

Highlights of Polio Fax Bulletin No. 1169 for Week 08 2021

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 this week, but three new positive environmental samples collected in 2021 all from Pakistan were reported.
3. No new cVDPV1 cases reported this week.
4. Four new cVDPV2 cases reported all in 2021 (Afghanistan 1 and Pakistan 3) and nineteen new cVDPV2 positive environmental samples (3 in 2020 and 16 in 2021) from Afghanistan (11), Egypt (2) and Pakistan (6) were reported this week.

II. Wild Poliovirus Type-1 (WPV1) Transmission

WPV1 transmission continues though restricted globally to only two countries in the EMR namely Pakistan and Afghanistan – the remaining polio endemic countries in the world.

As of week 08 of 2021, two WPV1 cases were reported [40 in the same period in 2020; Afghanistan – 5, Pakistan - 35].

- a. *Human samples:* No new wild poliovirus cases reported this week, but three positive environmental samples reported from Pakistan collected in 2021.

Afghanistan:

In 2021 to date, **1 WPV1** case has been reported so far from Southeast Region with onset of paralysis **1 January 2021**.

In 2020, **56 WPV1 cases** have been reported: 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:

In 2021 to date, **1 WPV1** case has been reported so far from Balochistan province with date of onset **27 January 2021**.

In 2020, **84 WPV1** cases are reported, 26 from Balochistan province, 22 cases each from Khyber Pakhtunkhwa (KP) and Sindh provinces, and 14 from Punjab. **The most recent case has onset of paralysis on 23 November 2020.**

- b. *Environmental samples:* 3 new WPV1 positive environmental samples from Pakistan in 2021 reported this week.
 - **Afghanistan:** In 2021 to date, there are no wild poliovirus positive environmental samples reported. In 2020, there are **35** WPV1 positive environmental samples including seven combined (WPV1 and cVDPV2) with most recent sample collected on 6 December 2020.
 - **Pakistan:** In 2021, there are **32** WPV1 positive environmental samples (including 4 mixture of WPV1 and cVDPV2 and 3 mixture of WPV1 and aVDPV2) with most recent sample collected on 15 February 2021. In 2020, there are **435** WPV1 positive environmental samples including 91 mixture of WPV1 and cVDPV2 and 6 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 28 December 2020.

III. Vaccine Derived Polioviruses (VDPVs): Four new cVDPV2 cases reported in 2021 from Afghanistan (1) and Pakistan (3) and nineteen new cVDPV2 positive environmental samples (3 in 2020 and 16 in 2021) from Afghanistan (11), Egypt (2) and Pakistan (6) were reported this week.

In 2021, twelve cVDPV2 cases were reported (Afghanistan 6 and Pakistan 6). In 2020, a total of 29 cVDPV1 cases reported from Yemen and a total number of 511 cVDPV2 cases (305 from Afghanistan, 135 from Pakistan, 14 from Somalia and 57 from Sudan).

1. **Outbreaks:** Six countries have VDPVs outbreaks, five with cVDPV2 and one with cVDPV1.

Afghanistan: One new cVDPV2 case in 2021 reported this week and eleven new positive environmental samples collected (2 in 2020 and 9 in 2021).

The newly reported cVDPV2 case in 2021 is from West Region (Badghis province) with date of onset 12 January 2021.

In 2021 to date, there are **6 cVDPV2** cases: 4 from West Region, 1 from South Region and 1 from Southeast Region. **The most recent case has onset on 12 January 2021.**

In 2020, there are **305 cVDPV2** cases; 142 from South Region, 70 reported from East Region, 34 from Southeast Region, 30 from West Region, 17 from Central Region, 7 from North Region, 4 from Northeast Region, and 1 from Badakhshan Region. The **most recent case has onset on 30 December 2020**.

Environment: In 2021 to date, there are **9** cVDPV2 positive environmental samples reported with **most recent sample collected on 5 January 2021**.

In 2020, **174** cVDPV2 positive environmental samples including 7 mixture of WPV1 and cVDPV2 were reported. The **most recent cVDPV2 positive environmental sample was collected on 27 December 2020**.

Egypt: Two new cVDPV2 positive environmental samples were collected from Beni Suef and Kafr El Sheikh provinces with both collection date on 27 January 2021.

In 2021, **6** cVDPV2 positive samples collected 2 from Aswan province and one each from Alexandria, Quena, Beni Suef and Kafr El Sheikh provinces. The samples are genetically related with each other and belong to CHA-NDG-1 emergence (importation from Sudan/Chad). **Date of the recent most VDPV2 positive environmental sample is 9 February 2021**.

Pakistan: Three new cVDPV2 cases in 2021 reported this week and six new positive environmental samples (1 collected in 2020 and 5 in 2021).

The 3 newly reported cVDPV2 cases are: 2 from Sindh province (Shikarpur and Sukkur districts) and 1 from Punjab province (DG Khan district). The dates of onset of the cases vary between 5-7 January 2021.

In 2021, there is **6** cVDPV2 cases reported 2 each from Sindh and Balochistan provinces and 1 each from KP and Punjab provinces with **most recent onset on 14 January 2021**. In 2020, there are **135** cVDPV2 cases reported: 45 from Sindh province, 42 from KP, 25 from Punjab and 23 from Balochistan, with **most recent case's onset on 24 December 2020**.

Environment: In 2021 to date; there are **9** cVDPV2 positive samples including 4 mixture of WPV1 and cVDPV2 with **most recent sample collected on 18 January 2021**.

In 2020, there are **135** cVDPV2 positive environmental samples (including 91 mixture of WPV1 and cVDPV2), the **most recent sample collected on 28 December 2020**.

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

In 2020 to date, **14** cVDPV2 cases reported, 7 from Banadir province, 2 from Bay and 1 each from Lower Juba, Middle Shabelle, Galbeed, Hiran and Awdal 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.

In 2020 to date, **57** cVDPV2 cases reported. **The most recent case has onset of paralysis on 18 December 2020**.

