

Highlights of Polio Fax Bulletin No. 1070 for Week 14 2019

I. Poliovirus Transmission

1. Endemic countries (PAKISTAN & AFGHANISTAN): Four new wild poliovirus type-1 (WPV1) positive environmental samples from Pakistan.
 - a. Human samples: No new wild poliovirus cases reported this week. Total WPV1 cases in 2019 to date are 9 (3 from Afghanistan and 6 from Pakistan).
 - i. Afghanistan: No new wild poliovirus cases reported this week. In 2019 to date three WPV1 cases were reported, two from Kandahar province and one from Uruzgan province. The most recent reported case has date of onset of paralysis on 25 February 2019.
 - ii. Pakistan: No new wild poliovirus cases reported this week. In 2019 to date, the total number of WPV1 cases in Pakistan is six, two from Khyber Pakhtunkhwa (KP), two from KP Tribal Districts (KPTD), one from Punjab and one from Sindh. The most recent reported case has date of onset of paralysis on 25 February 2019.
 - b. Environmental samples: Four new positive environmental samples for WPV1 were reported this week from Pakistan.
 - i. Afghanistan: No new WPV1 positive environmental samples. In 2019 to date, there are 15 positive environmental samples with most recent positive sample collected on 23 February 2019.
 - ii. Pakistan: The four new WPV1 positive environmental samples reported this week include one each from Sindh province (from Karachi Landhi town); Punjab province (from Multan district); Balochistan province (from Kila Abdullah district) and KP province (from Peshawar district). In 2019 to date, there are 75 positive environmental samples with most recent positive sample collected on 18 March 2019.

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. 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 77.8%
2. Yemen has 72 AFP cases which are not yet finally classified in 2017. In addition, 422 AFP cases with onset in 2018 and 188 cases with onset in 2019 are pending for classification due to pendency for laboratory testing. Relentless efforts are being made to ship specimen to different laboratories in the Global Polio Laboratory Network to clear backlog.

World Health Organization – Regional Office for Eastern Mediterranean

AFP SURVEILLANCE

8-Apr-19

Week 14, ending 7 April 2019

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

Country	Reported AFP cases by week of onset - Week (14/19) / Ending on : 07/04/2019														
	Total AFP 2017	Total AFP 2018	Total AFP to date, 2019	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	W10 10 Mar 19	W11 17 Mar 19	W12 24 Mar 19	W13 31 Mar 19	W14 07 Apr 19
Afghanistan	3094	3378	978	81	81	70	86	70	78	82	74	64	66	56	14
Bahrain	18	35	5	0	1	0	0	0	1	0	1	0	0	1	0
Djibouti	4	0	0												
Egypt	1242	1246	331	30	26	22	24	20	20	40	31	30	23	11	0
Iran	820	896	226	20	31	23	27	15	27	11	15	9	6	4	0
Iraq	699	1023	290	48	26	16	24	25	32	21	17	16	12	6	1
Jordan ****	116	115	47	1	5	4	2	7	1	2	4	5	4	3	1
Kuwait	69	72	14	1	2	1	0	1	0	1	3	2	1	0	0
Lebanon ****	75	89	24	3	0	2	1	3	4	2	2	1	1	1	
Libya	88	122	24	2	2	1	3	5	0	1	1	1	1	1	1
Morocco	143	212	44	2	3	6	4	4	3	4	7	1			
Oman	40	28	3	0	1	0	1	0	0	1	0	0	0		
Pakistan	10319	12264	3044	356	271	253	281	277	251	228	229	220	136	10	0
Palestine ****	43	44	13	1	1	1	2	1	2	1	1	2	1	0	0
Qatar	18	10	0	0	0	0	0	0	0	0	0	0	0	0	0
Saudi Arabia	276	241	66	4	7	6	4	5	3	6	8	10	1	1	
Somalia	345	353	90	3	10	7	13	3	4	7	8	8	12	4	1
Sudan	570	578	131	10	10	9	8	10	12	18	7	12	2	4	0
Syria ****	362	362	122	5	8	9	17	14	13	10	8	6	3	12	1
Tunisia	67	68	16	2	1	0	0	4	0	2	3	0	1	0	
U.A.E	58	40	12	2	2	2	0	1	1	0	1	1	0	0	0
Yemen	713	730	190	15	19	17	18	18	14	14	10	15	11	8	3
Total EMR	19179	21906	5670	586	507	449	515	483	466	451	430	403	281	122	22

