

Highlights of Polio Fax Bulletin No. 1156 for Week 48 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. Three new wild poliovirus type-1 (WPV1) cases reported this week, two from Afghanistan and one from Pakistan. 12 new WPV1 positive environmental samples reported from Pakistan.
3. Vaccine Derived Poliovirus (VDPV):
 - cVDPV1: One new cVDPV1 case from Yemen reported this week.
 - cVDPV2: One new cVDPV2 case reported from Somalia; 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 48 2020, 138 WPV1 cases are reported (56 from Afghanistan and 82 from Pakistan). This compares with 142 cases in 2019 in the same period (28 from Afghanistan and 114 from Pakistan).

- a. *Human samples*: Three new WPV1 cases reported this week, two from Afghanistan and one from Pakistan.

Afghanistan: Two new WPV1 cases reported and no new positive environmental samples reported.

Case (1): A 5-month child with date onset 19 October 2020, with zero OPV routine and supplementary immunization activities (SIAs) dose reported from Washer district, Hilmand province.

Case (2): An 18-month child with date onset 19 Oct 2020, with zero routine and 01 SIA, reported from Nad-e-Ali district, Hilmand province.

In 2020, **56 WPV1 cases** have been reported so far: 38 cases from South Region; 8 from West Region; 6 from South East 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: One new WPV1 case and 13 new positive environmental samples were reported.

The new WPV1 case aged 10-month female, with date of onset 5 November 2020, with zero OPV routine and 01 dose from SIAs reported from Quetta district, Balochistan.

In 2020 to date, **82 WPV1** cases are reported, 24 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 5 November 2020.**

- b. *Environmental samples*: 12 new reported positive environmental samples are all from Pakistan.

- **Afghanistan**: In 2020 to date, there are **34** WPV1 positive environmental samples including five combined (WPV1 and cVDPV2) with most recent sample collected on 6 October 2020.

- **Pakistan**: In 2020 to date, there are **398** WPV1 positive environmental samples including 58 mixture of WPV1 and cVDPV2 and 4 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 18 November 2020.

- III. **Vaccine Derived Polioviruses (VDPVs)**: Total cVDPV2 cases in 2020 to date is 322 (160 from Afghanistan, 104 from Pakistan, 12 from Somalia and 46 from Sudan). This compares with 15 cases in 2019 in the same period (12 from Pakistan and 3 from Somalia).

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

Afghanistan: In 2020 to date, there are **160** cVDPV2 cases; 69 reported from East Region, 46 from South Region, 23 from South East Region, 9 from Central Region, 8 from West Region, 3 from North East Region, 1 each from North and Badakhshan Regions. **The most recent case has onset of paralysis on 3 October 2020.**

Environment: In 2020 to date, 124 cVDPV2 positive environmental samples including 5 mixture of WPV1 and cVDPV2 were reported. **The most recent cVDPV2 positive environmental sample was collected on 6 October 2020.**

Pakistan: In 2020 to date, there are **104** cVDPV2 cases reported: 42 from KP province, 31 from Sindh province, 22 from Punjab province, and 9 from Balochistan province, with most recent case's onset on

October 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 **76** positive environmental samples for cVDPV2 so far (including 58 mixture of WPV1 and cVDPV2), the most recent sample collected on 7 October 2020. Also, there are 9 aVDPV2 isolates detected in the environment samples, which include four combined (WPV1 + aVDPV2). The most recent aVDPV2 positive environmental sample was collected on 17 September 2020.

SOMALIA: One new cVDPV2 case reported and no new positive cVDPV2 environmental sample were reported this week.

The newly cVDPV2 reported case is from Beletwin district, Hiran province, with date of onset 18 October 2020.

In 2020 to date, **12** cVDPV2 cases reported, 7 from Banadir province and 1 each from Lower Juba, Middle Shabelle, Bay, Galbeed and Hiran provinces, with **most recent date of onset 18 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 new positive environmental samples were reported this week.

In 2020 to date, **46** cVDPV2 cases reported. **The most recent case has onset of paralysis on 5 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: One new cVDPV1 case was reported this week.

The newly cVDPV1 reported case is from Sahar district, Saadah province, with date of onset 6 August 2020.

