

Highlights of Polio Fax Bulletin No. 1104 for Week 48 2019

I. Wild Poliovirus Transmission

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

- One new wild poliovirus type-1 (WPV1) case from Afghanistan; and
 - Twenty-six new positive WPV1 environmental samples, one from Afghanistan and twenty-five from Pakistan.
- a. *Human samples:* One new wild poliovirus case reported this week. Total WPV1 cases in 2019 to date are 113 (22 from Afghanistan and 91 from Pakistan). This compares with 29 cases in 2018 in the same period (Afghanistan – 21 and Pakistan – 8).
- Afghanistan:

The case was reported from Kandahar district, Kandahar province, with date of onset 10 November 2019. The case is an 18-month old male child. The child received reportedly 1 OPV dose from routine and none from Supplementary Immunization Activities (SIAs).

In 2019 to date, 22 WPV1 cases are reported. They include 8 cases from Uruzgan province, 5 cases from Hilmand province, 4 from Kandahar province, 2 from Paktika province and 1 each from Kunar, Nangarhar and Badghis provinces. The most recent case has onset of paralysis on 10 November 2019.
 - Pakistan: No new WPV1 or cVDPV2 cases were reported this week.

In 2019 to date, 91 WPV1 cases are reported from Pakistan. They include 55 from Khyber Pakhtunkhwa (KP) province, 11 from KP Tribal Districts (KPTD), 13 from Sindh province, 7 from Balochistan province and 5 from Punjab province. The most recent case has onset of paralysis on 7 November 2019.
- b. *Environmental samples:* Twenty six new positive WPV1 environmental samples, one from Afghanistan and twenty five from Pakistan were reported this week:
- Afghanistan: In 2019 to date, there are 46 wild positive environmental samples with most recent positive sample collected on 28 October 2019.
 - Pakistan: In 2019 to date, there are 317 WPV1 positive environmental samples including 2 combined (WPV1 and cVDPV2) with most recent positive sample collected on 18 November 2019.

II. Circulating Vaccine Derived Polioviruses (cVDPVs)

1. PAKISTAN:

In 2019 to date, 11 cVDPV2 cases reported (onset of the most recent case is 3rd 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; and one from Islamabad.

Environment: Nine positive environmental samples for cVDPV2, the recent most sample collected on 16 October 2019 (including two 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.

In addition, cVDPV2 was isolated from healthy child sample collected during community sampling on 25 May 2019. aVDPV2 was isolated from an environmental sample on 3 February 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 1.5
- Tunisia has a percentage of AFP cases with adequate stool specimens of 73.6%
- In Yemen there are AFP cases pending final classification more than 90 days due to delayed lab results because of delay shipment of specimens to reference polio laboratories.

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

Country	Reported AFP cases by week of onset - Week (48/19) / Ending on : 01/12/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	W37 15 Sep 19	W38 22 Sep 19	W39 29 Sep 19	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
Afghanistan	3094	3378	3379	81	76	55	61	79	68	71	66	61	60	36	6
Bahrain	18	35	16	0	0	1	0	0	1	0	2	0	1	0	0
Djibouti	4	0	5	0	0	0	0	0	0	0	1	0	0	1	0
Egypt	1242	1246	1217	28	33	27	21	27	36	26	27	34	39	25	
Iran	820	896	899	19	27	15	20	10	16	25	25	25	22	4	
Iraq	699	1023	1007	22	21	24	25	19	23	24	29	28	19	17	
Jordan ****	116	115	106	1	4	0	1	0	1	2	4	0	1	2	0
Kuwait	69	72	41	0	2	1	1	0	1	0	1	0	1	1	0
Lebanon ****	75	89	72	0	1	1	2	2	0	1	1	2	2	0	
Libya	88	122	91	2	2	4	3	5	4	1	2	1	1	1	1
Morocco	143	212	195	4	8	4	5	8	4	10	3	2	0		
Oman	40	28	23	0	0	2	1	1	1	1	0	1	0	1	0
Pakistan	10319	12276	12916	323	302	289	263	297	271	305	282	265	197	58	0
Palestine ****	43	44	53	1	4	0	1	1	0	1	1	2	0	1	0
Qatar	18	10	7	0	0	0	1	0	0	0	0	1	0	0	0
Saudi Arabia	276	242	206	2	1	3	5	10	6	5	3	4	0		
Somalia	345	353	328	5	16	6	4	7	5	6	5	4	7	4	0
Sudan	570	579	538	12	12	14	21	14	19	22	20	11	9	5	0
Syria ****	362	362	324	7	8	2	5	3	4	6	5	6	3	10	1
Tunisia	67	68	72	1	1	1	1	1	2	1	0	0	1	1	
U.A.E	58	40	41	1	1	1	1	1	0	1	3	2	2	0	
Yemen	713	730	666	20	8	17	13	9	7	10	20	14	12	4	
Total EMR	19179	21920	22202	529	527	467	455	494	469	518	500	463	377	171	8

