

Highlights



Children
Paralyzed
by polio

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

2022

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

- 164 cases of cVDPV2
 - 04 in Somalia
 - 159 in Yemen
 - 01 in Sudan

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



Sewage
water
sampling

2021

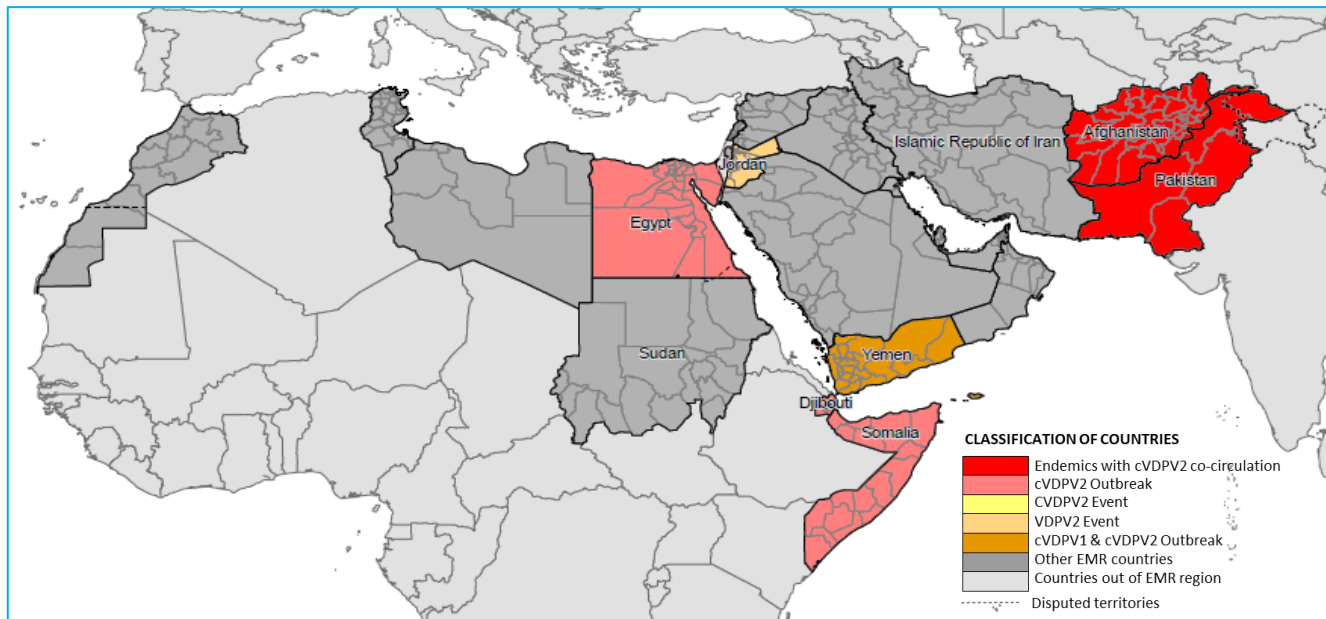
- 66 samples Wild Polio 1
 - 01 in Afghanistan
 - 65 in Pakistan

- 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

- 54 samples Wild Polio 1
 - 17 in Afghanistan
 - 37 in Pakistan

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



Highlights of the week

Wild Poliovirus

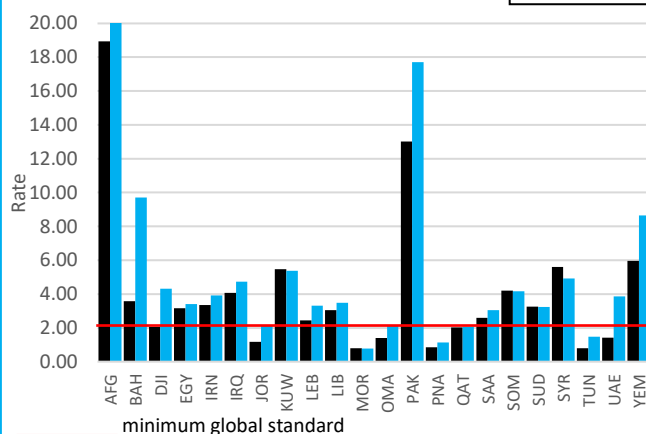
- No new Wild Poliovirus Type 1 (WPV1) cases were reported this week and the count in 2022 remains to be 22 cases (2 from Afghanistan and 20 from Pakistan).
- One new WPV1 positive environmental sample was reported this week from Pakistan. The isolate is from Bannu district of Khyber Pakhtunkhwa province, with specimen collection date on 23rd November 2022.
- Four new Positive environmental samples were reported this week from Afghanistan Nangarhar province. Two from Behsud district with specimen collection date on 21st of November 2022, and one each from Jalalabad district and Batikot district with specimen collection date on 20 of November 2022.

