

## Highlights



Children  
Paralyzed  
by polio



Sewage  
water  
sampling

### 2021

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

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

- 03 cVDPV1 cases
  - All in Yemen

### 2021

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

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

### 2022

- 22 cases of Wild Polio 1
  - 02 in Afghanistan
  - 20 in Pakistan

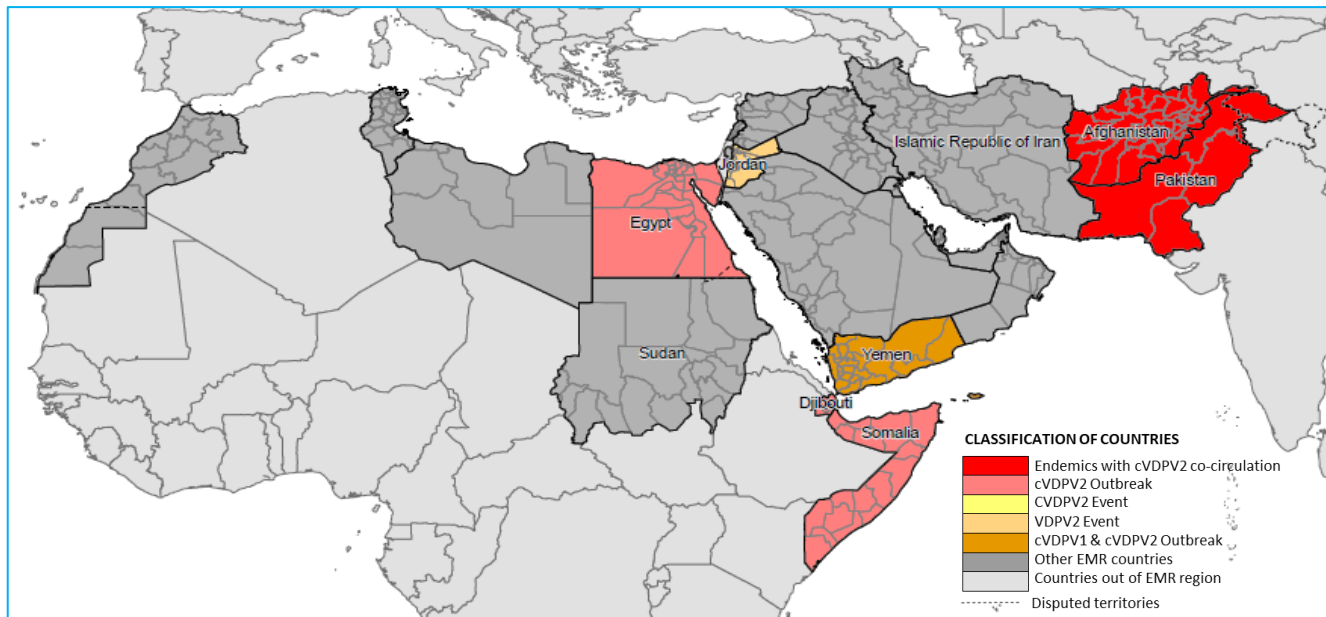
- 162 cases of cVDPV2
  - 04 in Somalia
  - 158 in Yemen

- Zero case of cVDPV1  
(No cVDPV1 for the last 20 months)

### 2022

- 45 samples Wild Polio 1
  - 13 in Afghanistan
  - 32 in Pakistan

- 24 samples of cVDPV2
  - 06 in Egypt
  - 12 in Djibouti
  - 03 in Somalia
  - 03 in Yemen



