### Highlights of Polio Fax Bulletin No. 1162 for Week 01\_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, but six new positive environmental samples in 2020 all from Pakistan reported this week.
- 3. Vaccine Derived Poliovirus (VDPV):
  - cVDPV1: Nine new cVDPV1 cases in 2020 from Yemen were reported this week.
  - cVDPV2: Five new cVDPV2 cases (Pakistan 1 Sudan 4) and three positive environmental samples from Pakistan all in 2020 reported this week.

#### II. Wild Poliovirus Transmission

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

As of week 01 2021, No new wild poliovirus cases were reported. This compares with 9 cases in 2020 in the same period (1 from Afghanistan and 8 from Pakistan).

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

Afghanistan: No new wild poliovirus cases reported this week.

In 2020, **56 WPV1 cases** have been reported so far: 38 cases from South Region; 8 from West Region; 6 from 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: Six new WPV1 positive environmental samples from Pakistan reported this week in 2020.
- 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 2020, there are **427** WPV1 positive environmental samples including 79 mixture of WPV1 and cVDPV2 and 4 mixtures of WPV1 and aVDPV2. Most recent positive sample collected on 21 December 2020.
- III. Vaccine Derived Polioviruses (VDPVs): Nine new cVDPV1 cases reported from Yemen and five new cVDPV2 cases reported from Pakistan (1) and Sudan (4) in 2020. In 2020, a total number of 27 cVDPV1 cases reported from Yemen and a total number of 427 (240 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: No new VDPV cases or positive environmental samples reported this week.

In 2020 to date, there are **240** cVDPV2 cases; 104 from South Region, 70 reported from East Region, 28 from Southeast Region, 15 from Central Region, 14 from West Region, 4 from each Northeast and North Regions, 1 from Badakhshan Region. **The most recent case has onset on 8 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: One new cVDPV2 case and 3 new positive environmental samples reported this week.

The new cVDPV2 case was reported from Hyderabad district, Sindh province, with date of onset 6 October 2020.

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 VDPV cases or positive 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.

<u>SUDAN</u>: Four new cVDPV2 cases reported and no new positive environmental samples reported this week. The newly reported cVDPV2 cases are from: one each from Kassala State (Talkook locality), Khartoum State (Karary locality), Blue Nile State (El Russirs locality) and Red Sea State (Port Sudan locality). The dates of onset vary between 6 – 29 November 2020.

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**: Nine new cVDPV1 cases reported this week.

The newly reported 9 cVDPV1 cases are from: 8 from Saadah province (Sahar 3 – Kitaf Wa Buga 2 – Saadah City 1 – Munabbil 1 – Al Hashwa 1) and 1 from Taiz province (Al Gaherah 1). The dates of onset vary between 2 June – 27 July 2020.

In 2020 to date, **27** cVDPV1 cases are reported. 25 cases are from Saadah province and 1 case each from Sana'a City and Taiz provinces. **The most recent case has onset of paralysis on 6 August 2020.** 

**2.** <u>VDPV Events:</u> There are two countries currently having VDPV Event due to VDPV2. <u>Response per WHO's SOPs</u> 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.* 

<u>Iran</u>: In 2020, Iran reported 2 VDPV2 positive environmental samples from Zehedan district (Zaboul and Shirabad sites), 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, nonetheless. Given the risk for multiple importations and local circulation is high and increasing, risk analysis is being updated with awaited additional sequencing data. *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%.

