

# EMR Polio Bulletin

World Health Organization – Regional Office for Eastern Mediterranean Issue No. 1223, Week 10 (ending on 13/03/2022)

## Highlights



Children  
Paralyzed  
by polio

2021

- 05 cases of Wild Polio 1
  - 04 in Afghanistan
  - 01 in Pakistan

- 66 cases of cVDPV2
  - 43 in Afghanistan
  - 08 in Pakistan
  - 01 in Somalia
  - 14 in Yemen

- 03 cVDPV1 cases
  - All in Yemen

2022

- 01 case of Wild Polio 1
  - 01 in Afghanistan

- 01 case of cVDPV2
  - 01 in Somalia

- Zero case of cVDPV1  
(No cVDPV1 for the last ten months)



Sewage  
water  
sampling

2021

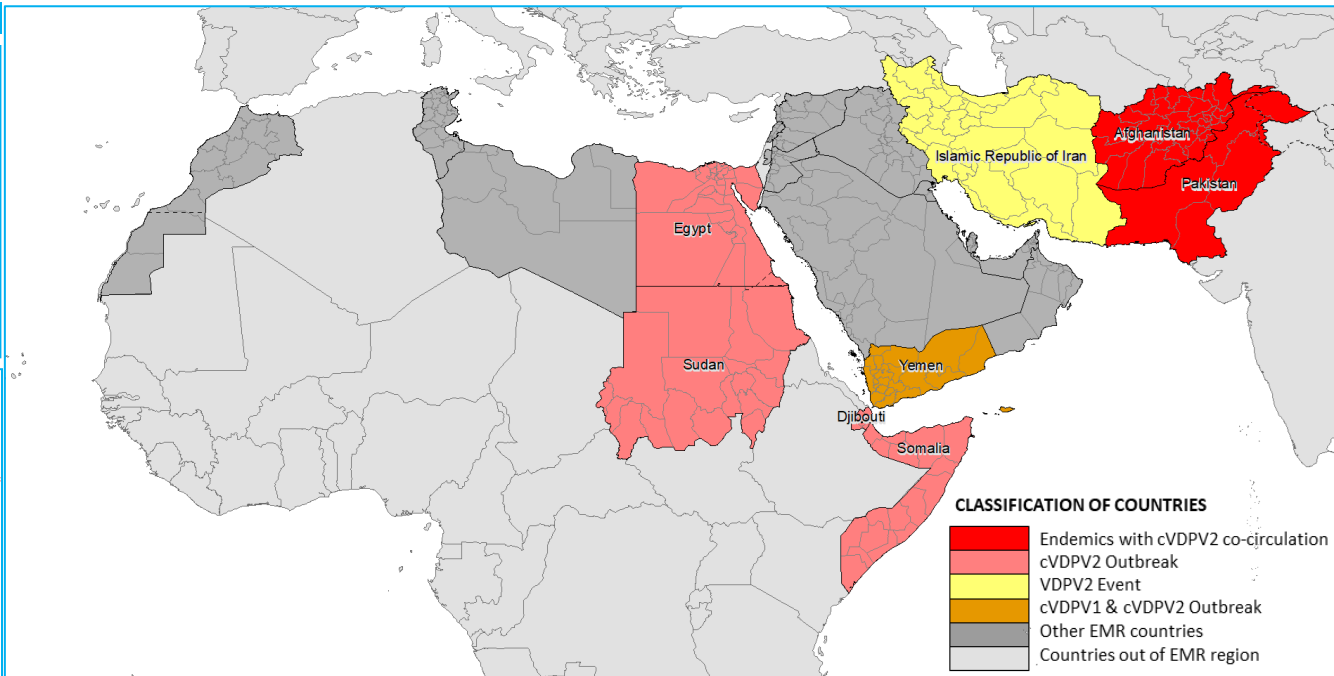
- 66 samples Wild Polio 1
  - 01 in Afghanistan
  - 65 in Pakistan

- 93 samples cVDPV2
  - 40 in Afghanistan
  - 35 in Pakistan
  - 11 in Egypt
  - 01 in Iran
  - 01 in Somalia
  - 05 in Djibouti

2022

- No sample positive for Wild Polio 1  
(No WPV1 for the last 2 months)