## Highlights of the week

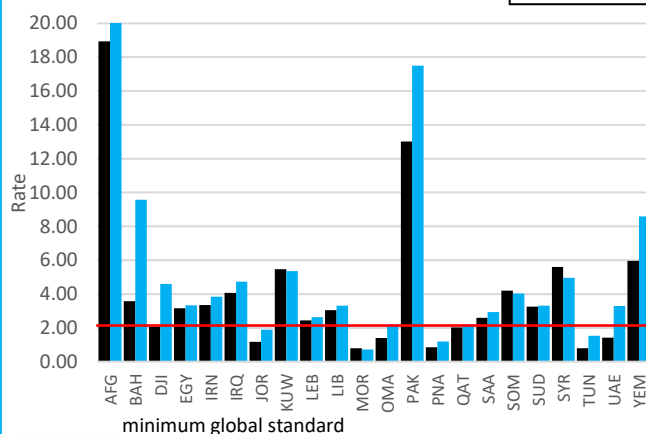
### Wild Poliovirus

- No new Wild Poliovirus Type 1 (WPV1) cases were reported this week and the count in 2022 remains to be 22 cases (2 from Afghanistan and 20 from Pakistan).
- Two new WPV1 positive environmental samples were reported this week from Afghanistan. The two isolates are both from Nangarhar province, from Behsud district with specimens' collection date on 3<sup>rd</sup> November 2022.

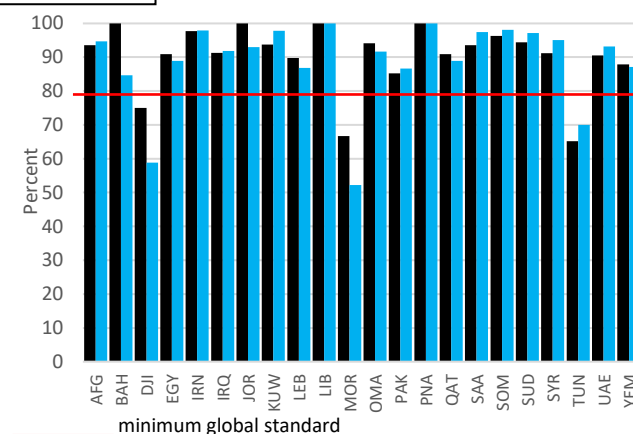
### Circulating vaccine derived poliovirus (cVDPV):

- Four new cVDPV2 cases were reported this week from Yemen. The cases are from Hajjah (2), Ibb (1) and Dhamar (1) provinces. The onset of the cases vary between 25<sup>th</sup> August to 12<sup>th</sup> October 2022.
- Accordingly, the cVDPV2 case count for the year 2022 to date is 162 cases (4 from Somalia and 158 from Yemen) and 24 positive environmental samples (6 from Egypt, 12 from Djibouti, 3 from Somalia and 3 from Yemen).
- Algeria:** Four cVDPV2 positive environmental samples were reported this week and collected in Tamanghaseet.
- Chad:** One case is from Chad that had travelled to Sudan and the team had re-investigated and the case was found on the line list and tested negative.
- Ethiopia:** Two cases of circulating vaccine-derived poliovirus type 2 (cVDPV2) were reported this week, one related to 2020 and the other is with a date of onset in 2022.