Circulating vaccine derived poliovirus (cVDPV):

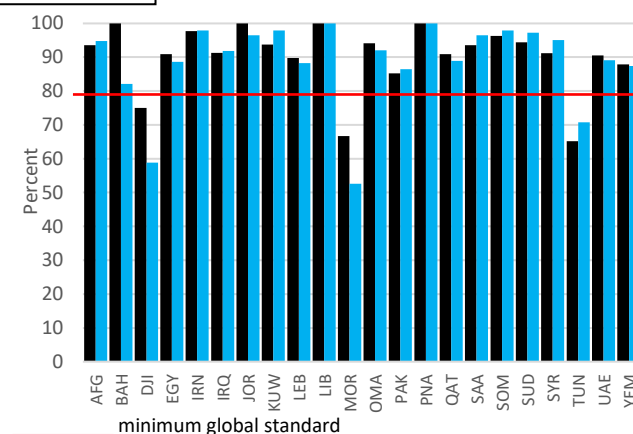
Two newly cVDPV2 cases reported this week as follows:

- One case reported from Yemen, from Hamdan district, Sanaa province, with date of onset on 24th of October 2022.
- One case reported from Sudan, from Karink district, West Darfur province, with date of onset on 31st of October 2022. Immediate actions had been taken and coordination mechanisms established, additional updates will follow in upcoming bulletins.

