

## 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

- 15 cases of Wild Polio 1
  - 01 in Afghanistan
  - 14 in Pakistan

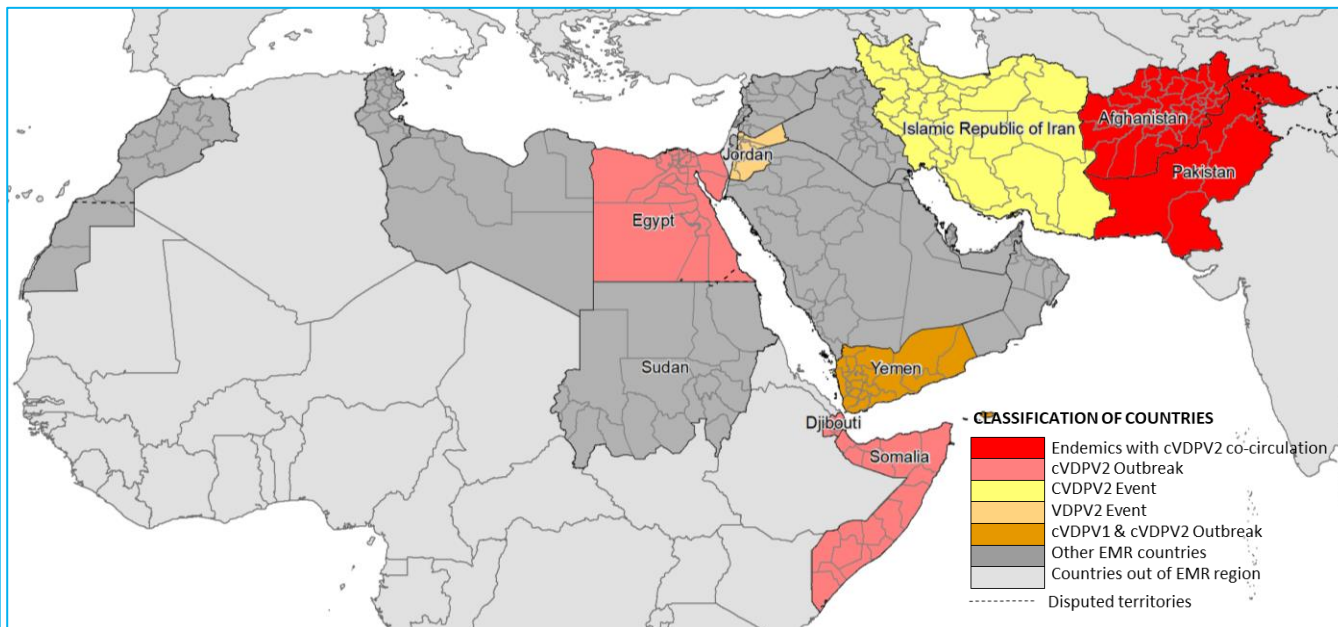
- 112 cases of cVDPV2
  - 03 in Somalia
  - 109 in Yemen

- Zero case of cVDPV1  
(No cVDPV1 for the last 17 months)

2022

- 15 samples Wild Polio 1
  - 02 in Afghanistan
  - 13 in Pakistan

- 18 samples of cVDPV2
  - 05 in Egypt
  - 12 in Djibouti
  - 03 in Somalia
  - 03 in Yemen