### Non polio AFP rate

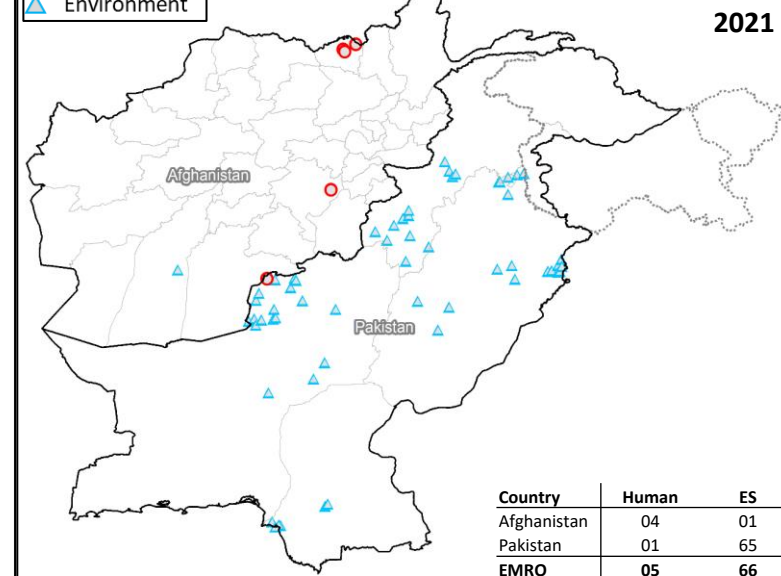
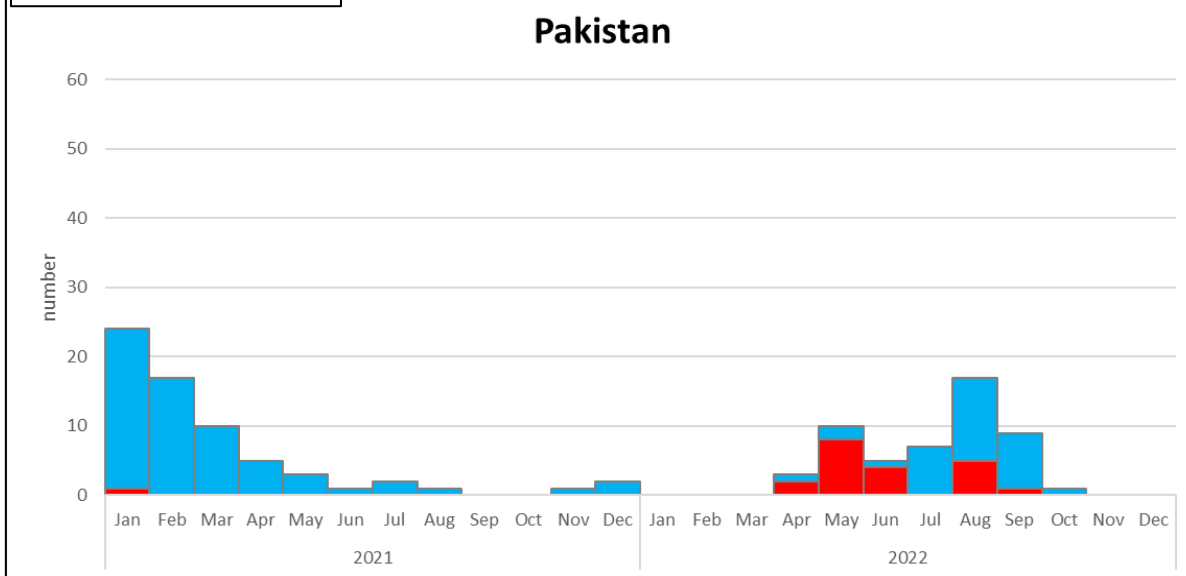