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2017	Total year 2018	07/04		Confirmed polio cases by month of onset											
			2018	2019	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019	April 2019
Afghanistan	14	21	7	3	0	2	3	2	3	2	1	0	2	1		
Bahrain	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				
Egypt	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			
Iraq	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			
Kuwait	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			
Libya	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			
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0			
Pakistan	8	12	1	6	1	0	0	1	3	1	0	4	4	2		
Palestine ****	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			
Somalia	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			
Syria ****	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			
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0			
Yemen	0	0	0	0												
Total EMR	22	33	8	9	1	2	3	3	6	3	1	4	6	3	0	0

**** UNRWA cases are included with those of country of residence

AFP SURVEILLANCE

8-Apr-19

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Table 3: Investigation of AFP cases with paralysis onset in 2018 & 2019 up to Week (14/19) / Ending on : 07/04/2019

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	3378	21	0	14	3343	0	16.6	14	0	93.7	21	0	978	3	0	240	735	0	18.1	5	1	93.6	3	0	07-04-2019
Bahrain	35	0	0	5	30	0	12.1	5	0	97.1	0	0	5	0	0	5	0	0	6.5	0	0	100.0	0	0	07-04-2019
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	2	1243	1	3.2	2	0	93.2	0	0	331	0	0	105	226	0	3.2	2	0	90.6	0	0	07-04-2019
Iran	896	0	0	0	894	2	4.6	0	0	97.0	0	0	226	0	0	16	210	0	4.4	0	0	95.1	0	0	07-04-2019
Iraq	1023	0	0	0	1023	0	6.7	0	0	89.9	0	0	290	0	0	52	238	0	7.1	0	0	96.6	0	0	05-04-2019
Jordan	115	0	0	0	115	0	4.1	0	0	100.0	0	0	47	0	0	10	37	0	6.3	0	0	100.0	0	0	04-04-2019
Kuwait	72	0	0	0	72	0	8.1	0	0	90.3	0	0	14	0	0	4	10	0	5.9	0	0	100.0	0	0	08-04-2019
Lebanon	89	0	0	1	88	0	4.8	1	0	96.6	0	0	24	0	0	7	17	0	4.9	1	0	87.5	0	0	05-04-2019
Libya	122	0	0	0	122	0	4.9	0	0	96.7	0	0	24	0	0	6	18	0	3.6	0	0	100.0	0	0	06-04-2019
Morocco	212	0	0	1	211	0	2.4	1	0	77.8	0	0	44	0	0	32	12	0	1.8	1	0	54.5	0	0	22-03-2019
Oman	28	0	0	0	28	0	3.2	0	0	92.9	0	0	3	0	0	1	2	0	1.3	0	0	66.7	0	0	24-03-2019
Pakistan	12264	12	1	36	12215	0	15.7	36	0	87.1	12	0	3044	6	0	426	2612	0	14.6	25	0	91.2	6	0	07-04-2019
Palestine	44	0	0	0	44	0	2.3	0	0	90.9	0	0	13	0	0	11	2	0	2.6	0	0	100.0	0	0	07-04-2019
Qatar	10	0	0	0	10	0	2.8	0	0	100.0	0	0	0	0	0	0	0	0.0	0	0		0	0	08-04-2019	
Saudi Arabia	241	0	0	0	241	0	3.0	0	0	95.9	0	0	66	0	0	50	16	0	3.1	3	0	87.9	0	0	04-04-2019
Somalia	353	0	0	0	341	12	5.5	0	0	97.7	0	0	90	0	0	24	66	0	5.3	0	0	97.8	0	0	07-04-2019
Sudan	578	0	0	0	578	0	3.2	0	0	97.2	0	0	131	0	0	25	106	0	2.7	0	0	98.5	0	0	07-04-2019
Syria	362	0	0	0	362	0	4.7	0	0	87.3	0	0	122	0	0	36	86	0	5.9	0	0	89.3	0	0	06-04-2019
Tunisia	68	0	0	0	68	0	2.6	0	0	80.9	0	0	16	0	0	4	11	1	2.0	0	0	75.0	0	0	05-04-2019
U.A.E	40	0	0	2	38	0	3.2	2	1	97.5	0	0	12	0	0	5	7	0	3.6	0	0	91.7	0	0	07-04-2019
Yemen	730	0	0	422	308	0	5.2	422	386	91.6	0	0	190	0	0	188	2	0	5.1	20	18	89.5	0	0	06-04-2019
EMR	21906	33	1	483	21374	15	8.7	483	387	89.8	33	0	5670	9	0	1247	4413	1	8.5	57	19	91.9	9	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	284	0	0	12	38	30
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	117	0	0	4	3	24
IRN	145	0	0	3	6	0	32	0	0	0	1	0
IRQ	811	0	0	22	93	9	129	0	0	3	6	6
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	16	0	0	0	0	13
LIB	1	0	0	0	0	0	0	0	0	0	0	0
MOR	161	0	0	0	9	9	19	0	0	1	0	9
OMA	70	0	0	2	16	0	10	0	0	0	3	0
PAK	4209	3	0	207	882	0	1210	0	0	76	105	74
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	1050	0	10	49	133	2	278	0	0	2	17	72
SUD	350	0	0	3	24	88	73	0	0	0	3	20
SYR	670	0	62	8	17	0	229	0	0	4	4	50
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	190	0	0	0	0	191
EMR	10754	7	72	360	1471	1707	2591	0	0	102	180	489