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	01/12		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	22	2	1	3	1	5	1	2	2	3	1	1	
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	0				
Iran	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				
Jordan ****	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			
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0			
Morocco	0	0	0	0					0							
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pakistan	8	12	8	91	4	2	0	11	11	16	12	14	5	14	2	
Palestine ****	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		
Saudi Arabia	0	0	0	0	0	0	0	0	0							
Somalia	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		
Syria ****	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			
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0			
Yemen	0	0	0	0			0									
Total EMR	22	33	29	113	6	3	3	12	16	17	14	16	8	15	3	0

**** 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 (48/19) / Ending on : 01/12/2019

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
		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	3379	22	0	208	3149	0	18.1	29	0	94.3	22	0	01-12-2019
Bahrain	35	0	0	0	35	0	12.1	0	0	97.1	0	0	16	0	0	5	11	0	6.0	0	0	100.0	0	0	01-12-2019
Djibouti	0	0	0	0	0	0	0.0	0	0		0	0	5	0	0	5	0	0	1.5	3	2	80.0	0	0	01-12-2019
Egypt	1246	0	0	0	1245	1	3.2	0	0	93.2	0	0	1217	0	0	207	1010	0	3.5	1	0	91.0	0	0	28-11-2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	899	0	0	49	849	1	5.1	0	0	96.9	0	0	30-11-2019
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	1007	0	0	74	933	0	7.2	14	0	94.3	0	0	30-11-2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	106	0	0	3	103	0	4.1	0	0	100.0	0	0	01-12-2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	41	0	0	2	39	0	5.0	0	0	82.9	0	0	01-12-2019
Lebanon	89	0	0	0	89	0	4.8	0	0	96.6	0	0	72	0	0	17	55	0	4.2	8	0	87.5	0	0	29-11-2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	91	0	0	6	85	0	4.0	1	0	98.9	0	0	30-11-2019
Morocco	212	0	0	0	212	0	2.4	0	0	77.4	0	0	195	0	0	47	148	0	2.4	34	6	81.5	0	0	19-11-2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	23	0	0	1	22	0	2.8	0	0	87.0	0	0	01-12-2019
Pakistan	12276	12	1	0	12263	0	15.7	0	0	87.0	12	0	12916	91	0	808	12006	11	17.9	187	0	87.5	91	0	01-12-2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	53	0	0	10	43	0	3.1	0	0	98.1	0	0	01-12-2019
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	7	0	0	4	3	0	2.1	1	0	85.7	0	0	01-12-2019
Saudi Arabia	242	0	0	0	242	0	3.0	0	0	95.9	0	0	206	0	0	58	148	0	2.8	17	12	93.7	0	0	20-11-2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	328	0	0	19	306	3	5.6	3	3	95.4	0	0	01-12-2019
Sudan	579	0	0	0	579	0	3.2	0	0	97.2	0	0	538	0	0	12	526	0	3.3	0	0	97.0	0	0	01-12-2019
Syria	362	0	0	0	362	0	4.7	0	0	87.0	0	0	324	0	0	24	300	0	4.6	0	0	87.0	0	0	30-11-2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	72	0	0	3	68	1	2.9	0	0	73.6	0	0	29-11-2019
U.A.E	40	0	0	0	40	0	3.2	0	0	97.5	0	0	41	0	0	19	22	0	3.6	6	0	90.2	0	0	26-11-2019
Yemen	730	0	0	119	611	0	5.2	119	110	91.6	0	0	666	0	0	507	159	0	5.2	363	332	89.8	0	0	30-11-2019
EMR	21920	33	1	119	21752	15	8.7	119	110	89.8	33	0	22202	113	0	2088	19985	16	9.7	667	355	89.9	113	0	
2017	19179	22	3	43	19035	76	7.7	43	34	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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Table 4 (a): Lab results of contacts' samples in EMR, 2018 - 2019

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	1037	8	0	45	187	39
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	442	0	0	7	46	55
IRN	145	0	0	3	6	0	160	0	0	4	6	0
IRQ	811	0	0	22	93	9	503	0	0	7	22	12
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	67	0	0	3	1	17
OMA	70	0	0	2	16	0	70	0	0	2	26	0
PAK	4200	3	0	207	882	0	4724	13	7	176	845	150
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	990	0	1	43	111	59
SUD	350	0	0	3	24	88	367	0	0	0	31	86
SYR	670	0	0	8	17	0	703	0	0	12	36	34
TUN	1	0	0	0	0	0	26	0	0	0	2	1
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	1559	0	0	0	0	566	389	0	0	0	0	188
EMR	10760	7	10	366	1471	716	9509	21	8	299	1319	644

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	13	2-Nov-19
2019 Total		21	2-Nov-19
2018	Afghanistan	4	7-Aug-18
	Pakistan	3	12-Oct-18
2018 Total		7	12-Oct-18