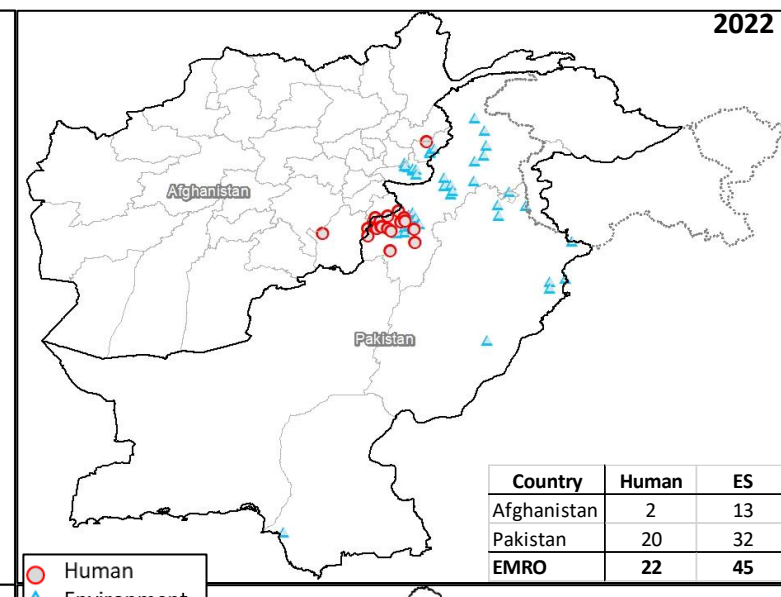
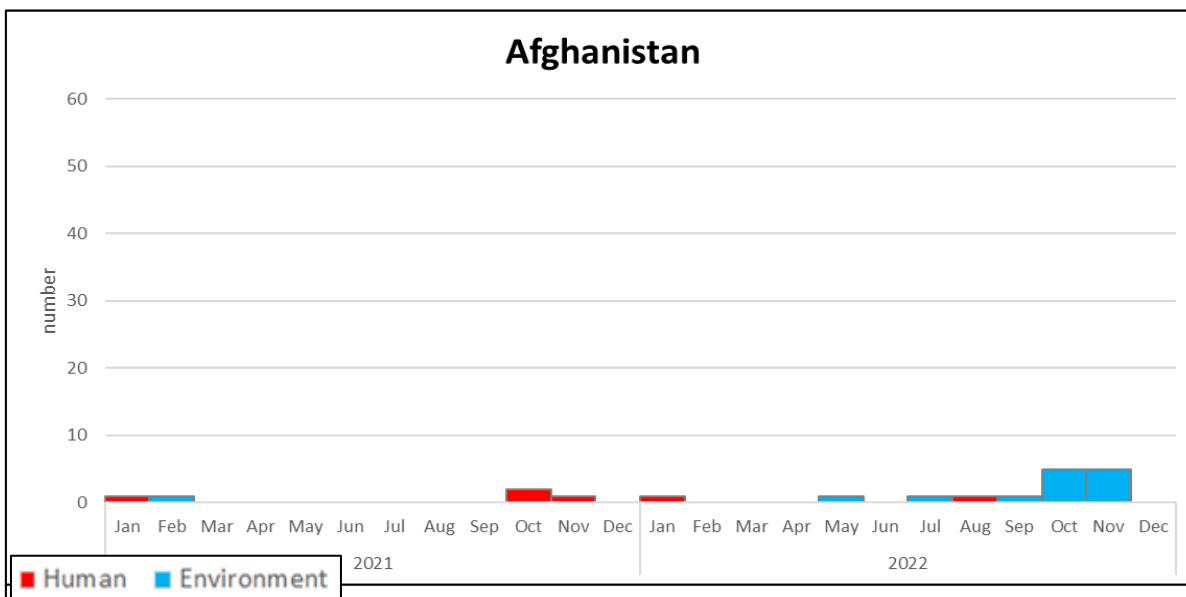