Non polio AFP rate



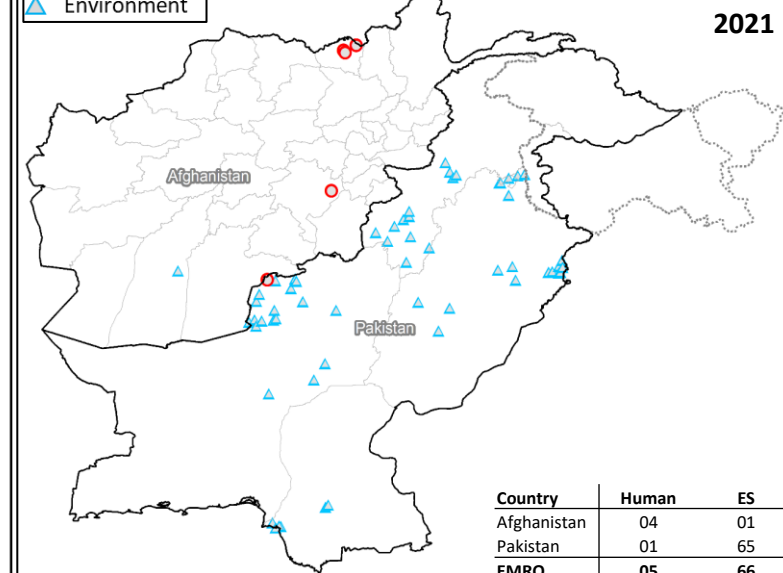
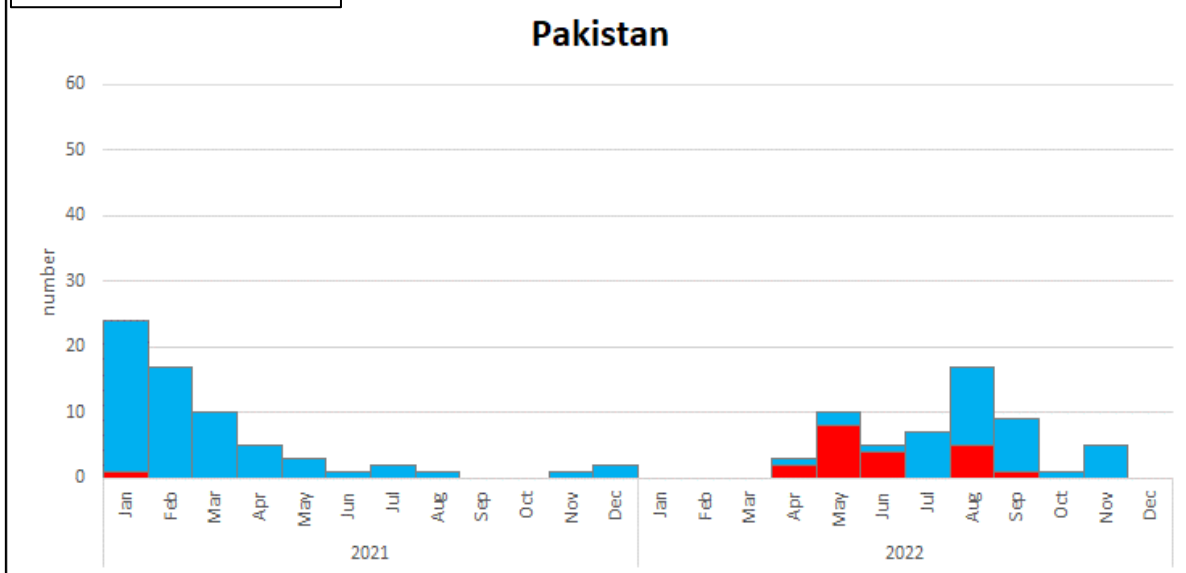