Table 4 (C): Number and 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	02-Aug-19	02-Aug-19
		HILMAND	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
			KILLABDULLAH	1	02-Jul-19	02-Jul-19
	KHYBER PAKHTUNKHWA (KP)	LAKKIMRWAT	3	27-May-19	04-Oct-19	
		TORGHAR	1	25-May-19	25-May-19	
2019 Total				11	06-Mar-19	09-Oct-19
2018	AFG	NANGARHAR	PACHIERAGAM	1	17-Jul-18	17-Jul-18
		URUZGAN	SHAHID-E-HASSA	1	08-Jul-18	08-Jul-18
	PAK	KHYBER PAKHTUNKHWA TRIBAL DISTRICTS (KPTD)	BAJOUR	1	01-Sep-18	01-Sep-18
		BALOCHSITAN	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 (48/2019) / Ending on : (01/12/2019)

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	3329	254	24	525	2430	98	2	19	188						182		1	2	1	1	14%	96%	100%	98%	01/12/2019
Bahrain	NPL Oman / CDC	11			2	9																14%	100%		0%	02/12/2019
Djibouti	NPL Kenya / CDC	5					1	4																		01/12/2019
Egypt**	RRL Egypt	1185	35	6	109	908	60	67		15						20			9	3		10%	96%	100%	99%	01/12/2019
Iran	NPL Iran / CDC	928	12		22	847	46	1		3	1					9						3%	100%	100%	99%	30/11/2019
Iraq	RRL Egypt	1086	14		141	865	48	18		8						13						12%	100%	81%	93%	28/11/2019
Jordan	NPL Jordan / RRL EGYPT	106			15	88	2	1														15%	100%		100%	01/12/2019
Kuwait	RRL Kuwait / RIVM	46			2	42	2															7%	91%		100%	01/12/2019
Lebanon	NPL Jordan / RRL EGYPT	70	1		7	55	4	3								1						11%	100%	100%	0%	01/12/2019
Libya	RRL Tunisia / RIVM	92			6	84	2															7%	99%		99%	30/11/2019
Morocco	NPL Morocco / RRL Tunisia	195	2		3	181	8	1								2						2%	99%	100%	95%	29/11/2019
Oman	NPL Oman / CDC	23			4	17	1	1														25%	100%		100%	02/12/2019
Pakistan	RRL Pakistan	12535	453	44	2117	9569	327	13	83	248					10	245			5	1	7	15%	97%	99%	97%	01/12/2019
Palestine & UNRWA		53			7	42	1	3														14%	36%		100%	01/12/2019
Qatar	NPL Oman / CDC	7				7																0%	100%		100%	02/12/2019
Saudi Arabia	NPL Saudi Arabia / CDC	198	4		2	180		12								4						2%	95%	100%	100%	04/11/2019
Somalia	NPL Kenya / CDC	328	23		64	223	10	8		7			10	3		8					1	21%	14%		98%	01/12/2019
Sudan	NPL Sudan / RRL Egypt	528	6		72	413	10	27		5						2						13%	72%	100%	63%	24/11/2019
Syria	NPL Syria / RRL Egypt	313	13		16	268	13	3		5						10						6%	100%	100%	53%	28/11/2019
Tunisia	RRL Tunisia	67			5	59	3															11%	100%		98%	30/11/2019
U.A.E	NPL Oman / CDC	34			3	25	6															11%	100%		39%	02/12/2019
Yemen	NPL Kenya / CDC	7	2					5														0%	100%			30/11/2019
Total EMR 2019		21146	819	74	3122	16312	642	169	102	479	1		10	13		496		1	16	5	9	13%	95%	99%	97%	
Total EMR 2018		20746	902	90	3513	16220		17	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	Status	2015	2016	2017	2018	2019
AFG	NEGATIVE	129	183	274	253	166
	PENDING					10
	WILD	20	2	42	83	46
AFG Total		149	185	316	336	222
EGY	NEGATIVE	493	528	522	540	605
	PENDING	2				47
	VDPV2	3	1			
EGY Total		498	529	522	540	652
JOR	NEGATIVE		2	32	36	28
	PENDING					5
JOR Total			2	32	36	33
LEB	NEGATIVE		4	27	45	37
	PENDING					4
LEB Total			4	27	45	41
PAK	NEGATIVE	347	462	523	534	333
	PENDING					35
	WILD	79	59	105	139	315
	WILD & VDPV2	5	3	1		2
	VDPV2	8	5	4		7
PAK Total		439	529	633	673	692
SOM	NEGATIVE			34	181	48
	PENDING					6
	VDPV2			2	20	1
	VDPV3				12	
SOM Total			36	213	55	
SYR	NEGATIVE			4	102	158
	PENDING					10
SYR Total			4	102	168	
IRN	NEGATIVE			6	54	63
	WILD					3
IRN Total				6	54	66
KUW	NEGATIVE				3	
	PENDING					11
KUW Total				3	11	
SUD	NEGATIVE				15	15
	PENDING					15
SUD Total				15	50	
Grand Total		1086	1249	1576	2017	1990