### Stool adequacy






# WPV1 Positive isolates from Afghanistan and Pakistan by source

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# Virus isolation by country, last 12 months (Nov. 27, 2021 to Nov. 27, 2022)

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Source / Virus type 	AFG	DJI	PAK	EGY	IRN	JOR	SOM	YEM	Total
 <b>Human (AFP only)</b>	<b>3</b>		<b>20</b>				<b>4</b>	<b>186</b>	<b>213</b>
Wild	2		20						22
cVDPV2							4	186	190
aVDPV2	1								1
VDPV2									
 <b>Environment</b>	<b>13</b>	<b>15</b>	<b>37</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>9</b>	<b>89</b>
Wild	13		34						47
cVDPV2		15		6			3	9	33
aVDPV2			3						3
VDPV2				1	1	3	1		6
<b>Total</b>	<b>16</b>	<b>15</b>	<b>57</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>195</b>	<b>302</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	27 Nov.		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case
					2021	2022											
			2021	2022	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Afghanistan	56	4	4	2	0	1	0	0	0	0	0	0	1	0			29-Aug-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	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			
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	0		0				
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pakistan	84	1	1	20	0	0	0	0	2	8	4	0	5	1			15-Sep-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	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					
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	0	0		
Yemen	0	0	0	0	0	0	0	0	0	0	0	0					
EMR	140	5	5	22	0	1	0	0	2	8	4	0	6	1	0	0	15-Sep-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	4038	45	0	0	18.92	93.52	4697	2	0	0	4469	1	25	0	23.98	94.68	27-Nov-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	26	0	0	10	0	1	0	0	9.58	84.62	27-Nov-22
DJIBOUTI	8	0	0	8	0	0	0	2.06	75.00	17	0	0	14	0	0	0	0	4.59	58.82	27-Nov-22
EGYPT	1251	0	0	1250	1	0	0	3.17	90.89	1194	0	0	1053	0	20	0	0	3.34	88.86	24-Nov-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	709	0	0	686	0	0	0	0	3.84	97.88	26-Nov-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	747	0	0	667	0	24	0	0	4.73	91.83	26-Nov-22
JORDAN	47	0	0	47	0	0	0	1.19	100.00	71	0	0	69	0	0	0	0	1.90	92.96	24-Nov-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	45	0	0	40	0	0	0	0	5.37	97.78	20-Nov-22
LEBANON	39	0	0	39	0	0	0	2.45	89.74	38	0	0	28	0	6	0	0	2.63	86.84	19-Nov-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	78	0	0	67	0	0	0	0	3.32	100.00	26-Nov-22
MOROCCO	78	0	0	78	0	0	0	0.80	66.67	67	0	0	29	0	23	1	0	0.73	52.24	6-Nov-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	24	0	0	24	0	0	0	0	2.20	91.67	27-Nov-22
PAKISTAN	13118	1	4	13095	18	0	0	13.01	85.19	16005	20	1	14847	0	231	1	0	17.49	86.65	27-Nov-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	22	0	0	10	0	1	0	0	1.21	100.00	27-Nov-22
QATAR	11	0	0	11	0	0	0	2.03	90.91	9	0	0	8	0	0	0	0	2.20	88.89	20-Nov-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	230	0	0	147	0	0	0	0	2.95	97.39	20-Nov-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	304	0	0	278	4	3	3	0	4.03	98.03	27-Nov-22
SUDAN	636	0	0	636	0	0	0	3.26	94.34	585	0	0	556	0	4	0	0	3.31	97.09	24-Nov-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	346	0	0	327	0	0	0	0	4.96	95.09	26-Nov-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	40	0	0	35	0	0	0	0	1.53	70.00	25-Nov-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	44	0	0	0	0	30	0	0	3.29	93.18	22-Nov-22
YEMEN	921	0	0	849	72	0	0	5.96	87.84	1202	0	0	797	158	21	12	0	8.59	87.10	26-Nov-22
EMR POL	22799	5	5	22651	138	0	0	7.97	88.33	26500	22	1	24161	163	389	17	0	10.19	89.18	

\* 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)

