

EMR Polio Bulletin

World Health Organization – Regional Office for Eastern Mediterranean Issue No. 1211, Week 50 (ending on 19/12/2021)

Highlights



Children
Paralyzed
by polio

2020

140 Wild Polio cases:

- 56 in Afghanistan
- 84 in Pakistan

515 cVDPV2 cases:

- 308 in Afghanistan
- 135 in Pakistan
- 58 in Sudan
- 14 in Somalia

31 cVDPV1 cases:

- All in Yemen

2021

5 Wild Polio cases:

- 4 in Afghanistan
- 1 in Pakistan

56 cVDPV2 cases:

- 43 in Afghanistan
- 8 in Pakistan
- 0 in Sudan
- 1 in Somalia
- 4 in Yemen

3 cVDPV1 cases:

- All in Yemen



Sewage
water
sampling

2020

469 Wild Polio isolates:

- 35 in Afghanistan
- 434 in Pakistan

352 cVDPV2 Isolates:

- 174 in Afghanistan
- 135 in Pakistan
- 0 in Egypt
- 3 in Iran
- 14 in Sudan
- 26 in Somalia

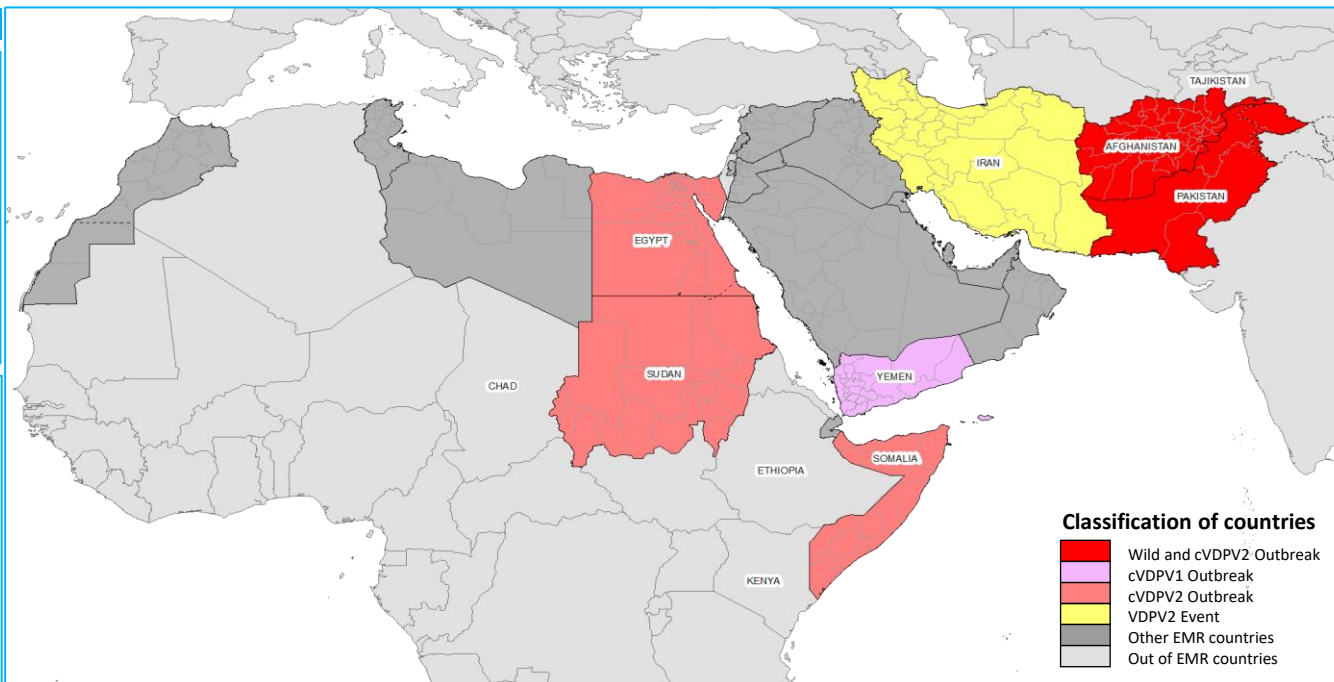
2021

64 Wild Polio cases:

- 1 in Afghanistan
- 63 in Pakistan

88 cVDPV2 Isolates:

- 40 in Afghanistan
- 35 in Pakistan
- 11 in Egypt
- 1 in Iran
- 0 in Sudan
- 1 in Somalia



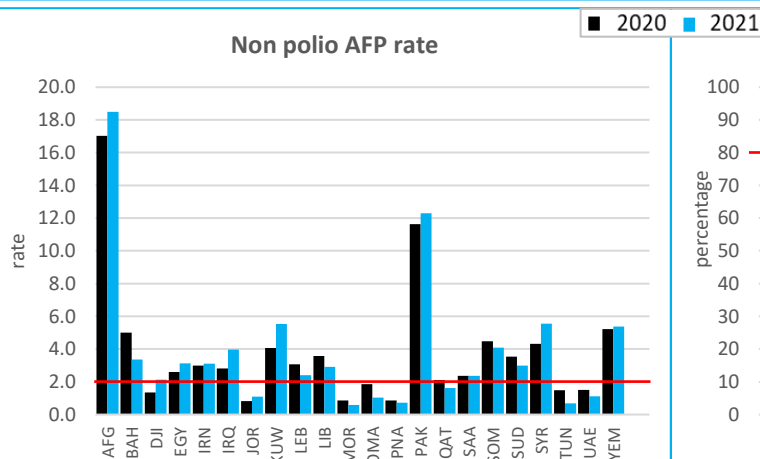
Classification of countries

- Wild and cVDPV2 Outbreak
- cVDPV1 Outbreak
- cVDPV2 Event
- Other EMR countries
- Out of EMR countries

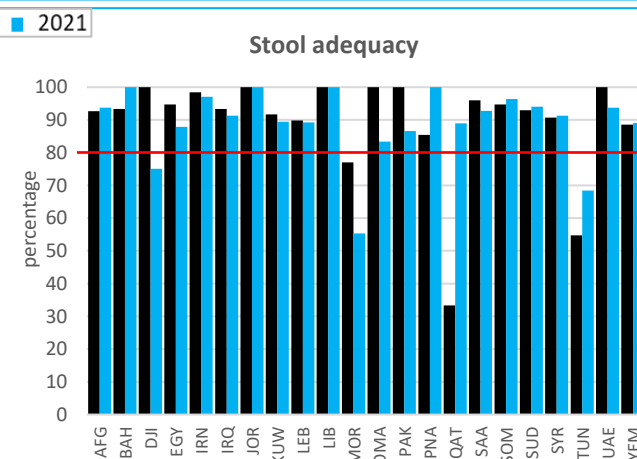
Highlights of the week

- No new WPV1 or cVDPV1 isolates from human or environmental samples in the past week.
- Two new cVDPV2 cases were reported from Yemen this week. One is from Aden province with date of onset on 15 September 2021 while the other is from Taiz province with date of onset 19 September 2021.
- One new cVDPV2 positive environmental sample was reported from Giza province in Egypt with specimen collection date on 18 November 2021.
- A nationwide nOPV2 campaign started this week in Egypt. The vaccination campaign is from 19 to 24 December 2021 and will be followed by post campaign assessment using Lot Quality Assurance Sampling (LQAS). This is the first nOPV2 campaign in the EMR.

