

Highlights of Polio Fax Bulletin No. 1105 for Week 49 2019

I. Wild Poliovirus Transmission

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

- Three new wild poliovirus type-1 (WPV1) cases from Pakistan;
- Nine new positive WPV1 environmental samples from Pakistan;
- Seven new positive cVDPV2 environmental samples from Pakistan; and
- Two new coinfection WPV1-cVDPV2 environmental samples from Pakistan

Advance notification: A new WPV1 from Afghanistan from Khasuruzgan district, Uruzgan province, with date of onset 2nd November 2019 – details will be included in next week bulletin.

- a. *Human samples:* Three new wild poliovirus case reported this week. Total WPV1 cases in 2019 to date are 116 (22 from Afghanistan and 94 from Pakistan). This compares with 29 cases in 2018 in the same period (Afghanistan – 21 and Pakistan – 8).

- Afghanistan:

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: Three new WPV1 cases reported this week and details are as follows:

Case (1): The case is from Larkana district, Sindh province, with date of onset 9 November 2019. The case is a 9-month old male child. The child reportedly received 7 OPV doses out of which 3 doses were from routine and 4 doses from supplementary immunization activities (SIAs).

Case (2): The case is from Lakki Marwat district, Khyber Pakhtunkhwa (KP) province, with date of onset 14 November 2019. The case is a 4-month old male child. The child did not receive any OPV doses neither from routine nor from SIAs.

Case (3): The case is from DI Khan district, KP province, with date of onset 16 November 2019. The case is an 18-month old male child. The child reportedly received 1 dose from routine and 7+ doses from SIAs.

In 2019 to date, 94 WPV1 cases are reported from Pakistan. They include 57 from Khyber Pakhtunkhwa (KP) province, 11 from KP Tribal Districts (KPTD), 14 from Sindh province, 7 from Balochistan province and 5 from Punjab province. The most recent case has onset of paralysis on 16 November 2019.

- b. *Environmental samples:* Nine new positive WPV1 environmental samples 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 326 WPV1 positive environmental samples including 4 combined (WPV1 and cVDPV2) with most recent positive sample collected on 20 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: Eighteen positive environmental samples for cVDPV2, the recent most sample collected on 12 November 2019 (including four 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 1.4
- Tunisia has a percentage of AFP cases with adequate stool specimens of 75%
- 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 (49/19) / Ending on : 08/12/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	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	W49 08 Dec 19
Afghanistan	3094	3378	3451	76	55	61	79	68	71	68	62	61	51	58	1
Bahrain	18	35	16	0	1	0	0	1	0	2	0	1	0	0	0
Djibouti	4	0	5	0	0	0	0	0	0	1	0	0	1	0	0
Egypt	1242	1246	1250	33	27	21	27	36	26	27	34	39	34	23	1
Iran	820	896	938	27	15	19	11	16	26	24	32	32	20	6	
Iraq	699	1023	1047	21	24	25	19	23	24	29	29	24	34	17	
Jordan ****	116	115	109	4	0	1	0	1	2	4	0	1	2	0	3
Kuwait	69	72	44	2	1	1	0	1	0	1	0	1	1	1	2
Lebanon ****	75	89	75	1	1	2	2	0	1	1	2	2	1	1	1
Libya	88	122	93	2	4	3	5	4	1	2	1	1	2	1	1
Morocco	143	212	211	8	4	5	8	4	10	3	4	4	7	3	
Oman	40	28	23	0	2	1	1	1	1	0	1	0	1	0	
Pakistan	10319	12276	13261	302	289	266	297	273	311	288	277	274	228	64	2
Palestine ****	43	44	54	4	0	1	1	0	2	1	2	0	1	0	0
Qatar	18	10	7	0	0	1	0	0	0	0	1	0	0	0	0
Saudi Arabia	276	242	214	1	3	5	10	6	5	3	7	2	3	0	
Somalia	345	353	330	16	6	4	7	5	6	5	4	7	4	1	1
Sudan	570	579	551	12	14	21	14	19	22	20	11	10	11	6	0
Syria ****	362	362	331	8	2	5	3	4	6	6	6	3	13	4	
Tunisia	67	68	76	1	1	1	0	4	1	0	1	1	2	1	0
U.A.E	58	40	42	1	1	1	1	0	1	3	2	2	1	0	0
Yemen	713	730	680	8	17	13	9	8	10	20	15	14	11	3	
Total EMR	19179	21920	22808	527	467	457	494	474	526	508	491	479	428	189	12

