

Highlights of Polio Fax Bulletin No. 1078 for Week 22 2019

I. Poliovirus Transmission

1. **Endemic countries (PAKISTAN & AFGHANISTAN):** Three new wild poliovirus type-1 (WPV1) cases one from Afghanistan and two from Pakistan were reported this week. Additionally, sixteen new WPV1 positive environmental samples all from Pakistan were detected.

a. *Human samples:* Three new WPV1 cases reported this week one from Afghanistan and two from Pakistan. Total WPV1 cases in 2019 to date are 29 (8 from Afghanistan and 21 from Pakistan). This compares with 12 cases in 2018 in the same period (Afghanistan – 9 and Pakistan – 3).

i. Afghanistan:

- The new case is a 3-month old male child from Watapur district, Kunar province, with date of paralysis onset 8 May 2019. The child has not received any OPV doses as the area is inaccessible to routine and supplementary immunization activities
- In 2019 to date, 8 WPV1 cases are reported. They include three cases from Hilmand, two each from Kandahar and Uruzgan provinces and one from Kunar province. The most recent case has onset of paralysis on 8 May 2019.

ii. Pakistan: The Two new WPV1 cases include:

- Case No. 1: The case is an 18-month old male child from Bannu district, Khyber Pakhtunkhwa (KP) province. He has onset of paralysis on 14 May 2019 and reportedly received 7 doses of oral polio vaccine (OPV) all from supplementary immunization activities (SIAs) and none from routine.
- Case No. 2: The case is an 11-month old female child from Bannu district, Khyber Pakhtunkhwa (KP) province. She has onset of paralysis on 19 May 2019 and reportedly received 7 doses of oral polio vaccine (OPV) all from supplementary immunization activities (SIAs) and none from routine.

In 2019 to date, 21 WPV1 cases reported from Pakistan. They include nine from KP, six from KP Tribal Districts (KPTD), three each from Punjab and Sindh. The most recent reported case has date of onset of paralysis on 19 May 2019.

b. *Environmental samples:* Sixteen new WPV1 positive environmental samples were reported this week, all from Pakistan.

i. Afghanistan: In 2019 to date, there are 23 positive environmental samples with most recent positive sample collected on 25 April 2019.

ii. Pakistan: The sixteen new WPV1 positive environmental samples reported this week include five from Punjab province (four from Lahore and one from Rawalpindi districts); seven from Sindh province (five from Karachi towns one each from Gadap, Orangi and Landhi towns and two from Ghulshan-Iqbal town; one from Dadu and one from Sukkur districts); two from Balochistan province (two from Quetta district); and two from KP province (one from Peshawar and

one from Mardan districts). In 2019 to date, there are 140 positive environmental samples with most recent positive sample collected on 18 May 2019.

2. Outbreak response countries

SOMALIA:

No new cVDPV2 or cVDPV3 cases or isolates from human or environmental samples were reported this week.

- In 2019 to date, Somalia has reported two cVDPV2 cases. One of the cVDPV2 cases that were reported from Las Anod district from Sool has a cVDPV2 positive contact as well. The most recent reported case has date of onset of paralysis on 21 April 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.
 - cVDPV2: cVDPV2 was isolated from 19 sewage samples in Mogadishu, the most recent sample collected on 11 October 2018.
 - cVDPV3
 - Human samples: the date of onset of the most recent cVDPV3 case is 7 September 2018.
 - Sewage samples: cVDPV3 has been isolated from 11 sewage samples in Mogadishu and date of specimen collection of the most recent is 23 August 2018.
 - Co-infection cVDPV2 and cVDPV3: The date of onset of the most recent coinfection case is 11 May 2018. In 2018, cVDPV2 and cVDPV3 were both isolated from 1 sewage sample in Mogadishu collected on 19 April 2018.

3. Other countries:

Islamic Republic of IRAN: A new WPV1 positive environmental sample reported this week from Konarak district, Seestan Balochistan province of Iran. Sample collection was on 20 May 2019. This is the third positive WPV1 reported from the same site. Response has been initiated according to the standard practices.

II. Surveillance performance indicators

In 2019, 17 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.

