

## Highlights



Children  
Paralyzed  
by polio



Sewage  
water  
sampling

### 2021

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

- 113 cases of cVDPV2
  - 43 in Afghanistan
  - 08 in Pakistan
  - 01 in Somalia
  - 61 in Yemen

- 03 cVDPV1 cases
  - All in Yemen

### 2022

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

- 100 samples cVDPV2
  - 40 in Afghanistan
  - 35 in Pakistan
  - 12 in Egypt
  - 01 in Iran
  - 01 in Somalia
  - 05 in Djibouti
  - 06 in Yemen

### 2022

- 07 cases of Wild Polio 1
  - 01 in Afghanistan
  - 06 in Pakistan

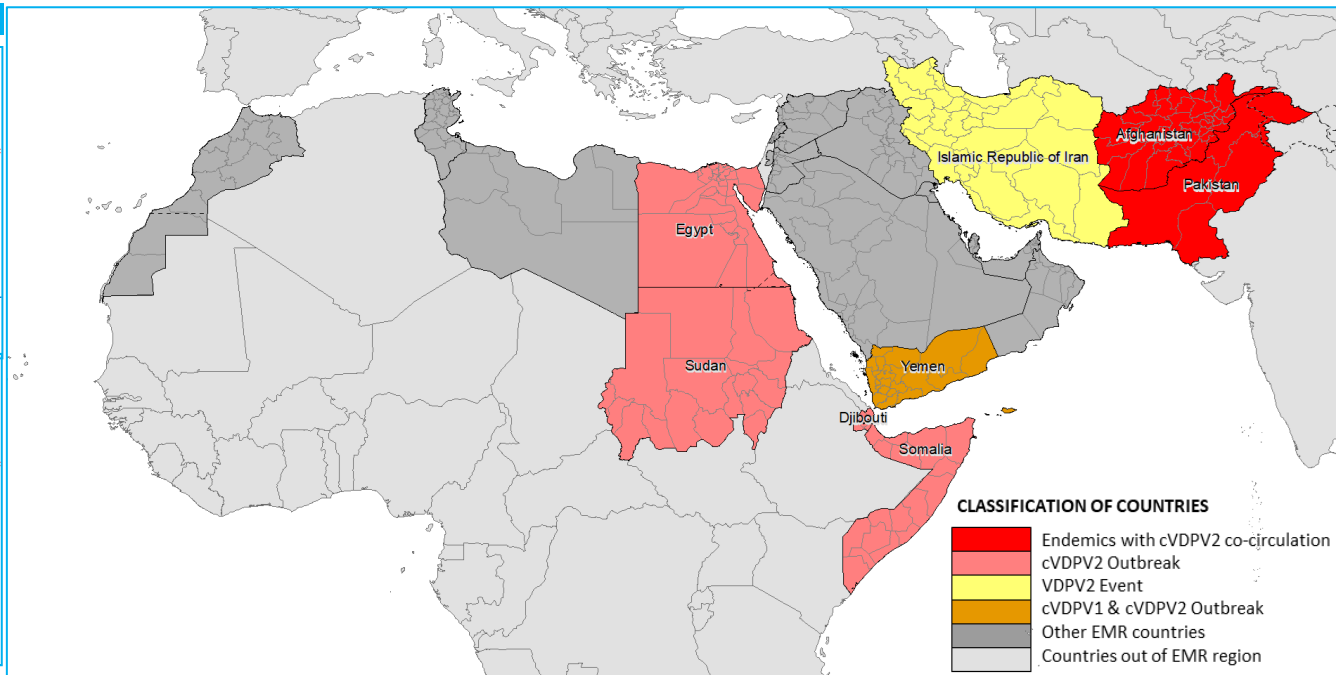
- 24 cases of cVDPV2
  - 02 in Somalia
  - 22 in Yemen