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	08/12		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	0			
Iraq	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		
Kuwait	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	0		
Morocco	0	0	0	0					0							
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pakistan	8	12	8	94	4	2	0	11	11	16	12	14	5	14	5	
Palestine ****	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	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	116	6	3	3	12	16	17	14	16	8	15	6	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 (49/19) / Ending on : 08/12/2019

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	3451	22	1	192	3236	0	18.1	21	0	94.2	22	0	08-12-2019
Bahrain	35	0	0	0	35	0	12.1	0	0	97.1	0	0	16	0	0	5	11	0	5.9	0	0	100.0	0	0	08-12-2019
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	08-12-2019
Egypt	1246	0	0	0	1245	1	3.2	0	0	93.2	0	0	1250	0	0	193	1057	0	3.5	1	0	91.1	0	0	05-12-2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	938	0	0	49	888	1	5.2	0	0	96.7	0	0	07-12-2019
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	1047	0	0	75	972	0	7.3	4	0	94.3	0	0	06-12-2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	109	0	0	6	103	0	4.2	0	0	100.0	0	0	08-12-2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	44	0	0	4	40	0	5.3	0	0	88.6	0	0	08-12-2019
Lebanon	89	0	0	0	89	0	4.8	0	0	96.6	0	0	75	0	0	20	55	0	4.3	8	0	85.3	0	0	06-12-2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	93	0	0	5	88	0	4.0	1	0	98.9	0	0	07-12-2019
Morocco	212	0	0	0	212	0	2.4	0	0	77.4	0	0	211	0	0	49	162	0	2.5	35	6	83.4	0	0	06-12-2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	23	0	0	1	22	0	2.7	0	0	87.0	0	0	01-12-2019
Pakistan	12276	12	1	0	12263	0	15.7	0	0	87.0	12	0	13261	94	0	839	12317	11	18.0	184	0	87.3	94	0	08-12-2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	54	0	0	8	46	0	3.1	0	0	98.1	0	0	08-12-2019
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	7	0	0	4	3	0	2.1	2	0	85.7	0	0	01-12-2019
Saudi Arabia	242	0	0	0	242	0	3.0	0	0	95.9	0	0	214	0	0	61	153	0	2.8	16	12	93.9	0	0	04-12-2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	330	0	0	14	313	3	5.5	3	3	95.5	0	0	08-12-2019
Sudan	579	0	0	0	579	0	3.2	0	0	97.2	0	0	551	0	0	26	525	0	3.3	0	0	97.1	0	0	08-12-2019
Syria	362	0	0	0	362	0	4.7	0	0	87.0	0	0	331	0	0	23	308	0	4.6	1	0	87.0	0	0	07-12-2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	76	0	0	6	69	1	3.0	0	0	75.0	0	0	08-12-2019
U.A.E	40	0	0	0	40	0	3.2	0	0	97.5	0	0	42	0	0	20	22	0	3.6	6	0	90.5	0	0	08-12-2019
Yemen	730	0	0	86	644	0	5.2	86	80	91.6	0	0	680	0	0	468	212	0	5.2	321	290	89.7	0	0	07-12-2019
EMR	21920	33	1	86	21785	15	8.7	86	80	89.8	33	0	22808	116	1	2073	20602	16	9.7	606	313	89.8	116	0	
2017	19179	22	3	11	19067	76	7.7	11	4	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	1057	8	0	45	191	25
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	459	0	0	7	48	57
IRN	145	0	0	3	6	0	169	0	0	4	6	0
IRQ	811	0	0	22	93	9	526	0	0	7	23	29
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	70	0	0	2	26	0
PAK	4200	3	0	207	882	0	4806	13	7	177	867	111
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	996	0	1	43	116	37
SUD	350	0	0	3	24	88	367	0	0	0	31	81
SYR	670	0	0	8	17	0	717	0	0	12	36	33
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	396	0	0	0	0	195
EMR	10760	7	10	366	1471	716	9691	21	8	300	1353	593