Table 7: Environmental Wild/VDPV isolate by site

Country	COUNTRY	Status	PROVINCE	DISTRICT	Count	First date	Last date
2018	AFG	WILD	HILMAND	LASHKARGAH	12	8-Jan	26-Dec
				HERAT	1	25-Jun	25-Jun
				KABUL	3	26-Feb	26-Jun
				KANDAHAR	42	8-Jan	26-Dec
				MATUN	1	25-Sep	25-Sep
				ASADABAD	2	24-Apr	25-Sep
				BEHSUD	3	28-Jan	25-Oct
				JALALABAD	19	27-Jan	26-Dec
	AFG Total				83	8-Jan	26-Dec
	PAK	WILD	BALOCHISTAN	LORALAI	2	17-Mar	17-Aug
				PISHIN	1	2-Dec	2-Dec
				QUETTA	13	13-Feb	20-Dec
				KABDULAH	8	1-Jan	15-Dec
				CDA	7	10-Jan	10-Nov
				LAHORE	12	11-Jun	18-Dec
				RAWALPINDI	15	10-Jan	14-Dec
				DGKHAN	2	12-Feb	12-Sep
				HYDERABAD	1	9-Feb	9-Feb
				JACOBABAD	3	12-Feb	12-Sep
				KAMBAR	3	7-Apr	9-Jul
KHIBALDIA				2	1-Aug	4-Sep	
KHIGADAP	15	15-Feb	11-Dec				
KHIGIQBAL	1	13-Sep	13-Sep				
KHIKORANGI	1	14-Dec	14-Dec				
KHILANDHI	3	10-Jan	30-Jul				
KHISITE	2	1-Jan	3-Sep				
SUKKUR	2	8-Feb	9-Nov				
KHILIAQAT	2	7-Mar	7-Nov				
KHISADDAR	1	10-Sep	10-Sep				
BAJOUR	5	19-May	25-Oct				
WAZIR-S	2	26-Nov	27-Dec				
BANNU	4	31-Mar	27-Dec				
KOHAT	5	5-Jan	27-Sep				
MARDAN	2	15-Oct	15-Nov				
NEWSHERA	2	18-Sep	18-Oct				
PESHAWAR	23	10-Jan	26-Dec				
PAK Total				139	1-Jan	27-Dec	
SOM	VDPV2	BANADIR	HAMAR WEYN	11	4-Jan	20-Sep	
			HODAN	2	22-Feb	4-Oct	
			WABERI	7	1-Mar	11-Oct	
			HAMAR WEYN	6	11-Feb	5-Apr	
VDPV3	BANADIR	HODAN	1	1-Feb	1-Feb		
		WABERI	5	8-Mar	23-Aug		
SOM Total				32	4-Jan	11-Oct	
2018 Total				254	1-Jan	27-Dec	
2019	AFG	WILD	HILMAND	LASHKARGAH	9	23-Feb	28-Oct
				NAHR-E-SARAJ	7	6-Jan	28-Oct
				KANDAHAR	23	6-Jan	24-Sep
				NANGARHAR	7	26-Jan	25-Sep
	AFG Total				46	6-Jan	28-Oct
	PAK	WILD	BALOCHISTAN	KHUZDAR	2	20-Mar	20-Oct
				LORALAI	1	17-Mar	17-Mar
				PISHIN	5	2-Feb	2-Oct
				QUETTA	33	1-Jan	4-Nov
				ZHOB	1	16-Oct	16-Oct
				DSUGTI	2	19-Aug	19-Sep
				KABDULAH	13	1-Jan	3-Nov
				NSIRABAD	1	21-Oct	21-Oct
				CDA	3	12-Apr	21-Aug
				FAISALABAD	5	3-Jan	4-Nov
				LAHORE	53	5-Jan	18-Nov
				MULTAN	5	18-Feb	18-Sep
				RAWALPINDI	12	10-Jan	12-Nov
				RAJANPUR	1	20-Sep	20-Sep
				BAHAWALPUR	1	28-Aug	28-Aug
DGKHAN				4	8-Apr	12-Nov	
SHEIKHUPURA	1	15-Nov	15-Nov				
SIALKOT	1	14-Nov	14-Nov				
SINDH	DADU	6	2-May	12-Nov			
	HYDERABAD	11	24-Jan	12-Nov			
	JACOBABAD	5	24-Jan	18-Oct			
	KAMBAR	7	7-Mar	5-Nov			
	KHIBALDIA	9	2-Jan	6-Nov			
	KHIGADAP	30	8-Jan	14-Nov			
	KHIGIQBAL	10	11-Apr	17-Oct			
	KHIKORANGI	9	18-Feb	18-Oct			
	KHILANDHI	8	19-Feb	21-Oct			
	KHISITE	10	3-Jan	5-Nov			
SUKKUR	12	23-Jan	5-Nov				
KHILIAQAT	9	7-Feb	8-Nov				
KHISADDAR	11	7-Jan	7-Nov				
WAZIR-S	5	22-Jan	28-May				
KURRAM	1	15-Jan	15-Jan				
BANNU	9	28-Jan	29-Oct				
DIKHAN	4	8-Jan	11-Jun				
KOHAT	1	27-Feb	27-Feb				
MARDAN	4	16-Mar	15-Jun				
PESHAWAR	10	11-Jan	11-Oct				
WILD & VDPV2	PUNJAB	LAHORE	1	6-Aug	6-Aug		
		KHISITE	1	7-Oct	7-Oct		
		RAWALPINDI	2	21-Aug	12-Sep		
		GBALTISTAN	3	26-Aug	16-Oct		
VDPV2	PUNJAB	DIAMER	1	24-Aug	24-Aug		
		GILGIT	1	9-Oct	9-Oct		
KHYBER PAKHTUNKHWA	ASOTABAD						
PAK Total				324	1-Jan	18-Nov	
SOM	VDPV2	BANADIR	HODAN	1	3-Feb	3-Feb	
SOM Total				1	3-Feb	3-Feb	
IRN	WILD	S & B	IRANSHAHR	3	22-Apr	20-May	
IRN Total				3	22-Apr	20-May	
2019 Total				374	1-Jan	18-Nov	

