

# EMR Polio Bulletin

World Health Organization – Regional Office for Eastern Mediterranean Issue No. 1222, Week 09 (ending on 06/03/2022)

## 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

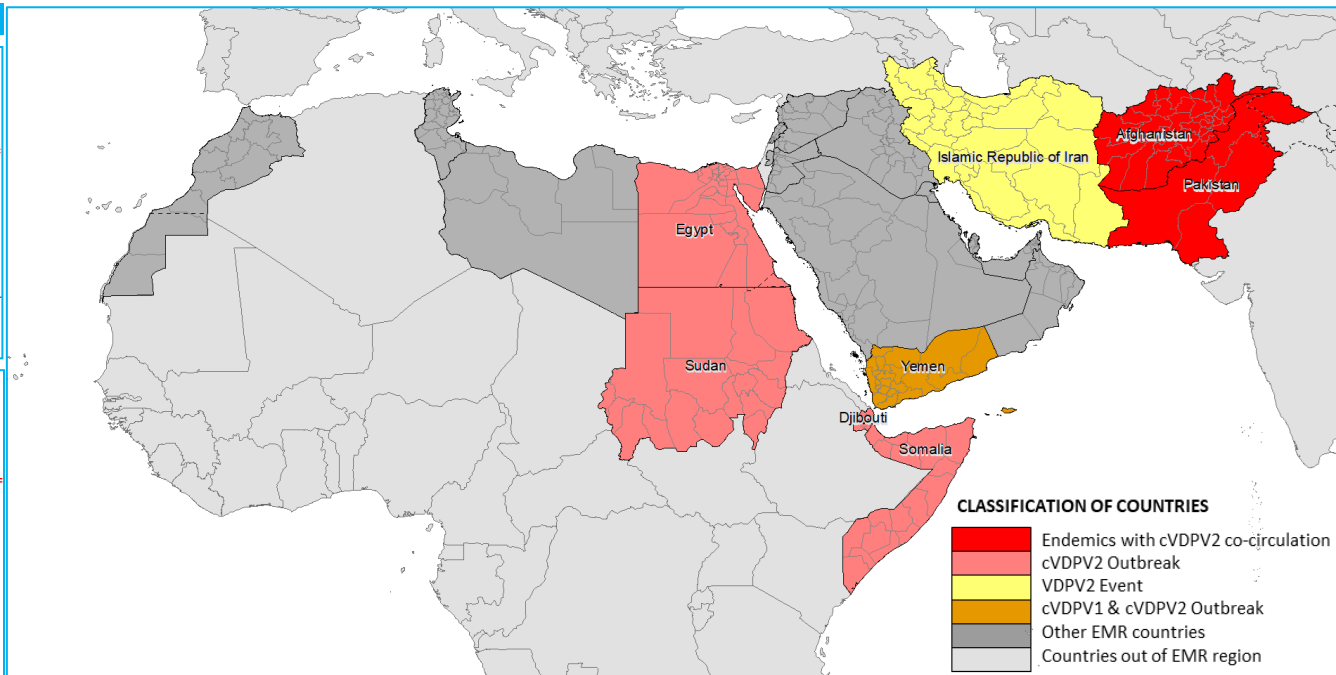
- 66 samples Wild Polio 1
  - 01 in Afghanistan
  - 65 in Pakistan

- 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)

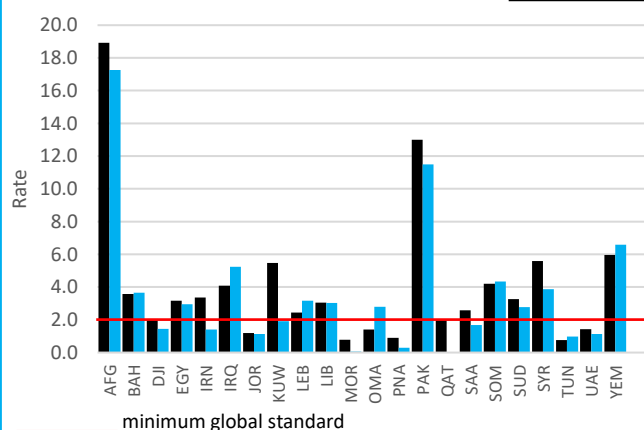
- No sample positive for cVDPV2  
(No cVDPV2 for the last 3 months)