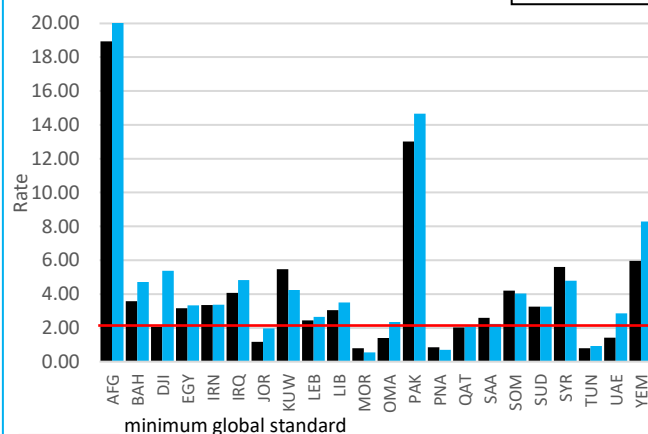
## Highlights of the week

- Pakistan:** Two new WPV1 positive environmental samples reported from Bahawalpur and Rawalpindi districts of Punjab, with specimens' collection dates of 1<sup>st</sup> and 4<sup>th</sup> August 2022 respectively.
- Yemen:**
  - Twenty-seven cVDPV2 cases reported from 09 provinces: Dhamar (07); Albaidah (05); IBB (04); Sanaa and Sanaa City (03 each); Hajjah (02); Amran; Al Hudaidah and Saadah (01 each). The date of onset are between 19<sup>th</sup> February – 3<sup>rd</sup> June 2022.
  - Six positive cVDPV2 environmental samples reported from 03 provinces: 02 consecutive isolations from each of Aden, Sanaa City and Alhudaidah in December 2021 and January 2022. The date of collections are between 25<sup>th</sup> December 2022 – 31<sup>st</sup> January 2022.
- Somalia:**
  - One cVDPV2 case reported from Middle Juba province, with date of onset 14<sup>th</sup> May 2022.
  - One positive cVDPV2 environmental sample was reported from Hamarweyne district in Banadir province with date of collection 19<sup>th</sup> May 2022.
- Djibouti:** One positive cVDPV2 environmental sample was reported this week from Arta province with specimen collection dates 22<sup>nd</sup> May 2022.

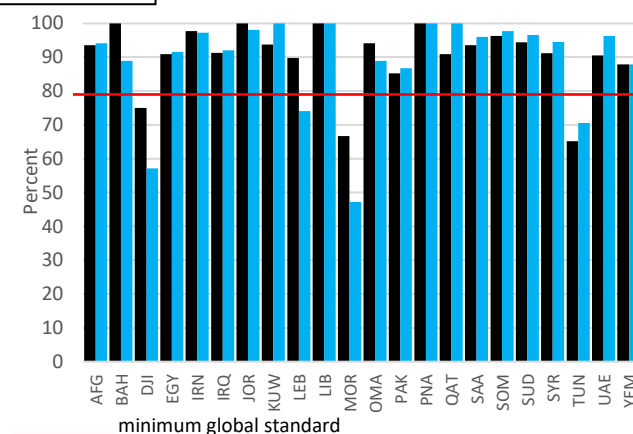
Additional Highlights in slide (9)