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

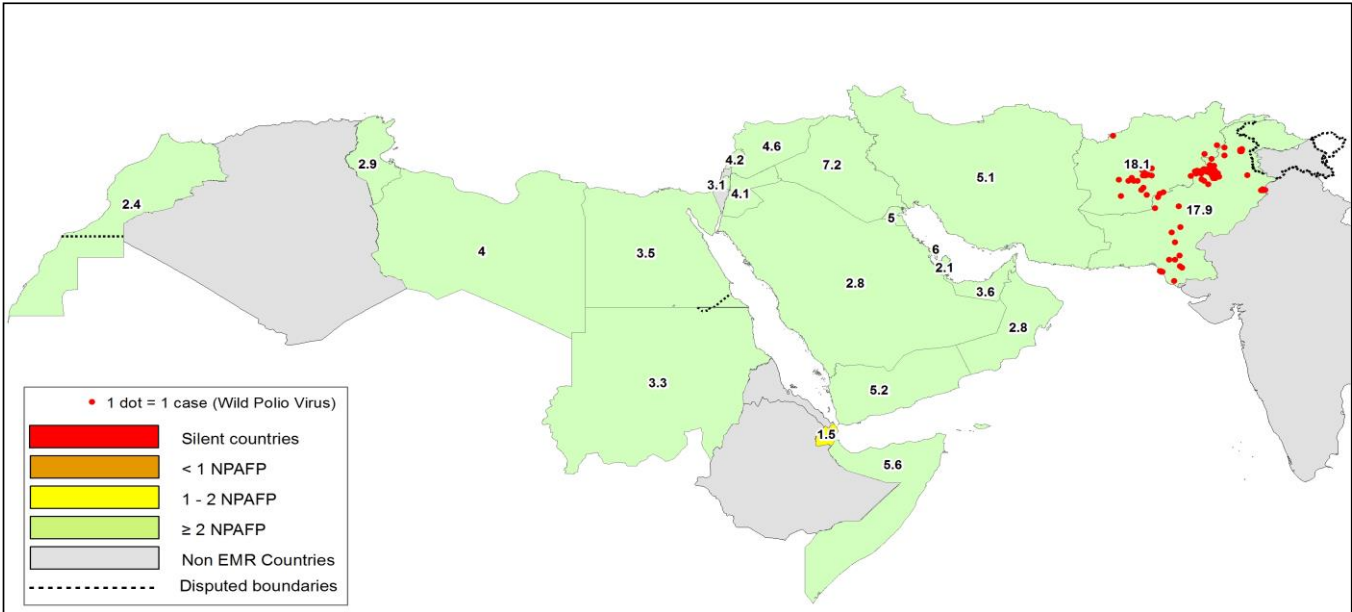


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 01/12/2019

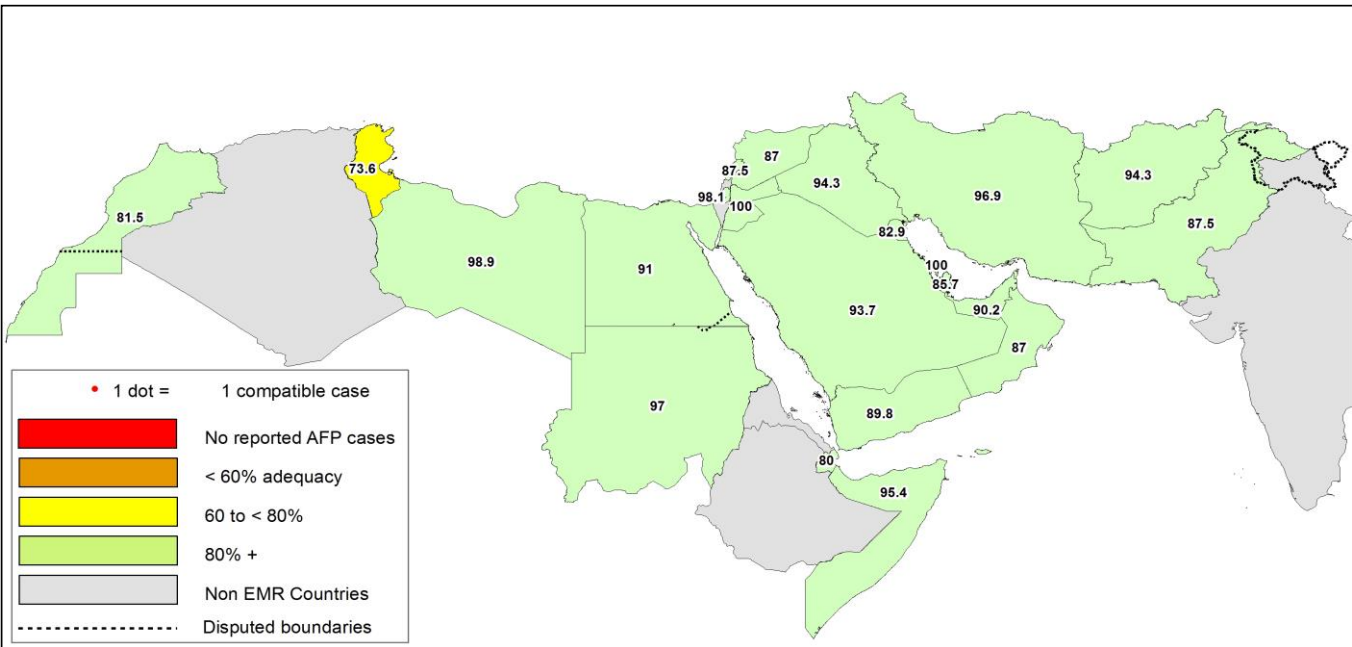


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

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	22	4-Jan-19	10-Nov-19
	PAK	91	15-Jan-19	7-Nov-19