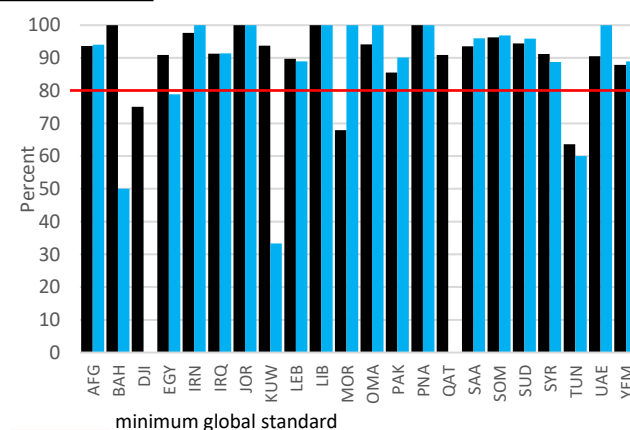
## Highlights of the week

- No new wild poliovirus or circulating vaccine-derived polioviruses from human or environmental samples reported this week.
- Second phase of nationwide polio vaccination campaign in Pakistan completed, covering 157 districts.
- A cVDPV2 outbreak response vaccination campaign using nOPV2 completed in Djibouti last week – the first of its kind in the country.
- A training workshop for WHO Public Health Officers (PHOs) toward integrated public health (IPH) functions was convened from in Khartoum, Sudan 28 February to 3 March 2022.