A total of **14** environmental samples have been positive for cVDPV2 so far, all from Khartoum with most recent collection on 9 November 2020.

YEMEN: No new VDPV cases reported this week.

In 2020, **29** cVDPV1 cases are reported. 28 cases are from Saadah province and 1 case from Sana'a City province. **The most recent case has onset of paralysis on 25 September 2020**.

2. **VDPV Events:** There is one country having an Event due to VDPV2. Response per WHO's SOPs are ongoing.

Iran: In 2020, Iran reported 3 cVDPV2 positive environmental samples, one from Zaboul district (Zaboul site) and two from Zehedan district (Shirabad site), Sistan & Balochistan province. The isolates are genetically related with earlier viruses seen in Afghanistan and Pakistan. **Date of most recent sample collection is 25 December 2020**.

IV. Surveillance performance indicators

In 2020, 14 out of 22 member states are meeting the global target of both key surveillance indicators: non polio AFP rate of 2/100,000 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 70.9%, and 57.9%, respectively.
- Djibouti, Jordan, Oman, Palestine and United Arab Emirates have a non-polio AFP rate of 1.4, 0.8, 1.9, 0.9 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 (08/21) / Ending on : 28/02/2021														
	Total AFP 2019	Total AFP 2020	Total AFP to date, 2021	W50 13 Dec 20	W51 20 Dec 20	W52 27 Dec 20	W53 03 Jan 21	W01 10 Jan 21	W02 17 Jan 21	W03 24 Jan 21	W04 31 Jan 21	W05 07 Feb 21	W06 14 Feb 21	W07 21 Feb 21	W08 28 Feb 21
Afghanistan	3768	3971	560	67	77	60	71	90	91	65	61	82	75	49	6
Bahrain	17	15	0	1	1	0	0	0	0	0	0	0	0	0	0
Djibouti	5	5	2	0	0	0	0	0	0	2	0	0	0	0	0
Egypt	1343	1009	155	28	38	9	12	12	13	29	21	27	22	15	7
Iran	1070	618	83	21	15	13	25	11	13	12	18	9	6	0	
Iraq	1157	476	133	11	13	11	12	16	24	27	18	16	14	10	
Jordan ****	113	32	2	0	0	0	0	1	0	0	1	0	0	0	0
Kuwait	48	36	6	2	1	1	0	2	0	1	2	1	0	0	
Lebanon ****	87	49	5	2	1	0	1	1	0	1	0	0	2	0	
Libya	107	95	8	1	2	0	1	0	1	1	1	1	1	2	
Morocco	247	86	7	0	0	0	0	0	0	2	0	1	2	2	
Oman	30	22	1	1	0	1	0	0	0	1	0	0	0	0	
Pakistan	15218	11943	1399	198	185	205	194	259	219	213	201	197	170	50	0
Palestine ****	62	16	2	0	1	0	1	0	1	0	0	0			
Qatar	9	9	0	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	236	200	19	8	8	6	6	5	7	2	3	0	0	0	0
Somalia	361	376	47	7	7	4	2	4	3	10	11	7	7	4	0
Sudan	608	733	91	13	9	14	14	17	10	16	12	14	7	5	
Syria ****	377	343	32	5	3	6	0	3	6	3	7	6	4	3	
Tunisia	79	38	2	0	0	0	2	0	0	0	0	0	0	0	
U.A.E	50	19	2	0	0	0	0	1	1	0	0	0	0	0	
Yemen	779	825	107	18	16	13	14	14	14	12	23	18	10	9	0
Total EMR	25771	20916	2663	383	377	343	355	436	403	397	379	379	320	149	13

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2019	Total year 2020	28/02		Confirmed polio cases by month of onset											
			2020	2021	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	January 2021	February 2021
Afghanistan	29	56	5	1	7	0	12	10	7	6	6	3	0	0	1	
Bahrain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Djibouti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Iran	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Iraq	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jordan ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lebanon ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pakistan	147	84	35	1	7	6	6	6	6	5	7	4	2		1	
Palestine ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Qatar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Somalia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Syria ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tunisia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Yemen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total EMR	176	140	40	2	14	6	18	16	13	11	13	7	2	0	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 2020 & 2021 up to Week (08/21) / Ending on : 28/02/2021)