2019 Total		113	4-Jan-19	10-Nov-19

Last reported wild Polio P3 from Pakistan with date of onset 18/04/2012

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

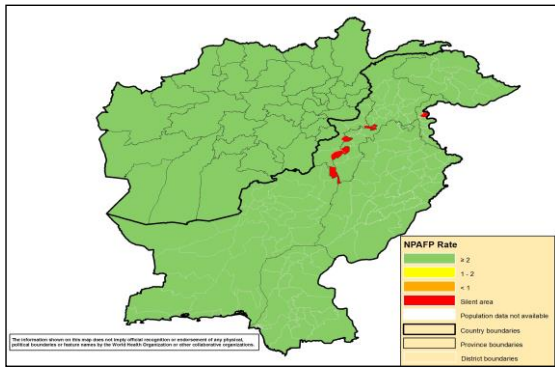


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 01/12/2019

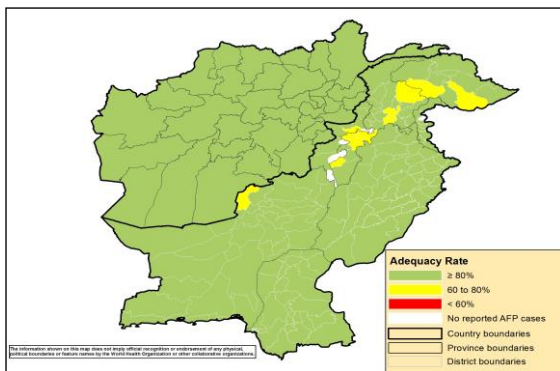
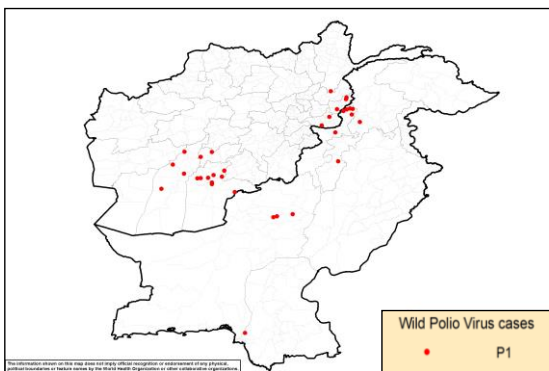
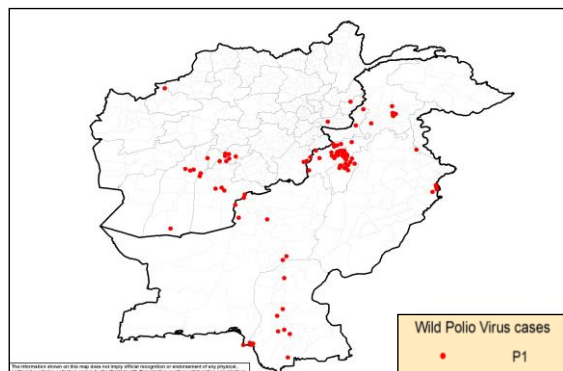


