	27-Oct-19	27-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		
2019 Total			117	15-Jan-19	12-Dec-19	

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

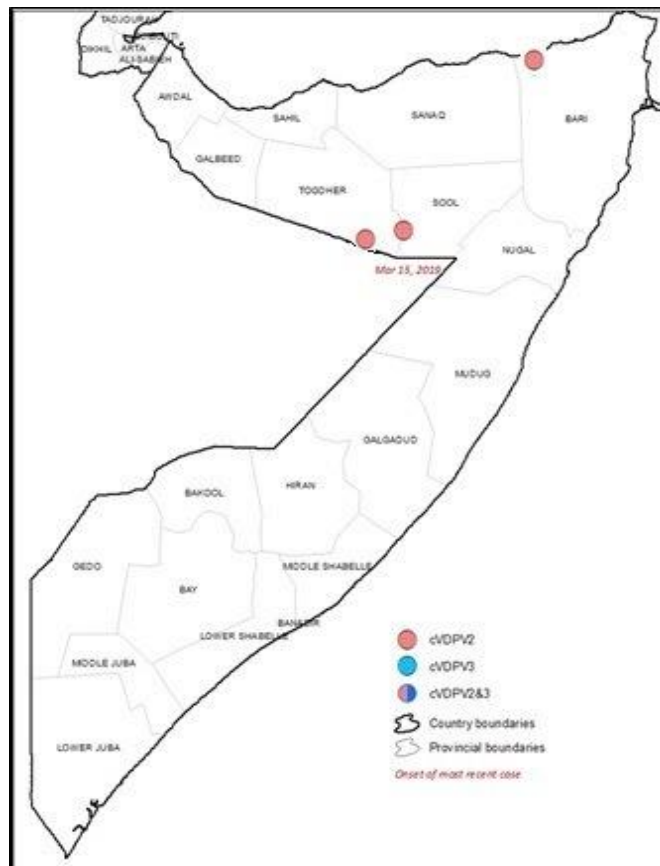
COUNTRY	YEAR	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
PAK	2019	PUNJAB	GUJRANWALA	1	22-Nov-19	22-Nov-19			
			CHARSADA	1	3-Nov-19	3-Nov-19			
		KHYBER PAKHTUNKHWA	KOHISTANUPPER	1	27-Oct-19	27-Oct-19			
			KOHISTANLOWER	2	6-Oct-19	11-Oct-19			
			TORGHAR	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			
Total 2019				15	15-Mar-19	22-Nov-19			
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					
Total 2018				6	11-May-18	2-Sep-18	7	11-May-18	7-Sep-18

Figure 6: Somalia cVDPV cases by type and district

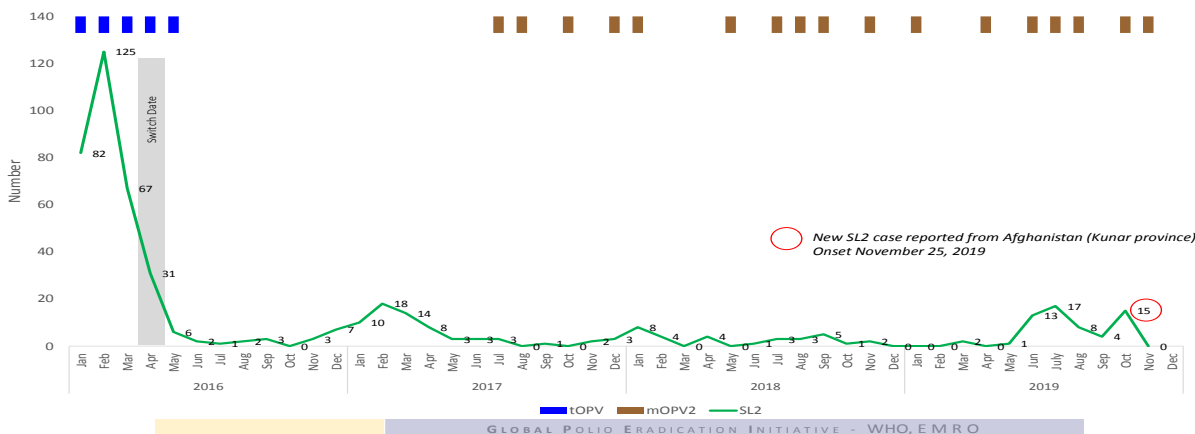
6(a) 01/01/2018 - 31/12/2018



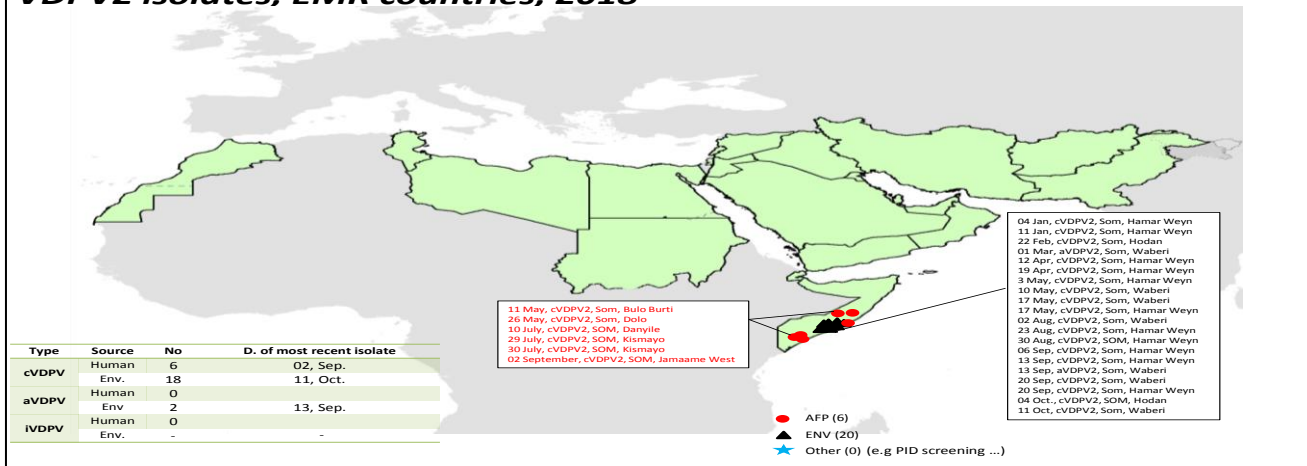
6(b) 01/01/2019 - 29/12/2019



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

