

Highlights of Polio Fax Bulletin No. 1065 for Week 09 2019

I. Poliovirus Transmission

1. Endemic countries (PAKISTAN & AFGHANISTAN):

a. Human samples: No new wild poliovirus cases reported this week. Total WPV1 cases in 2019 remains to date to be 6 (2 from Afghanistan and 4 from Pakistan).

i. Afghanistan: In 2019 to date two cases are reported, both from Kandahar province. The most recent reported case has date of onset of paralysis on 12 January 2019.

- The total number of WPV1 cases in Afghanistan in 2018 to date remains 21 from six provinces (Hilmand-4 cases, Kandhar-9 cases, Kunar-3 cases, Nangarhar-2 cases, Uruzgan-2 cases and Nuristan-1 case).

ii. Pakistan: In 2019 to date, four cases are reported, two from Khyber Pakhtunkhwa (KP), one from KP Tribal District (KPTD) and one from Punjab. The most recent reported case has date of onset of paralysis on 20 January 2019.

- The total number of WPV1 cases in Pakistan in 2018 to date remains 12 from six infected districts in four provinces (Balochistan-3 cases, KP-2 cases and KPTD-6 cases and Sindh-1 case).

b. Environmental samples: Two new positive environmental samples for WPV1 were reported this week from Pakistan.

i. Afghanistan: In 2019 to date, there are 10 positive environmental samples with most recent positive sample collected on 26 January 2019.

- The total positive environmental samples from Afghanistan in 2018 remains to be 83.

ii. Pakistan: Two new positive environmental samples reported this week. Both are from Sindh province, one each from Karachi Gadap town and one from Hyderabad district. In 2019 to date, there are 33 positive environmental samples with most recent positive sample collected on 11 February 2019.

- The total positive environmental samples from Pakistan in 2018 remains to be 139.

II. Outbreak response countries

1. SOMALIA:

- No new circulating vaccine derived poliovirus (cVDPV) type-2 or type-3 isolates from human or environmental samples this week.
- A new ambiguous VDPV (aVDPV) type-2 environmental sample has been isolated from Hodan district, Banadir province, with date of specimen collection on 3 February 2019.

- a. In 2018 to date, Somalia has reported a total of 12 cases due to cVDPVs, which include 5 due to cVDPV2, 6 due to cVDPV3 and 1 due to co-infection of cVDPV2 and cVDPV3.
- b. cVDPV2:
 - i. The date of onset of the most recent cVDPV2 case is 2 September 2018.
 - ii. In 2018 so far, cVDPV2 has been isolated from 19 sewage samples in Mogadishu and date of specimen collection of recent most positive sample is 11 October 2018.
- c. cVDPV3:
 - i. The date of onset of the most recent cVDPV3 case is 7 September, 2018.
 - ii. In 2018 so far, cVDPV3 isolated from 11 sewage samples in Mogadishu and date of specimen collection of recent most positive sample is 23 August 2018.
- d. Co-infection cVDPV2 and cVDPV3:
 - i. The date of onset of the most recent coinfection is 11 May 2018.
 - ii. In 2018 so far, cVDPV2 and cVDPV3 coinfection is isolated from 1 sewage samples in Mogadishu and date of specimen collection of recent most positive sample is 19 April, 2018.

III. Surveillance performance indicators

1. In 2018 to date, 20 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.
 - a. Djibouti is missing both indicators. Djibouti, did not report any AFP case since April 2017.
 - b. Morocco has a percentage of AFP cases with adequate stool specimens of 73.7%
2. Yemen has 72 AFP cases which are not yet finally classified in 2017.

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 (09/19) / Ending on : 03/03/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	W50 16 Dec 18	W51 23 Dec 18	W52 30 Dec 18	W01 06 Jan 19	W02 13 Jan 19	W03 20 Jan 19	W04 27 Jan 19	W05 03 Feb 19	W06 10 Feb 19	W07 17 Feb 19	W08 24 Feb 19	W09 03 Mar 19
Afghanistan	3094	3377	592	53	47	52	77	79	81	80	69	84	66	51	7
Bahrain	18	35	2	1	1	0	0	1	0	1	0	0	0	0	0
Djibouti	4	0	0												
Egypt	1242	1246	194	19	23	13	28	27	30	25	22	24	20	17	2
Iran	820	896	133	19	21	19	18	20	20	31	20	18	5	1	
Iraq	699	1023	201	25	20	21	18	31	48	26	16	24	24	17	
Jordan ****	116	115	28	1	3	1	4	4	1	5	4	2	7	1	0
Kuwait	69	72	7	1	4	0	1	1	1	2	1	0	1	0	0
Lebanon ****	75	89	16	1	0	2	1	3	3	0	2	1	2	4	
Libya	88	122	18	2	2	2	3	3	2	2	1	3	5	0	
Morocco	143	213	6	3	4	5	5	2							
Oman	40	28	2	0	1	0	0	0	0	1	0	1	0	0	0
Pakistan	10319	12231	1862	282	216	250	272	280	340	254	237	248	210	51	0
Palestine ****	43	44	8	1	0	0	0	0	1	1	1	2	1	2	0
Qatar	18	10	0	0	0	1	0	0	0	0	0	0	0	0	
Saudi Arabia	276	241	31	5	11	2	5	7	4	7	5	4	0	0	
Somalia	345	353	46	4	7	5	6	5	3	10	7	11	3	2	0
Sudan	570	578	79	8	10	6	10	19	10	10	9	8	8	5	0
Syria ****	362	362	75	8	6	11	5	11	5	8	9	17	13	8	
Tunisia	67	68	7	2	0	0	3	1	2	1	0	0	1	0	
U.A.E	58	40	9	1	0	0	2	0	2	1	2	0	1	1	0
Yemen	713	730	118	12	14	15	21	7	14	19	17	17	18	6	
Total EMR	19179	21873	3434	448	390	405	479	501	567	484	422	464	385	166	9

