

Highlights of Polio Fax Bulletin No. 1173 for Week 12 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. Five new cVDPV2 cases in 2021 from Afghanistan were reported this week and three new positive environmental samples collected in 2021 (2 from Afghanistan and 1 from Pakistan) were reported.

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 12 of 2021, two WPV1 cases were reported [53 in the same period in 2020; Afghanistan – 12, Pakistan - 41].

- a. *Human samples*: No new wild poliovirus cases reported this week, but three positive environmental samples all 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*: Three new WPV1 positive environmental samples all from Pakistan in 2021 reported this week.
 - **Afghanistan**: In 2021 to date, there is **1** WPV1 combined with cVDPV2 positive environmental sample reported with collection date on **23 February 2021**. 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 **46** WPV1 positive environmental samples (including 13 mixture of WPV1 and cVDPV2 and 4 mixture of WPV1 and aVDPV2) with most recent sample collected on **10 March 2021**. In 2020, there are **434** 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)**: Five new cVDPV2 cases from Afghanistan in 2021 reported this week in addition to three new cVDPV2 positive environmental samples were collected in 2021 (2 from Afghanistan and 1 from Pakistan).

In 2021, 29 cVDPV2 cases were reported (Afghanistan 23 and Pakistan 6). In 2020, a total of 29 cVDPV1 cases reported from Yemen and a total number of 515 cVDPV2 cases (308 from Afghanistan, 135 from Pakistan, 14 from Somalia and 58 from Sudan).

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

Afghanistan: Five new cVDPV2 cases and two positive environmental samples all in 2021 were reported this week. The newly five cVDPV2 cases reported from: 2 each from Central Region (Logar and Wardak provinces) and from West Region (Farah and Hirat provinces) and one from South Region (Zabul province). The dates of onset of the cases vary between 19 February to 3 March 2021.

In 2021 to date, there are **23 cVDPV2** cases: Nine from West Region, six from South Region, five from South East Region, two from Central Region and one from North Region. **The most recent case had onset on 3 March 2021.**

In 2020, there are **308 cVDPV2** cases; 145 from South Region, 70 reported from East Region, 34 from Southeast Region, 30 from West Region, 17 from Central Region, seven from North Region, four from Northeast Region and one from Badakhshan Region. **The most recent case had onset on 30 December 2020.**

Environment: In 2021 to date, there are **26** cVDPV2 positive environmental samples including 1 mixture of WPV1 and cVDPV2 reported with **most recent sample collected on 24 February 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: In 2021, **nine** cVDPV2 positive samples collected two each from Aswan, Qena and Alexandria province and one each from Beni Suef, Kafr El Sheikh and Giza 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 cVDPV2 positive environmental sample is 25 February 2021**.

Pakistan: No new VDPV cases, but one new cVDPV2 positive environmental sample in 2021 was reported this week. In 2021, there is **six** cVDPV2 cases reported two each from Sindh and Balochistan provinces and one 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 **23** cVDPV2 positive samples including 11 mixture of WPV1 and cVDPV2 with **most recent sample collected on 10 March 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 this week.

In 2020 to date, **14** cVDPV2 cases reported, seven from Banadir province, two from Bay and one 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 this week.

