

Highlights of Polio Fax Bulletin No. 1160 for Week 52 2020

I. Salient features this week

1. Polio eradication teams at the Regional and Country levels continue to contribute to the COVID19 Response, particularly in areas of surveillance (field and laboratory), data analysis, communications and coordination.
2. No new wild poliovirus cases reported, but eight new WPV1 positive environmental samples (Afghanistan – 1 and Pakistan – 7) reported this week.
3. Vaccine Derived Poliovirus (VDPV):
 - cVDPV1: No new cVDPV1 cases reported this week.
 - cVDPV2: Twenty-six new cVDPV2 cases reported from Afghanistan and no new positive environmental samples reported this week.

II. Wild Poliovirus Transmission

WPV1 transmission continues globally in only EMR in two polio-endemic countries, Pakistan and Afghanistan.

As of week 52 2020, 139 WPV1 cases are reported (56 from Afghanistan and 83 from Pakistan). This compares with 173 cases in 2019 in the same period (29 from Afghanistan and 144 from Pakistan).

- a. *Human samples:* No new wild poliovirus cases reported this week.

Afghanistan: No new wild poliovirus cases reported this week.

In 2020, **56 WPV1 cases** have been reported so far: 38 cases from South Region; 8 from West Region; 6 from Southeast Region; 2 from East Region; and one each from North and Badakhshan Regions. **The most recent case has onset of paralysis on 19 October 2020.**

Pakistan: No new wild poliovirus cases reported this week.

In 2020 to date, **83 WPV1 cases** are reported, 25 from Balochistan province, 22 cases each from Khyber Pakhtunkhwa (KP) and Sindh provinces, and 14 from Punjab province. **The most recent case has onset of paralysis on 23 November 2020.**

- b. *Environmental samples:* Eight new positive environmental samples (Afghanistan – 1 and Pakistan – 7) reported this week.

- **Afghanistan:** In 2020 to date, there are **35** WPV1 positive environmental samples including six combined (WPV1 and cVDPV2) with most recent sample collected on 6 December 2020.

- **Pakistan:** In 2020 to date, there are **414** WPV1 positive environmental samples including 75 mixture of WPV1 and cVDPV2 and 4 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 8 December 2020.

III. Vaccine Derived Polioviruses (VDPVs):

Total cVDPV2 cases in 2020 to date is 422 (240 from Afghanistan, 121 from Pakistan, 13 from Somalia and 48 from Sudan). This compares with 24 cases in 2019 in the same period (21 from Pakistan and 3 from Somalia).

1. **Outbreaks:** Five countries have VDPVs outbreaks, four with cVDPV2 and one with cVDPV1.

Afghanistan: 26 new cVDPV2 cases reported this week and no new positive environmental samples reported. The 26 new cVDPV2 cases reported from: 17 from South region (Kandahar – 9, Hilmand – 3, Zabul – 3 and Uruzgan – 2), 4 from West Region (Badghis – 3 and Farah – 1), 3 from North Region (Balakh – 2 and Samangan – 1) and 2 from Southeast Region (Ghazni – 1 and Paktika – 1). The dates of onset vary between 13 September to 8 November 2020.

In 2020 to date, there are **240 cVDPV2 cases;** 104 from South Region, 70 reported from East Region, 28 from Southeast Region, 15 from Central Region, 14 from West Region, 4 from each Northeast and North Regions, 1 from Badakshan Region. **The most recent case has onset on 8 November 2020.**

Environment: In 2020 to date, 149 cVDPV2 positive environmental samples including 6 mixture of WPV1 and cVDPV2 were reported. **The most recent cVDPV2 positive environmental sample was collected on 6 November 2020.** Also, there is 1 aVDPV2 isolate detected in the environment, sample collected on 27 September 2020.

Pakistan: No new VDPV cases or positive environmental samples reported this week.

In 2020 to date, there are **121 cVDPV2 cases** reported: 42 from KP province, 40 from Sindh province, 23 from Punjab province and 16 from Balochistan province, with most recent case's onset on 9 November 2020. In

addition to 7 aVDPV2 cases, 6 from Punjab province and 1 from Sindh province, with most recent case's onset on 11 September 2020.

Environment: In 2020, there are **106** positive environmental samples for cVDPV2 so far (including 77 mixture of WPV1 and cVDPV2), the most recent sample collected on 17 November 2020. Also, there are 12 aVDPV2 isolates detected in the environment samples, which include four combined (WPV1 + aVDPV2). The most recent aVDPV2 positive environmental sample was collected on 3 November 2020.

SOMALIA: No new VDPV cases or positive environmental samples reported this week.

In 2020 to date, **13** cVDPV2 cases reported, 7 from Banadir province, 2 from Bay and 1 each from Lower Juba, Middle Shabelle, Galbeed and Hiran provinces, with **most recent date of onset 25 October 2020**. Also, there are **26** cVDPV2 positive environmental samples reported, the most recent collected on 24 October 2020.

SUDAN: No new VDPV cases or positive environmental samples reported this week.

In 2020 to date, **48** cVDPV2 cases reported. **The most recent case has onset of paralysis on 24 October 2020.**

A total of **11** environmental samples have been positive for cVDPV2 so far, all from Khartoum with most recent collection on 6 September 2020.

YEMEN: No new VDPV cases reported this week.

In 2020 to date, **18** cVDPV1 cases are reported. 17 cases are from Saadah province and 1 case from Sana'a City province. **The most recent case has onset of paralysis on 6 August 2020.**

2. **VDPV Events:** There are two countries currently having VDPV Event due to VDPV2. Response per WHO's SOPs are ongoing.

