

Highlights of Polio Fax Bulletin No. 1163 for Week 02 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 (WPV) cases reported, but 10 new WPV type-1 positive environmental samples reported this week from Pakistan (7 collected in 2020 and 3 in 2021) .
3. Circulating Vaccine Derived Poliovirus (cVDPV):
 - cVDPV1: No new cases reported this week.
 - cVDPV2: 15 new cVDPV2 cases with onset in in 2020 from Afghanistan reported this week.

Advance notification: four new cVDPV2 cases reported in 2020 from Sudan – details will be shared in next bulletin.

II. Wild Poliovirus Type-1 (WPV1) Transmission

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

As of week 02 2021, no new WPV1 cases were reported. This compares with two cases in 2020 in the same period.

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

Afghanistan: No new wild poliovirus cases reported this week.

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

Pakistan: No new wild poliovirus cases reported this week.

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

- b. *Environmental samples:* 10 new WPV1 positive environmental samples from Pakistan reported this week, seven collected in 2020 and three in 2021.

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

- **Pakistan:** In 2021, there are **3** WPV1 positive environmental samples with most recent sample collected on 4 January 2021.

In 2020, there are **434** WPV1 positive environmental samples including 79 mixture of WPV1 and cVDPV2 and 4 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 28 December 2020.

- III. **Vaccine Derived Polioviruses (VDPVs):** 15 new cVDPV2 cases reported in 2020 from Afghanistan. In 2020, a total number of 27 cVDPV1 cases reported from Yemen and a total number of 442 (255 from Afghanistan, 122 from Pakistan, 13 from Somalia and 52 from Sudan). This compares with 1 cVDPV1 case in Yemen and 25 cVDPV2 cases (22 from Pakistan and 3 from Somalia) in 2019 in the same period.

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

Afghanistan: 15 new cVDPV2 cases in 2020 reported this week and no new positive environmental samples reported.

The newly reported 15 cVDPV2 cases are: 11 from South Region (Hilmand – 5, Uruzgan – 3, Kandahar – 2 and Zabul – 1), 2 from North Region (Jawzjan province) and 1 each from Central Region (Logar province) and West Region (Farah province). Dates of onset of the cases vary between 19 September and 21 November 2020.

In 2020 to date, there are **255 cVDPV2 cases**; 115 from South Region, 70 reported from East Region, 28 from Southeast Region, 16 from Central Region, 15 from West Region, 6 from North Region and 4 from Northeast Region, 1 from Badakhshan Region. ***The most recent case has onset on 21 November 2020.***

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

Pakistan: No new cVDPV2 isolates from human or environmental samples reported this week.

In 2020, there are **122** cVDPV2 cases reported: 42 from KP province, 41 from Sindh province, 23 from Punjab province and 16 from Balochistan province, with **most recent case's onset on 9 November 2020**. In addition to 7 aVDPV2 cases, 6 from Punjab province and 1 from Sindh province, with most recent case's onset on 11 September 2020.

Environment: In 2020, there are **109** positive environmental samples for cVDPV2 so far (including 79 mixture of WPV1 and cVDPV2), the **most recent sample collected on 17 November 2020**. Also, there are 13 aVDPV2 isolates detected in the environment samples, which include four combined (WPV1 + aVDPV2). The most recent aVDPV2 positive environmental sample was collected on 3 November 2020.

SOMALIA: No new cVDPV2 isolates from human or environmental samples reported this week.

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

SUDAN: No new cVDPV2 isolates from human or environmental samples reported this week.

In 2020 to date, **52** cVDPV2 cases reported. **The most recent case has onset of paralysis on 29 November 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 cVDPV1 cases reported this week.

In 2020 to date, **27** cVDPV1 cases are reported. 26 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: In 2020, Iran reported 2 VDPV2 positive environmental samples from Zaboul district (Zaboul site) and Zehedan district (Shirabad site), Sistan & Balochistan province. Both isolates are genetically related with earlier viruses seen in Afghanistan consequent to importation from Pakistan. The available data reflects that the situation does not meet definition of local circulation of cVDPV2 isolates; however further laboratory analysis is underway. Given the risk for multiple importations and local circulation is high and increasing, two mOP2 rounds are scheduled in month of February 2021. **Date of most recent sample collection is 27 November 2020**.

IV. Surveillance performance indicators

In 2020, 14 out of 22 member states are meeting the global target of both key surveillance indicators, namely non polio AFP rate of 2 per 100,000 children aged below 15 years and percent AFP cases with adequate specimen 80% and above.

- Morocco and Tunisia are missing both indicators as their non-polio AFP rates are 0.8 and 1.3 and their percentage of AFP cases with adequate stool specimens is 68.7%, and 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%.