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

### 2022

- 02 sample Wild Polio 1
  - 01 in Afghanistan
  - 01 in Pakistan

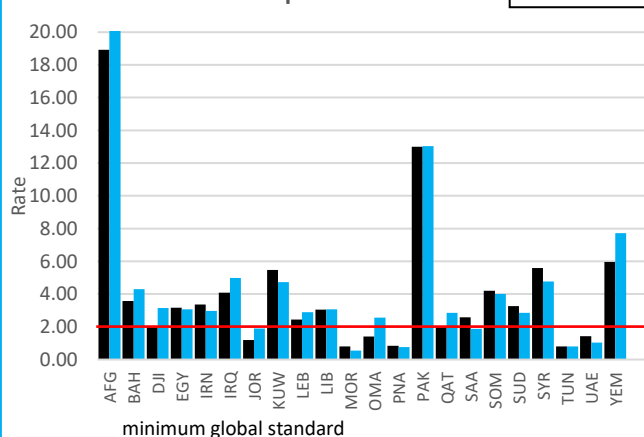
- 11 samples of cVDPV2
  - 05 in Egypt
  - 05 in Djibouti
  - 01 Somalia



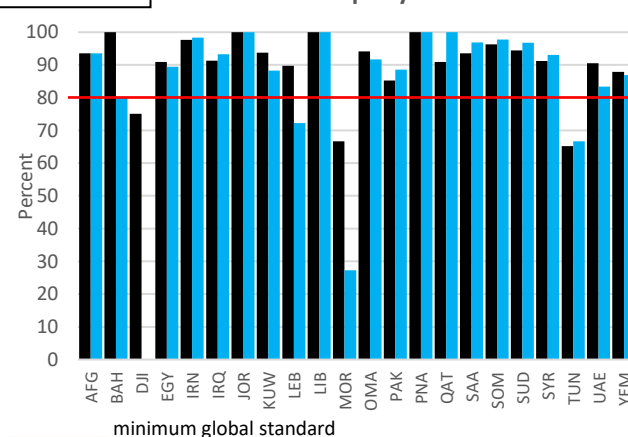
## Highlights of the week

- Pakistan:** three new WPV1 cases reported from district North Waziristan of Khyber Pakhtunkhwa province. This brings total number of WPV cases in Pakistan to six, all from same district. Onset of all cases is in May, 2022.
- Yemen:** One new cVDPV2 case reported from Hajjah province with onset in January 2022. This brings total number of cVDPV2 cases in Yemen to 22 in 2022.
- Egypt:** One new cVDPV2 isolate reported through environmental samples from Giza province. Sample collection was done in April, 2022. This new virus is classified as cVDPV2 due to genetic link with viruses seen in Chad (from emergence NIE-ZAS-1). There is no evidence of local circulation of this emergence in Egypt nonetheless.

