

Highlights of Polio Fax Bulletin No. 1053 for Week 49 2018

I. Poliovirus Transmission

1. Endemic countries (PAKISTAN & AFGHANISTAN):
 - a. Human samples: One new wild poliovirus type-1 (WPV1) case was reported this week. Total WPV1 cases for 2018 to date are 29 cases (21 from Afghanistan and 8 from Pakistan).
 - i. Afghanistan: One new WPV1 case reported this week from Afghanistan. The new case is of a 36-month old male child from Nawzad district, Hilmand province with date of onset of paralysis 6 November 2018. The case has received a total of 7 oral polio vaccine doses all during supplementary immunization activities (SIAs) and none from routine. The total number of WPV1 cases in Afghanistan in 2018 to date is currently 21 from six provinces (Hilmand - 4 cases, Kandhar - 9 cases, Kunar - 3 cases, Nangarhar - 2 cases, Uruzgan - 2 cases and Nuristan - 1 case). The most recent reported case has date of onset of paralysis on 6 November 2018.
 - ii. Pakistan: The total number of WPV1 cases in Pakistan in 2018 to date remains to be 8 from five infected districts in four provinces (Balochistan-3 cases, Khyber Pakhtunkhwa-1 case and Khyber Pakhtunkhwa Tribal District-3 case and Sindh-1 case). Date of onset of paralysis of the most recent case is 7 October 2018.
 - b. Environmental samples: No new positive environmental samples for WPV1 reported this week.
 - i. Afghanistan: The total positive environmental samples from Afghanistan in 2018 remains to date to be 64 with most recent positive sample collected on 5 November 2018.
 - ii. Pakistan: The total positive environmental samples from Pakistan in 2018 remains to date to be 114 with most recent positive sample collected on 15 November 2018.

II. Outbreak response countries

1. SOMALIA:
 - a. cVDPV2:
 - i. No new cVDPV2 cases reported this week. 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. One of the 19 samples has co-infection of cVDPV2 and cVDPV3.
 - b. cVDPV3:
 - i. The date of onset of the most recent cVDPV3 case is 7 September, 2018.

- ii. In 2018 so far, cVDPV3 isolated from 12 sewage samples in Mogadishu and date of specimen collection of recent most positive sample is 23 August 2018. One of the above 12 samples has co-infection of cVDPV2 and cVDPV3.

III. Surveillance performance indicators

1. Nineteen 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 70.2%
 - c. Oman has a percentage of AFP cases with adequate stool specimens of 73.1%
2. Yemen has the highest number of 2017 AFP cases, which are not yet finally classified (72). Also Somalia has one pending case from 2017.

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

Country	Reported AFP cases by week of onset - Week (49/18) / Ending on : 09/12/2018														
	Total AFP 2016	Total AFP 2017	Total AFP to date, 2018	W38 23 Sep 18	W39 30 Sep 18	W40 07 Oct 18	W41 14 Oct 18	W42 21 Oct 18	W43 28 Oct 18	W44 04 Nov 18	W45 11 Nov 18	W46 18 Nov 18	W47 25 Nov 18	W48 02 Dec 18	W49 09 Dec 18
Afghanistan	2905	3094	3098	73	74	85	50	62	66	75	78	61	43	22	
Bahrain	14	18	31	0	1	0	0	2	1	1	2	0	1	0	
Djibouti	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	1092	1242	1167	31	19	28	33	18	26	16	22	22	26	13	1
Iran	776	820	796	13	22	23	17	5	13	17	16	18	9	9	1
Iraq	605	699	900	21	10	17	19	18	14	29	17	24	23	10	
Jordan ****	107	116	108	1	2	1	3	1	0	1	0	0	0	0	1
Kuwait	50	69	65	0	0	2	1	2	3	1	2	3	2	2	
Lebanon ****	111	75	77	3	1	0	2	1	1	0	2	1			
Libya	70	88	111	2	4	1	1	2	2	0	0	1	1	1	
Morocco	84	143	188	6	8	5	4	8	5	4	3	6	3	0	0
Oman	39	40	26	1	3	1	1	1	0	1	0	0	0	0	
Pakistan	7848	10319	10757	267	240	205	274	236	228	234	270	224	200	63	0
Palestine ****	46	43	41	1	0	1	1	1	0	0	1	0	0	0	
Qatar	9	18	9	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	273	276	203	2	5	3	3	7	5	7	12	7	3	2	0
Somalia	316	345	327	10	7	10	4	6	7	4	7	6	4	2	
Sudan	509	570	541	20	15	12	7	10	11	11	13	9	8	2	1
Syria ****	303	362	322	4	5	7	12	6	5	8	6	7	4	5	
Tunisia	90	67	62	0	2	2	0	0	1	1	1	0	0		
U.A.E	42	58	37	0	0	1	1	0	0	1	1	0	0	0	
Yemen	715	713	656	7	10	15	13	21	23	21	18	13	11	5	1
Total EMR	16007	19179	19522	462	428	419	446	407	411	432	471	402	338	136	5

No data = No report received

Table 2: Confirmed polio cases by month of onset

Country	Total year 2016	Total year 2017	09/12		Confirmed polio cases by month of onset											
			2017	2018	January 2018	February 2018	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018
Afghanistan	13	14	13	21	3	3	1	1	0	2	3	2	3	2	1	
Bahrain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Djibouti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Iran	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Iraq	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jordan ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lebanon ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pakistan	20	8	8	8	0	0	1	1	1	0	0	1	3	1		
Palestine ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Qatar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Somalia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Syria ****	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tunisia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Yemen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total EMR	33	22	21	29	3	3	2	2	1	2	3	3	6	3	1	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 2017 & 2018 up to Week (49/18) / Ending on : 09/12/2018)