- a. Djibouti, did not report any AFP case since April 2017
- b. Morocco has a percentage of AFP cases with adequate stool specimens of 72.3%
- c. Oman has a non-polio AFP rate of 1.9
- d. Qatar has a non-polio AFP rate of 0.7 and percentage of AFP cases with adequate stool specimens of 0%
- e. Tunisia has a non-polio AFP rate of 1.9
- f. 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 (22/19) / Ending on : 02/06/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	W11 17 Mar 19	W12 24 Mar 19	W13 31 Mar 19	W14 07 Apr 19	W15 14 Apr 19	W16 21 Apr 19	W17 28 Apr 19	W18 05 May 19	W19 12 May 19	W20 19 May 19	W21 26 May 19	W22 02 Jun 19
Afghanistan	3094	3378	1548	68	71	75	85	66	55	74	73	66	72	62	5
Bahrain	18	35	8	0	0	1	0	1	0	0	0	1	0	0	1
Djibouti	4	0	0	0	0	0	0								
Egypt	1242	1246	526	31	23	43	28	25	13	19	20	30	23	4	
Iran	820	896	397	14	8	16	25	24	25	19	19	25	12	2	
Iraq	699	1023	440	17	15	18	26	19	25	20	11	12	15	6	
Jordan ****	116	115	68	5	4	4	6	2	3	2	2	4	0	2	
Kuwait	69	72	18	3	1	0	2	1	0	0	0	0	0	0	0
Lebanon ****	75	89	38	1	1	2	1	5	1	2	1	1	0	0	1
Libya	88	122	33	1	1	1	2	1	1	1	2	1	0	2	
Morocco	143	212	83	3	2	6	4	3	5	3	5	3	2		
Oman	40	28	8	0	0	0	0	1	0	1	1	1	0	0	0
Pakistan	10319	12275	5264	259	291	231	217	229	289	254	227	201	225	81	0
Palestine ****	43	44	20	2	2	0	0	1	3	1	1	0	0	0	
Qatar	18	10	1	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	276	241	122	13	6	7	4	10	10	4	4	4	4	0	0
Somalia	345	353	155	9	14	7	12	6	7	7	8	6	11	3	0
Sudan	570	578	188	12	3	11	15	2	4	10	9	9	0	0	
Syria ****	362	362	170	6	4	16	7	7	4	5	7	5	6	1	0
Tunisia	67	68	24	1	1	0	0	1	1	2	0	0	0	0	
U.A.E	58	40	18	1	1	0	0	3	0	0	0	1	0	1	
Yemen	713	730	290	16	11	12	16	16	23	13	9	10	9	1	
Total EMR	19179	21917	9419	462	459	450	450	423	469	437	399	380	379	165	7

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	02/06		Confirmed polio cases by month of onset											
			2018	2019	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019	April 2019	May 2019	June 2019
Afghanistan	14	21	9	8	3	2	3	2	1	0	2	1	3	1	1	
Bahrain	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	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	0		
Morocco	0	0	0	0	0	0	0		0	0						
Oman	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Pakistan	8	12	3	21	0	1	3	1	0	4	4	2	0	11	4	
Palestine ****	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	0	0	0				
Somalia	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			
Syria ****	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			
Yemen	0	0	0	0												
Total EMR	22	33	12	29	3	3	6	3	1	4	6	3	3	12	5	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 (22/19) / Ending on : 02/06/2019