Egypt: In 2020, an Event of a VDPV2 positive environmental sample from Giza province is under investigation to determine the appropriate response. The isolate is genetically related with earlier virus seen in Sudan consequent to importation from Chad. **Date of sample collection is 21 September 2020.**

Iran: A newly reported VDPV2 positive environmental sample from Zahedan district, Sistan & Balochistan province with date of sample collection on 27 November 2020.

In 2020, Iran reported 2 VDPV2 positive environmental samples from Zaboul and Zehedan districts, Sistan & Balochistan province – samples are under investigation to determine the appropriate response. Both isolates are genetically related with earlier virus seen in Afghanistan consequent to importation from Pakistan. **Date of most recent sample collection is 27 November 2020.**

IV. Surveillance performance indicators

In 2020, 14 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 0.8 and 1.3 and their percentage of AFP cases with adequate stool specimens is 68.7%, and 60.0%, respectively.
- Djibouti, Jordan, Oman, Palestine and United Arab Emirates have a non-polio AFP rate of 1.4, 0.8, 1.8, 0.8 and 1.5 respectively.
- Qatar has AFP cases with adequate stool specimens is 33.3%.

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

Country	Reported AFP cases by week of onset - Week (52/20) / Ending on : 27/12/2020														
	Total AFP 2018	Total AFP 2019	Total AFP to date, 2020	W41 11 Oct 20	W42 18 Oct 20	W43 25 Oct 20	W44 1 Nov 20	W45 8 Nov 20	W46 15 Nov 20	W47 22 Nov 20	W48 29 Nov 20	W49 6 Dec 20	W50 13 Dec 20	W51 20 Dec 20	W52 27 Dec 20
Afghanistan	3378	3768	3804	99	93	92	77	85	78	64	84	73	50	27	3
Bahrain	35	17	15	0	0	0	1	0	0	1	0	0	1	1	0
Djibouti	0	5	5	0	0	1	0	0	0	1	0	0	0	0	0
Egypt	1246	1343	985	23	13	31	22	27	20	24	30	24	27	27	
Iran	896	1070	551	8	6	13	10	9	7	6	13	7	2	0	
Iraq	1023	1157	452	13	14	8	14	7	10	10	10	19	11	6	
Jordan ****	115	113	32	2	1	0	0	0	0	0	0	0	0	0	
Kuwait	72	48	32	1	1	1	1	0	0	1	0	1	1	1	0
Lebanon ****	89	87	47	2	1	1	0	0	0	2	2	0	1	0	
Libya	122	107	92	1	3	1	1	1	2	0	1	3	0	0	
Morocco	212	247	83	3	0	0	1	2	0	0	0	1	0	0	
Oman	28	30	20	1	0	1	2	0	1	0	0	0	0	0	
Pakistan	12276	15218	11343	258	244	230	244	232	228	207	225	213	139	42	0
Palestine ****	44	62	15	0	0	1	0	0	0	0	1	2	0	0	0
Qatar	10	9	9	0	0	0	0	0	1	0	0	0	0	0	
Saudi Arabia	242	236	176	2	8	6	3	9	10	9	10	5	2	0	0
Somalia	353	361	360	6	4	6	3	8	5	6	6	2	3	1	0
Sudan	579	608	685	27	20	30	16	13	15	28	14	8	1	0	
Syria ****	362	377	336	1	3	11	5	6	11	6	3	8	4	3	
Tunisia	68	79	35	0	0	1	1	1	2	1	1	0	0	0	
U.A.E	40	50	19	0	1	1	0	0	0	0	0	0	0		
Yemen	730	779	782	17	16	20	23	28	26	13	23	17	13	7	1
Total EMR	21920	25771	19878	464	428	455	424	428	416	379	423	383	255	114	4

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2018	Total year 2019	27/12		Confirmed polio cases by month of onset											
	2018	2019	2019	2020	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020
Afghanistan	21	29	29	56	2	3	7	0	12	10	7	6	6	3		
Bahrain	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		
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Iran	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Iraq	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Jordan ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Kuwait	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		
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0			
Morocco	0	0	0	0	0			0	0			0				
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	12	147	144	83	18	17	7	6	6	6	6	5	7	3	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	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			
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	0		
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Yemen	0	0	0	0	0	0	0									
Total EMR	33	176	173	139	20	20	14	6	18	16	13	11	13	6	2	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 2019 & 2020 up to Week (52/20) / Ending on : 27/12/2020)