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 an aVDPV2 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 reported VDPV2 positive environmental sample from Zabol district, Sistan & Balochistan province – it is under investigation to determine the appropriate response. The isolate is genetically related with earlier virus seen in Afghanistan consequent to importation from Pakistan. **Date of sample collection is 3 October 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 0.9 and 1.3 and their percentage of AFP cases with adequate stool specimens is 64.6%, and 57.6%, respectively.
- Djibouti, Jordan, Oman, Palestine and United Arab Emirates have a non-polio AFP rate of 1.2, 0.9, 1.8, 0.7 and 1.7 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 (48/20) / Ending on : 29/11/2020														
	Total AFP 2018	Total AFP 2019	Total AFP to date, 2020	W37 13 Sep 20	W38 20 Sep 20	W39 27 Sep 20	W40 04 Oct 20	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
Afghanistan	3378	3768	3501	106	117	82	94	100	91	87	71	79	68	26	1
Bahrain	35	17	13	0	0	1	0	0	0	0	1	0	0	1	0
Djibouti	0	5	4	1	0	0	0	0	0	1	0	0	0	0	0
Egypt	1246	1343	879	25	21	20	31	23	13	31	22	26	21	23	3
Iran	896	1070	519	12	14	9	9	8	6	12	11	9	1	2	0
Iraq	1023	1157	399	8	8	8	5	13	14	8	14	7	9	4	
Jordan ****	115	113	32	0	1	1	1	2	1	0	0	0	0	0	
Kuwait	72	48	30	0	0	0	0	1	1	1	1	0	0	1	
Lebanon ****	89	87	44	2	1	1	0	2	1	1	0	0	0	1	1
Libya	122	107	88	0	0	2	0	1	3	1	1	1	2	0	
Morocco	212	247	79	0	1	0	0	3							
Oman	28	30	19	1	0	1	1	1	0	1	2	0	0		
Pakistan	12276	15216	10441	278	329	281	292	255	239	223	235	210	170	51	0
Palestine ****	44	62	12	0	1	0	0	0	0	1	0	0	0	0	
Qatar	10	9	9	1	0	0	0	0	0	0	0	0	1	0	
Saudi Arabia	242	236	152	5	5	8	10	2	8	6	3	9	7	5	0
Somalia	353	361	341	4	11	7	5	6	4	5	3	7	4	1	1
Sudan	579	608	636	27	34	32	18	27	20	28	16	13	11	8	0
Syria ****	362	377	312	8	1	13	3	1	3	11	5	5	9	3	
Tunisia	68	79	33	1	0	0	0	0	0	1	1	1	2	0	
U.A.E	40	50	19	0	0	0	0	0	1	1	0	0	0	0	
Yemen	730	779	708	19	20	22	29	16	16	19	22	25	19	9	4
Total EMR	21920	25769	18270	498	564	488	498	461	421	438	408	392	324	135	10

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2018	Total year 2019	29/11		Confirmed polio cases by month of onset											
			2019	2020	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020
Afghanistan	21	29	28	56	1	2	3	7	0	12	10	7	6	6	3	
Bahrain	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				
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	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		
Libya	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	12	147	114	82	32	18	17	7	6	6	6	6	5	7	3	1
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	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	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			
Yemen	0	0	0	0	0	0										
Total EMR	33	176	142	138	33	20	20	14	6	18	16	13	11	13	6	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 (48/20) / Ending on : 29/11/2020