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

# Laboratory investigation of AFP cases with paralysis onset in 2022

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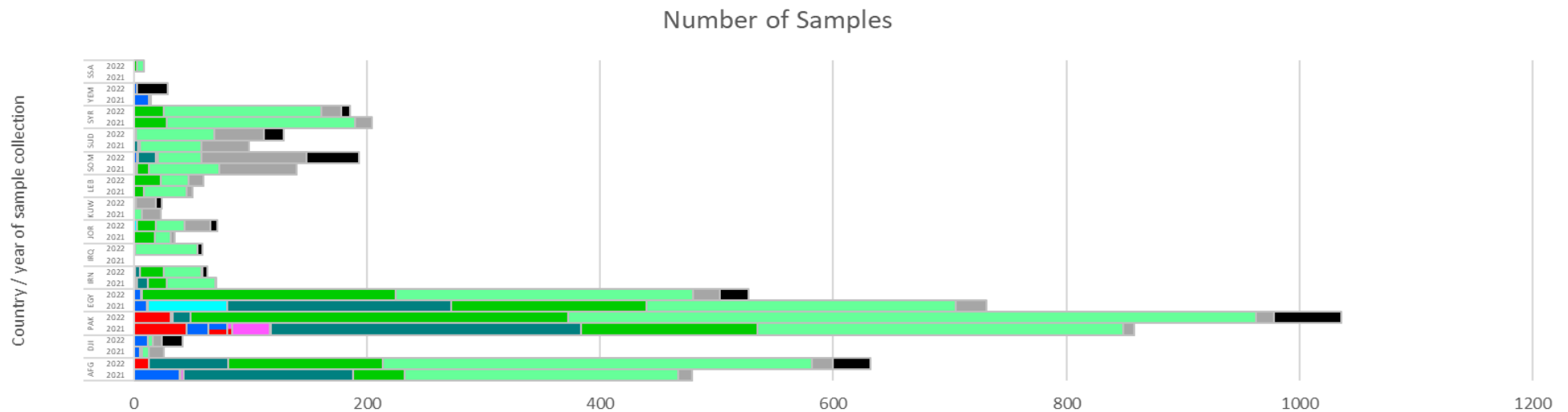
Country	Polio laboratories	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results														Indicators				Latest report Date
	ITD / Nucleotide Sequencing		Referred for ITD		NPEV only	Negative	Pending		Type 1			Type 2			Type 3			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	Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild									Sabin	
Afghanistan	RRL Pakistan	4634	272	42	835	3351	104	1	2	203			8			233					5	16%	97%	100%	99%	27-Nov-22	
Bahrain	NPL Oman / CDC	15			1	14																6%	93%		93%	22-Nov-22	
Djibouti	NPL Kenya / CDC	17	2		5	8	1	1		2			2			2						33%	67%		73%	27-Nov-22	
Egypt	RRL Egypt	1182	21	5	159	903	68	26		8						14			4	1		12%	94%	100%	99%	24-Nov-22	
Iran	NPL Iran / CDC	743	11		8	698	24	2		4	1					8						1%	100%	100%	99%	26-Nov-22	
Iraq	NPL Iraq, RRL Egypt	750	3		60	641	42	4								4					2	9%	100%	50%	99%	25-Nov-22	
Jordan	NPL Jordan, RRL Egypt	71	3		15	47	2	4								3						25%	98%	1	100%	27-Nov-22	
Kuwait	RRL Kuwait / RIVM	48	2			43	2	1		1						1		1	1		1	2%	100%	1	100%	27-Nov-22	
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	34	1			33																0%	100%			25-Nov-22	
Libya	RRL Tunisia / RIVM	75			2	70		3														3%	100%		100%	19-Nov-22	
Morocco	NPL Morocco, RRL Tunisia	62			4	55	3															7%	100%		93%	26-Nov-22	
Oman	NPL Oman / CDC	27			4	23																14%	81%		100%	22-Nov-22	
Pakistan	RRL Pakistan	15652	425	58	2799	11849	478	7	17*	247			1			354						15%	98%	100%	97%	27-Nov-22	
Palestine & UNRWA		22				21	1															0%	30%		95%	27-Nov-22	
Qatar	NPL Oman / CDC	12	1			8	3			1												0%	89%	0	100%	22-Nov-22	
Saudi Arabia	NPL Saudi Arabia / CDC	222	3		4	199		16		1						2						2%	92%	33%	98%	14-Nov-22	
Somalia	NPL Kenya / CDC	304	10	1	56	221	7	15		2			9	4								20%	6%		86%	27-Nov-22	
Sudan	NPL Sudan / RRL Egypt	589	8		147	412	21	1										1				25%	76%	100%	22%	26-Nov-22	
Syria	NPL Syria / RRL Egypt	338	2		23	298	14	1														6%	100%			25-Nov-22	
Tunisia	RRL Tunisia	37				37																1%	100%		95%	19-Nov-22	
U.A.E	NPL Oman / CDC	49			1	41	7															1%	76%		67%	22-Nov-22	
Yemen	NPLs Oman, Jordan & Kenya, RRL Egypt	1071	176	5	174	659	32	25		10			8	154**		22		5	1	1		16%	24%	36%	7%	26-Nov-22	
Total EMR 2022		25954	940	111	4297	19631	809	107	22	479	1		28	162		643		6	7	2	8	15%	93%	88%	93%		
Total EMR 2021		22113	1183	128	3874	16919		4	5	478	7		363	117		599	1	1	7	2	2	14%	97%	97%	93%		

\* Three WPV1 cases are confirmed due to positive contacts (Index cases were negative for WPV1)

\*\* Four cVDPV2 cases are identified by positive contacts (Index cases were negative for cVDPV2)