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

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Table 5: Laboratory investigation of AFP cases with paralysis onset in 2019 up to Week (49/2019) / Ending on : (08/12/2019)

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	3395	259	26	533	2476	100	3	19	192						183		1	2	1	4	14%	96%	100%	98%	08/12/2019
Bahrain	NPL Oman / CDC	11			2	9																14%	100%		0%	02/12/2019
Djibouti	NPL Kenya / CDC	5					1	4																	08/12/2019	
Egypt**	RRL Egypt	1215	35	6	110	920	49	95		15					20			9	3			10%	96%	100%	99%	05/12/2019
Iran	NPL Iran / CDC	961	13		22	888	35	3	3	1					9			1				3%	100%	100%	99%	07/12/2019
Iraq	RRL Egypt	1112	14		146	897	42	13		8					13							12%	100%	81%	94%	05/12/2019
Jordan	NPL Jordan / RRL EGYPT	109			16	90	3															15%	99%		100%	09/12/2019
Kuwait	RRL Kuwait / RIVM	47			2	43	2															7%	91%		100%	05/12/2019
Lebanon	NPL Jordan / RRL EGYPT	70	1		9	58		2							1							13%	97%	100%	0%	09/12/2019
Libya	RRL Tunisia / RIVM	92			6	84	1	1														7%	99%		99%	30/11/2019
Morocco	NPL Morocco / RRL Tunisia	204	2		3	187	12								2							2%	99%	100%	95%	06/12/2019
Oman	NPL Oman / CDC	23			4	17	1	1														25%	100%		100%	02/12/2019
Pakistan	RRL Pakistan	12828	472	44	2165	9823	292	13	86	249				10	249			5	1	19		15%	97%	99%	97%	08/12/2019
Palestine & UNRWA		54			7	44	1	2														14%	34%		100%	08/12/2019
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	330	24		65	230	3	8	7			11	3	8						1		20%	15%		98%	08/12/2019
Sudan	NPL Sudan / RRL Egypt	551	6		74	450	19	2	5					2								12%	74%	100%	63%	08/12/2019
Syria	NPL Syria / RRL Egypt	322	14		16	273	17	2	5					10								6%	100%	100%	53%	05/12/2019
Tunisia	RRL Tunisia	67			5	59	2	1														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	17	2			5		10														0%	29%		0%	07/12/2019
Total EMR 2019		21652	846	76	3190	16765	586	172	105	484	1	11	13	501		2	16	5	24			13%	95%	99%	97%	
Total EMR 2018		20749	902	90	3513	16224		16	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					21
	WILD	20	2	42	83	46
AFG Total		149	185	316	336	233
EGY	NEGATIVE	493	528	522	540	621
	PENDING	2				41
	VDPV2	3	1			
EGY Total		498	529	522	540	662
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	338
	PENDING					36
	WILD	79	59	105	139	322
	WILD & VDPV2	5	3	1		4
	VDPV2	8	5	4		14
PAK Total		439	529	633	673	714
SOM	NEGATIVE			34	181	52
	PENDING					2
	VDPV2			2	20	1
	VDPV3				12	
SOM Total			36	213	55	
SYR	NEGATIVE		4	102	158	
	PENDING					14
SYR Total			4	102	172	
IRN	NEGATIVE			6	54	63
	PENDING					2
	WILD					3
IRN Total			6	54	68	
KUW	NEGATIVE				3	3
	PENDING					8
KUW Total					3	11
SUD	NEGATIVE				15	35
	PENDING					20
SUD Total					15	55
Grand Total		1086	1249	1576	2017	2044