COUNTRY	2017												2018												Latest line List Date
	AFP									Specimen	Wild cases ****		AFP									Specimen	Wild cases ****		
	Total AFP cases onset 2017	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 2018	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	3094	14	0	0	3080	0	15.2	0	0	93.5	14	0	3098	21	0	230	2847	0	16.2	19	2	94.0	21	0	06/12/2018
Bahrain	18	0	0	0	18	0	6.2	0	0	100.0	0	0	31	0	0	12	19	0	11.4	4	0	96.8	0	0	06/12/2018
Djibouti	4	0	0	0	4	0	1.3	0	0	100.0	0	0	0	0	0	0	0	0	0.0	0	0		0	0	09/12/2018
Egypt	1242	0	0	0	1240	2	3.3	0	0	94.4	0	0	1167	0	0	95	1072	1	3.2	8	0	92.2	0	0	06/12/2018
Iran	820	0	0	0	820	0	4.3	0	0	96.7	0	0	796	0	0	25	770	1	4.4	0	0	97.2	0	0	09/12/2018
Iraq	699	0	0	0	699	0	4.7	0	0	86.7	0	0	900	0	0	90	810	0	6.3	11	0	90.1	0	0	08/12/2018
Jordan	116	0	0	0	116	0	4.2	0	0	100.0	0	0	108	0	0	1	107	0	4.1	0	0	100.0	0	0	09/12/2018
Kuwait	69	0	0	0	69	0	7.5	0	0	92.8	0	0	65	0	0	6	59	0	7.8	0	0	86.2	0	0	08/12/2018
Lebanon	75	0	0	0	75	0	4.0	0	0	80.0	0	0	77	0	0	6	71	0	4.4	0	0	97.4	0	0	23/11/2018
Libya	88	0	0	0	88	0	4.3	0	0	96.6	0	0	111	0	0	3	108	0	4.7	0	0	96.4	0	0	08/12/2018
Morocco	143	0	0	0	143	0	1.3	0	0	67.1	0	0	188	0	0	72	116	0	2.2	32	0	70.2	0	0	30/11/2018
Oman	40	0	0	0	40	0	4.5	0	0	90.0	0	0	26	0	0	0	26	0	3.2	0	0	73.1	0	0	02/12/2018
Pakistan	10330	8	2	0	10309	0	13.2	0	0	85.6	8	0	10757	8	1	692	10056	0	14.7	137	0	88.3	8	0	09/12/2018
Palestine	43	0	0	0	43	0	2.3	0	0	97.7	0	0	41	0	0	7	34	0	2.3	1	0	92.7	0	0	06/12/2018
Qatar	18	0	0	0	18	0	6.1	0	0	100.0	0	0	9	0	0	0	9	0	2.7	0	0	100.0	0	0	02/12/2017
Saudi Arabia	276	0	0	0	276	0	3.5	0	0	98.9	0	0	203	0	0	59	144	0	2.7	3	0	95.6	0	0	09/12/2018
Somalia	345	0	0	1	344	0	6.0	1	1	99.1	0	0	327	0	0	21	294	12	5.5	1	1	98.2	0	0	08/12/2018
Sudan	570	0	0	0	570	0	3.2	0	0	96.3	0	0	541	0	0	17	524	0	3.2	0	0	97.6	0	0	06/12/2018
Syria	362	0	1	0	287	74	4.7	0	0	80.9	0	0	322	0	0	13	309	0	4.4	0	0	88.5	0	0	08/12/2018
Tunisia	67	0	0	0	67	0	2.5	0	0	74.6	0	0	62	0	0	4	58	0	2.5	1	1	80.6	0	0	30/11/2018
U.A.E	58	0	0	0	58	0	5.7	0	0	98.3	0	0	37	0	0	2	35	0	3.1	0	0	97.3	0	0	06/12/2018
Yemen	713	0	0	72	641	0	5.2	72	58	90.2	0	0	656	0	0	568	88	0	5.0	402	375	91.9	0	0	08/12/2018
EMR	19190	22	3	73	19005	76	7.7	73	59	88.9	22	0	19522	29	1	1923	17556	14	8.3	619	379	90.5	29	0	
2016	16008	33	5	1	15961	8	6.4	0	0	89.6	33	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, 2017 - 2018

COUNTRY	2017						2018					
	# OF CONTACTS	LAB RESULTS					# OF CONTACTS	LAB RESULTS				
		WILD	VDPV	SL	NPEV	PENDING		WILD	VDPV	SL	NPEV	PENDING
AFG	1429	1	0	88	347	0	934	4	0	46	201	35
BAH	2	0	0	0	0	0	2	0	0	0	0	0
DJI	0	0	0	0	0	0	0	0	0	0	0	0
EGY	450	0	0	9	63	18	459	0	0	11	51	36
IRN	143	0	0	5	1	0	128	0	0	3	5	0
IRQ	698	0	0	18	101	16	739	0	0	19	84	65
JOR	2	0	0	0	0	0	0	0	0	0	0	0
KUW	8	0	0	0	0	2	0	0	0	0	0	0
LEB	92	0	0	2	3	21	206	0	0	3	15	21
LIB	4	0	0	0	0	1	1	0	0	0	0	0
MOR	87	0	0	0	7	0	124	0	0	0	9	15
OMA	115	0	0	1	24	1	68	0	0	2	15	0
PAK	3758	2	0	234	899	0	3830	3	0	172	817	146
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	0	0	0	0	0	0	5	0	0	0	0	5
SOM	1035	0	0	37	113	3	974	0	10	49	112	58
SUD	385	0	0	6	32	46	329	0	0	2	24	112
SYR	570	0	63	3	11	0	608	0		7	13	21
TUN	26	0	0	0	0	0	15	0	0	0	0	1
UAE	2	0	0	0	0	0	0	0	0	0	0	0
YEM	1737	0	0	43	114	666	1406	0	0	0	0	1406
EMR	10543	3	63	446	1715	774	9828	7	10	314	1346	1921