## Non polio AFP rate



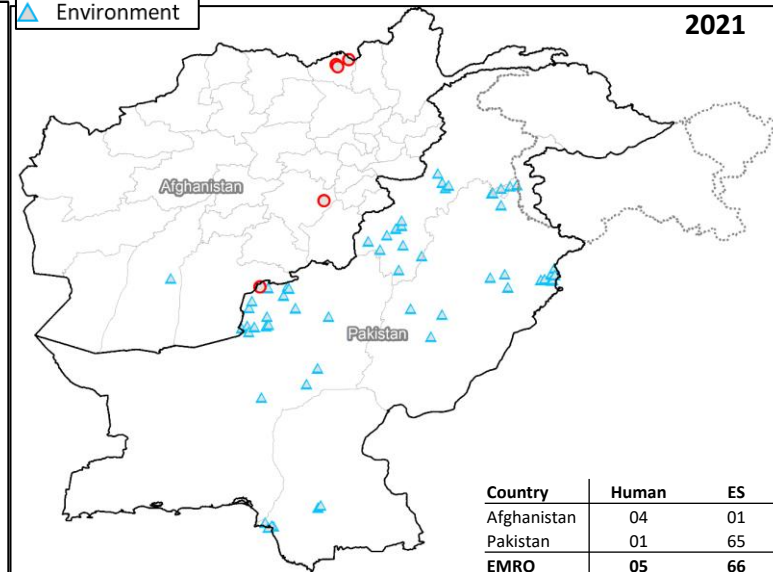
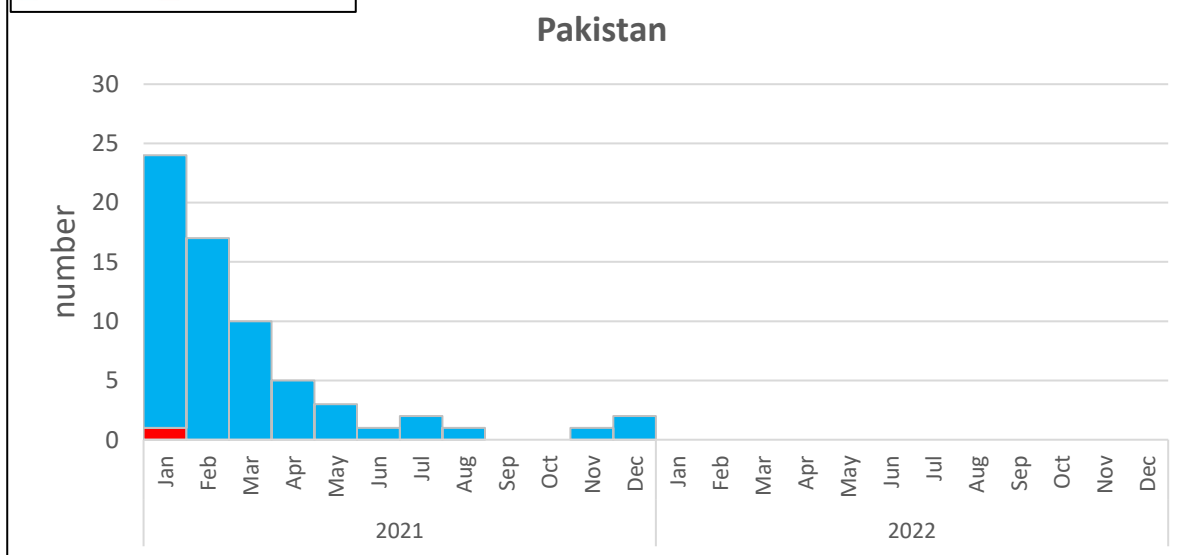
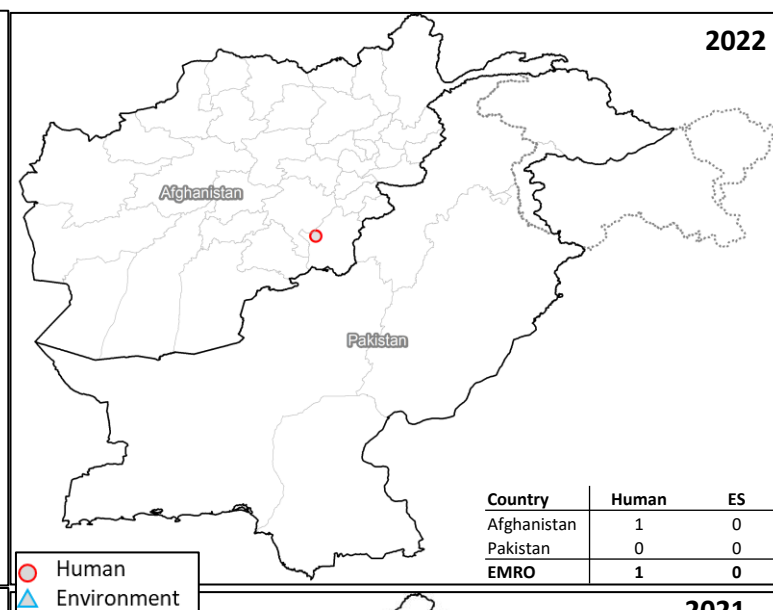
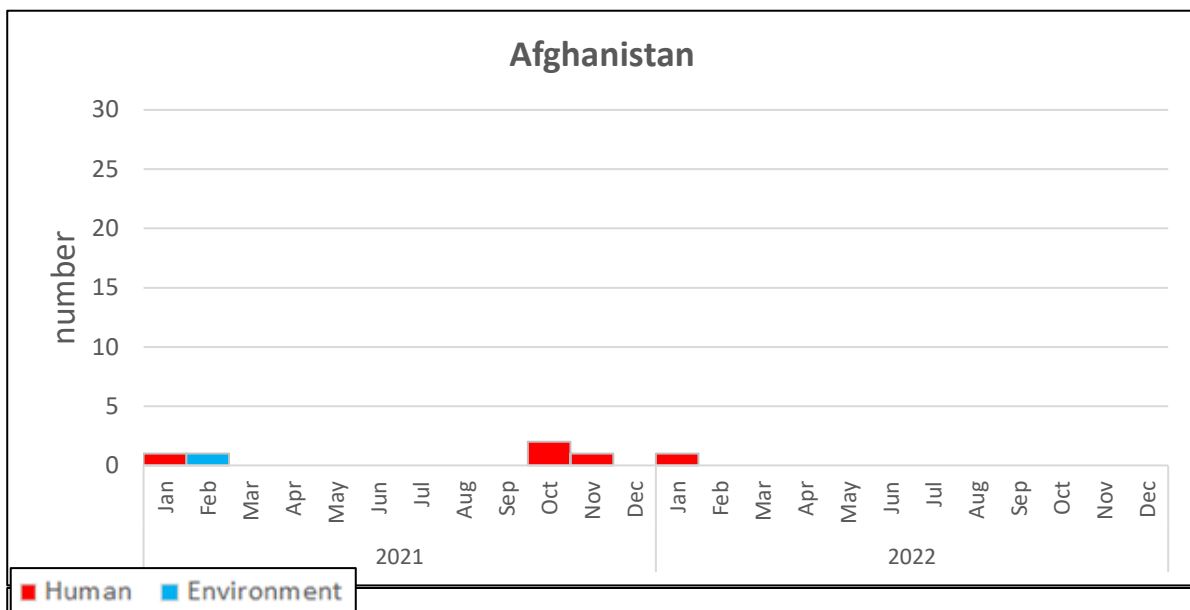
## Stool adequacy



