

EMR Polio Bulletin

World Health Organization – Regional Office for Eastern Mediterranean Issue No. 1317, Week 52 (ending on 31/12/2023)

Highlights



Children
Paralyzed
by polio

2022

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

- 168 cases of cVDPV2
 - 05 in Somalia
 - 162 in Yemen
 - 01 in Sudan

- Zero cVDPV1 cases

2023

- 12 cases of Wild Polio 1
 - 06 in Afghanistan
 - 06 in Pakistan

- 8 cases of cVDPV2
 - 05 in Somalia
 - 03 in Yemen

- Zero case of cVDPV1



Sewage
water
sampling

2022

- 59 samples Wild Polio 1
 - 22 in Afghanistan
 - 37 in Pakistan

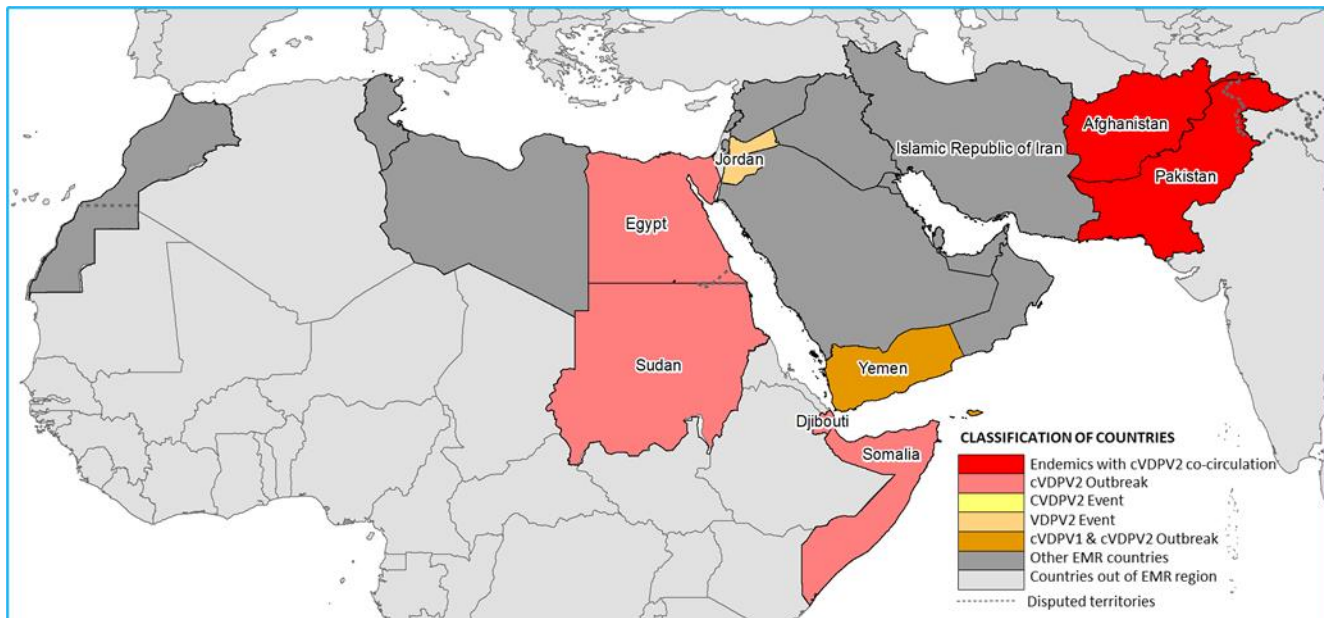
- 51 samples cVDPV2
 - 06 in Egypt
 - 12 in Djibouti
 - 06 in Somalia
 - 01 in Sudan
 - 26 in Yemen