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	3804	56	1	297	3208	243	17.9	65	3	93.0	56	0	27/12/2020		
Bahrain	17	0	0	0	17	0	5.7	0	0	100.0	0	0	15	0	0	4	11	0	5.0	0	0	93.3	0	0	27/12/2020		
Djibouti	5	0	0	0	5	0	1.4	0	0	80.0	0	0	5	0	0	4	1	0	1.4	3	0	100.0	0	0	20/12/2019		
Egypt	1343	0	0	0	1343	0	3.6	0	0	93.4	0	0	985	0	0	102	883	0	2.6	2	0	91.3	0	0	24/12/2020		
Iran	1070	0	0	0	1069	1	5.2	0	0	97.1	0	0	551	0	0	16	535	0	2.7	0	0	98.7	0	0	26/12/2020		
Iraq	1157	0	0	0	1157	0	7.4	0	0	94.3	0	0	452	0	0	27	425	0	2.8	0	0	94.0	0	0	26/12/2020		
Jordan	113	0	0	0	113	0	3.9	0	0	100.0	0	0	32	0	0	0	32	0	0.8	0	0	96.9	0	0	24/12/2020		
Kuwait	48	0	0	0	48	0	5.4	0	0	89.6	0	0	32	0	0	2	30	0	3.6	0	0	84.4	0	0	20/12/2020		
Lebanon	87	0	0	0	87	0	4.7	0	0	89.7	0	0	47	0	0	11	36	0	2.6	2	0	93.6	0	0	24/12/2020		
Libya	107	0	0	0	107	0	4.3	0	0	98.1	0	0	92	0	0	14	77	1	3.5	1	1	100.0	0	0	26/12/2020		
Morocco	247	0	0	0	247	0	2.8	0	0	84.2	0	0	83	0	0	39	44	0	0.8	32	9	68.7	0	0	24/12/2020		
Oman	30	0	0	0	30	0	2.7	0	0	80.0	0	0	20	0	0	0	20	0	1.8	0	0	100.0	0	0	27/12/2020		
Pakistan	15218	147	6	0	15042	23	19.3	0	0	86.6	147	0	11343	83	11	658	10466	126	14.6	147	4	86.5	83	0	27/12/2020		
Palestine	62	0	0	0	62	0	3.5	0	0	98.4	0	0	15	0	0	7	8	0	0.8	3	0	100.0	0	0	27/12/2020		
Qatar	9	0	0	0	9	0	2.2	0	0	88.9	0	0	9	0	0	7	2	0	2.1	6	0	33.3	0	0	26/12/2020		
Saudi Arabia	236	0	0	0	236	0	2.8	0	0	93.2	0	0	176	0	0	64	112	0	2.1	2	0	96.6	0	0	27/12/2020		
Somalia	361	0	0	0	358	3	5.7	0	0	95.6	0	0	360	0	0	16	329	15	4.5	3	1	95.3	0	0	27/12/2020		
Sudan	608	0	0	0	608	0	3.4	0	0	96.4	0	0	685	0	0	50	587	48	3.6	4	0	93.3	0	0	20/12/2020		
Syria	377	0	0	0	377	0	4.8	0	0	88.1	0	0	336	0	0	14	322	0	4.3	0	0	91.4	0	0	26/12/2020		
Tunisia	79	0	0	0	78	1	2.9	0	0	74.7	0	0	35	0	0	9	26	0	1.3	2	1	60.0	0	0	25/12/2020		
U.A.E	50	0	0	0	50	0	4.0	0	0	90.0	0	0	19	0	0	2	17	0	1.5	0	0	100.0	0	0	14/12/2020		
Yemen	779	0	0	0	778	1	5.5	0	0	89.0	0	0	782	0	1	311	452	18	5.6	80	57	90.2	0	0	26/12/2020		
EMR	25771	176	7	0	25559	29	10.2	0	0	89.5	176	0	19878	139	13	1654	17623	451	7.7	352	76	89.2	139	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	0	0	0	0	0	0	1161	14	59	38
BAH	0	0	0	0	0	0	1	0	0	0
DJI	1	0	0	0	0	0	2	0	0	0
EGY	498	0	0	8	57	0	293	0	0	11
IRN	216	0	0	4	7	0	22	0	0	0
IRQ	603	0	0	12	39	6	165	0	0	4
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	5	0	0	0
LIB	7	0	0	0	3	0	2	0	0	0
MOR	85	0	0	3	1	30	8	0	0	0
OMA	78	0	0	2	28	0	61	0	0	2
PAK	5497	26	9	248	959	0	4534	19	13	363
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	18	0	0	0
SOM	1081	0	1	45	141	5	872	0	9	16
SUD	402	0	0	1	31	90	331	0	18	1
SYR	813	0	0	23	36	0	280	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	219	0	0	0
EMR	9799	26	12	352	1375	136	7979	33	99	446
										1207
										535

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	19	4/Sep/20
2020 Total		33	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	URUGAN	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
	PAK		LARKANA	1	24-Dec-19	24-Dec-19
		KHYBER PAKHTUNKHWA (KP)	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 (51/2020) / Ending on : (27/12/2020)