COUNTRY	2020											2021											Latest line List Date		
	AFP									Specimen	Wild cases ****		AFP									Specimen		Wild cases ****	
	Total AFP cases onset 2020	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 2021	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	3971	56	1	40	3565	311	18.5	19	0	92.6	56	0	560	1	0	214	339	6	16.4	0	0	93.6	1	0	28/02/2021
Bahrain	15	0	0	0	15	0	5.0	0	0	93.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	28/02/2021
Djibouti	5	0	0	1	4	0	1.4	1	1	100.0	0	0	2	0	0	2	0	0	3.4	0	0	100.0	0	0	28/02/2021
Egypt	1009	0	0	11	998	0	2.6	6	0	94.6	0	0	155	0	0	88	67	0	2.4	0	0	82.6	0	0	25/02/2021
Iran	618	0	0	0	618	0	3.0	0	0	98.5	0	0	83	0	0	30	53	0	2.5	0	0	95.2	0	0	27/02/2021
Iraq	476	0	0	3	473	0	2.9	0	0	93.3	0	0	133	0	0	49	84	0	5.1	0	0	98.5	0	0	27/02/2021
Jordan	32	0	0	0	32	0	0.8	0	0	96.9	0	0	2	0	0	0	2	0	0.3	0	0	100.0	0	0	28/02/2021
Kuwait	36	0	0	0	36	0	4.1	0	0	91.7	0	0	6	0	0	3	3	0	4.2	0	0	100.0	0	0	21/02/2021
Lebanon	49	0	0	3	46	0	2.6	1	0	89.8	0	0	5	0	0	4	1	0	1.7	0	0	100.0	0	0	22/02/2021
Libya	95	0	0	0	94	1	3.6	0	0	100.0	0	0	8	0	0	7	1	0	1.9	0	0	100.0	0	0	27/02/2021
Morocco	86	0	0	25	61	0	0.9	24	4	70.9	0	0	7	0	0	7	0	0	0.4	0	0	57.1	0	0	26/02/2020
Oman	22	0	0	0	22	0	1.9	0	0	100.0	0	0	1	0	0	0	1	0	0.5	0	0	100.0	0	0	21/02/2021
Pakistan	11943	84	21	225	11473	142	15.2	113	0	85.6	84	0	1399	1	0	403	988	7	11.1	0	0	88.0	1	0	28/02/2021
Palestine	16	0	0	4	12	0	0.9	1	0	100.0	0	0	2	0	0	2	0	0	0.7	0	0	100.0	0	0	07/02/2021
Qatar	9	0	0	6	3	0	2.1	6	0	33.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	21/02/2021
Saudi Arabia	200	0	0	11	189	0	2.4	0	0	96.0	0	0	19	0	0	19	0	0	1.4	0	0	94.7	0	0	28/02/2021
Somalia	376	0	0	5	356	15	4.7	3	1	94.7	0	0	47	0	0	32	15	0	3.6	0	0	93.6	0	0	28/02/2021
Sudan	733	0	0	22	654	57	3.8	3	0	92.9	0	0	91	0	0	28	63	0	3.0	0	0	97.8	0	0	25/02/2021
Syria	343	0	0	0	343	0	4.3	0	0	91.0	0	0	32	0	0	13	19	0	2.5	0	0	93.8	0	0	27/02/2021
Tunisia	38	0	0	0	38	0	1.3	0	0	57.9	0	0	2	0	0	2	0	0	0.4	0	0	50.0	0	0	26/02/2021
U.A.E	19	0	0	0	19	0	1.5	0	0	100.0	0	0	2	0	0	2	0	0	1.0	0	0	100.0	0	0	25/02/2021
Yemen	825	0	1	120	675	29	5.9	46	34	88.7	0	0	107	0	0	107	0	0	4.7	0	0	92.5	0	0	27/02/2021
EMR	20916	140	23	476	19726	555	8.0	223	40	88.6	140	0	2663	2	0	1012	1636	13	6.3	0	0	90.3	2	0	
2019	25771	176	7	0	25559	29	10.2	0	0	89.5	176	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	2020						2021					
	# OF CONTACTS	LAB RESULTS					# OF CONTACTS	LAB RESULTS				
		WILD	VDPV	SL	NPEV	PENDING		WILD	VDPV	SL	NPEV	PENDING
AFG	1252	14	79	52	270	0	292	0	1	32	34	45
BAH	1	0	0	0	0	0	0	0	0	0	0	0
DJI	2	0	0	0	0	0	0	0	0	0	0	0
EGY	330	0	0	12	32	8	72	0	0	1	3	32
IRN	46	0	0	0	0	0	4	0	0	0	0	0
IRQ	168	0	0	4	10	0	33	0	0	2	1	21
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	5	0	0	0	0	0	0	0	0	0	0	0
LIB	19	0	0	0	0	0	0	0	0	0	0	0
MOR	8	0	0	0	0	4	5	0	0	0	0	5
OMA	64	0	0	2	8	1	0	0	0	0	0	0
PAK	4653	21	19	379	788	1	729	0	1	88	73	119
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	18	0	0	0	0	6	2	0	0	0	0	3
SOM	872	0	5	16	116	17	0	0	0	0	0	0
SUD	364	0	18	2	8	242	22	0	0	0	0	22
SYR	280	0	0	11	15	0	3	0	0	0	0	0
TUN	6	0	0	0	0	2	1	0	0	0	0	1
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	230	0	0	0	29	58	59	0	0	0	0	59
EMR	8318	35	121	478	1276	339	1222	0	2	123	111	307

Table 4 (B): Most recent wild contacts in EMRO, 2020-2021

Year	Country	Data	
		Count of wild contacts	Date of Most Recent stool collection
2020	Afghanistan	14	26/Jul/20
	Pakistan	21	14/Dec/20
2020 Total		35	14/Dec/20

Table 4 (C): Number of distribution by district of -ve index AFP cases identified as wild positive by contact in EMR, 2020-2021

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	BALOCHISTAN	KSAIFULLAH	1	01-Sep-20	01-Sep-20
			PUNJAB	1	24-Jul-20	24-Jul-20
			LAHORE	2	18-Jan-20	05-Jul-20
			DG KHAN	1	20-Jan-20	20-Jan-20
			KARAK	2	07-Feb-20	14-Jul-20
	SINDH	JACOBABAD	JACOBABAD	2	07-Feb-20	14-Jul-20
			JACOBABAD	2	07-Feb-20	14-Jul-20
2020 Total				11	04-Jan-20	01-Sep-20

Table 5: Laboratory investigation of AFP cases with paralysis onset in 2020 up to Week (08/2021) / Ending on : (28/02/2021)