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

	Reported AFP cases by week of onset - Week (01/21) / Ending on : 10/01/2021														
		R	eported A	FP cas	es by w	eek ot	onset	- Wee	k (01/2	l) / End	ling on	: 10/01	/2021		
Country	Total AFP 2019	Total AFP 2020	Total AFP to date, 2021	W43 25 Oct 20	W44 1 Nov 20	W45 8 Nov 20	W46 15 Nov 20	W47 22 Nov 20	W48 29 Nov 20	W49 6 Dec 20	W50 13 Dec 20	W51 20 Dec 20	W52 27 Dec 20	W53 03 Jan 21	W01 10 Jan 21
Afghanistan	3768	3932	10	92	77	85	79	64	86	77	66	73	49	20	1
Bahrain	17	15	0	0	1	0	0	1	0	0	1	1	0		
Djibouti	5	5	0	1	0	0	0	1	0	0	0	0	0	0	0
Egypt	1343	1008	9	31	22	27	20	24	30	24	28	38	9	11	
Iran	1070	607	0	13	10	9	7	7	14	15	19	14	8	7	
Iraq	1157	472	1	8	14	7	10	10	10	20	11	13	10	3	
Jordan ****	113	32	0	0	0	0	0	0	0	0	0	0	0	0	
Kuwait	48	34	0	1	1	0	0	1	0	1	2	1	0	0	
Lebanon ****	87	47	0	1	0	0	0	2	2	0	1	0			
Libya	107	95	0	1	1	1	2	0	1	3	1	2	0	0	
Morocco	247	83	0	0	1	2	0	0	0	1	0	0			
Oman	30	22	0	1	2	0	1	0	0	0	1	0	1	0	0
Pakistan	15218	11687	10	231	244	233	230	212	230	223	182	154	129	41	0
Palestine ****	62	16	0	1	0	0	0	0	1	2	0	1	0	0	0
Qatar	9	9	0	0	0	0	1	0	0	0	0	0	0	0	
Saudi Arabia	236	194	0	6	3	9	10	9	10	5	8	8	4	0	
Somalia	361	371	0	6	3	8	5	6	7	2	6	7	1	0	0
Sudan	608	718	0	30	16	13	15	28	15	12	11	10	8	0	
Syria ****	377	341	0	11	5	6	11	6	3	8	5	3	4	0	
Tunisia	79	38	1	2	2	1	2	1	1	0	0	0	0	1	
U.A.E	50	19	0	1	0	0	0	0	0	0	0	0	0	0	
Yemen	779	819	0	20	24	28	26	15	25	19	17	17	12	4	
Total EMR	25771	20564	31	457	426	429	419	387	435	412	359	342	235	87	1

No data = No report received

Table 2: Confirm	nea poii	o cases b			t											
	19	20	10/0	)1				Confir	ned po	lio cas	es by n	nonth c	of onse	t		
Country	Total year 2019	Total year 2020	2020	2021	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	Augsut 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					
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	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				
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0			
Morocco	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	8	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	0	
Qatar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Somalia	0	0	0	0	0	0		0	0	0	0	0	0			
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	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					
Total EMR	176	140	9	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 (01/21) / Ending on : 10/01/2021)