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				
				L20B+	L20B+/NPEV			received < / = 14 days	received > 14 days ago	Wild	Sabin	VPV	Wild	Sabin	VPV	Wild	Sabin	VPV								
Afghanistan	RRL Pakistan	3774	495	21	621	2487	93	3	53	105			62	215		87	1		2		44	16%	94%	99%	97%	27/12/2020
Bahrain	NPL Oman / CDC	10			1	9																9%	100%		0%	21/12/2020
Djibouti	NPL Kenya / CDC	5						1															0%		100%	20/12/2020
Egypt***	RRL Egypt	954	27	13	111	747	47	9		13						16			10	3		11%	96%	100%	99%	24/12/2020
Iran	NPL Iran / CDC	581	10		6	546	18	1		6					6							1%	100%	100%	99%	26/12/2020
Iraq	RRL Egypt	451	1		40	384	24	1		2												9%	96%	67%	98%	26/12/2020
Jordan	NPL Jordan / RRL EGYPT	32			5	27																16%	100%		100%	24/12/2020
Kuwait	RRL Kuwait / RIVM	37				30	5	2														1%	83%		93%	24/12/2020
Lebanon	NPL Jordan / RRL EGYPT	44			5	39																11%	98%		100%	24/12/2020
Libya	RRL Tunisia / RIVM	88	4			84										3	1					0%	100%	100%	53%	23/11/2020
Morocco	NPL Morocco / RRL Tunisia	69			1	58	1	9														1%	100%		98%	25/12/2020
Oman	NPL Oman / CDC	20			3	17																14%	100%		100%	21/12/2020
Pakistan	RRL Pakistan	11089	893	50	1755	8124	249	12	76	179			349	118		277		1	8	2	35	14%	95%	98%	97%	27/12/2020
Palestine & UNRWA		15				15																0%	47%		100%	27/12/2020
Qatar	NPL Oman / CDC	3				3																0%	100%		100%	21/12/2020
Saudi Arabia	NPL Saudi Arabia / CDC	181	1			166	8	6								1						0%	100%	100%	99%	20/12/2020
Somalia	NPL Kenya / CDC	360	22	5	58	259	4	11	3	1			11		15							18%	6%		97%	27/12/2020
Sudan	NPL Sudan / RRL Egypt	694	50		85	529	8	23	2		29	45	1								14%	99%	100%	55%	24/12/2020	
Syria	NPL Syria / RRL Egypt	332	14	2	16	291	9															5%	100%			24/12/2020
Tunisia	RRL Tunisia	24				23		1														0%	100%		96%	11/12/2020
U.A.E	NPL Oman / CDC	16				16																0%	100%		50%	21/12/2020
Yemen	NPL Kenya / CDC	374	29		70	185		91	3	17						7		3	1			24%	98%	31%	0%	26/12/2020
Total EMR 2020		19153	1546	91	2777	14039	466	170	129	313	18	440	389	413	2	4	20	6	79	14%	93%	97%	95%			
Total EMR 2019		24920	1057	100	3669	20059		23	152	576	1	46	25	629	1	3	21	5		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	29
	Wild+cVDPV2					6
	cVDPV2					143
	aVDPV2					1
	EV/SL	177	265	248	200	169
	Negative	6	9	5	3	3
	Pending					39
AFG Total		185	316	336	259	390
EGY	aVDPV2					1
	EV/SL	493	481	508	666	469
	Negative	35	41	32	34	42
	Pending					18
	aVDPV3					1
	aVDPV1					1
	VDPV3					1
EGY Total		528	522	540	700	533
IRN	Wild				3	
	VDPV2					2
	EV/SL		5	51	65	36
	Negative		1	3	3	
	Pending					3
IRN Total		6	54	71	41	
JOR	EV/SL	2	29	36	36	19
	Negative		2			1
	Pending					3
JOR Total		2	31	36	36	23
KUW	EV/SL			3	3	
	Pending				8	
KUW Total				11		
LEB	EV/SL	2	26	44	44	25
	Negative	2	1	1	3	2
LEB Total		4	27	45	47	27
PAK	Wild	59	105	139	367	333
	Wild+cVDPV2	2			10	77
	Wild+aVDPV2	1	1		2	4
	cVDPV2	2			29	29
	aVDPV2	3	4			8
	EV/SL	456	523	531	420	266
	Negative	6		3	4	5
	Pending					93
PAK Total		529	633	673	832	815
SOM	cVDPV2		2	18	5	26
	cVDPV3			11		
	aVDPV2			2	1	
	cVDPV2+cVDPV3			1		
	EV/SL	20	43	28		18
	Negative	14	138	29		32
	Pending					1
SOM Total		36	213	63	77	
SUD	cVDPV2					11
	EV/SL			15	42	12
	Negative				1	2
	Pending				17	25
SUD Total			15	60	50	
SYR	EV/SL		4	81	155	177
	Negative			21	30	17
	Pending					7
SYR Total		4	102	185	201	
TOTAL		1248	1575	2017	2264	2157

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
	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				468	1/Jan/19	31/Dec/19
2020	AFG	Wild	HILMAND	10	1/Jan/20	24/Aug/20
			HIRAT	4	26/Apr/20	23/Aug/20
			KABUL	1	26/Sep/20	26/Sep/20
			KANDAHAR	10	28/Jan/20	6/Dec/20
			KHOST	1	25/Apr/20	25/Apr/20
			KUNDUZ	1	27/Sep/20	27/Sep/20
			NANGARHAR	2	26/Jan/20	6/Oct/20
		Wild+cVDPV2	HILMAND	1	6/Sep/20	6/Sep/20
			KANDAHAR	3	25/Jun/20	27/Sep/20
			NANGARHAR	2	8/Jan/20	25/Jul/20
			HILMAND	23	27/May/20	6/Nov/20
			HIRAT	2	26/Sep/20	24/Oct/20
			KABUL	19	26/Apr/20	5/Nov/20
			KANDAHAR	27	9/Jul/20	6/Nov/20
			KHOST	5	24/Jun/20	24/Oct/20
			KUNAR	4	6/Jun/20	4/Aug/20
			KUNDUZ	2	23/Aug/20	24/Oct/20
			LAGHMAN	4	24/Jul/20	6/Oct/20
			NANGARHAR	56	7/Jan/20	5/Nov/20
			PAKYA	1	26/Jul/20	26/Jul/20
			HILMAND	1	27/Sep/20	27/Sep/20
	AFG Total			179	1/Jan/20	6/Dec/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	2/Dec/20
			GBALTISTAN	1	12/May/20	12/May/20
			ISLAMABAD	5	16/Jan/20	10/Nov/20
			KPAKHTUNKHWA	21	28/Jan/20	1/Dec/20
			PUNJAB	113	4/Jan/20	18/Nov/20
			SINDH	113	3/Jan/20	8/Dec/20
		Wild+cVDPV2	BALOCHISTAN	17	1/Feb/20	28/Oct/20
			KPAKHTUNKHWA	1	11/Mar/20	11/Mar/20
			PUNJAB	14	4/Jun/20	12/Oct/20
		cVDPV2	BALOCHISTAN	8	2/Jun/20	17/Nov/20
			KPAKHTUNKHWA	5	10/Jan/20	15/Oct/20
			PUNJAB	2	16/Jan/20	17/Apr/20
			SINDH	14	8/Jun/20	11/Nov/20
		aVDPV2	BALOCHISTAN	1	17/Sep/20	17/Sep/20
			KPAKHTUNKHWA	4	10/Apr/20	28/Oct/20
			PUNJAB	1	4/May/20	4/May/20
			SINDH	2	13/Oct/20	3/Nov/20
	PAK Total			447	1/Jan/20	8/Dec/20
	SOM	cVDPV2	BANADIR	23	5/Jan/20	24/Oct/20
			BAY	2	19/Jun/20	20/Jun/20
			LOWER JUBA	1	8/Sep/20	8/Sep/20
	SOM Total			26	5/Jan/20	24/Oct/20 </