World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

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

Country	Reported AFP cases by week of onset - Week (02/21) / Ending on : 17/01/2021														
	Total AFP 2019	Total AFP 2020	Total AFP to date, 2021	W44 1 Nov 20	W45 8 Nov 20	W46 15 Nov 20	W47 22 Nov 20	W48 29 Nov 20	W49 6 Dec 20	W50 13 Dec 20	W51 20 Dec 20	W52 27 Dec 20	W53 03 Jan 21	W01 10 Jan 21	W02 17 Jan 21
Afghanistan	3768	3961	66	77	85	79	64	85	79	66	76	57	60	34	0
Bahrain	17	15	0	1	0	0	1	0	0	1	1	0	0	0	0
Djibouti	5	5	0	0	0	0	1	0	0	0	0	0	0	0	0
Egypt	1343	1008	19	22	27	20	24	30	24	28	38	9	11	9	1
Iran	1070	613	11	10	9	7	7	14	15	19	15	10	19	2	
Iraq	1157	474	14	14	7	10	10	10	20	11	13	10	12	5	1
Jordan ****	113	32	0	0	0	0	0	0	0	0	0	0	0	0	
Kuwait	48	36	1	1	0	0	1	0	1	2	1	1	0	1	
Lebanon ****	87	47	0	0	0	0	2	2	0	1	0				
Libya	107	95	0	1	1	2	0	1	3	1	2	0	0	0	
Morocco	247	83	0	1	2	0	0	0	1	0	0				
Oman	30	22	0	2	0	1	0	0	0	1	0	1	0	0	0
Pakistan	15218	11797	99	249	234	230	213	233	226	184	162	164	130	43	2
Palestine ****	62	16	0	0	0	0	0	1	2	0	1	0	0	0	
Qatar	9	9	0	0	0	1	0	0	0	0	0	0	0	0	
Saudi Arabia	236	200	0	3	9	10	9	10	5	8	8	6	4	0	
Somalia	361	372	0	3	8	5	6	7	2	6	7	2	0	0	0
Sudan	608	722	9	16	13	15	28	15	13	11	10	9	9	2	
Syria ****	377	342	3	5	6	11	6	3	8	5	3	5	0	2	1
Tunisia	79	38	1	2	1	2	1	1	0	0	0	0	1	0	
U.A.E	50	19	0	0	0	0	0	0	0	0	0	0	0	0	0
Yemen	779	822	10	24	28	26	15	25	21	18	16	12	10	5	
Total EMR	25771	20728	233	431	430	419	388	437	420	362	353	286	256	103	5

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2019	Total year 2020	17/01		Confirmed polio cases by month of onset											
			2020	2021	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	January 2021
Afghanistan	29	56	1	0	3	7	0	12	10	7	6	6	3	0		
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		
Pakistan	147	84	10	0	17	7	6	6	6	6	5	7	4	2		
Palestine ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Qatar	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Somalia	0	0	0	0	0	0	0	0	0	0	0	0	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	176	140	11	0	20	14	6	18	16	13	11	13	7	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 (02/21) / Ending on : 17/01/2021)

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	3961	56	1	218	3429	258	18.5	59	5	92.7	56	0	66	0	0	64	2	0	6.7	0	0	95.5	0	0	17/01/2021
Bahrain	15	0	0	4	11	0	5.0	0	0	93.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	17/01/2021
Djibouti	5	0	0	4	1	0	1.4	3	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	17/01/2021
Egypt	1008	0	0	46	962	0	2.6	0	0	94.6	0	0	19	0	0	19	0	0	1.0	0	0	36.8	0	0	17/01/2021
Iran	613	0	0	16	597	0	3.0	0	0	98.2	0	0	11	0	0	11	0	0	1.1	0	0	100.0	0	0	16/01/2021
Iraq	474	0	0	15	459	0	2.9	0	0	93.7	0	0	14	0	0	14	0	0	1.9	0	0	100.0	0	0	16/01/2021
Jordan	32	0	0	0	32	0	0.8	0	0	96.9	0	0	0	0	0	0	0	0	0.0	0	0		0	0	14/01/2021
Kuwait	36	0	0	5	31	0	4.1	0	0	88.9	0	0	1	0	0	1	0	0	2.4	0	0	100.0	0	0	10/01/2021
Lebanon	47	0	0	11	36	0	2.5	5	3	93.6	0	0	0	0	0	0	0	0	0.0	0	0		0	0	24/12/2020
Libya	95	0	0	11	83	1	3.6	0	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	16/01/2021
Morocco	83	0	0	39	44	0	0.8	35	11	68.7	0	0	0	0	0	0	0	0	0.0	0	0		0	0	24/12/2020
Oman	22	0	0	0	22	0	1.9	0	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	17/01/2021
Pakistan	11797	84	14	537	11036	127	15.0	164	5	86.4	84	0	99	0	0	99	0	0	2.7	0	0	88.9	0	0	17/01/2021
Palestine	16	0	0	8	8	0	0.9	3	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	10/01/2021
Qatar	9	0	0	7	2	0	2.1	6	0	33.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	03/01/2021
Saudi Arabia	200	0	0	72	128	0	2.4	2	0	96.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	14/01/2021
Somalia	372	0	0	28	329	15	4.6	3	1	95.2	0	0	0	0	0	0	0	0	0.0	0	0		0	0	17/01/2021
Sudan	722	0	0	50	620	52 #	3.8	4	0	93.2	0	0	9	0	0	9	0	0	1.0	0	0	100.0	0	0	14/01/2021
Syria	342	0	0	13	329	0	4.3	0	0	91.2	0	0	3	0	0	3	0	0	0.8	0	0	66.7	0	0	16/01/2021
Tunisia	38	0	0	3	35	0	1.3	0	0	57.9	0	0	1	0	0	1	0	0	0.8	0	0	100.0	0	0	15/01/2021
U.A.E	19	0	0	2	17	0	1.5	1	1	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	17/01/2021
Yemen	822	0	1	294	498	27	5.8	85	72	89.3	0	0	10	0	0	10	0	0	1.4	0	0	100.0	0	0	16/01/2021
EMR	20728	140	16	1383	18709	480	7.9	370	98	89.2	140	0	233	0	0	231	2	0	1.9	0	0	88.4	0	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