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 (14/2019) / Ending on : (07/04/2019)

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									
Afghanistan	RRL Pakistan	914	64	1	92	646	114		3	44					42				4	10%	100%	100%	99%	07/04/2019	
Bahrain	NPL Oman / CDC																							08/04/2019	
Djibouti	NPL Kenya / CDC																							09/12/2018	
Egypt***	RRL Egypt	342	21		12	243	56	10		11					13			1	1	4%	98%	100%	99%	04/04/2019	
Iran	NPL Iran / CDC	237	5		3	217	12			1					4					1%	100%	100%	99%	06/04/2019	
Iraq	RRL Egypt	291	3		30	225	31	2							1					10%	100%	100%	100%	04/04/2019	
Jordan	NPL Jordan / RRL EGYPT	48			6	37	5													15%	100%			07/04/2019	
Kuwait	RRL Kuwait / RIVM	18			1	13	1	3												13%	100%		100%	05/04/2019	
Lebanon	NPL Jordan / RRL EGYPT	23	1		1	18	3													6%	100%			07/04/2019	
Libya	RRL Tunisia / RIVM	21			1	18	2													3%	100%		100%	04/04/2019	
Morocco	NPL Morocco / RRL Tunisia	47			1	38	7	1												3%	100%		100%	05/04/2019	
Oman	NPL Oman / CDC	3				3														14%	100%		100%	08/04/2019	
Pakistan	RRL Pakistan	3040	128	14	245	2382	266	8	6	90					88			2	1	2	7%	100%	100%	98%	07/04/2019
Palestine & UNRWA		13			3	8	1	1												27%	45%		100%	07/04/2019	
Qatar	NPL Oman / CDC	1				1														0%	100%		100%	08/04/2019	
Saudi Arabia	NPL Saudi Arabia / CDC	71	1			52	14	4							1					0%	92%	100%	100%	02/04/2019	
Somalia	NPL Kenya / CDC	89	4		8	55	14	8		1					3				1	12%	18%		100%	07/04/2019	
Sudan	NPL Sudan / RRL Egypt	119	1		16	72	2	28							1					15%	96%	100%	50%	31/03/2019	
Syria	NPL Syria / RRL Egypt	114	8		2	88	12	4		3					2					2%	100%	100%	0%	04/04/2019	
Tunisia	RRL Tunisia	16	1		1	14									1					12%	100%	100%	100%	04/04/2019	
U.A.E	NPL Oman / CDC	10			1	9														10%	100%		40%	08/04/2019	
Yemen	NPL Kenya / CDC																							06/04/2019	
Total EMR 2019		5417	237	15	423	4139	540	69	9	150					155	1		3	2	7	7%	98%	100%	98%	
Total EMR 2018		20744	902	90	3512	16214		22	29	590	3		6	6 #	628	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	32
	PENDING					21
	WILD	20	2	42	83	15
AFG Total		149	185	316	336	68
EGY	NEGATIVE	495	528	522	539	122
	PENDING				1	19
	VDPV2	3	1			
EGY Total		498	529	522	540	141
IRN	NEGATIVE			6	54	14
IRN Total				6	54	14
JOR	NEGATIVE		2	32	19	5
	PENDING				17	4
JOR Total			2	32	36	9
LEB	NEGATIVE		4	27	11	3
	PENDING				34	9
LEB Total			4	27	45	12
PAK	NEGATIVE	347	462	523	534	81
	PENDING					25
	WILD	79	59	105	139	75
	WILD & VDPV2	5	3	1		
	VDPV2	8	5	4		
PAK Total		439	529	633	673	181
SOM	NEGATIVE			34	181	11
	PENDING					4
	VDPV2			2	20	1
	VDPV3				12	
SOM Total				36	213	16
SYR	NEGATIVE			4	102	21
	PENDING					21
SYR Total				4	102	42
Grand Total		1086	1249	1576	1999	483