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2020 - 27/12/2020

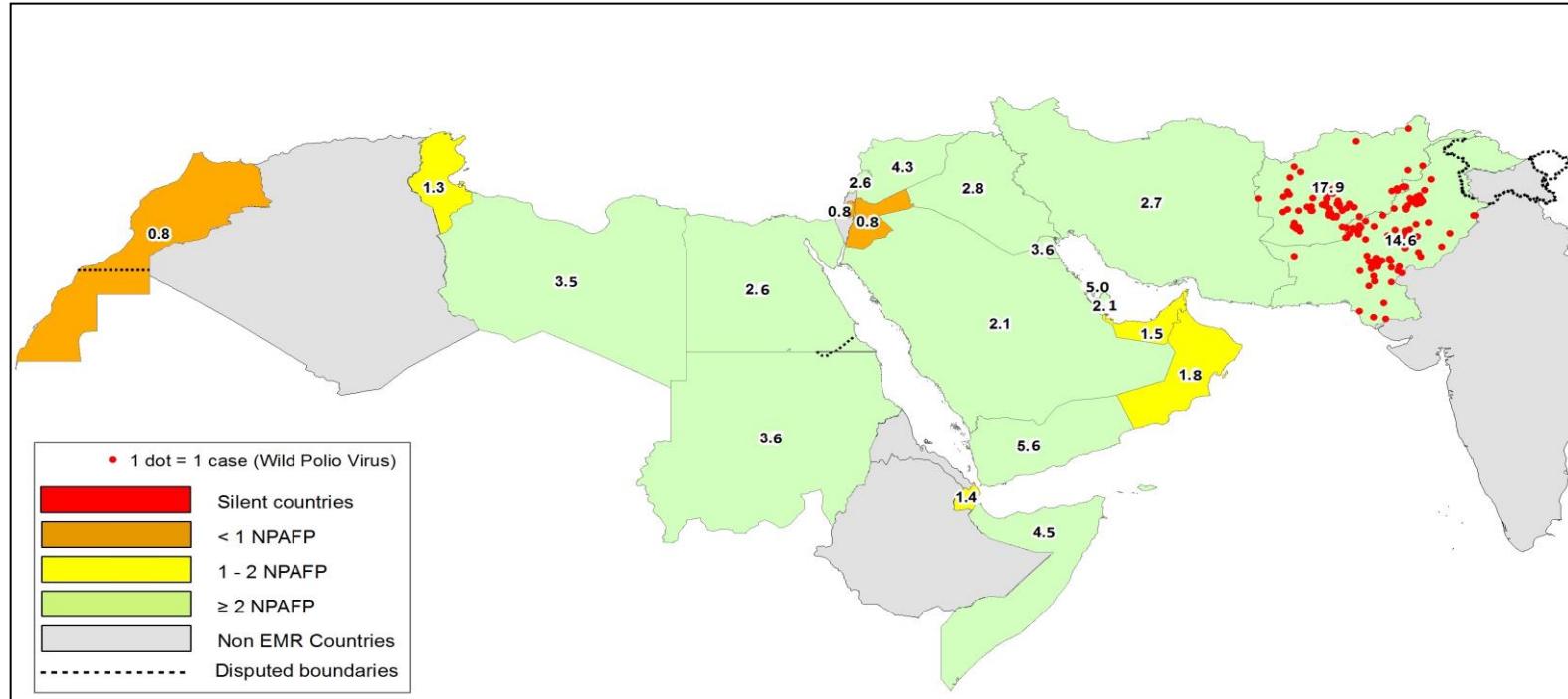


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 27/12/2020

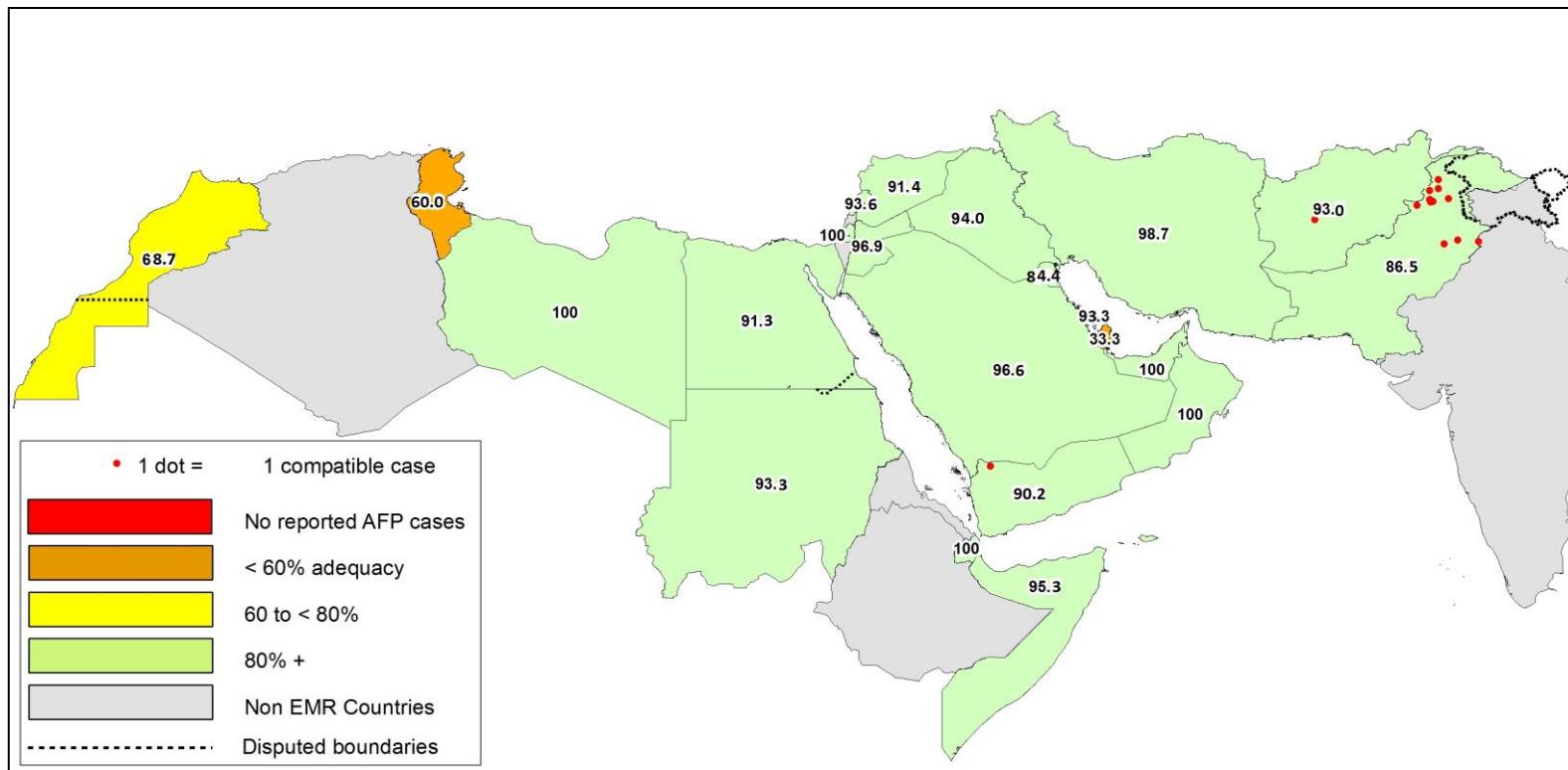


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2019 - 2020

Year	COUNTRY	Count	First Case	Last Case
2020	AFG	56	4-Jan-20	19-Oct-20
	PAK	83	1-Jan-20	23-Nov-20
2020 Total		139	1-Jan-20	23-Nov-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 - 27/12/2020