In 2020 to date, **58** 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 1.4 and their percentage of AFP cases with adequate stool specimens is 70.9%, and 59.0%, 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 (12/21) / Ending on : 28/03/2021														
	Total AFP 2019	Total AFP 2020	Total AFP to date, 2021	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	W09 7 Mar 21	W10 14 Mar 21	W11 21 Mar 21	W12 28 Mar 21
Afghanistan	3768	3972	890	90	90	65	61	84	81	84	69	95	74	46	10
Bahrain	17	15	1	0	0	0	0	0	0	0	0	0	1	0	
Djibouti	5	5	3	0	0	2	0	0	0	0	1	0	0	0	0
Egypt	1343	1009	312	12	14	29	21	27	25	15	24	38	49	43	6
Iran	1070	618	140	11	13	12	19	17	27	15	5	7	0	0	0
Iraq	1157	476	179	16	24	28	18	16	14	15	11	14	12	3	
Jordan ****	113	32	2	1	0	0	1	0	0	0	0				
Kuwait	48	36	8	3	0	1	2	1	0	0	0	0	0	1	
Lebanon ****	87	49	6	1	0	1	0	0	2	0	0	0	0	1	
Libya	107	95	12	0	1	1	1	1	1	3	0	0	2	1	
Morocco	247	87	11	0	0	2	0	1	2	2	0	1	2	1	
Oman	30	22	1	0	0	1	0	0	0	0	0	0	0	0	0
Pakistan	15218	11960	2307	262	226	224	211	217	242	244	228	204	124	32	1
Palestine ****	62	16	3	0	1	0	0	1	0	0	0	0	0	0	0
Qatar	9	9	1	0	0	0	0	0	0	0	0	0	1	0	0
Saudi Arabia	236	200	39	6	7	2	6	1	9	2	1	2	1	0	0
Somalia	361	376	73	4	3	12	11	9	9	7	7	6	2	2	0
Sudan	608	733	143	17	10	16	12	16	9	9	16	10	15	3	
Syria ****	377	343	73	3	6	3	7	7	5	7	10	11	10	4	
Tunisia	79	39	4	1	0	0	0	0	0	0	0	0	1		
U.A.E	50	19	3	1	1	0	0	0	0	0	0	1	0	0	
Yemen	779	825	187	15	14	13	23	22	13	17	19	14	23	6	1
Total EMR	25771	20936	4398	443	410	412	393	420	439	420	391	403	317	143	18

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2019	Total year 2020	28/03		Confirmed polio cases by month of onset											
			2020	2021	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	January 2021	February 2021	March 2021
Afghanistan	29	56	12	1	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	41	1	6	6	6	6	5	7	4	2	0	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	53	2	6	18	16	13	11	13	7	2	0	2	0	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 (12/21) / Ending on : 28/03/2021)

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	Wild P1 Poliovirus	Wild P3 Poliovirus					
		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	3972	56	2	8	3594	314	18.5	8	0	92.6	56	0	890	1	0	218	648	23	17.3	0	0	93.6	1	0	28/03/2021				
Bahrain	15	0	0	0	15	0	5.0	0	0	93.3	0	0	1	0	0	1	0	0	1.4	0	0	100.0	0	0	21/03/2021				
Djibouti	5	0	0	0	5	0	1.4	0	0	100.0	0	0	3	0	0	3	0	0	3.3	0	0	66.7	0	0	28/03/2021				
