

Highlights of Polio Fax Bulletin No. 1150 for Week 42 2020

I. Salient features

1. Polio eradication teams at the Regional and Country levels are contributing into COVID19 Response, particularly in areas of surveillance (field and laboratory), data analysis, communications and coordination.
2. Wild Poliovirus Type-1 (WPV1): 3 new cases (1 from Afghanistan and 2 from Pakistan) and 1 new positive environmental sample from Afghanistan.
3. Vaccine Derived Poliovirus (VDPV):
 - cVDPV1: Two new cases reported from Yemen this week.
 - cVDPV2: 34 new cVDPV2 cases (Afghanistan – 14, Somalia – 4 & Sudan – 16) and 2 new cVDPV2 positive environmental samples (1 each from Pakistan and Somalia).

II. Wild Poliovirus Transmission

Endemic countries (Pakistan & Afghanistan): Total WPV1 cases in 2020 to date is 132 (53 from Afghanistan and 79 from Pakistan). This compares with 103 cases in 2019 in the same period (21 from Afghanistan and 82 from Pakistan).

a. *Human samples:* Four new WPV1 positive cases; 1 from Afghanistan and 3 from Pakistan.

Afghanistan: The new WPV1 case was reported from Kandahar district, Kandahar province, with date of onset 13 September 2020. The case is an 11-months old male child. The child reportedly received 4 OPV doses from supplementary immunization activities (SIAs) and none from routine.

In 2020, **53 WPV1 cases** have been reported so far: 17 cases from Kandahar province; 10 from Hilmand province; 5 from Khost province; four each from Farah and Uruzgan provinces; three from Zabul province; two each from Herat and Badghis provinces; and one each from Nimroz, Laghman, Kunar, Badakhshan, Balkh and Paktika provinces. **The most recent case has onset of paralysis on 13 September 2020.**

Pakistan:

Case (1): Reported from Quetta district, Balochistan province, with date of onset 12 August 2020. The case is a 48-months old male child. The child reportedly received 7 OPV doses from SIAs and none from routine.

Case (2): Reported from Pishin district, Balochistan province, with date of onset 3 October 2020. The case is a 15-months old male child. The child reportedly received 1 OPV dose from routine and 5 doses from SIAs.

In 2020 to date, **79 WPV1 cases** are reported, 23 from Balochistan province, 22 cases each from Khyber Pakhtunkhwa (KP) and Sindh provinces, and 12 from Punjab province. **The most recent case has onset of paralysis on 3 October 2020.**

b. *Environmental samples:* 1 new WPV1 positive environmental sample from Afghanistan.

- **Afghanistan:** In 2020 to date, there are 31 WPV1 positive environmental samples including three combined (WPV1 and cVDPV2) with most recent sample collected on 26 September 2020.

- **Pakistan:** In 2020 to date, there are 358 WPV1 positive environmental samples including 45 combined (WPV1 and cVDPV2) and 3 combined (WPV1 and aVDPV2) with most recent positive sample collected on 28 September 2020.

III.

Vaccine Derived Polioviruses (VDPVs): Total cVDPV2 cases in 2020 to date is 222 (101 from Afghanistan, 74 from Pakistan, 8 from Somalia and 39 from Sudan). This compares with 11 cases in 2019 in the same period (8 from Pakistan and 3 from Somalia).

Afghanistan: 14 new cVDPV2 cases reported this week but no positive environmental sample were reported.

Human samples: The 14 new cVDPV2 cases reported are 4 from Khost province (1 each from Matun, Mandozai, Nadirshahkot and Tani districts); 3 from Kandahar province (2 from Kandahar and 1 from Khakrez district); 1 from Kabul province (Surobi district); 1 from Kunduz province (Emamsaheb district); 1 from Herat province (Herat district); 1 from Hilmand province (Musaqalah district); 1 from Paktika province (Naka district); 1 from Paktia province (Chamkani district) and 1 from Ghazni province (Khwajaumari district). The dates of onset of the cases vary between 10 – 29 August 2020.

In 2020 to date, there are 101 cVDPV2 cases; 44 reported from Nangarhar province, 12 from Laghman province, 8 from Kunar province, 7 from Khost province, 5 from Kandahar province, 4 each from Farah and Kabul provinces, 3 from Nimroz province, 2 each from Hilmand, Hirat, Paktia and Nuristan provinces and one

each from Badakhsan, Jawzian, Ghazni, Kunduz, Paktika and Logar provinces and with **most recent case's onset on 29 August 2020**.

Environment: In 2020 to date, 89 cVDPV2 positive environmental samples including 3 combined (WPV1 and cVDPV2) were reported: 38 from Jalalabad, 11 from Batikot, 3 from Behsud districts, Nangarhar province, 14 from Kabul district, Kabul province, 4 from Asadabad and 8 from Kandahar districts, Kandahar province; 3 from Lashkargah district, Hilmand province, from Khost (Matun) district, Khost province and Mehtarlam (Gumeen) district, Laghman province and 1 each from Gardez district, Paktya province and Kunduz district, Kunduz province; with **most recent collection on 5 September 2020**.

Pakistan: No new VDPV cases reported this week, but 1 cVDPV2 positive environmental sample was reported. In 2020 to date, there are 74 cVDPV2 cases reported. Cases include 42 from KP province, 16 from Sindh province, 14 from Punjab province, and 2 from Balochistan province, with most recent case's onset on 31 August 2020. In addition to 6 aVDPV2 cases all from Punjab province, with most recent case's onset on 23 August 2020.

Environment: In 2020, there are 59 positive environmental samples for cVDPV2 so far (including 45 combined WPV1 and cVDPV2), the most recent sample collected on 16 September 2020. Also, there are 6 aVDPV2 isolates detected in the environment samples, which include three combined (WPV1 + aVDPV2). The most recent aVDPV2 positive environmental sample was collected on 29 July 2020.

SOMALIA: Four new cVDPV2 cases and 1 positive environmental sample reported this week.

The 4 new cVDPV2 cases are 1 each from Banadir province (Shibis district), Lower Juba province (Kismayo district – index case identified by positive contact), Middle Shabelle province (Balad district) and Bay province (Baidoa district - index case identified by positive contact). Onset of cases vary between 25 August – 17 September 2020.

In 2020 to date: Eight cVDPV2 cases reported, 5 from Banadir province and 1 each from Lower Juba, Middle Shabelle and Bay provinces, with **most recent date of onset 17 September 2020**. Also, there are 24 cVDPV2 positive environmental samples reported, the most recent collected on 8 September 2020.

SUDAN: 16 new cVDPV2 cases reported this week and no positive environmental samples reported.

The new 16 cVDPV2 cases reported 5 from Kassala State (Kassla town – 2, Nahr Atbara – 1, Rifi Kassala – 1, Rifi Al Girba – 1); 3 from Gezira State (Um El Gora – 1, East Gezira – 1, Al Gurashi – 1); 2 from White Nile State (El Geteana – 1, Um Rimta – 1); 1 each from Gedaref State (Al Fao), Red Sea State (Swakin), North Korofan State (Bara), Sennar State (East Sennar), Blue Nile State (El Russirs) and Khartoum (Gebal Awleya – index case identified by positive contact). Onset of the cases vary between 15 July – 3 September 2020.