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



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



World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

Week 48, ending 01 December 2019

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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	
	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	PACHIERAGAM	1	17-Jul-18	17-Jul-18
	KUNAR	KAMA	1	1-Jan-18	1-Jan-18	
		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	KANDAHAR	2	17-Aug-19	10-Nov-19	
		GHORAK	1	12-Jan-19	12-Jan-19	
		SPINBOLDAK	1	4-Jan-19	4-Jan-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	
	URUZGAN	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	
	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			22	4-Jan-19	10-Nov-19

Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2018-2019

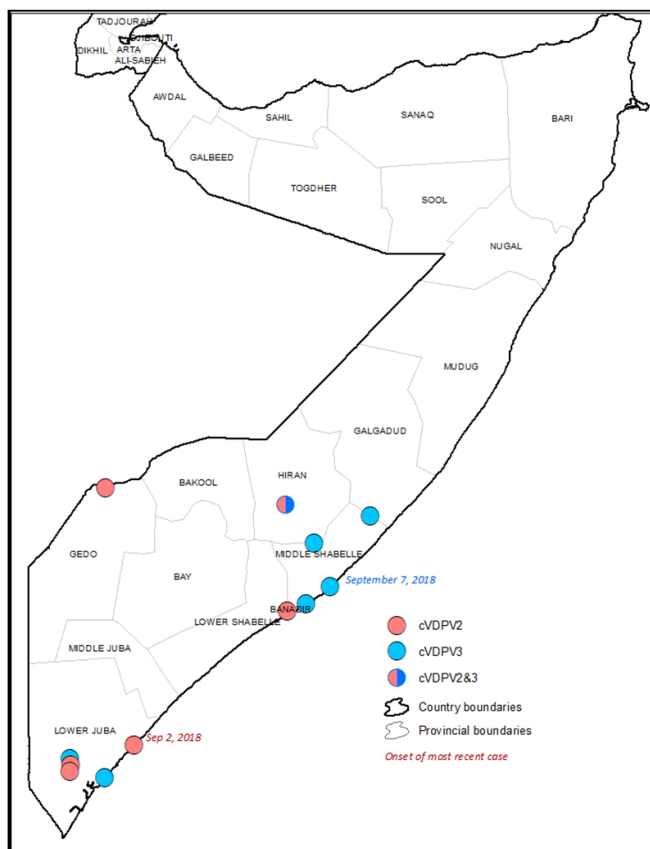
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	KP TRIBAL DISTRICTS	BAJOUR	5	1-Sep-18	31-Dec-18	
		KHYBER	1	25-Sep-18	25-Sep-18	
	KHYBER PAKHTUNKHWA	LAKKIMRWT	1	16-Dec-18	16-Dec-18	
		CHARSADA	1	1-Aug-18	1-Aug-18	
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18	
	BALOCHISTAN	DUKKI	3	8-Mar-18	18-May-18	
2018 Total			12	8-Mar-18	31-Dec-18	
2019	KHYBER PAKHTUNKHWA	LAKKIMRWT	18	27-May-19	7-Nov-19	
		BANNU	24	15-Jan-19	31-Oct-19	
		TANK	1	11-Oct-19	11-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	
		DIKHAN	1	5-May-19	5-May-19	
		SINDH	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	
	KHIGIQBAL		1	29-Apr-19	29-Apr-19	
	LARKANA		1	17-Apr-19	17-Apr-19	
	KHILAYARI		1	25-Feb-19	25-Feb-19	
	BALOCHISTAN	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	
	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	
	PUNJAB	LAHORE	4	20-Jan-19	22-Jun-19	
		JHELUM	1	21-Jun-19	21-Jun-19	
	2019 Total			91	15-Jan-19	7-Nov-19