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	1	25-Sep	25-Sep	
				KUNAR	2	24-Apr	25-Sep	
				NANGARHAR	3	28-Jan	25-Oct	
				JALALABAD	19	27-Jan	26-Dec	
	AFG Total				83	8-Jan	26-Dec	
	PAK	WILD	BALOCHISTAN	LORALAI	2	17-Mar	17-Aug	
				PISHIN	1	2-Dec	2-Dec	
				QUETTA	13	13-Feb	20-Dec	
				KABDULAH	8	1-Jan	15-Dec	
				ISLAMABAD	7	10-Jan	10-Nov	
				PUNJAB	LAHORE	12	11-Jun	18-Dec
					RAWALPINDI	15	10-Jan	14-Dec
					DGKHAN	2	12-Feb	12-Sep
					SINDH	HYDERABAD	1	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				
	KHYBER PAKHTOONKHWA	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		
			WABERI	7	1-Mar	11-Oct		
			VDPV3	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	LASHKARGAH	1	23-Feb	23-Feb	
				NAHR-E-SARAJ	3	6-Jan	26-Jan	
				KANDAHAR	9	6-Jan	23-Feb	
				NANGARHAR	2	26-Jan	23-Feb	
	AFG Total				15	6-Jan	23-Feb	
	PAK	WILD	BALOCHISTAN	QUETTA	7	1-Jan	28-Feb	
				KABDULAH	6	1-Jan	15-Mar	
				PUNJAB	FAISALABAD	2	3-Jan	6-Feb
					LAHORE	13	5-Jan	18-Mar
				MULTAN	1	18-Feb	18-Feb	
				RAWALPINDI	4	10-Jan	14-Mar	
				SINDH	HYDERABAD	3	24-Jan	11-Mar
					JACOBABAD	2	24-Jan	12-Feb
					KHIBALDIA	2	2-Jan	5-Mar
					KHIGADAP	6	8-Jan	11-Mar
KHIKORANGI					2	18-Feb	15-Mar	
KHILANDHI	2	19-Feb	18-Mar					
KHISITE	3	3-Jan	4-Mar					
SUKKUR	3	23-Jan	13-Mar					
KHILIAQAT	2	7-Feb	6-Mar					
KHISADDAR	3	7-Jan	7-Mar					
FATA	WAZIR-S	2	22-Jan	25-Feb				
	KURRAM	1	15-Jan	15-Jan				
	KHYBER PAKHTOONKHWA	BANNU	2	28-Jan	4-Mar			
	DIKHAN	1	8-Jan	8-Jan				
KOHAT	1	27-Feb	27-Feb					
MARDAN	1	16-Mar	16-Mar					
PESHAWAR	6	11-Jan	18-Mar					
PAK Total				75	1-Jan	18-Mar		
SOM	VDPV2	BANADIR	HODAN	1	3-Feb	3-Feb		
SOM Total				1	3-Feb	3-Feb		
2019 Total				91	1-Jan	18-Mar		