### Non polio AFP rate

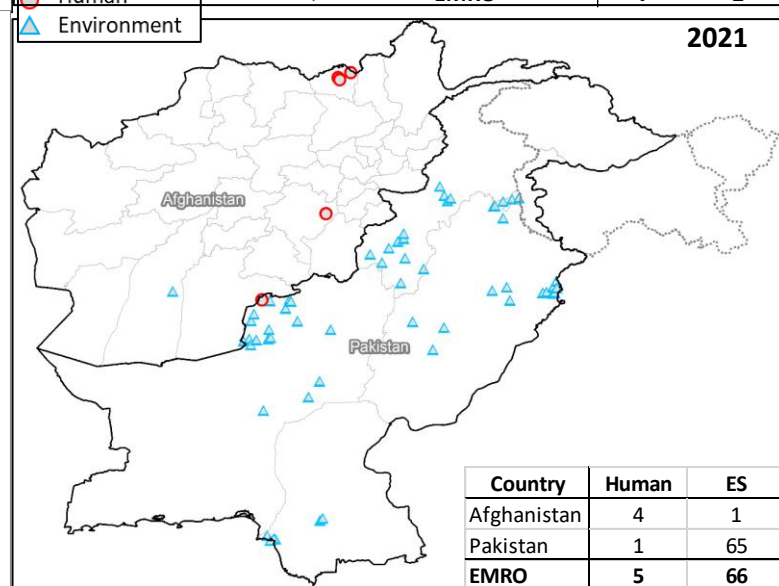
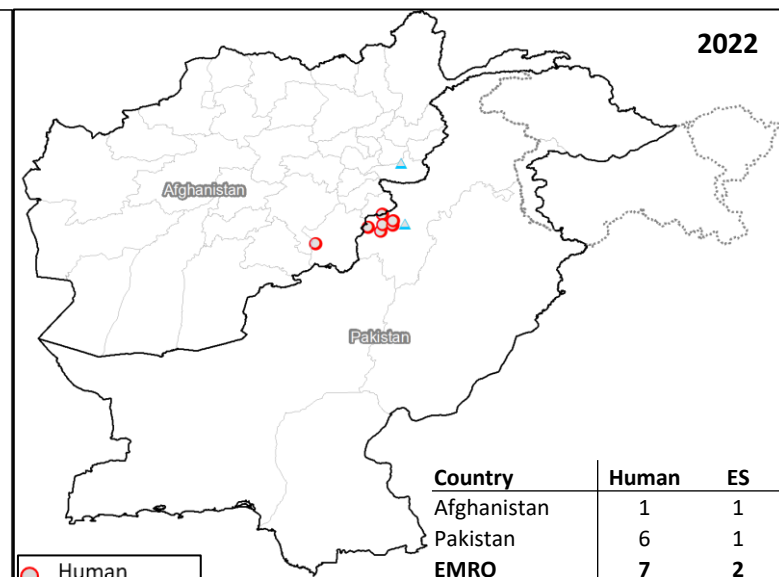