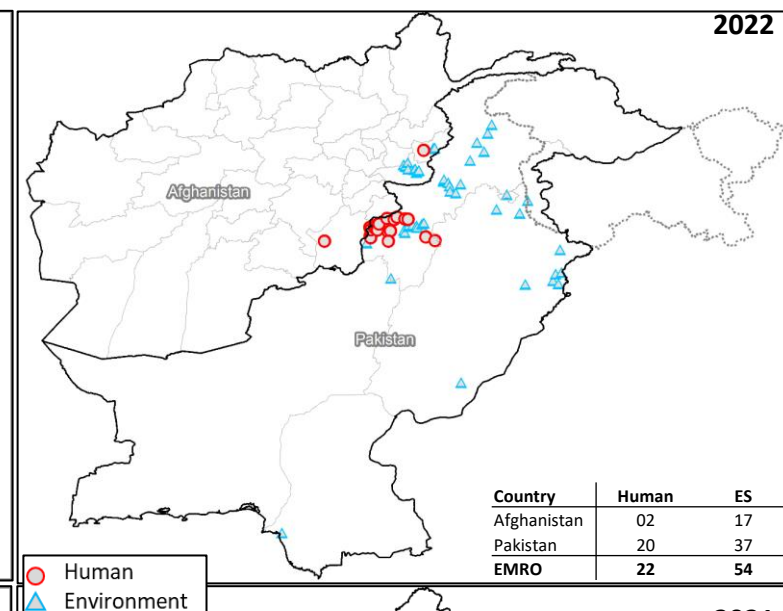
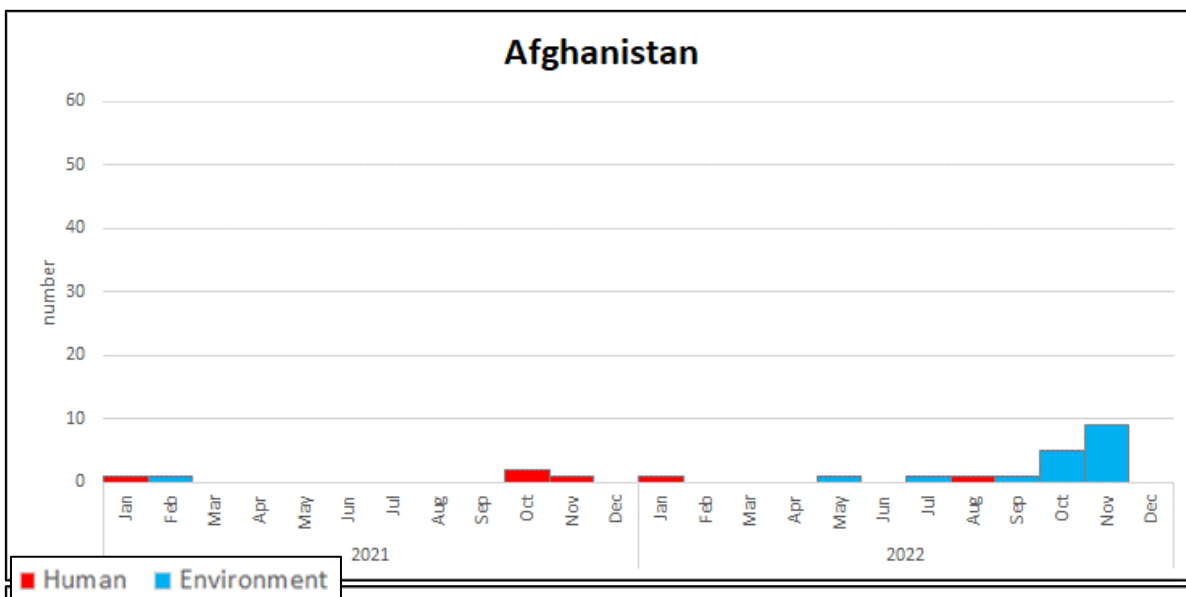
Stool adequacy