In 2020 to date, 39 cVDPV2 cases reported. ***The most recent case has onset of paralysis on 3 September 2020.***

A total of eight environmental samples have been positive for cVDPV2 so far, all from Khartoum with most recent collection on 9 August 2020.

YEMEN: Two new cVDPV1 cases reported from Saadah province (Sahar district) with dates of onset 2 and 3 April 2020.

In 2020 to date, 16 cVDPV1 cases are reported. All cases are from Saadah province, 5 each from Kitaf Wa Buga and Sahar districts, 3 from Al Safrah district, and one each from Sageen, Saadh City and Majz districts.

The most recent case has onset of paralysis on 5 June 2020.

IV. Surveillance performance indicators

In 2020, 13 out 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.

- Morocco and Tunisia are missing both indicators as their non-polio AFP rates are 1.0 and 1.2 and their percentage of AFP cases with adequate stool specimens is 64.6%, and 63.0%, respectively.
- Djibouti, Jordan, Oman, Palestine, Qatar, Saudi Arabia and United Arab Emirates have a non-polio AFP rate of 1.0, 1.0, 1.7, 0.8, 0.6, 1.7 and 1.7 respectively.

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

Country	Reported AFP cases by week of onset - Week (42/20) / Ending on : 18/10/2020																
	Total AFP 2018	Total AFP 2019	Total AFP to date, 2020	W31 02 Aug 20	W32 09 Aug 20	W33 16 Aug 20	W34 23 Aug 20	W35 30 Aug 20	W36 06 Sep 20	W37 13 Sep 20	W38 20 Sep 20	W39 27 Sep 20	W40 04 Oct 20	W41 11 Oct 20	W42 18 Oct 20		
Afghanistan	3378	3768	2966	69	96	75	95	91	119	103	113	76	63	33	5		
Bahrain	35	17	11	0	0	0	0	0	0	0	0	1	0	0	0		
Djibouti	0	5	3	0	0	0	0	2	0	1	0	0	0	0	0		
Egypt	1246	1343	735	7	14	23	23	29	20	25	21	20	31	18			
Iran	896	1070	459	10	11	11	15	10	18	12	10	6	5	0	0		
Iraq	1023	1157	338	3	2	3	4	8	6	8	8	8	5	8			
Jordan ****	115	113	30	1	2	0	0	0	0	0	1	1	1	1	1		
Kuwait	72	48	25	0	1	2	0	2	0	0	0	0	0	0	0		
Lebanon ****	89	87	38	1	2	0	0	1	1	2	1	1					
Libya	122	107	80	1	3	5	6	2	3	0	0	2	0	1			
Morocco	212	247	79	0	0	1	2	0	0	0	1	0	0	0	3		
Oman	28	30	15	0	0	0	0	0	0	1	0	1	1	0			
Pakistan	12276	15216	8986	178	218	232	246	189	269	267	312	260	242	81	0		
Palestine ****	44	62	11	0	0	0	0	0	0	0	1	0	0	0	0		
Qatar	10	9	2	0	0	0	0	0	0	1	0	0	0	0	0		
Saudi Arabia	242	236	115	1	1	5	5	1	2	5	5	7	11	2	1		
Somalia	353	361	306	4	6	8	11	7	8	4	9	6	4	1	0		
Sudan	579	608	513	12	22	29	30	26	30	26	34	28	15	8			
Syria ****	362	377	274	4	7	2	3	7	4	8	1	13	2	1			
Tunisia	68	79	27	0	1	1	1	0	0	1	0	0	0	0	0		
U.A.E	40	50	17	0	0	0	0	1	1	0	0	0	0	0	0		
Yemen	730	779	579	11	15	18	25	17	27	19	18	21	27	6			
Total EMR	21920	25769	15609	302	401	415	466	393	508	483	535	451	407	163	6		

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2018	Total year 2019	18/10		Confirmed polio cases by month of onset											
	2019		2019	2020	November 2019	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020
Afghanistan	21	29	21	53	7	1	2	3	7	0	12	10	7	6	6	
Bahrain	0	0	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	0	0	
Egypt	0	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	0	
Iraq	0	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	12	147	82	79	23	32	18	17	7	6	6	6	6	5	7	1
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	33	176	103	132	30	33	20	20	14	6	18	16	13	11	13	1

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

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Table 3: Investigation of AFP cases with paralysis onset in 2019 & 2020 up to Week (42/20) / Ending on : 18/10/2020