2023

- 151 samples Wild Polio 1
 - 53 in Afghanistan
 - 98 in Pakistan

- 26 samples of cVDPV2
 - 09 in Somalia
 - 10 in Yemen
 - 07 in Egypt

Classification of EMR countries by type of poliovirus circulation



Highlights of the week

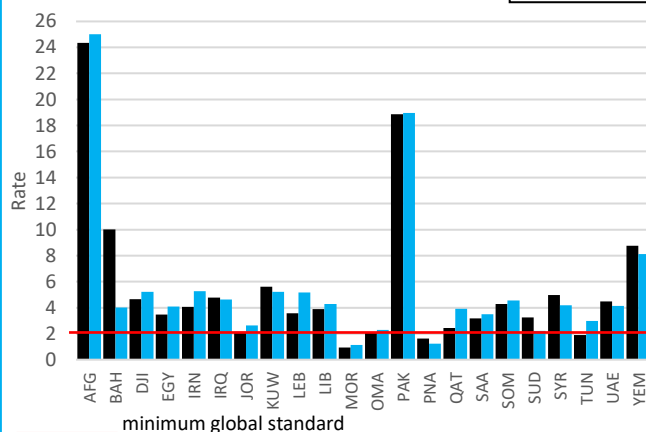
Wild Poliovirus

- No new WPV1 cases reported this week. The WPV1 cases count in 2023 to date is 12 (6 each from Afghanistan and Pakistan) and in 2022, the WPV1 cases count remains to be 22 cases (2 from Afghanistan and 20 from Pakistan).
- Four new WPV1 positive environmental samples (ES) reported this week from Pakistan. The new reported WPV1 ES are as follows: 2 from Sindh province (1 each from Karachi Keamair Town and Hyderabad district), and 1 each from Peshawar district of Khyber Pakhtunkhwa province and Chaman district of Balochistan province. All samples were collected on 4th December 2023. The WPV1 positive environmental samples' count in 2023 to date is 151 (53 in Afghanistan and 98 in Pakistan), and in 2022, the count remains to be 59 (22 in Afghanistan and 37 in Pakistan).

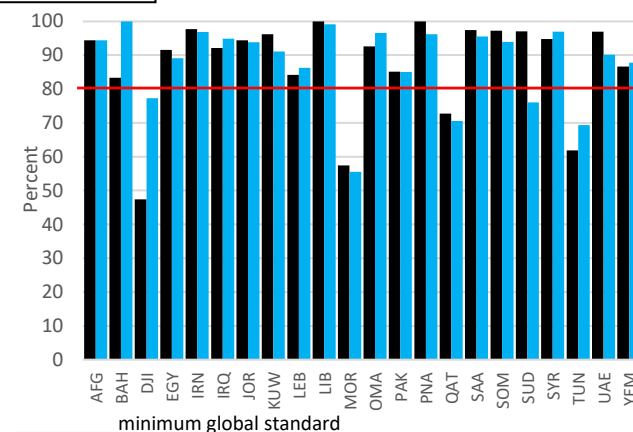
Vaccine derived poliovirus (VDPV)

- No new cVDPV isolates reported this week. The count of cVDPV2 cases in 2023 to date is 8 (5 from Somalia and 3 from Yemen) and in 2022 the count remains to be 168 cases (1 from Sudan, 5 from Somalia and 162 from Yemen), while the cVDPV2 positive environmental samples count in 2023 to date is 26 (10 from Yemen, 9 from Somalia and 7 from Egypt). In 2022, the count remains 51 (1 in Sudan, 6 in each of Egypt and Somalia, 12 in Djibouti and 26 in Yemen).
- Three new VDPV2 positive environment samples were reported this week from Sudan. All the new ES are from Port Sudan district of Red Sea province. The collection dates vary between 18th October to 30th November 2023. The samples are awaiting confirmation by CDC.

