

Highlights of Polio Fax Bulletin No. 1157 for Week 49 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 five new WPV1 positive environmental samples reported from Pakistan this week.
3. Vaccine Derived Poliovirus (VDPV):
 - cVDPV1: No new cVDPV1 cases reported this week.
 - cVDPV2: Seven new cVDPV2 cases (Pakistan – 6 and Somalia – 1) and eight new positive environmental samples from Pakistan reported this week.

Advance notification: 57 new cVDPV2 cases (Afghanistan – 55 and Sudan – 2) – details to be shared next bulletin.

II. Wild Poliovirus Transmission

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

As of week 49 2020, 138 WPV1 cases are reported (56 from Afghanistan and 82 from Pakistan). This compares with 150 cases in 2019 in the same period (28 from Afghanistan and 122 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 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: No new wild poliovirus cases reported this week.

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:* 5 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 **403** WPV1 positive environmental samples including 63 mixture of WPV1 and cVDPV2 and 4 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 20 November 2020.

III. Vaccine Derived Polioviruses (VDPVs): Total cVDPV2 cases in 2020 to date is 329 (160 from Afghanistan, 110 from Pakistan, 13 from Somalia and 46 from Sudan). This compares with 16 cases in 2019 in the same period (13 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: Six new cVDPV2 cases reported this week; 3 from Sindh province (Karachi Gadap town – 2 and Karachi Site town – 1); 2 from Balochistan province (one each from Awaran and Panjgur districts) and one from Punjab (DG Khan district). The dates of onset of the cases vary between 20 September to 20 October 2020.

In 2020 to date, there are **110** cVDPV2 cases reported: 42 from KP province, 34 from Sindh province, 23 from Punjab province and 11 from Balochistan province, with most recent case's onset on 20 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 **84** positive environmental samples for cVDPV2 so far (including 63 mixture of WPV1 and cVDPV2), the most recent sample collected on 20 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 Baidoa district, Bay province, with date of onset 25 October 2020. The index case was identified by two positive contacts.

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 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: 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 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 0.8 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 1.5, 0.9, 1.8, 0.7 and 1.6 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 (49/20) / Ending on : 06/12/2020														
	Total AFP 2018	Total AFP 2019	Total AFP to date, 2020	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	W49 6 Dec 20
Afghanistan	3378	3768	3571	117	82	94	100	92	89	74	79	72	53	32	0
Bahrain	35	17	13	0	1	0	0	0	0	1	0	0	1	0	0
Djibouti	0	5	5	0	0	0	0	0	1	0	0	0	1	0	0
Egypt	1246	1343	903	21	20	31	23	13	31	22	26	20	24	25	2
Iran	896	1070	521	14	9	9	8	6	12	11	9	2	3	0	
Iraq	1023	1157	414	8	8	5	13	14	8	14	7	10	9	6	3
Jordan ****	115	113	32	1	1	1	2	1	0	0	0	0	0		
Kuwait	72	48	30	0	0	0	1	1	1	1	0	0	1	0	
Lebanon ****	89	87	44	1	1	0	2	1	1	0	0	0	1	1	
Libya	122	107	88	0	2	0	1	3	1	1	1	2	0		
Morocco	212	247	79	1	0	0	3								
Oman	28	30	19	0	1	1	1	0	1	2	0	0	0	0	
Pakistan	12276	15216	10646	330	283	292	257	239	226	238	215	203	158	43	3
Palestine ****	44	62	12	1	0	0	0	0	1	0	0	0	0	0	
Qatar	10	9	9	0	0	0	0	0	0	0	0	1	0		
Saudi Arabia	242	236	163	5	8	10	2	8	6	3	9	10	9	4	0
Somalia	353	361	348	10	7	5	6	4	5	3	8	4	6	3	0
Sudan	579	608	659	34	32	18	27	20	28	16	13	15	23	4	
Syria ****	362	377	319	1	13	3	1	3	11	5	6	10	6	1	1
Tunisia	68	79	33	0	0	0	0	0	1	1	1	2	0	0	
U.A.E	40	50	19	0	0	0	0	1	1	0	0	0	0	0	
Yemen	730	779	719	20	22	29	16	16	19	23	25	21	10	11	
Total EMR	21920	25769	18646	564	490	498	463	422	443	415	399	372	305	130	9