COUNTRY	2019											2020											Latest line List Date		
	AFP									Specimen	Wild cases ****		AFP									Specimen		Wild cases ****	
	Total AFP cases onset 2019	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 2020	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	3768	29	1	0	3738	0	18.1	0	0	94.1	29	0	3501	56	1	352	2930	162	17.8	46	10	93.5	56	0	29/11/2020
Bahrain	17	0	0	0	17	0	5.7	0	0	100.0	0	0	13	0	0	3	10	0	4.7	0	0	92.3	0	0	29/11/2020
Djibouti	5	0	0	0	5	0	1.4	0	0	80.0	0	0	4	0	0	4	0	0	1.2	2	2	100.0	0	0	22/11/2019
Egypt	1343	0	0	0	1343	0	3.6	0	0	93.4	0	0	879	0	0	96	783	0	2.5	2	0	92.2	0	0	26/11/2020
Iran	1070	0	0	0	1069	1	5.2	0	0	97.1	0	0	519	0	0	5	514	0	2.7	0	0	98.8	0	0	29/11/2020
Iraq	1157	0	0	0	1157	0	7.4	0	0	94.3	0	0	399	0	0	25	374	0	2.7	2	0	93.0	0	0	27/11/2020
Jordan	113	0	0	0	113	0	3.9	0	0	100.0	0	0	32	0	0	1	31	0	0.9	0	0	96.9	0	0	26/11/2020
Kuwait	48	0	0	0	48	0	5.4	0	0	89.6	0	0	30	0	0	1	29	0	3.6	0	0	86.7	0	0	22/11/2020
Lebanon	87	0	0	0	87	0	4.7	0	0	89.7	0	0	44	0	0	8	36	0	2.6	2	0	90.9	0	0	27/11/2020
Libya	107	0	0	0	107	0	4.3	0	0	98.1	0	0	88	0	0	10	77	1	3.7	0	0	100.0	0	0	28/11/2020
Morocco	247	0	0	0	247	0	2.8	0	0	84.2	0	0	79	0	0	35	44	0	0.9	31	8	64.6	0	0	16/10/2020
Oman	30	0	0	0	30	0	2.7	0	0	80.0	0	0	19	0	0	3	16	0	1.8	0	0	100.0	0	0	15/11/2020
Pakistan	15216	147	6	0	15040	23	19.3	0	0	86.6	147	0	10441	82	8	869	9374	109	14.5	170	1	86.9	82	0	29/11/2020
Palestine	62	0	0	0	62	0	3.5	0	0	98.4	0	0	12	0	0	5	7	0	0.7	3	0	100.0	0	0	22/11/2020
Qatar	9	0	0	0	9	0	2.2	0	0	88.9	0	0	9	0	0	7	2	0	2.3	6	0	33.3	0	0	28/11/2020
Saudi Arabia	236	0	0	0	236	0	2.8	0	0	93.2	0	0	152	0	0	61	91	0	2.0	0	0	96.1	0	0	29/11/2020
Somalia	361	0	0	0	358	3	5.7	0	0	95.6	0	0	341	0	0	32	295	14	4.6	3	1	95.9	0	0	29/11/2020
Sudan	608	0	0	0	608	0	3.4	0	0	96.4	0	0	636	0	0	89	501	46	3.6	2	0	93.4	0	0	29/11/2020
Syria	377	0	0	0	377	0	4.8	0	0	88.1	0	0	312	0	0	19	293	0	4.3	0	0	91.7	0	0	28/11/2020
Tunisia	79	0	0	0	78	1	2.9	0	0	74.7	0	0	33	0	0	7	26	0	1.3	1	0	57.6	0	0	27/11/2020
U.A.E	50	0	0	0	50	0	4.0	0	0	90.0	0	0	19	0	0	2	17	0	1.7	0	0	100.0	0	0	24/11/2020
Yemen	779	0	0	0	778	1	5.5	0	0	89.0	0	0	708	0	1	369	320	18	5.5	185	159	90.7	0	0	29/11/2020
EMR	25769	176	7	0	25557	29	10.2	0	0	89.5	176	0	18270	138	10	2003	15770	350	7.6	455	181	89.5	138	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	PENDING		WILD	VDPV	SL	NPEV	PENDING
AFG	1138	8	0	48	202	0	1075	14	35	40	214	67
BAH	0	0	0	0	0	0	1	0	0	0	0	0
DJI	1	0	0	0	0	0	2	0	0	0	0	2
EGY	498	0	0	8	57	0	273	0	0	11	20	41
IRN	216	0	0	4	7	0	22	0	0	0	0	0
IRQ	603	0	0	12	39	6	162	0	0	4	8	3
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	24	0	0	0	3	0	5	0	0	0	0	0
LIB	7	0	0	0	3	0	2	0	0	0	0	0
MOR	85	0	0	3	1	30	8	0	0	0	0	4
OMA	78	0	0	2	28	0	53	0	0	2	6	2
PAK	5497	26	9	248	959	0	4165	19	8	335	654	154
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	44	0	0	0	0	0	18	0	0	0	0	6
SOM	1082	0	1	45	141	5	1015	0	5	17	124	112
SUD	402	0	0	1	31	90	296	0	16	0	4	229
SYR	813	0	0	23	36	0	276	0	0	11	13	6
TUN	27	0	0	0	2	0	5	0	0	0	0	1
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	423	0	2	6	68	5	187	0	0	0	29	17
EMR	10938	34	12	400	1577	136	7565	33	64	420	1072	644

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	1	04-Jan-20	04-Jan-20
			NIMROZ	1	28-Feb-20	28-Feb-20
			FARAH	1	06-May-20	06-May-20
			PAK	1	01-Sep-20	01-Sep-20
	PAK	BALOCHISTAN	KSAIFULLAH	1	01-Sep-20	01-Sep-20
2019	AFG	HILMAND	LAHORE	1	24-Jul-20	24-Jul-20
			PUNJAB	1	24-Jul-20	24-Jul-20
	PAK	SINDH	DG KHAN	2	18-Jan-20	05-Jul-20
			KARAK	1	20-Jan-20	20-Jan-20
			JACOBABAD	2	07-Feb-20	14-Jul-20
			URUZGAN	1	02-Aug-19	02-Aug-19
			MUSAQALAH	1	05-Jun-19	05-Jun-19
			SANGIN	1	06-Mar-19	06-Mar-19
			DG KHAN	2	2-Dec-19	10-Dec-19
			KHIORANGI	1	28-Aug-19	28-Aug-19
			SUJAWAL	1	25-Sep-19	25-Sep-19
			JAMSHORO	1	09-Oct-19	09-Oct-19
			T. ALLAHYAR	1	10-Nov-19	10-Nov-19
			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		
	BALOCHSITAN	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			
2019 Total				24	06-Mar-19	24-Dec-19

Table 5: Laboratory investigation of AFP cases with paralysis onset in 2020 up to Week (48/2020) / Ending on : (29/11/2020)