Non polio AFP rate



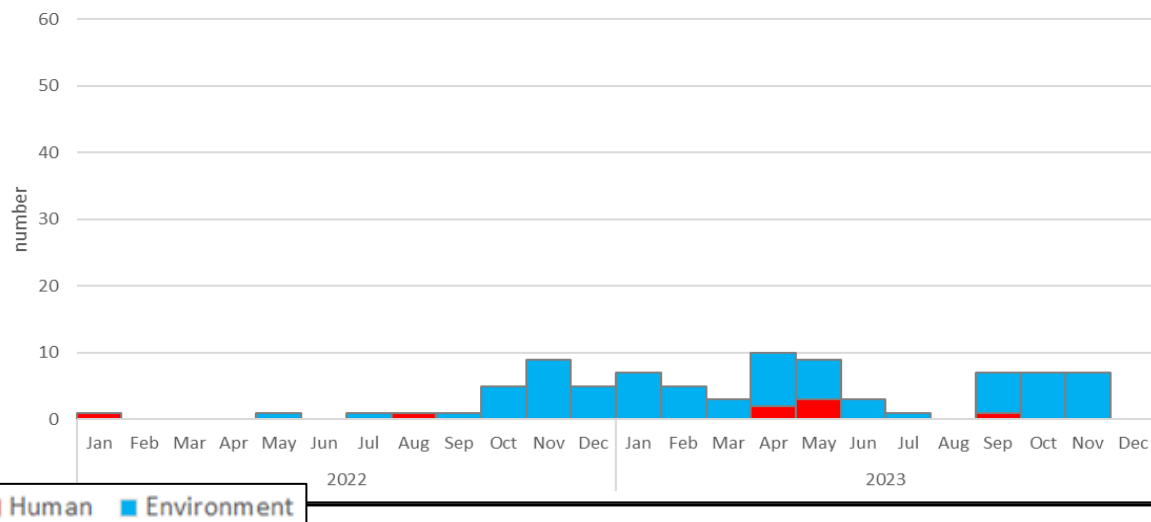
Stool adequacy



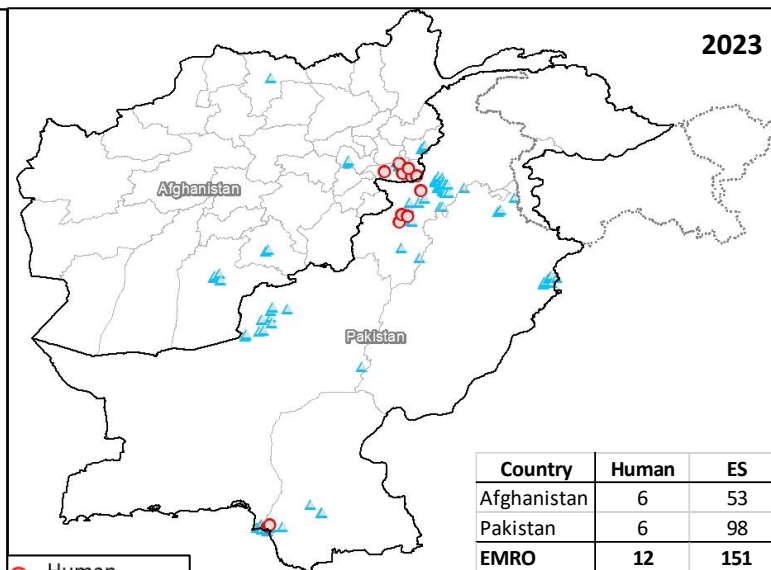
WPV1 Positive isolates from Afghanistan and Pakistan by source