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. 06, 2021 to Mar. 06, 2022)

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Source / Virus type	AFG	DJI	PAK	EGY	IRN	SOM	YEM	Total
<b>Human (AFP only)</b>	<b>20</b>		<b>5</b>	<b>1</b>		<b>2</b>	<b>18</b>	<b>46</b>
Wild	4							4
cVDPV2	16		2			2	16	36
Wild+cVDPV2								
Wild+aVDPV3								
cVDPV1							1	1
aVDPV1							1	1
aVDPV2			3	1				4
VDPV1								
VDPV2								
<b>Environment</b>	<b>16</b>	<b>5</b>	<b>57</b>	<b>73</b>	<b>2</b>	<b>1</b>		<b>154</b>
Wild			16					16
cVDPV2	14	5	9	2		1		31
Wild+cVDPV2			3					3
Wild+aVDPV3			1					1
cVDPV1								
aVDPV1								
aVDPV2	2		28		2			32
VDPV1				1				1
VDPV2				70				70
<b>Total</b>	<b>36</b>	<b>5</b>	<b>62</b>	<b>74</b>	<b>2</b>	<b>3</b>	<b>18</b>	<b>200</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					
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	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								
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						
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				
U.A.E	0	0	0	0	0	0	0	0	0	0	0	0	0					
Yemen	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	4086	4	1	3997	45	28	1	18.92	93.56	666	1	0	0	456	0	0	0	17.26	93.99	6-Mar-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	2	0	0	0	0	0	0	0	3.65	50.00	6-Mar-22
DJIBOUTI	8	0	0	4	0	2	1	2.06	75.00	1	0	0	0	0	0	0	0	1.45	0.00	20-Feb-22
EGYPT	1251	0	0	1236	1	6	0	3.17	90.89	208	0	0	0	92	0	0	0	2.96	78.85	3-Mar-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	51	0	0	0	47	0	0	0	1.41	100.00	5-Mar-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	162	0	0	0	110	0	0	0	5.24	91.36	5-Mar-22
JORDAN	47	0	0	45	0	2	0	1.19	100.00	8	0	0	0	4	0	0	0	1.14	100.00	3-Mar-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	3	0	0	0	1	0	0	0	1.92	33.33	6-Mar-22
LEBANON	39	0	0	36	0	3	0	2.45	89.74	9	0	0	0	0	0	0	0	3.17	88.89	6-Mar-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	14	0	0	0	7	0	0	0	3.03	100.00	5-Mar-22
MOROCCO	78	0	0	42	0	33	12	0.79	67.95	1	0	0	0	0	0	0	0	0.06	100.00	14-Feb-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	6	0	0	0	6	0	0	0	2.80	100.00	6-Mar-22
PAKISTAN	13071	1	4	12911	18	40	0	12.96	85.50	2059	0	0	0	1447	0	0	0	11.47	90.14	6-Mar-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	1	0	0	0	0	0	0	0	0.30	100.00	6-Mar-22
QATAR	11	0	0	9	0	0	0	2.03	90.91	0	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	25	0	0	0	0	0	0	0	1.68	96.00	6-Mar-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	64	0	0	0	37	1	0	0	4.34	96.88	6-Mar-22
SUDAN	637	0	0	630	0	6	0	3.26	94.35	96	0	0	0	68	0	0	0	2.77	95.83	3-Mar-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	53	0	0	0	32	0	0	0	3.87	88.68	5-Mar-22
TUNISIA	22	0	0	22	0	0	0	0.77	63.64	5	0	0	0	5	0	0	0	0.99	60.00	25-Feb-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	3	0	0	0	0	0	0	0	1.14	100.00	1-Mar-22
YEMEN	921	0	0	734	20	53	35	5.96	87.84	181	0	0	0	1	0	0	0	6.59	88.95	6-Mar-22
EMR POL	22750	5	5	22243	86	173	49	7.95	88.53	3618	1	0	0	2313	1	0	0	7.10	90.57	