Egypt	1009	0	0	0	1009	0	2.6	0	0	94.6	0	0	312	0	0	155	157	0	3.3	0	0	81.1	0	0	25/03/2021				
Iran	618	0	0	0	618	0	3.0	0	0	98.5	0	0	140	0	0	19	121	0	2.9	0	0	95.0	0	0	28/03/2021				
Iraq	476	0	0	0	476	0	2.9	0	0	93.3	0	0	179	0	0	26	153	0	4.6	0	0	96.6	0	0	26/03/2021				
Jordan	32	0	0	0	32	0	0.8	0	0	96.9	0	0	2	0	0	0	2	0	0.2	0	0	100.0	0	0	28/02/2021				
Kuwait	36	0	0	0	36	0	4.1	0	0	91.7	0	0	8	0	0	4	4	0	3.3	0	0	75.0	0	0	21/03/2021				
Lebanon	49	0	0	3	46	0	2.6	3	0	89.8	0	0	6	0	0	5	1	0	1.4	0	0	100.0	0	0	19/03/2021				
Libya	95	0	0	0	94	1	3.6	0	0	100.0	0	0	12	0	0	8	4	0	1.9	0	0	100.0	0	0	27/03/2021				
Morocco	87	0	0	3	84	0	0.9	3	0	78.2	0	0	11	0	0	11	0	0	0.4	0	0	36.4	0	0	26/03/2020				
Oman	22	0	0	0	22	0	1.9	0	0	100.0	0	0	1	0	0	0	1	0	0.3	0	0	100.0	0	0	28/03/2021				
Pakistan	11960	84	21	67	11648	142	15.2	64	1	85.5	84	0	2307	1	0	491	1804	11	12.4	0	0	86.6	1	0	28/03/2021				
Palestine	16	0	0	0	16	0	0.9	0	0	100.0	0	0	3	0	0	3	0	0	0.7	0	0	100.0	0	0	28/03/2021				
Qatar	9	0	0	0	9	0	2.1	0	0	33.3	0	0	1	0	0	1	0	0	0.9	0	0	100.0	0	0	28/03/2021				
Saudi Arabia	200	0	0	0	200	0	2.4	0	0	96.0	0	0	39	0	0	31	8	0	2.0	0	0	94.9	0	0	28/03/2021				
Somalia	376	0	0	5	356	15	4.7	5	1	94.7	0	0	73	0	0	25	48	0	3.7	0	0	95.9	0	0	28/03/2021				
Sudan	733	0	0	0	675	58	3.8	0	0	92.9	0	0	143	0	0	49	94	0	3.1	0	0	97.9	0	0	25/03/2021				
Syria	343	0	0	0	343	0	4.3	0	0	91.0	0	0	73	0	0	33	40	0	4.0	0	0	94.5	0	0	21/03/2021				
Tunisia	39	0	0	0	39	0	1.4	0	0	59.0	0	0	4	0	0	1	3	0	0.6	0	0	75.0	0	0	19/03/2021				
U.A.E	19	0	0	0	19	0	1.5	0	0	100.0	0	0	3	0	0	3	0	0	1.0	0	0	100.0	0	0	23/03/2021				
Yemen	825	0	1	20	775	29	5.4	18	6	88.7	0	0	187	0	0	156	31	0	5.1	0	0	90.9	0	0	27/03/2021				
EMR	20936	140	24	106	20111	559	8.0	101	8	88.6	140	0	4398	2	0	1243	3119	34	7.0	0	0	89.2	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	392	0	8	36	41	56
BAH	1	0	0	0	0	0	0	0	0	0	0	0
DJI	2	0	0	0	0	0	1	0	0	0	0	1
EGY	330	0	0	12	32	1	135	0	0	4	12	40
IRN	46	0	0	0	0	0	4	0	0	0	0	0
IRQ	168	0	0	4	10	0	49	0	0	3	6	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	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	4654	21	19	379	788	1	1072	0	2	96	108	118
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	5	0	0	0	0	5
SOM	1108	0	10	19	149	24	222	0	0	0	11	80
SUD	364	0	18	2	8	242	32	0	0	0	0	22
SYR	280	0	0	11	15	0	8	0	0	0	0	5
TUN	6	0	0	0	0	1	1	0	0	0	0	0
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	230	0	0	5	37	27	69	0	0	1	2	65
EMR	8555	35	126	486	1317	307	1995	0	10	140	180	397