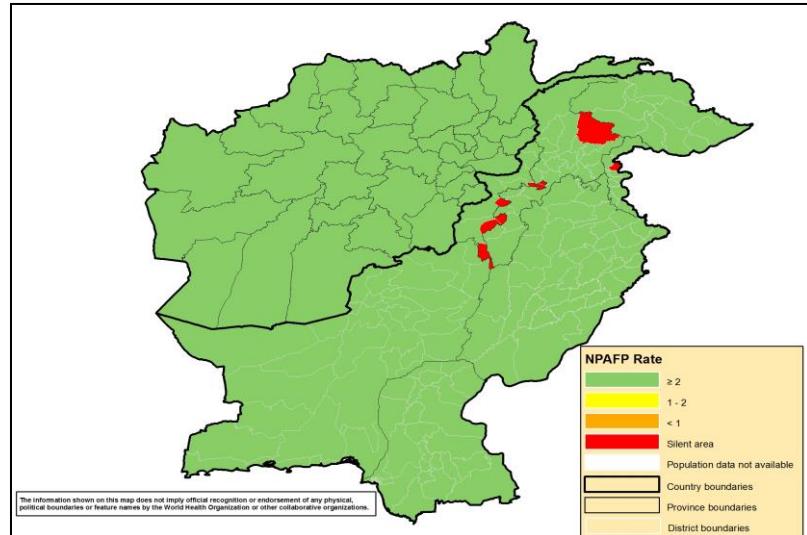


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 27/12/2020

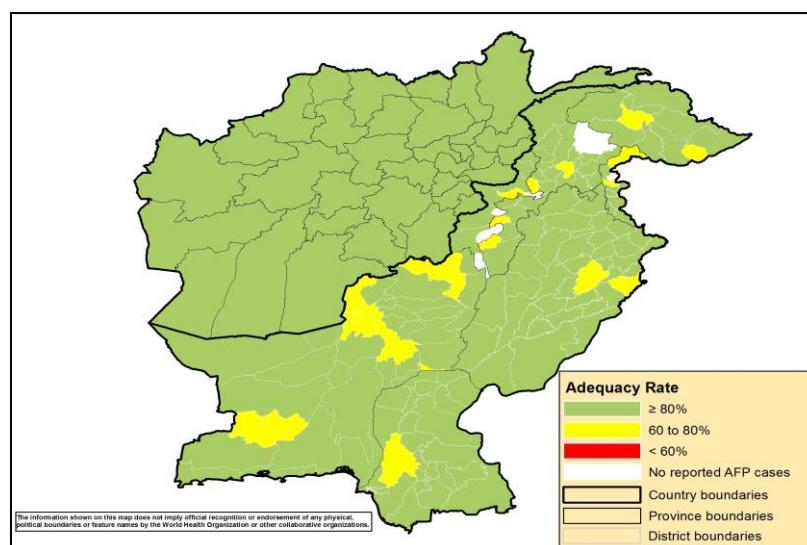
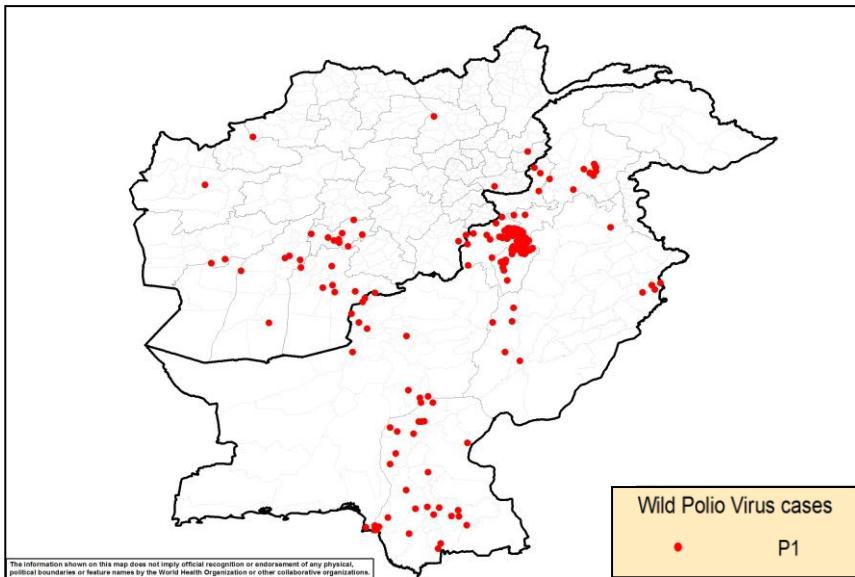
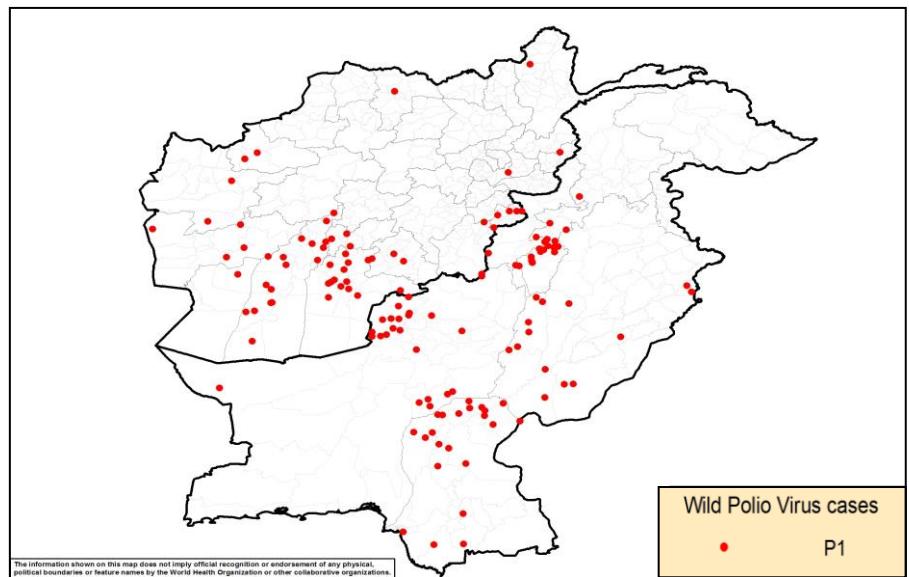


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2020 - 27/12/2020



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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 SHELTA	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
		MARUF	1	14-Oct-20	14-Oct-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	NAD-E-ALI	2	1-May-20	19-Oct-20
		WASHER	3	4-Jan-20	19-Oct-20
		BAGHRAN	2	16-Jul-20	4-Sep-20
		KAJAKI	2	10-Jun-20	27-Jul-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
	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			56	4-Jan-20	19-Oct-20
2019	HIRAT	PASHTUNZARGHUN	1	19-Nov-19	19-Nov-19
	FARAH	BAKWA	2	14-Nov-19	25-Nov-19
	BADGHIS	BALAMURGHAB	1	17-Oct-19	17-Oct-19
	NANGARHAR	KHOGYANI	1	18-Sep-19	18-Sep-19
	KUNAR	WATAPUR	1	8-May-19	8-May-19
	PAKTIKA	BERMEL	2	15-Sep-19	28-Sep-19
	KANDAHAR	SHAHWALIKOT	1	7-Dec-19	7-Dec-19
		SPINBOLDAK	2	4-Jan-19	22-Nov-19