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	03/03		Confirmed polio cases by month of onset											
			2018	2019	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019
Afghanistan	14	21	7	2	1	0	2	3	2	3	2	1	0	2		
Bahrain	0	0	0	0	0	0	0	0	0	0	0				0	
Djibouti	0	0	0	0	0	0	0	0	0	0	0					
Egypt	0	0	0	0	0	0	0	0	0	0	0					
Iran	0	0	0	0	0	0	0	0	0	0	0					
Iraq	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		
Kuwait	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		
Morocco	0	0	0	0	0	0	0	0	0							
Oman	0	0	0	0	0	0	0	0	0	0	0			0		
Pakistan	8	12	0	4	1	1	0	0	1	3	1	0	4	4		
Palestine ****	0	0	0	0	0	0	0	0	0	0	0					
Qatar	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					
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		
Syria ****	0	0	0	0	0	0	0	0	0	0	0					
Tunisia	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					
Yemen	0	0	0	0												
Total EMR	22	33	7	6	2	1	2	3	3	6	3	1	4	6	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 2018 & 2019 up to Week (09/19) / Ending on : 03/03/2019)

COUNTRY	2018											2019											Latest line List Date		
	AFP									Specimen	Wild cases ****		AFP									Specimen		Wild cases ****	
	Total AFP cases onset 2018	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 2019	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	3377	21	0	31	3325	0	16.6	15	3	93.7	21	0	592	2	0	210	380	0	17.2	0	0	94.9	2	0	03-03-2019
Bahrain	35	0	0	11	24	0	12.1	9	2	97.1	0	0	2	0	0	2	0	0	4.1	0	0	100.0	0	0	03-03-2019
Djibouti	0	0	0	0	0	0	0.0	0	0		0	0	0	0	0	0	0	0.0	0	0		0	0	09-12-2018	
Egypt	1246	0	0	5	1240	1	3.2	2	0	93.2	0	0	194	0	0	84	110	0	3.0	0	0	84.0	0	0	28-02-2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	133	0	0	16	117	0	4.1	0	0	97.0	0	0	02-03-2019
Iraq	1023	0	0	22	1001	0	6.7	13	0	89.8	0	0	201	0	0	56	145	0	7.7	0	0	98.0	0	0	28-02-2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	28	0	0	4	24	0	5.9	0	0	100.0	0	0	03-03-2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	7	0	0	5	2	0	4.6	0	0	71.4	0	0	03-03-2019
Lebanon	89	0	0	1	88	0	4.8	1	0	96.6	0	0	16	0	0	10	6	0	5.1	0	0	81.3	0	0	01-03-2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	18	0	0	8	10	0	4.2	0	0	100.0	0	0	02-03-2019
Morocco	213	0	0	80	133	0	2.4	59	13	73.7	0	0	6	0	0	6	0	0	0.3	0	0	50.0	0	0	18-01-2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	2	0	0	1	1	0	1.4	0	0	100.0	0	0	03-03-2019
Pakistan	12231	12	1	182	12036	0	15.7	92	0	87.3	12	0	1862	4	0	526	1332	0	14.0	0	0	93.9	4	0	03-03-2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	8	0	0	8	0	0	2.5	0	0	100.0	0	0	03-03-2019
Qatar	10	0	0	1	9	0	2.8	0	0	100.0	0	0	0	0	0	0	0	0.0	0	0		0	0	17-02-2019	
Saudi Arabia	241	0	0	26	215	0	3.0	5	0	95.9	0	0	31	0	0	31	0	0	2.3	0	0	77.4	0	0	28-02-2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	46	0	0	15	31	0	4.3	0	0	100.0	0	0	03-03-2019
Sudan	578	0	0	0	578	0	3.2	0	0	97.2	0	0	79	0	0	16	63	0	2.6	0	0	97.5	0	0	03-03-2019
Syria	362	0	0	0	362	0	4.7	0	0	87.3	0	0	75	0	0	38	37	0	5.7	0	0	88.0	0	0	02-03-2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	7	0	0	1	6	0	1.3	0	0	85.7	0	0	01-03-2019
U.A.E	40	0	0	3	37	0	3.2	1	0	97.5	0	0	9	0	0	5	4	0	4.2	0	0	88.9	0	0	03-03-2019
Yemen	730	0	0	638	92	0	5.2	584	535	91.6	0	0	118	0	0	116	2	0	4.9	0	0	94.1	0	0	02-03-2019
EMR	21873	33	1	1000	20824	15	8.7	781	553	89.9	33	0	3434	6	0	1158	2270	0	8.1	0	0	93.7	6	0	
2017	19179	22	3	72	19006	76	7.7	72	58	88.9	22	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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Table 4 (a): Lab results of contacts' samples in EMR, 2018 - 2019