		Table 3: Investigation of AFP cases with paralysis onse 2020								sis onset in 2020 & 2021 up to Week (01/21) / Ending on : 10/01/2021)															
							202	20											2021						i
					AFP					Specimen		cases					AFF	•				Specimen	Wild	cases	
										<b>Opcoo</b>	*	***										<b>GP G G G G G G G G G G</b>	**	**	
	19		Case	classif	ication			шc	90 ysis				20		Case	classif			ė.	E	00 Sis				i
COUNTRY	Total AFP cases onset 2019	Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV	Non polio AFP rate **	AFP cases pending classification > 90 days from onset of paralysis	AFP cases pending classification and lab > 90 days from onset of paralysis	% with *** adequate specimens	Wild P1 Poliovirus	Wild P3 Poliovirus	Total AFP cases onset 2020	Total Confirmed Polio Cases *	Polio Compatible	Pending Classification	Discarded (non polio AFP)	VDPV	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	Latest line List
A	·	50	4			0.40	40.0	_	Р		50			0		- 10			4 7			00.0	0		Date
Afghanistan	3932	56	1	262	3371	243	18.3	53	4	92.8	56	0	10	0	0	10	0	0	1.7	0	0	80.0	0	0	10/01/2021
Bahrain	15 5	0	0	4	11	0	5.0 1.4	0 3	0	93.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	27/12/2020
Djibouti Egypt	1008	0	0	4 73	935	0	2.6	0	0	100.0 94.3	0	0	9	0	0	9	0	0	0.0	0	0	11.1	0	0	10/01/2021 06/01/2021
Egypt	607	0	0	29	578	0	2.9	0	0	98.2	0	0	0	0	0	0	0	0	0.0	0	0	11.1	0	0	09/01/2021
Iran Iraq	472	0	0	21	451	0	2.9	0	0	93.6	0	0	1	0	0	1	0	0	0.0	0	0	100.0	0	0	08/01/2021
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	100.0	0	0	07/01/2021
Kuwait	34	0	0	4	30	0	3.8	0	0	91.2	0	0	0	0	0	0	0	0	0.0	0	0		0	0	04/01/2021
Lebanon	47	0	0	11	36	0	2.5	4	2	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	09/01/2021
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	1	21	0	1.9	0	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	10/01/2021
Pakistan	11687	84	14	609	10854	127	14.9	147	3	86.6	84	0	10	0	0	10	0	0	0.5	0	0	100.0	0	0	10/01/2021
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	194	0	0	75	119	0	2.3	0	0	96.4	0	0	0	0	0	0	0	0	0.0	0	0		0	0	03/01/2021
Somalia	371	0	0	27	329	15	4.6	3	1	95.1	0	0	0	0	0	0	0	0	0.0	0	0		0	0	10/01/2021
Sudan	718	0	0	46	620	52	3.8	4	0	93.3	0	0	0	0	0	0	0	0	0.0	0	0		0	0	07/01/2021
Syria	341	0	0	13	328	0	4.3	0	0	91.2	0	0	0	0	0	0	0	0	0.0	0	0		0	0	09/01/2021
Tunisia	38	0	0	3	35	0	1.3	0	0	57.9	0	0	1	0	0	1	0	0	1.3	0	0	100.0	0	0	08/01/2021
U.A.E	19	0	0	2	17	0	1.5	0	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	04/01/2021
Yemen	819	0	1	293	498	27	5.8	71	58	89.9	0	0	0	0	0	0	0	0	0.0	0	0		0	0	09/01/2021
<b>EMR</b>	20564	140	16	1542	18403	465	7.9	329	79	89.4	140	0	31	0	0	31	0	0	0.4	0	0	67.7	0	0	
2019	25771	176	7	0	25559	29	10.2	0	0	89.5	176	0													

<sup>\*</sup> Confirmed polio cases refer to wild isolation from AFP cases or from contacts of negative index AFP cases

<sup>\*\*</sup> Non-polio AFP per 100,000 children <15 years

<sup>\*\*\*</sup> 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

<sup>\*\*\*\*</sup> AFP cases co infected with P1 and P3 are counted seperately as wild isolates

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		-	20	020	· ·	onanig 10 canaa			20	)21		•
COUNTRY	# OF			LAB RESULTS			# OF			LAB RESULTS		
	CONTACTS	WILD	VDPV	SL	NPEV	PENDING	CONTACTS	WILD	VDPV	SL	NPEV	PENDING
AFG	1252	14	59	49	264	51	5	0	0	0	0	5
ВАН	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	38	0	0	0	0	0	0
IRN	22	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	4	0	0	0	0	0	0
PAK	4650	21	13	376	768	72	9	0	0	0	0	9
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	219	0	0	0	29	47	0	0	0	0	0	0
EMR	8262	35	99	471	1246	505	14	0	0	0	0	14

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

		Data					
Year	Country	Count of wild contacts	Date of Most Recent stool collection				
2020	Afghanistan	14	26/Jul/20				
2020	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
	AFG	KANDAHAR	NESH	1	23-May-20	23-May-20
		HILMAND	WASHER	1	04-Jan-20	04-Jan-20
		NIMROZ	KHASHROD	1	28-Feb-20	28-Feb-20
		FARAH	ANARDARA	1	06-May-20	06-May-20
	PAK	BALOCHISTAN	KSAIFULLAH	1	01-Sep-20	01-Sep-20
2020		PUNJAB	LAHORE	1	24-Jul-20	24-Jul-20
			DG KHAN	2	18-Jan-20	05-Jul-20
		KHYBER PAKHTUNKHWA (KP)	KARAK	1	20-Jan-20	20-Jan-20
		SINDH	JACOBABAD	2	07-Feb-20	14-Jul-20
	2020 Total			11	04-Jan-20	01-Sep-20