		KANDAHAR	2	17-Aug-19	10-Nov-19
		GHORAK	1	12-Jan-19	12-Jan-19
	HILMAND	GARMER	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
	URUZGAN	KHASURUZGAN	1	2-Nov-19	2-Nov-19
		TIRINKOT	4	19-May-19	2-Aug-19
		CHORA	3	20-Mar-19	23-Jul-19
		SHAHID-E-HASSAS	1	25-Feb-19	25-Feb-19
	BAGHLAN	PUL-E-KHUMRI	1	14-Nov-19	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	KABDULAH	3	11-May-20	23-Nov-20
		QUETTA	5	17-Jul-20	5-Nov-20
		PISHIN	6	31-Jan-20	3-Oct-20
		KSAIFULAH	1	1-Sep-20	1-Sep-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	LAYYAH	1	21-Oct-20	21-Oct-20
		MUZFARGARH	1	4-Oct-20	4-Oct-20
		VEHARI	1	16-Sep-20	16-Sep-20
		DGKHAN	5	18-Jan-20	14-Sep-20
		BAHWALPUR	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			83	1-Jan-20	23-Nov-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
		QUETTA	1	6-Jul-19	6-Jul-19
	PUNJAB	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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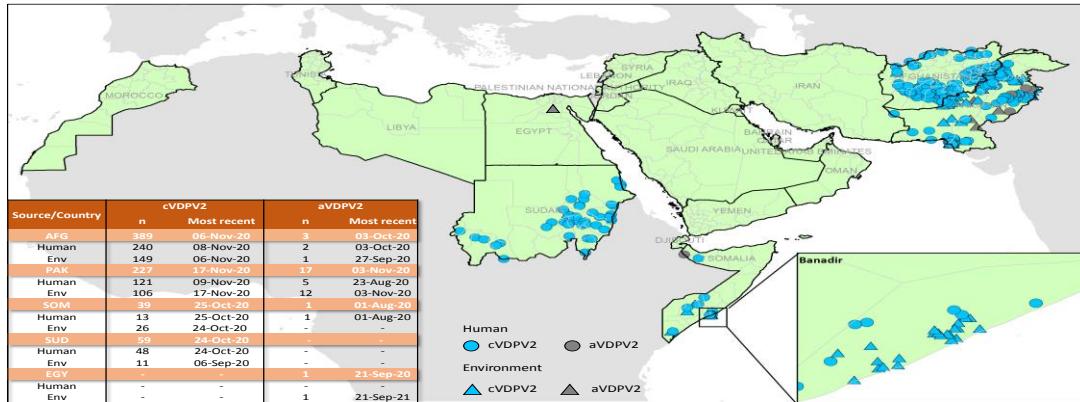
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Table 11: Circulating VDPV2 cases and date of onset of paralysis in EMR countries by provinces 2019-2020