# Environmental Surveillance Isolation by Classification

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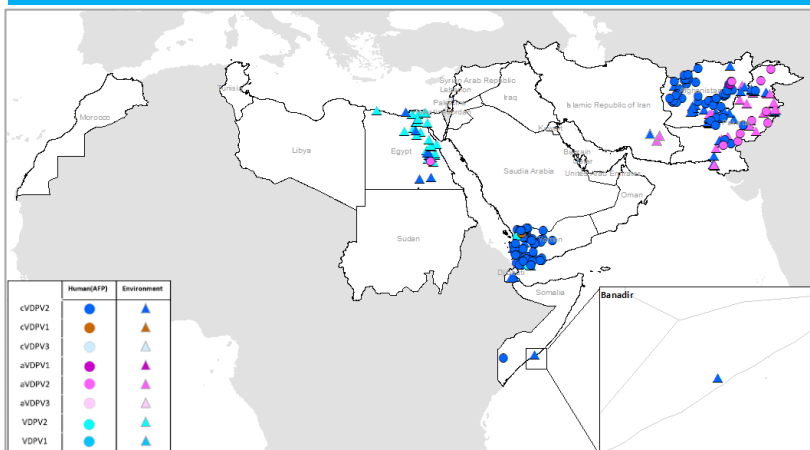


	AFG		DJI		PAK		EGY		IRN		IRQ		JOR		KUW		LEB		SOM		SUD		SYR		YEM		SSA	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
🇺🇦 Wild		13			45	32																						
🇧🇪 cVDPV2	39		5	12	19		11	6	1									1	3					13	3			
🇧🇪 Wild+cVDPV2	1				16																							
🇷🇺 Wild+aVDPV2					4																							
🇷🇺 Wild+aVDPV3																												
🇷🇺 aVDPV1																												
🇷🇺 aVDPV2	3				33	1			2																			
🇷🇺 aVDPV3																												
🇧🇪 VDPV1					1		1																					
🇧🇪 VDPV2							68	1		1				3						1								
🇸🇰 SL2	145	68			266	16	192		9	4									2	15	4							
🇸🇰 SL1/3	44	133	2		151	324	168	218	16	21		1	18	16			9	23	10	2	1	2	28	26	1		3	
🇸🇰 Entero	235	368	6	4	314	590	265	255	42	32		54	14	25	7	2	36	24	60	37	53	67	162	135	1		6	
🇸🇰 Negative	12	18	13	8	9	15	26	23	1	1			3	22	16	17	5	13	67	90	41	43	14	17				
🇸🇰 Pending		32		18		58		24		4		4		6		5				45		17		8		26		

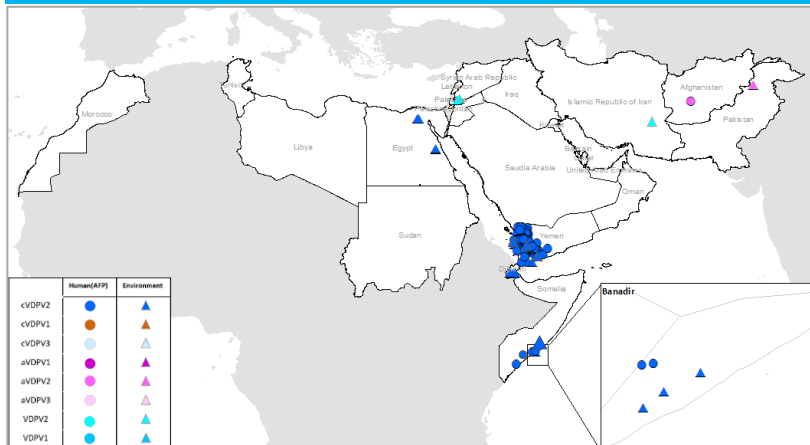
# VDPVs isolations by Source and Country

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## VDPV Isolates, EMR countries, 2021



## VDPV Isolates, EMR countries, 2022



## 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	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	12		22-05-22							
	Egypt																		12	6		29-08-22							
	Iran																		3	1		20-02-21							
	Pakistan			22	135	8		23-04-21										38	135	35		11-08-21							
	Somalia		6	3	14	1	4	17-07-22		3	1	11		3	22-02-22	2	19	5	26	1	3	19-05-22			1	5		1	10-03-22
	Sudan				58			18-12-20				18			08-10-20				14			09-11-20				4			24-08-20
	Syria	74						21-09-17	63						12-09-17								4						20-08-17
Yemen					66	158	12-10-22				23	36	05-08-22					13	3	31-01-22									
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			21-09-20								
	Iran																		2		23-09-21								
	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								
	Jordan																			3	25-05-22								
	Pakistan																			1	15-02-22								



# Important links

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## Important Links

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