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2019 - 07/04/2019

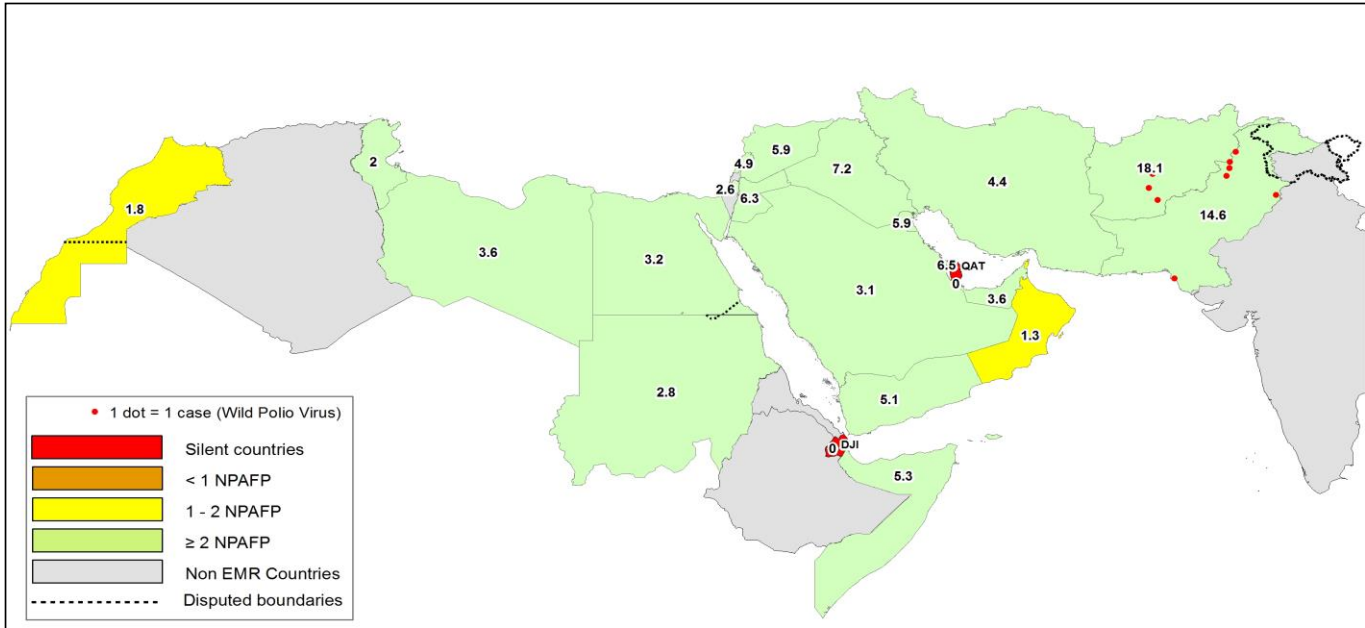


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2019 - 07/04/2019

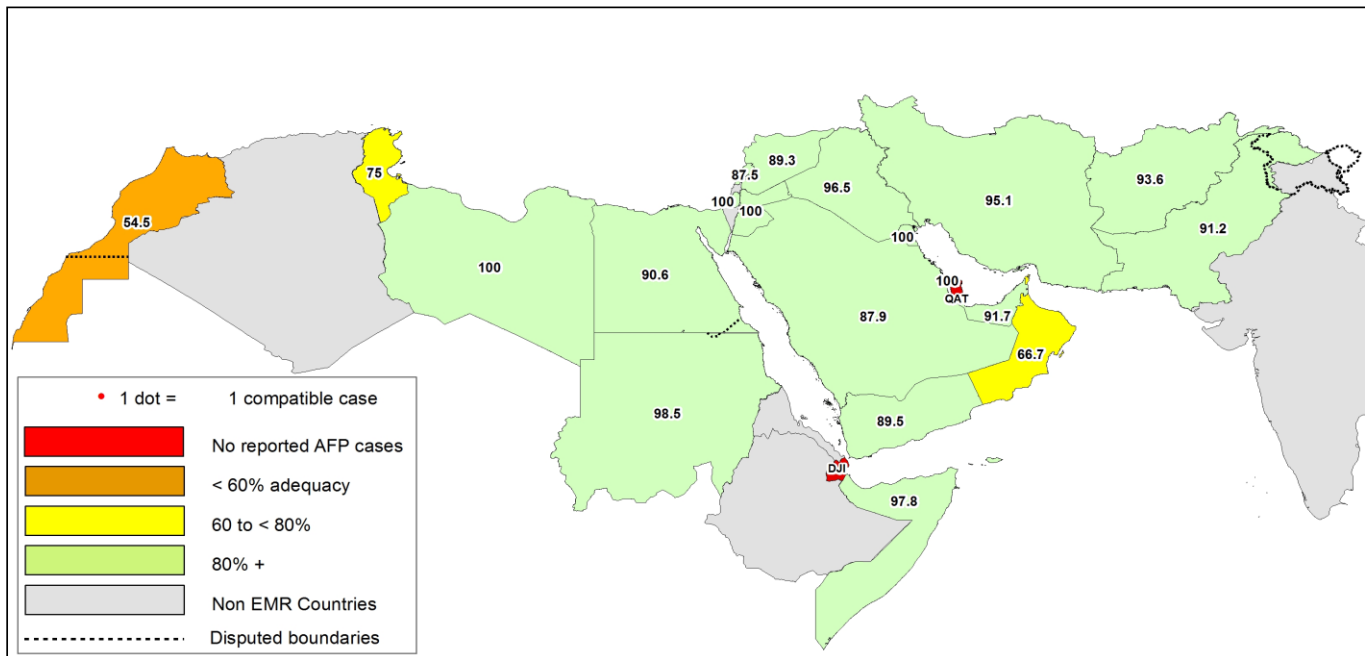


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2018 - 2019

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	3	4-Jan-19	25-Feb-19