### World Health Organization - Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

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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)

Table 5:				_		_		P cases v	vitn p	oarai	ysis	ons			_		_		/ Ena	ing o	n : (31/	12/2020)				
Country	Polio laboratories				virus is	olation re	sults of AFF	cases										n results#					Indi	cators		
		suac	Referre	ed for ITD			Pei	nding		Type 1			Type	2		Type 3						_	ø	ults	ults *	1
	ITD / Nucleotide Sequencing (Nucleotide Sequencing performed by EGY, PAK, TUN, CDC and RIVM laboratories)	AFP cases with specim	L20B+	L20B+/NPEV	NPEV only	Negative	received < / = 14 days	received > 14 days ago	piiW	Sabin	VDPV	NiW	Sabin	VDPV	Mild	Sabin	VDPV	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 rest within 7 days	% AFP cases with ITD result within 45 days of onset**	Latest report Date
Afghanistan	RRL Pakistan	3898	520	22	661	2588	84	1	53	111			70	215		92	1		2	1	54	17%	95%	99%	97%	10/01/2021
Bahrain	NPL Oman / CDC	10			1	9																9%	100%		0%	21/12/2020
Djibouti	NPL Kenya / CDC	5						1															0%		100%	10/01/2021
Egypt***	RRL Egypt	985	27	13	115	797	24	9		13						16			10	3		11%	96%	100%	99%	06/01/2021
Iran	NPL Iran / CDC	596	10		6	563	9	8		6						6						1%	100%	100%	99%	02/01/2021
Iraq	RRL Egypt	470	1		43	409	16			2												9%	96%	67%	98%	07/01/2021
Jordan	NPL Jordan / RRL EGYPT	32			5	27																16%	100%		100%	24/12/2020
Kuwait	RRL Kuwait / RIVM	37				31		6														1%	84%		94%	10/01/2021
Lebanon	NPL Jordan / RRL EGYPT	44			5	39																11%	98%		100%	24/12/2020
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	11432	915	50	1809	8415	234	5	76	187			367	119		286		1	13	5	14	14%	95%	98%	97%	10/01/2021
Palestine & UNR	WA	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			184	12	2								1						0%	100%	100%	99%	03/01/2021
Somalia	NPL Kenya / CDC	371	22	5	58	259	2	24		3	1			11		15						18%	6%		97%	10/01/2021
Sudan	NPL Sudan / RRL Egypt	716	62		84	536	15	22		2			31	47		1						13%	98%	100%	58%	10/01/2021
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%	09/01/2021
	Total EMR 2020	19743	1605	92	2877	14556	401	184	129	327	18		468	392		427	2	4	25	10	68	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%	

<sup>\*</sup> Specimens from all sources including non-AFP cases, excluding environmental samples

<sup>\*\*</sup> This indicator reflects surveillance and laboratory activities

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Table 6: Environmental isolate by year and type