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

## Non polio AFP rate

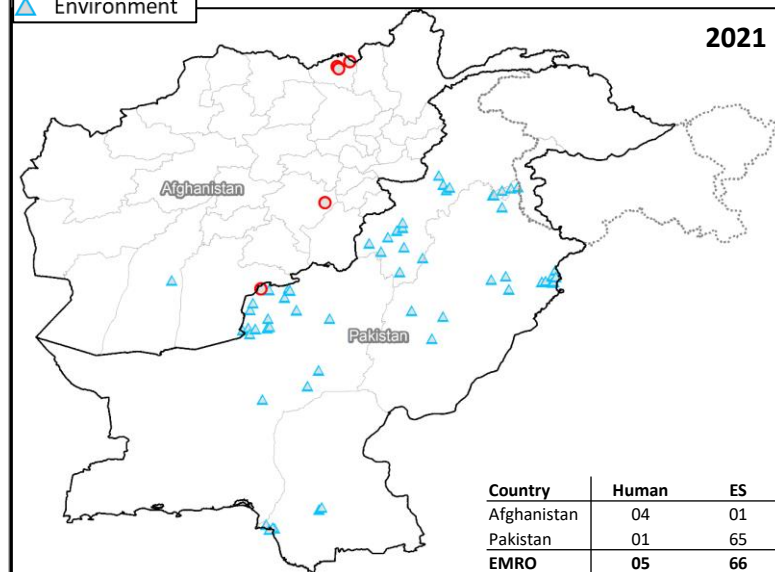
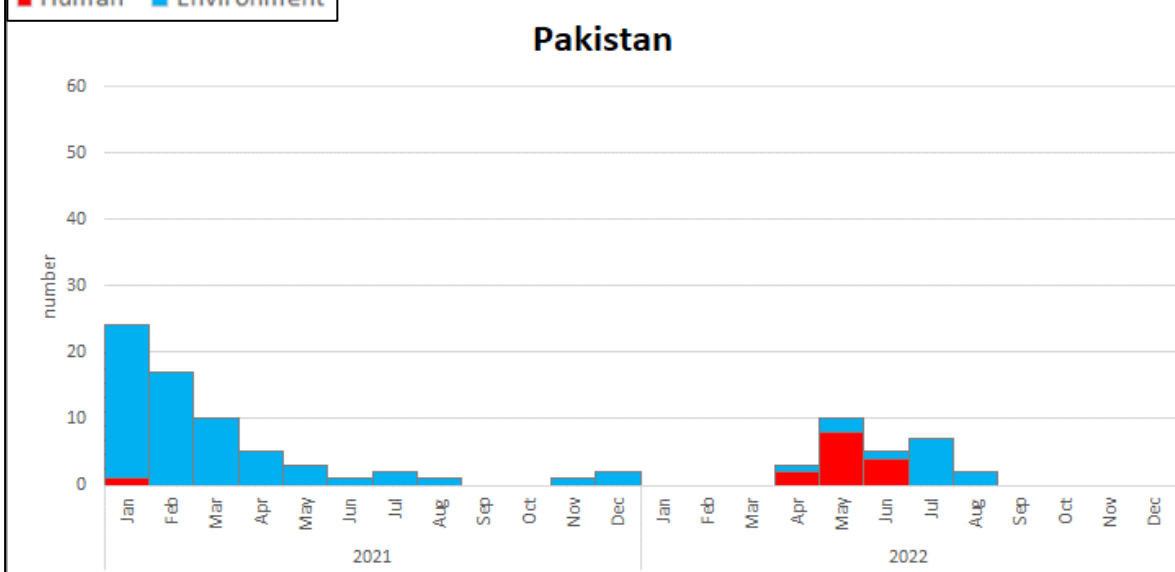
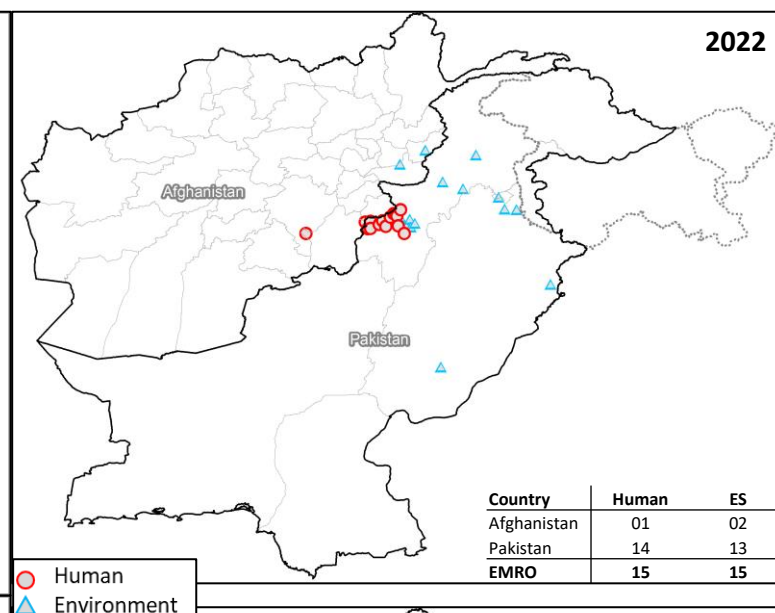
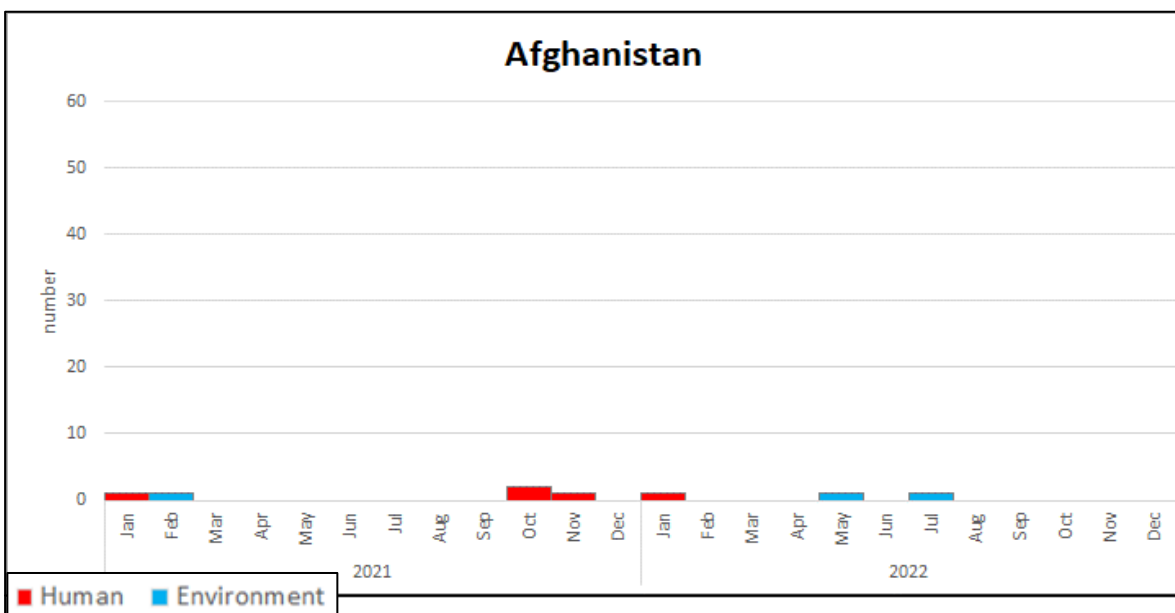