Advance notification of 4 new cVDPV2 cases from Sudan in 2020 - Details will be shared in next bulletin

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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	61	49	270	26	53	0	0	0	0	53
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	32	12	0	0	0	0	12
IRN	40	0	0	0	0	0	0	0	0	0	0	0
IRQ	168	0	0	4	10	0	0	0	0	0	0	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	2	0	0	0	0	0	0	0	0	0	0	0
MOR	8	0	0	0	0	4	0	0	0	0	0	0
OMA	64	0	0	2	8	3	0	0	0	0	0	0
PAK	4653	21	13	378	788	11	66	0	0	0	0	66
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	0	0	0	0	0	0
SOM	872	0	9	16	115	20	0	0	0	0	0	0
SUD	363	0	18	1	5	261	0	0	0	0	0	0
SYR	280	0	0	11	15	0	0	0	0	0	0	0
TUN	6	0	0	0	0	2	0	0	0	0	0	0
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	228	0	0	0	29	56	6	0	0	0	0	6
EMR	8292	35	101	473	1272	421	137	0	0	0	0	137

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
			KHYBER PAKHTUNKHWA (KP)	2	07-Feb-20	14-Jul-20
	SINDH	2	07-Feb-20	14-Jul-20		
	2020 Total				11	04-Jan-20

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Table 5: Laboratory investigation of AFP cases with paralysis onset in 2020 up to Week (53/2020) / Ending on : (31/12/2020)