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Afghanistan



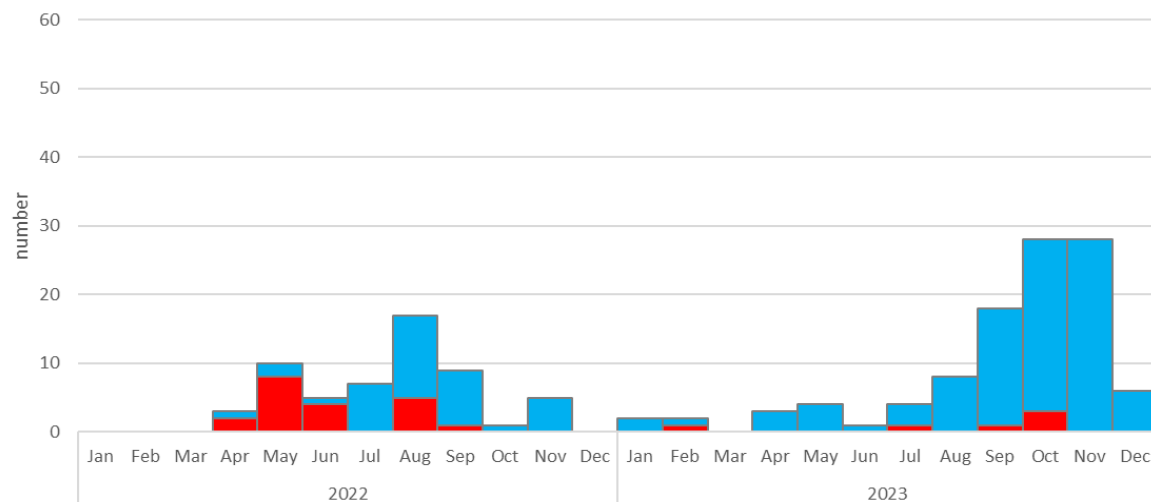
2023



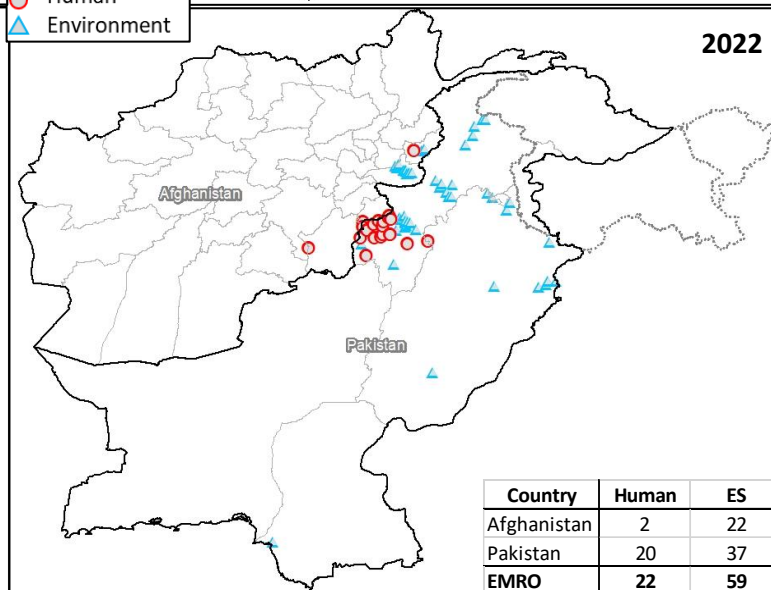
Country	Human	ES
Afghanistan	6	53
Pakistan	6	98
EMRO	12	151

○ Human
△ Environment

Pakistan



2022



Country	Human	ES
Afghanistan	2	22
Pakistan	20	37
EMRO	22	59

For further details on Wild Poliovirus click: [line-list of WPV isolates](#)

Virus isolation by country, last 12 months (Dec. 31, 2022, to Dec. 31, 2023)

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Source / Virus type	AFG	PAK	EGY	SOM	SUD	YEM	Total
Human (AFP only)	6	6	1	5		4	22
Wild	6	6					12
cVDPV2				5		3	8
aVDPV2							
VDPV2			1			1	2
VDPV3							
Environment	53	99	11	9	4	13	189
Wild	53	98					151
cVDPV2			7	9		11	27
aVDPV2			4				4
VDPV2					4	2	6
VDPV3		1					1
Total	59	105	12	14	4	17	211

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 2021	Total year 2022	31 December		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case
					2023												
			2022	2023	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Afghanistan	4	2	2	6	0	0	0	2	3	0	0	0	1	0	0		04-Sep-23
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	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	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	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	1	20	20	6	0	1	0	0	0	0	1	0	1	3			24-Oct-23
Palestine ****	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				
Sudan	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	0				
EMR	5	22	22	12	0	1	0	2	3	0	1	0	2	3	0	0	24-Oct-23