COUNTRY	LAB RESULTS	2016	2017	2018	2019	2020
AFG	Wild	2	42	83	56	29
	Wild+cVDPV2					6
	cVDPV2					143
	aVDPV2					1
	EV/SL	177	265	248	200	182
	Negative	6	9	5	3	3
	Pending					49
AFG Total		185	316	336	259	413
EGY	aVDPV2					1
	EV/SL	493	481	508	666	489
	Negative	35	41	32	34	39
	Pending	33		32	5.	13
	aVDPV3					1
	aVDPV1					1
	VDPV3					1
EGY Total	VBFVS	528	522	540	700	545
	Wild	328	522	340		545
IRN					3	
	VDPV2		-	F.4	C.F.	2
	EV/SL		5	51	65	38
	Negative		1	3	3	
	Pending					4
IRN Total			6	54	71	44
JOR	EV/SL	2	29	36	36	19
	Negative		2			1
	Pending					3
JOR Total		2	31	36	36	23
KUW	EV/SL			3	3	
	Pending				8	
KUW Total				3	11	
LEB	EV/SL	2	26	44	44	25
	Negative	2	1	1	3	2
LEB Total		4	27	45	47	27
PAK	Wild	59	105	139	367	344
	Wild+cVDPV2	2			10	79
	Wild+aVDPV2	1	1		2	4
	cVDPV2	2			29	30
	aVDPV2	3	4			9
	EV/SL	456	523	531	420	303
	Negative	6		3	4	5
	Pending					51
PAK Total		529	633	673	832	825
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			_5	1	2
	Pending				17	25
SUD Total	7 CHAILIS			15	60	50
SYR	EV/SL		4	81	155	184
311			4	21	30	184
	Negative			21	30	
CVDT	Pending			100	4.05	3 204
SYR Total			4	102	185	
TOTAL		1248	1575	2017	2264	2212

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

YEAR 🗸	▼ COUNTRY	LAB RESULTS	<b>₹</b> PROVINCE	Count	First date	Last date
<b>=</b> 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
			кноѕт	5	24/Jun/20	24/Oct/20
			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
		■aVDPV2	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
	<b>□</b> PAK	■Wild	AJK	1	25/Feb/20	25/Feb/20
			BALOCHISTAN	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	119	4/Jan/20	21/Dec/20
			SINDH	115	3/Jan/20	10/Dec/20
		■ Wild+cVDPV2	BALOCHISTAN	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
		<b>□</b> cVDPV2	BALOCHISTAN	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	BALOCHISTAN	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			462	1/Jan/20	21/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				679	1/Jan/20	21/Dec/20

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

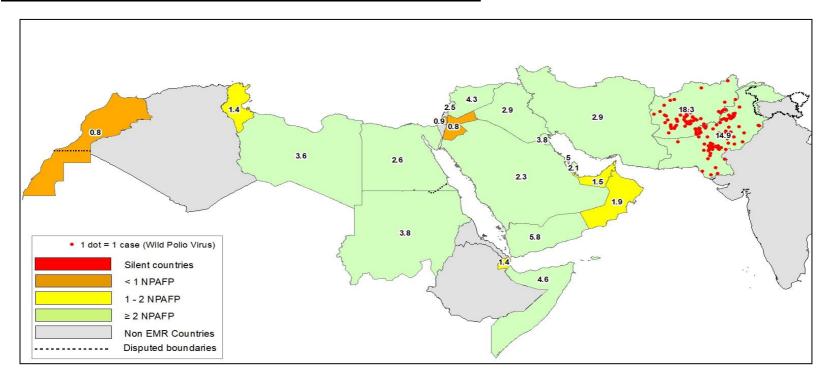


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2020 - 31/12/2020

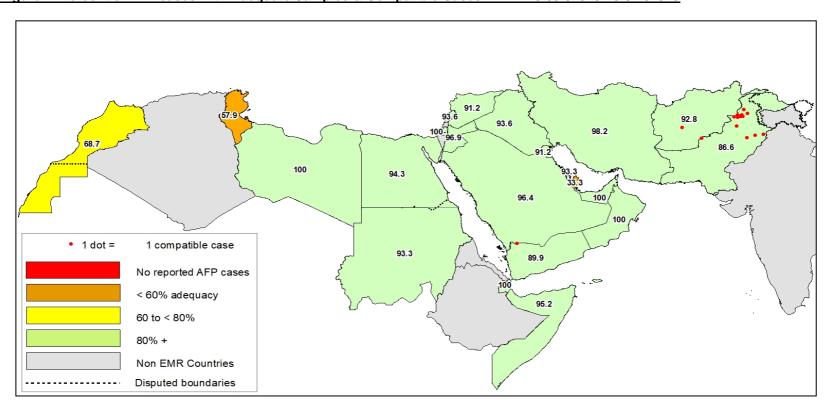


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2020 - 2021

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 Tot	:al		140	1-Jan-20	23-Nov-20