COUNTRY	2019												2020												Latest line List Date		
	AFP												AFP														
	Total AFP cases onset 2019	Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV	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	Specimen	Wild cases ****	Wild P1 Poliovirus	Wild P3 Poliovirus	Total AFP cases onset 2020	Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV	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	Specimen	Wild cases ****			
Afghanistan	3768	29	1	0	3738	0	18.1	0	0	94.1	29	0	2966	53	0	347	2463	103	17.2	49	1	94.0	53	0	18/10/2020		
Bahrain	17	0	0	0	17	0	5.7	0	0	100.0	0	0	11	0	0	1	10	0	4.6	0	0	90.9	0	0	18/10/2020		
Djibouti	5	0	0	0	5	0	1.4	0	0	80.0	0	0	3	0	0	3	0	0	1.0	0	0	100.0	0	0	18/10/2019		
Egypt	1343	0	0	0	1343	0	3.6	0	0	93.4	0	0	735	0	0	87	648	0	2.4	2	0	91.2	0	0	15/10/2020		
Iran	1070	0	0	0	1069	1	5.2	0	0	97.1	0	0	459	0	0	12	447	0	2.8	0	0	99.3	0	0	18/10/2020		
Iraq	1157	0	0	0	1157	0	7.4	0	0	94.3	0	0	338	0	0	24	314	0	2.6	0	0	92.6	0	0	16/10/2020		
Jordan	113	0	0	0	113	0	3.9	0	0	100.0	0	0	30	0	0	2	28	0	1.0	0	0	100.0	0	0	15/10/2020		
Kuwait	48	0	0	0	48	0	5.4	0	0	89.6	0	0	25	0	0	0	25	0	3.5	0	0	88.0	0	0	11/10/2020		
Lebanon	87	0	0	0	87	0	4.7	0	0	89.7	0	0	38	0	0	21	17	0	2.6	11	10	94.7	0	0	03/10/2020		
Libya	107	0	0	0	107	0	4.3	0	0	98.1	0	0	80	0	0	20	59	1	3.8	0	0	100.0	0	0	10/10/2020		
Morocco	247	0	0	0	247	0	2.8	0	0	84.2	0	0	79	0	0	35	44	0	1.0	28	7	64.6	0	0	16/10/2020		
Oman	30	0	0	0	30	0	2.7	0	0	80.0	0	0	15	0	0	2	13	0	1.7	0	0	100.0	0	0	12/10/2020		
Pakistan	15216	147	6	0	15040	23	19.3	0	0	86.6	147	0	8986	79	7	1035	7785	80	14.3	211	0	87.5	79	0	18/10/2020		
Palestine	62	0	0	0	62	0	3.5	0	0	98.4	0	0	11	0	0	4	7	0	0.8	3	0	100.0	0	0	13/10/2020		
Qatar	9	0	0	0	9	0	2.2	0	0	88.9	0	0	2	0	0	2	0	0	0.6	1	0	100.0	0	0	18/10/2020		
Saudi Arabia	236	0	0	0	236	0	2.8	0	0	93.2	0	0	115	0	0	45	70	0	1.7	0	0	95.7	0	0	18/10/2020		
Somalia	361	0	0	0	358	3	5.7	0	0	95.6	0	0	306	0	0	17	279	10	4.7	2	1	96.1	0	0	18/10/2020		
Sudan	608	0	0	0	608	0	3.4	0	0	96.4	0	0	513	0	0	69	405	39	3.4	4	0	93.8	0	0	15/10/2020		
Syria	377	0	0	0	377	0	4.8	0	0	88.1	0	0	274	0	0	13	261	0	4.3	0	0	91.2	0	0	17/10/2020		
Tunisia	79	0	0	0	78	1	2.9	0	0	74.7	0	0	27	0	0	4	23	0	1.2	2	0	63.0	0	0	16/10/2020		
U.A.E	50	0	0	0	50	0	4.0	0	0	90.0	0	0	17	0	0	6	11	0	1.7	4	4	100.0	0	0	18/10/2020		
Yemen	779	0	0	0	778	1	5.5	0	0	89.0	0	0	579	0	1	404	158	16	5.2	187	166	90.7	0	0	17/10/2020		
EMR	25769	176	7	0	25557	29	10.2	0	0	89.5	176	0	15609	132	8	2153	13067	249	7.5	504	189	90.0	132	0			
2018	21920	33	4	0	21868	15	8.7	0	0	89.8	33	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	2019					2020				
	# OF CONTACTS	LAB RESULTS				# OF CONTACTS	LAB RESULTS			
		WILD	VDPV	SL	NPEV		WILD	VDPV	SL	NPEV
AFG	1138	8	0	48	202	0	877	14	20	30
BAH	0	0	0	0	0	0	1	0	0	0
DJI	1	0	0	0	0	0	1	0	0	0
EGY	498	0	0	8	57	0	211	0	0	8
IRN	216	0	0	4	7	0	16	0	0	0
IRQ	603	0	0	12	39	6	156	0	0	3
JOR	0	0	0	0	0	0	0	0	0	0
KUW	0	0	0	0	0	0	0	0	0	0
LEB	24	0	0	0	3	0	0	0	0	0
LIB	6	0	0	0	3	0	0	0	0	0
MOR	85	0	0	3	1	30	8	0	0	0
OMA	78	0	0	2	28	0	46	0	0	2
PAK	5497	26	9	248	959	0	3586	18	7	290
PAL	0	0	0	0	0	0	0	0	0	0
QAT	0	0	0	0	0	0	0	0	0	0
SAA	44	0	0	0	0	0	14	0	0	0
SOM	1081	0	1	45	141	5	872	0	4	16
SUD	402	0	0	1	31	90	227	0	10	0
SYR	813	0	0	23	36	0	259	0	0	11
TUN	27	0	0	0	2	0	5	0	0	0
UAE	0	0	0	0	0	0	0	0	0	0
YEM	423	0	2	6	68	5	178	0	0	20
EMR	10936	34	12	400	1577	136	6457	32	41	360
										847
										709

Table 4 (B): Most recent wild contacts in EMRO, 2019-2020

Year	Country	Data	
		Count of wild contacts	Date of Most Recent stool collection
2020	Afghanistan	14	26/Jul/20
	Pakistan	18	4/Sep/20
2020 Total		32	4/Sep/20
2019	Afghanistan	8	17/Aug/19
	Pakistan	26	26/Dec/19
2019 Total		34	26/Dec/19

Table 4 (C): Number of distribution by district of -ve index AFP cases identified as wild positive by contact in EMR, 2019-2020

YEAR	COUNTRY	PROVINCE	DISTRICT	COUNT	First case	Last case
2020	AFG	KANDAHAR	NESH	1	23-May-20	23-May-20
		HILMAND	WASHER	1	04-Jan-20	04-Jan-20
		NIMROZ	KHASHROD	1	28-Feb-20	28-Feb-20
		FARAH	ANARDARA	1	06-May-20	06-May-20
	PAK	BALOCHISTAN	KSAIFULLAH	1	01-Sep-20	01-Sep-20
		PUNJAB	LAHORE	1	24-Jul-20	24-Jul-20
		KHYBER PAKHTUNKHWA (KP)	DG KHAN	2	18-Jan-20	05-Jul-20
		SINDH	KARAK	1	20-Jan-20	20-Jan-20
			JACOBABAD	2	07-Feb-20	14-Jul-20
				11	04-Jan-20	01-Sep-20
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
		PUNJAB	DG KHAN	2	2-Dec-19	10-Dec-19
			KHORANGI	1	28-Aug-19	28-Aug-19
	PAK		SUJAWAL	1	25-Sep-19	25-Sep-19
		SINDH	JAMSHORO	1	09-Oct-19	09-Oct-19
			T. ALLAHYAR	1	10-Nov-19	10-Nov-19
		BALOCHSITAN	KAMBAR	1	02-Nov-19	02-Nov-19
			MIRPURKHAS	2	01-Dec-19	18-Dec-19
			LARKANA	1	24-Dec-19	24-Dec-19
			JACOBABAD	1	19-Dec-19	19-Dec-19
			MASTUNG	1	18-Nov-19	18-Nov-19
			KILLABDULLAH	2	2-Jul-19	19-Nov-19
			BANNU	1	13-Nov-19	13-Nov-19
			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
				24	06-Mar-19	24-Dec-19

Table 5:

Laboratory investigation of AFP cases with paralysis onset in 2020 up to Week (42/2020) / Ending on : (18/10/2020)