## Stool adequacy



# WPV1 Positive isolates from Afghanistan and Pakistan by source

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)



# Virus isolation by country, last 12 months (Aug 21, 2021 to Aug 21, 2022)

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

Source / Virus type	AFG	DJI	PAK	EGY	IRN	JOR	SOM	YEM	Total
<b>Human (AFP only)</b>	<b>4</b>		<b>15</b>				<b>3</b>	<b>177</b>	<b>199</b>
Wild	4		14						18
cVDPV2							3	174	177
aVDPV2			1					3	4
VDPV2									
<b>Environment</b>	<b>2</b>	<b>17</b>	<b>25</b>	<b>20</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>16</b>	<b>89</b>
Wild	2		16						18
cVDPV2		17		6			3	16	42
aVDPV2			9		1				10
VDPV2				14	1	3	1		19
<b>Total</b>	<b>6</b>	<b>17</b>	<b>40</b>	<b>20</b>	<b>2</b>	<b>3</b>	<b>7</b>	<b>193</b>	<b>288</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

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

Country	Total year 2020	Total year 2021	21 Aug.		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case
					2021						2022						
			2021	2022	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Afghanistan	56	4	1	1	0	2	1	0	1	0	0	0	0	0			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					
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			
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				
Libya	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	14	0	0	0	0	0	0	0	2	8	4			30-Jun-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	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			
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								
EMR	140	5	2	15	0	2	1	0	1	0	0	2	8	4	0	0	30-Jun-22