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

Investigation of AFP cases with paralysis onset in 2022 & 2023

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COUNTRY	2023									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	5640	6	0	5403	0	5	0	25.02	94.36	5368	2	0	5365	1	0	0	24.34	94.41	27-Dec-23
BAHRAIN	12	0	0	10	0	1	0	4.01	100.00	30	0	0	30	0	0	0	10.02	83.33	31-Dec-23
DJIBOUTI	22	0	0	9	0	1	0	5.23	77.27	19	0	0	19	0	0	0	4.65	47.37	31-Dec-23
EGYPT	1686	0	0	1538	1	29	0	4.09	89.09	1394	0	0	1394	0	0	0	3.48	91.54	28-Dec-23
IRAN	1112	0	0	1077	0	0	0	5.27	96.85	824	0	0	824	0	0	0	4.06	97.69	30-Dec-23
IRAQ	812	0	0	767	0	8	0	4.62	94.83	835	0	0	835	0	0	0	4.78	92.10	28-Dec-23
JORDAN	114	0	0	105	0	0	0	2.63	93.86	89	0	0	89	0	0	0	2.14	94.38	28-Dec-23
KUWAIT	45	0	0	44	0	0	0	5.22	91.11	52	0	0	52	0	0	0	5.62	96.15	24-Dec-23
LEBANON	80	0	0	61	0	6	0	5.18	86.25	57	0	0	57	0	0	0	3.58	84.21	25-Dec-23
LIBYA	111	0	0	97	0	0	0	4.28	99.10	101	0	0	101	0	0	0	3.89	100.00	30-Dec-23
MOROCCO	135	0	0	42	0	60	13	1.15	55.56	94	0	0	92	0	2	0	0.93	57.45	18-Dec-23
OMAN	29	0	0	27	0	0	0	2.30	96.55	27	0	0	27	0	0	0	2.10	92.59	31-Dec-23
PAKISTAN	18550	6	0	17585	0	192	0	18.97	84.99	19033	20	1	19012	0	0	0	18.86	85.13	31-Dec-23
PALESTINE	26	0	0	20	0	0	0	1.25	96.15	33	0	0	32	1	0	0	1.64	100.00	24-Dec-23
QATAR	17	0	0	11	0	4	0	3.91	70.59	11	0	0	11	0	0	0	2.44	72.73	31-Dec-23
SAUDI ARABIA	292	0	0	240	0	6	0	3.49	95.55	274	0	0	274	0	0	0	3.18	97.45	24-Dec-23
SOMALIA	408	0	0	386	5	0	0	4.54	93.87	356	0	0	350	6	0	0	4.28	97.19	31-Dec-23
SUDAN	463	0	0	343	0	22	3	2.23	76.03	650	0	0	649	1	0	0	3.25	97.08	31-Dec-23
SYRIA	325	0	0	303	0	0	0	4.18	96.92	382	0	0	382	0	0	0	4.96	94.76	30-Dec-23
TUNISIA	88	0	0	83	0	0	0	2.99	69.32	55	0	0	55	0	0	0	1.91	61.82	22-Dec-23
U.A.E.	61	0	0	52	0	0	0	4.14	90.16	66	0	0	66	0	0	0	4.47	96.97	25-Dec-23
YEMEN	1296	0	0	1083	4	13	0	8.11	87.81	1377	0	1	1214	162	0	0	8.77	86.64	30-Dec-23
EMR POL	31324	12	0	29286	10	347	16	10.74	87.84	31127	22	2	30930	171	2	0	10.77	88.20	

* 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 2023

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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	5640	293	29	771	4344	154	1	5 *	198						243			2	2	1	12%	94%	100%	98%	31-Dec-23
Bahrain	NPL Oman / CDC	11			1	10																5%	100%		45%	31-Dec-23
Djibouti	NPL Kenya / CDC	22			2	11	6	3														15%	46%		77%	31-Dec-23
Egypt	RRL Egypt	1606	16		182	1343	46	20		8				1		11				1		10%	93%	100%	99%	31-Dec-23
Iran	NPL Iran / CDC	1128	8		8	1083	29			6						3						1%	100%	100%	99%	30-Dec-23
Iraq	NPL Iraq, RRL Egypt	812	6		58	720	14	14		5						2						7%	100%	100%	99%	29-Dec-23
Jordan	NPL Jordan, RRL Egypt	113			18	92	3															15%	95%		100%	31-Dec-23
Kuwait	RRL Kuwait / RIVM	49	1		8	36	1	3												1		13%	98%		100%	28-Dec-23
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	78			1	73		4														4%	100%			24-Dec-23
Libya	RRL Tunisia / RIVM	104	1		3	97	3			1												3%	98%	1	100%	20-Dec-23
Morocco	NPL Morocco, RRL Tunisia	126			3	118	4	1														3%	99%		94%	29-Dec-23
Oman	NPL Oman / CDC	29			1	28																8%	100%		100%	31-Dec-23
Pakistan	RRL Pakistan	18141	551	46	2749	14305	402	76	4 *	378						429						13%	94%	100%	96%	31-Dec-23
Palestine & UNRWA		26	1			23	1	1		1			1									0%	43%		100%	24-Dec-23
Qatar	NPL Oman / CDC	17	1			14	2									1						0%	100%	1	100%	31-Dec-23
Saudi Arabia	NPL Saudi Arabia / CDC	295	3		6	285		1		3						2						2%	98%	67%	100%	25-Dec-23
Somalia	NPL Kenya / CDC	407	14		62	314		17		4			2	5		2						16%	4%		95%	31-Dec-23
Sudan	NPL Sudan / RRL Egypt	443	10	1	74	288		69					3			2			2			18%	99%	100%	28%	14-Apr-23
Syria	NPL Syria / RRL Egypt	320	5	1	26	271	8	9														9%	100%			24-Dec-23
Tunisia	RRL Tunisia	91	1		3	86		1								1						3%	97%	1	98%	20-Dec-23
U.A.E	NPL Oman / CDC	51			3	48																6%	96%		27%	31-Dec-23
Yemen	NPLs Oman, Jordan & Kenya, RRL Egypt	1094	25	2	225	826	16			11			1	4		19						17%	21%	100%	21%	30-Dec-23
Total EMR 2023		30603	936	79	4204	24415	689	220	12 *	615			7	10		715			4	3	2	12%	90%	100%	93%	
Total EMR 2022		30461	1068	119	4831	24435		2	22 *	556	2		38	169 **		723		6	8	2	1	13%	93%	89%	92%	