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	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV									
Afghanistan	RRL Pakistan	3447	447	20	550	2297	132	2	53	101			42	144		84	1		2		91	16%	94%	100%	97%	28/11/2020
Bahrain	NPL Oman / CDC	10			1	9																9%	100%		0%	22/11/2020
Djibouti	NPL Kenya / CDC	4						4																		22/11/2020
Egypt***	RRL Egypt	850	25	12	100	678	33	2		12						14		9	3		11%	95%	100%	99%	26/11/2020	
Iran	NPL Iran / CDC	522	9		5	503	5			5						6						1%	100%	100%	99%	28/11/2020
Iraq	RRL Egypt	398	1		35	344	17		1	1												8%	96%	67%	98%	27/11/2020
Jordan	NPL Jordan / RRL EGYPT	32			5	26	1															16%	100%		100%	26/11/2020
Kuwait	RRL Kuwait / RIVM	32				29	1	2														1%	83%		93%	29/11/2020
Lebanon	NPL Jordan / RRL EGYPT	42			5	37																11%	98%		100%	26/11/2020
Libya	RRL Tunisia / RIVM	88	4			84										3	1					0%	100%	100%	53%	23/11/2020
Morocco	NPL Morocco / RRL Tunisia	68			1	58	1	8														1%	100%		98%	27/11/2020
Oman	NPL Oman / CDC	19			2	17																12%	100%		100%	22/11/2020
Pakistan	RRL Pakistan	10215	836	45	1518	7482	322	19	75	161			316	104		256		1	7	2	52	14%	94%	99%	97%	28/11/2020
Palestine & UNRWA		12				11		1														0%	36%		100%	22/11/2020
Qatar	NPL Oman / CDC	3				2	1															0%	100%		100%	22/11/2020
Saudi Arabia	NPL Saudi Arabia / CDC	148	1			129	9	9								1						0%	100%	100%	100%	22/11/2020
Somalia	NPL Kenya / CDC	341	21	5	49	234	5	26		3	1		11		14							17%	5%		97%	29/11/2020
Sudan	NPL Sudan / RRL Egypt	643	45		83	472	28	15		2			26	43		1						15%	99%	100%	56%	29/11/2020
Syria	NPL Syria / RRL Egypt	308	14	2	14	263	15															4%	100%			26/11/2020
Tunisia	RRL Tunisia	24				23		1														0%	100%		96%	23/11/2020
U.A.E	NPL Oman / CDC	16				16																0%	100%		50%	22/11/2020
Yemen	NPL Kenya / CDC	219	25		55	124	15			2	17					5		1		1		27%	97%	20%	0%	29/11/2020
Total EMR 2020		17441	1428	84	2423	12838	585	89	129	287	18		384	302		384	2	2	18	6	143	13%	93%	98%	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					5
	cVDPV2					119
	EV/SL	177	265	248	200	146
	Negative	6	9	5	3	3
Pending					47	
AFG Total		185	316	336	259	349
EGY	aVDPV2					1
	EV/SL	493	481	508	666	419
	Negative	35	41	32	34	34
	Pending					23
	aVDPV3					1
	aVDPV1					1
VDPV3					1	
EGY Total		528	522	540	700	480
IRN	Wild				3	
	VDPV2					1
	EV/SL		5	51	65	29
	Negative		1	3	3	
	Pending					4
IRN Total			6	54	71	34
JOR	EV/SL	2	29	36	36	17
	Negative		2			1
	Pending					3
JOR Total		2	31	36	36	21
KUW	EV/SL			3	3	
	Pending					8
KUW Total				3	11	
LEB	EV/SL	2	26	44	44	17
	Negative	2	1	1	3	2
	Pending					4
LEB Total		4	27	45	47	23
PAK	Wild	59	105	139	367	336
	Wild+cVDPV2	2			10	58
	Wild+aVDPV2	1	1		2	4
	cVDPV2	2			29	18
	aVDPV2	2	4			5
	EV/SL	457	523	531	420	241
	Negative	6		3	4	4
Pending					69	
PAK Total		529	633	673	832	735
SOM	cVDPV2		2	18	5	26
	cVDPV3			11		
	aVDPV2			2	1	
	cVDPV2+cVDPV3			1		
	EV/SL		20	43	28	16
	Negative		14	138	29	28
Pending					2	
SOM Total			36	213	63	72
SUD	cVDPV2					11
	EV/SL			15	42	12
	Negative				1	2
	Pending				17	20
SUD Total			15	60	45	
SYR	EV/SL		4	81	155	155
	Negative			21	30	17
	Pending					9
SYR Total			4	102	185	181
TOTAL		1248	1575	2017	2264	1940