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

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

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

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	3278	1	0	2967	1	32	0	23.76	94.08	21-Aug-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	9	0	0	5	0	1	0	4.71	88.89	21-Aug-22
DJIBOUTI	8	0	0	8	0	0	0	2.06	75.00	14	0	0	13	0	0	0	5.37	57.14	21-Aug-22
EGYPT	1251	0	0	1250	1	0	0	3.17	90.89	839	0	0	752	0	14	1	3.33	91.54	18-Aug-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	436	0	0	411	0	0	0	3.37	97.25	20-Aug-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	537	0	0	441	0	36	0	4.83	91.99	19-Aug-22
JORDAN	47	0	0	47	0	0	0	1.19	100.00	52	0	0	46	0	0	0	1.97	98.08	21-Aug-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	25	0	0	23	0	0	0	4.23	100.00	14-Aug-22
LEBANON	39	0	0	39	0	0	0	2.45	89.74	27	0	0	17	0	4	0	2.66	74.07	13-Aug-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	58	0	0	44	0	0	0	3.51	100.00	20-Aug-22
MOROCCO	78	0	0	78	0	0	0	0.80	66.67	36	0	0	16	0	11	0	0.55	47.22	17-Aug-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	18	0	0	18	0	0	0	2.35	88.89	14-Aug-22
PAKISTAN	13118	1	4	13095	18	0	0	13.01	85.19	9447	14	0	8415	0	152	0	14.66	86.74	20-Aug-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	9	0	0	6	0	1	0	0.70	100.00	21-Aug-22
QATAR	11	0	0	11	0	0	0	2.03	90.91	6	0	0	5	0	0	0	2.08	100.00	14-Aug-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	124	0	0	88	0	0	0	2.25	95.97	21-Aug-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	213	0	0	191	3	1	1	4.03	97.65	21-Aug-22
SUDAN	636	0	0	636	0	0	0	3.26	94.34	405	0	0	373	0	12	2	3.26	96.54	18-Aug-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	235	0	0	201	0	0	0	4.79	94.47	20-Aug-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	17	0	0	11	0	1	0	0.93	70.59	05-Aug-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	27	0	0	0	0	15	0	2.87	96.30	15-Aug-22
YEMEN	921	0	0	849	72	0	0	5.96	87.84	816	0	0	440	109	38	17	8.29	87.87	21-Aug-22
EMR POL	22799	5	5	22651	138	0	0	7.97	88.33	16628	15	0	14483	113	318	21	9.08	89.47	