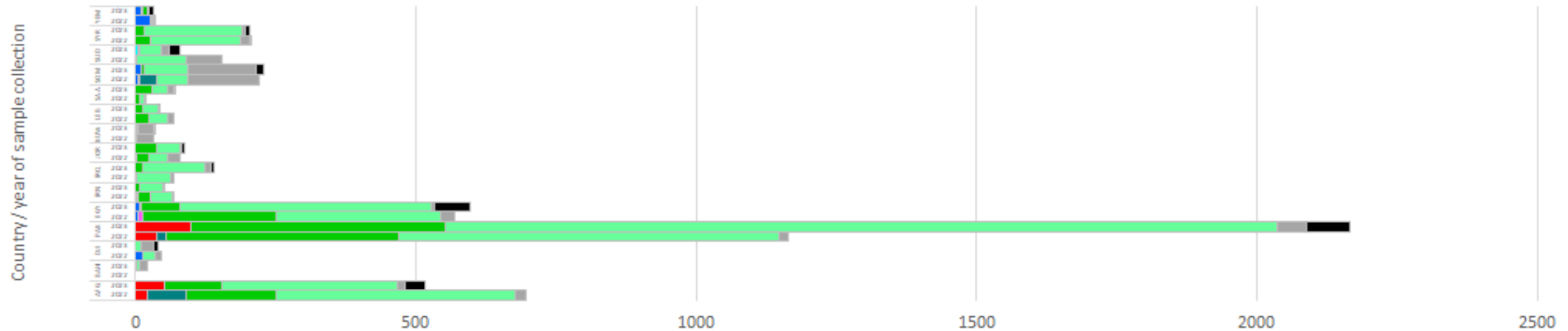
* In 2023 – Two WPV1 cases are confirmed due to positive contacts while in 2022 - three WPV1 cases were confirmed due to positive contacts (Index cases were negative for WPV1)