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	463	66	7	37	210	70	65	1	14			17	5		19				33	11%	100%	100%	100%	21/02/2021	
Bahrain	NPL Oman / CDC																								22/02/2021	
Djibouti	NPL Kenya / CDC	2						2																	28/02/2021	
Egypt***	RRL Egypt	132			15	87	28	2													11%	100%		100%	25/02/2021	
Iran	NPL Iran / CDC	117			2	83	31	1													2%	99%		100%	28/02/2021	
Iraq	RRL Egypt	133			6	102	25														6%	100%		100%	26/02/2021	
Jordan	NPL Jordan / RRL EGYPT	2			1	1															50%	100%		100%	21/02/2021	
Kuwait	RRL Kuwait / RIVM	6				6															0%	100%		100%	25/02/2021	
Lebanon	NPL Jordan / RRL EGYPT	3				3															0%	100%			21/02/2021	
Libya	RRL Tunisia / RIVM	1						1																	15/02/2021	
Morocco	NPL Morocco / RRL Tunisia	5				2	3														0%	100%		100%	26/02/2021	
Oman	NPL Oman / CDC	1				1															0%	100%		100%	22/02/2021	
Pakistan	RRL Pakistan	1178	129	15	124	587	91	228	1	38			56	3		36				47	11%	100%	100%	100%	21/02/2021	
Palestine & UNRWA		2				2															0%	0%		100%	07/02/2021	
Qatar	NPL Oman / CDC																								22/02/2021	
Saudi Arabia	NPL Saudi Arabia / CDC	27				18	7	2													0%	100%		100%	21/02/2021	
Somalia	NPL Kenya / CDC	47			1	14	11	21													7%	13%		100%	28/02/2021	
Sudan	NPL Sudan / RRL Egypt	89			10	58	19	2													13%	100%			25/02/2021	
Syria	NPL Syria / RRL Egypt	33				20	13														0%	100%			27/02/2021	
Tunisia	RRL Tunisia	3				3															0%	100%		100%	15/02/2021	
U.A.E	NPL Oman / CDC																								22/02/2021	
Yemen	NPL Kenya / CDC	2					2																		27/02/2021	
Total EMR 2021		2246	195	22	196	1197	300	324	2	52			73	8		55				80	10%	99%	100%	100%		
Total EMR 2020		20292	1669	90	3027	15442	36	16	129	344	19		503	464		451	2	14	18	11	6	14%	94%	97%	93%	

* 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	2021
AFG	Wild	2	42	83	56	28	
	Wild+cVDPV2					7	
	cVDPV2					167	9
	aVDPV2					2	
	Negative	6	9	5	3	3	
	Pending						46
	Enterovirus	125	170	177	138	111	5
SL1/3	36	94	71	60	31	2	
SL2	16	1		2	64	10	
AFG Total		185	316	356	259	413	72
EGY	cVDPV2						6
	aVDPV2					1	
	Negative	34	41	32	34	41	3
	Pending						22
	aVDPV3					1	
	aVDPV1					1	
	VDPV3					1	
	Enterovirus	354	322	321	397	288	35
	SL1/3	79	159	187	269	212	18
	SL2	60	1				
EGY Total		528	522	540	700	545	84
IRN	Wild				3		
	cVDPV2					3	
	Negative		1	3			
	Pending						3
	Enterovirus		1	29	55	23	5
	SL1/3		4	22	10	16	2
IRN Total			6	54	71	43	10
JOR	Negative						1
	Pending						1
	Enterovirus	1	13	27	24	9	2
SL1/3	1	16	16	12	14	1	
JOR Total		2	31	36	36	25	4
KUW	(blank)						1
	Enterovirus			2	9		
	SL1/3			1	4		
KUW Total			3	14			
LEB	Negative	2	1	1		2	
	Enterovirus	2	12	24	15	16	1
	SL1/3		14	20	29	13	1
LEB Total		4	27	45	47	31	2
PAK	Wild	59	105	139	169	337	25
	Wild+cVDPV2					91	4
	cVDPV2	1	1		2	6	3
	aVDPV2	2	4		29	44	5
	Negative	3	4			16	1
	Pending	6		3	4	6	
	Enterovirus	300	392	404	308	135	53
	SL1/3	77	106	127	90	49	14
	SL2	79	25		22	146	20
	PAK Total	529	633	673	632	630	127
	SOM	cVDPV2		2	18	5	26
cVDPV3				1			
aVDPV2				2	1		
cVDPV2+cVDPV3			14	138	29	32	1
Negative							6
Pending							1
Enterovirus			16	25	22	10	1
SL1/3		2	8	6	4		
SL2		2	10		5		
SOM Total		36	213	63	63	8	
SUD	Negative					14	
	Pending					2	
	Enterovirus			15	51	32	5
	SL1/3				5		2
	SL2					2	2
SUD Total			15	60	50	9	
SYR	Negative			21	30	17	
	Pending						9
	Enterovirus		4	72	111	152	19
	SL1/3			6	44	36	3
	SL2			3			
SYR Total			4	102	185	31	
TOTAL		1248	1575	2017	2267	2223	347