Table 4 (B): Most recent wild contacts in EMRO, 2017 - 2018

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
2017	Pakistan	2	04-12-17
	Afghanistan	1	21-05-17
2017 Total		3	04-12-17

Table 4 (C): Number and distribution by district of -ve index AFP cases identified as wild positive by contact in EMR, 2017-2018

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
2017	AFG	HILMAND	NAWZAD	1	16-04-17	16-04-17
	2017 Total				1	16-04-17

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Table 5: Laboratory investigation of AFP cases with paralysis onset in 2018 up to Week (49/18) / Ending on : (09/12/2018)

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		NPEY only	Negative	Pending		Type 1			Type 2			Type 3			Discordant pending sequence	NPEV by PCR	Non-EV	Pending ITD	% specimens positive for NPEY*	% 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	3055	215	23	578	2153	86		19	163						148						17%	91%	100%	98%	08/12/2018
Bahrain	NPL Oman / CDC	24			1	23																4%	100%		50%	26/11/2018
Djibouti	NPL Kenya / CDC																									09/12/2018
Egypt***	RRL Egypt	1138	33	6	151	907	41		16	1					18		8	1			12%	95%	100%	99%	06/12/2018	
Iran	NPL Iran / CDC	797	17		22	734	24		11	1					8		1				2%	100%	100%	99%	08/12/2018	
Iraq	RRL Egypt	905	17		103	699	46	40	11						12						12%	100%	100%	76%	06/12/2018	
Jordan	NPL Jordan / RRL EGYPT	109	4		6	97	2		3						4						8%	100%	100%	100%	09/12/2018	
Kuwait	RRL Kuwait / RIVM	63	1		4	53	3	2										1			6%	97%		98%	06/12/2018	
Lebanon	NPL Jordan / RRL EGYPT	83	2		6	73	1	1	2						2						8%	100%	100%	50%	09/12/2018	
Libya	RRL Tunisia / RIVM	109	1		11	95	2								1						10%	100%	100%	97%	30/11/2018	
Morocco	NPL Morocco / RRL Tunisia	166	2		4	152	7	1							2						3%	92%	0%	94%	07/12/2018	
Oman	NPL Oman / CDC	26			5	21															22%	92%		100%	26/11/2018	
Pakistan	RRL Pakistan	10502	437	50	2229	7371	404	8	6	288					338		1	10			18%	92%	99%	97%	08/12/2018	
Palestine & UNRWA		41			6	33		2													15%	59%		100%	06/12/2018	
Qatar	NPL Oman / CDC	9			1	8															11%	88%		100%	26/11/2018	
Saudi Arabia	NPL Saudi Arabia / CDC	211	2		6	177	10	17							2						2%	96%	50%	100%	02/12/2018	
Somalia	NPL Kenya / CDC	327	36	2	30	239	5	15	16			5	6 #	14	7 #				2		10%	14%		100%	08/12/2018	
Sudan	NPL Sudan / RRL Egypt	545	7		50	470	17	1	5						2		2				11%	96%	100%	86%	08/12/2018	
Syria	NPL Syria / RRL Egypt	322	6		11	293	10	2	3						4						4%	100%	100%	67%	06/12/2018	
Tunisia	RRL Tunisia	67			2	64		1													2%	98%		97%	30/11/2018	
U.A.E	NPL Oman / CDC	38			4	32	2														10%	89%		83%	26/11/2018	
Yemen	NPL Kenya / CDC																									08/12/2018
Total EMR 2018		18537	780	81	3230	13694	660	90	25	518	2		5	6	555	7	2	20	1	3	15%	92%	99%	97%		
Total EMR 2017		13527	558	50	2219	10038	608	55	15	369	1		4	4	394	3	1	12		1	15%	89%	99%	97%		
* Specimens from all sources including non-AFP cases, excluding environmental samples							* In 2017, 41 cVDPV2 were isolated from Syria by other Global Polio Laboratories Network (GPLN)											# 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							Syria reported a total of 74 cVDPV2 cases in 2017 out of which 8 were identified by positive contacts																			

Table 6: Environmental isolate by year and type

Country	Status	2015	2016	2017	2018
AFG	NEGATIVE	129	183	274	223
	PENDING				21
	WILD	20	2	42	64
AFG Total		149	185	316	308
EGY	NEGATIVE	495	528	522	486
	PENDING				19
	VDPV2	3	1		
EGY Total		498	529	522	505
IRN	NEGATIVE			6	44
IRN Total				6	44
JOR	NEGATIVE		2	32	17
	PENDING				17
JOR Total			2	32	34
LEB	NEGATIVE		4	27	10
	PENDING				31
LEB Total			4	27	41
PAK	NEGATIVE	347	462	523	476
	PENDING				37
	WILD	79	59	105	114
	WILD & VDPV2	5	3	1	
	VDPV2	8	5	4	
PAK Total		439	529	633	627
SOM	NEGATIVE			34	167
	PENDING				10
	VDPV2			2	20
	VDPV3				12
SOM Total				36	209
SYR	NEGATIVE			4	83
	PENDING				8
SYR Total				4	91
Grand Total		1086	1249	1576	1859