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 (Dec. 18, 2021 to Dec. 18, 2022)

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Source / Virus type	AFG	DJI	PAK	EGY	IRN	JOR	SOM	SUD	YEM	Total
Human (AFP only)	3		20				4	1	169	197
Wild	2		20							22
cVDPV2							4	1	169	174
aVDPV2	1									1
VDPV2										
Environment	17	14	38	7	1	3	4		6	90
Wild	17		37							54
cVDPV2		14		6			3		6	29
aVDPV2			1							1
VDPV2				1	1	3	1			6
Total	20	14	58	7	1	3	8	1	175	287

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	4 Dec.		Confirmed Wild Polio 1 Cases by month of onset												Recent most Case
					2022												
			2021	2022	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Afghanistan	56	4	4	2	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					
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			
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				
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	20	0	0	0	2	8	4	0	5	1	0			15-Sep-22
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			
Sudan	0	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				
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		0		
Yemen	0	0	0	0	0	0	0	0	0	0	0		0				
EMR	140	5	5	22	1	0	0	2	8	4	0	6	1	0	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	5025	2	0	4766	1	15	0	24.13	94.77	18-Dec-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	28	0	0	10	0	1	0	9.70	82.14	15-Dec-22
DJIBOUTI	8	0	0	8	0	0	0	2.06	75.00	17	0	0	14	0	0	0	4.32	58.82	17-Dec-22
EGYPT	1251	0	0	1250	1	0	0	3.17	90.89	1298	0	0	1136	0	24	1	3.41	88.60	15-Dec-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	765	0	0	743	0	0	0	3.91	97.91	17-Dec-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	795	0	0	710	0	26	0	4.73	91.82	16-Dec-22
JORDAN	47	0	0	47	0	0	0	1.19	100.00	85	0	0	75	0	0	0	2.12	96.47	15-Dec-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	48	0	0	45	0	0	0	5.38	97.92	18-Dec-22
LEBANON	39	0	0	39	0	0	0	2.45	89.74	51	0	0	28	0	6	0	3.32	88.24	16-Dec-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	87	0	0	69	0	0	0	3.48	100.00	17-Dec-22
MOROCCO	78	0	0	78	0	0	0	0.80	66.67	76	0	0	40	0	22	1	0.79	52.63	28-Nov-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	25	0	0	24	0	0	0	2.16	92.00	18-Dec-22
PAKISTAN	13118	1	4	13095	18	0	0	13.01	85.19	17221	20	1	16091	0	219	3	17.70	86.45	18-Dec-22
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	22	0	0	10	0	1	0	1.13	100.00	18-Dec-22
QATAR	11	0	0	11	0	0	0	2.03	90.91	9	0	0	8	0	0	0	2.07	88.89	3-Dec-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	253	0	0	156	0	2	0	3.05	96.44	11-Dec-22
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	334	0	0	307	4	4	4	4.17	97.90	18-Dec-22
SUDAN	636	0	0	636	0	0	0	3.26	94.34	609	0	0	588	1	0	0	3.24	97.21	15-Dec-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	365	0	0	342	0	0	0	4.92	95.07	17-Dec-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	41	0	0	36	0	0	0	1.48	70.73	16-Dec-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	55	0	0	0	0	34	0	3.87	89.09	13-Dec-22
YEMEN	921	0	0	849	72	0	0	5.96	87.84	1286	0	0	952	159	10	0	8.64	87.40	18-Dec-22
EMR POL	22799	5	5	22651	138	0	0	7.97	88.33	28495	22	1	26150	165	364	9	10.30	89.06	