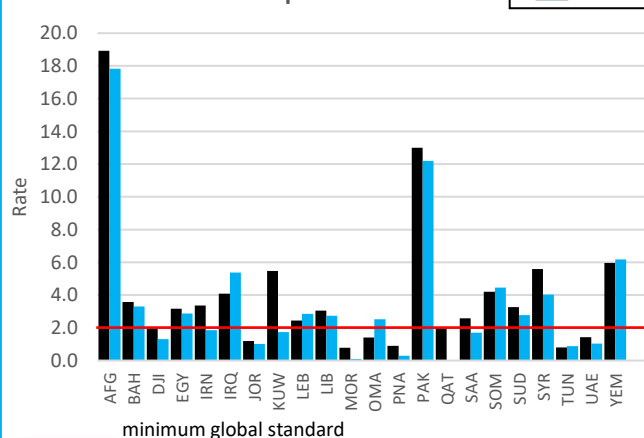
- No sample positive for cVDPV2  
(No cVDPV2 for the last 3 months)



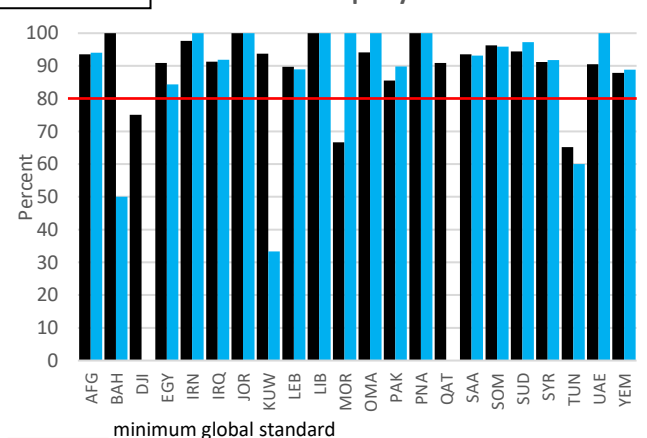
## Highlights of the week

- No new wild poliovirus from human or environmental samples reported this week.
- Three new VDPV2 isolates reported from environmental samples, two from Egypt (Giza and Minya) and one from Pakistan (Peshawar). These are not genetically related to any other reported VDPV2s in the respective countries or elsewhere.
- There is detection of cVDPV3 in Israel from an AFP case. EMR-POL is in active contact with EURO and occupied Palestinian authorities being conscious of risk of spread of cVDPV3 into Palestine..