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2018	Total year 2019	06/12		Confirmed polio cases by month of onset											
			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	28	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	0		
Morocco	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	122	82	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		
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	0		
Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Syria ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Tunisia	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
Total EMR	33	176	150	138	20	20	14	6	18	16	13	11	13	6	1	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 (49/20) / Ending on : 06/12/2020

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	3571	56	1	364	2988	162 #	17.8	57	12	93.4	56	0	06/12/2020
Bahrain	17	0	0	0	17	0	5.7	0	0	100.0	0	0	13	0	0	3	10	0	4.6	0	0	92.3	0	0	06/12/2020
Djibouti	5	0	0	0	5	0	1.4	0	0	80.0	0	0	5	0	0	4	1	0	1.5	2	0	100.0	0	0	06/12/2019
Egypt	1343	0	0	0	1343	0	3.6	0	0	93.4	0	0	903	0	0	92	811	0	2.5	2	0	92.2	0	0	03/12/2020
Iran	1070	0	0	0	1069	1	5.2	0	0	97.1	0	0	521	0	0	7	514	0	2.7	0	0	98.8	0	0	05/12/2020
Iraq	1157	0	0	0	1157	0	7.4	0	0	94.3	0	0	414	0	0	26	388	0	2.7	0	0	93.2	0	0	04/12/2020
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	3.5	0	0	90.0	0	0	29/11/2020
Lebanon	87	0	0	0	87	0	4.7	0	0	89.7	0	0	44	0	0	8	36	0	2.5	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	3.6	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	0.8	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	0	19	0	1.8	0	0	100.0	0	0	02/12/2020
Pakistan	15216	147	6	0	15040	23	19.3	0	0	86.6	147	0	10646	82	8	830	9612	115	14.5	188	1	86.8	82	0	06/12/2020
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	29/11/2020
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	163	0	0	66	97	0	2.1	1	0	96.3	0	0	06/12/2020
Somalia	361	0	0	0	358	3	5.7	0	0	95.6	0	0	348	0	0	22	312	15	4.6	3	1	96.0	0	0	06/12/2020
Sudan	608	0	0	0	608	0	3.4	0	0	96.4	0	0	659	0	0	38	575	46 #	3.7	2	0	93.6	0	0	03/12/2020
Syria	377	0	0	0	377	0	4.8	0	0	88.1	0	0	319	0	0	18	301	0	4.3	0	0	91.2	0	0	05/12/2020
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	04/12/2020
U.A.E	50	0	0	0	50	0	4.0	0	0	90.0	0	0	19	0	0	2	17	0	1.6	0	0	100.0	0	0	05/12/2020
Yemen	779	0	0	0	778	1	5.5	0	0	89.0	0	0	719	0	1	372	328	18	5.5	187	158	90.5	0	0	05/12/2020
EMR	25769	176	7	0	25557	29	10.2	0	0	89.5	176	0	18646	138	10	1918	16225	357	7.6	485	180	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

Advance notification of 57 cVDPV2 cases (55 from Afghanistan & 2 from Sudan) details will be shared in next bulletin

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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	1105	14	35	42	223	69
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	0
EGY	498	0	0	8	57	0	276	0	0	11	22	29
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	0
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	60	0	0	2	8	0
PAK	5497	26	9	248	959	0	4235	19	10	344	681	115
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	1042	0	9	19	133	87
SUD	402	0	0	1	31	90	305	0	18	1	4	228
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	190	0	0	0	29	18
EMR	10938	34	12	400	1577	136	7714	33	72	434	1121	563