\* 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)

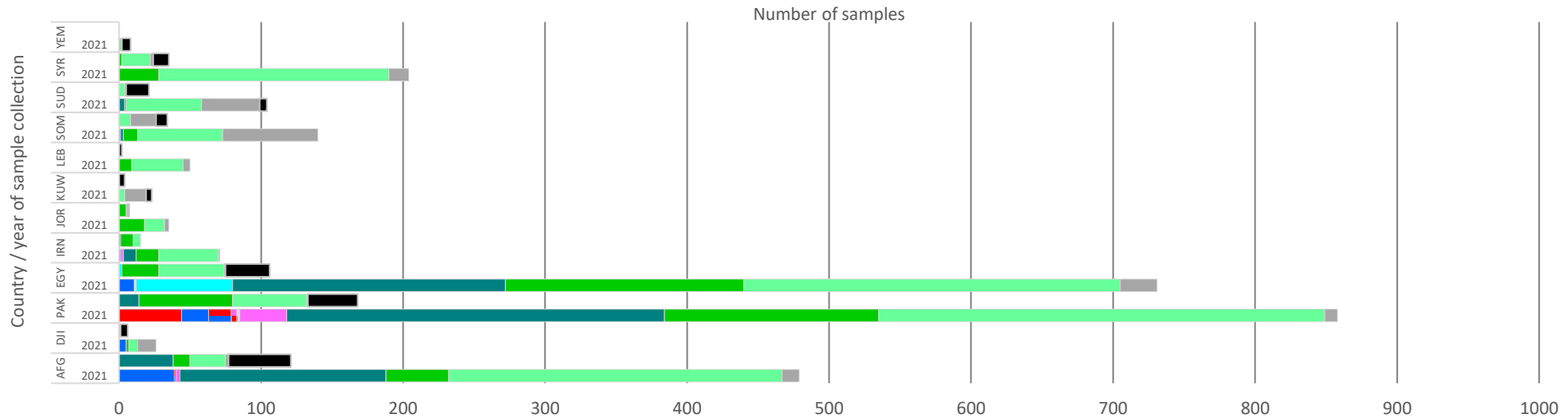
# Laboratory investigation of AFP cases with paralysis onset in 2022

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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 ID 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	634	42	4	74	362	131		1	20			5			32					2	12%	100%	100%	99%	6-Mar-22
Bahrain	NPL Oman / CDC	1				1																0%	100%		100%	3-Mar-22
Djibouti	NPL Kenya / CDC	1						1																		20-Feb-22
Egypt***	RRL Egypt	212	5	1	14	113	71	8		1					1				1	1	2	11%	95%	100%	100%	3-Mar-22
Iran	NPL Iran / CDC	80	1		1	59	19			1	1					1						1%	100%	100%	100%	5-Mar-22
Iraq	NPL Iraq, RRL Egypt	166	1		5	128	32													1		4%	100%		100%	4-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%	6-Mar-22
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	7				6	1															0%	100%			6-Mar-22
Libya	RRL Tunisia / RIVM	12				10	2															0%	100%		100%	2-Mar-22
Morocco	NPL Morocco, RRL Tunisia	5				4	1															0%	100%		100%	4-Mar-22
Oman	NPL Oman / CDC	8				8																3%	88%		100%	3-Mar-22
Pakistan	RRL Pakistan	2035	58	2	257	1240	452	18		33			1			41						11%	100%	100%	99%	6-Mar-22
Palestine & UNRWA		1				1																0%	0%		100%	6-Mar-22
Qatar	NPL Oman / CDC																									3-Mar-22
Saudi Arabia	NPL Saudi Arabia / CDC	26				25	1															0%	96%		100%	6-Mar-22
Somalia	NPL Kenya / CDC	64			4	34	11	15														11%	3%		100%	6-Mar-22
Sudan	NPL Sudan / RRL Egypt	98			18	58	21	1														25%	89%			4-Mar-22
Syria	NPL Syria / RRL Egypt	46			1	32	13															1%	100%			6-Mar-22
Tunisia	RRL Tunisia	5				4	1															0%	100%		100%	2-Mar-22
U.A.E	NPL Oman / CDC																									3-Mar-22
Yemen	NPL Oman, NPL Kenya, RRL Egypt																									6-Mar-22
Total EMR 2022		3411	107	7	376	2093	756	44	1	55	1		6			75			1	1	5	11%	98%	100%	99%	
Total EMR 2021		22042	1157	127	3856	16819	70	9	5	475	7	27	363	71		593	1	1	7	2	3	14%	97%	98%	93%	