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

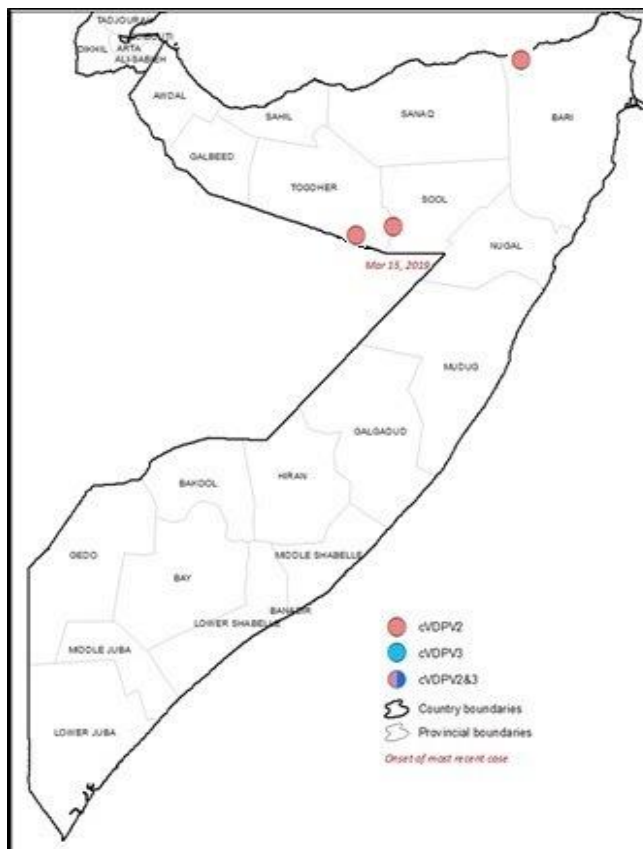
COUNTRY	YEAR	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
PAK	2019	KHYBER PAKHTUNKHWA	CHARSADA	1	03-Nov-19	03-Nov-19			
			KOHISTANUPPER	1	27-Oct-19	27-Oct-19			
			KOHISTANLOWER	2	06-Oct-19	11-Oct-19			
			TORGHAR	2	04-Sep-19	28-Oct-19			
		ISLAMABAD	CDA	1	11-Sep-19	11-Sep-19			
		GILGIT BALTISTAN	DIAMER	4	07-Jul-19	28-Aug-19			
SOM	2019	BARI	BOSSASO	1	08-May-19	08-May-19			
		TOGDHER	BUHODLE	1	21-Apr-19	21-Apr-19			
		SOOL	LAS ANOD	1	15-Mar-19	15-Mar-19			
Total 2019				14	15-Mar-19	3-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 BURTU	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

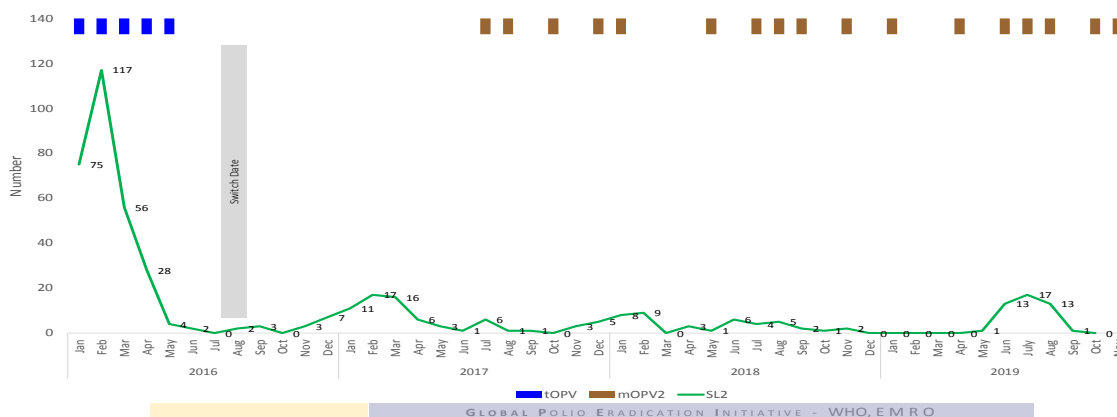
6(a) 01/01/2018 - 31/12/2018



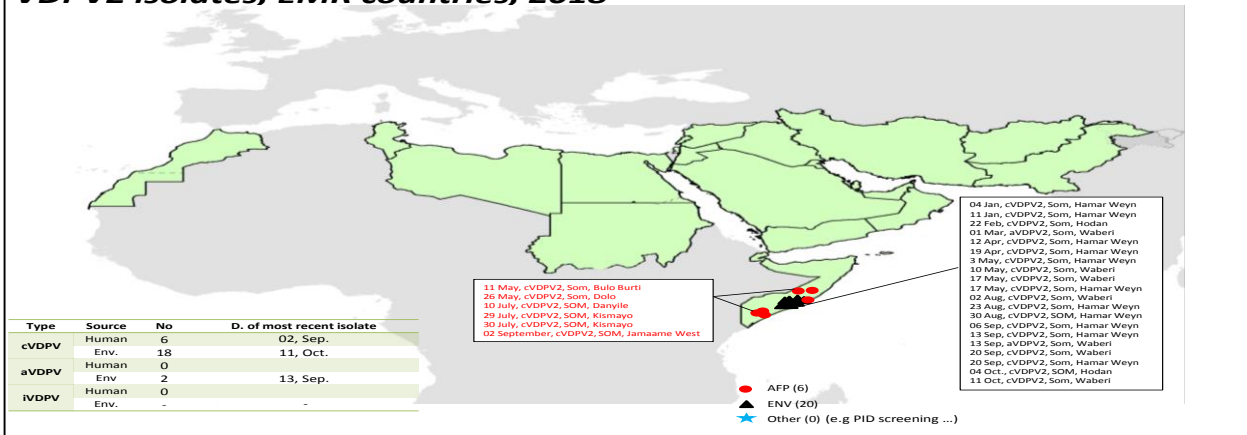
6(b) 01/01/2019 - 01/12/2019



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