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	PUNJAB	LAHORE	1	24-Jul-20	24-Jul-20
DG KHAN			2	18-Jan-20	05-Jul-20	
PAK	SINDH	KARAK	1	20-Jan-20	20-Jan-20	
		JACOBABAD	2	07-Feb-20	14-Jul-20	
2020 Total				11	04-Jan-20	01-Sep-20
2019	AFG	URUZGAN	TIRINKOT	1	02-Aug-19	02-Aug-19
			HILMAND	1	05-Jun-19	05-Jun-19
	PAK	PUNJAB	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
		SINDH	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 (49/2020) / Ending on : (06/12/2020)

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	% 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	3518	471	21	555	2346	124	1	53	102			56	144		85	1		2		100	16%	94%	100%	97%	06/12/2020
Bahrain	NPL Oman / CDC	10			1	9																9%	100%		0%	29/11/2020
Djibouti	NPL Kenya / CDC	5					1																0%		100%	06/12/2020
Egypt***	RRL Egypt	864	26	12	104	696	23	3		13						15		9	3		11%	95%	100%	99%	03/12/2020	
Iran	NPL Iran / CDC	534	9		5	509	11			5						6					1%	100%	100%	99%	05/12/2020	
Iraq	RRL Egypt	413	1		37	358	16			2											9%	96%	67%	98%	06/12/2020	
Jordan	NPL Jordan / RRL EGYPT	32			5	26		1													16%	100%		100%	26/11/2020	
Kuwait	RRL Kuwait / RIVM	32				29		3													1%	83%		93%	03/12/2020	
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		9													1%	100%		98%	04/12/2020	
Oman	NPL Oman / CDC	19			2	17															12%	100%		100%	29/11/2020	
Pakistan	RRL Pakistan	10415	845	47	1584	7624	301	13	75	163			338	108		258		1	7	2	36	14%	94%	98%	97%	06/12/2020
Palestine & UNRWA		12				11		1													0%	36%		100%	29/11/2020	
Qatar	NPL Oman / CDC	3				2	1														0%	100%		100%	29/11/2020	
Saudi Arabia	NPL Saudi Arabia / CDC	165	1			153	11									1					0%	100%	100%	99%	06/12/2020	
Somalia	NPL Kenya / CDC	348	21	5	54	246	8	13		3	1		11		14						18%	7%		97%	06/12/2020	
Sudan	NPL Sudan / RRL Egypt	664	45		83	490	31	15		2			26	43	1						14%	99%	100%	56%	05/12/2020	
Syria	NPL Syria / RRL Egypt	316	14	2	15	272	13														5%	100%			03/12/2020	
Tunisia	RRL Tunisia	24				23		1													0%	100%		96%	23/11/2020	
U.A.E	NPL Oman / CDC	16				16															0%	100%		50%	29/11/2020	
Yemen	NPL Kenya / CDC	219	25		55	124	15			2	17					5		1		1	27%	97%	20%	0%	05/12/2020	
Total EMR 2020		17807	1462	87	2506	13130	555	60	128	292	18		420	306		388	2	2	18	6	136	13%	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					5
	cVDPV2					119
	aVDPV2					1
	EV/SL	177	265	248	200	154
AFG Total	Negative	6	9	5	3	3
	Pending					61
		185	316	336	259	372
	aVDPV2					1
	EV/SL	493	481	508	666	439
EGY	Negative	35	41	32	34	33
	Pending					23
	aVDPV3					1
	aVDPV1					1
	VDPV3					1
EGY Total		528	522	540	700	499
	Wild				3	1
	VDPV2					34
	EV/SL		5	51	65	1
	Negative		1	3	3	1
IRN	Pending					1
		6	54	71	36	19
	EV/SL	2	29	36	36	1
	Negative		2			1
	Pending					1
JOR		2	31	36	36	21
	EV/SL			3	3	
	Negative					8
	Pending					11
		2	26	44	44	21
LEB	Negative	2	1	1	2	2
		4	27	45	47	23
	Wild	59	105	139	367	336
	Wild+cVDPV2	2	1		10	63
	Wild+aVDPV2	1	1		2	4
PAK	cVDPV2	2			29	21
	aVDPV2	3	4			5
	EV/SL	456	523	531	420	247
	Negative	6		3	4	4
	Pending					79
PAK Total		529	633	673	832	759
	cVDPV2		2	18	5	26
	cVDPV3			11		
	aVDPV2		2		1	
	cVDPV2+cVDPV3			1		
SOM	EV/SL		20	43	28	16
	Negative		14	138	29	28
	Pending					2
			36	213	63	72
	cVDPV2					11
SUD	EV/SL			15	42	12
	Negative				1	2
	Pending				17	20
				15	60	45
	EV/SL		4	81	155	164
SYR	Negative			21	30	17
	Pending					7
			4	102	185	188
TOTAL		1248	1575	2017	2264	2015