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	VPDV	Wild	Sabin	VPDV	Wild	Sabin	VPDV							
Afghanistan	RRL Pakistan	2940	309	20	416	2006	188	1	50	83			11	93		76	1		2	53	14%	93%	100%	98%	18/10/2020
Bahrain	NPL Oman / CDC	10			1	9															9%	100%		0%	11/10/2020
Djibouti	NPL Kenya / CDC	3						3																	18/10/2020
Egypt***	RRL Egypt	707	20	12	73	557	42	3	8					13			9	3		10%	95%	100%	99%	15/10/2020	
Iran	NPL Iran / CDC	466	5		5	438	8	10	3					3						1%	100%	100%	100%	10/10/2020	
Iraq	RRL Egypt	337	1		30	287	18												1	9%	95%	100%	97%	16/10/2020	
Jordan	NPL Jordan / RRL EGYPT	30			5	23	2													18%	100%		100%	15/10/2020	
Kuwait	RRL Kuwait / RIVM	26				24		2												1%	79%		92%	15/10/2020	
Lebanon	NPL Jordan / RRL EGYPT	38			5	27	6													15%	97%		100%	15/10/2020	
Libya	RRL Tunisia / RIVM	65	4			61									3	1				0%	100%	100%	65%	15/09/2020	
Morocco	NPL Morocco / RRL Tunisia	64			1	58	1	4												1%	100%		98%	16/10/2020	
Oman	NPL Oman / CDC	15			2	12	1													13%	100%		100%	11/10/2020	
Pakistan	RRL Pakistan	8808	669	44	1158	6322	424	189	72	140			255	76	221		1	2	2	30	12%	94%	99%	97%	18/10/2020
Palestine & UNRWA		11				11														0%	36%		100%	13/10/2020	
Qatar	NPL Oman / CDC	2				2														0%	100%		100%	11/10/2020	
Saudi Arabia	NPL Saudi Arabia / CDC	108				93	12	3												0%	100%		100%	11/10/2020	
Somalia	NPL Kenya / CDC	306	16	5	47	221	5	11	3	1			7	13						18%	5%		97%	18/10/2020	
Sudan	NPL Sudan / RRL Egypt	483	37		53	310	19	64	1			20	36							15%	99%	100%	53%	15/10/2020	
Syria	NPL Syria / RRL Egypt	271	12	1	12	238	8													4%	100%			17/10/2020	
Tunisia	RRL Tunisia	21				20		1												0%	100%		95%	15/09/2020	
U.A.E	NPL Oman / CDC	16				16														0%	100%		50%	11/10/2020	
Yemen	NPL Kenya / CDC	174	24		42	108			2	17			5				1		1	25%	96%	21%	0%	17/10/2020	
Total EMR 2020		14901	1097	82	1850	10843	734	291	122	240	18		286	212	334	2	1	13	6	84	12%	93%	98%	96%	
Total EMR 2019		24920	1057	100	3669	20056		26	152	576	1		46	25	629	1	3	21	6		13%	95%	99%	96%	

* Specimens from all sources including non-AFP cases, excluding environmental samples

** This indicator reflects surveillance and laboratory activities

Table 6: Environmental isolate by year and type

COUNTRY	LAB RESULTS	2016	2017	2018	2019	2020
AFG	Wild	2	42	83	56	28
	Wild+cVDPV2					3
	cVDPV2					86
	EV/SL	177	265	248	200	136
	Negative	6	9	5	3	3
	Pending					52
AFG Total		185	316	336	259	308
EGY	aVDPV2					1
	EV/SL	492	481	508	666	367
	Negative	36	41	32	34	31
	Pending					22
	aVDPV3					1
	aVDPV1					1
EGY Total		528	522	540	700	423
IRN	Wild				3	
	EV/SL		5	51	65	25
	Negative		1	3	3	
	Pending					3
IRN Total			6	54	71	28
JOR	EV/SL	2	29	36	36	16
	Negative		2			1
	Pending					1
JOR Total		2	31	36	36	18
KUW	EV/SL			3	3	
	Pending				8	
KUW Total				3	11	
LEB	EV/SL	2	26	44	44	12
	Negative	2	1	1	3	2
	Pending					5
LEB Total		4	27	45	47	19
PAK	Wild	59	105	139	367	310
	Wild+cVDPV2	2			10	45
	Wild+aVDPV2	1	1		2	3
	cVDPV2	2			29	14
	aVDPV2	3	4			3
	EV/SL	456	523	531	420	224
	Negative	6		3	4	4
	Pending					54
PAK Total		529	633	673	832	657
SOM	cVDPV2		2	18	5	24
	cVDPV3			11		
	aVDPV2			2	1	
	cVDPV2+cVDPV3			1		
	EV/SL		20	43	28	10
	Negative		14	138	29	24
	Pending					7
SOM Total			36	213	63	65
SUD	cVDPV2					8
	EV/SL			15	42	12
	Negative			1	2	
	Pending			17	18	
SUD Total				15	60	40
SYR	EV/SL		4	81	155	137
	Negative			21	30	16
	Pending					7
SYR Total			4	102	185	160
TOTAL		1248	1575	2017	2264	1718

Table 7: Environmental Wild/VDPV isolate by site 2019-2020

YEAR	COUNTRY	LAB RESULTS	PROVINCE	Count	First date	Last date
2019	AFG	Wild	HILMAND	19	6/Jan/19	25/Dec/19
			KANDAHAR	24	6/Jan/19	25/Dec/19
			NANGARHAR	13	26/Jan/19	25/Dec/19
	AFG Total			56	6/Jan/19	25/Dec/19
	IRN	Wild	S & B	3	22/Apr/19	20/May/19
	IRN Total			3	22/Apr/19	20/May/19
	PAK	Wild	BALOCHISTAN	72	1/Jan/19	20/Dec/19
			GBALTISTAN	1	9/Dec/19	9/Dec/19
			ISLAMABAD	3	12/Apr/19	21/Aug/19
			KPAKHTUNKHWA	40	8/Jan/19	28/Dec/19
			PUNJAB	97	5/Jan/19	17/Dec/19
			SINDH	154	2/Jan/19	17/Dec/19
		Wild+cVDPV2	KPAKHTUNKHWA	1	31/Dec/19	31/Dec/19
			PUNJAB	5	6/Aug/19	16/Dec/19
			SINDH	4	7/Oct/19	18/Dec/19
		cVDPV2	GBALTISTAN	5	24/Aug/19	6/Nov/19
			ISLAMABAD	1	12/Nov/19	12/Nov/19
			KPAKHTUNKHWA	10	9/Oct/19	28/Dec/19
			PUNJAB	12	11/Apr/19	18/Dec/19
			SINDH	1	19/Dec/19	19/Dec/19
	PAK Total			406	1/Jan/19	31/Dec/19
	SOM	cVDPV2	BANADIR	5	10/Nov/19	22/Dec/19
		aVDPV2	BANADIR	1	3/Feb/19	3/Feb/19
	SOM Total			6	3/Feb/19	22/Dec/19
2019 Total				471	1/Jan/19	31/Dec/19
2020	AFG	Wild	HILMAND	11	1/Jan/20	6/Sep/20
			HIRAT	4	26/Apr/20	23/Aug/20
			KABUL	1	26/Sep/20	26/Sep/20
			KANDAHAR	10	28/Jan/20	25/Jun/20
			KHOST	1	25/Apr/20	25/Apr/20
			NANGARHAR	1	26/Jan/20	26/Jan/20
		Wild+cVDPV2	KANDAHAR	1	9/Jul/20	9/Jul/20
			NANGARHAR	2	8/Jan/20	25/Jul/20
		cVDPV2	HILMAND	3	27/May/20	3/Aug/20
			KABUL	14	26/Apr/20	5/Sep/20
			KANDAHAR	7	9/Jul/20	3/Aug/20
			KHOST	3	24/Jun/20	23/Aug/20
			KUNAR	4	6/Jun/20	4/Aug/20
			KUNDUZ	1	23/Aug/20	23/Aug/20
			LAGHMAN	3	24/Jul/20	24/Aug/20
			NANGARHAR	50	7/Jan/20	22/Aug/20
			PAKYA	1	26/Jul/20	26/Jul/20
	AFG Total			117	1/Jan/20	26/Sep/20
	EGY	aVDPV2	GIZA	1	21/Sep/20	21/Sep/20
	EGY Total			1	21/Sep/20	21/Sep/20
	PAK	Wild	AJK	1	25/Feb/20	25/Feb/20
			BALOCHISTAN	79	1/Jan/20	28/Sep/20
			GBALTISTAN	1	12/May/20	12/May/20
			ISLAMABAD	3	16/Jan/20	10/Sep/20
			KPAKHTUNKHWA	16	28/Jan/20	14/Sep/20
			PUNJAB	102	4/Jan/20	24/Sep/20
			SINDH	108	3/Jan/20	15/Sep/20
		Wild+cVDPV2	BALOCHISTAN	5	1/Feb/20	1/Sep/20
			KPAKHTUNKHWA	1	11/Mar/20	11/Mar/20
			PUNJAB	9	4/Jun/20	12/Aug/20
			SINDH	30	3/Jan/20	10/Sep/20
		cVDPV2	BALOCHISTAN	1	2/Jun/20	2/Jun/20
			KPAKHTUNKHWA	4	10/Jun/20	17/Apr/20
			PUNJAB	2	16/Jun/20	17/Apr/20
			SINDH	7	8/Jun/20	16/Sep/20
		aVDPV2	KPAKHTUNKHWA	2	10/Apr/20	29/Jul/20
			PUNJAB	1	4/May/20	4/May/20
	PAK Total			372	1/Jan/20	28/Sep/20
	SOM	cVDPV2	BANADIR	21	5/Jan/20	29/Aug/20
			BAY	2	19/Jun/20	20/Jun/20
			LOWER JUBA	1	8/Sep/20	8/Sep/20
	SOM Total			24	5/Jan/20	8/Sep/20
	SUD	cVDPV2	KHARTOUM	8	29/Mar/20	9/Aug/20
	SUD Total			8	29/Mar/20	9/Aug/20
2020 Total				522	1/Jan/20	28/Sep/20