Table 7: Environmental Wild/VDPV isolate by site

Country	COUNTRY	Status	PROVINCE	DISTRICT	Count	First date	Last date			
2017	AFG	WILD	HILMAND	LASHKARGAH	8	26/Apr	26/Dec			
				NAHR-E-SARAJ	1	25/Sep	25/Sep			
				KABUL	1	25/Oct	25/Oct			
				KANDAHAR	18	26/Jan	27/Dec			
				KUNAR	1	25/Dec	25/Dec			
			NANGARHAR	BEHSUD	3	24/Sep	26/Dec			
				JALALABAD	10	24/Jan	26/Dec			
				AFG Total			42	24/Jan	27/Dec	
				PAK	WILD	BALOCHISTAN	LORALAI	3	17/Sep	17/Nov
							PISHIN	5	2/Jan	2/Oct
	QUETTA	12	1/Jan				20/Dec			
	ZHOB	1	18/Dec				18/Dec			
	KABDULAH	12	1/Jan				15/Oct			
	ISLAMABAD	CDA	5				10/Feb	10/Jul		
		PUNJAB	LAHORE				1	18/Dec	18/Dec	
			MULTAN				1	9/Jan	9/Jan	
	RAWALPINDI		8				10/Jan	10/Oct		
	SINDH		JACOBABAD				4	11/Aug	13/Dec	
			KAMBAR			1	15/Aug	15/Aug		
			KHIBALDIA			2	8/Aug	3/Nov		
	KHYBER PAKHTOONKHWA	KHIGADAP	21			9/Jan	12/Dec			
		KHIKORANGI	1			16/Oct	16/Oct			
		KHILANDHI	7			16/Mar	14/Dec			
		KHISITE	5			7/Aug	4/Dec			
		SUKKUR	2			11/Apr	19/Sep			
		KHIMALIR	6			3/Feb	10/Oct			
		PESHAWAR	8			10/Jan	11/Dec			
		WILD & VDPV2	BALOCHISTAN	KABDULAH	1	15/Jul	15/Jul			
			BALOCHISTAN	PISHIN	1	2/May	2/May			
VDPV2	BALOCHISTAN	QUETTA		3	3/Apr	29/May				
PAK Total				110	1/Jan	20/Dec				
SOM	VDPV2	BANADIR	WABERI	2	22/Oct	2/Nov				
SOM Total				2	22/Oct	2/Nov				
2017 Total				154	1/Jan	27/Dec				
2018	AFG	WILD	HILMAND	LASHKARGAH	5	8/Jan	5/Nov			
				HIRAT	1	25/Jun	25/Jun			
				KABUL	3	26/Feb	26/Jun			
				KANDAHAR	34	8/Jan	5/Nov			
				KHOST	1	25/Sep	25/Sep			
			KUNAR	ASADABAD	2	24/Apr	25/Sep			
				BEHSUD	3	28/Jan	25/Oct			
				JALALABAD	15	27/Jan	25/Oct			
				AFG Total			64	8/Jan	5/Nov	
				PAK	WILD	BALOCHISTAN	LORALAI	2	17/Mar	17/Aug
	QUETTA	9	13/Feb				20/Oct			
	KABDULAH	5	1/Jan				1/Nov			
	ISLAMABAD	CDA	7				10/Jan	10/Nov		
		PUNJAB	LAHORE				9	11/Jun	12/Nov	
			RAWALPINDI				13	10/Jan	10/Nov	
	DGKHAN		2				12/Feb	12/Sep		
	SINDH		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	13			15/Feb	13/Nov			
		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			
	FATA	KHIMALIR	1			13/Sep	13/Sep			
		BAJOUR	5			19/May	25/Oct			
	KHYBER PAKHTOONKHWA	BANNU	2			31/Mar	26/Oct			
		KOHAT	5			5/Jan	27/Sep			
		MARDAN	2			15/Oct	15/Nov			
		NOWSHERA	2			18/Sep	18/Oct			
		PESHAWAR	18			10/Jan	10/Nov			
		PAK Total					114	1/Jan	15/Nov	
		SOM	VDPV2			BANADIR	HAMAR WEYN	11	4/Jan	20/Sep
							HODAN	2	22/Feb	4/Oct
	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				210	1/Jan	15/Nov			