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	
				KHOST	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	
				PUNJAB	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
				SINDH	KHILANDHI	3	10-Jan	30-Jul
					KHISITE	1	1-Jan	3-Sep
					SUKKUR	2	8-Feb	9-Nov
KHILIAQAT					2	7-Mar	7-Nov	
KHISADDAR					1	10-Sep	10-Sep	
KP TRIBAL DISTRICTS					BAJOUR	5	19-May	25-Oct
					WAZIR-S	2	26-Nov	27-Dec
					BANNU	4	31-Mar	27-Dec
KHYBER PAKHTUNKHWA					KOHAT	5	5-Jan	27-Sep
					MARDAN	2	15-Oct	15-Nov
				NOWSHERA	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		
VDPV3	BANADIR	HAMAR WEYN	6	11-Feb	5-Apr			
		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	23-Sep	
				JALALABAD	7	26-Jan	23-Sep	
				AFG Total		46	6-Jan	28-Oct
				PAK	WILD	BALOCHISTAN	KHUZDAR	2
	LORALAI	1	17-Mar				17-Mar	
	PISHIN	5	2-Feb				2-Oct	
	QUETTA	34	1-Jan				14-Nov	
	CHGOB	2	16-Oct				18-Nov	
	DBUGTI	2	19-Aug				19-Sep	
	KABDULAH	14	1-Jan				15-Nov	
	NSIRABAD	2	21-Oct				20-Nov	
	ISLAMABAD	CDA	3				12-Apr	21-Aug
		FAISALABAD	5				9-Jan	4-Nov
		LAHORE	53				5-Jan	18-Nov
		MULTAN	5				18-Feb	18-Sep
		RAWALPINDI	11				10-Jan	25-Oct
		RAJANPUR	2				20-Sep	20-Nov
		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	6				24-Jan	13-Nov
KAMBAR		7	7-Mar				5-Nov	
KHIBALDIA		9	2-Jan				6-Nov	
KHIGADAP		30	8-Jan				14-Nov	
KHIGIQBAL		11	11-Apr				15-Nov	
KHIKORANGI		10	18-Feb				20-Nov	
KHILANDHI		8	19-Feb				21-Oct	
KHISITE		11	3-Jan	19-Nov				
KP TRIBAL DISTRICTS	SUKKUR	12	23-Jan	5-Nov				
	KHILIAQAT	9	7-Feb	8-Nov				
	KHISADDAR	10	7-Jan	9-Oct				
	WAZIR-S	5	22-Jan	28-May				
	KURRAM	1	15-Jan	15-Jan				
	KHYBER PAKHTUNKHWA	BANNU	9	28-Jan	29-Oct			
		DIKHAN	4	8-Jan	11-Jun			
		KOHAT	1	27-Feb	27-Feb			
		MARDAN	4	16-Mar	15-Jun			
	WILD & VDPV2	PESHAWAR	10	11-Jan	11-Oct			
LAHORE		1	6-Aug	6-Aug				
RAWALPINDI		1	12-Nov	12-Nov				
SINDH		KHISITE	1	7-Oct	7-Oct			
		KHISADDAR	1	7-Nov	7-Nov			
VDPV2		ISLAMABAD	1	12-Nov	12-Nov			
		PUNJAB	3	11-Apr	25-Oct			
		RAWALPINDI	3	26-Aug	16-Oct			
		DIAMER	2	24-Aug	6-Nov			
		KHYBER PAKHTUNKHWA	GILGIT	2	24-Aug	6-Nov		
	DIKHAN		1	12-Nov	12-Nov			
	PESHAWAR		1	12-Nov	12-Nov			
	ABOTABAD		2	9-Oct	12-Nov			
	SINDH	SUKKUR	1	5-Nov	5-Nov			
		PAK Total		340	1-Jan	20-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				390	1-Jan	20-Nov		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 08/12/2019