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2020 - 18/10/2020

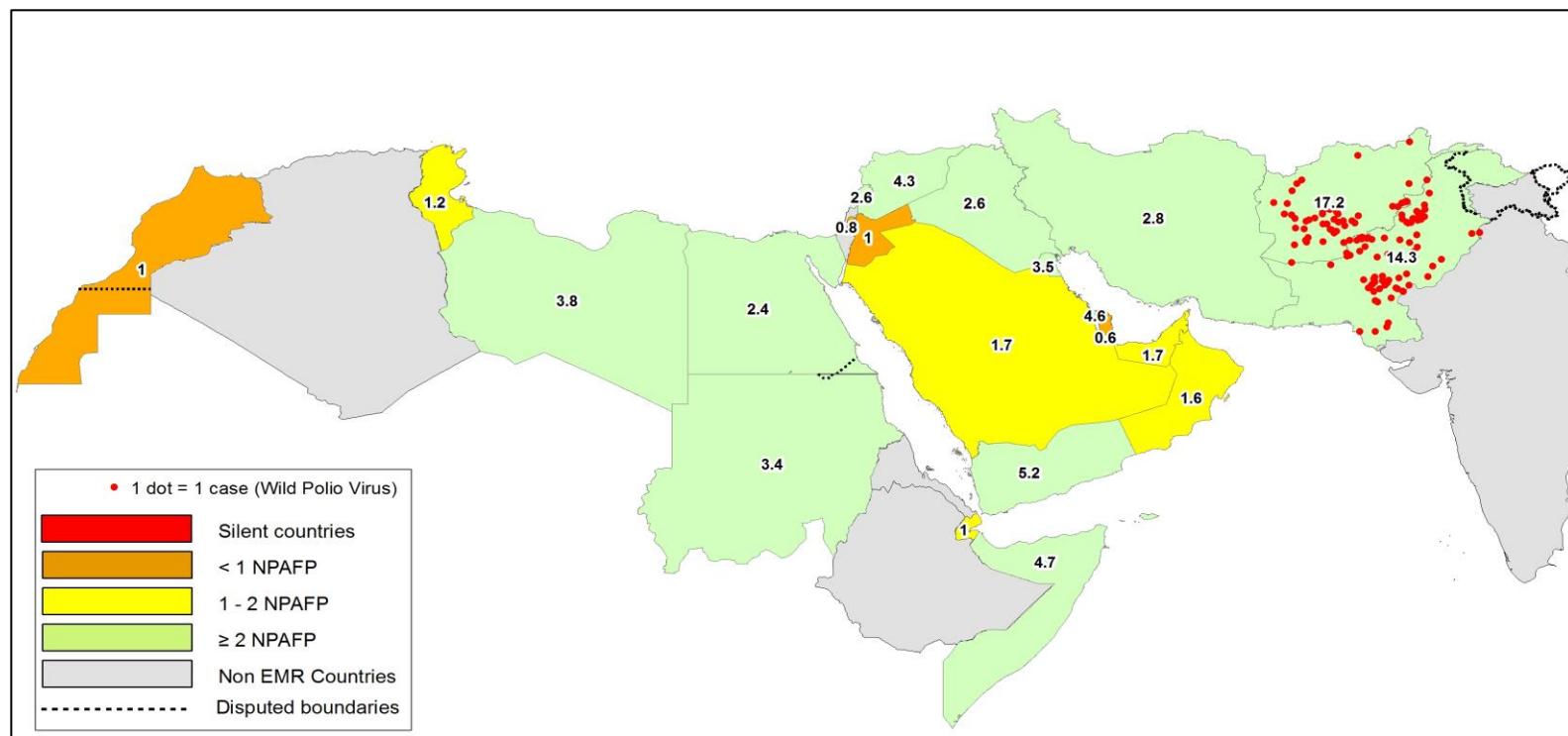


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 18/10/2020

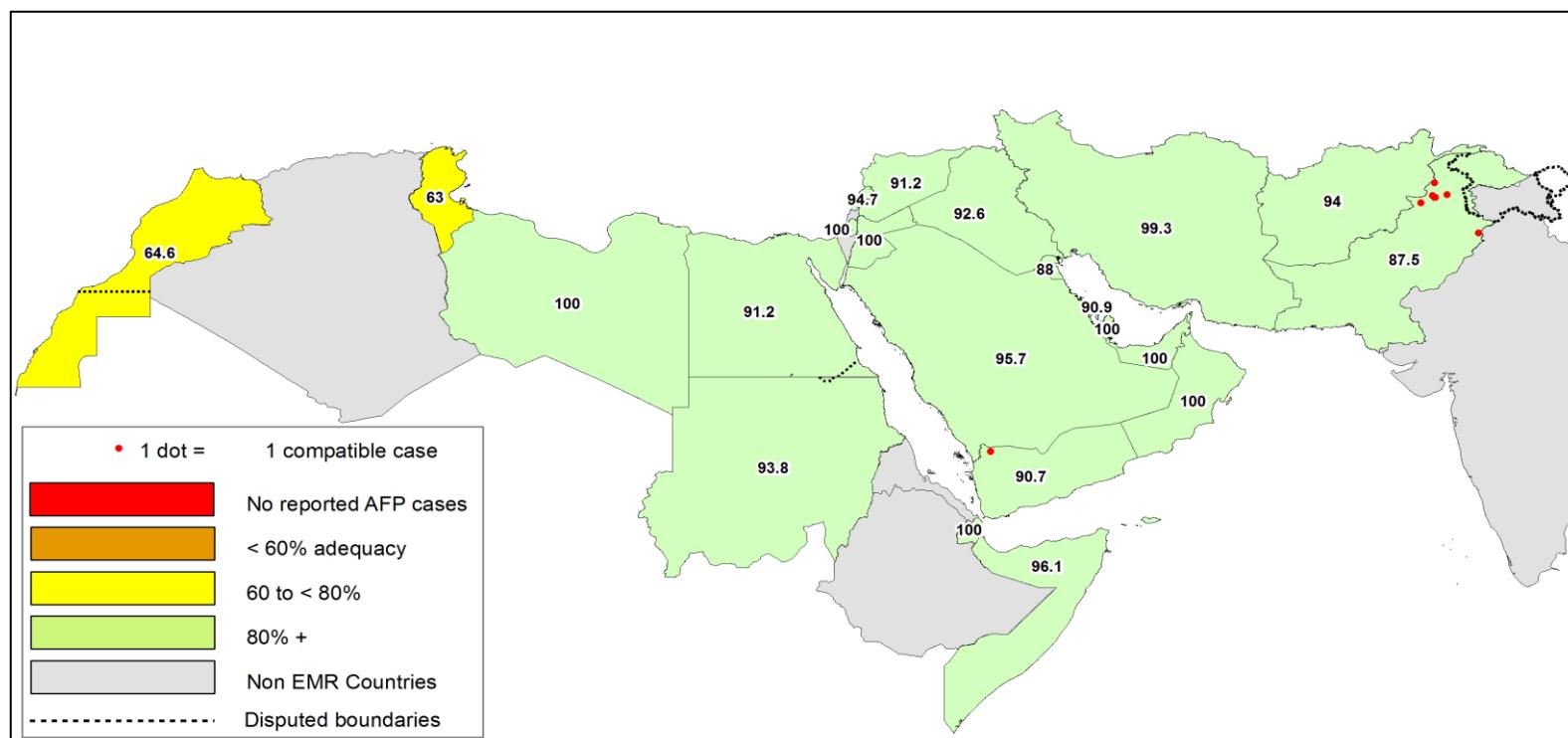


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2019 - 2020

Year	COUNTRY	Count	First Case	Last Case
2020	AFG	53	4-Jan-20	13-Sep-20
	PAK	79	1-Jan-20	3-Oct-20
2020 Total		132	1-Jan-20	3-Oct-20