\* 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

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

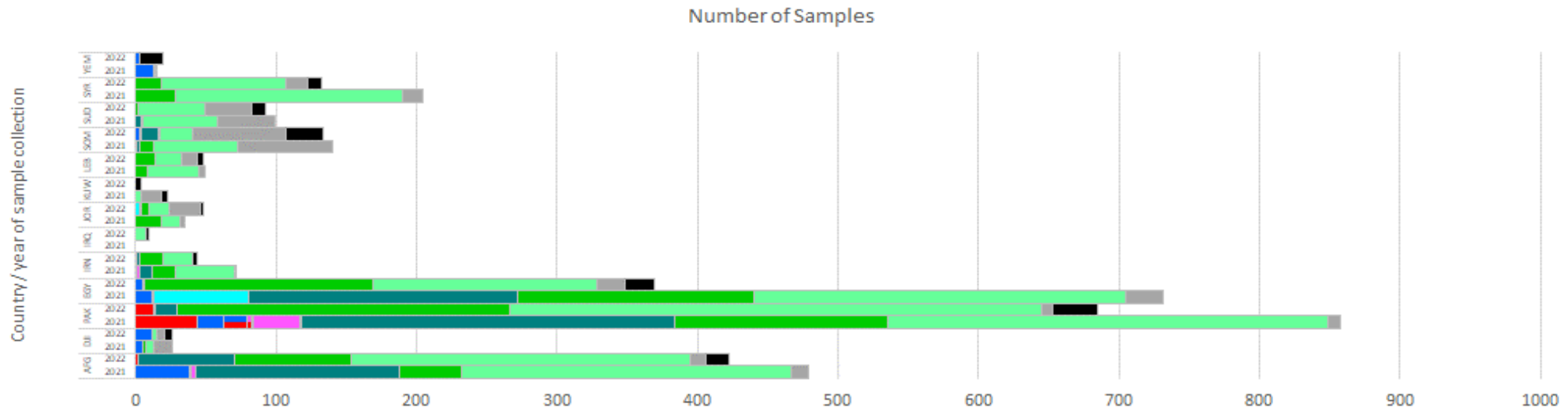
Country	Polio laboratories	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results														Indicators				Latest report Date
	ITD / Nucleotide Sequencing		Referred for ITD		NPEV only	Negative	Pending		Type 1			Type 2			Type 3			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	3212	198	30	542	2248	152	14	1	142			8			163					7	15%	96%	100%	99%	21-Aug-22	
Bahrain	NPL Oman / CDC	9				9																0%	100%		100%	18-Aug-22	
Djibouti	NPL Kenya / CDC	14	2		4	7		1		2			2			2						31%	77%		69%	21-Aug-22	
Egypt***	RRL Egypt	828	17	4	113	657	32	5		8						12			3	1		12%	98%	100%	99%	18-Aug-22	
Iran	NPL Iran / CDC	455	8		4	423	19	1		3	1					6						1%	100%	100%	99%	20-Aug-22	
Iraq	NPL Iraq, RRL Egypt	523	1		47	452	12	11								2						10%	100%	50%	99%	11-Aug-22	
Jordan	NPL Jordan, RRL Egypt	52	2		12	31	3	4								2						29%	100%	1	100%	21-Aug-22	
Kuwait	RRL Kuwait / RIVM	26	1			24		1		1						1		1	1			3%	100%	1	100%	18-Aug-22	
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	25	1			24																0%	100%			21-Aug-22	
Libya	RRL Tunisia / RIVM	53				48		5														0%	100%		100%	05-Aug-22	
Morocco	NPL Morocco, RRL Tunisia	35			3	29	2	1														8%	100%		91%	20-Aug-22	
Oman	NPL Oman / CDC	23			3	17	3															15%	80%		100%	18-Aug-22	
Pakistan	RRL Pakistan	9301	299	40	1626	6707	554	75	12*	161			1			258						15%	97%	100%	96%	21-Aug-22	
Palestine & UNRWA		9				9																0%	33%		89%	21-Aug-22	
Qatar	NPL Oman / CDC	6	1			5				1												0%	83%	0	100%	18-Aug-22	
Saudi Arabia	NPL Saudi Arabia / CDC	123	2		3	108		10								2						3%	89%	50%	98%	15-Aug-22	
Somalia	NPL Kenya / CDC	213	9		39	148	4	16		2			9	3								20%	8%		99%	21-Aug-22	
Sudan	NPL Sudan / RRL Egypt	411	8		103	278	21	1										1				27%	67%	100%	22%	18-Aug-22	
Syria	NPL Syria / RRL Egypt	229	2		14	193	20															6%	100%			21-Aug-22	
Tunisia	RRL Tunisia	22				19		3														0%	100%		95%	05-Aug-22	
U.A.E	NPL Oman / CDC	27				22	5															0%	100%		68%	18-Aug-22	
Yemen	NPL Oman, NPL Kenya, RRL Egypt	602	135	3	72	359		33		6			6	107**		13	1	6	1	1	3	14%	38%	19%	1%	21-Aug-22	
Total EMR 2022		16198	686	77	2585	11817	827	181	15	326	1		26	112		461	1	7	6	2	10	14%	93%	85%	93%		
Total EMR 2021		22113	1183	128	3874	16919		5	5	478	7		363	107		599	1	11	7	2	2	14%	97%	97%	93%		