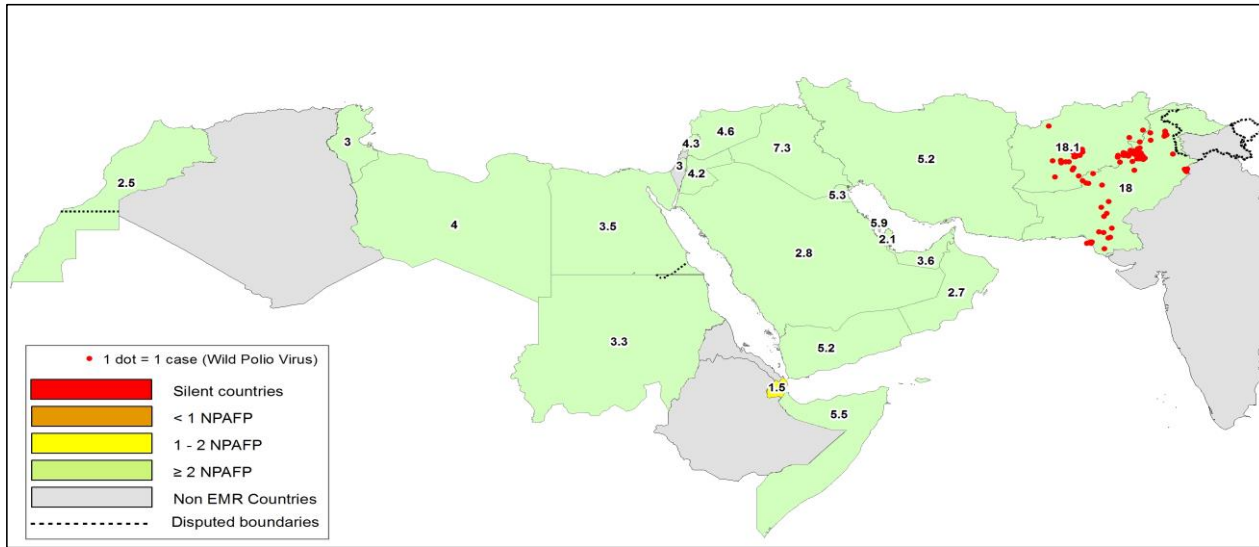


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 08/12/2019

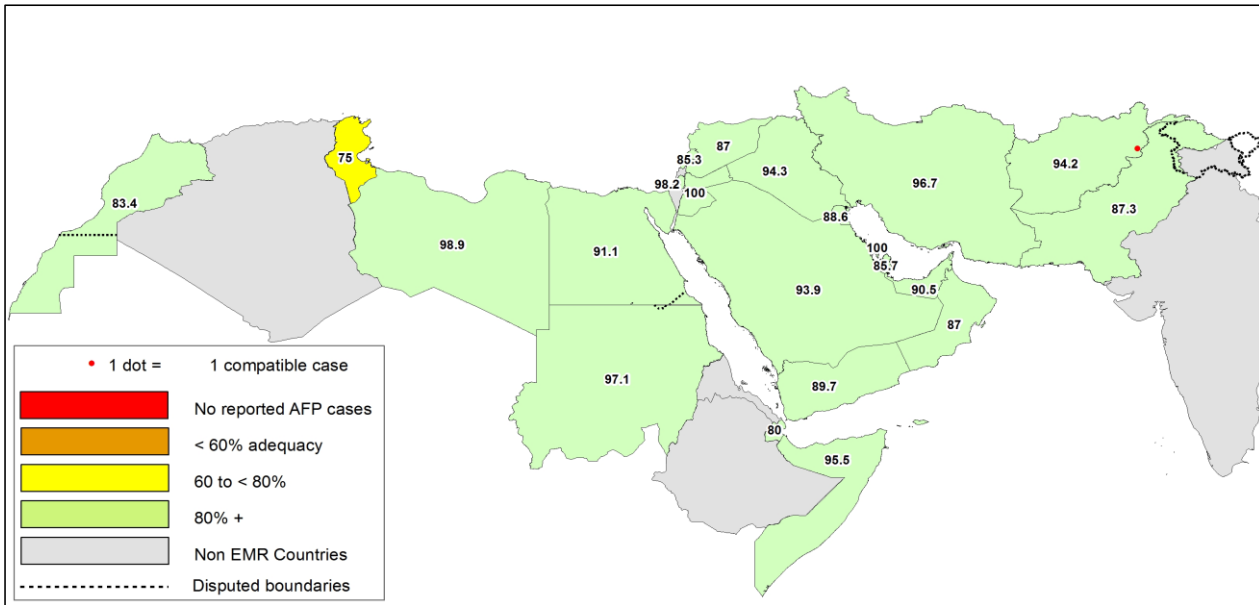


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

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	94	15-Jan-19	16-Nov-19
2019 Total		116	4-Jan-19	16-Nov-19