Table 7: Environmental Wild/VPV 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
	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	GBALISTAN	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	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	HILMAND	14	27/May/20	5/Oct/20
				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			
	HILMAND	1	27/Sep/20	27/Sep/20			
	AFG Total				153	1/Jan/20	6/Oct/20
	EGY	aVDPV2	GIZA	1	21/Sep/20	21/Sep/20	
			EGY Total				1
	PAK	Wild	AJK	1	25/Feb/20	25/Feb/20	
			BALUCHISTAN	78	1/Jan/20	20/Nov/20	
			GBALISTAN	1	12/May/20	12/May/20	
			ISLAMABAD	5	16/Jan/20	10/Nov/20	
			KPAKHTUNKHWA	19	28/Jan/20	10/Nov/20	
			PUNJAB	117	4/Jan/20	18/Nov/20	
			SINDH	115	3/Jan/20	10/Nov/20	
			Wild+cVDPV2	BALUCHISTAN	14	1/Feb/20	12/Oct/20
				KPAKHTUNKHWA	1	11/Mar/20	11/Mar/20
PUNJAB				10	4/Jan/20	12/Oct/20	
cVDPV2			SINDH	38	3/Jan/20	13/Oct/20	
			BALUCHISTAN	4	2/Jun/20	20/Oct/20	
			KPAKHTUNKHWA	4	10/Jan/20	17/Apr/20	
			PUNJAB	2	16/Jan/20	17/Apr/20	
			SINDH	11	8/Jun/20	9/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				425	1/Jan/20	20/Nov/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	
SUD	cVDPV2	KHARTOUM	11	29/Mar/20	6/Sep/20		
		SUD Total				11	29/Mar/20
2020 Total				616	1/Jan/20	20/Nov/20	