YEAR	COUNTRY	PROVINCE	Count	First Case	Last Case
2020	SOM	LOWER JUBA	1	29-Aug-20	29-Aug-20
		GALBEED	1	29-Sep-20	29-Sep-20
	SUD	HIRAN	1	18-Oct-20	18-Oct-20
		MIDDLE SHABELLE	1	17-Jul-20	17-Jul-20
		BAY	2	3-Sep-20	25-Oct-20
		BANADIR	7	18-Jun-20	30-Sep-20
		SOUTH DARFUR	2	7-Mar-20	29-Apr-20
		EAST DARFUR	3	12-May-20	24-Jul-20
		KHARTOUM	3	15-Jul-20	24-Oct-20
		KASSALA	10	28-Jul-20	22-Sep-20
		GEZIRA	5	9-Jul-20	19-Sep-20
		RIVER NILE	5	29-Jun-20	27-Sep-20
		RED SEA	7	29-Apr-20	21-Oct-20
		WEST DARFUR	1	19-May-20	19-May-20
		BLUE NILE	3	7-Aug-20	3-Sep-20
	AFG	NORTH KORDOFAN	2	29-Aug-20	5-Oct-20
		SENNAR	1	16-Aug-20	16-Aug-20
		WHITE NILE	3	15-Jun-20	22-Aug-20
		GEDARIF	3	1-Apr-20	1-Aug-20
		FARAH	9	1-Jun-20	4-Nov-20
		BALKH	2	29-Oct-20	3-Nov-20
		BADGHIS	3	1-Nov-20	7-Nov-20
		SAMANGAN	1	1-Nov-20	1-Nov-20
		HIRAT	2	10-Aug-20	15-Aug-20
		LOGAR	3	20-Aug-20	24-Oct-20
		KANDAHAR	62	4-Aug-20	8-Nov-20
		HILMAND	24	1-Aug-20	31-Oct-20
		JAWZIAN	1	4-Aug-20	4-Aug-20
		KABUL	7	6-Jul-20	12-Oct-20
		NURISTAN	2	21-Jun-20	13-Jul-20
		NIMROZ	3	6-Jul-20	8-Aug-20
		KHOST	16	5-Jul-20	19-Oct-20
		PAKTYA	4	18-Jun-20	5-Sep-20
		KUNDUZ	3	28-Aug-20	3-Oct-20
		PAKTika	6	25-Aug-20	25-Oct-20
		GHAZNI	2	29-Aug-20	21-Oct-20
		BADAKHSAN	1	23-Apr-20	23-Apr-20
		LAGHMAN	14	20-May-20	23-Sep-20
		TAKHAR	1	20-Sep-20	20-Sep-20
		ZABUL	8	17-Sep-20	31-Oct-20
		URUZGAN	7	28-Aug-20	4-Nov-20
		PARWAN	1	4-Sep-20	4-Sep-20
		WARDAK	4	6-Sep-20	22-10-20
		KUNAR	9	6-Apr-20	29-Sep-20
		NANGARHAR	45	5-Feb-20	21-Sep-20
	PAK	SINDH	40	2-May-20	9-Nov-20
		BALOCHISTAN	16	29-Feb-20	5-Nov-20
		PUNJAB	23	5-Feb-20	1-Oct-20
		KHYBER PAKHTUNKHWA	42	2-Jan-20	24-May-20
Total 2020			422	2-Jan-20	9-Nov-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
	SOM	GILGIT BALITSTAN	4	7-Jul-19	28-Aug-19
Total 2019			25	15-Mar-19	28-Dec-19

VDPV2 isolates, EMR countries, 2020



Two positive VDPV2 environmental samples were reported from Iran, from S & B province, with collection date 3 October & 27 November 2020 - classification type still awaited