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	3925	530	23	680	2627	58	1	53	112			71	228		92	1		2	1	50	17%	95%	99%	97%	17/01/2021
Bahrain	NPL Oman / CDC	10			1	9																9%	100%		0%	21/12/2020
Djibouti	NPL Kenya / CDC	5						1															0%		100%	17/01/2021
Egypt***	RRL Egypt	988	28	13	117	821	4	5		13						16		10	4		11%	96%	100%	99%	14/01/2021	
Iran	NPL Iran / CDC	620	10		7	595	8			6						6					1%	100%	100%	99%	16/01/2021	
Iraq	RRL Egypt	472	1		43	416	9	2		2											9%	96%	67%	98%	15/01/2021	
Jordan	NPL Jordan / RRL EGYPT	32			5	27															16%	100%		100%	14/01/2021	
Kuwait	RRL Kuwait / RIVM	38				35	1	2													1%	86%		94%	14/01/2021	
Lebanon	NPL Jordan / RRL EGYPT	44			5	39															11%	98%		100%	14/01/2021	
Libya	RRL Tunisia / RIVM	88	4			84										3	1				0%	100%	100%	53%	11/12/2020	
Morocco	NPL Morocco / RRL Tunisia	69			1	58		10													1%	100%		98%	25/12/2020	
Oman	NPL Oman / CDC	20			3	17															14%	100%		100%	21/12/2020	
Pakistan	RRL Pakistan	11528	916	51	1845	8556	151	3	76	187			368	119		287		1	13	5	14	14%	95%	98%	97%	17/01/2021
Palestine & UNRWA		16				16															0%	44%		100%	10/01/2021	
Qatar	NPL Oman / CDC	3				3															0%	100%		100%	21/12/2020	
Saudi Arabia	NPL Saudi Arabia / CDC	199	1			198										1					0%	99%	100%	97%	17/01/2021	
Somalia	NPL Kenya / CDC	372	22	5	58	259	1	26		3	1		11		15						18%	6%		97%	17/01/2021	
Sudan	NPL Sudan / RRL Egypt	729	63		84	537	17	31		2			43	47		1					13%	98%	100%	59%	14/01/2021	
Syria	NPL Syria / RRL Egypt	338	14	2	16	297	5	4													4%	100%			09/01/2021	
Tunisia	RRL Tunisia	24				23		1													0%	100%		96%	11/12/2020	
U.A.E	NPL Oman / CDC	16				16															0%	100%		50%	21/12/2020	
Yemen	NPL Kenya / CDC	374	29		70	185		91		3	17					7		3		1	24%	98%	31%	0%	16/01/2021	
Total EMR 2020		19910	1618	94	2935	14818	254	177	129	328	18		482	405		428	2	4	25	11	64	14%	94%	97%	95%	
Total EMR 2019		24918	1057	100	3669	20057		23	152	576	1		46	25		629	1	3	21	6		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	2017	2018	2019	2020	2021
AFG	Wild	42	83	56	29	
	Wild+cVDPV2				6	
	cVDPV2				143	
	aVDPV2				1	
	EV/SL	265	248	200	185	
Negative	9	5	3	3		
Pending				46	14	
AFG Total		316	336	259	413	14
EGY	aVDPV2				1	
	EV/SL	481	508	666	493	
	Negative	41	32	34	42	
	Pending				6	21
	aVDPV3				1	
	aVDPV1				1	
VDPV3				1		
EGY Total		522	540	700	545	21
IRN	Wild			3		
	VDPV2				2	
	EV/SL	5	51	65	41	
	Negative	1	3	3		
	Pending				1	2
IRN Total		6	54	71	44	2
JOR	EV/SL	29	36	36	21	
	Negative	2			1	
	Pending				3	
JOR Total		31	36	36	25	
KUW	EV/SL		3	3		
	Pending			8		
KUW Total			3	11		
LEB	EV/SL	26	44	44	25	
	Negative	1	1	3	2	
LEB Total		27	45	47	27	
PAK	Wild	105	139	367	351	3
	Wild+cVDPV2			10	79	
	Wild+aVDPV2	1		2	4	
	cVDPV2			29	30	
	aVDPV2	4			9	
	EV/SL	523	531	420	318	
Negative		3	4	5		
Pending				29	13	
PAK Total		633	673	832	825	16
SOM	cVDPV2	2	18	5	26	
	cVDPV3		11			
	aVDPV2		2	1		
	cVDPV2+cVDPV3		1			
	EV/SL	20	43	28	18	
	Negative	14	138	29	32	
Pending				5		
SOM Total		36	213	63	81	
SUD	cVDPV2				11	
	EV/SL		15	42	12	
	Negative			1	2	
	Pending			17	25	4
SUD Total			15	60	50	4
SYR	EV/SL	4	81	155	184	
	Negative		21	30	17	
	Pending				3	3
SYR Total		4	102	185	204	3
TOTAL		1575	2017	2264	2214	60

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	10	28/Jan/20	6/Dec/20	
			KHOST	1	25/Apr/20	25/Apr/20	
			KUNDUZ	1	27/Sep/20	27/Sep/20	
			NANGARHAR	2	26/Jan/20	6/Oct/20	
			Wild+cVDPV2	HILMAND	1	6/Sep/20	6/Sep/20
			KANDAHAR	3	25/Jun/20	27/Sep/20	
		NANGARHAR	2	8/Jan/20	25/Jul/20		
		cVDPV2	HILMAND	23	27/May/20	6/Nov/20	
			HIRAT	2	26/Sep/20	24/Oct/20	
			KABUL	19	26/Apr/20	5/Nov/20	
			KANDAHAR	27	9/Jul/20	6/Nov/20	
			KHOST	5	24/Jun/20	24/Oct/20	
		aVDPV2	KUNAR	4	6/Jun/20	4/Aug/20	
			KUNDUZ	2	23/Aug/20	24/Oct/20	
			LAGHMAN	4	24/Jul/20	6/Oct/20	
			NANGARHAR	56	7/Jan/20	5/Nov/20	
	PAKTYA		1	26/Jul/20	26/Jul/20		
	HILMAND		1	27/Sep/20	27/Sep/20		
	AFG Total			179	1/Jan/20	6/Dec/20	
	EGY		aVDPV2	GIZA	1	21/Sep/20	21/Sep/20
	EGY Total			1	21/Sep/20	21/Sep/20	
	PAK		Wild	AJK	1	25/Feb/20	25/Feb/20
		BALUCHISTAN		80	1/Jan/20	21/Dec/20	
		GBALTISTAN		1	12/May/20	12/May/20	
		ISLAMABAD		5	16/Jan/20	10/Nov/20	
		KPAKHTUNKHWA		23	28/Jan/20	18/Dec/20	
		PUNJAB		123	4/Jan/20	28/Dec/20	
		SINDH		118	3/Jan/20	10/Dec/20	
		Wild+cVDPV2		BALUCHISTAN	19	1/Feb/20	28/Oct/20
		KPAKHTUNKHWA		1	11/Mar/20	11/Mar/20	
PUNJAB		14		4/Jan/20	12/Oct/20		
SINDH		45	3/Jan/20	6/Nov/20			
cVDPV2		BALUCHISTAN	9	2/Jun/20	17/Nov/20		
		KPAKHTUNKHWA	5	10/Jan/20	15/Oct/20		
		PUNJAB	2	16/Jan/20	17/Apr/20		
		SINDH	14	8/Jun/20	11/Nov/20		
		aVDPV2	BALUCHISTAN	2	17/Sep/20	19/Oct/20	
KPAKHTUNKHWA		4	10/Apr/20	28/Oct/20			
PUNJAB		1	4/May/20	4/May/20			
SINDH		2	13/Oct/20	3/Nov/20			
PAK Total		469	1/Jan/20	28/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	11	29/Mar/20	6/Sep/20		
		SUD Total	11	29/Mar/20	6/Sep/20		
2020 Total			686	1/Jan/20	28/Dec/20		
2021	PAK	Wild	BALUCHISTAN	1	1/Jan/21	1/Jan/21	
			PUNJAB	1	4/Jan/21	4/Jan/21	
			SINDH	1	4/Jan/21	4/Jan/21	
PAK Total		3	1/Jan/21	4/Jan/21			
2021 Total			3	1/Jan/21	4/Jan/21		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2020 - 31/12/2020