COUNTRY	2018						2019					
	# OF CONTACTS	LAB RESULTS					# OF CONTACTS	LAB RESULTS				
		WILD	VDPV	SL	NPEV	PENDING		WILD	VDPV	SL	NPEV	PENDING
AFG	1009	4	0	52	217	0	180	0	0	5	18	29
BAH	2	0	0	0	0	0	0	0	0	0	0	0
DJI	0	0	0	0	0	0	0	0	0	0	0	0
EGY	495	0	0	11	58	17	63	0	0	0	2	9
IRN	145	0	0	3	6	0	5	0	0	0	0	0
IRQ	811	0	0	22	93	9	99	0	0	3	3	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	218	0	0	3	16	20	7	0	0	0	0	4
LIB	1	0	0	0	0	0	0	0	0	0	0	0
MOR	148	0	0	0	9	9	4	0	0	0	0	4
OMA	71	0	0	2	16	0	5	0	0	0	2	0
PAK	4209	3	0	207	882	0	782	0	0	55	37	158
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	5	0	0	0	0	5	0	0	0	0	0	0
SOM	1043	0	10	49	128	28	139	0	0	0	92	47
SUD	350	0	0	3	24	88	44	0	0	0	2	23
SYR	670	0	0	8	17	0	138	0	0	0	3	38
TUN	1	0	0	0	0	0	4	0	0	0	0	0
UAE	0	0	0	0	0	0	0	0	0	0	0	0
YEM	1557	0	0	0	0	1557	138	0	0	0	0	139
EMR	10735	7	10	360	1466	1733	1608	0	0	63	159	472

Table 4 (B): Most recent wild contacts in EMRO, 2018 - 2019

Year	Country	Data	
		Count of wild contacts	Date of Most Recent stool collection
2018	Afghanistan	4	07-08-18
	Pakistan	3	12-10-18
2018 Total		7	12-10-18

Table 4 (C): Number and distribution by district of -ve index AFP cases identified as wild positive by contact in EMR, 2018-2019

YEAR	COUNTRY	PROVINCE	DISTRICT	COUNT	First case	Last case
2018	AFG	NANGARHAR	PACHIERAGAM	1	17-07-18	17-07-18
		URUZGAN	SHAHID-E-HASSA	1	08-07-18	08-07-18
	PAK	FATA	BAJOUR	1	01-09-18	01-09-18
		BALUCHISTAN	DUKKI	1	15-04-18	15-04-18
2018 Total				4	15-04-18	01-09-18

Table 5: Laboratory investigation of AFP cases with paralysis onset in 2019 up to Week (09/2019) / Ending on : (03/03/2019)

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	546	27		30	352	126	11	2	19						13				1	7%	100%	100%	100%	02/03/2019	
Bahrain	NPL Oman / CDC																								25/02/2019	
Djibouti	NPL Kenya / CDC																								09/12/2018	
Egypt***	RRL Egypt	181	2		9	129	33	8								2					6%	96%	100%	100%	28/02/2019	
Iran	NPL Iran / CDC	160	1		2	136	21									1					1%	100%	100%	100%	02/03/2019	
Iraq	RRL Egypt	202	2		12	140	48									1					7%	100%	100%	100%	28/02/2019	
Jordan	NPL Jordan / RRL EGYPT	28			6	19	3														23%	100%			28/02/2019	
Kuwait	RRL Kuwait / RIVM	8			1	3		4													29%	100%		100%	07/02/2019	
Lebanon	NPL Jordan / RRL EGYPT	9			1	8															12%	100%			28/02/2019	
Libya	RRL Tunisia / RIVM	18			1	9	8														5%	100%		100%	01/03/2019	
Morocco	NPL Morocco / RRL Tunisia	27				21	6														2%	100%		100%	01/03/2019	
Oman	NPL Oman / CDC	2				1	1														20%	100%		100%	25/02/2019	
Pakistan	RRL Pakistan	1878	82	6	93	1226	456	15	4	58						61	1	1	1		5%	100%	100%	100%	02/03/2019	
Palestine & UNRWA		8				1	5	2													0%	0%		100%	03/03/2019	
Qatar	NPL Oman / CDC	1				1															0%	100%		100%	25/02/2019	
Saudi Arabia	NPL Saudi Arabia / CDC	39	1			24	10	4								1					0%	100%	100%	100%	03/03/2019	
Somalia	NPL Kenya / CDC	46	1		5	25	3	12		1						1					16%	16%		100%	03/03/2019	
Sudan	NPL Sudan / RRL Egypt	78	1		12	51	13	3													16%	94%		100%	04/03/2019	
Syria	NPL Syria / RRL Egypt	73	3			41	25	5													1%	100%			28/02/2019	
Tunisia	RRL Tunisia	10			1	7	2														19%	100%		100%	01/03/2019	
U.A.E	NPL Oman / CDC	4			1	3															25%	100%		50%	25/02/2019	
Yemen	NPL Kenya / CDC																								02/03/2019	
Total EMR 2019		3318	120	6	174	2197	760	64	6	78						80	1	1	1	1	6%	98%	100%	100%		
Total EMR 2018		20738	902	90	3511	16204	3	24	29	590	3		7	6 #		629	7 #		22	1	3	14%	92%	99%	97%	
* Specimens from all sources including non-AFP cases, excluding environmental samples									# Somalia in 2018 so far has a total of 12 cVDPV cases (5 cVDPV2, 6 cVDPV3 & 1 coinfection cVDPV2/cVDPV3)																	
** This indicator reflects surveillance and laboratory activities																										