Non polio AFP rate



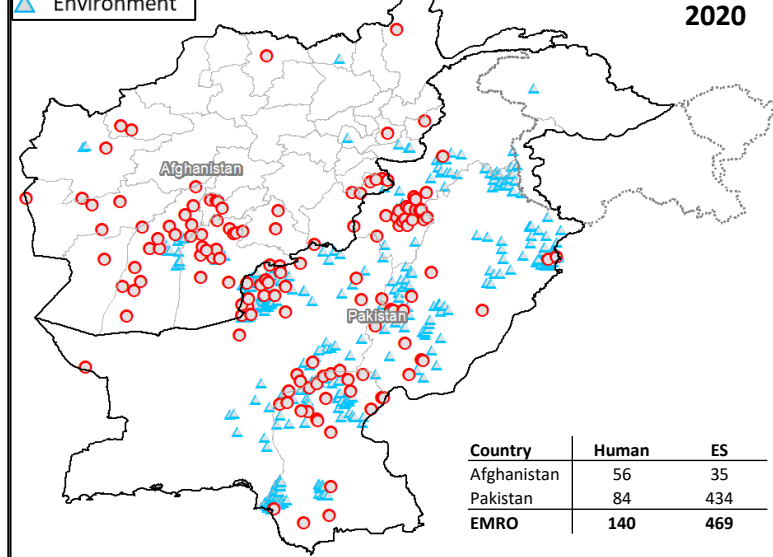
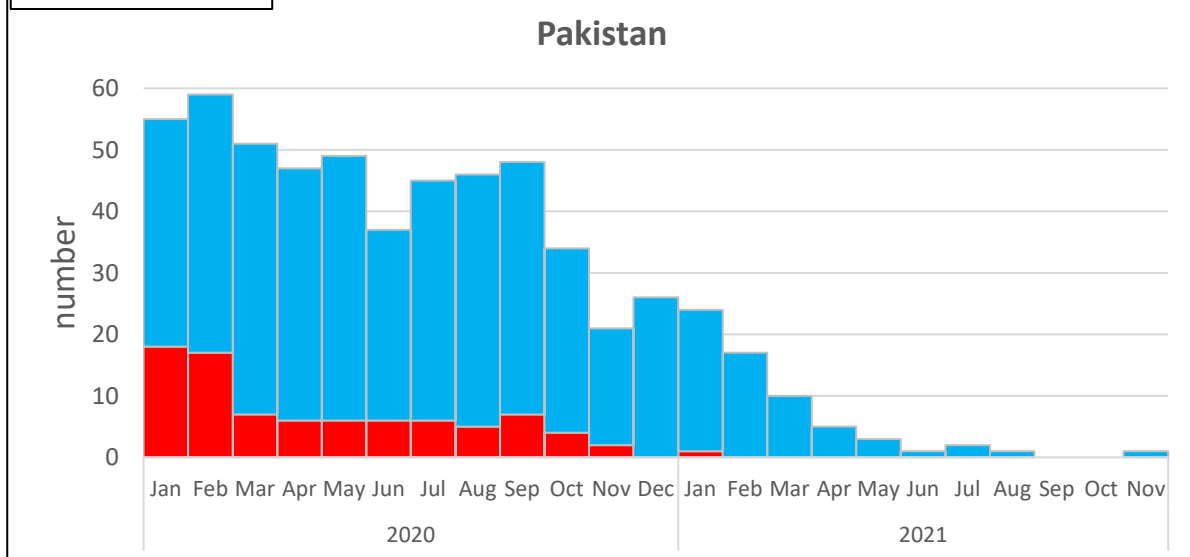