** In 2022 – Five cVDPV2 cases are identified by positive contacts (Index cases were negative for cVDPV2)

Environmental Surveillance Isolation by Classification

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Number of Samples

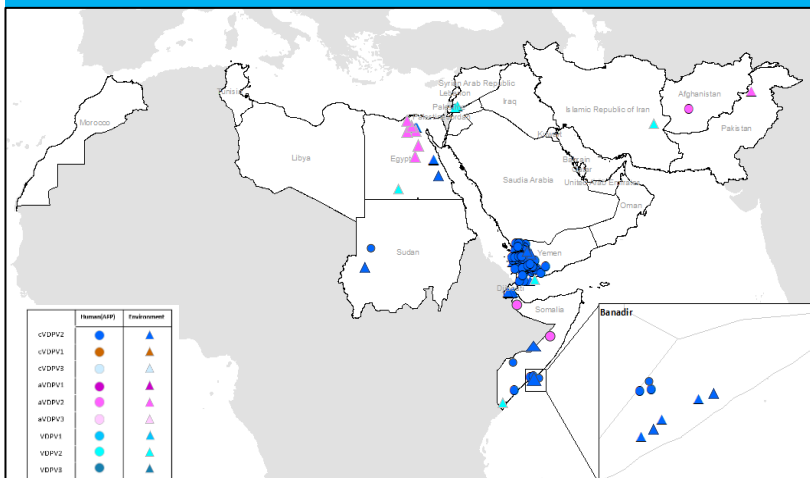


	AFG		BAH		DJI		PAK		EGY		IRN		IRQ		JOR		KUW		LEB		SAA		SOM		SUD		SYR		YEM	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Wild	22	53					37	98															6	9	1					
cVDPV2					12				6	7																			26	10
Wild+cVDPV2																														
Wild+aVDPV2																														
Wild+aVDPV3																														
aVDPV1																														
aVDPV2							1		7	4																				
aVDPV3																														
VDPV1																														
VDPV2											1				2								1			4			3	2
VDPV3								1																						
SL2	68				2		16				4											30	2		1				1	
SL1/3	162	102		3			415	453	239	69	23	7	3	13	22	38		2	24	14	7	29	2	5	2	2	28	17	2	9
Enterovirus	424	313		5	20	11	679	1484	292	448	39	42	61	111	32	41	2	3	32	27	9	29	55	77	88	38	159	174	1	2
Negative	22	14		13	11	22	17	53	25	5	1	1	4	11	23	2	31	27	13	1	2	10	128	123	63	15	18	6		
Pending		35				9		76		64		3		5		8		3		1		1		13		19	3	8		8

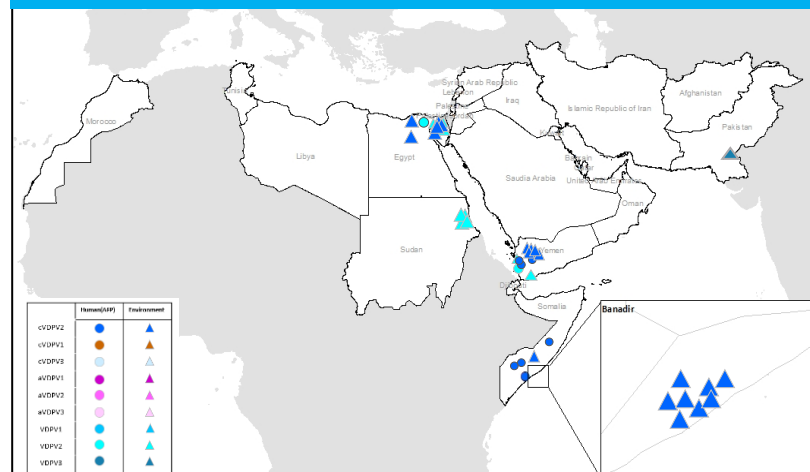
VDPVs isolations by Source and Country

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VDPV Isolates, EMR countries, 2022



VDPV Isolates, EMR countries, 2023



VDPVs isolated from 2018-2023

VDPV Isolate type	EMR Country	Sources																											
		AFP cases(Human)						Contacts(Human)						Environment						Other Sources (Healthy Children)									
		2018	2019	2020	2021	2022	2023	Most recent	2018	2019	2020	2021	2022	2023	Most recent	2018	2019	2020	2021	2022	2023	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	7		13-11-23						
	Iran																	3	1			20-02-21							
	Pakistan		22	135	8			23-04-21									38	135	35			11-08-21							
	Somalia	6	3	14	1	5	5	16-09-23	3	1	11		6	3	03-08-23	19	5	26	1	6	9			1	5		1		10-03-22
	Sudan			58		1		31-10-22			18				08-10-20			14		1		28-11-22			4				24-08-20
Yemen				66	162	3	28-08-23				23	40	1	11-06-23				13	26	10		25-09-23							
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			14-06-21			1	67	7	4	13-04-23							
	Iran																		2			23-09-21							
	Pakistan			7	8			24-09-21		8	19	1			28-04-21		3	22	37	1		15-02-22							
	Somalia					2		01-09-22				1			22-08-22	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						1	17-07-23																					
	Iran																			1		04-02-22							
	Jordan																			2		25-05-22							
	Somalia					1		01-09-22												1		22-04-22							
	Sudan																				4	30-11-23							
	Yemen						1	09-05-23												3	2	27-05-23							
VDPV3	Pakistan																			1	14-02-23								

Important Links

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