Table 6: Environmental isolate by year and type

Country	Status	2015	2016	2017	2018	2019
AFG	NEGATIVE	129	183	274	253	16
	PENDING					22
	WILD	20	2	42	83	10
AFG Total		149	185	316	336	48
EGY	NEGATIVE	495	528	522	539	66
	PENDING					1
	VDPV2	3	1			
EGY Total		498	529	522	540	89
IRN	NEGATIVE				6	54
	PENDING					2
IRN Total				6	54	14
JOR	NEGATIVE		2	32	19	3
	PENDING					17
JOR Total			2	32	36	6
LEB	NEGATIVE		4	27	11	1
	PENDING					34
LEB Total			4	27	45	8
PAK	NEGATIVE	347	462	523	534	33
	PENDING					46
	WILD	79	59	105	139	33
	WILD & VDPV2	5	3	1		
	VDPV2	8	5	4		
PAK Total		439	529	633	673	112
SOM	NEGATIVE				34	181
	VDPV2				2	20
	VDPV3					12
SOM Total				36	213	12
SYR	NEGATIVE				4	102
	PENDING					8
SYR Total				4	102	22
Grand Total		1086	1249	1576	1999	311

Table 7: Environmental Wild/VDPV isolate by site

Country	COUNTRY	Status	PROVINCE	DISTRICT	Count	First date	Last date	
2018	AFG	WILD	HILMAND	LASHKARGAH	12	8-Jan	26-Dec	
				HERAT	1	25-Jun	25-Jun	
				KABUL	3	26-Feb	26-Jun	
				KANDAHAR	42	8-Jan	26-Dec	
				KHOST(MATUN)	1	25-Sep	25-Sep	
				ASADABAD	2	24-Apr	25-Sep	
				BEHSUD	3	28-Jan	25-Oct	
				JALALABAD	19	27-Jan	26-Dec	
	AFG Total				83	8-Jan	26-Dec	
	PAK	WILD	BALOCHISTAN	KABDULLAH	2	1-Dec	15-Dec	
				LORALAI	2	17-Mar	17-Aug	
				PISHIN	1	2-Dec	2-Dec	
				QUETTA	13	13-Feb	20-Dec	
				KABDULAH	6	1-Jan	15-Nov	
				ISLAMABAD	7	10-Jan	10-Nov	
				PUNJAB	12	11-Jun	18-Dec	
				LAHORE	15	10-Jan	14-Dec	
				DGKHAN	2	12-Feb	12-Sep	
				HYDERABAD	1	9-Feb	9-Feb	
				JACOBABAD	3	12-Feb	12-Sep	
				KAMBAR	3	7-Apr	9-Jul	
				KHIBALDIA	2	1-Aug	4-Sep	
				KHIGADAP	15	15-Feb	11-Dec	
				KHIKORANGI	1	14-Dec	14-Dec	
				KHILANDHI	3	10-Jan	30-Jul	
KHISITE				2	1-Jan	3-Sep		
SUKKUR				2	8-Feb	9-Nov		
KHILIAQAT				2	7-Mar	7-Nov		
KHISADDAR				1	10-Sep	10-Sep		
KHIMALIR	1	13-Sep	13-Sep					
FATA	BAJOUR	5	19-May	25-Oct				
	WAZIR-S	2	26-Nov	27-Dec				
	BANNU	4	31-Mar	27-Dec				
	KOHAT	5	5-Jan	27-Sep				
MARDAN	2	15-Oct	15-Nov					
	NOWSHERA	2	18-Sep	18-Oct				
	PESHAWAR	23	10-Jan	26-Dec				
	PAK Total			139	1-Jan	27-Dec		
SOM	VDPV2	BANADIR	HAMAR WEYN	11	4-Jan	20-Sep		
			HODAN	2	22-Feb	4-Oct		
	VDPV3	BANADIR	WABERI	7	1-Mar	11-Oct		
			HAMAR WEYN	6	11-Feb	5-Apr		
	HODAN	1	1-Feb	1-Feb				
	WABERI	5	8-Mar	23-Aug				
SOM Total				32	4-Jan	11-Oct		
2018 Total				254	1-Jan	27-Dec		
2019	AFG	WILD	HILMAND	NAHR-E-SARAJ	1	6-Jan	6-Jan	
			KANDAHAR	8	6-Jan	26-Jan		
			NANGARHAR	1	26-Jan	26-Jan		
	AFG Total				10	6-Jan	26-Jan	
	PAK	WILD	BALOCHISTAN	KABDULLAH	3	1-Jan	2-Feb	
				QUETTA	3	1-Jan	23-Jan	
				KHYBER PAKHTUNKHWA	BANNU	1	28-Jan	28-Jan
				DIKHAN	1	8-Jan	8-Jan	
				PESHAWAR	2	11-Jan	24-Jan	
				PUNJAB	FAISALABAD	1	3-Jan	3-Jan
				LAHORE	5	5-Jan	6-Feb	
				RAWALPINDI	2	10-Jan	10-Jan	
				HYDERABAD	2	24-Jan	11-Feb	
JACOBABAD				1	24-Jan	24-Jan		
KHIBALDIA	1	2-Jan	2-Jan					
KHIGADAP	4	8-Jan	11-Feb					
KHISITE	2	3-Jan	6-Feb					
SUKKUR	1	23-Jan	23-Jan					
KHILIAQAT	1	7-Feb	7-Feb					
KHISADDAR	1	7-Jan	7-Jan					
KURRAM	1	15-Jan	15-Jan					
WAZIR-S	1	22-Jan	22-Jan					
PAK Total				33	1-Jan	11-Feb		
SOM	VDPV2	BANADIR	HODAN	1	3-Feb	3-Feb		
SOM Total				1	3-Feb	3-Feb		
2019 Total				44	1-Jan	11-Feb		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 03/03/2019