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	SINDH	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 (12/2021) / Ending on : (28/03/2021)

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	877	105	10	74	513	96	6	1	23			51	23		30				8	9%	100%	99%	99%	28/03/2021	
Bahrain	NPL Oman / CDC																								24/03/2021	
Djibouti	NPL Kenya / CDC	3					1	2																	28/03/2021	
Egypt***	RRL Egypt	285	14		20	150	96	5	1			13									8%	100%	100%	100%	25/03/2021	
Iran	NPL Iran / CDC	152	6		3	134	9					6									1%	99%	100%	100%	27/03/2021	
Iraq	RRL Egypt	181			8	152	21														6%	100%		98%	26/03/2021	
Jordan	NPL Jordan / RRL EGYPT	2			1	1															50%	100%		100%	28/03/2021	
Kuwait	RRL Kuwait / RIVM	8				7	1														0%	100%		100%	25/03/2021	
Lebanon	NPL Jordan / RRL EGYPT	3				3															0%	100%			28/03/2021	
Libya	RRL Tunisia / RIVM	1						1																	15/02/2021	
Morocco	NPL Morocco / RRL Tunisia	5				5															0%	100%		100%	26/03/2021	
Oman	NPL Oman / CDC	1				1															0%	100%		100%	24/03/2021	
Pakistan	RRL Pakistan	2256	179	16	272	1566	201	20	1	54			115	9		50				8	10%	100%	100%	99%	28/03/2021	
Palestine & UNRWA		3				3															0%	0%		100%	28/03/2021	
Qatar	NPL Oman / CDC																								24/03/2021	
Saudi Arabia	NPL Saudi Arabia / CDC	40				36	4	1													0%	97%		100%	28/03/2021	
Somalia	NPL Kenya / CDC	73			4	44	4	21													8%	9%		98%	28/03/2021	
Sudan	NPL Sudan / RRL Egypt	123			14	93	7	9													12%	100%			18/03/2021	
Syria	NPL Syria / RRL Egypt	67			1	43	15	8													1%	100%		0%	20/03/2021	
Tunisia	RRL Tunisia	3				3															0%	100%		100%	15/02/2021	
U.A.E	NPL Oman / CDC																								24/03/2021	
Yemen	NPL Kenya / CDC	33	3		6	24									2						19%	100%	100%	3%	27/03/2021	
Total EMR 2021		4116	307	26	403	2778	455	73	2	78			185	32		82				16	9%	99%	100%	98%		
Total EMR 2020		20386	1681	93	3046	15548		6	129	352	19		509	468		460	2	16	18	11	3	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	1
	Wild+cVDPV2					7	1
	cVDPV2					167	25
	aVDPV2					2	1
	Negative	6	9	5	3	3	
	Pending						29
	Entero	125	170	177	138	111	9
SL1/3	36	94	71	60	31	2	
SL2	16	1	2	2	64	45	
AFG Total		185	316	336	259	413	133
EGY	cVDPV2						9
	aVDPV2					1	
	Negative	34	41	32	34	41	9
	Pending						28
	aVDPV3					1	
	aVDPV1					1	
	VDPV3					1	
Entero	354	322	321	397	288	45	
SL1/3	79	159	187	269	212	36	
SL2	60					19	
EGY Total		528	522	540	700	545	146
IRN	Wild						
	cVDPV2					3	
	Negative		1	3	3		
	Entero	1	1	29	55	23	5
	SL1/3	4	4	22	10	16	2
	SL2					1	3
	IRN Total		5	2	54	71	43
JOR	Negative		2				1
	Pending						1
	Entero	1	13	27	24	9	2
SL1/3	1	16	9	12	14	5	
JOR Total		2	17	36	36	23	8
KUW	(blank)			2	1		
	Entero			1	9		
	SL1/3			1	4		
KUW Total			3	14			
LEB	Negative	2	1	1	3	2	
	Entero	2	12	24	15	16	1
	SL1/3	1	14	20	29	13	1
LEB Total		5	27	50	58	30	
PAK	Wild	59	105	189	367	337	29
	Wild+cVDPV2	2			10	91	13
	Wild+aVDPV2	1	1		2	46	4
	cVDPV2	2	4		29	44	10
	aVDPV2	3				16	5
	Negative	6		3	4	6	1
	Pending						42
	aVDPV1						1
	Entero	300	392	404	308	135	21
	SL1/3	77	106	127	90	49	2
SL2	79	25		22	146	66	
PAK Total		529	633	673	832	830	194
SOM	cVDPV2		2	18	5		
	cVDPV3			1			
	aVDPV2			2	1		
	cVDPV2+cVDPV3		14	138	1		
	Negative					34	5
	Pending					1	11
	Entero		16	25	22	11	3
SL1/3		2	8	2	6		
SL2		2	10		5		
SOM Total		36	213	63	63	83	19
SUD	cVDPV2					14	
	Negative				4	2	
	Pending						10
	Entero			15	51	32	2
SL1/3				5			
SL2					2	2	
SUD Total				15	60	50	14
SYR	Negative			21	30	17	1
	Pending						2
	Entero		4	72	111	152	31
	SL1/3			6	44	36	5
SL2			3				
SYR Total			4	102	185	205	39
TOTAL		1248	1575	2017	2267	2225	544