Advance notification of a new WPV1 case from Afghanistan from Khasuruzgan district, Uruzgan province, date of onset 02/11/2019

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 - 08/12/2019

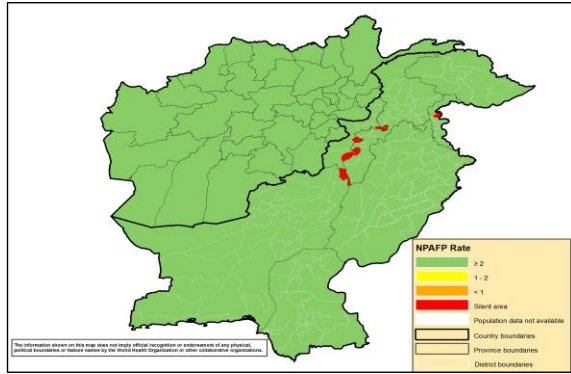


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 08/12/2019

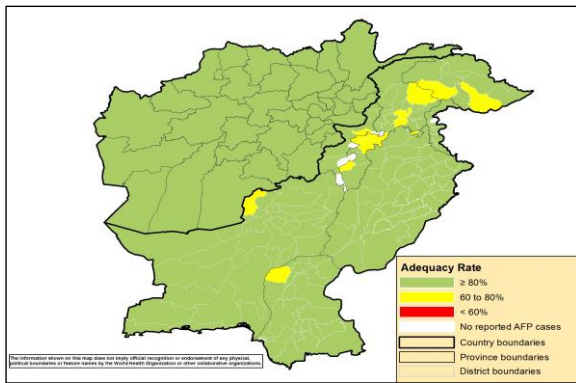
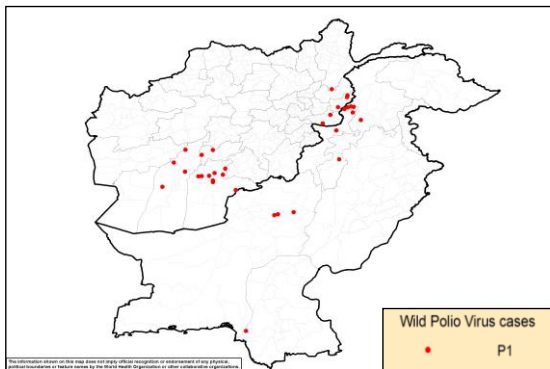
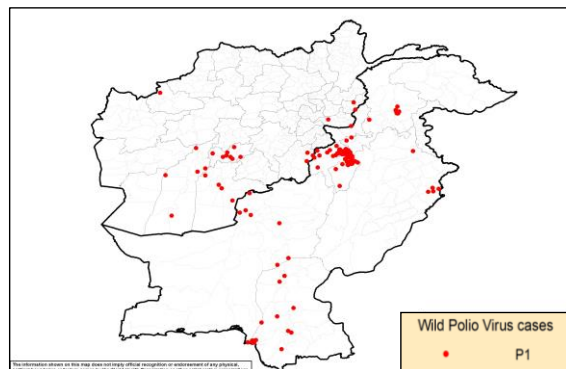


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2019 - 08/12/2019



World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

Week 49, ending 08 December 2019

9-Dec-19

Number 1105

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
		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	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

Advance notification of a new WPV1 case from Khasuruzgan district, Uruzgan province, date of onset 02/11/2019