	PAK	6	15-Jan-19	25-Feb-19
2019 Total		9	4-Jan-19	25-Feb-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 - 07/04/2019

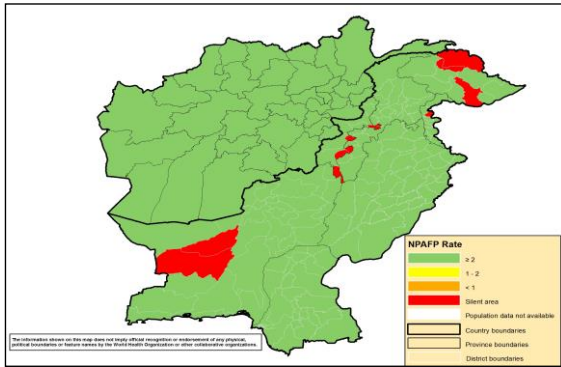


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2019 - 07/04/2019

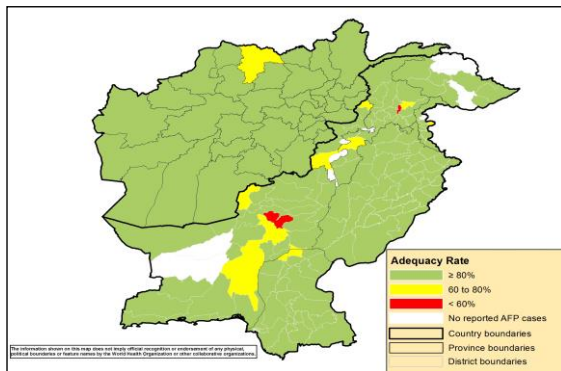
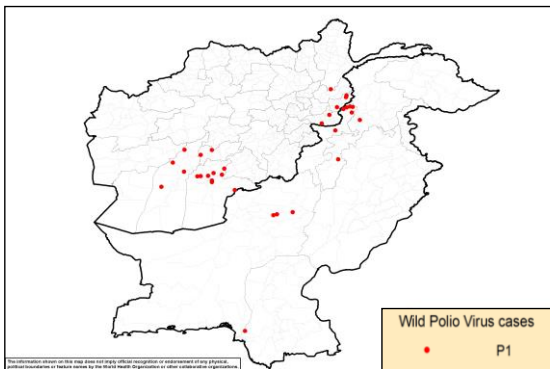
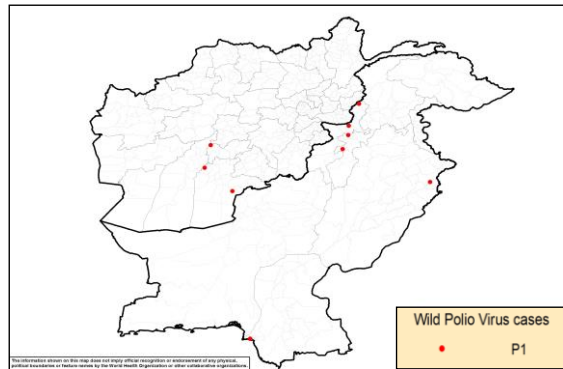