Figure 1: Non Polio AFP Rate and Wild Virus in EMR 01/01/2018 - 09/12/2018

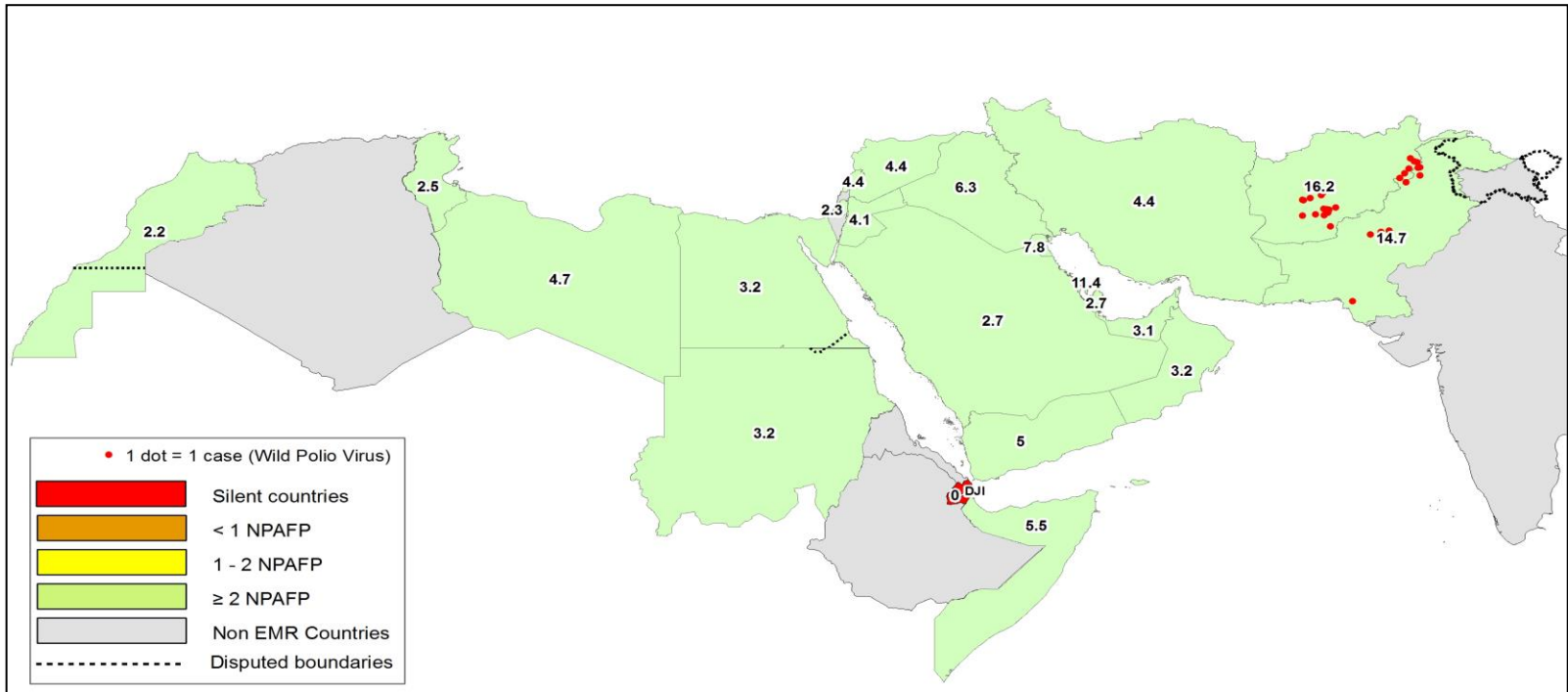


Figure 2: Percent of AFP cases with Adequate Samples & Compatible Cases in EMR 01/01/2018 - 09/12/2018

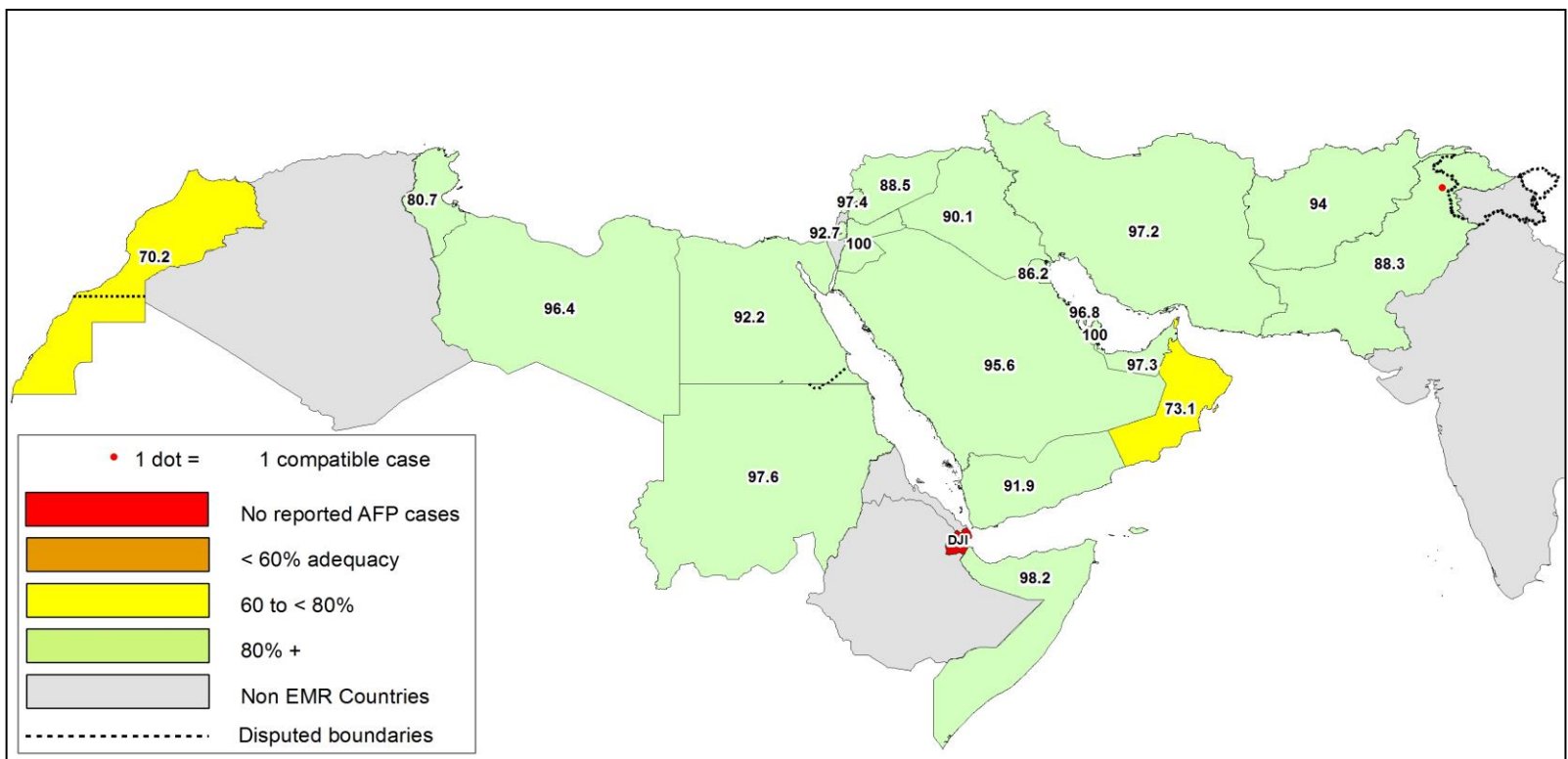


Table 8: Wild polio cases by country and date of onset of paralysis in EMR, 2017 - 2018