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

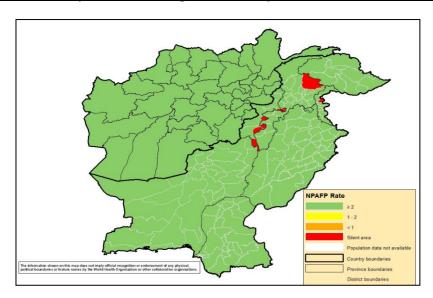


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2020 - 31/12/2020

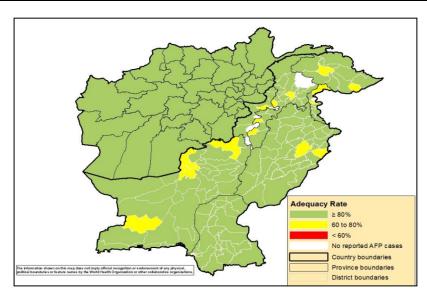
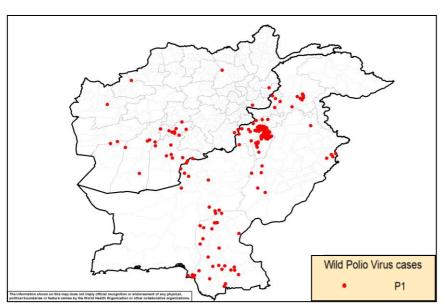
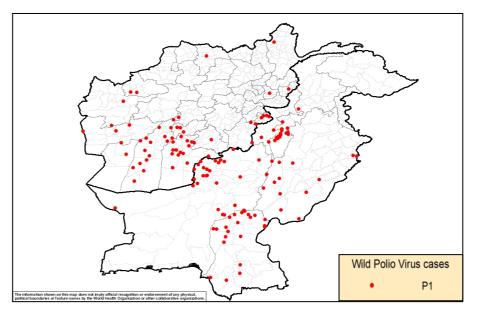


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

### 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 SHELTAN	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	7	7	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

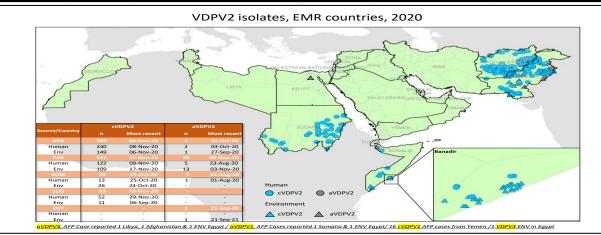
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2020	KHYBER PAKHTUNKHWA	PESHAWAR	1	13-Jul-20	13-Jul-20	
		WAZIR-S	2	21-Feb-20	8-Jun-20	
		BANNU	1	27-Apr-20	27-Apr-20	
		TANK	4	11-Jan-20	15-Mar-20	
		KARAK	2	20-Jan-20	13-Mar-20	
		LAKKIMRWT	12	2-Jan-20	9-Mar-20	
	BALOCHISTAN	KABDULAH	3	11-May-20	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	
		RAJANPUR	1	2-Jun-20	2-Jun-20	
	SINDH	JACOBABAD	4	7-Feb-20	14-Jul-20	
		GНОТКІ	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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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
		BANADIR	フ	18-Jun-20	30-Sep-20
	SUD	SOUTH DARFUR	2	7-Mar-20	29-Apr-20
		EAST DARFUR	3	12-May-20	24-Jul-20
		KHARTOUM	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
		FARAH	9	1-Jun-20	4-Nov-20
	AFG	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	3	20-Aug-20	24-Oct-20
		KANDAHAR	62	4-Aug-20	8-Nov-20
		HILMAND	24	1-Aug-20	31-Oct-20
		JAWZIAN	1	4-Aug-20	4-Aug-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	8	17-Sep-20	31-Oct-20
		URUZGAN	7	28-Aug-20	4-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
		BALOCHISTAN	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			427	2-Jan-20	29-Nov-20



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