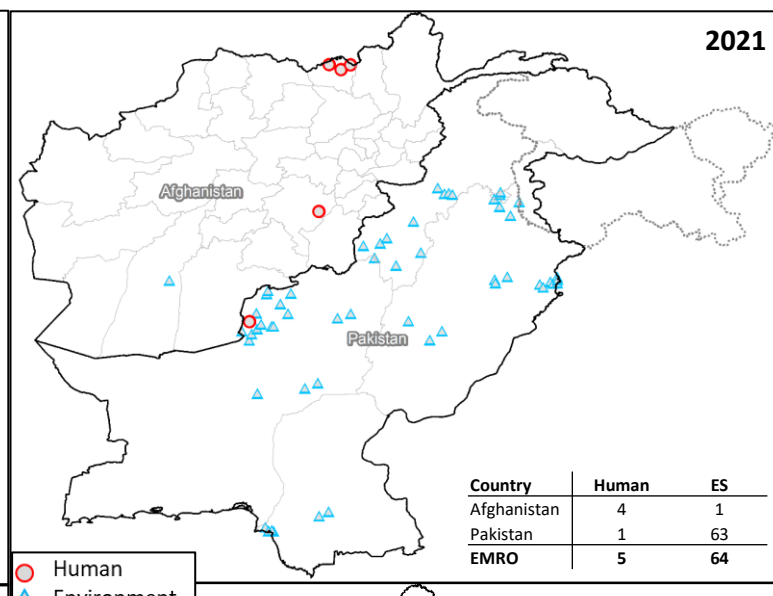
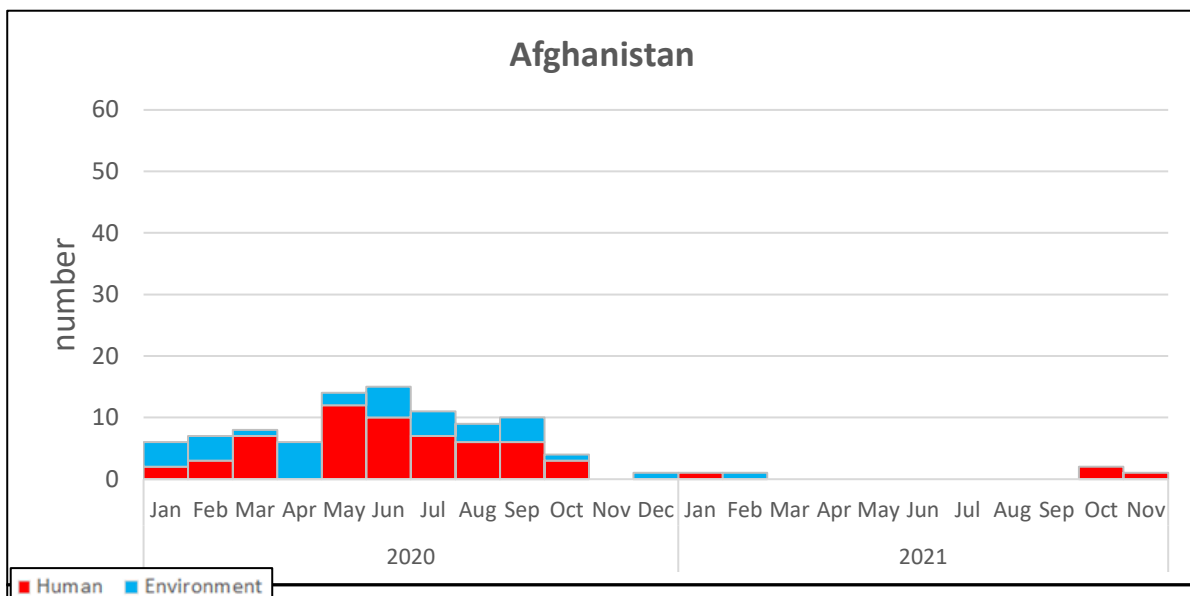
Stool adequacy