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	BALUCHISTAN	72	1/Jan/19	20/Dec/19	
			GBALISTAN	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	5	24/Aug/19	6/Nov/19
			cVDPV2	GBALISTAN	1	12/Nov/19	12/Nov/19
				ISLAMABAD	10	9/Oct/19	28/Dec/19
				KPAKHTUNKHWA	12	11/Apr/19	18/Dec/19
				PUNJAB	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	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	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	25/Jun/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	2	9/Jul/20	27/Sep/20
				NANGARHAR	2	8/Jan/20	25/Jul/20
				cVDPV2	15	27/May/20	5/Oct/20
			cVDPV2	HIRAT	1	26/Sep/20	26/Sep/20
				KABUL	15	26/Apr/20	4/Oct/20
				KANDAHAR	20	9/Jul/20	5/Oct/20
				KHOST	4	24/Jun/20	26/Sep/20
				KUNAR	4	6/Jun/20	4/Aug/20
				KUNDUZ	1	23/Aug/20	23/Aug/20
				LAGHMAN	4	24/Jul/20	6/Oct/20
				NANGARHAR	54	7/Jan/20	5/Oct/20
				PAKTYA	1	26/Jul/20	26/Jul/20
	AFG Total			153	1/Jan/20	6/Oct/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
			BALUCHISTAN	78	1/Jan/20	4/Nov/20	
			GBALISTAN	1	12/May/20	12/May/20	
			ISLAMABAD	4	16/Jan/20	12/Oct/20	
			KPAKHTUNKHWA	18	28/Jan/20	12/Oct/20	
			PUNJAB	117	4/Jan/20	18/Nov/20	
			SINDH	117	3/Jan/20	6/Nov/20	
			Wild+cVDPV2	BALUCHISTAN	13	1/Feb/20	2/Oct/20
				KPAKHTUNKHWA	1	11/Mar/20	11/Mar/20
				PUNJAB	9	4/Jan/20	12/Aug/20
				SINDH	35	3/Jan/20	15/Sep/20
			cVDPV2	BALUCHISTAN	3	2/Jun/20	1/Oct/20
				KPAKHTUNKHWA	4	10/Jan/20	17/Apr/20
				PUNJAB	2	16/Jan/20	17/Apr/20
				SINDH	9	8/Jun/20	7/Oct/20
			aVDPV2	BALUCHISTAN	1	17/Sep/20	17/Sep/20
				KPAKHTUNKHWA	3	10/Apr/20	17/Sep/20
				PUNJAB	1	4/May/20	4/May/20
				PAK Total		417	1/Jan/20
			SOM	cVDPV2	BANADIR	23	5/Jan/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			
SUD	cVDPV2	KHARTOUM	11	29/Mar/20	6/Sep/20		
SUD Total		11	29/Mar/20	6/Sep/20			
2020 Total			608	1/Jan/20	18/Nov/20		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2020 - 29/11/2020