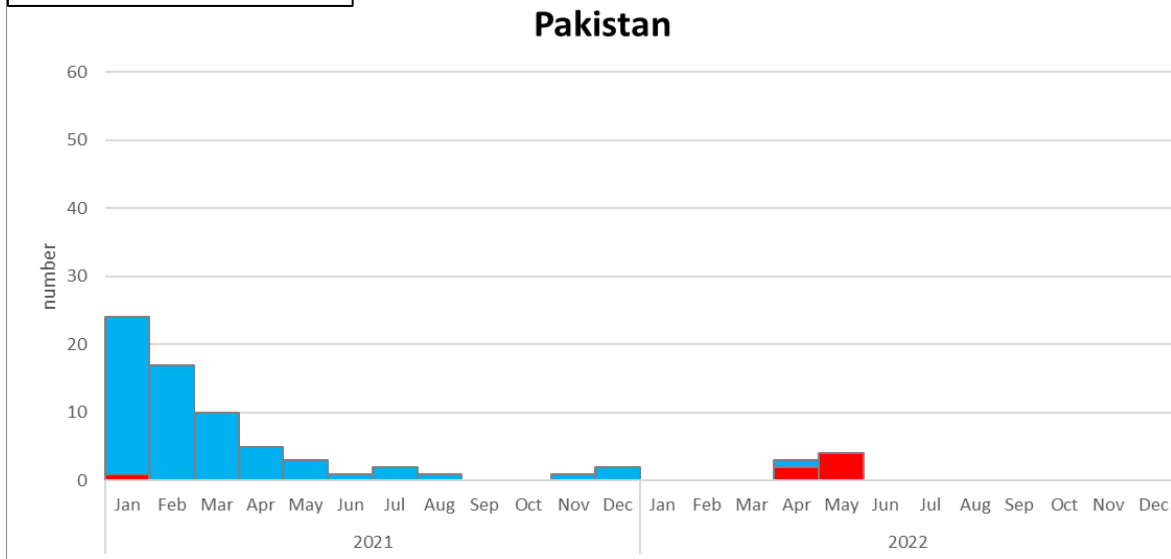
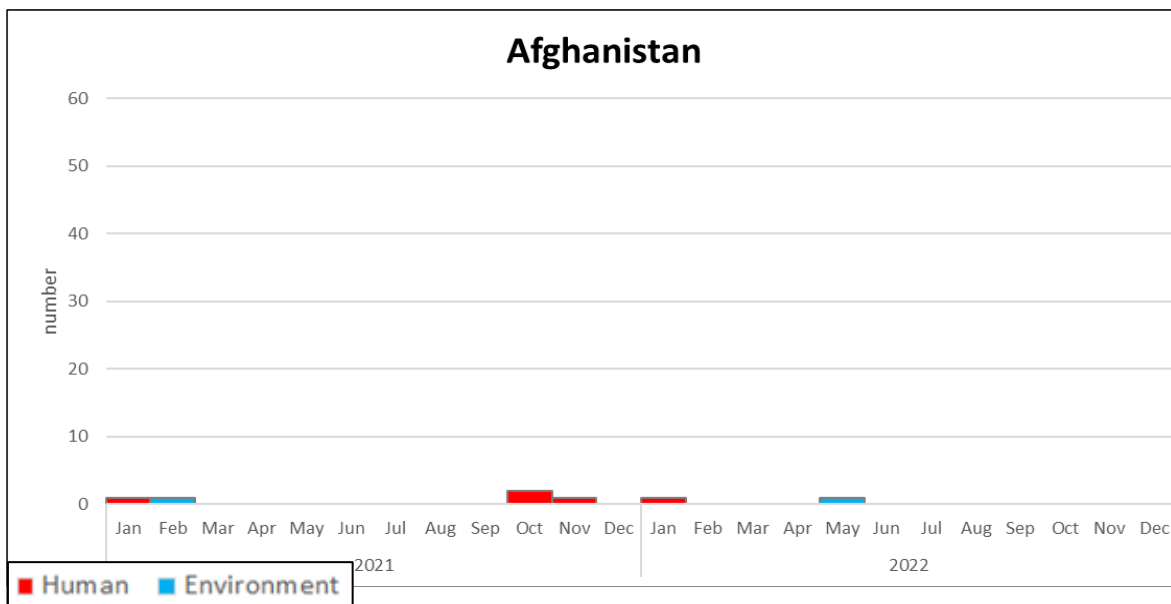