Wild Poliovirus type-1 (WPV1) Vaccine-derived Poliovirus (VDPV)

WPV1 Positive isolates from AFG/PAK by source

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Virus isolation by country, last 12 months (Dec. 19, 2020 to Dec. 19, 2021)

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Source / Virus type	AFG	PAK	EGY	IRN	SOM	YEM	Total
Human (AFP only)	60	19	1		1	9	90
Wild	4	1				1	6
cVDPV2	53	9			1	4	67
Wild+cVDPV2							
Wild+aVDPV2							
Wild+aVDPV3							
cVDPV1						3	3
aVDPV1	1	1				1	3
aVDPV2	2	8	1				11
VDPV1							
VDPV2							
Environment	51	122	80	4	1		258
Wild		43					43
cVDPV2	46	21	11	2	1		81
Wild+cVDPV2	1	18					19
Wild+aVDPV2		5					5
Wild+aVDPV3		1					1
cVDPV1							
aVDPV1		1					1
aVDPV2	4	33		2			39
VDPV1			1				1
VDPV2			68				68

Confirmed Wild Polio Cases by month of onset

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Country	Total year 2019	Total year 2020	19-12		Confirmed Wild Polio Cases by month of onset												Last Case
					2021												
			2020	2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Afghanistan	29	56	56	4	1	0	0	0	0	0	0	0	0	2	1		29-Oct-21
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	147	84	84	1	1	0	0	0	0	0	0	0	0	0	0		27-Jan-21
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		
EMR	176	140	140	5	2	0	0	0	0	0	0	0	0	2	1		29-Oct-21

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

Investigation of AFP cases with paralysis onset in 2020 & 2021

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COUNTRY	AFP (2020)									AFP (2021)									Line List 2021
	AFP cases	Case classification						Surveillance indicators		AFP cases	Case classification						Surveillance indicators		Date of latest
		Total Confirmed WPV1 Polio Cases	Polio Compatible	Discarded (non polio AFP)	VDPV	Pending classification > 90 days from onset	Pending LAB classification > 90 days from onset	Annualized Non polio AFP rate	% with adequate specimens		Total Confirmed WPV1 Polio Cases	Polio Compatible	Discarded (non polio AFP)	VDPV	Pending classification > 90 days from onset	Pending LAB classification > 90 days from onset	Annualized Non polio AFP rate	% with adequate specimens	
AFGHANISTAN	3972	56	3	3600	314	0	0	18.53	92.60	3861	4	1	3570	45	21	0	18.49	93.73	19-Dec-21
BAHRAIN	15	0	0	15	0	0	0	5.00	93.33	10	0	0	4	0	0	0	3.36	100.00	12-Dec-21
DJIBOUTI	5	0	0	5	0	0	0	1.35	100.00	8	0	0	4	0	0	0	2.14	75.00	12-Dec-21
EGYPT	1009	0	0	1009	0	0	0	2.60	94.65	1198	0	0	1077	1	9	0	3.14	87.81	16-Dec-21
IRAN	618	0	0	618	0	0	0	2.99	98.54	616	0	0	593	0	0	0	3.12	97.08	18-Dec-21
IRAQ	476	0	0	476	0	0	0	2.81	93.28	666	0	0	623	0	6	0	3.97	91.29	18-Dec-21
JORDAN	32	0	0	32	0	0	0	0.83	100.00	42	0	0	29	0	0	0	1.10	100.00	16-Dec-21
KUWAIT	36	0	0	36	0	0	0	4.06	91.67	47	0	0	45	0	0	0	5.54	89.36	19-Dec-21
LEBANON	49	0	0	49	0	0	0	3.07	89.80	37	0	0	33	0	3	0	2.40	89.19	18-Dec-21
LIBYA	95	0	0	94	1	0	0	3.62	100.00	73	0	0	56	0	1	1	2.91	100.00	17-Dec-21
MOROCCO	87	0	0	87	0	0	0	0.86	78.16	56	0	0	30	0	21	1	0.59	55.36	26-Nov-21
OMAN	22	0	0	22	0	0	0	1.85	100.00	12	0	0	12	0	0	0	1.03	83.33	19-Dec-21
PAKISTAN	11972	84	29	11719	142	0	0	15.25	85.43	11986	1	4	11280	18	93	0	12.30	86.57	19-Dec-21
PALESTINE	16	0	0	16	0	0	0	0.87	100.00	13	0	0	7	0	3	0	0.72	100.00	19-Dec-21
QATAR	9	0	0	9	0	0	0	2.11	33.33	9	0	0	2	0	1	0	1.63	88.89	5-Dec-21
SAUDI ARABIA	200	0	0	200	0	0	0	2.37	96.00	192	0	0	146	0	0	0	2.37	92.71	19-Dec-21
SOMALIA	376	0	0	361	15	0	0	4.66	94.68	327	0	0	297	1	1	0	4.08	96.33	19-Dec-21
SUDAN	733	0	0	675	58	0	0	3.84	92.91	563	0	0	435	0	5	1	2.99	93.96	16-Dec-21
SYRIA	343	0	0	343	0	0	0	4.32	90.96	413	0	0	388	0	0	0	5.55	91.28	18-Dec-21
TUNISIA	42	0	0	42	0	0	0	1.49	54.76	19	0	0	17	0	0	0	0.69	68.42	16-Dec-21
U.A.E.	19	0	0	19	0	0	0	1.52	100.00	16	0	0	12	0	1	0	1.12	93.75	5-Dec-21
YEMEN	825	0	1	793	31	0	0	5.44	88.73	803	0	0	568	10	9	1	5.38	89.04	18-Dec-21
EMR POL	20951	140	33	20220	561	0	0	7.96	88.59	20967	5	5	19228	75	174	4	7.58	89.01	