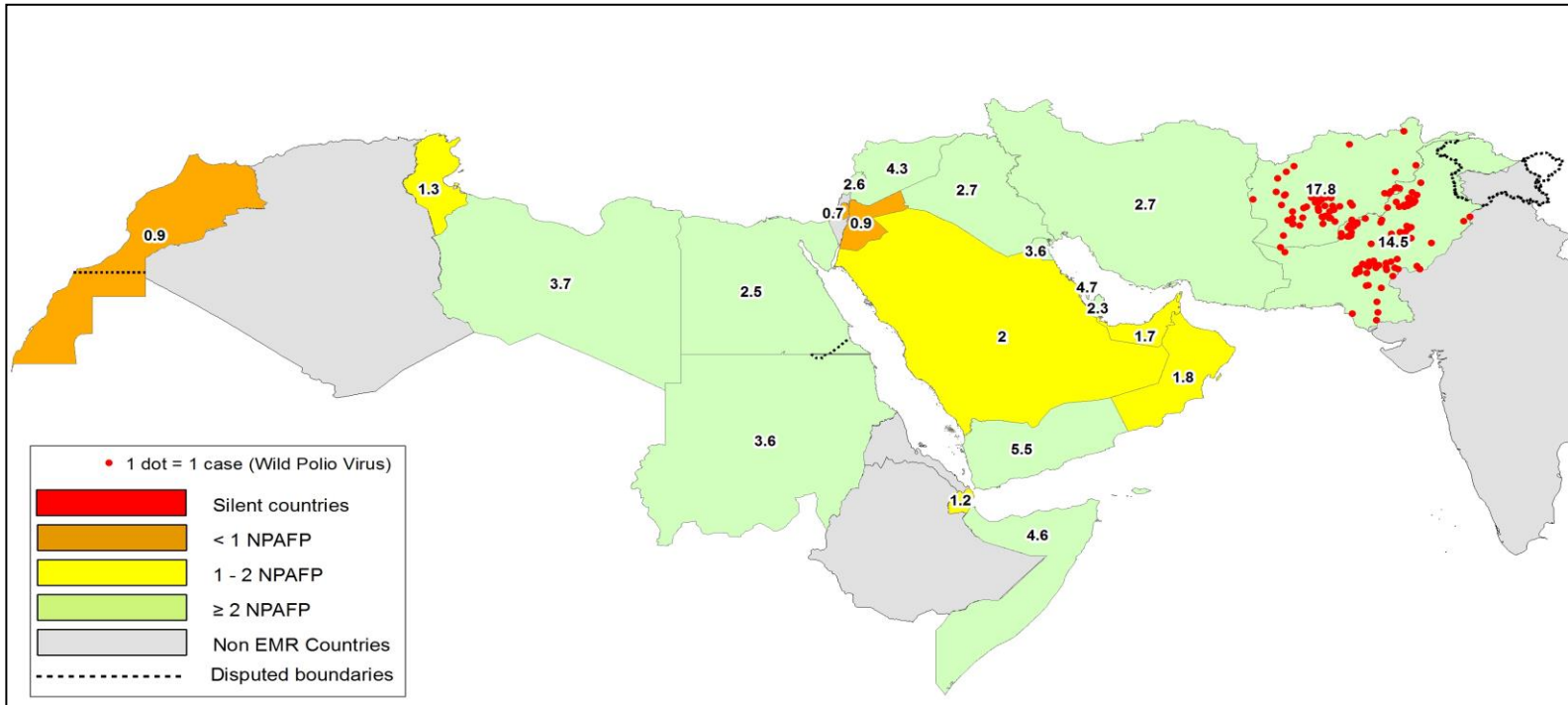


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 29/11/2020

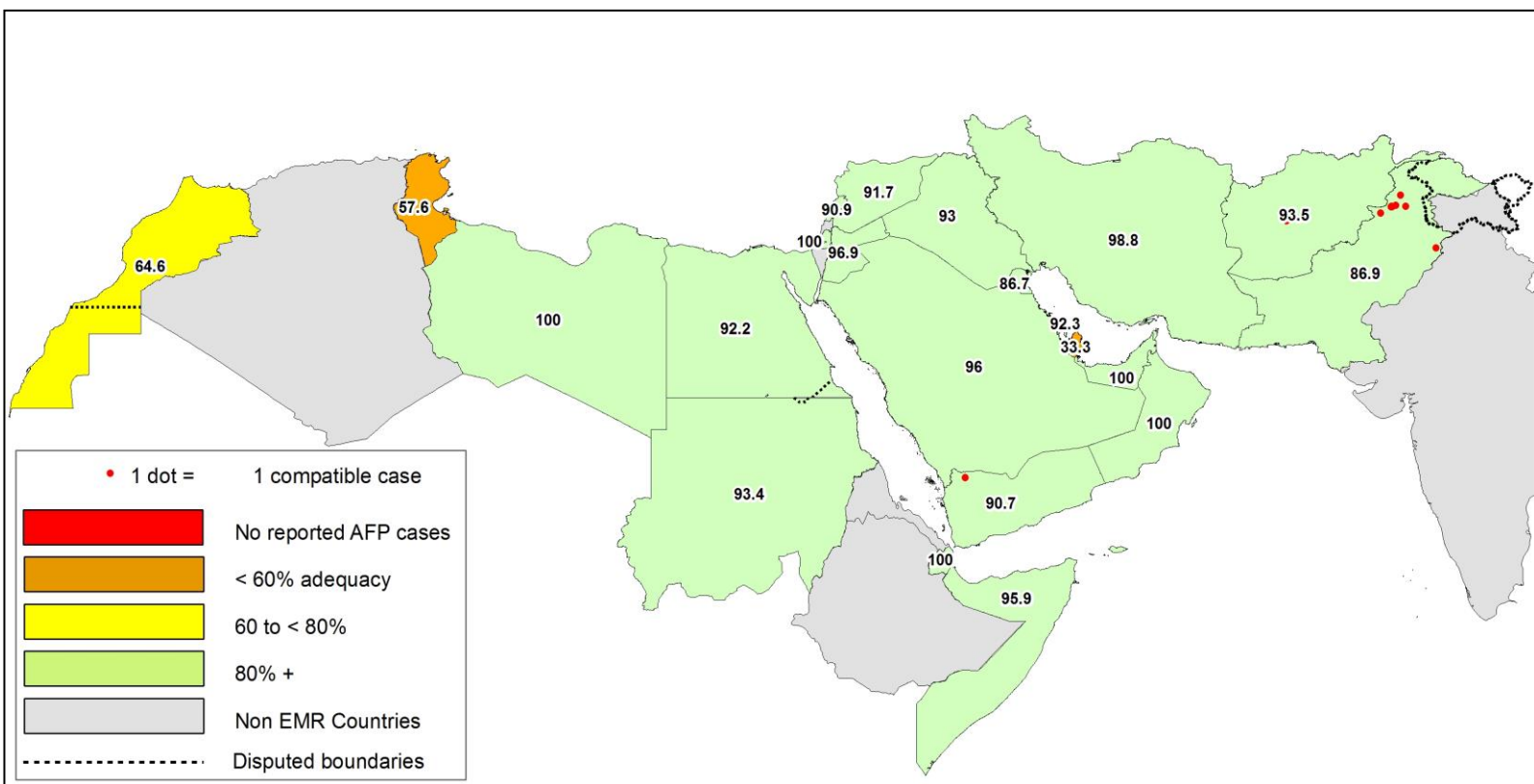


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2019 - 2020

Year	COUNTRY	Count	First Case	Last Case
2020	AFG	56	4-Jan-20	19-Oct-20
	PAK	82	1-Jan-20	5-Nov-20
2020 Total		138	1-Jan-20	5-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 - 29/11/2020