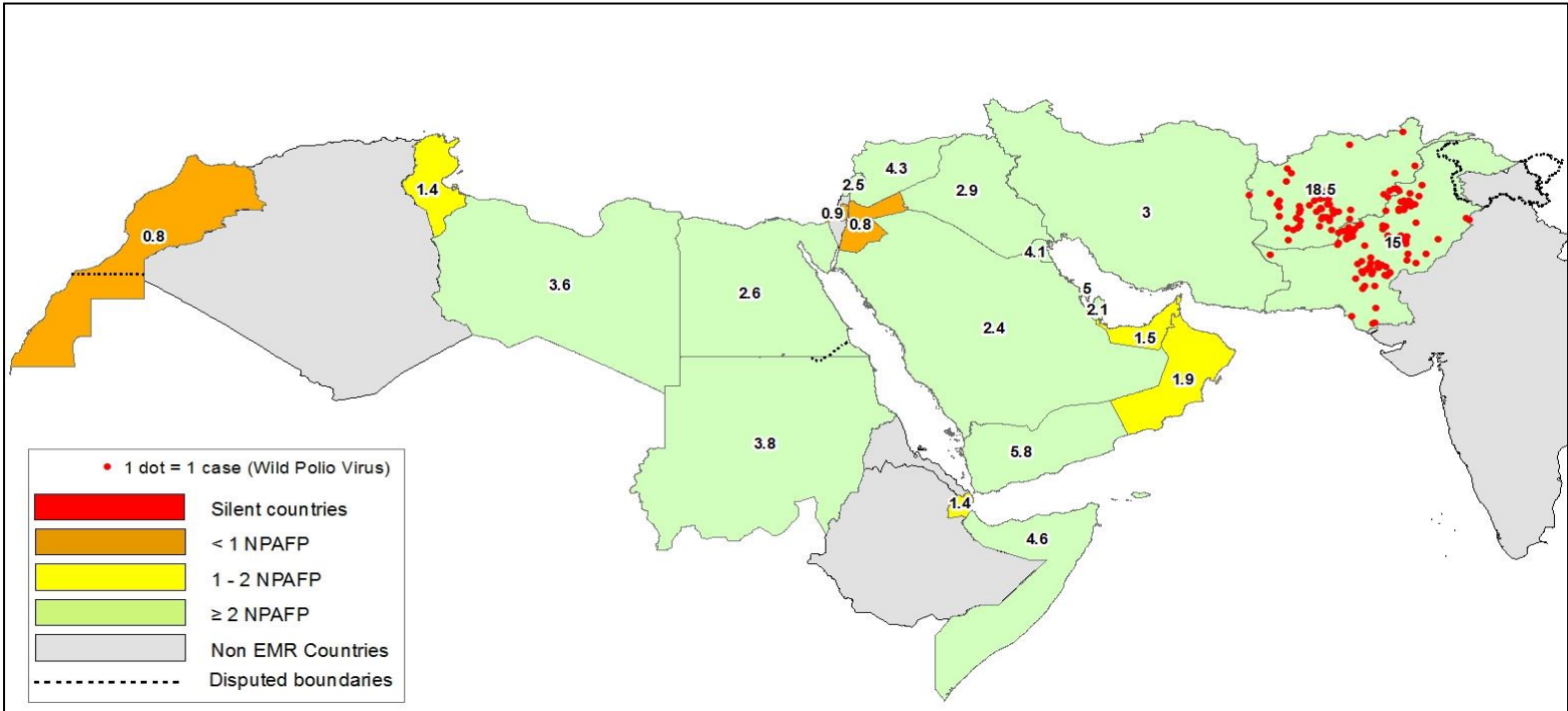


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 31/12/2020

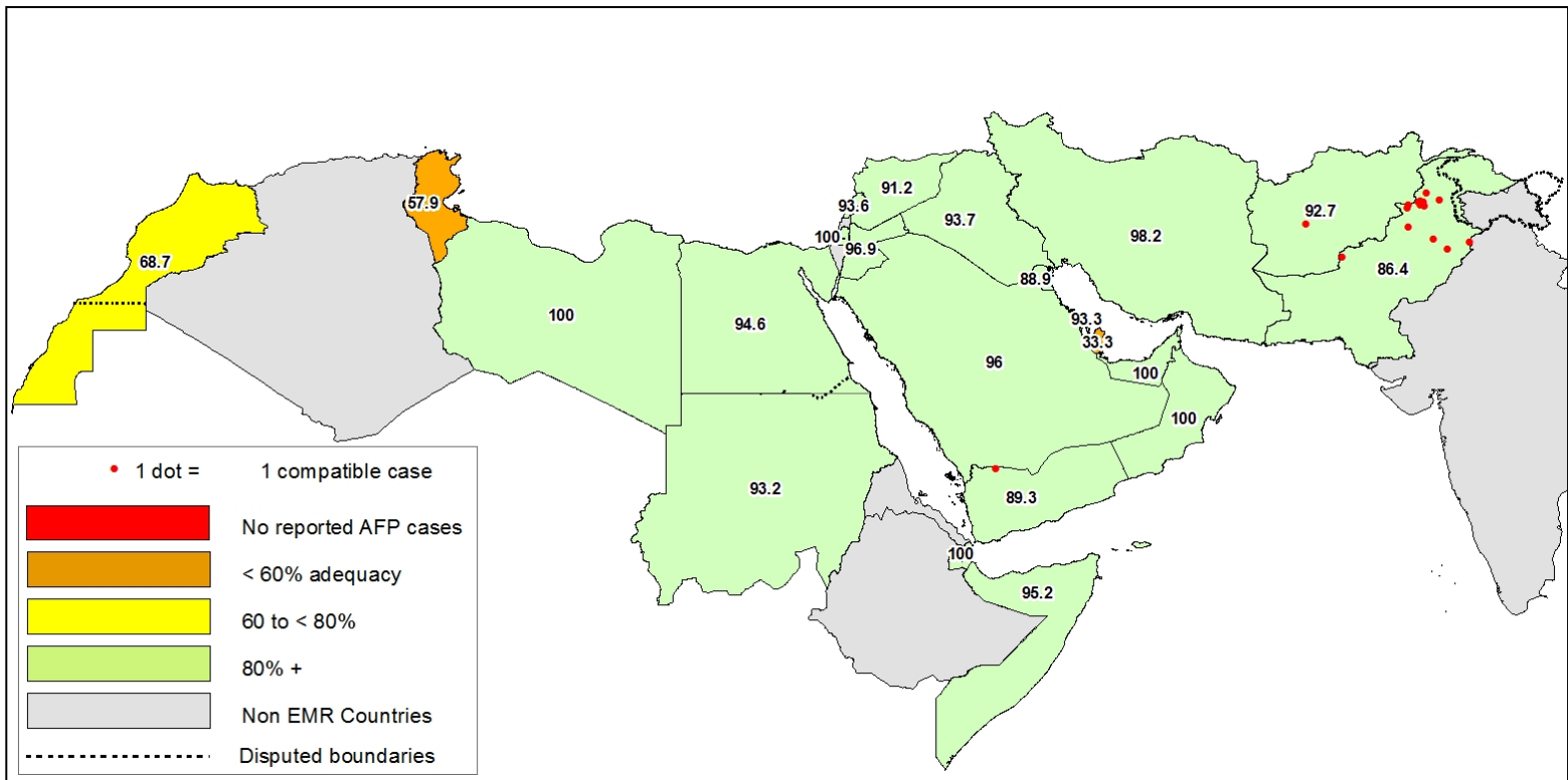


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2020 - 2021