### Stool adequacy



# WPV1 Positive isolates from Afghanistan and Pakistan by source

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# Virus isolation by country, last 12 months (May 29, 2021 to May 29, 2022)

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Source / Virus type	AFG	DJI	PAK	EGY	IRN	SOM	YEM	Total
<b>Human (AFP only)</b>	<b>7</b>		<b>7</b>			<b>2</b>	<b>86</b>	<b>102</b>
Wild	4		6					10
cVDPV2	2					2	82	86
aVDPV2	1		1					2
VDPV1								
VDPV2							3	3
cVDPV2+aVDPV1							1	1
<b>Environment</b>	<b>3</b>	<b>11</b>	<b>26</b>	<b>66</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>116</b>
Wild	1		8					9
cVDPV2	1	11	3	7		1	6	29
aVDPV2	1		14		2			17
VDPV1				1				1
VDPV2			1	58	1			60
cVDPV2+aVDPV1								
<b>Total</b>	<b>10</b>	<b>11</b>	<b>33</b>	<b>66</b>	<b>3</b>	<b>3</b>	<b>92</b>	<b>218</b>

Five nOPV2-related Environmental Isolates from Egypt in 2022

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	1 May		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case
					2021						2022						
			2021	2022	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Afghanistan	56	4	1	1	0	0	0	0	2	1	0	1		0			14-Jan-22
Bahrain	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				
Jordan ****	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			
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				
Morocco	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	84	1	1	6	0	0	0	0	0	0	0	0		0	2	4	11-May-22
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			
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					
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			
Tunisia	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		
Yemen	0	0	0	0	0	0	0	0	0	0	0	0					
EMR	140	5	2	7	0	0	0	0	2	1	0	1	0	0	2	4	11-May-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		
		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	4038	45	0	0	18.92	93.52	1736	1	0	1450	1	26	3	20.63	93.55	22-May-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	5	0	0	1	0	1	0	4.30	80.00	22-May-22
DJIBOUTI	8	0	0	4	0	4	3	2.06	75.00	5	0	0	0	0	3	0	3.15	0.00	22-May-22
EGYPT	1251	0	0	1240	1	10	0	3.17	90.89	471	0	0	367	0	4	0	3.07	89.38	19-May-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	235	0	0	213	0	0	0	2.98	98.30	21-May-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	337	0	0	273	0	15	0	4.99	93.18	20-May-22
JORDAN	47	0	0	47	0	0	0	1.19	100.00	30	0	0	26	0	0	0	1.90	100.00	19-May-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	17	0	0	11	0	0	0	4.72	88.24	22-May-22
LEBANON	39	0	0	39	0	0	0	2.45	89.74	18	0	0	11	0	3	0	2.90	72.22	8-May-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	31	0	0	24	0	0	0	3.07	100.00	21-May-22
MOROCCO	78	0	0	78	0	0	0	0.80	66.67	22	0	0	0	0	6	3	0.56	27.27	20-May-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	12	0	0	11	0	0	0	2.57	91.67	22-May-22
PAKISTAN	13111	1	4	13082	18	6	0	13.00	85.23	5115	3	0	4270	0	137	0	13.04	88.50	22-May-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	6	0	0	1	0	3	0	0.77	100.00	15-May-22
QATAR	11	0	0	11	0	0	0	2.03	90.91	5	0	0	0	0	1	0	2.85	100.00	21-May-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	64	0	0	30	0	0	0	1.89	96.88	22-May-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	129	0	0	103	2	3	3	4.00	97.67	22-May-22
SUDAN	637	0	0	637	0	0	0	3.26	94.35	216	0	0	188	0	3	0	2.85	96.76	19-May-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	143	0	0	102	0	0	0	4.78	93.01	22-May-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	9	0	0	6	0	0	0	0.80	66.67	20-May-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	6	0	0	0	0	4	0	1.05	83.33	17-May-22
YEMEN	921	0	0	851	67	3	2	5.96	87.84	463	0	0	165	10	46	28	7.72	86.83	22-May-22
EMR POL	22793	5	5	22627	133	23	5	7.96	88.36	9075	4	0	7252	13	255	37	8.14	90.15	

\* 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)

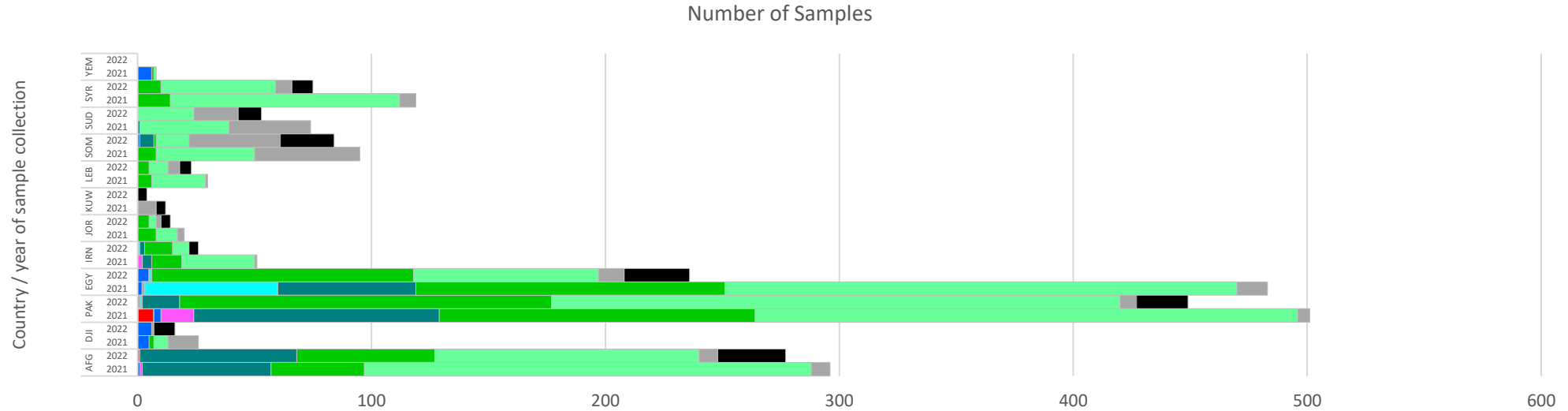
# Laboratory investigation of AFP cases with paralysis onset in 2022