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2020 - 06/12/2020

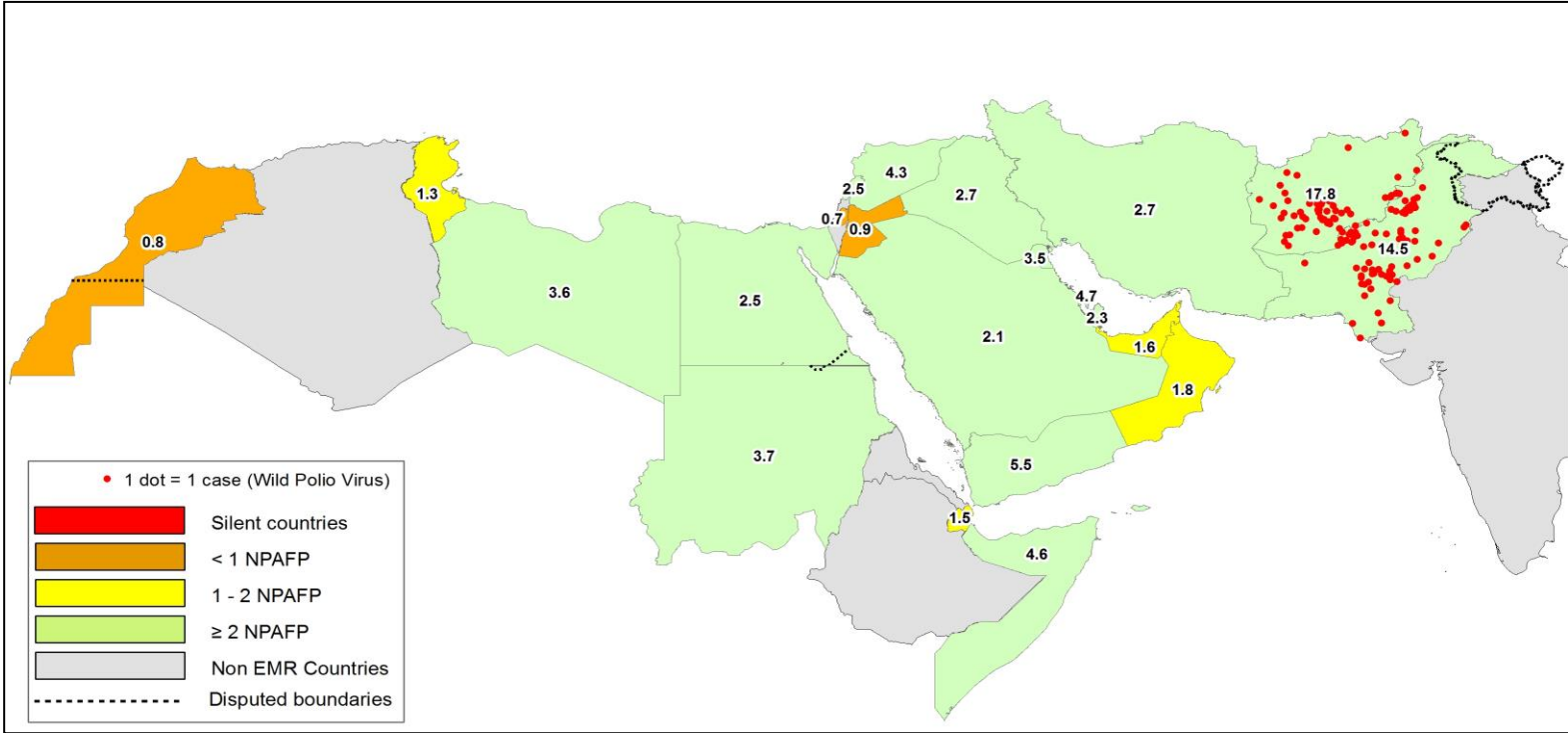


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 06/12/2020

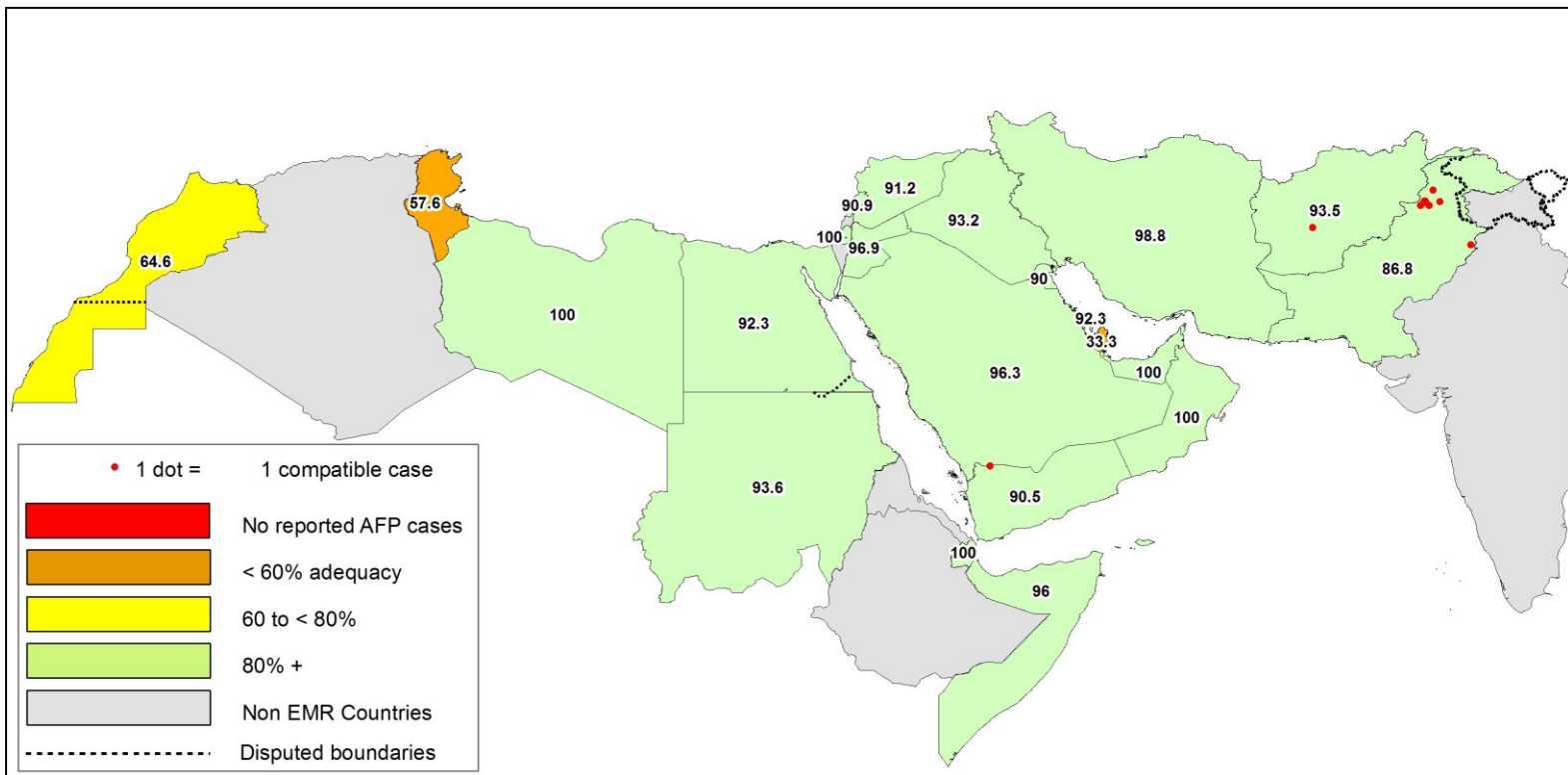


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2019 - 2020

Year	COUNTRY	Count	First Case	Last Case
2020	AFG	56	4-Jan-20	19-Oct-20
	PAK	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 - 06/12/2020