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	1548	8	0	213	1327	0	18.1	19	1	94.5	8	0	02-06-2019
Bahrain	35	0	0	2	33	0	12.1	2	0	97.1	0	0	8	0	0	5	3	0	6.6	0	0	100.0	0	0	02-06-2019
Djibouti	0	0	0	0	0	0	0.0	0	0		0	0	0	0	0	0	0	0.0	0	0			0	0	10-04-2019
Egypt	1246	0	0	2	1243	1	3.2	2	0	93.2	0	0	526	0	0	81	445	0	3.3	0	0	91.3	0	0	30-05-2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	397	0	0	25	372	0	4.9	0	0	96.2	0	0	01-06-2019
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	440	0	0	65	375	0	6.9	4	0	95.5	0	0	31-05-2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	68	0	0	2	66	0	5.8	0	0	98.5	0	0	30-05-2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	18	0	0	1	17	0	4.8	0	0	88.9	0	0	02-06-2019
Lebanon	89	0	0	1	88	0	4.8	1	0	96.6	0	0	38	0	0	11	27	0	4.9	3	0	84.2	0	0	31-05-2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	33	0	0	4	29	0	3.1	0	0	100.0	0	0	01-06-2019
Morocco	212	0	0	1	211	0	2.4	1	0	77.8	0	0	83	0	0	47	36	0	2.2	20	10	72.3	0	0	17-05-2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	8	0	0	0	8	0	1.9	0	0	87.5	0	0	03-06-2019
Pakistan	12275	12	1	2	12260	0	15.7	2	0	87.0	12	0	5264	21	1	620	4622	0	16.0	85	0	89.9	21	0	02-06-2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	20	0	0	9	11	0	2.5	0	0	100.0	0	0	26-05-2019
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	1	0	0	1	0	0	0.7	1	0	0.0	0	0	26-05-2019
Saudi Arabia	241	0	0	0	241	0	3.0	0	0	95.9	0	0	122	0	0	91	31	0	3.6	21	0	90.2	0	0	02-06-2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	155	0	0	17	136	2	5.8	0	0	98.1	0	0	02-06-2019
Sudan	578	0	0	0	578	0	3.2	0	0	97.2	0	0	188	0	0	21	167	0	2.5	1	0	97.9	0	0	26-05-2019
Syria	362	0	0	0	362	0	4.7	0	0	87.3	0	0	170	0	0	21	149	0	5.2	3	0	89.4	0	0	02-06-2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	24	0	0	4	19	1	1.9	0	0	83.3	0	0	31-05-2019
U.A.E	40	0	0	2	38	0	3.2	2	1	97.5	0	0	18	0	0	3	15	0	3.4	0	0	83.3	0	0	30-05-2019
Yemen	730	0	0	317	413	0	5.2	317	283	91.6	0	0	290	0	0	287	3	0	4.9	141	128	92.1	0	0	01-06-2019
EMR	21917	33	1	327	21541	15	8.7	327	284	89.8	33	0	9419	29	1	1528	7858	3	8.9	298	139	91.5	29	0	
2017	19179	22	3	72	19006	76	7.7	72	58	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	497	1	0	27	85	25
BAH	2	0	0	0	0	0	0	0	0	0	0	0
DJI	0	0	0	0	0	0	0	0	0	0	0	0
EGY	495	0	0	11	58	17	216	0	0	6	13	42
IRN	145	0	0	3	6	0	60	0	0	0	3	0
IRQ	811	0	0	22	93	9	256	0	0	5	6	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	218	0	0	3	16	20	19	0	0	0	3	0
LIB	1	0	0	0	0	0	2	0	0	0	0	0
MOR	161	0	0	0	9	9	30	0	0	1	0	17
OMA	70	0	0	2	16	0	18	0	0	1	8	0
PAK	4209	3	0	207	882	0	2011	0	0	123	268	127
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	1051	0	10	49	133	2	472	0	1	8	43	51
SUD	350	0	0	3	24	88	117	0	0	0	9	25
SYR	670	0	0	8	17	0	326	0	0	10	15	26
TUN	1	0	0	0	0	0	8	0	0	0	2	0
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	1558	0	0	0	0	1558	261	0	0	0	0	262
EMR	10756	7	10	360	1471	1708	4293	1	1	181	455	617

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	1	6-Mar-19
2018 Total		1	6-Mar-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	HILMAND	SANGIN	1	6-Mar-19	6-Mar-19
	2019 Total				1	6-Mar-19
2018	AFG	NANGARHAR	PACHIERAGAM	1	17-Jul-18	17-Jul-18
		URUZGAN	SHAHID-E-HASSA	1	8-Jul-18	8-Jul-18
	PAK	FATA	BAJOUR	1	1-Sep-18	1-Sep-18
		BALUCHISTAN	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 (22/2019) / Ending on : (02/06/2019)

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	1512	116	11	176	1081	127	1	7	81						88						11%	100%	100%	98%	02/06/2019
Bahrain	NPL Oman / CDC																									27/05/2019
Djibouti	NPL Kenya / CDC																									10/04/2019
Egypt***	RRL Egypt	516	27		33	406	43	7		13						17		2	1			7%	97%	100%	99%	31/05/2019
Iran	NPL Iran / CDC	412	7		5	381	18	1		2						5						1%	100%	100%	98%	01/06/2019
Iraq	RRL Egypt	441	7		47	353	23	11		4						5						10%	100%	100%	71%	30/05/2019
Jordan	NPL Jordan / RRL EGYPT	69			9	58	2															14%	100%			02/06/2019
Kuwait	RRL Kuwait / RIVM	24			1	22	1															8%	87%		100%	30/05/2019
Lebanon	NPL Jordan / RRL EGYPT	37	1		2	32	2								1							8%	100%	100%	0%	02/06/2019
Libya	RRL Tunisia / RIVM	33			1	28	4															2%	100%		100%	31/05/2019
Morocco	NPL Morocco / RRL Tunisia	65			1	60		4														2%	100%		97%	10/05/2019
Oman	NPL Oman / CDC	8			2	5		1														27%	100%		100%	27/05/2019
Pakistan	RRL Pakistan	5209	242	33	613	3916	397	10	21	151						168		3	1			11%	100%	100%	98%	02/06/2019
Palestine & UNRWA		20			4	14		2														22%	38%		100%	26/05/2019
Qatar	NPL Oman / CDC	1				1																0%	100%		100%	27/05/2019
Saudi Arabia	NPL Saudi Arabia / CDC	120	4			107	5	4								4						0%	95%	100%	100%	26/05/2019
Somalia	NPL Kenya / CDC	155	5		25	109	7	9		2			2		1					1		18%	17%		100%	02/06/2019
Sudan	NPL Sudan / RRL Egypt	198	3		28	154	13								1							12%	78%	100%	50%	02/06/2019
Syria	NPL Syria / RRL Egypt	164	12		5	138	4	5		5					9							4%	100%	100%	50%	30/05/2019
Tunisia	RRL Tunisia	22			3	16	3															18%	100%		100%	31/05/2019
U.A.E	NPL Oman / CDC	15			3	12																20%	100%		53%	27/05/2019
Yemen	NPL Kenya / CDC																									01/06/2019
Total EMR 2019		9021	424	44	958	6893	649	55	28	258			2		299		5	2	1			10%	98%	100%	98%	
Total EMR 2018		20745	902	90	3513	16218		18	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 so far 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	65
	PENDING					16
	WILD	20	2	42	83	23
AFG Total		149	185	316	336	104
EGY	NEGATIVE	495	528	522	540	203
	PENDING					20
	VDPV2	3	1			
EGY Total		498	529	522	540	223
IRN	NEGATIVE			6	54	23
	WILD					3
IRN Total				6	54	26
JOR	NEGATIVE		2	32	36	12
	PENDING					3
JOR Total			2	32	36	15
LEB	NEGATIVE		4	27	45	16
	PENDING					4
LEB Total			4	27	45	20
PAK	NEGATIVE	347	462	523	534	137
	PENDING					25
	WILD	79	59	105	139	140
	WILD & VDPV2	5	3	1		
	VDPV2	8	5	4		
PAK Total		439	529	633	673	302
SOM	NEGATIVE				34	181
	PENDING					4
	VDPV2				2	20
	VDPV3					12
					36	213
SOM Total				36	213	24
SYR	NEGATIVE				4	102
	PENDING					12
SYR Total					4	102
Grand Total		1086	1249	1576	1999	779