### Non polio AFP rate



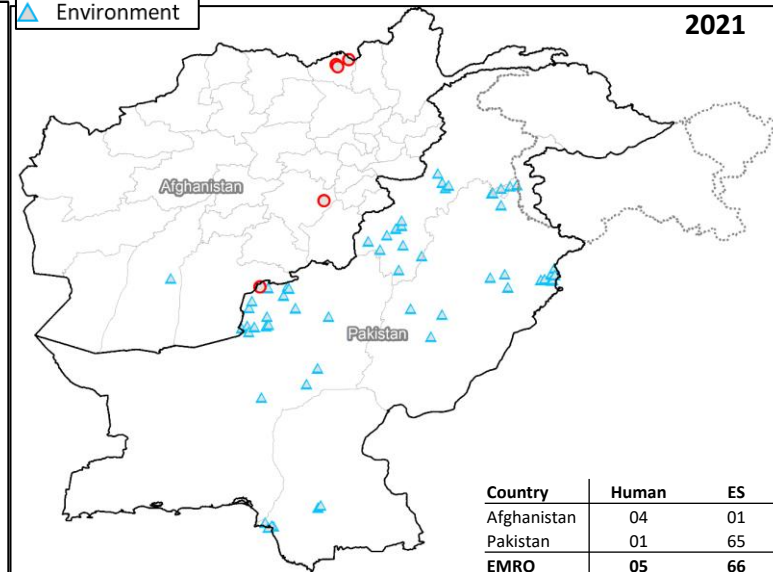
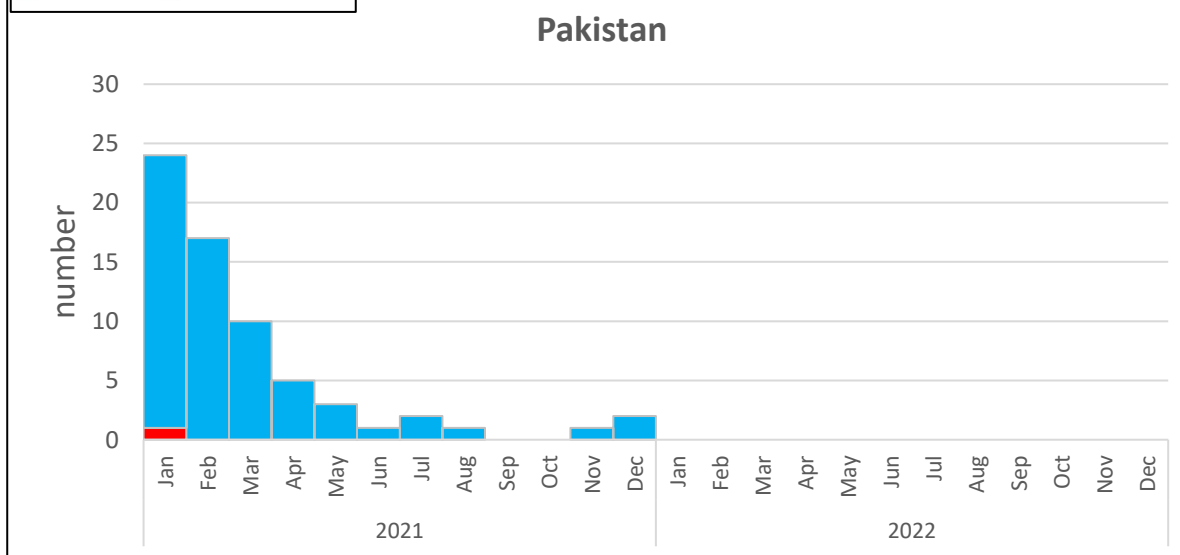
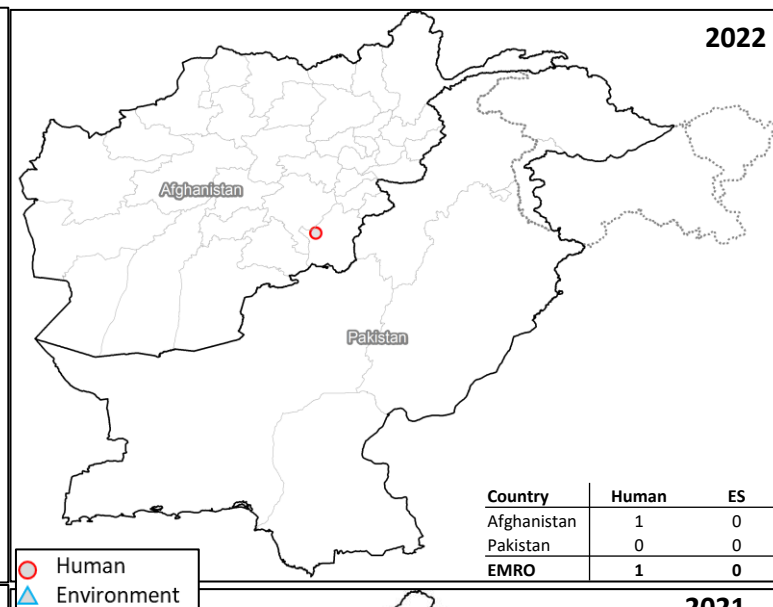
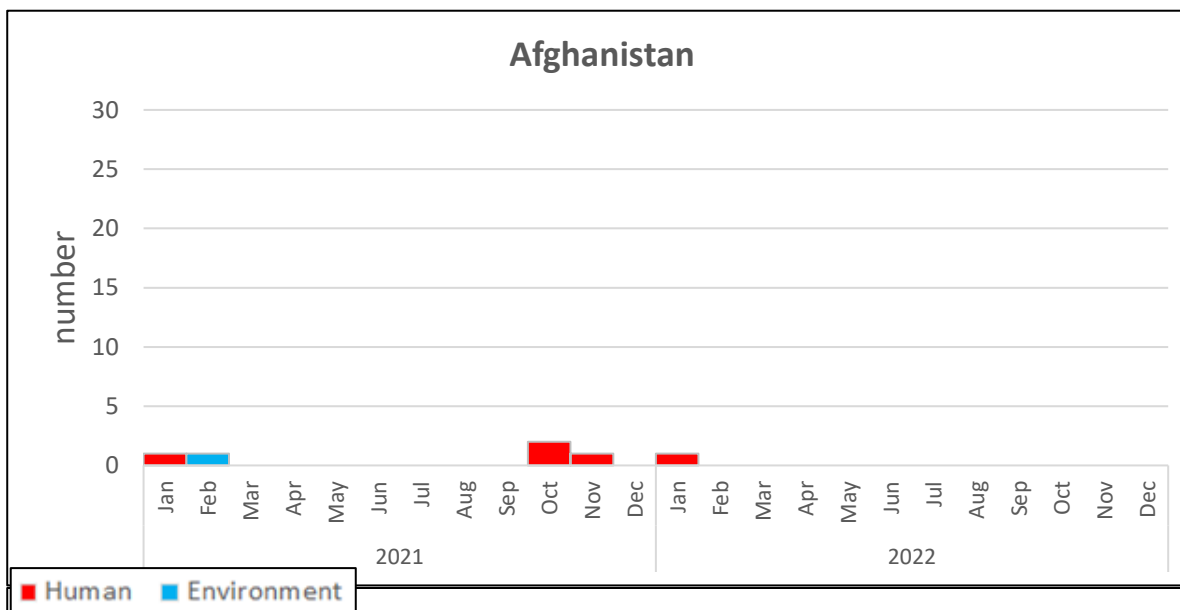
### Stool adequacy