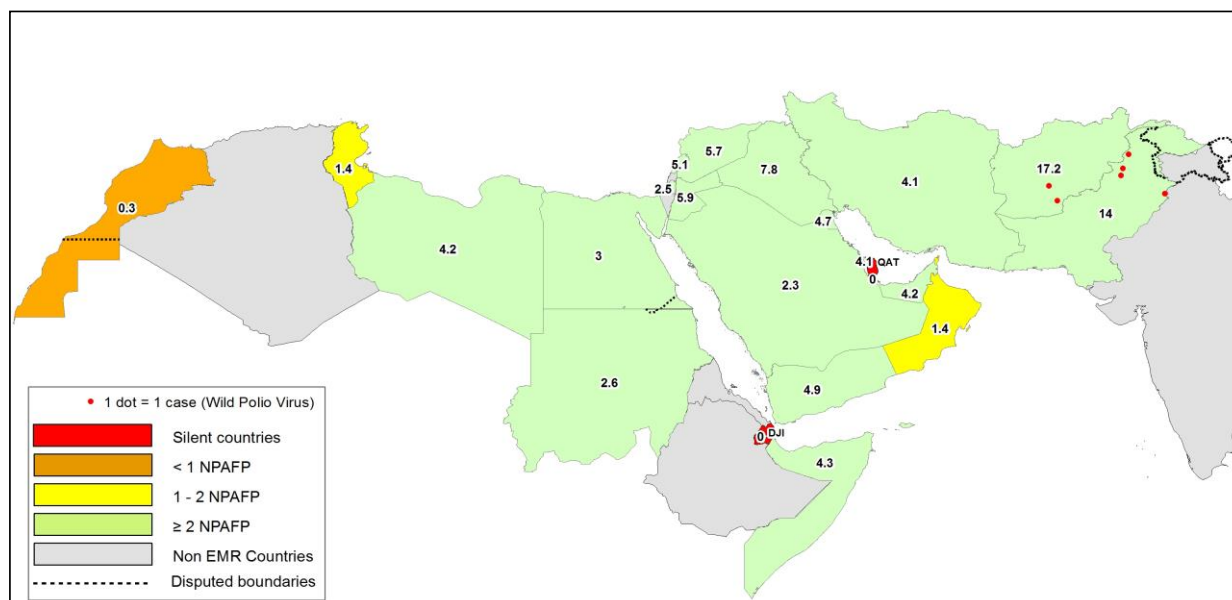


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 03/03/2019

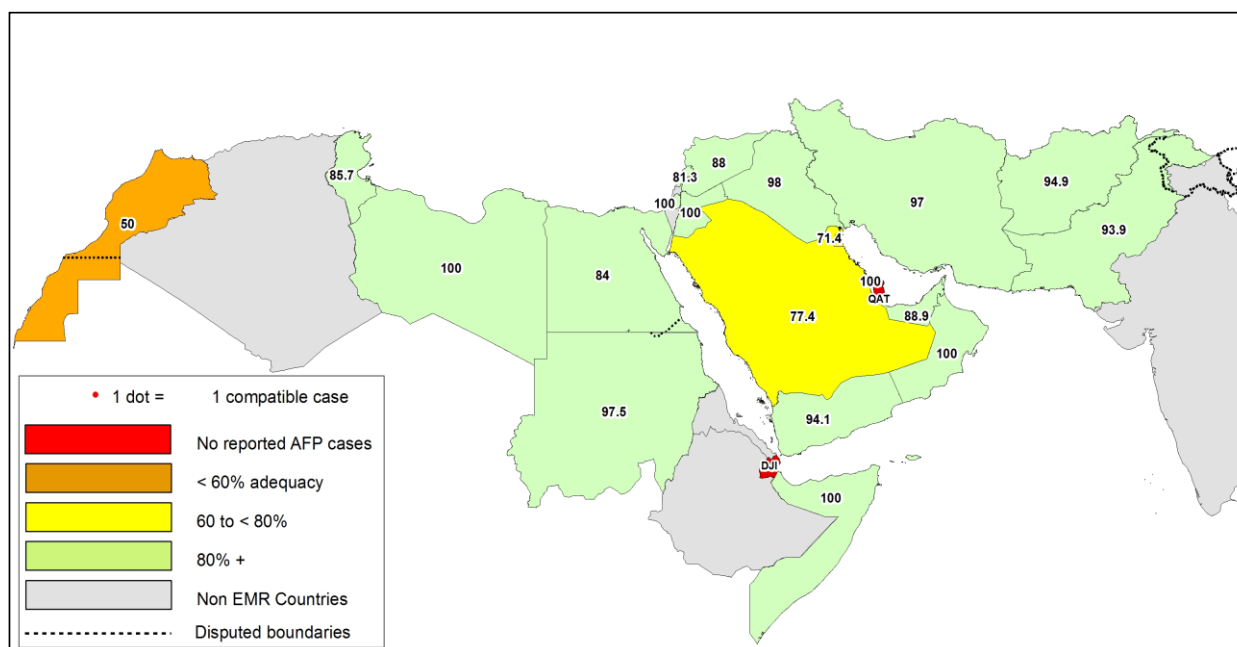


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

Year	COUNTRY	Count	First Case	Last Case
2018	AFG	21	1-Jan-18	6-Nov-18
	PAK	12	8-Mar-18	31-Dec-18
2018 Total		33	1-Jan-18	31-Dec-18
2019	AFG	2	4-Jan-19	12-Jan-19
	PAK	4	15-Jan-19	20-Jan-19
2019 Total		6	4-Jan-19	20-Jan-19