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		
			HIRAT	HERAT	1	25-Jun	25-Jun		
			KABUL	KABUL	3	26-Feb	26-Jun		
			KANDAHAR	KANDAHAR	42	8-Jan	26-Dec		
			KHOST	KHOST(MATUN)	1	25-Sep	25-Sep		
			KUNAR	ASADABAD	2	24-Apr	25-Sep		
			NANGARHAR	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		
				ISLAMABAD	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	
					SINDH	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		
				KP Tribal Districts (KPTD)	WAZIR-S	2	26-Nov	27-Dec	
				KHYBER PAKHTUNKHWA (KP)	BANNU	4	31-Mar	27-Dec	
		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	3	23-Feb	25-Apr		
				NAHR-E-SARAJ	3	6-Jan	26-Jan		
				KANDAHAR	12	6-Jan	23-Mar		
				NANGARHAR	5	26-Jan	23-Mar		
			AFG Total		23		6-Jan	25-Apr	
	PAK	WILD	BALOCHISTAN	KHUZDAR	1	20-Mar	20-Mar		
				LORALAI	1	17-Mar	17-Mar		
				PISHIN	1	2-Feb	2-Feb		
				QUETTA	14	1-Jan	13-May		
				KABDULAH	8	1-Jan	19-Apr		
				ISLAMABAD	CDA	2	12-Apr	2-May	
				PUNJAB	FAISALABAD	2	3-Jan	6-Feb	
					LAHORE	23	5-Jan	18-May	
					MULTAN	3	18-Feb	8-May	
					RAWALPINDI	6	10-Jan	15-May	
					DGKHAN	1	8-Apr	8-Apr	
					SINDH	DADU	1	2-May	2-May
					HYDERABAD	5	24-Jan	8-May	
					JACOBABAD	2	24-Jan	12-Feb	
					KAMBAR	1	7-Mar	7-Mar	
					KHIBALDIA	4	2-Jan	6-May	
					KHIGADAP	11	8-Jan	10-May	
					KHIGIQBAL	4	11-Apr	14-May	
					KHIKORANGI	4	18-Feb	15-May	
					KHILANDHI	4	19-Feb	16-May	
				KHISITE	5	3-Jan	7-May		
				SUKKUR	5	23-Jan	15-May		
				KHILIAQAT	4	7-Feb	2-May		
	KHISADDAR	5	7-Jan	8-May					
	KP Tribal Districts (KPTD)	WAZIR-S	4	22-Jan	29-Apr				
	KHYBER PAKHTUNKHWA (KP)	KURRAM	1	15-Jan	15-Jan				
		BANNU	4	28-Jan	29-Apr				
		DIKHAN	3	8-Jan	9-Apr				
		KOHAT	1	27-Feb	27-Feb				
		MARDAN	3	16-Mar	15-May				
		PESHAWAR	7	11-Jan	10-May				
PAK Total		140		1-Jan	18-May				
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					167	1-Jan	20-May		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 02/06/2019