* 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

****Includes all VDPV cases. Further details available page number

For further details on Contacts click: [detail of contact samples](#)

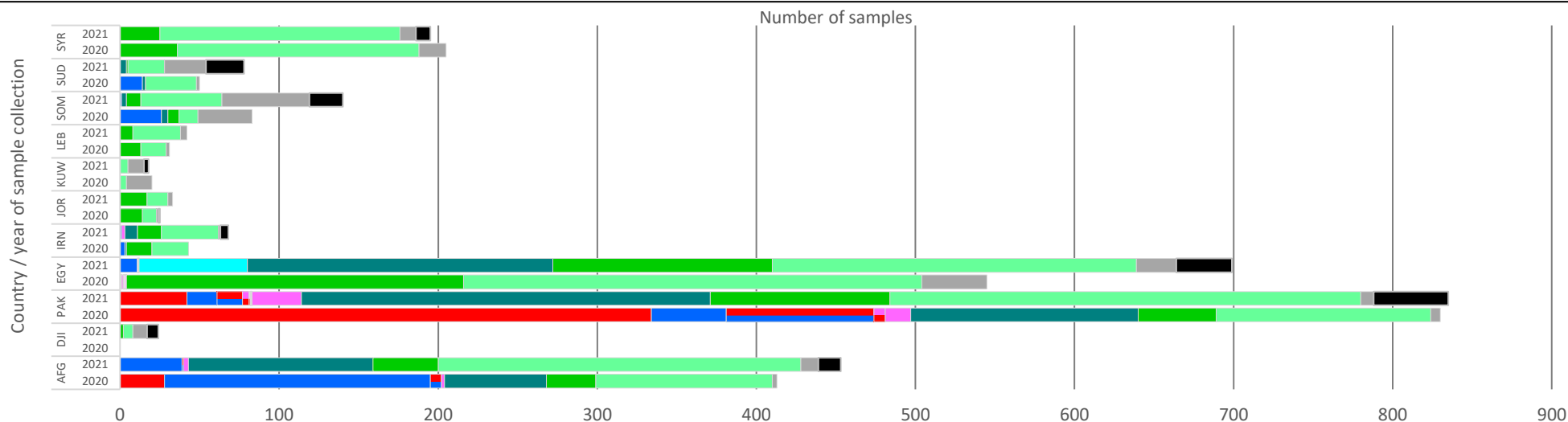
Laboratory investigation of AFP cases with paralysis onset in 2021