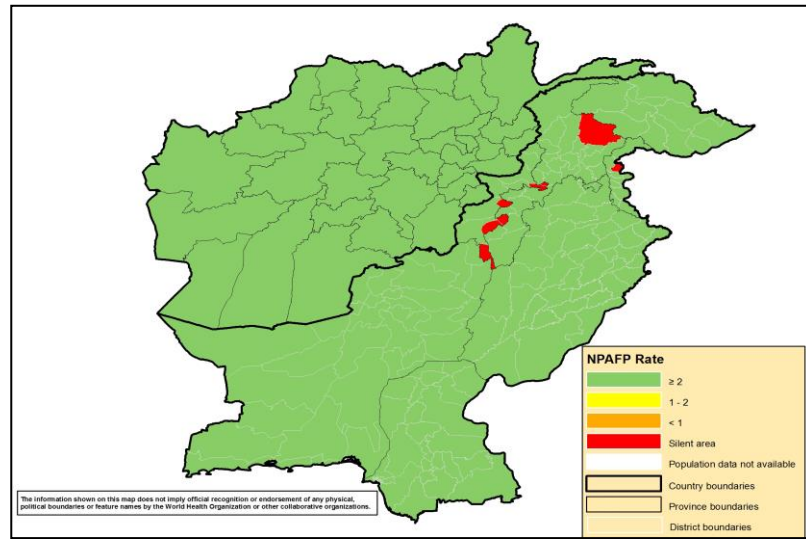


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 06/12/2020

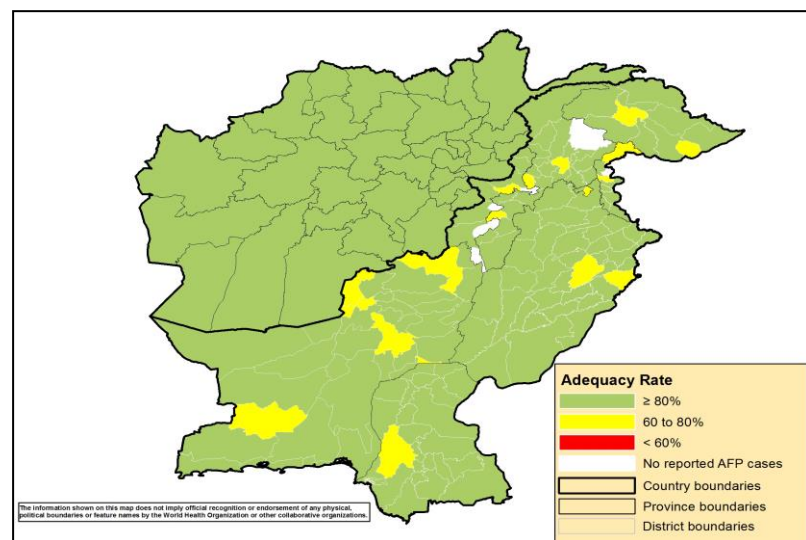
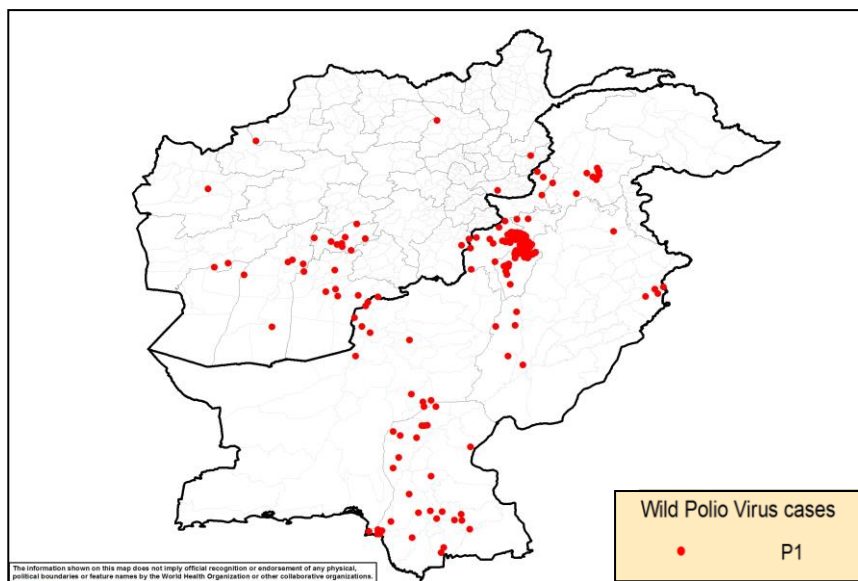
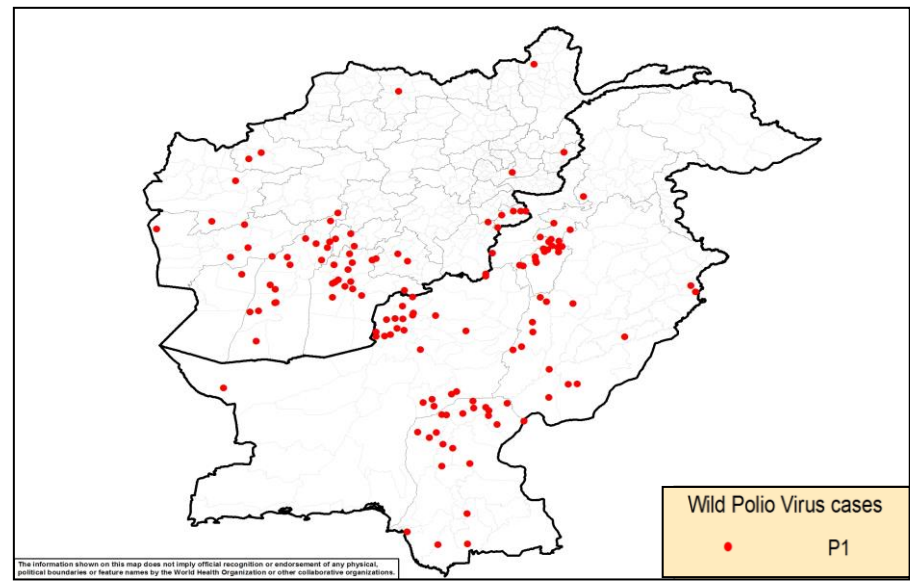