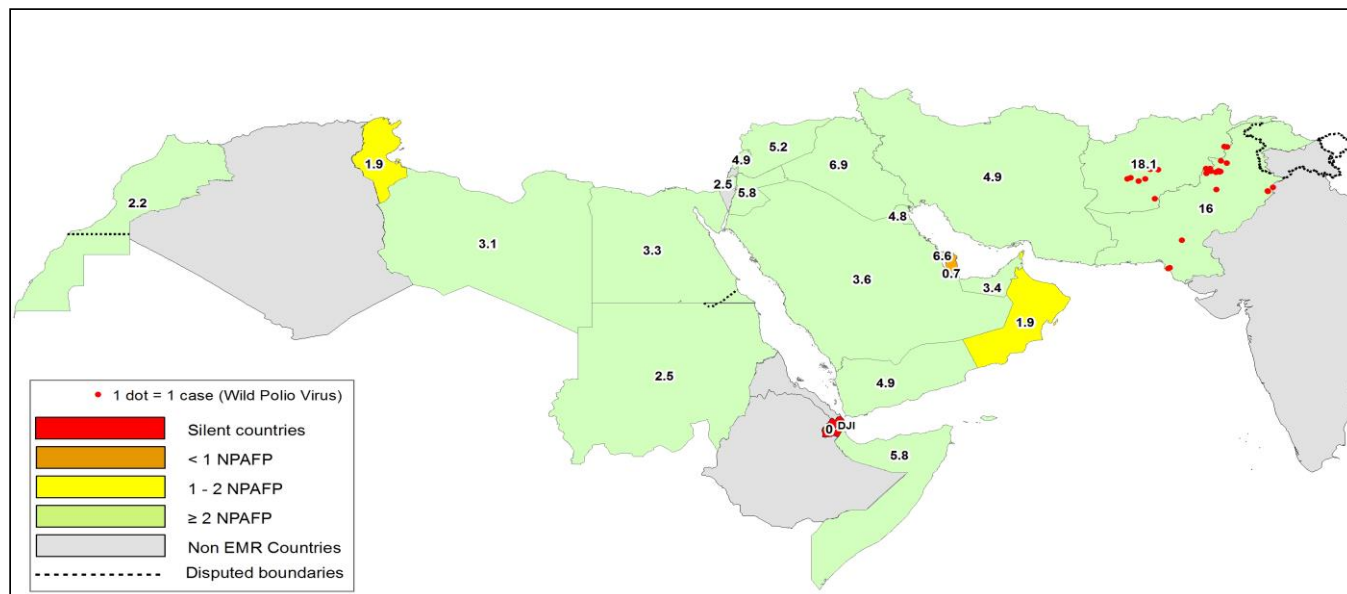


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 02/06/2019

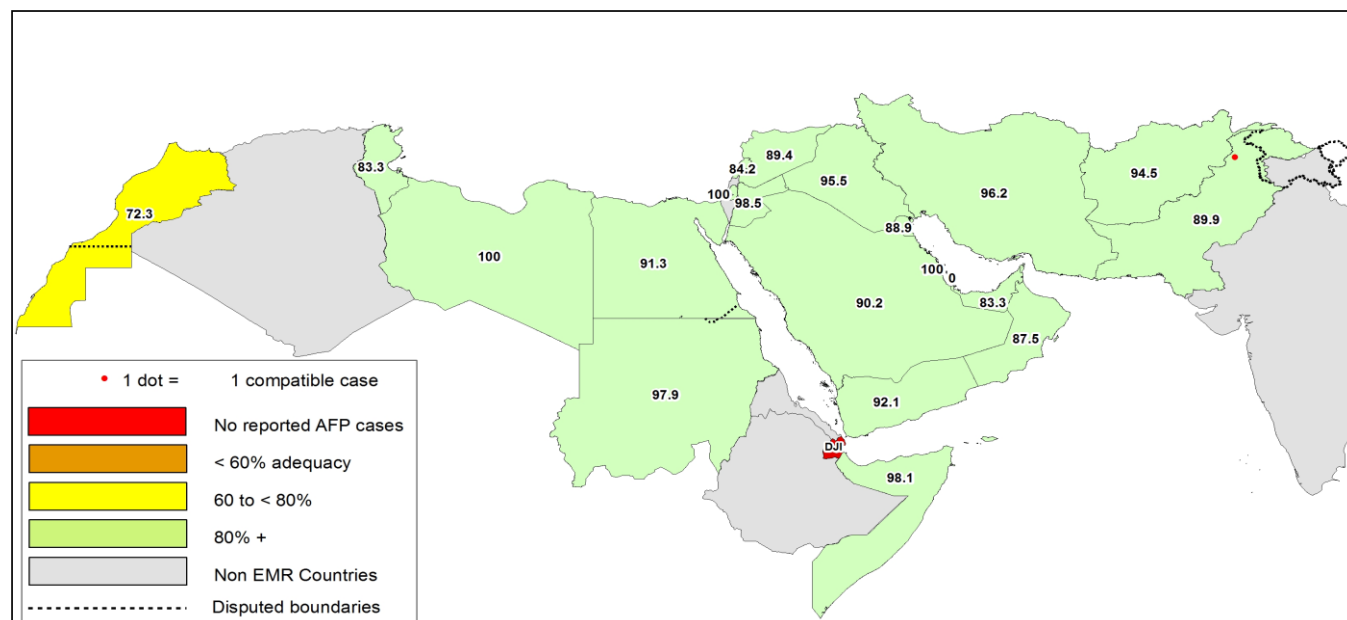


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

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	8	4-Jan-19	8-May-19
	PAK	21	15-Jan-19	19-May-19
2019 Total		29	4-Jan-19	19-May-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 - 02/06/2019

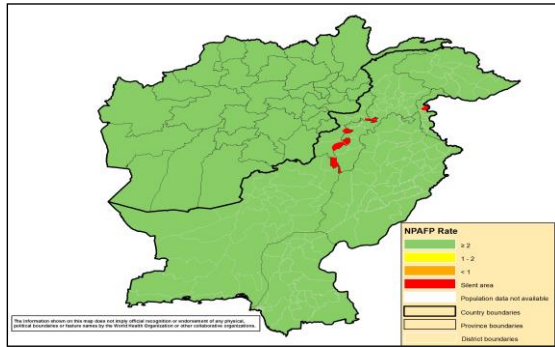


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 02/06/2019

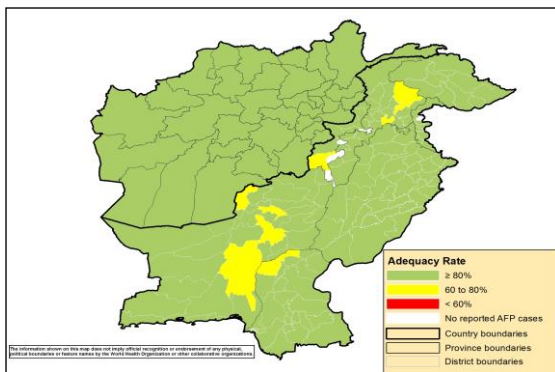
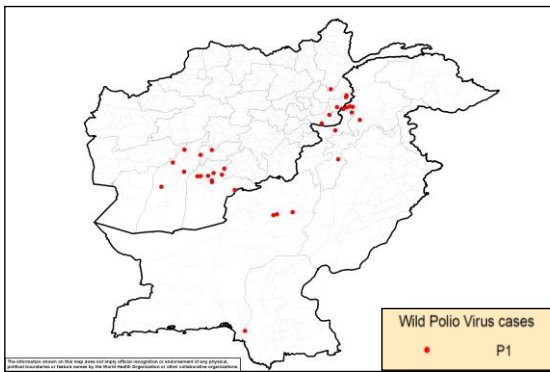