Year	COUNTRY	Count	First Case	Last Case
2018	AFG	21	1-Jan-18	6-Nov-18
	PAK	8	8-Mar-18	7-Oct-18
2018 Total		29	1-Jan-18	6-Nov-18
2017	AFG	14	13-Jan-17	28-Dec-17
	PAK	8	28-Jan-17	15-Nov-17
2017 Total		22	13-Jan-17	28-Dec-17

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 01/01/2018 - 09/12/2018

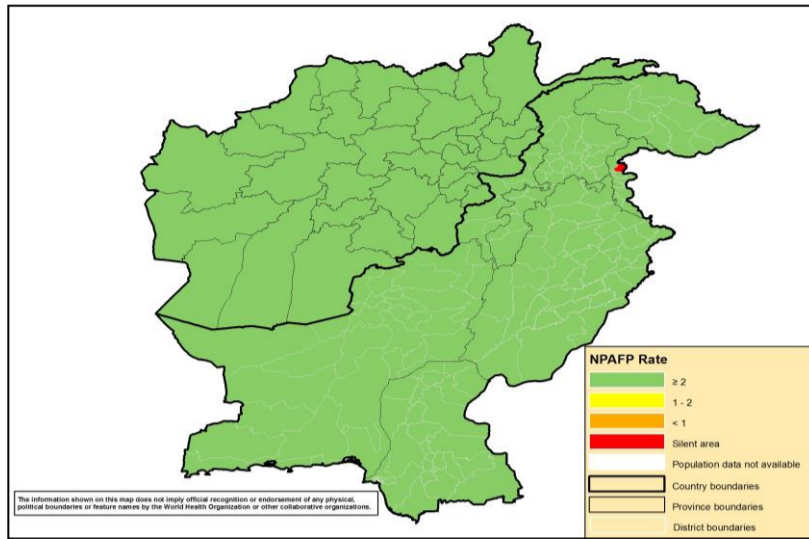


Figure 4: Percent of AFP cases with Adequate Samples in Afghanistan by Province & Pakistan by District 01/01/2018 -09/12/2018

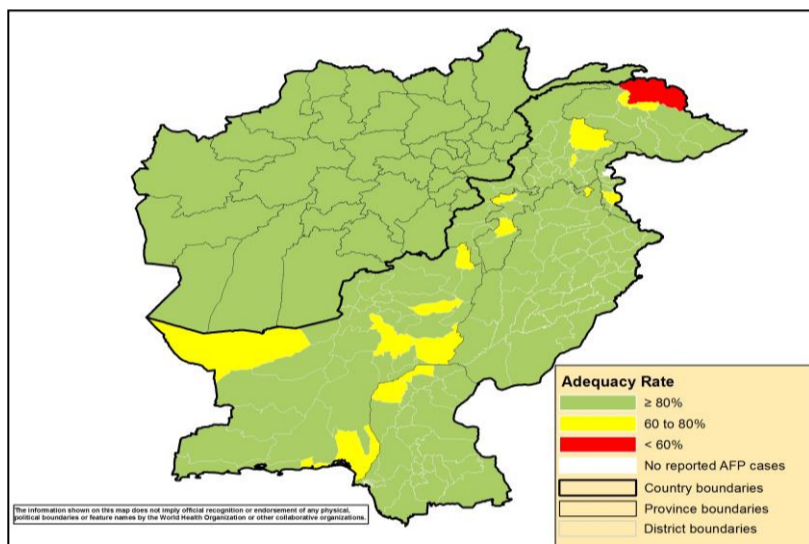
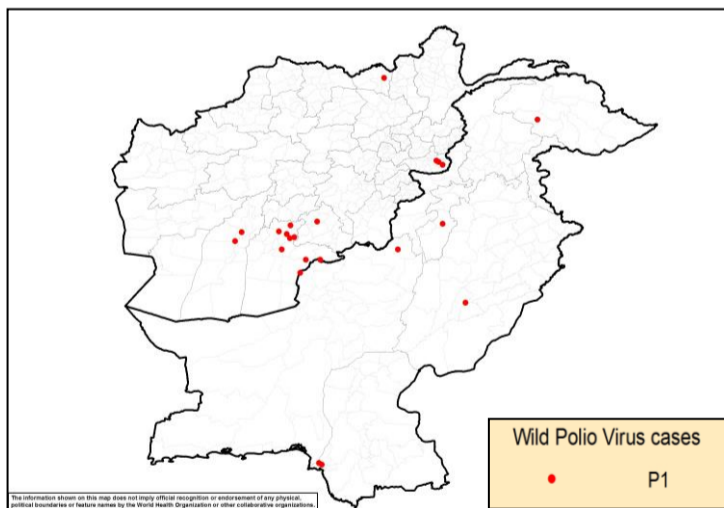
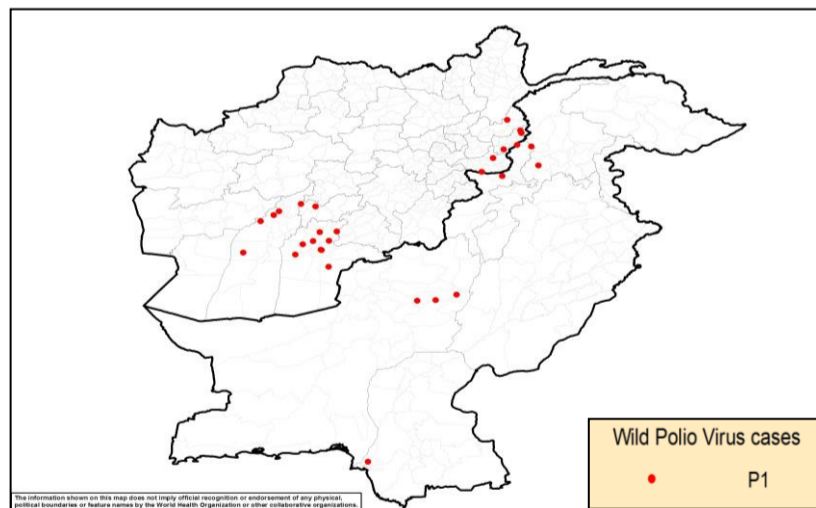