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

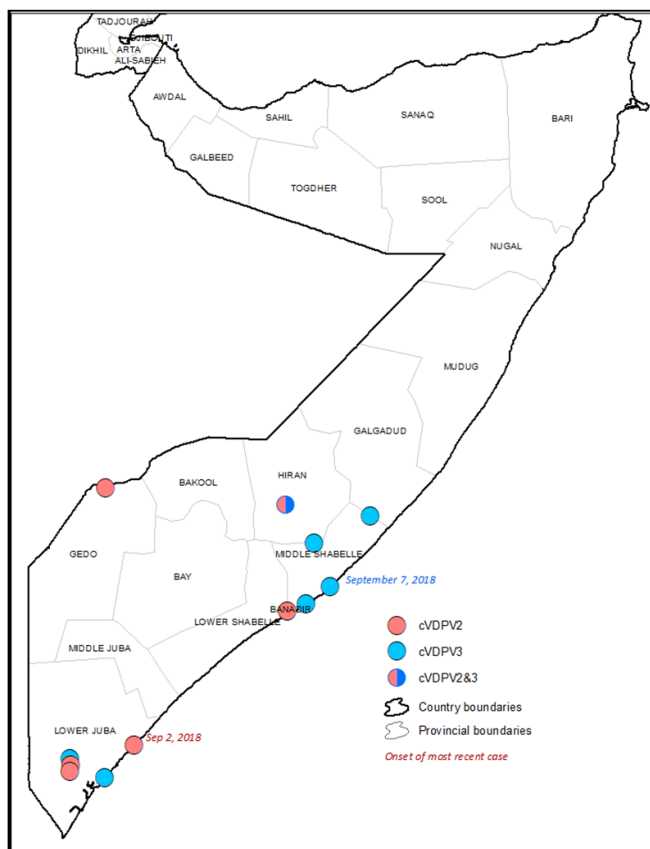
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case
2018	KP TRIBAL DISTRICTS	BAJOUR	5	1-Sep-18	31-Dec-18
		KHYBER	1	25-Sep-18	25-Sep-18
	KHYBER PAKHTUNKHWA	LAKKIMRWT	1	16-Dec-18	16-Dec-18
		CHARSADA	1	1-Aug-18	1-Aug-18
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18
	BALOCHISTAN	DUKKI	3	8-Mar-18	18-May-18
2018 Total			12	8-Mar-18	31-Dec-18
2019	KHYBER PAKHTUNKHWA	DIKHAN	2	5-May-19	16-Nov-19
		LAKKIMRWT	19	27-May-19	14-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
		SINDH	LARKANA	2	17-Apr-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
	KHIGIQBAL		1	29-Apr-19	29-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			94	15-Jan-19	16-Nov-19

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

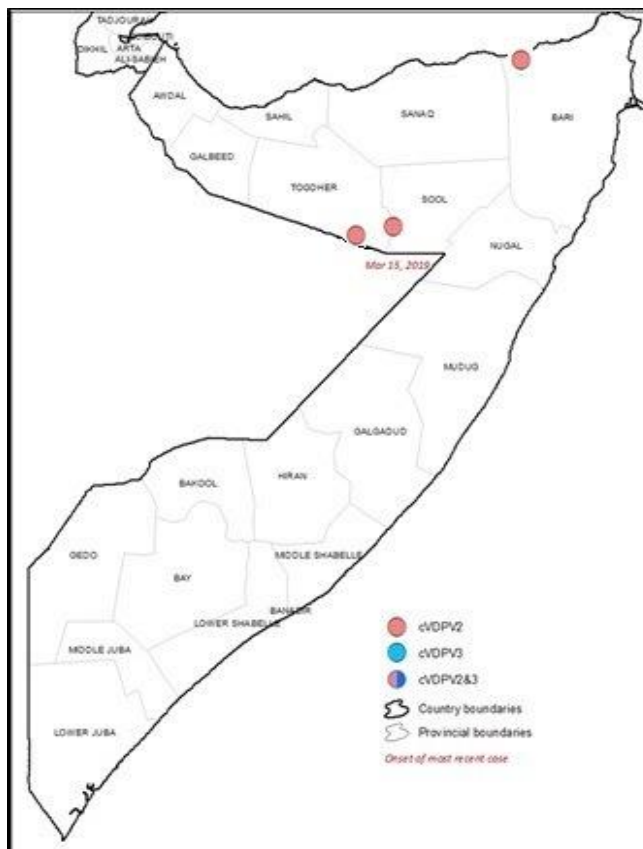
COUNTRY	YEAR	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
PAK	2019	KHYBER PAKHTUNKHWA	CHARSADA	1	03-Nov-19	03-Nov-19			
			KOHISTANUPPER	1	27-Oct-19	27-Oct-19			
			KOHISTANLOWER	2	06-Oct-19	11-Oct-19			
			TORGHAR	2	04-Sep-19	28-Oct-19			
		ISLAMABAD	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