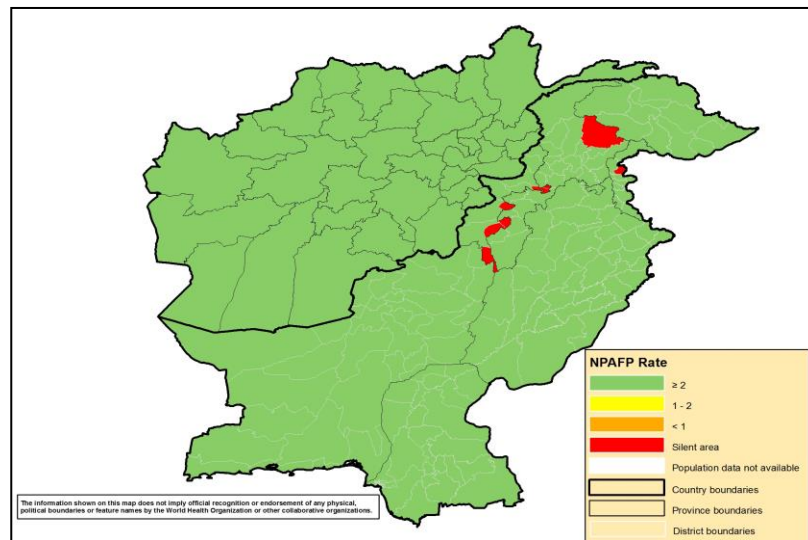


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 29/11/2020

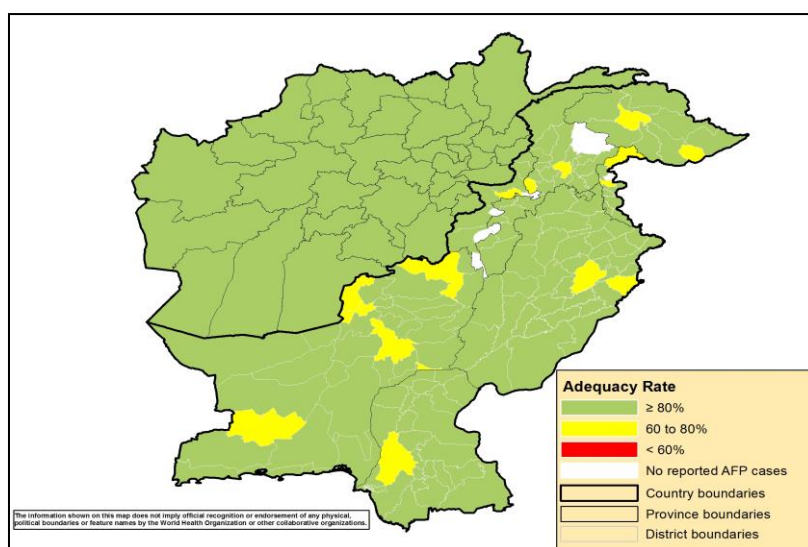
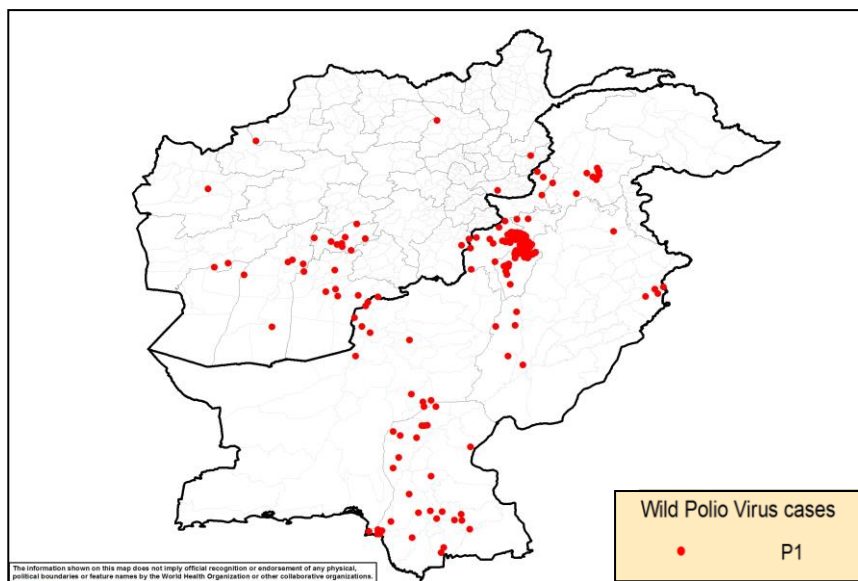
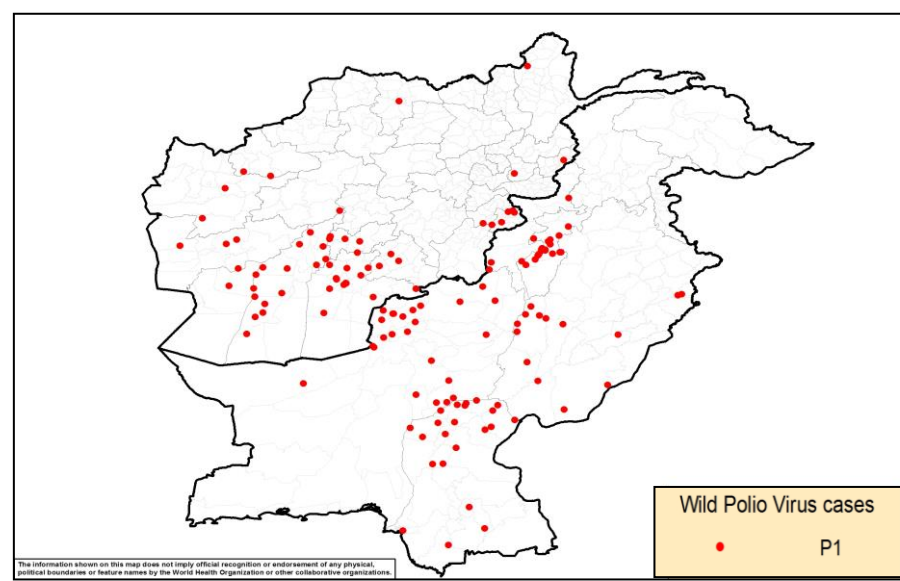