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

# WPV1 Positive isolates from Afghanistan and Pakistan by source

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# Virus isolation by country, last 12 months (Mar. 13, 2021 to Mar. 13, 2022)

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Source / Virus type	AFG	DJI	PAK	EGY	IRN	SOM	YEM	Total
<b>Human (AFP only)</b>	<b>17</b>		<b>5</b>	<b>1</b>		<b>2</b>	<b>18</b>	<b>43</b>
Wild	4							4
cVDPV2	13		2			2	14	31
Wild+cVDPV2								
Wild+aVDPV3								
cVDPV1							1	1
aVDPV1							1	1
aVDPV2			3	1				4
VDPV1								
VDPV2							2	2
<b>Environment</b>	<b>7</b>	<b>5</b>	<b>55</b>	<b>75</b>	<b>3</b>	<b>1</b>		<b>146</b>
Wild			15					15
cVDPV2	6	5	9	2		1		23
Wild+cVDPV2			2					2
Wild+aVDPV3			1					1
cVDPV1								
aVDPV1								
aVDPV2	1		27		2			30
VDPV1				1				1
VDPV2			1	72	1			74
<b>Total</b>	<b>24</b>	<b>5</b>	<b>60</b>	<b>76</b>	<b>3</b>	<b>3</b>	<b>18</b>	<b>189</b>

Note: Viruses isolated from 'other' sources (example healthy children) are not included in this analysis; they are shown in page No. (8)

# Confirmed Wild Polio 1 Cases by month of onset

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Country	Total year 2020	Total year 2021	20-02		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case	
					2021						2022							
			2021	2022	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Afghanistan	56	4	1	1	0	0	0	0	0	0	0	2	1	0	1			14-Jan-22
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			
Egypt	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	0			
Jordan *****	0	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	0		
Lebanon *****	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				
Morocco	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	0		
Pakistan	84	1	1	0	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	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	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	0	0			
Tunisia	0	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	0	0	0							
EMR	140	5	2	1	0	0	0	0	0	0	0	2	1	0	1	0	0	14-Jan-22