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

Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2020 - 31/12/2020

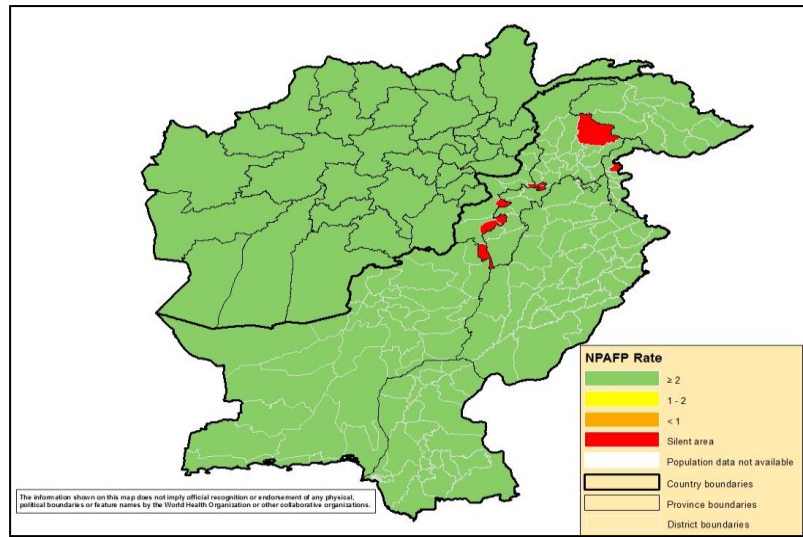