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2020 - 29/11/2020



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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
		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 SHEL TAN	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	MARUF	1	14-Oct-20	14-Oct-20
		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	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
	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

ONSETYR	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	QUETTA	5	17-Jul-20	5-Nov-20		
		PISHIN	6	31-Jan-20	3-Oct-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		
	PUNJAB	SIBI	1	7-Feb-20	7-Feb-20		
		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		
		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		
		GHOTKI	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			82	1-Jan-20	5-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	
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		
SINDH		JHELUM	1	21-Jun-19	21-Jun-19		
		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		
SINDH		KHIJAMSHEED	1	24-Oct-19	24-Oct-19		
		SBENAZIRABAD	1	19-Oct-19	19-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		
		2019 Total			147	15-Jan-19	31-Dec-19

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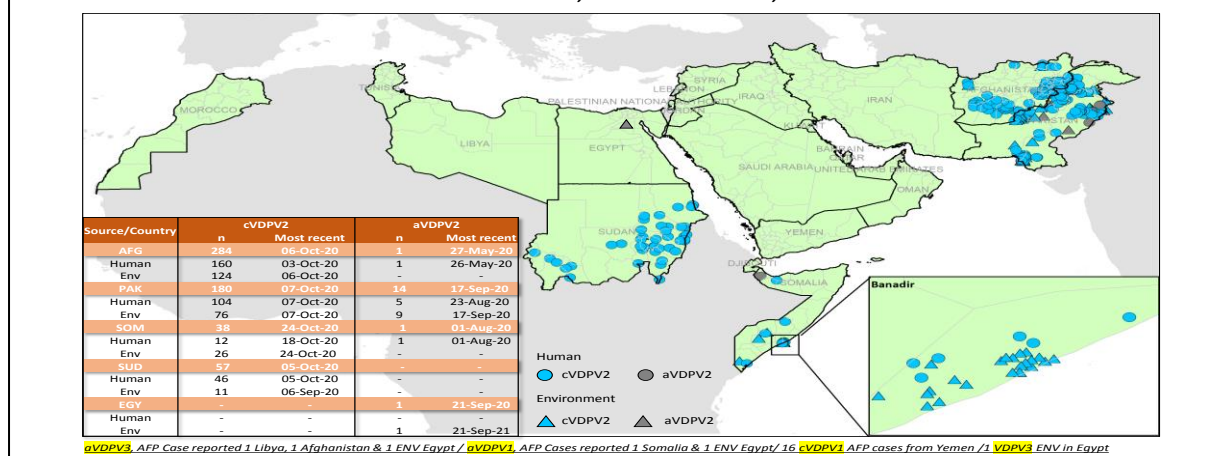
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Table 11: Circulating VDPV2 cases and date of onset of paralysis in EMR countries by provinces 2019-2020

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	
		HIRAN	1	18-Oct-20	18-Oct-20	
		MIDDLE SHABELLE	1	17-Jul-20	17-Jul-20	
		BAY	1	3-Sep-20	3-Sep-20	
		BANADIR	7	18-Jun-20	30-Sep-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	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	6	29-Apr-20	30-Sep-20	
		WEST DARFUR	1	19-May-20	19-May-20	
		BLUE NILE	3	7-Aug-20	3-Sep-20	
		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	
		AFG	FARAH	6	1-Jun-20	23-Sep-20
	HIRAT		2	10-Aug-20	15-Aug-20	
	LOGAR		2	20-Aug-20	10-Sep-20	
	KANDAHAR		34	4-Aug-20	28-Sep-20	
	HILMAND		7	1-Aug-20	3-Oct-20	
	JAWZIAN		1	4-Aug-20	4-Aug-20	
	KABUL		6	6-Jul-20	9-Sep-20	
	NURISTAN		2	21-Jun-20	13-Jul-20	
	NIMROZ		3	6-Jul-20	8-Aug-20	
	KHOST		14	5-Jul-20	30-Sep-20	
	PAKTYA		4	18-Jun-20	5-Sep-20	
	KUNDUZ		2	28-Aug-20	22-Sep-20	
	PAKTIKA		4	25-Aug-20	30-Sep-20	
	GHAZNI		1	29-Aug-20	29-Aug-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		1	17-Sep-20	17-Sep-20	
	URUZGAN		1	28-Aug-20	28-Aug-20	
	PARWAN		1	4-Sep-20	4-Sep-20	
	KUNAR	8	6-Apr-20	11-Jul-20		
	NANGARHAR	45	5-Feb-20	21-Sep-20		
	PAK	SINDH	31	2-May-20	7-Oct-20	
		BALUCHISTAN	9	29-Feb-20	3-Oct-20	
		PUNJAB	22	5-Feb-20	1-Oct-20	
		KHYBER PAKHTUNKHWA	42	2-Jan-20	24-May-20	
	Total 2020			322	2-Jan-20	18-Oct-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 BALTISTAN			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



A positive VDPV2 environmental sample was reported from Iran, from S & B province, with collection date 3 October 2020 - classification type still awaited