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

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



5(b) 01/01/2019 - 07/04/2019



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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	URUZGAN	SHAHID-E-HASSAS	1	25-Feb-19	25-Feb-19	
	KANDAHAR	GHORAK	1	12-Jan-19	12-Jan-19	
		SPINBOLDAK	1	4-Jan-19	4-Jan-19	
2019 Total			3	4-Jan-19	25-Feb-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	SINDH	KHILAYARI	1	25-Feb-19	25-Feb-19	
	FATA	KHYBER	1	14-Feb-19	14-Feb-19	
		BAJOUR	1	18-Jan-19	18-Jan-19	
	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	
2019 Total			6	15-Jan-19	25-Feb-19	

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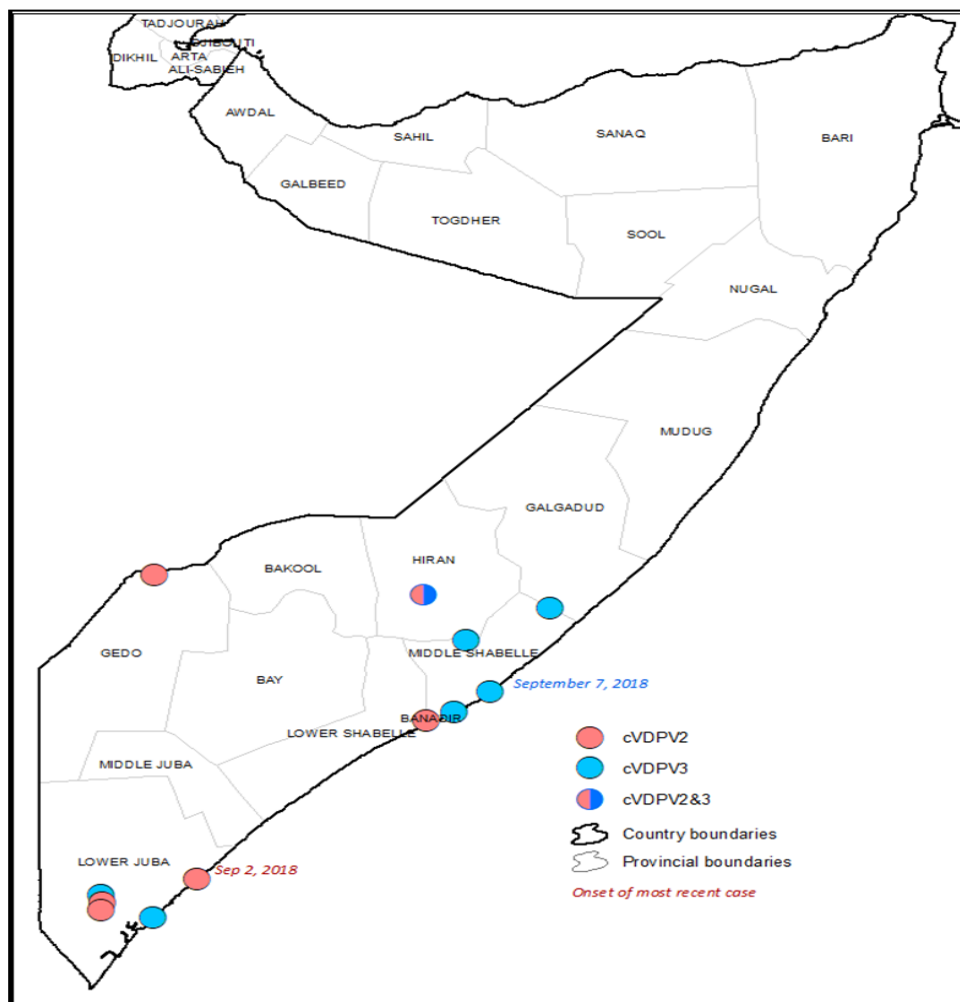
8-Apr-19
Number 1070