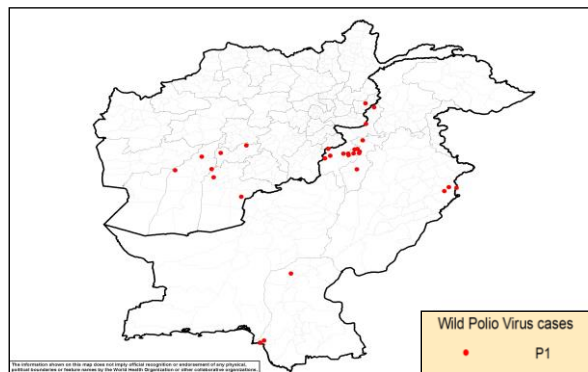


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2019 - 02/06/2019



World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

Week 22, ending 02 June 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
		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	KUNAR	WATAPUR	1	8-May-19	8-May-19
	HILMAND	NAWZAD	1	3-Apr-19	3-Apr-19
		WASHER	1	23-Mar-19	23-Mar-19
		SANGIN	1	6-Mar-19	6-Mar-19
	URUZGAN	CHORA	1	20-Mar-19	20-Mar-19
		SHAHID-E-HASSAS	1	25-Feb-19	25-Feb-19
	KANDAHAR	GHORAK	1	12-Jan-19	12-Jan-19
SPINBOLDAK		1	4-Jan-19	4-Jan-19	
2019 Total			8	4-Jan-19	8-May-19