Figure 5: Wild Virus Cases by Type & District in Afghanistan & Pakistan

5a: 01/01/2017 - 31/12/2017



5b: 01/01/2018 - 09/12/2018



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Table 9: Wild Polio cases by district and date of onset of paralysis, Afghanistan 2017-2018

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
2017	KANDAHAR	SPINBOLDAK	1	28-Dec-17	28-Dec-17
		SHAHWALIKOT	5	19-Jun-17	3-Dec-17
		KANDAHAR	1	13-Jan-17	13-Jan-17
	NANGARHAR	MUHMAND DARA	1	5-Nov-17	5-Nov-17
		BATIKOT	2	15-Sep-17	11-Oct-17
	ZABUL	ARGHANDAB (Z)	1	10-Jul-17	10-Jul-17
	HILMAND	NAWZAD	1	16-Apr-17	16-Apr-17
		NAHR-E-SARAJ	1	21-Jan-17	21-Jan-17
KUNDUZ	DASHT-E-ARCHI	1	21-Feb-17	21-Feb-17	
2017 Total			14	13-Jan-17	28-Dec-17

Table 10: Wild Polio cases by district and date of onset of paralysis, Pakistan 2017-2018

ONSETYR	PROVINCE	DISTRICT	Count	First case	Last case
2018	FATA	BAJOUR	2	1-Sep-18	7-Oct-18
		KHYBER	1	25-Sep-18	25-Sep-18
	SINDH	KHIGADAP	1	22-Sep-18	22-Sep-18
	KHYBER PAKHTOONKHWA	CHARSADA	1	1-Aug-18	1-Aug-18
	BALUCHISTAN	DUKKI	3	8-Mar-18	18-May-18
2018 Total			8	8-Mar-18	7-Oct-18
2017	BALUCHISTAN	ZHOB	1	15-Nov-17	15-Nov-17
		KABDULAH	2	11-Jun-17	13-Nov-17
	SINDH	KHIGADAP	1	9-Nov-17	9-Nov-17
		KHIGIQBAL	1	11-Aug-17	11-Aug-17
	KHYBER PAKHTOONKHWA	LAKKIMRWT	1	21-Aug-17	21-Aug-17
	GILGIT BALTISTAN	DIAMER	1	13-Feb-17	13-Feb-17
PUNJAB	LODHRAN	1	28-Jan-17	28-Jan-17	
2017 Total			8	28-Jan-17	15-Nov-17

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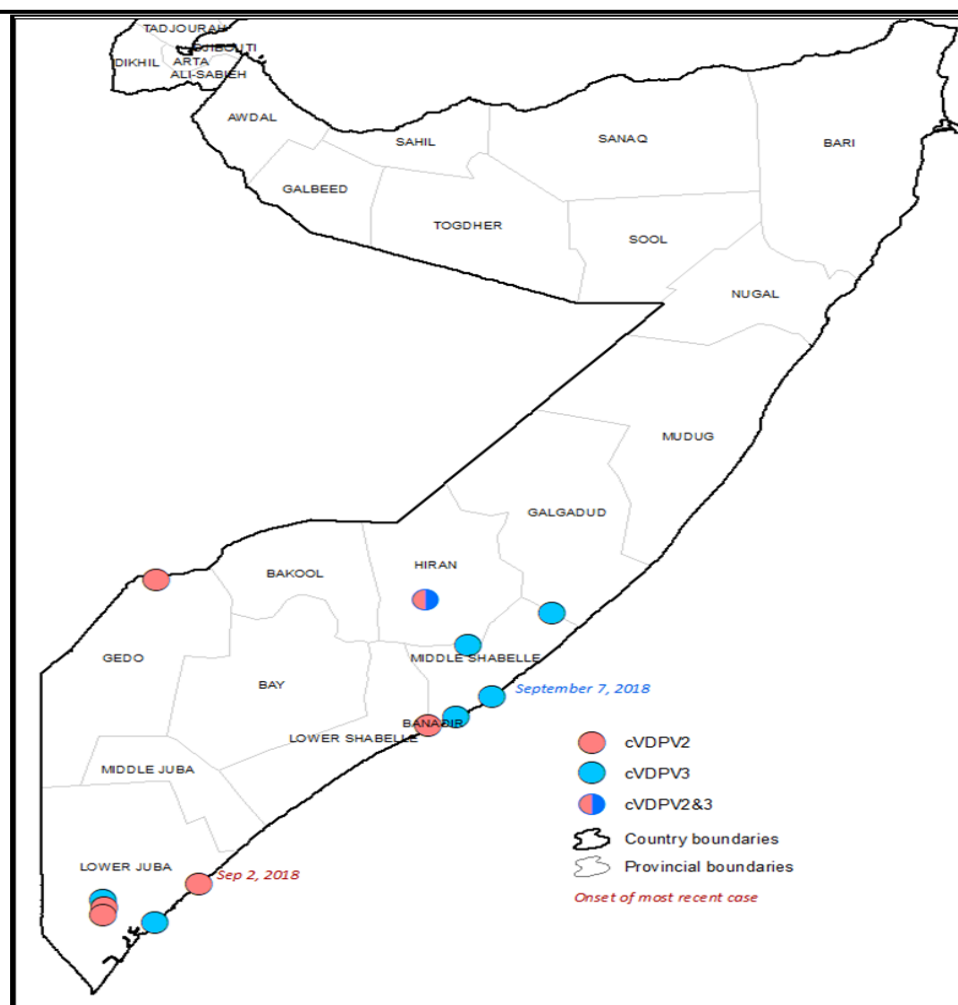
10-Dec-18
Number 1053