Table 7: Environmental Wild/DPV 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	
			HILMAND	1	6/Sep/20	6/Sep/20	
			KANDAHAR	4	25/Jun/20	6/Dec/20	
			NANGARHAR	2	8/Jan/20	25/Jul/20	
			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		
		PAKTYA	1	26/Jul/20	26/Jul/20		
		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		
BALUCHISTAN			27	1/Feb/20	21/Dec/20		
KPAKHTUNKHWA			1	11/Mar/20	11/Mar/20		
PUNJAB			14	4/Jan/20	12/Oct/20		
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			
SINDH		21	8/Jun/20	10/Dec/20			
BALUCHISTAN		3	17/Sep/20	17/Nov/20			
KPAKHTUNKHWA		6	10/Apr/20	2/Dec/20			
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	Wild+cVDPV2	HILMAND	1	23/Feb/21	23/Feb/21	
			HILMAND	10	4/Jan/21	23/Feb/21	
		cVDPV2	KANDAHAR	12	5/Jan/21	24/Feb/21	
			KUNDUZ	1	23/Feb/21	23/Feb/21	
			NANGARHAR	2	5/Jan/21	4/Feb/21	
		aVDPV2	KABUL	1	3/Feb/21	3/Feb/21	
		AFG Total			27	4/Jan/21	24/Feb/21
	EGY	cVDPV2	ALEXANDRIA	2	10/Jan/21	25/Feb/21	
			ASWAN	2	20/Jan/21	9/Feb/21	
			BENI SUEF	1	27/Jan/21	27/Jan/21	
			GIZA	1	31/Jan/21	31/Jan/21	
			KAFR EL-SHEIKH	1	27/Jan/21	27/Jan/21	
			QENA	2	23/Jan/21	23/Feb/21	
	EGY Total			9	10/Jan/21	25/Feb/21	
	PAK	Wild	BALUCHISTAN	6	20/Jan/21	28/Feb/21	
			ISLAMABAD	2	11/Jan/21	10/Feb/21	
			KPAKHTUNKHWA	5	18/Jan/21	10/Mar/21	
			PUNJAB	10	4/Jan/21	18/Feb/21	
			SINDH	6	4/Jan/21	5/Mar/21	
			BALUCHISTAN	9	2/Jan/21	2/Mar/21	
Wild+cVDPV2		KPAKHTUNKHWA	1	11/Jan/21	11/Jan/21		
		PUNJAB	2	11/Jan/21	18/Jan/21		
		SINDH	1	2/Mar/21	2/Mar/21		
cVDPV2		BALUCHISTAN	5	1/Jan/21	1/Mar/21		
		KPAKHTUNKHWA	2	16/Jan/21	2/Mar/21		
		SINDH	3	12/Jan/21	9/Feb/21		
aVDPV2	KPAKHTUNKHWA	1	1/Mar/21	1/Mar/21			
PUNJAB	1	1/Mar/21	1/Mar/21				
SINDH	3	12/Jan/21	2/Mar/21				
PAK Total			57	1/Jan/21	10/Mar/21		
2021 Total			93	1/Jan/21	10/Mar/21		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2021 - 28/03/2021