# Environmental Surveillance Isolation by Classification

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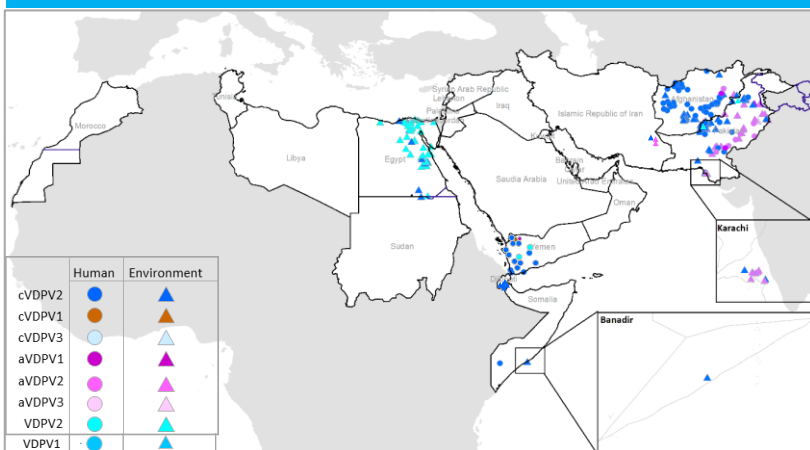


	AFG		DJI		PAK		EGY		IRN		JOR		KUW		LEB		SOM		SUD		SYR		YEM	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Wild					44																			
cVDPV2	39		5		19		11		1								1							
Wild+cVDPV2	1				16																			
Wild+aVDPV2					4																			
Wild+aVDPV3					1																			
aVDPV1					1																			
aVDPV2	3				33				2															
aVDPV3																								
VDPV1							1																	
VDPV2							68	2																
SL2	145	38			266	14	192		9	1							2		4					
SL1/3	44	12	2		151	66	168	26	16	9	18	5			9		10		1		28	2	1	
Entero	235	25	6		314	52	265	46	42	5	14		4		36		60	8	53	4	162	20	1	
Negative	12	2	13	1	9	1	26	1	1		3	1	15		5		67	18	41	1	14	2		
Pending		44		5		35		31				1	4	4		2		8	5	16		11	6	

# VDPVs isolations by Source and Country

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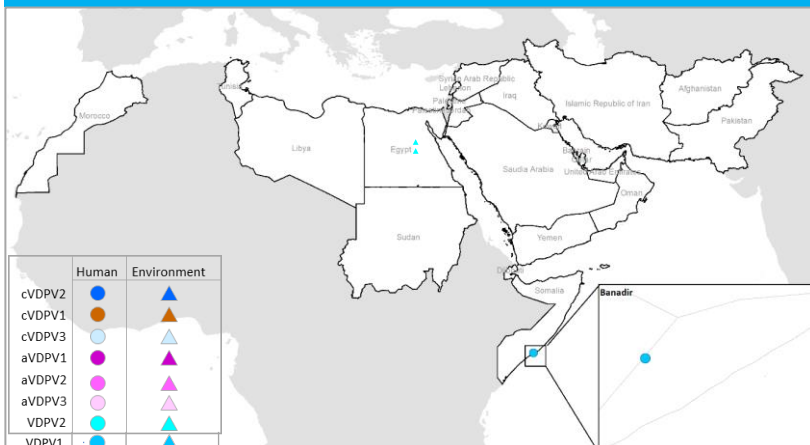
## VDPV Isolates, EMR countries, 2021



## VDPVs isolated from 2017-2022

cVDPV Isolate type	EMR Country	Sources																	
		AFP cases(Human)						Contacts(Human)						Environment					
		2017	2018	2019	2020	2021	Most recent	2017	2018	2019	2020	2021	Most recent	2017	2018	2019	2020	2021	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
	Sudan				58		18-12-20			18			08-10-20				14		09-11-20
	Syria	74					21-09-17	63					12-09-17						
cVDPV1	Yemen			1	31	3	27-03-21		2				10-07-19						
	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	2	25-01-22
	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)