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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	1717	114	16	274	1092	173	2	1	79			8			91						15%	93%	100%	99%	22-May-22
Bahrain	NPL Oman / CDC	4				3	1															0%	100%		100%	17-May-22
Djibouti	NPL Kenya / CDC	5						5																		22-May-22
Egypt***	RRL Egypt	483	15	1	49	357	56	5		5						12			1	1		10%	97%	100%	100%	19-May-22
Iran	NPL Iran / CDC	242	3		2	220	16	1		2	1					2						1%	100%	100%	99%	21-May-22
Iraq	NPL Iraq, RRL Egypt	341	1		26	287	23	4								2						8%	100%	50%	100%	20-May-22
Jordan	NPL Jordan, RRL Egypt	30	1		7	18	1	3								1						27%	100%	1	100%	22-May-22
Kuwait	RRL Kuwait / RIVM	13				10	2	1														0%	100%		100%	16-May-22
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	12				12																0%	100%			14-May-22
Libya	RRL Tunisia / RIVM	29				26	3															0%	100%		100%	20-May-22
Morocco	NPL Morocco, RRL Tunisia	21			3	16	2															16%	100%		95%	21-May-22
Oman	NPL Oman / CDC	14			2	11	1															12%	85%		100%	17-May-22
Pakistan	RRL Pakistan	5070	166	22	819	3533	522	6	3	86			1			140				3		13%	94%	100%	97%	22-May-22
Palestine & UNRWA		6				6																0%	17%		83%	15-May-22
Qatar	NPL Oman / CDC	5	1			4				1												0%	80%	0	100%	17-May-22
Saudi Arabia	NPL Saudi Arabia / CDC	67			2	56	5	4														3%	88%		100%	16-May-22
Somalia	NPL Kenya / CDC	129	3		18	87	4	20					3									17%	8%		100%	22-May-22
Sudan	NPL Sudan / RRL Egypt	216			46	148	22															23%	74%		100%	21-May-22
Syria	NPL Syria / RRL Egypt	116	2		5	93	10	6														3%	99%			14-May-22
Tunisia	RRL Tunisia	12				10	2															0%	100%		100%	20-May-22
U.A.E	NPL Oman / CDC	6				6																0%	100%		83%	17-May-22
Yemen	NPL Oman, NPL Kenya, RRL Egypt	315	56		24	134		101		2		47		5		4					1	11%	71%	33%	0%	22-May-22
Total EMR 2022		8853	362	39	1277	6129	843	158	4	175	1	47	12	5		252		1	1	4		13%	92%	90%	95%	
Total EMR 2021		22111	1182	128	3870	16917	1	9	5	477	7	16	363	103		599	1	1	7	2	2	14%	97%	97%	93%	

# Environmental Surveillance Isolation by Classification

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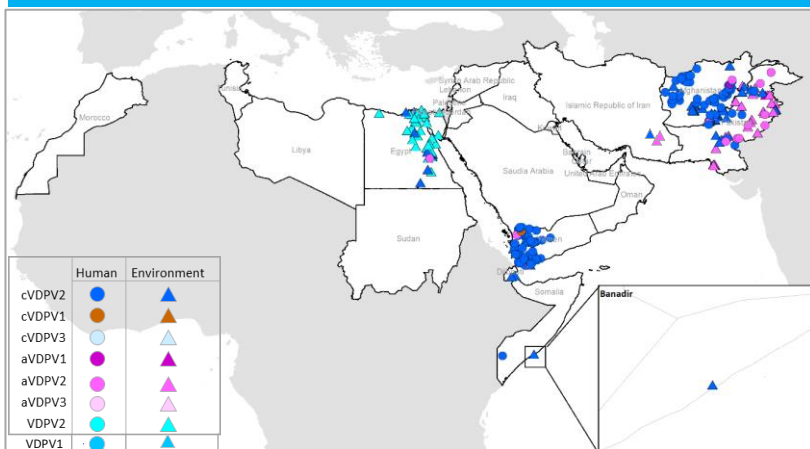