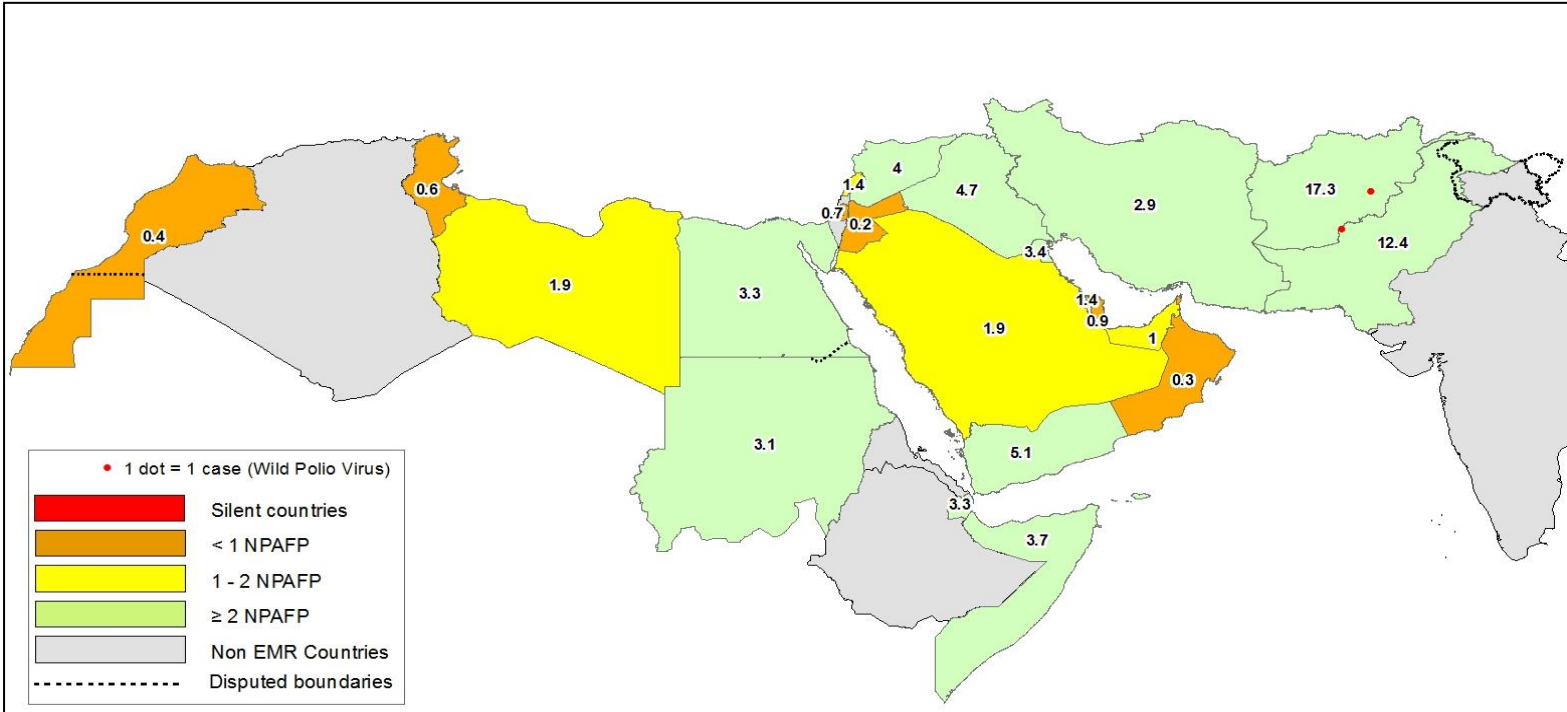


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2021 - 28/03/2021

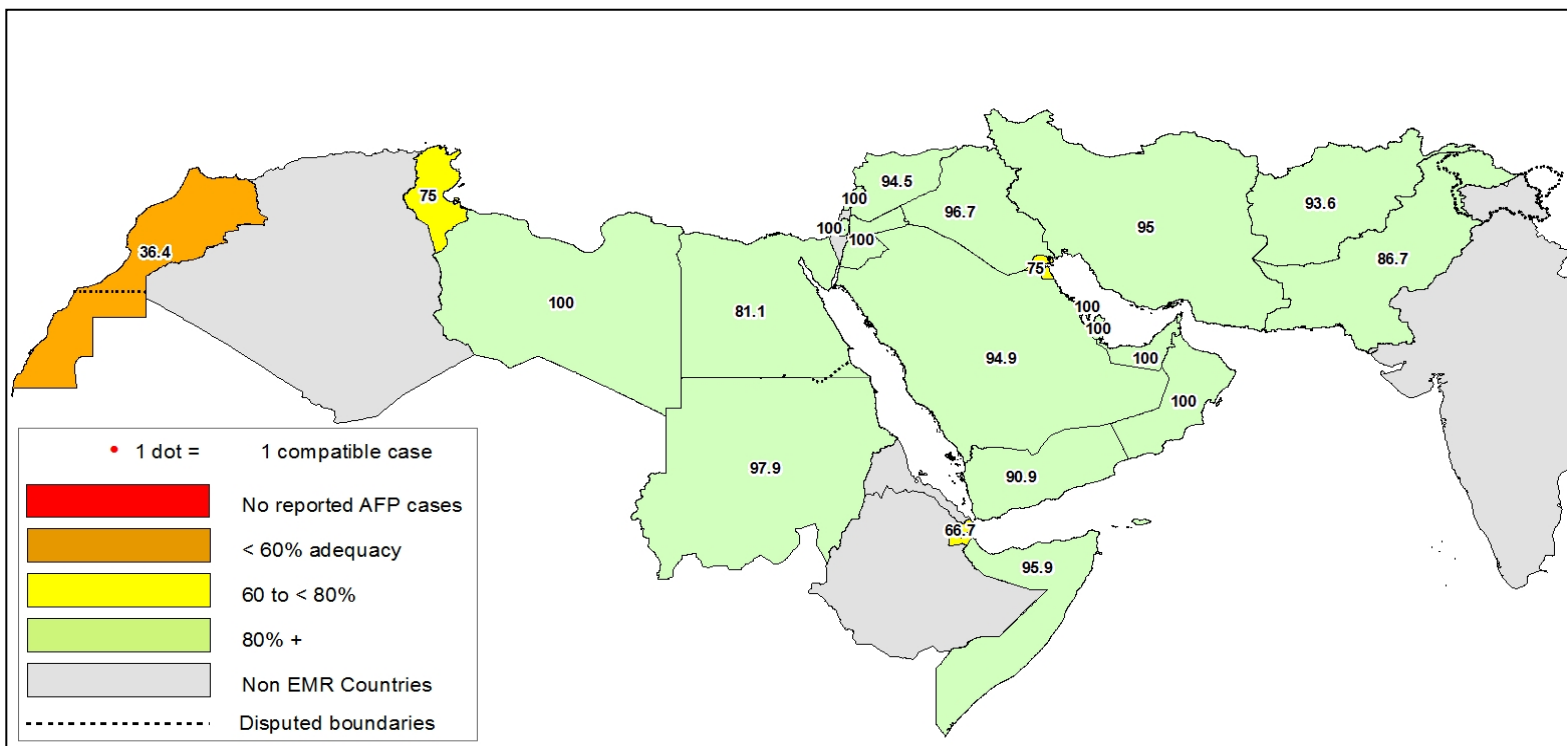


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2020 - 2021

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 - 28/03/2021

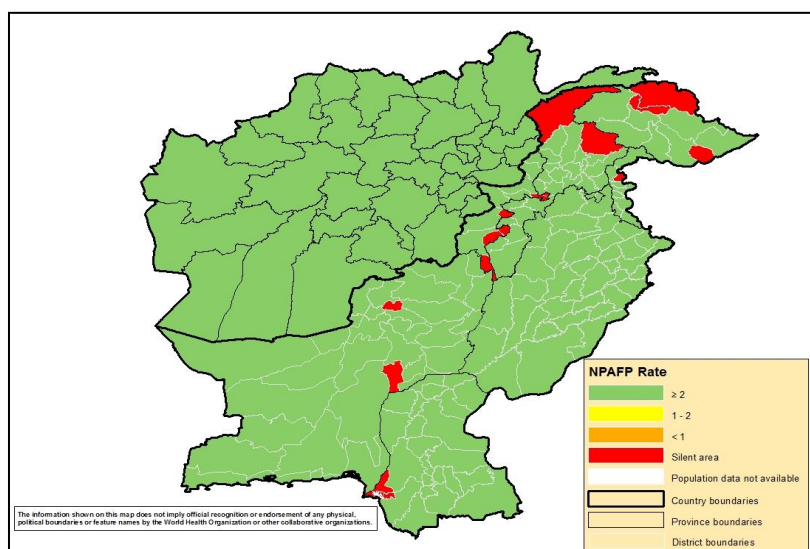


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2021 - 28/03/2021

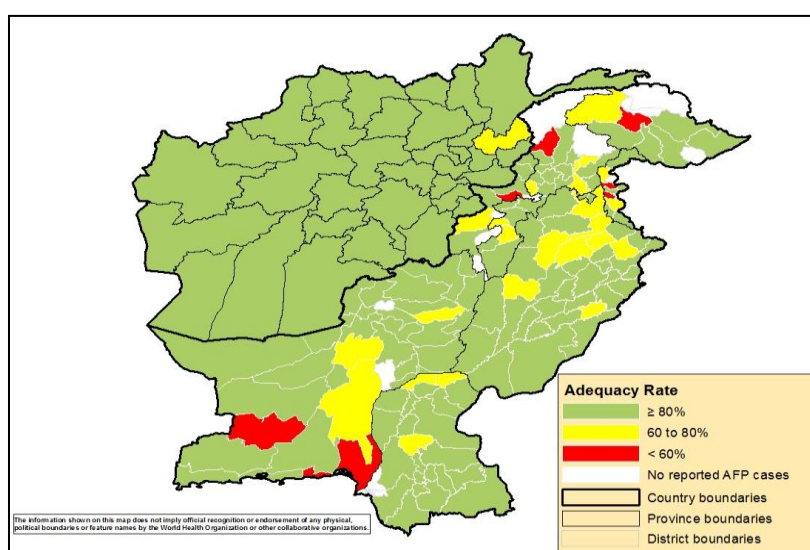
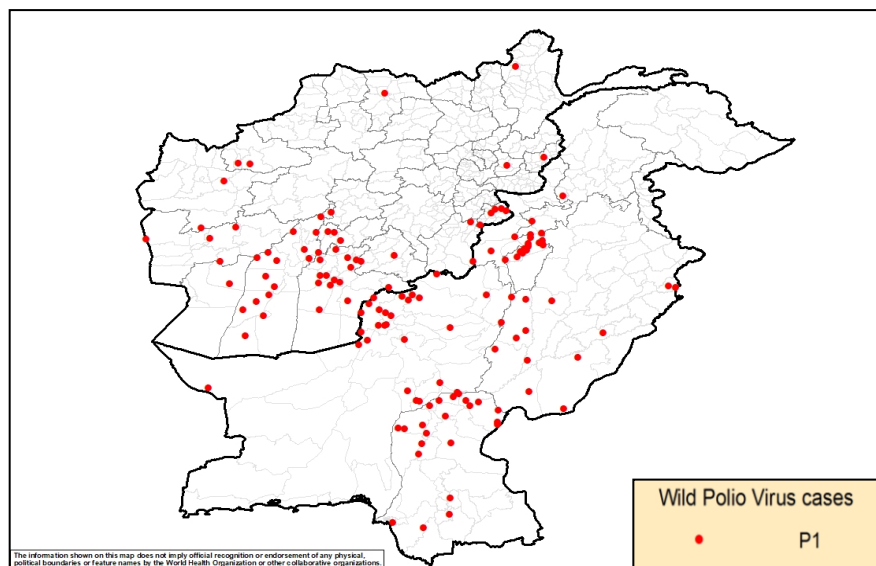
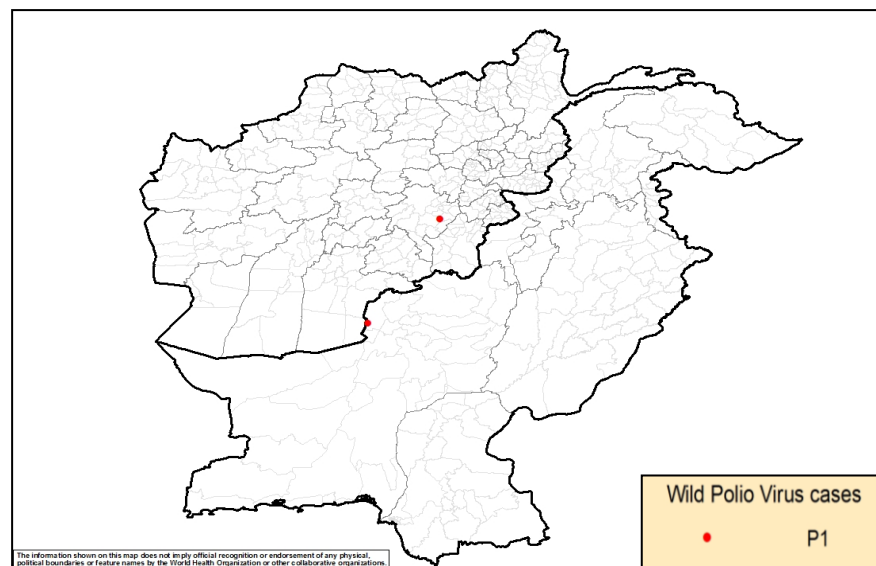


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2021 - 28/03/2021



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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	23-Nov-20
2021	BALOCHISTAN	KABDULAH	1	27-Jan-21	27-Jan-21
2021 Total			1	27-Jan-21	27-Jan-21

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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	4	1-Jan-21	24-Feb-21		
		LOGAR	1	19-Feb-21	19-Feb-21		
		KANDAHAR	1	16-Feb-21	16-Feb-21		
		WARDAK	1	3-Mar-21	3-Mar-21		
		HIRAT	1	20-Feb-21	20-Feb-21		
		BADGHIS	4	12-Jan-21	24-Jan-21		
		FARYAB	1	28-Jan-21	28-Jan-21		
		HILMAND	1	5-Jan-21	5-Jan-21		
		GHAZNI	5	8-Jan-21	7-Feb-21		
		ZABUL	4	7-Jan-21	22-Feb-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	
			BALOCHISTAN	2	2-Jan-21	3-Jan-21	
Total 2021			29	1-Jan-21	3-Mar-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	2	26-Nov-20	13-Dec-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	75	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	15	28-Aug-20	22-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	
			BALOCHISTAN	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		515	2-Jan-20	30-Dec-20

VDPV2 isolates, EMR countries, 2021