2019	AFG	29	4-Jan-19	7-Dec-19
	PAK	147	15-Jan-19	31-Dec-19
2019 Total		176	4-Jan-19	31-Dec-19

Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2020 - 18/10/2020

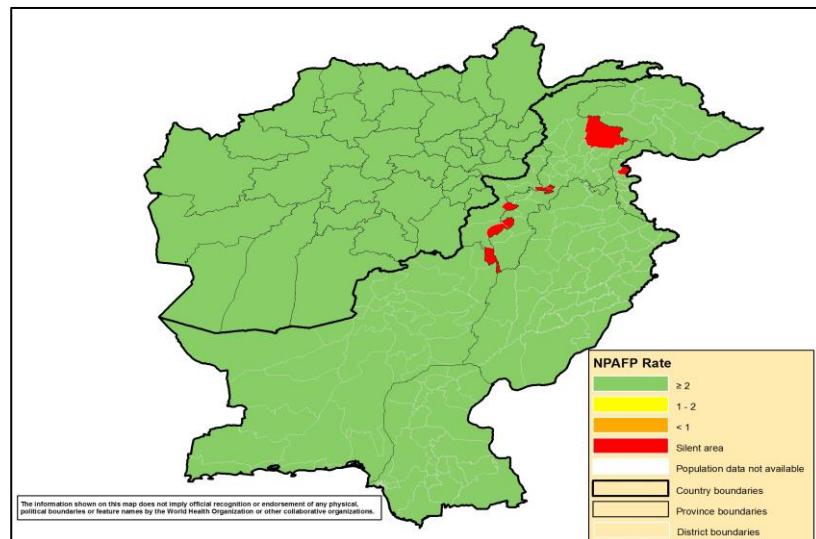


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 18/10/2020

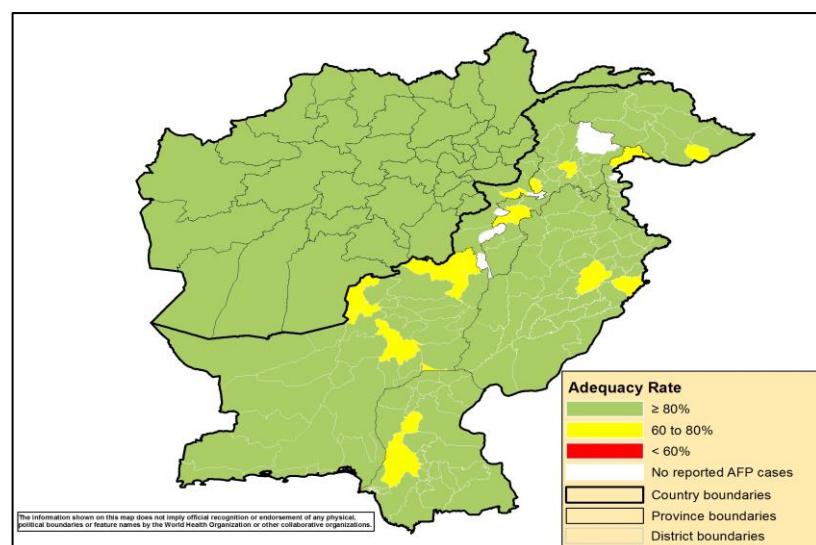
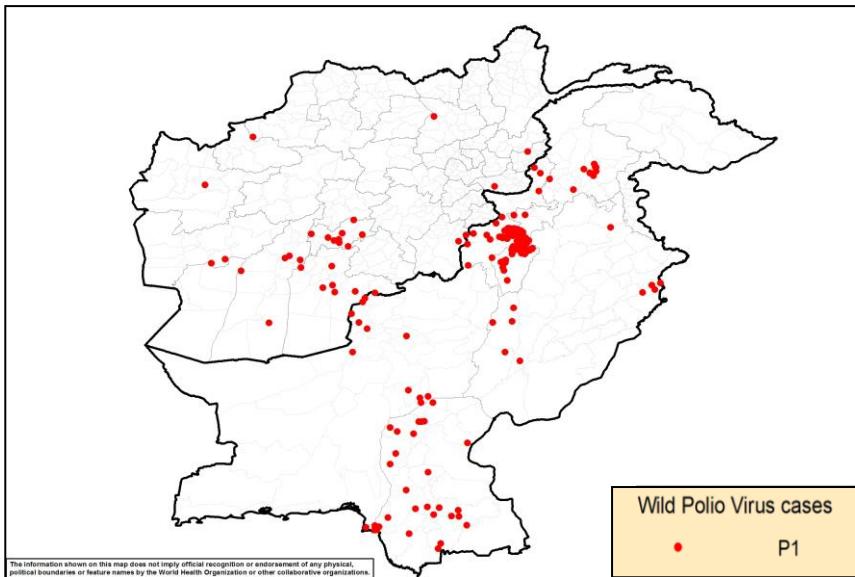
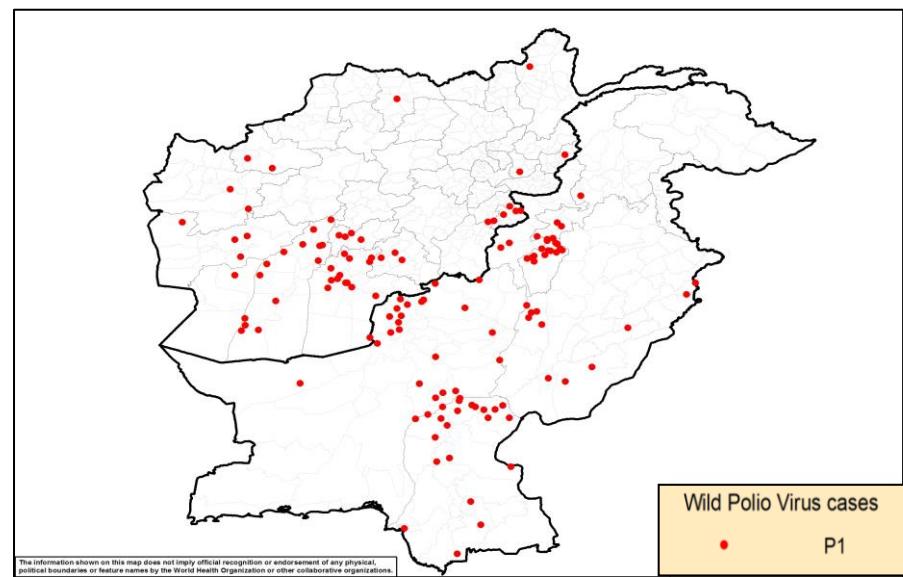