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

# Investigation of AFP cases with paralysis onset in 2021 & 2022

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COUNTRY	2021									2022									Line List
	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	4088	4	1	4002	45	29	0	18.92	93.49	762	1	0	518	0	0	0	17.82	93.96	13-Mar-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	2	0	0	0	0	0	0	3.30	50.00	13-Mar-22
DJIBOUTI	8	0	0	4	0	4	3	2.06	75.00	1	0	0	0	0	0	0	1.31	0.00	20-Feb-22
EGYPT	1251	0	0	1236	1	7	0	3.17	90.89	223	0	0	125	0	0	0	2.87	84.30	10-Mar-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	74	0	0	70	0	0	0	1.85	100.00	13-Mar-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	184	0	0	132	0	0	0	5.37	91.85	12-Mar-22
JORDAN	47	0	0	46	0	1	0	1.19	100.00	8	0	0	6	0	0	0	1.03	100.00	10-Mar-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	3	0	0	1	0	0	0	1.73	33.33	13-Mar-22
LEBANON	39	0	0	36	0	3	0	2.45	89.74	9	0	0	0	0	0	0	2.86	88.89	6-Mar-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	14	0	0	7	0	0	0	2.74	100.00	5-Mar-22
MOROCCO	78	0	0	57	0	18	1	0.79	66.67	2	0	0	0	0	0	0	0.11	100.00	7-Mar-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	6	0	0	6	0	0	0	2.53	100.00	6-Mar-22
PAKISTAN	13075	1	4	12949	18	51	0	12.97	85.48	2430	0	0	1690	0	0	0	12.23	89.79	13-Mar-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	1	0	0	0	0	0	0	0.27	100.00	6-Mar-22
QATAR	11	0	0	9	0	2	0	2.03	90.91	0	0	0	0	0	0	0	0.00		20-Feb-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	29	0	0	0	0	0	0	1.69	93.10	13-Mar-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	73	0	0	44	1	0	0	4.47	95.89	13-Mar-22
SUDAN	637	0	0	631	0	5	0	3.26	94.35	107	0	0	70	0	0	0	2.79	97.20	10-Mar-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	61	0	0	38	0	0	0	4.02	91.80	12-Mar-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	5	0	0	4	0	0	0	0.89	60.00	11-Mar-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	3	0	0	0	0	0	0	1.03	100.00	1-Mar-22
YEMEN	921	0	0	753	20	65	44	5.96	87.84	188	0	0	1	0	0	0	6.18	88.83	13-Mar-22
EMR POL	22757	5	5	22323	86	185	48	7.95	88.50	4185	1	0	2712	1	0	0	7.41	90.80	

\* 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, with 14 days of paralysis onset and specimens received in the lab in 'Good Condition'

\*\*\*\* Includes all VDPV cases. Further details available in page (8)

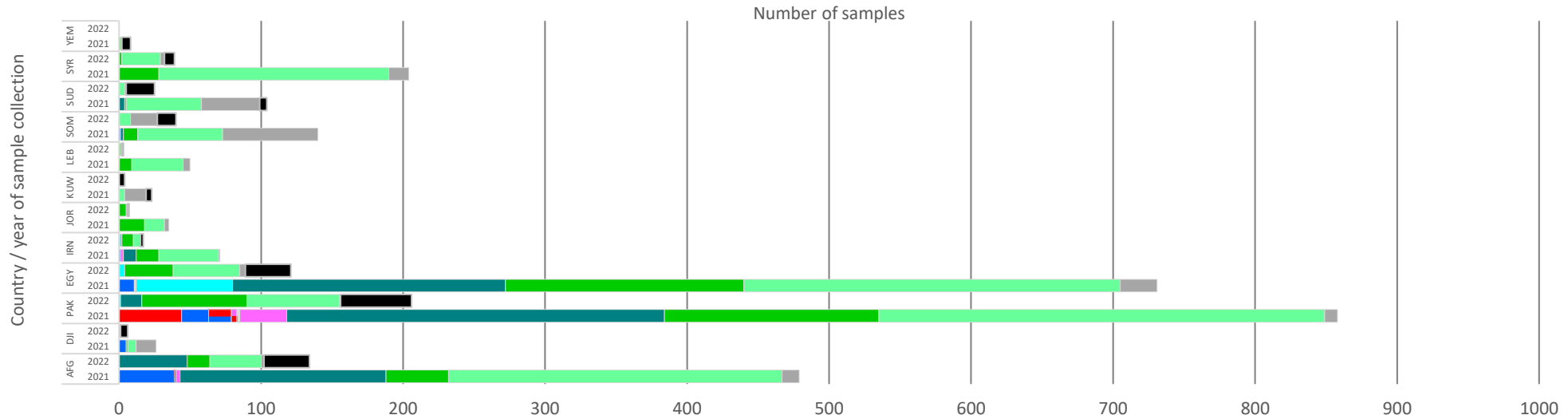
# Laboratory investigation of AFP cases with paralysis onset in 2022