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

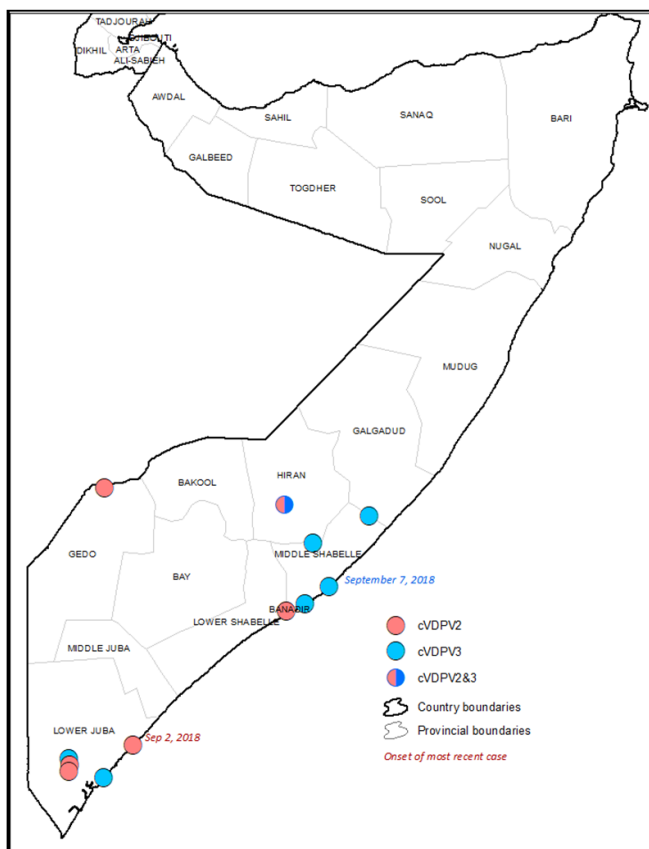
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case
2018	KP TRIBAL DISTRICT (KPTD)	BAJOUR	5	1-Sep-18	31-Dec-18
		KHYBER	1	25-Sep-18	25-Sep-18
	KHYBER PAKHTUNKHWA (KP)	LAKKIMRWT	1	16-Dec-18	16-Dec-18
		CHARSADA	1	1-Aug-18	1-Aug-18
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18
	BALUCHISTAN	DUKKI	3	8-Mar-18	18-May-18
2018 Total			12	8-Mar-18	31-Dec-18
2019	KHYBER PAKHTUNKHWA (KP)	BANNU	7	15-Jan-19	19-May-19
		DIKHAN	1	5-May-19	5-May-19
		HANGU	1	20-Jan-19	20-Jan-19
	KP TRIBAL DISTRICT (KPTD)	WAZIR-N	4	4-Apr-19	3-May-19
		KHYBER	1	14-Feb-19	14-Feb-19
		BAJOUR	1	18-Jan-19	18-Jan-19
		SINDH	KHIGIQBAL	1	29-Apr-19
	SINDH	LARKANA	1	17-Apr-19	17-Apr-19
		KHILAYARI	1	25-Feb-19	25-Feb-19
	PUNJAB	LAHORE	3	20-Jan-19	17-Apr-19
	2019 Total			21	15-Jan-19

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

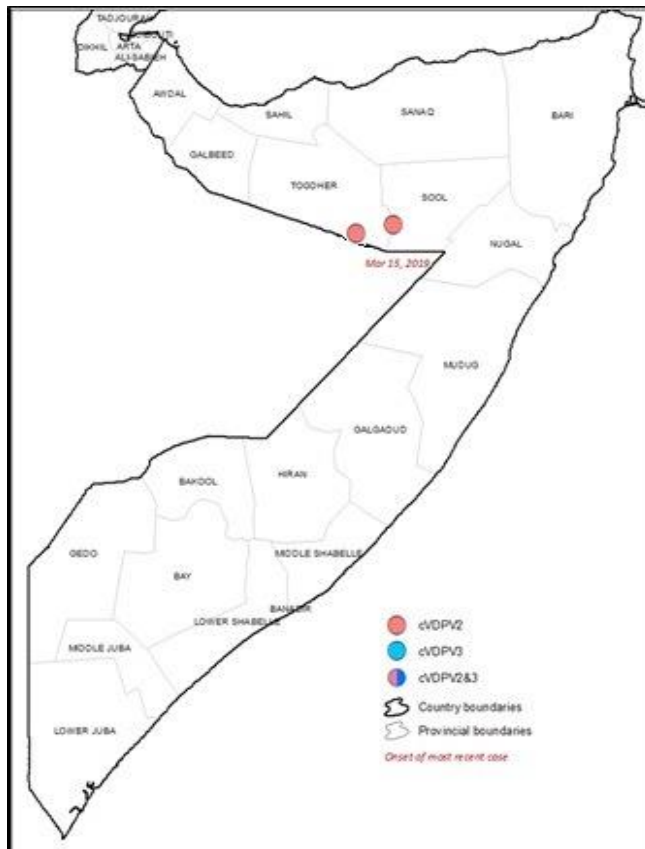
COUNTRY	YEAR	PROVINCE	DISTRICT	cVDPV2			cVDPV3			
				Count	First Case	Last Case	Count	First Case	Last Case	
SOM	2019	TOGDHER	BUHODLE	1	21-Apr-19	21-Apr-19				
		SOOL	LAS ANOD	1	15-Mar-19	15-Mar-19				
	Total 2019				2	15-Mar-19	21-Apr-19			
	2018	LOWER JUBA	JAMAAME WEST	1	02-Sep-18	02-Sep-18				
			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 WARSHEIKH				1	29-Jun-18	29-Jun-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