Table 7: Environmental Wild/VPV isolate by site 2020-2021

YEAR	COUNTRY	LAB RESULTS	PROVINCE	Count	First date	Last date	
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	9	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	4	25/Jun/20	6/Dec/20	
			NANGARHAR	2	8/Jan/20	25/Jul/20	
		cVDPV2	HILMAND	34	27/May/20	27/Dec/20	
			HIRAT	3	26/Sep/20	26/Dec/20	
			KABUL	19	26/Apr/20	5/Nov/20	
			KANDAHAR	35	9/Jul/20	27/Dec/20	
			KHOST	6	24/Jun/20	23/Nov/20	
			KUNAR	5	6/Jun/20	7/Nov/20	
			KUNDUZ	2	23/Aug/20	24/Oct/20	
			LAGHMAN	4	24/Jul/20	6/Oct/20	
			NANGARHAR	58	7/Jan/20	23/Dec/20	
			PAKTIA	1	26/Jul/20	26/Jul/20	
		aVDPV2	HILMAND	1	27/Sep/20	27/Sep/20	
			KABUL	1	26/Dec/20	26/Dec/20	
			AFG Total	204	1/Jan/20	27/Dec/20	
		EGY	aVDPV2	GIZA	1	21/Sep/20	21/Sep/20
				EGY Total	1	21/Sep/20	21/Sep/20
		IRN	cVDPV2	S & B	3	3/Oct/20	25/Dec/20
				IRN Total	3	3/Oct/20	25/Dec/20
	PAK	Wild	AJK	1	25/Feb/20	25/Feb/20	
			BALUCHISTAN	71	1/Jan/20	21/Sep/20	
			GBALISTAN	1	12/May/20	12/May/20	
			ISLAMABAD	5	16/Jan/20	10/Nov/20	
			KPAKHTUNKHWA	23	28/Jan/20	18/Dec/20	
			PUNJAB	122	4/Jan/20	28/Dec/20	
SINDH			114	3/Jan/20	8/Dec/20		
Wild+cVDPV2			BALUCHISTAN	27	1/Feb/20	21/Dec/20	
			KPAKHTUNKHWA	1	11/Mar/20	11/Mar/20	
			PUNJAB	14	4/Jan/20	12/Oct/20	
cVDPV2			SINDH	49	3/Jan/20	10/Dec/20	
			BALUCHISTAN	15	2/Jun/20	28/Dec/20	
			KPAKHTUNKHWA	5	10/Jan/20	15/Oct/20	
			PUNJAB	3	16/Jan/20	18/Dec/20	
aVDPV2		SINDH	21	8/Jun/20	10/Dec/20		
		BALUCHISTAN	3	17/Sep/20	17/Nov/20		
		KPAKHTUNKHWA	6	10/Apr/20	2/Dec/20		
PAK Total		PUNJAB	5	4/May/20	30/Dec/20		
		SINDH	2	13/Oct/20	3/Nov/20		
		PAK Total	488	1/Jan/20	30/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				
SUD	cVDPV2	KHARTOUM	14	29/Mar/20	9/Nov/20		
		SUD Total	14	29/Mar/20	9/Nov/20		
2020 Total				736	1/Jan/20	30/Dec/20	
2021	AFG	cVDPV2	HILMAND	4	4/Jan/21	5/Jan/21	
			KANDAHAR	4	5/Jan/21	5/Jan/21	
			NANGARHAR	1	5/Jan/21	5/Jan/21	
	AFG Total	9	4/Jan/21	5/Jan/21			
	EGY	cVDPV2	ALEXANDRIA	1	10/Jan/21	10/Jan/21	
			ASWAN	2	20/Jan/21	9/Feb/21	
			BENI SUEF	1	27/Jan/21	27/Jan/21	
			KAFR EL-SHEIKH	1	27/Jan/21	27/Jan/21	
			QENA	1	23/Jan/21	23/Jan/21	
	EGY Total	6	10/Jan/21	9/Feb/21			
	PAK	Wild	BALUCHISTAN	7	17/Jan/21	15/Feb/21	
			ISLAMABAD	2	11/Jan/21	10/Feb/21	
			KPAKHTUNKHWA	4	11/Jan/21	10/Feb/21	
			PUNJAB	7	4/Jan/21	12/Feb/21	
			SINDH	5	4/Jan/21	4/Feb/21	
Wild+cVDPV2			BALUCHISTAN	2	2/Jan/21	15/Jan/21	
cVDPV2		PUNJAB	2	11/Jan/21	18/Jan/21		
		BALUCHISTAN	2	1/Jan/21	14/Jan/21		
		KPAKHTUNKHWA	1	16/Jan/21	16/Jan/21		
aVDPV2		SINDH	2	12/Jan/21	13/Jan/21		
		SINDH	1	12/Jan/21	12/Jan/21		
		PAK Total	35	1/Jan/21	15/Feb/21		
2021 Total				50	1/Jan/21	15/Feb/21	