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

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

# Environmental Surveillance Isolation by Classification

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

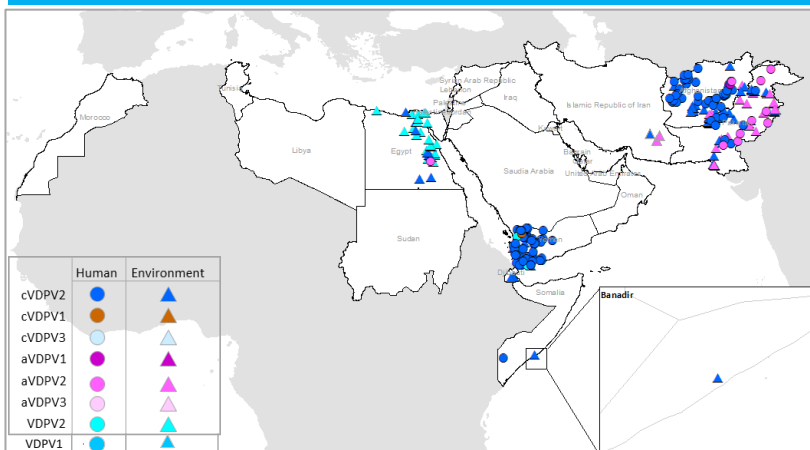


	AFG		DJI		PAK		EGY		IRN		IRQ		JOR		KUW		LEB		SOM		SUD		SYR		YEM	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Wild		2			44	13																				
cVDPV2	39		5	12	19		12	5	1										1	3					13	3
Wild+cVDPV2	1				16																					
Wild+aVDPV2					4																					
Wild+aVDPV3					1																					
aVDPV1																										
aVDPV2	3				33	1			2																	
aVDPV3																										
VDPV1					1		1																			
VDPV2							67	1	1				3						1							
SL2	145	68			266	16	192		9	2			1					2	12	4						
SL1/3	44	84	2		151	236	168	163	16	17			18	6			9	14	10	1	1	2	28	18	1	
Enteric	235	241	6	3	314	379	265	160	42	21		8	14	14	4		36	19	60	24	53	47	162	89	1	
Negative	12	11	13	6	9	8	26	19	1				3	22	15		5	11	67	66	41	34	14	16		
Pending		16		5		32		21		3		2		2	4	4		4		27		10		10		17

# VDPVs isolations by Source and Country

EMR Polio Bulletin - Issue No. 1246 Week 33 (ending on 21/08/2022)

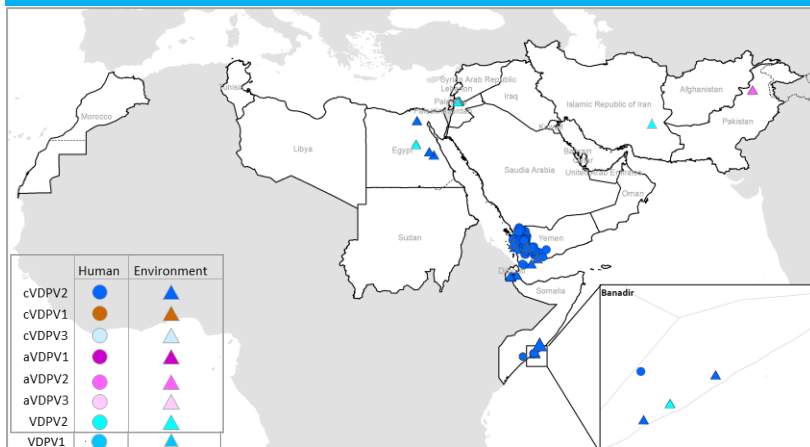
## VDPV Isolates, EMR countries, 2021



## 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	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	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	3	14-05-22	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			24-08-21	
	Syria	74					21-09-17	63					12-09-17								4						20-08-17	
	Yemen					66	109	03-06-22				23	26	21-05-22					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			21-09-21								
	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								

## VDPV Isolates, EMR countries, 2022



# Additional Highlights & Important links

EMR Polio Bulletin - Issue No. 1246, Week 33 (ending on 21/08/2022)

## Additional Highlights (outside EMRO)

- **Malawi / Mozambique:** Advance notification of WPV1 case with cross-border linkages. The case was notified from Malawi. Further investigation and verification underway in Mozambique.
- **Benin:** Two cVDPV2 positive environmental samples were reported. These isolates belong to NIE-ZAS-1 emergence which was detected in 12 countries including Egypt (earlier isolated in Egypt in May 2022).
- **United States of America:** Advance notification of two new VDPV2 positive environmental samples were reported up to 25 days before and 41 days after the patient's symptom onset on 18<sup>th</sup> July 2022 (The samples were originally collected for SARS-CoV-2 wastewater monitoring). As per MMWR report dated 16<sup>th</sup> August 2022; It is stated that this is the second community transmission of poliovirus identified in the United States since 1979 with identified link to vaccine-related type 2 polioviruses recently detected in wastewater in Israel and the United Kingdom.
- **AFRO:** The working group for the Polio Outbreaks Closure convened its meeting 5-8 August 2022. A total of 9 countries and 18 outbreak emergencies were assessed, the review team has examined data of all these outbreaks and came to the conclusion that 13 out of 18 outbreak emergencies in 5 countries might be considered for closure. Final closure confirmation is awaited.

## Important Links

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