Last reported wild Polio P3 from Pakistan with date of onset 18/04/2012

Figure 3: Non Polio AFP rate by Province in Afghanistan & by District in Pakistan 01/01/2019 - 03/03/2019

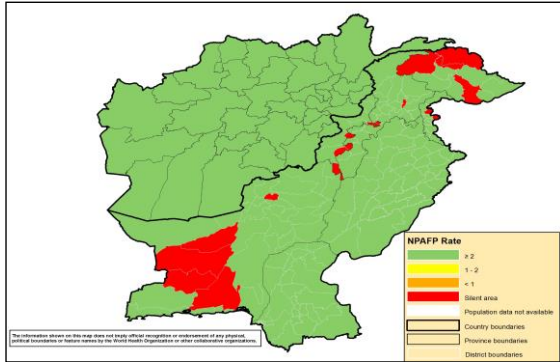


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 03/03/2019

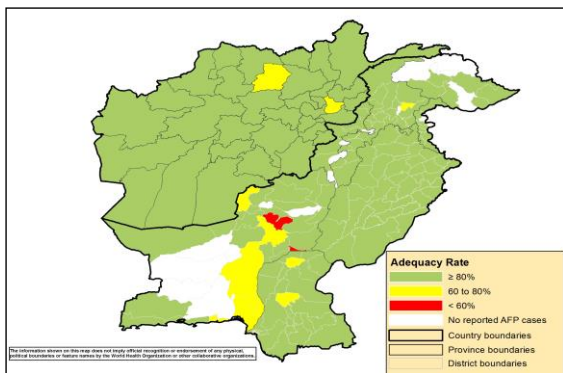
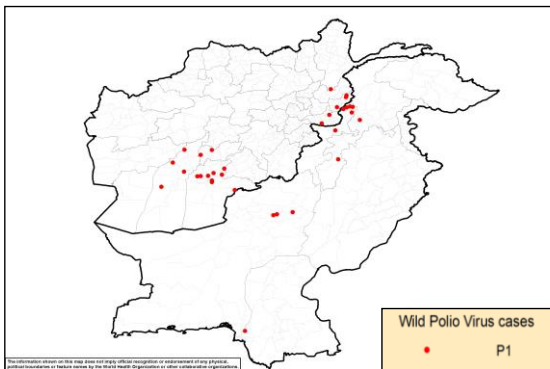
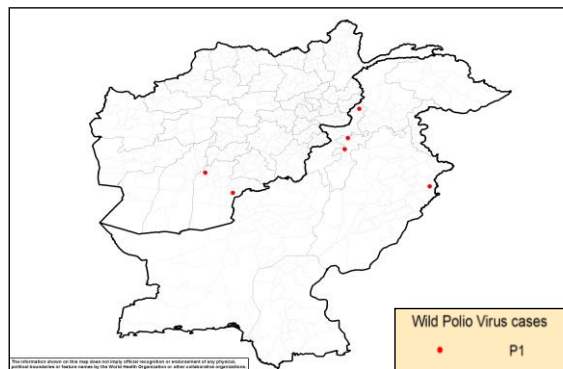