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2021 - 28/02/2021

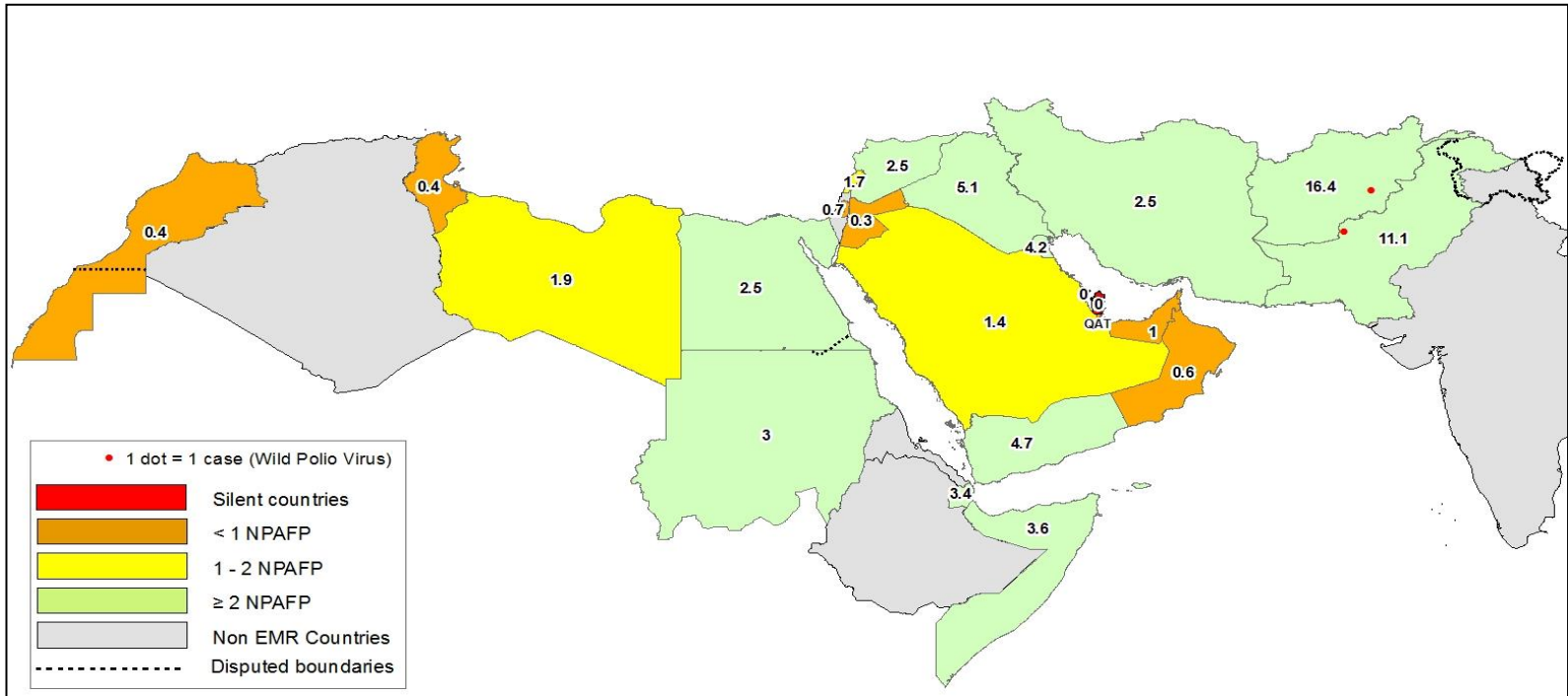


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2021 - 28/02/2021

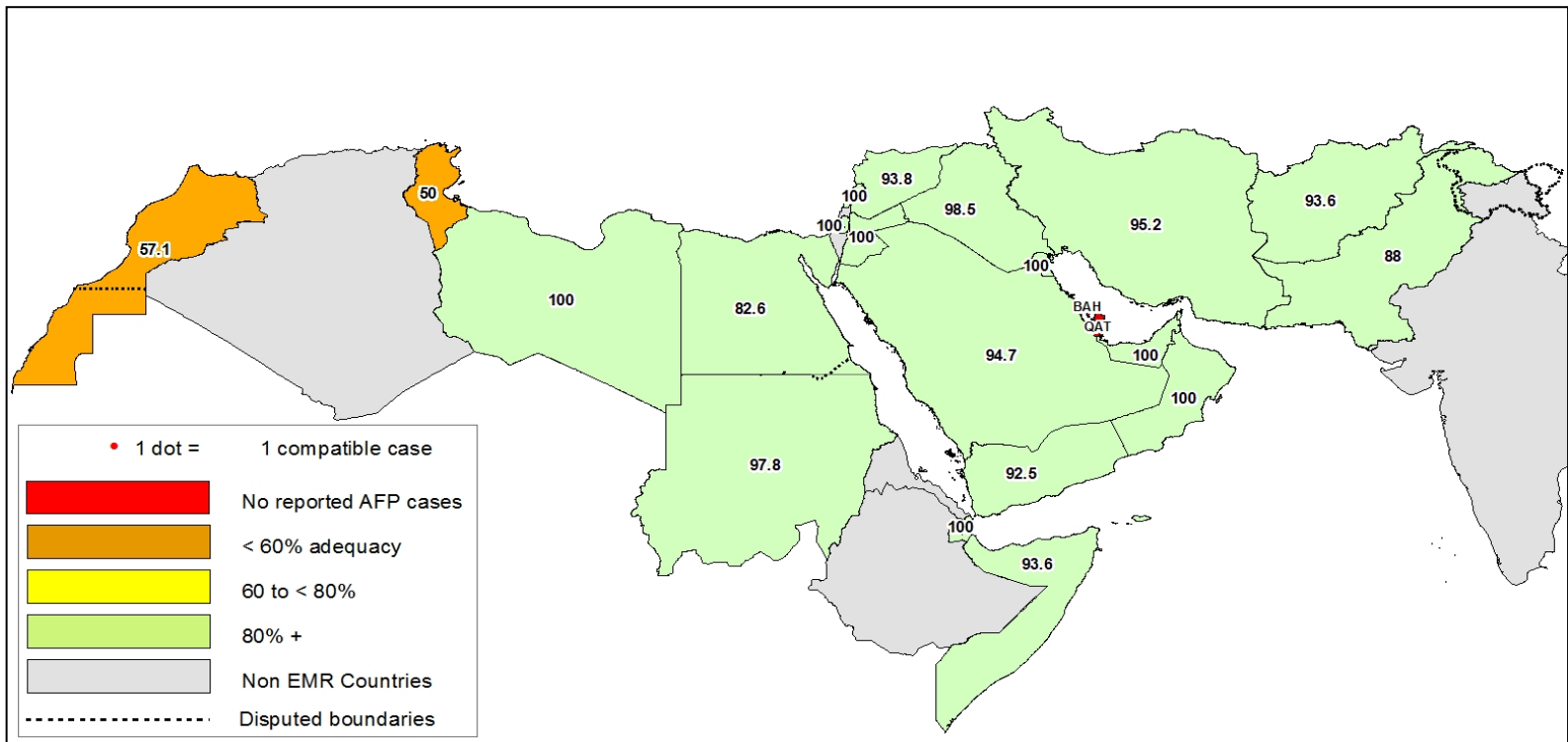


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2020 - 2021

Year	COUNTRY	Count	First Case	Last Case
2020	AFG	56	4-Jan-20	19-Oct-20
	PAK	84	1-Jan-20	23-Nov-20
2020 Total		140	1-Jan-20	23-Nov-20
2021	AFG	1	1-Jan-21	1-Jan-21
	PAK	1	27-Jan-21	27-Jan-21
2021 Total		2	1-Jan-21	27-Jan-21

Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2021 - 28/02/2021

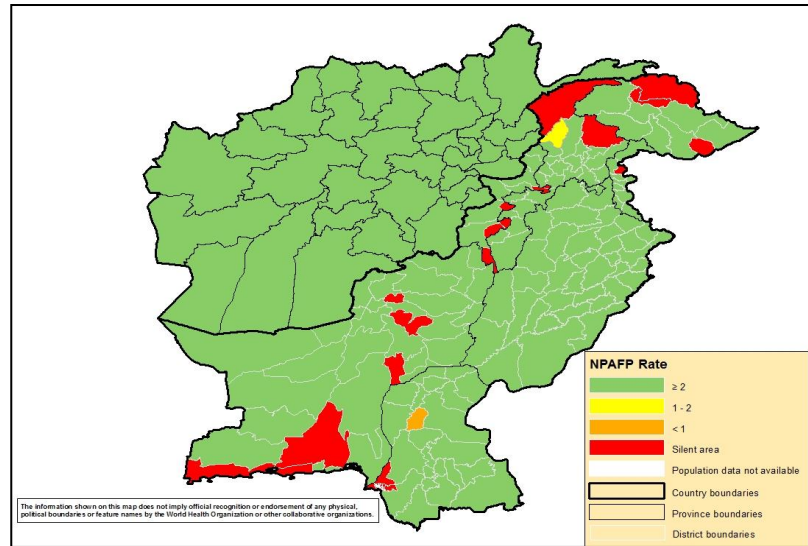


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2021 - 28/02/2021

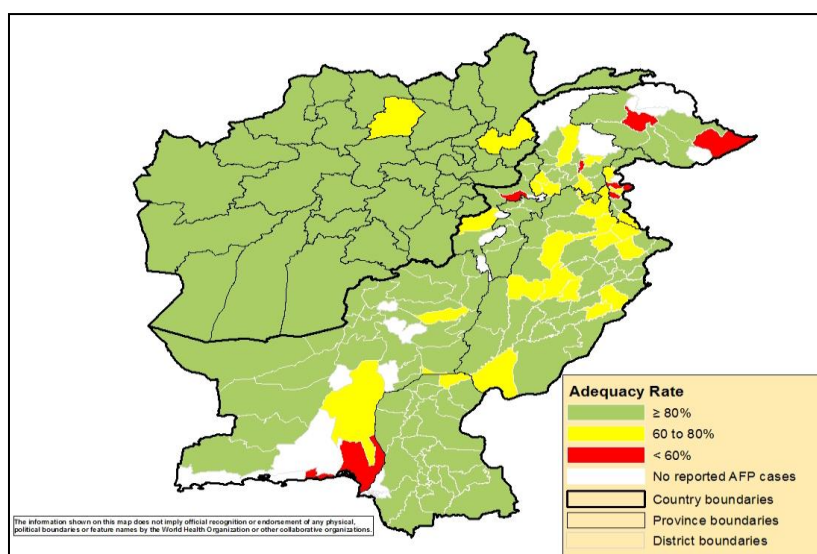
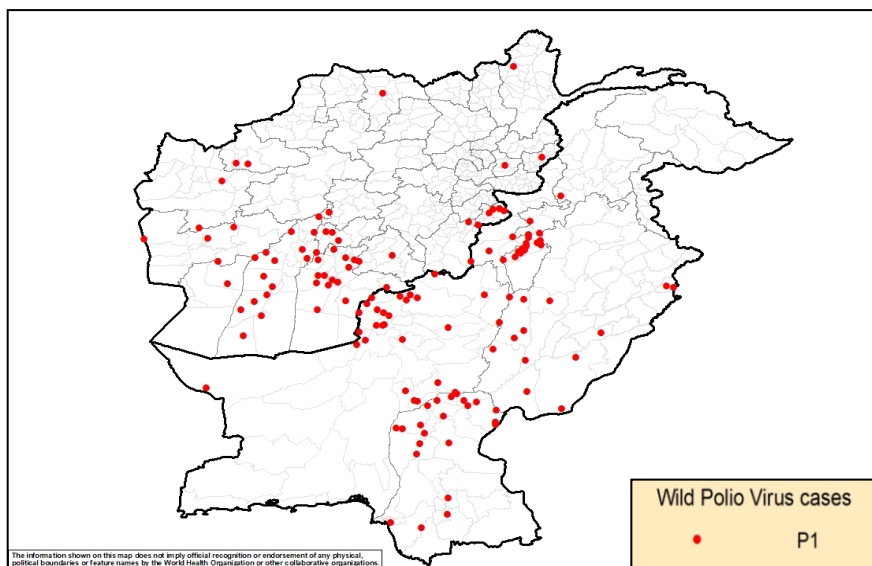
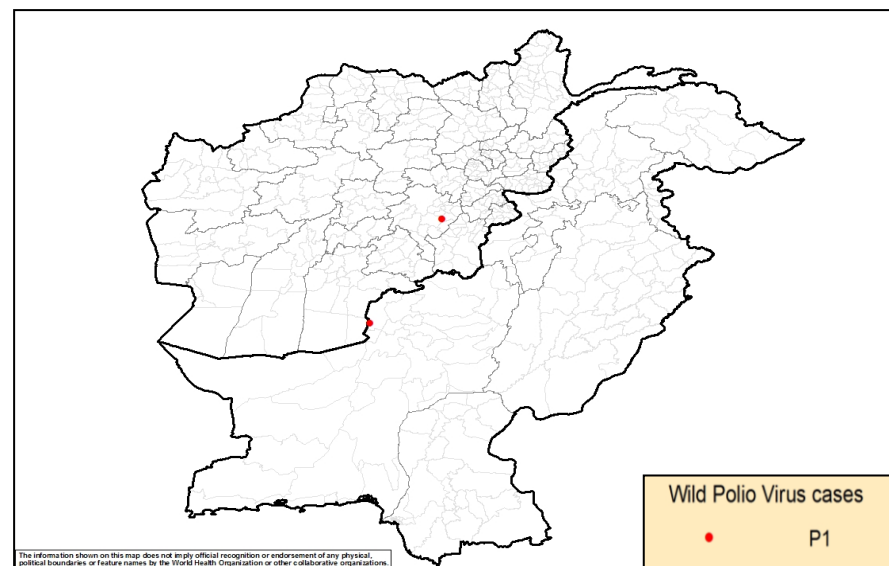


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

5(a) 01/01/2020 - 31/12/2020



5(b) 01/01/2021 - 28/02/2021



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Table 9: Wild Polio cases by district and date of onset of paralysis, Afghanistan 2020-2021

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	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
2021	GAZNI	ANDAR	1	1-Jan-21	1-Jan-21
2021 Total			1	1-Jan-21	1-Jan-21

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Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2020-2021

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	KABDULAH	3	11-May-20	23-Nov-20
		QUETTA	5	17-Jul-20	5-Nov-20
		MASTUNG	1	15-Oct-20	15-Oct-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
	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			84	1-Jan-20
2021	BALOCHISTAN	KABDULAH	1	27-Jan-21	27-Jan-21
2021 Total			1	27-Jan-21	27-Jan-21