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Country	Polio laboratories	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results													Indicators				Latest report Date
	ITD / Nucleotide Sequencing		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**	
	Sequencing performed by CDC and RIVM laboratories		L20B+	L20B+/N-PEV			received within last 14 days	received more than 14 days ago	Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV									
Afghanistan	RRL Pakistan	3801	302	46	659	2636	151		4	144	1		94	40		148			2		2	15%	99%	99%	99%	19-Dec-21
Bahrain	NPL Oman / CDC	9				8	1															0%	100%		50%	16-Dec-21
Djibouti	NPL Kenya/ CDC	8			1		4															100%			100%	12-Dec-21
Egypt***	RRL Egypt	1143	61	3	157	875	45	3		3			58			2				2		12%	97%	100%	99%	16-Dec-21
Iran	NPL Iran/ CDC	624	14		9	583	18			3	1		6			4						2%	100%	100%	98%	19-Dec-21
Iraq	NPL Iraq, RRL Egypt	661	10		44	585	22			7						17						7%	100%	50%	98%	19-Dec-21
Jordan	NPL Jordan, RRL Egypt	42	1		3	34	4			2						2						8%	100%	0.5	100%	19-Dec-21
Kuwait	RRL Kuwait / RIVM	46				46																0%	100%		98%	19-Dec-21
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	37	1		1	35																4%	100%			16-Dec-21
Libya	RRL Tunisia/ RIVM	72				69	3															0%	100%		86%	15-Dec-21
Morocco	NPL Morocco, RRL Tunisia	61			1	57	2	1														2%	100%		95%	17-Dec-21
Oman	NPL Oman / CDC	12				12																1%	92%		100%	7-Dec-21
Pakistan	RRL Pakistan	11710	564	64	2361	8353	357	6	1	246	1		177	14		310	1		5			17%	100%	100%	97%	19-Dec-21
Palestine & UNRWA		13				12		1														0%	17%		100%	19-Dec-21
Qatar	NPL Oman / CDC	9				9																0%	100%		100%	16-Dec-21
Saudi Arabia	NPL Saudi Arabia/ CDC	184	2			166	5	11								2						0%	92%	50%	97%	12-Dec-21
Somalia	NPL Kenya/ CDC	327	6		48	244	4	24		4				1		4						16%	3%		63%	19-Dec-21
Sudan	NPL Sudan/ RRL Egypt	514	1		73	364		77					1			1						17%	88%	100%	67%	18-Nov-21
Syria	NPL Syria/ RRL Egypt	407	16		22	350	19															6%	100%		0%	16-Dec-21
Tunisia	RRL Tunisia	17				17																0%	100%		94%	15-Dec-21
U.A.E	NPL Oman / CDC	12				12																0%	100%		42%	16-Dec-21
Yemen	NPL Oman, NPL Kenya, RRL Egypt	483	19		93	308	64			3	4	2		4		7						18%	85%	100%	0%	18-Dec-21
Total EMR 2021		20192	997	113	3472	14775	699	123	5	412	7	2	336	59		497	1		7	2	2	15%	97%	99%	94%	
Total EMR 2020		20387	1680	93	3046	15557		4	129	352	32		509	468		462	2	3	18	11		14%	94%	97%	93%	

Environmental Surveillance Isolation by Classification

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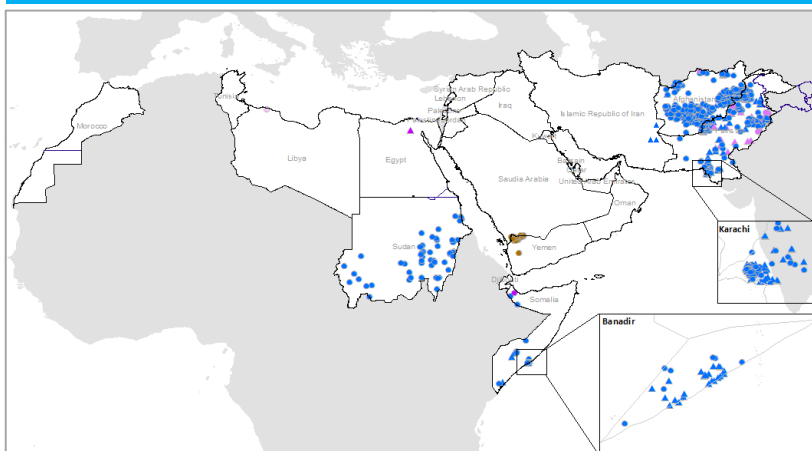


	AFG		DJI		PAK		EGY		IRN		JOR		KUW		LEB		SOM		SUD		SYR	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Wild	28				334	42																
cVDPV2	167	39			47	19		11	3	1							26	1	14			
Wild+cVDPV2	7	1			93	16																
Wild+aVDPV2					7	4																
Wild+aVDPV3						1																
aVDPV1						1	1															
aVDPV2	2	3			16	31	1			2												
aVDPV3							2															
VDPV1								1														
VDPV2								68														
SL2	64	116			143	257		192	1	8							4	3	2	4		
SL1/3	31	41		2	49	113	212	138	16	15	14	17			13	8	7	9		1	36	25
Entero	111	228		6	135	296	288	229	23	36	9	13	4	5	16	30	12	51	32	23	152	151
Negative	3	11		9	6	8	41	25		1	1	3	16	10	2	4	34	55	2	26	17	10
Pending		14		7		47		35		5	1			3				21		24		9