	AFG		DJI		PAK		EGY		IRN		JOR		KUW		LEB		SOM		SUD		SYR		YEM	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Wild		1			7	1																		
cVDPV2	1		5	6	3		2	5									1						6	
Wild+cVDPV2																								
Wild+aVDPV2																								
Wild+aVDPV3																								
aVDPV1																								
aVDPV2	1				14				2															
aVDPV3																								
VDPV1							1																	
VDPV2					1	57	1		1															
SL2	55	67			105	16	59		4	2							6	1						
SL1/3	40	59	2		135	159	132	112	13	12	8	5			6	5	8	1			14	10	1	
Enterovirus	191	113	6		232	243	219	79	31	7	9	3			23	8	42	14	38	24	98	49	1	
Negative	8	8	13	1	5	7	13	11	1		3	2	8		1	5	45	39	35	19	7	7		
Pending		29		9		22		28		4		4	4	4		5		23		10		9		

# VDPVs isolations by Source and Country

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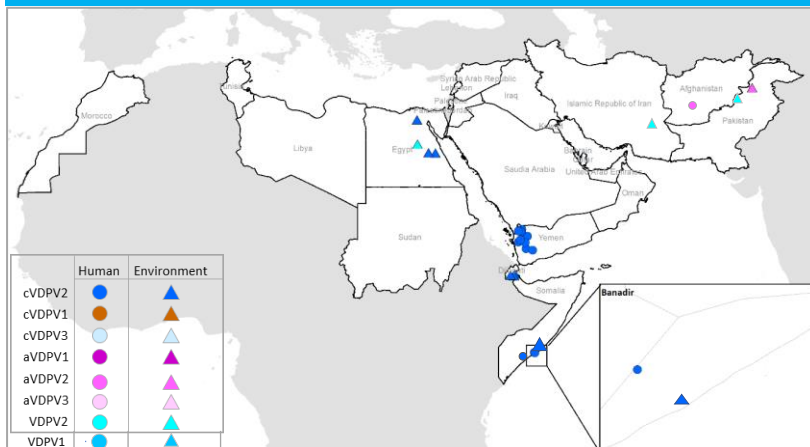
## VDPV Isolates, EMR countries, 2021



## VDPVs isolated from 2017-2022

VDPV Isolate type	EMR Country	Sources																									
		AFP cases(Human)						Contacts(Human)						Environment						Other Sources (Healthy Children)							
		2017	2018	2019	2020	2021	Most recent	2017	2018	2019	2020	2021	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	6	13-03-22						
	Egypt																		12	5	28-04-22						
	Iran																	3	1	20-02-21							
	Pakistan			22	135	8	23-04-21										38	135	35	11-08-21							
	Somalia	6	3	14	1	2	18-02-22	3	1	11		3	22-02-22	2	19	5	26	1	1	10-03-22			1	5		1	10-03-22
	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				61	22	18-02-22					23	5	17-01-22				6		17-10-21								
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	1	01-01-22				75	15	1	14-02-22				2	3		25-07-21						
	Egypt					1	30-05-21					1	14-06-21				1			21-09-21							
	Iran																	2	1	04-02-22							
	Pakistan				7	8	24-09-21			8	19	1	28-04-21	5		3	22	37	1	15-02-22							
	Somalia														2	1				03-02-19							
	Yemen					3	01-11-21					1	09-12-21														
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																	67	1	12-01-22							
	Iran																		1	04-02-22							
	Pakistan																		1	15-02-22							

## VDPV Isolates, EMR countries, 2022





# Important links

EMR Polio Bulletin - Issue No. 1234, Week 21 (ending on 29/05/2022)

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