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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+ / NPEV			received within last 14 days	received more than 14 days ago	Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV									
Afghanistan	RRL Pakistan	741	48	4	75	414	170		1	26			7			37					11%	100%	100%	99%	13-Mar-22	
Bahrain	NPL Oman / CDC	2				1	1														0%	100%		100%	10-Mar-22	
Djibouti	NPL Kenya / CDC	1						1																	20-Feb-22	
Egypt***	RRL Egypt	231	5	1	22	144	48	11		1						3		1	1		12%	96%	100%	100%	10-Mar-22	
Iran	NPL Iran / CDC	97	1		1	75	20			1	1					1					1%	100%	100%	100%	12-Mar-22	
Iraq	NPL Iraq, RRL Egypt	187	1		5	145	36									2					4%	100%	50%	100%	12-Mar-22	
Jordan	NPL Jordan, RRL Egypt	8			2	6		1													29%	100%		100%	6-Mar-22	
Kuwait	RRL Kuwait / RIVM	2				2															0%	100%		100%	13-Mar-22	
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	7				6	1														0%	100%			12-Mar-22	
Libya	RRL Tunisia / RIVM	16				12	2	2													0%	100%		100%	11-Mar-22	
Morocco	NPL Morocco, RRL Tunisia	5				5															0%	100%		100%	11-Mar-22	
Oman	NPL Oman / CDC	10				8	2														3%	88%		100%	10-Mar-22	
Pakistan	RRL Pakistan	2408	62	2	278	1491	561	3		35			1			45					10%	100%	100%	99%	13-Mar-22	
Palestine & UNRWA		1				1															0%	0%		100%	6-Mar-22	
Qatar	NPL Oman / CDC	1					1																		10-Mar-22	
Saudi Arabia	NPL Saudi Arabia / CDC	26				25		1													0%	96%		100%	6-Mar-22	
Somalia	NPL Kenya / CDC	73			5	40	7	21													11%	2%		100%	13-Mar-22	
Sudan	NPL Sudan / RRL Egypt	110			18	71	20	1													21%	91%			10-Mar-22	
Syria	NPL Syria / RRL Egypt	54			2	37	15														3%	100%			12-Mar-22	
Tunisia	RRL Tunisia	5				5															0%	100%		100%	11-Mar-22	
U.A.E	NPL Oman / CDC	3					3																		10-Mar-22	
Yemen	NPL Oman, NPL Kenya, RRL Egypt	13					13																		13-Mar-22	
Total EMR 2022		4001	117	7	408	2488	900	41	1	63	1		8			88		1	1		10%	98%	99%	99%		
Total EMR 2021		22088	1160	127	3860	16834	95	9	5	475	7	27	363	71		595	1	1	7	2	5	14%	97%	98%	93%	

# Environmental Surveillance Isolation by Classification

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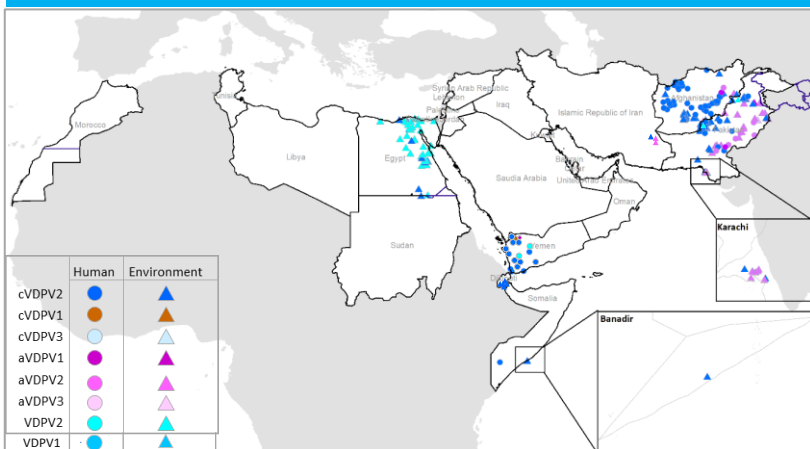