Table 11: Circulating VDPV cases and date of onset of paralysis in EMR countries by districts 2017-2018

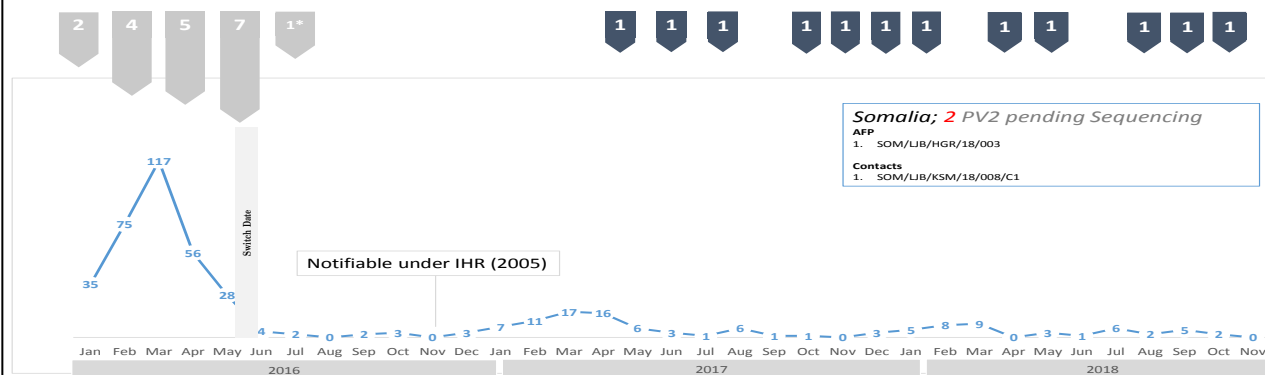
Year	COUNTRY	PROVINCE	DISTRICT	cVDPV2			cVDPV3		
				Count	First Case	Last Case	Count	First Case	Last Case
2017	SYR	HOMS	TADMOUR	1	10-Jul-17	10-Jul-17			
		DEIR_AL_ZOUR	DEIR ALZOUR	1	30-Jun-17	30-Jun-17			
		DEIR_AL_ZOUR	BOKAMAL	12	25-Jun-17	21-Sep-17			
		DEIR_AL_ZOUR	MAYADEEN	58	5-Mar-17	9-Sep-17			
		RAQUA	THAWRA	1	16-Jun-17	16-Jun-17			
		RAQUA	TALABYAD	1	25-Apr-17	25-Apr-17			
SYR Total				74	5-Mar-17	21-Sep-17			
2017 Total				74	5-Mar-17	21-Sep-17			
2018	SOM	LOWER JUBA	Jamaame West KISMAYO	1	02-Sep-18	02-Sep-18			
		MIDDLE SHABELLE	RUNINGOD				2	24-Jul-18	27-Jul-18
			MAHADAY				1	07-Sep-18	07-Sep-18
			WARSHEIKH				1	29-Jun-18	29-Jun-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 - 09/12/2018



Sabin Like Type-2 Poliovirus Isolates (H & E) EMR, 2016-17-18

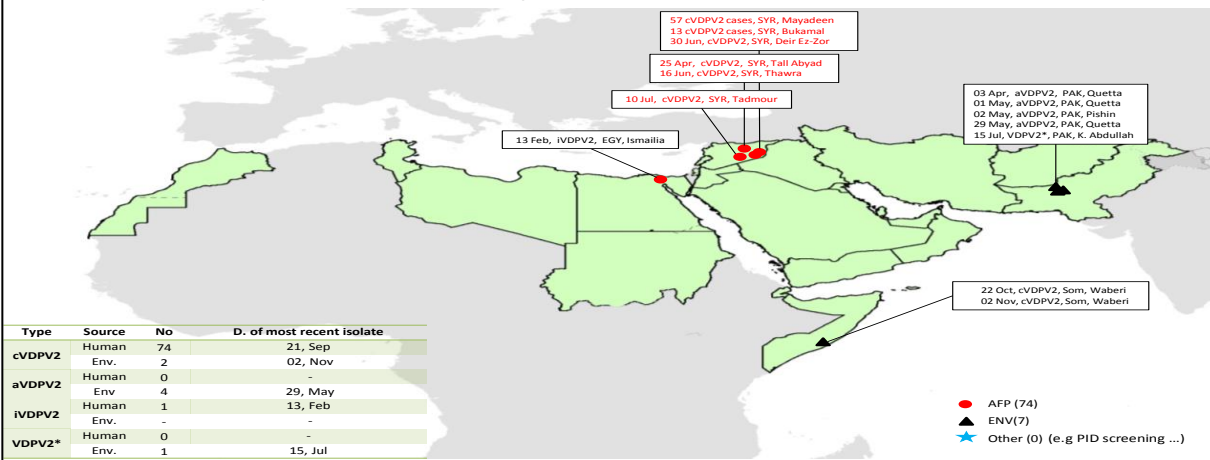


* Focused tOPV campaign in El Tur district (S. Sanai/Egy) as a response to VDPV2 isolation

tOPV SIAs
mOPV2 SIAs



VDPV2 isolates, EMR countries, 2017



VDPV2 isolates, EMR countries, 2018