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 31/12/2020

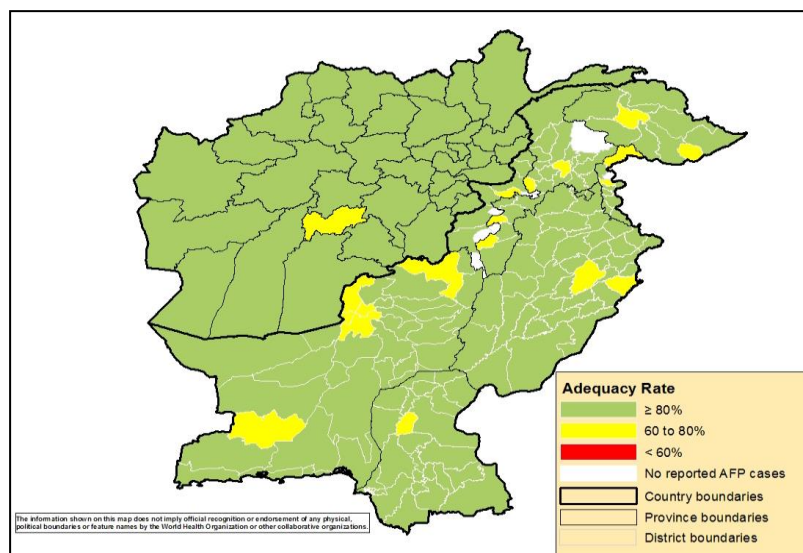
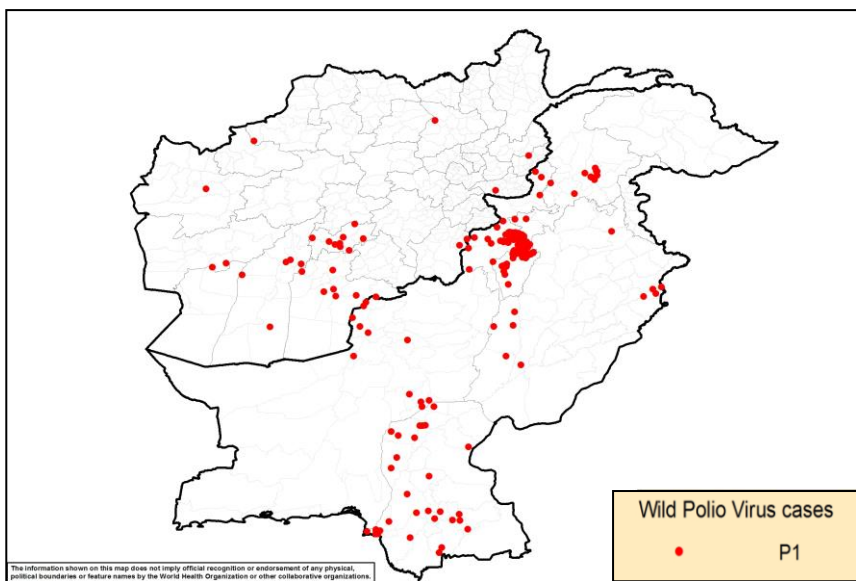
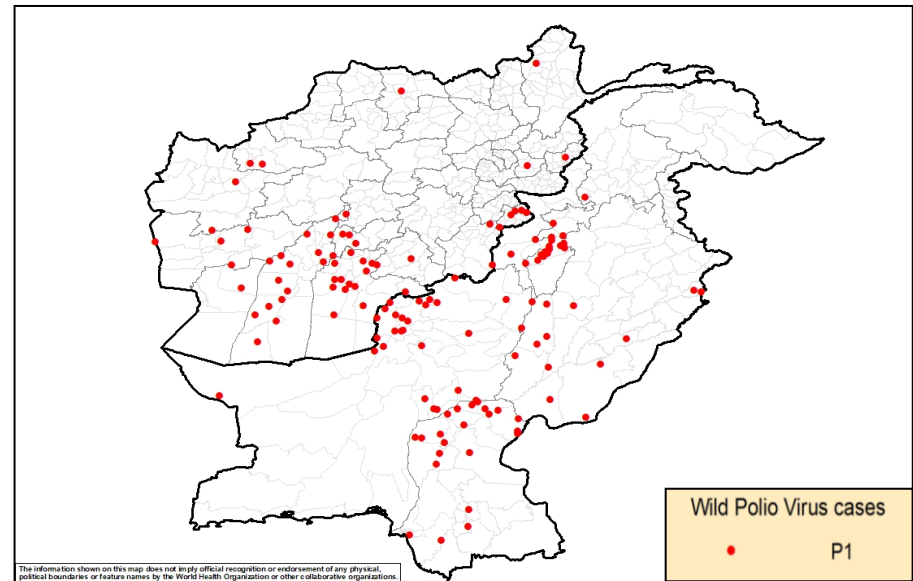