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2020 - 06/12/2020



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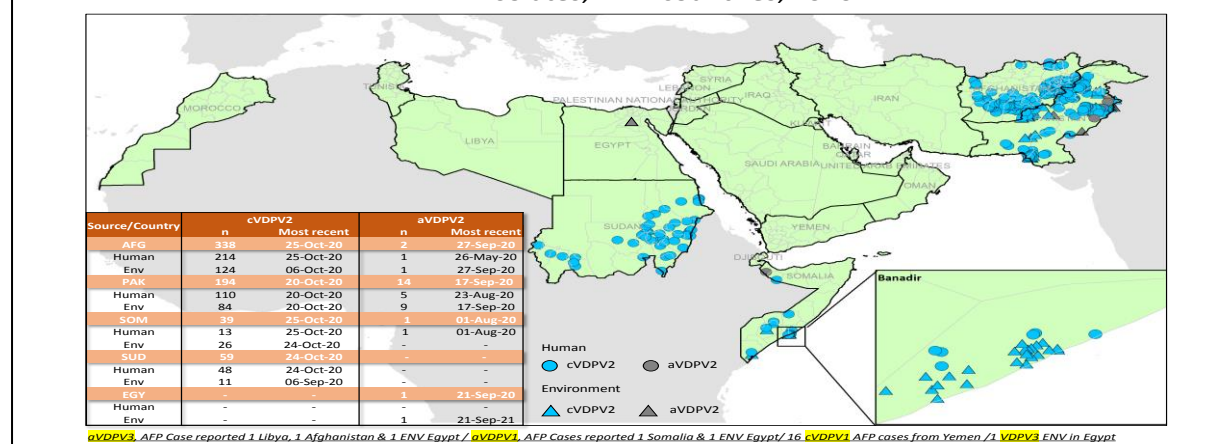
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Table 11: Circulating VDPV2 cases and date of onset of paralysis in EMR countries by provinces 2019-2020

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	2	3-Sep-20	25-Oct-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	
	PAK	KUNAR	8	6-Apr-20	11-Jul-20	
		NANGARHAR	45	5-Feb-20	21-Sep-20	
		SINDH	34	2-May-20	20-Oct-20	
		BALUCHISTAN	11	29-Feb-20	10-Oct-20	
		PUNJAB	23	5-Feb-20	1-Oct-20	
	2019	PAK	KHYBER PAKHTUNKHWA	42	2-Jan-20	24-May-20
			PUNJAB	23	5-Feb-20	1-Oct-20
			BALUCHISTAN	11	29-Feb-20	10-Oct-20
			SINDH	34	2-May-20	20-Oct-20
		SOM	SOOL	1	15-Mar-19	15-Mar-19
			TOGDHER	1	21-Apr-19	21-Apr-19
BARI			1	8-May-19	8-May-19	
GILGIT BALTISTAN			4	7-Jul-19	28-Aug-19	
ISLAMABAD			1	11-Sep-19	11-Sep-19	
KHYBER PAKHTUNKHWA			16	4-Sep-19	28-Dec-19	
2019	PAK	PUNJAB	1	22-Nov-19	22-Nov-19	
		KHYBER PAKHTUNKHWA	1	22-Nov-19	22-Nov-19	
Total 2020			329	2-Jan-20	25-Oct-20	
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