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

5(a) 01/01/2019 - 31/12/2019



5(b) 01/01/2020 - 18/10/2020



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Table 9: Wild Polio cases by district and date of onset of paralysis, Afghanistan 2019-2020

ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case
2020	BALKH	DEHDADI	1	15-Mar-20	15-Mar-20
	HIRAT	PASHTUNZARGHUN	1	29-Jun-20	29-Jun-20
	FARAH	SHINDAND	1	21-Mar-20	21-Mar-20
	FARAH	BALABULUK	2	11-May-20	17-May-20
		ANARDARA	1	6-May-20	6-May-20
		BAKWA	1	4-Feb-20	4-Feb-20
	BADGHIS	QALA-E-NAW	1	5-Sep-20	5-Sep-20
		QADIS	1	13-May-20	13-May-20
	KUNAR	SHIGAL WA SHELTON	1	5-Mar-20	5-Mar-20
	LAGHMAN	MEHTARLAM	1	10-Feb-20	10-Feb-20
	PAKTIKA	NAKA	1	12-Aug-20	12-Aug-20
	KHOST	NADIRSHAHKOT	1	7-Sep-20	7-Sep-20
		BAK	2	3-Sep-20	7-Sep-20
		SABARI	1	8-Aug-20	8-Aug-20
		SPERA	1	1-Aug-20	1-Aug-20
	KANDAHAR	KANDAHAR	3	22-Jun-20	13-Sep-20
		ZHERAY	3	20-Jul-20	24-Aug-20
		SPINBOLDAK	1	25-Jul-20	25-Jul-20
		PANJWAYI	1	10-Jun-20	10-Jun-20
		SHAHWALIKOT	3	4-Mar-20	6-Jun-20
		NESH	1	23-May-20	23-May-20
		GHORAK	1	19-Mar-20	19-Mar-20
	ZABUL	QALAT	1	6-Aug-20	6-Aug-20
		ARGHANDAB (Z)	1	14-Jul-20	14-Jul-20
		MIZAN	1	21-Jan-20	21-Jan-20
	HILMAND	BAGHRAN	2	16-Jul-20	4-Sep-20
		KAJAKI	2	10-Jun-20	27-Jul-20
		WASHER	2	4-Jan-20	13-Jun-20
		REG	4	25-May-20	3-Jun-20
		DEH-E-SHU	1	27-May-20	27-May-20
		NAWZAD	1	11-May-20	11-May-20
		SANGIN	1	7-May-20	7-May-20
		NAD-E-ALI	1	1-May-20	1-May-20
	URUZGAN	SHAHID-E-HASSAS	3	14-Jun-20	12-Jul-20
		TIRINKOT	1	28-May-20	28-May-20
	NIMROZ	KHASHROD	1	28-Feb-20	28-Feb-20
	BADAKHSHAN	YAWAN	1	10-Mar-20	10-Mar-20
2020 Total			53	4-Jan-20	13-Sep-20
2019	KHOST	HIRAT	PASHTUNZARGHUN	1	19-Nov-19
		FARAH	BAKWA	2	14-Nov-19
		BADGHIS	BALAMURGHAB	1	17-Oct-19
		NANGARHAR	KHOGYANI	1	18-Sep-19
		KUNAR	WATAPUR	1	8-May-19
		PAKTIKA	BERMEL	2	15-Sep-19
		KANDAHAR	SHAHWALIKOT	1	7-Dec-19
			SPINBOLDAK	2	4-Jan-19
			KANDAHAR	2	17-Aug-19
			GHORAK	1	12-Jan-19
	HILMAND	GARMER		1	26-May-19
		MUSAQALAH		1	5-May-19
		NAWZAD		1	3-Apr-19
		WASHER		1	23-Mar-19
		SANGIN		1	6-Mar-19
		URUZGAN	KHASURUZGAN	1	2-Nov-19
	URUZGAN	TIRINKOT		4	19-May-19
		CHORA		3	20-Mar-19
		SHAHID-E-HASSAS		1	25-Feb-19
		BAGHLAN	PUL-E-KHUMRI	1	14-Nov-19
2019 Total			29	4-Jan-19	7-Dec-19

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Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2019-2020