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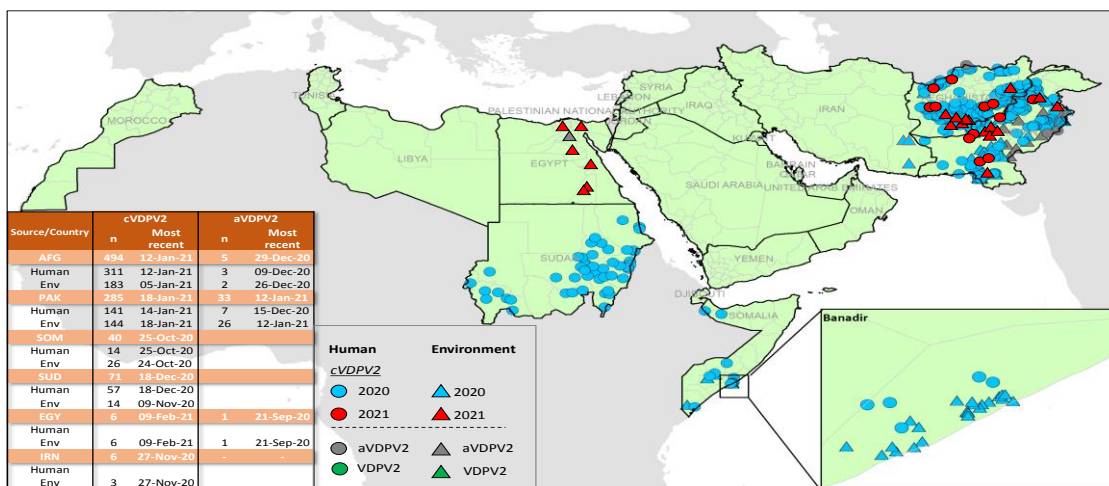
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Table 11: Circulating VDPV2 cases and date of onset of paralysis in EMR countries by provinces 2020-2021

YEAR	COUNTRY	PROVINCE	Count	First Case	Last Case	
2021	AFG	FARAH	2	1-Jan-21	2-Jan-21	
		BADGHIS	2	12-Jan-21	12-Jan-21	
		GHAZNI	1	8-Jan-21	8-Jan-21	
		ZABUL	1	7-Jan-21	7-Jan-21	
	PAK	KHYBER PAKHTUNKHWA	1	14-Jan-21	14-Jan-21	
		PUNJAB	1	7-Jan-21	7-Jan-21	
		SINDH	2	5-Jan-21	7-Jan-21	
	BALUCHISTAN	2	2-Jan-21	3-Jan-21		
Total 2021			12	1-Jan-21	14-Jan-21	
2020	SOM	LOWER JUBA	1	29-Aug-20	29-Aug-20	
		AWDAL	1	1-Aug-20	1-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	3	7-Mar-20	18-Dec-20	
		NORTH DARFUR	1	26-Nov-20	26-Nov-20	
		EAST DARFUR	3	12-May-20	24-Jul-20	
		KHARTOUM	4	15-Jul-20	16-Nov-20	
		KASSALA	11	28-Jul-20	6-Nov-20	
		GEZIRA	5	9-Jul-20	19-Sep-20	
		RIVER NILE	5	29-Jun-20	27-Sep-20	
		RED SEA	8	29-Apr-20	29-Nov-20	
		WEST DARFUR	1	19-May-20	19-May-20	
		BLUE NILE	4	7-Aug-20	26-Nov-20	
		SOUTH KORDOFAN	2	20-Nov-20	25-Nov-20	
		NORTH KORDOFAN	3	29-Aug-20	2-Dec-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	17	1-Jun-20	27-Dec-20	
		BALKH	2	29-Oct-20	3-Nov-20	
		BADGHIS	10	1-Nov-20	27-Dec-20	
		FARYAB	1	18-Oct-20	18-Oct-20	
		SAMANGAN	1	1-Nov-20	1-Nov-20	
		HIRAT	2	10-Aug-20	15-Aug-20	
		LOGAR	4	20-Aug-20	18-Nov-20	
		KANDAHAR	73	4-Aug-20	30-Dec-20	
		HILMAND	40	1-Aug-20	24-Dec-20	
		JAWZIAN	3	4-Aug-20	21-Nov-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	17	5-Jul-20	19-Oct-20	
		PAKTYA	5	18-Jun-20	25-Oct-20	
		KUNDUZ	3	28-Aug-20	3-Oct-20	
		PAKTIKA	5	25-Aug-20	7-Oct-20	
		GHAZNI	7	29-Aug-20	26-Dec-20	
		BADAKHSHAN	1	23-Apr-20	23-Apr-20	
		LAGHMAN	14	20-May-20	23-Sep-20	
		TAKHAR	1	20-Sep-20	20-Sep-20	
		ZABUL	12	17-Sep-20	15-Nov-20	
		GHOR	1	14-Nov-20	14-Nov-20	
		URUZGAN	14	28-Aug-20	18-Dec-20	
		PARWAN	1	4-Sep-20	4-Sep-20	
		WARDAK	5	6-Sep-20	22-11-20	
		KUNAR	9	6-Apr-20	29-Sep-20	
		NANGARHAR	45	5-Feb-20	21-Sep-20	
		PAK	SINDH	45	2-May-20	28-Nov-20
BALUCHISTAN			23	29-Feb-20	24-Dec-20	
PUNJAB			25	5-Feb-20	5-Nov-20	
KHYBER PAKHTUNKHWA			42	2-Jan-20	24-May-20	
Total 2020			511	2-Jan-20	30-Dec-20	

VDPV2 isolates, EMR countries, 2020-2021



vVDPV3, AFP Case reported 1 Libya, 1 Afghanistan & 1 ENV Egypt/ **aVDPV1**, AFP Cases reported 1 Somalia & 1 ENV Egypt/ 29 **cVDPV1**, AFP cases from Yemen/ 1 **VDPV3**, ENV in Egypt