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

5(a) 01/01/2018 - 31/12/2018



5(b) 01/01/2019 - 03/03/2019



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Table 9: Wild Polio cases by district and date of onset of paralysis, Afghanistan 2018-2019						
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	HILMAND	NAWZAD	3	1-Sep-18	6-Nov-18	
		NAD-E-ALI	1	1-Jun-18	1-Jun-18	
	URUZGAN	SHAHID-E-HASSAS	2	8-Jul-18	9-Oct-18	
	NURISTAN	PORUNS	1	26-Sep-18	26-Sep-18	
	KANDAHAR	MAYWAND	1	24-Sep-18	24-Sep-18	
		KANDAHAR	2	11-Aug-18	27-Aug-18	
		ARGHANDAB (K)	1	17-Jul-18	17-Jul-18	
		SHAHWALIKOT	3	5-Jan-18	27-Apr-18	
		KHAKREZ	1	25-Feb-18	25-Feb-18	
		SPINBOLDAK	1	6-Jan-18	6-Jan-18	
	NANGARHAR	PACHIERAGAM	1	17-Jul-18	17-Jul-18	
		KAMA	1	1-Jan-18	1-Jan-18	
	KUNAR	CHAWKAY	1	22-Jun-18	22-Jun-18	
		GHAZIABAD	2	14-Feb-18	3-Mar-18	
2018 Total			21	1-Jan-18	6-Nov-18	
2019	KANDAHAR	GHORAK	1	12-Jan-19	12-Jan-19	
		SPINBOLDAK	1	4-Jan-19	4-Jan-19	
2019 Total			2	4-Jan-19	12-Jan-19	

Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2018-2019						
ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case	
2018	FATA	BAJOUR	5	1-Sep-18	31-Dec-18	
		KHYBER	1	25-Sep-18	25-Sep-18	
	KHYBER PAKHTOON	LAKKIMRWT	1	16-Dec-18	16-Dec-18	
		CHARSADA	1	1-Aug-18	1-Aug-18	
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18	
	BALUCHISTAN	DUKKI	3	8-Mar-18	18-May-18	
2018 Total			12	8-Mar-18	31-Dec-18	
2019	PUNJAB	LAHORE	1	20-Jan-19	20-Jan-19	
	KHYBER PAKHTOON	HANGU	1	20-Jan-19	20-Jan-19	
		BANNU	1	15-Jan-19	15-Jan-19	
	FATA	BAJOUR	1	18-Jan-19	18-Jan-19	
2019 Total			4	15-Jan-19	20-Jan-19	

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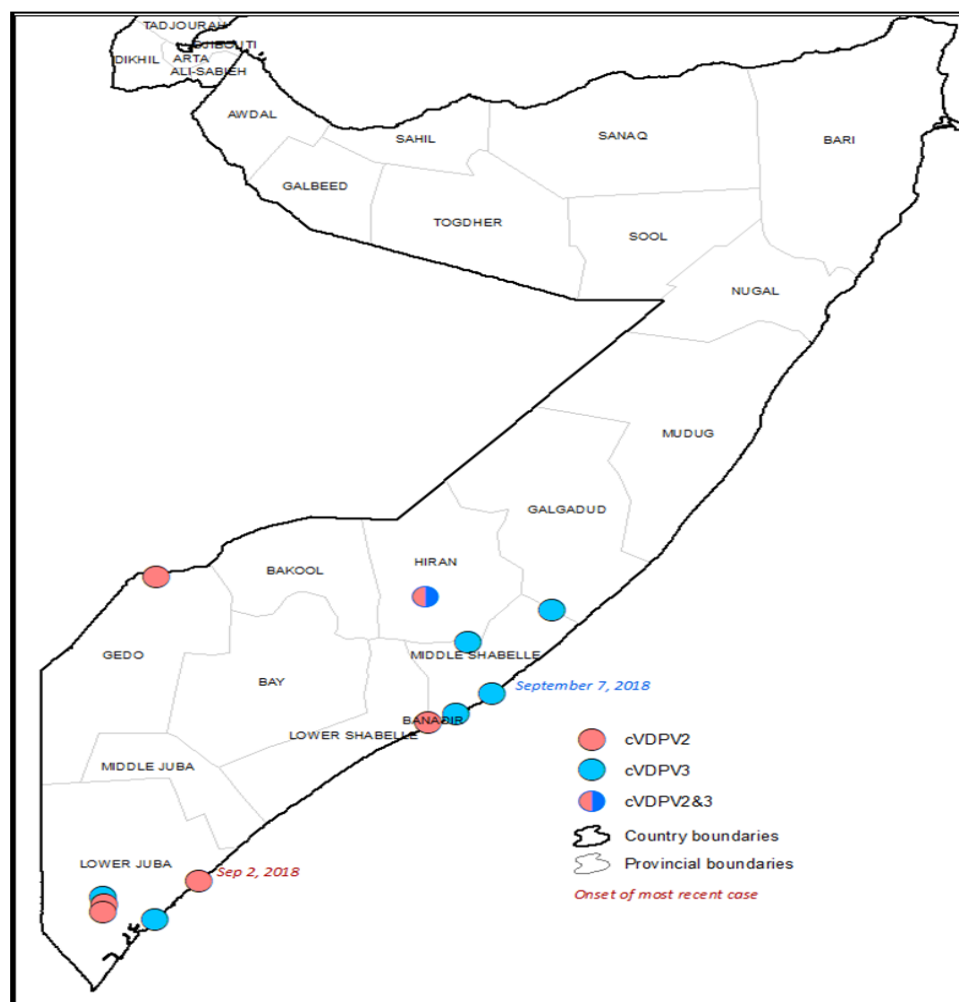
4-Mar-19
Number 1065