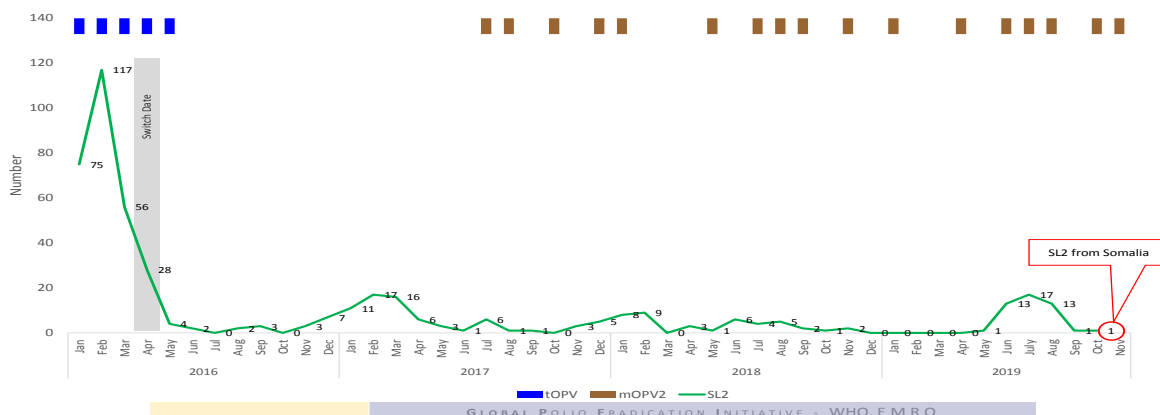
6(a) 01/01/2018 - 31/12/2018



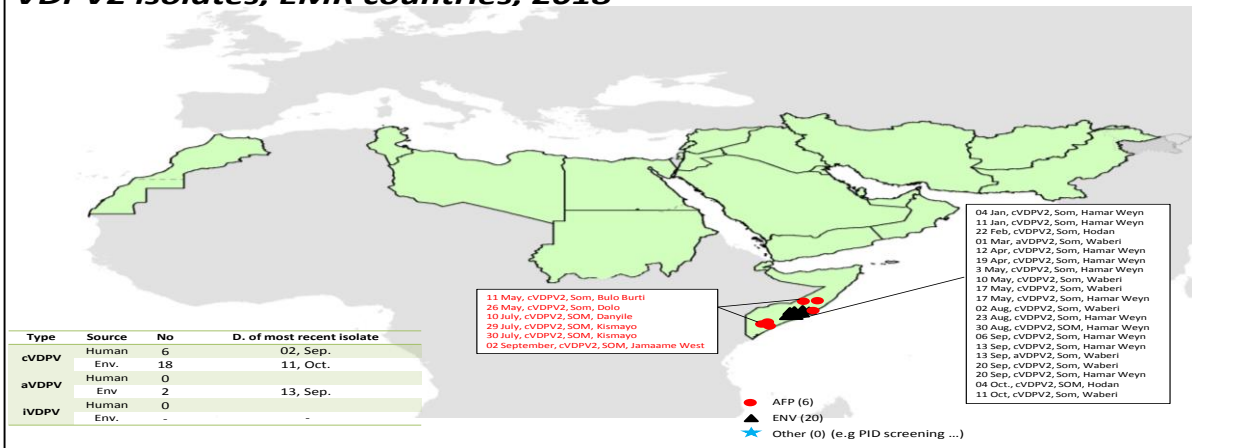
6(b) 01/01/2019 - 08/12/2019



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