ONSET/YR	PROVINCE	DISTRICT	Count	First case	Last case
2020	KHYBER PAKHTUNKHWA	PESHAWAR	1	13-Jul-20	13-Jul-20
		WAZIR-S	2	21-Feb-20	8-Jun-20
		BANNU	1	27-Apr-20	27-Apr-20
		TANK	4	11-Jan-20	15-Mar-20
		KARAK	2	20-Jan-20	13-Mar-20
		LAKKIMRWT	12	2-Jan-20	9-Mar-20
	BALOCHISTAN	PISHIN	6	31-Jan-20	3-Oct-20
		QUETTA	4	17-Jul-20	15-Sep-20
		KSAIFULAH	1	1-Sep-20	1-Sep-20
		KABDULAH	2	11-May-20	29-Jun-20
		CHAGHAI	1	4-Jun-20	4-Jun-20
		DUKKI	1	26-May-20	26-May-20
		JHALMAGSI	1	19-Apr-20	19-Apr-20
		ZHOB	2	22-Feb-20	13-Apr-20
		NSIRABAD	2	3-Jan-20	13-Apr-20
		SOHBATPUR	1	12-Feb-20	12-Feb-20
		JAFARABAD	1	12-Feb-20	12-Feb-20
		SIBI	1	7-Feb-20	7-Feb-20
	PUNJAB	VEHARI	1	16-Sep-20	16-Sep-20
		DGKHAN	5	18-Jan-20	14-Sep-20
		BAHAWALPUR	2	17-Aug-20	5-Sep-20
		RYKHAN	1	1-Sep-20	1-Sep-20
		LAHORE	2	12-Jun-20	24-Jul-20
		RAJANPUR	1	2-Jun-20	2-Jun-20
	SINDH	JACOBABAD	4	7-Feb-20	14-Jul-20
		GHOSTKI	4	2-Mar-20	9-Jul-20
		KHILANDHI	1	9-Jun-20	9-Jun-20
		LARKANA	1	21-May-20	21-May-20
		KAMBAR	3	8-Jan-20	11-Apr-20
		KHAIRPUR	1	27-Mar-20	27-Mar-20
		NFEROZ	2	8-Feb-20	22-Feb-20
		SHIKARPUR	1	11-Feb-20	11-Feb-20
		KASHMORE	2	16-Jan-20	3-Feb-20
		SUJAWAL	1	7-Jan-20	7-Jan-20
		T.ALLAHYAR	1	7-Jan-20	7-Jan-20
		BADIN	1	1-Jan-20	1-Jan-20
2020 Total			79	1-Jan-20	3-Oct-20
2019	KHYBER PAKHTUNKHWA	LAKKIMRWT	32	27-May-19	31-Dec-19
		DIKHAN	4	5-May-19	21-Dec-19
		MOHMAND	1	20-Dec-19	20-Dec-19
		TANK	6	11-Oct-19	18-Dec-19
		BANNU	26	15-Jan-19	30-Nov-19
		SWABI	1	17-Nov-19	17-Nov-19
		WAZIR-N	9	4-Apr-19	10-Oct-19
		TORGHAR	7	25-May-19	13-Sep-19
		WAZIR-S	1	20-Aug-19	20-Aug-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
		KHYBER	1	14-Feb-19	14-Feb-19
		BAJOUR	1	18-Jan-19	18-Jan-19
	BALOCHISTAN	KABDULAH	5	9-Jun-19	31-Dec-19
		JAFARABAD	3	28-May-19	18-Dec-19
		NSIRABAD	1	5-Dec-19	5-Dec-19
		MASTUNG	1	18-Nov-19	18-Nov-19
		HARNAI	1	27-Sep-19	27-Sep-19
	PUNJAB	QUETTA	1	6-Jul-19	6-Jul-19
		LAHORE	5	20-Jan-19	28-Dec-19
		DGKHAN	4	2-Dec-19	25-Dec-19
		OKARA	1	8-Dec-19	8-Dec-19
		MUZFARGARH	1	26-Nov-19	26-Nov-19
		JHELUM	1	21-Jun-19	21-Jun-19
	SINDH	THATTA	1	26-Dec-19	26-Dec-19
		DADU	2	6-Dec-19	26-Dec-19
		LARKANA	3	17-Apr-19	24-Dec-19
		JAMSHORO	3	23-Aug-19	22-Dec-19
		JACOBABAD	1	19-Dec-19	19-Dec-19
		MIRPURKHAS	4	17-Nov-19	18-Dec-19
		KAMBAR	3	2-Nov-19	14-Dec-19
		BADIN	1	28-Nov-19	28-Nov-19
		T.ALLAHYAR	1	10-Nov-19	10-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
		SUJAWAL	1	25-Sep-19	25-Sep-19
		KHORANGI	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
2019 Total			147	15-Jan-19	31-Dec-19

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Table 11: Circulating VDPV2 cases and date of onset of paralysis in EMR countries by provinces 2019-2020

YEAR	COUNTRY	PROVINCE	Count	First Case	Last Case
2020	SOM	LOWER JUBA	1	29-Aug-20	29-Aug-20
		MIIDDLE SHABELLE	1	17-Jul-20	17-Jul-20
		BAY	1	3-Sep-20	3-Sep-20
		BANADIR	5	18-Jun-20	25-Aug-20
	SUD	SOUTH DARFUR	2	7-Mar-20	29-Apr-20
		EAST DARFUR	3	12-May-20	24-Jul-20
		KHARTOUM	2	15-Jul-20	3-Aug-20
		KASSALA	8	28-Jul-20	2-Sep-20
		GEZIRA	4	9-Jul-20	28-Aug-20
		RIVER NILE	3	29-Jun-20	18-Aug-20
		RED SEA	5	29-Apr-20	16-Aug-20
		WEST DARFUR	1	19-May-20	19-May-20
		BLUE NILE	3	7-Aug-20	3-Sep-20
		NORTH KORDOFAN	1	29-Aug-20	29-Aug-20
		SENNAR	1	16-Aug-20	16-Aug-20
		WHITE NILE	3	15-Jun-20	22-Aug-20
	AFG	GEDARIF	3	1-Apr-20	1-Aug-20
		FARAH	4	1-Jun-20	14-Aug-20
		HIRAT	2	10-Aug-20	15-Aug-20
		LOGAR	1	20-Aug-20	20-Aug-20
		KANDAHAR	5	4-Aug-20	22-Aug-20
		HILMAND	2	1-Aug-20	16-Aug-20
		JAWZIAN	1	4-Aug-20	4-Aug-20
		KABUL	4	6-Jul-20	24-Aug-20
		NURISTAN	2	21-Jun-20	13-Jul-20
		NIMROZ	3	6-Jul-20	8-Aug-20
		KHOST	7	5-Jul-20	26-Aug-20
		PAKTYA	2	18-Jun-20	19-Aug-20
		KUNDUZ	1	28-Aug-20	28-Aug-20
		PAKTIKA	1	25-Aug-20	25-Aug-20
		GHAZNI	1	29-Aug-20	29-Aug-20
		BADAKHSAN	1	23-Apr-20	23-Apr-20
		LAGHMAN	12	20-May-20	20-Jul-20
		KUNAR	8	6-Apr-20	11-Jul-20
		NANGARHAR	44	5-Feb-20	29-Jul-20
	PAK	SINDH	16	2-May-20	31-Aug-20
		BALOCHISTAN	2	29-Feb-20	19-Aug-20
		PUNJAB	14	5-Feb-20	29-Aug-20
		KHYBER PAKHTUNKHWA	42	2-Jan-20	24-May-20
Total 2020			222	2-Jan-20	3-Sep-20
2019	PAK	PUNJAB	1	22-Nov-19	22-Nov-19
		KHYBER PAKHTUNKHWA	16	4-Sep-19	28-Dec-19
		ISLAMABAD	1	11-Sep-19	11-Sep-19
		GILGIT BALITSTAN	4	7-Jul-19	28-Aug-19
	SOM	BARI	1	8-May-19	8-May-19
		TOGDHER	1	21-Apr-19	21-Apr-19
		SOOL	1	15-Mar-19	15-Mar-19
Total 2019			25	15-Mar-19	28-Dec-19

VDPV2 isolates, EMR countries, 2020