Table 11: Circulating VDPV cases and date of onset of paralysis in EMR countries by districts 2018-2019

Year	COUNTRY	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
2018	SOM	LOWER JUBA	Jamaame West	1	02-Sep-18	02-Sep-18			
			KISMAYO	2	29-Jul-18	30-Jul-18	2	24-Jul-18	27-Jul-18
		MIDDLE SHABELLE	RUNINGOD				1	07-Sep-18	07-Sep-18
			MAHADAY WARSHAIKH				1	29-Jun-18	29-Jun-18
		BANADIR	DANYILE	1	10-Jul-18	10-Jul-18			
		HIRAN	BULO BURTU	1	11-May-18	11-May-18	1	11-May-18	11-May-18
		GEDO	DOLO	1	26-May-18	26-May-18			
SOM Total				6	11-May-18	2-Sep-18	7	11-May-18	7-Sep-18
2018 Total				6	11-May-18	2-Sep-18	7	11-May-18	7-Sep-18

Somalia in 2018 so far has a total of 12 cVDPV cases (5 cVDPV2, 6 cVDPV3 & 1 coinfection cVDPV2/cVDPV3)

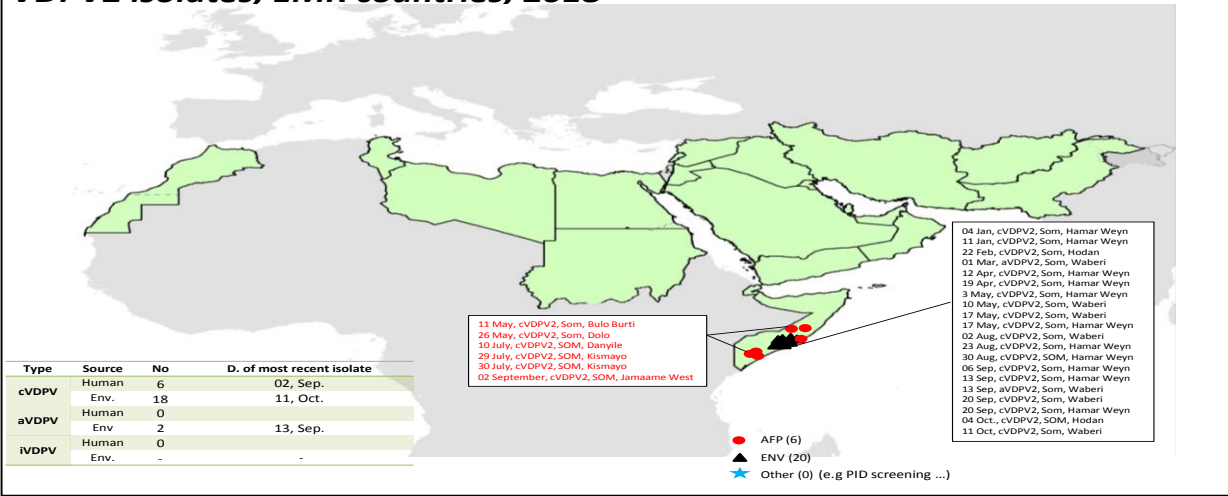
Figure 6: Somalia cVDPV cases by type and district 01/01/2018 - 03/03/2019



Sabin Like Type-2 Poliovirus Isolates (H & E) EMR, 2016-19



VDPV2 isolates, EMR countries, 2018



VDPV2 isolates, EMR countries, 2019