	AFG		DJI		PAK		EGY		IRN		JOR		KUW		LEB		SOM		SUD		SYR		YEM	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Wild					44																			
cVDPV2	39		5		19		11		1								1							
Wild+cVDPV2	1				16																			
Wild+aVDPV2					4																			
Wild+aVDPV3					1																			
aVDPV1					1																			
aVDPV2	3				33				2															
aVDPV3																								
VDPV1							1																	
VDPV2						1	68	4		1														
SL2	145	48			266	15	192		9	1							2		4					
SL1/3	44	16	1		151	74	168	34	16	8	18	5			9	1	10		1		28	2	1	
Entero	235	36	6		314	65	265	47	42	5	14		4		36	1	60	8	53	4	162	27	1	
Negative	12	2	14	1	9	1	26	4	1		3	1	15		5		67	19	41	1	14	3		
Pending		32		5		50		32		2		1	4	4		1		13	5	20		7	6	

# VDPVs isolations by Source and Country

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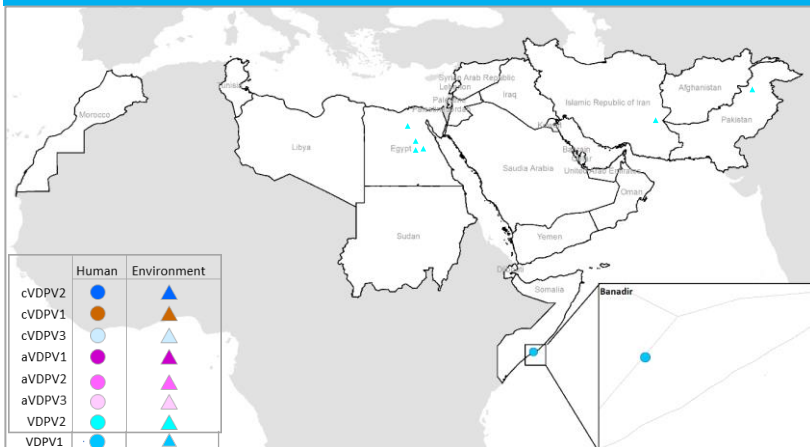
## VDPV Isolates, EMR countries, 2021



## VDPVs isolated from 2017-2022

cVDPV Isolate type	EMR Country	Sources																											
		AFP cases(Human)						Contacts(Human)						Environment						Other Sources (Healthy Children)									
		2017	2018	2019	2020	2021	2022	Most recent	2017	2018	2019	2020	2021	2022	Most recent	2017	2018	2019	2020	2021	2022	Most recent	2017	2018	2019	2020	2021	2022	Most recent
cVDPV2	Afghanistan				307	43		09-07-21											174	40		23-06-21							
	Djibouti																		5			28-12-21							
	Egypt																			11		18-11-21							
	Iran																		3	1		20-02-21							
	Pakistan			22	135	8		23-04-21										38	135	35		11-08-21							
	Somalia		6	3	14	1	1	01-01-22	3	1	11		1	05-01-22	2	19	5	26	1		23-05-21			1	5				
	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					14		29-Oct-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			16-07-20								
	Pakistan																		1		10-02-21								
	Somalia				1			26-01-20																					
	Yemen					1		20-07-21																					
aVDPV2	Afghanistan				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	5		3	22	37		06-12-21								
	Somalia															2	1				03-02-19								
aVDPV3	Afghanistan				1			23-06-20																					
	Egypt																	2			30-09-20								
	Pakistan																		1		05-04-21								
	Libya				1			15-01-20																					
VDPV1	Egypt																	1			11-07-21								
VDPV2	Egypt																		68	4		14-02-22							
	IRAN																			1		04-02-22							
	Pakistan																			1		15-02-22							
	Yemen					2		29-10-21																					

## VDPV Isolates, EMR countries, 2022





# Important links

EMR Polio Bulletin - Issue No. 1222, Week 09 (ending on 06/03/2022)

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