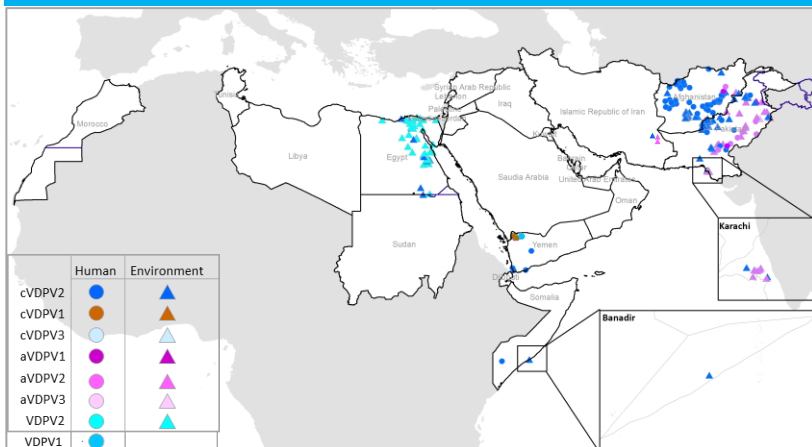
VDPVs isolations by Source and Country

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VDPV Isolates, EMR countries, 2020



VDPV Isolates, EMR countries, 2021



VDPVs isolated from 2016-2021

cVDPV Isolate type	EMR Country	Sources																											
		AFP cases(Human)						Contacts(Human)						Environment						Other Sources (Healthy Children)									
		2016	2017	2018	2019	2020	2021	Most recent	2016	2017	2018	2019	2020	2021	Most recent	2016	2017	2018	2019	2020	2021	Most recent	2016	2017	2018	2019	2020	2021	Most recent
cVDPV2	Afghanistan					307	43	09-07-21												174	40	23-06-21							
	Egypt																				11	18-11-21							
	Iran																			3	1	20-02-21							
	Pakistan	1			22	135	8	23-04-21								4			38	135	35	11-08-21							
	Somalia			6	3	14	1	12-05-21			3	1	11		10-11-20	2	19	5	26	1		23-05-21				1	5		22-09-20
	Sudan					58		18-12-20					18		08-10-20					14		09-11-20					4		24-08-21
	Syria		74					21-09-17		63					12-09-17									4					20-08-17
	Yemen						4	19-Sep-21																					
cVDPV1	Yemen				1	31	3	27-03-21				2		10-07-19															
cVDPV3	Somalia			7				07-09-18		7				30-06-18			12				23-08-18								
aVDPV1	Afghanistan						1	22-02-21																					
	Egypt																		1		17-06-20								
	Pakistan						1	21-08-21												1	10-02-21								
	Somalia					1		26-01-20																					
aVDPV2	Afghanistan	1				3	1	01-03-21					75	15	03-05-21					2	3	25-07-21							
	Egypt							1	30-05-21					1	14-06-21					1		21-09-21							
	Iran																				2	28-09-21							
	Pakistan					7	8	24-09-21				8	19	1	28-04-21	3	5		3	22	35	09-11-21							
	Somalia	1						24-10-16	1						30-10-16			2	1			03-02-19							
	Yemen	1						11-06-16	2						20-06-16														
aVDPV3	Afghanistan					1		23-06-20																					
	Egypt																		2		30-09-20								
	Pakistan																			1	05-04-21								
	Libya					1		15-01-20																					
VDPV1	Yemen						1	20-07-21																					
VDPV2	Egypt														1				68		04-11-21								
	Pakistan														1						11-07-16								

Important links

EMR Polio Bulletin - Issue No. 1211, Week 50 (ending on 19/12/2021)

- [Global Polio Eradication Initiative](#)
- [IMST – Outbreak Response Dashboard](#)
- [nOPV2 Tracker](#)
- [Pol-MIS](#) (restricted to registered users)
- [Containment](#) (restricted to registered users)