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



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



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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 SHELTON	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

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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	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	
	SINDH	RAJANPUR	1	2-Jun-20	2-Jun-20	
		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

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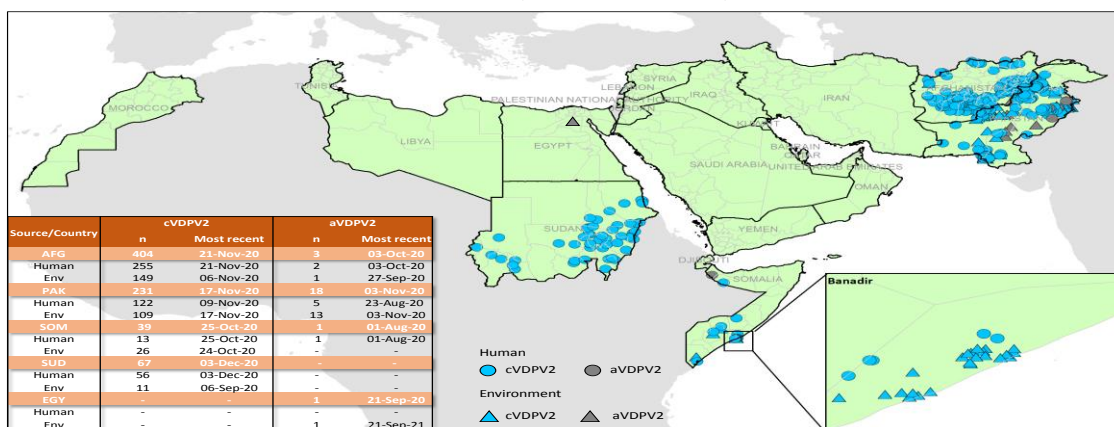
Number 1163

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
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
	SUD *	BANADIR	7	18-Jun-20	30-Sep-20
		SOUTH DARFUR	2	7-Mar-20	29-Apr-20
		EAST DARFUR	3	12-May-20	24-Jul-20
		KHARTOUM	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
		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	10	1-Jun-20	11-Nov-20
		BALKH	2	29-Oct-20	3-Nov-20
		BADGHIS	3	1-Nov-20	7-Nov-20
		SAMANGAN	1	1-Nov-20	1-Nov-20
		HIRAT	2	10-Aug-20	15-Aug-20
		LOGAR	4	20-Aug-20	18-Nov-20
		KANDAHAR	64	4-Aug-20	12-Nov-20
		HILMAND	29	1-Aug-20	12-Nov-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	16	5-Jul-20	19-Oct-20
		PAKTYA	4	18-Jun-20	5-Sep-20
		KUNDUZ	3	28-Aug-20	3-Oct-20
		PAKTIKA	6	25-Aug-20	25-Oct-20
		GHAZNI	2	29-Aug-20	21-Oct-20
		BADAKHSAN	1	23-Apr-20	23-Apr-20
		LAGHMAN	14	20-May-20	23-Sep-20
		TAKHAR	1	20-Sep-20	20-Sep-20
		ZABUL	9	17-Sep-20	31-Oct-20
		URUZGAN	10	28-Aug-20	5-Nov-20
		PARWAN	1	4-Sep-20	4-Sep-20
WARDAK		4	6-Sep-20	22-10-20	
KUNAR		9	6-Apr-20	29-Sep-20	
NANGARHAR		45	5-Feb-20	21-Sep-20	
PAK	SINDH	41	2-May-20	9-Nov-20	
	BALUCHISTAN	16	29-Feb-20	5-Nov-20	
	PUNJAB	23	5-Feb-20	1-Oct-20	
	KHYBER PAKHTUNKHWA	42	2-Jan-20	24-May-20	
Total 2020			442	2-Jan-20	29-Nov-20

*** Advance notification of 4 new cVDPV2 cases from Sudan in 2020 - Details will be shared in next bulletin**

VDPV2 isolates, EMR countries, 2020



cVDPV2, AFP Case reported 1 Libya, 1 Afghanistan & 1 ENV Egypt/ **aVDPV2**, AFP Cases reported 1 Somalia & 1 ENV Egypt/29 **cVDPV1**, AFP cases from Yemen /1 **VDPV3** ENV in Egypt

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