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

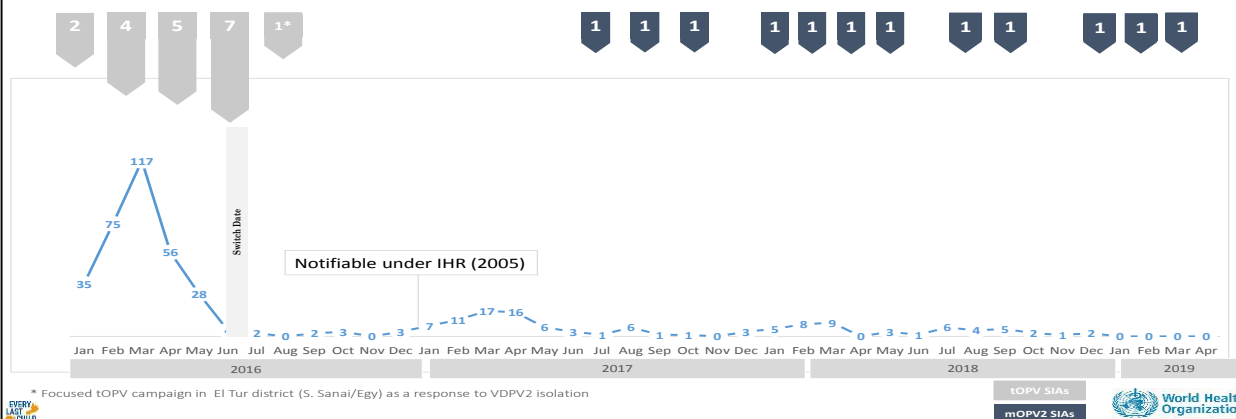
Year	COUNTRY	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
2018	SOM	LOWER JUBA	Jamaame West	1	02-Sep-18	02-Sep-18			
			KISMAYO	2	29-Jul-18	30-Jul-18	2	24-Jul-18	27-Jul-18
		MIDDLE SHABELLE	RUNINGOD				1	07-Sep-18	07-Sep-18
			MAHADAY				1	29-Jun-18	29-Jun-18
			WARSHEIKH				2	16-May-18	23-May-18
		BANADIR	DANYILE	1	10-Jul-18	10-Jul-18			
		HIRAN	BULO BURTI	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)

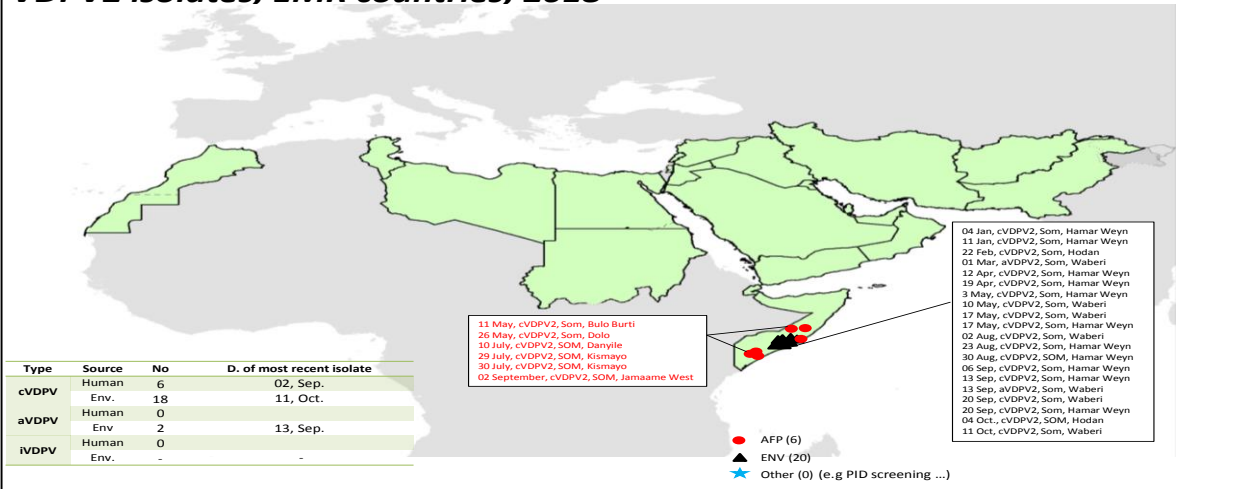
Figure 6: Somalia cVDPV cases by type and district 01/01/2018 - 07/04/2019



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



VDPV2 isolates, EMR countries, 2018



VDPV2 isolates, EMR countries, 2019