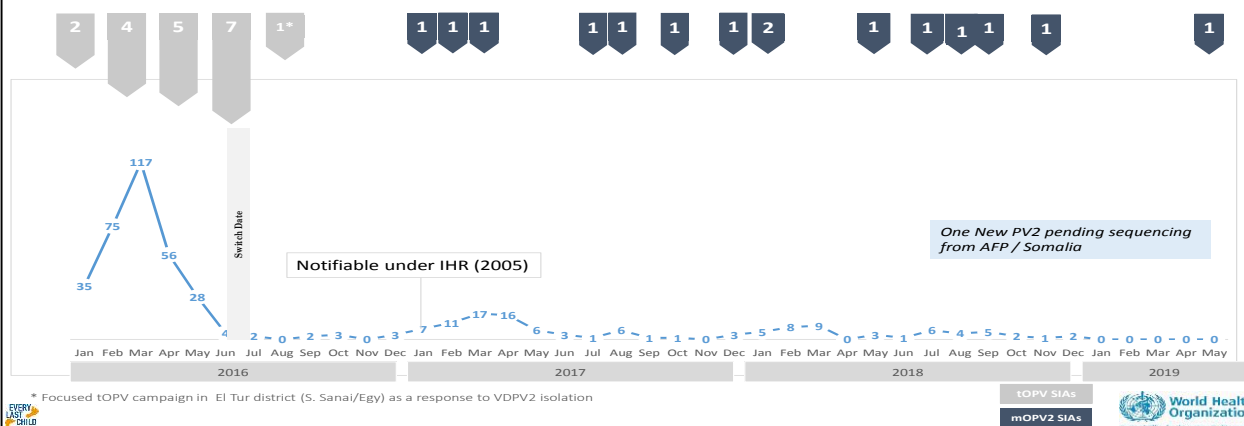
6(a) 01/01/2018 - 31/12/2018



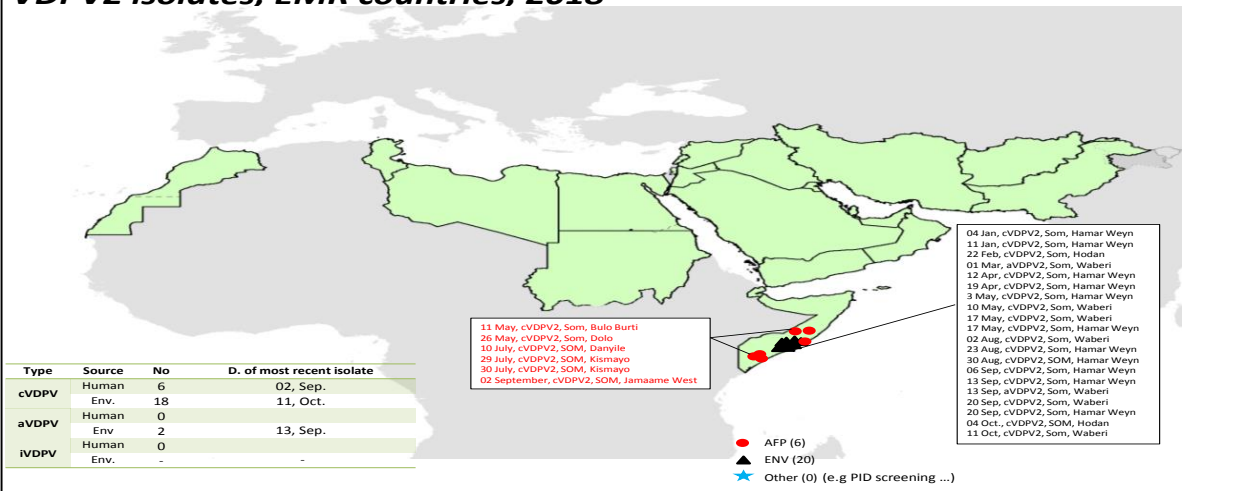
6(b) 01/01/2019 - 02/06/2019



Sabin Like Type-2 Poliovirus Isolates (H & E) EMR, 2016-19



VDPV2 isolates, EMR countries, 2018



VDPV2 isolates, EMR countries, 2019