* 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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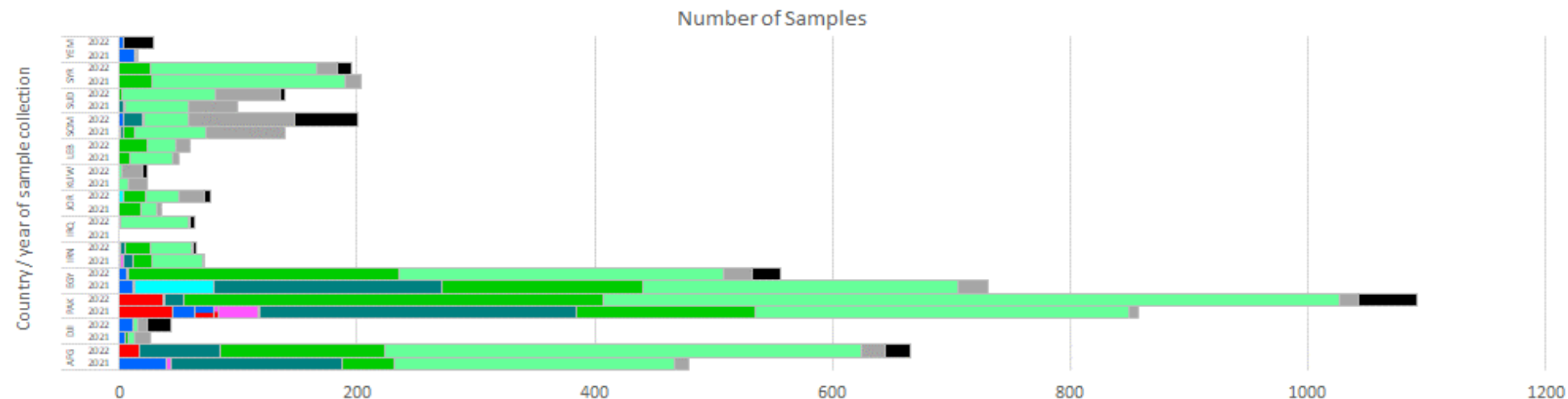
Country	Polio laboratories	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results												Indicators				Latest report Date	
	ITD / Nucleotide Sequencing		Referred for ITD		NPEV only	Negative	Pending		Type 1			Type 2			Type 3			Discordant 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			received within last 14 days	received more than 14 days ago	Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV									
Afghanistan	RRL Pakistan	4877	280	44	849	3470	59	129	2	214			8			244				1	15%	97%	100%	99%	18-Dec-22	
Bahrain	NPL Oman / CDC	28			1	25	2														4%	96%		73%	12-Dec-22	
Djibouti	NPL Kenya / CDC	17	2		5	8		2		2			2			2					33%	67%		73%	18-Dec-22	
Egypt	RRL Egypt	1272	22	5	172	1007	37	29		8						14		5	1		12%	95%	100%	99%	15-Dec-22	
Iran	NPL Iran / CDC	766	11		9	727		19		4	1					8					1%	100%	100%	98%	10-Dec-22	
Iraq	NPL Iraq, RRL Egypt	798	3		62	707	20	6								4				2	8%	100%	50%	99%	17-Dec-22	
Jordan	NPL Jordan, RRL Egypt	85	3		17	59	2	4								3					24%	99%	1	100%	18-Dec-22	
Kuwait	RRL Kuwait / RIVM	50	2			46	1	1		1						1	1	1		1	2%	100%	1	100%	16-Dec-22	
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	34	1			33															0%	100%			13-Nov-22	
Libya	RRL Tunisia / RIVM	75			2	70		3													3%	100%		100%	19-Nov-22	
Morocco	NPL Morocco, RRL Tunisia	68			4	62	2														7%	100%		94%	16-Dec-22	
Oman	NPL Oman / CDC	28			4	23	1														13%	81%		100%	12-Dec-22	
Pakistan	RRL Pakistan	16416	434	59	2899	12505	156	349	17*	252			1			361					15%	98%	100%	97%	18-Dec-22	
Palestine & UNRWA		22				21		1													0%	30%		95%	18-Dec-22	
Qatar	NPL Oman / CDC	13	1			11	1			1											0%	92%	0	100%	12-Dec-22	
Saudi Arabia	NPL Saudi Arabia / CDC	253	4		5	234		11		1						2					2%	89%	33%	98%	04-Dec-22	
Somalia	NPL Kenya / CDC	310	10	1	56	226		23		2			9	4							19%	5%		87%	18-Dec-22	
Sudan	NPL Sudan / RRL Egypt	612	9		154	439	9	1						1				1			25%	77%	100%	22%	17-Dec-22	
Syria	NPL Syria / RRL Egypt	346	2		24	311		9													6%	100%			13-Dec-22	
Tunisia	RRL Tunisia	37				37															1%	100%		95%	19-Nov-22	
U.A.E	NPL Oman / CDC	59			1	54	4														1%	82%		75%	12-Dec-22	
Yemen	NPLs Oman, Jordan & Kenya, RRL Egypt	1108	177	5	194	731		1		10			8	155**		22		6	1	1		16%	22%	36%	8%	18-Dec-22
Total EMR 2022		27274	961	114	4458	20806	294	588	22	495	1		28	164		661		7	8	2	4	14%	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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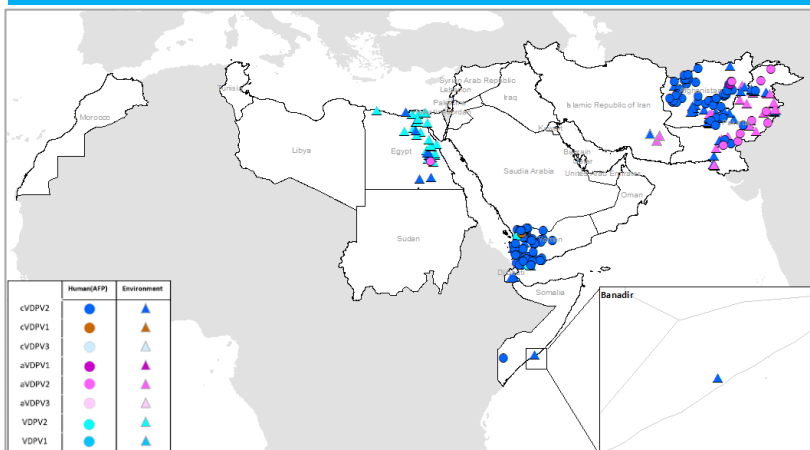


	AFG		DJI		PAK		EGY		IRN		IRQ		JOR		KUW		LEB		SOM		SUD		SYR		YEM	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Wild		17			45	37																				
cVDPV2	39		5	12	19		12	6	1										1	3					13	3
Wild+cVDPV2	1				16																					
Wild+aVDPV2					4																					
Wild+aVDPV3																										
aVDPV1																										
aVDPV2	3				33	1			2																	
aVDPV3																										
VDPV1					1		1																			
VDPV2							67	1	1				3							1						
SL2	145	68			266	16	192		9	4									2	15	4					
SL1/3	44	139	2		151	353	168	229	16	21		1	18	19			9	23	10	2	1	2	28	26	1	
Entero	235	400	6	4	314	619	265	272	42	35		57	14	28	7	2	36	24	60	37	53	79	162	140	1	
Negative	12	21	13	8	9	17	26	25	1	1		1	3	22	16	17	5	13	67	90	41	54	14	17		
Pending		21		20		49		24		3		4		5		5				53		4		13		26

VDPVs isolations by Source and Country

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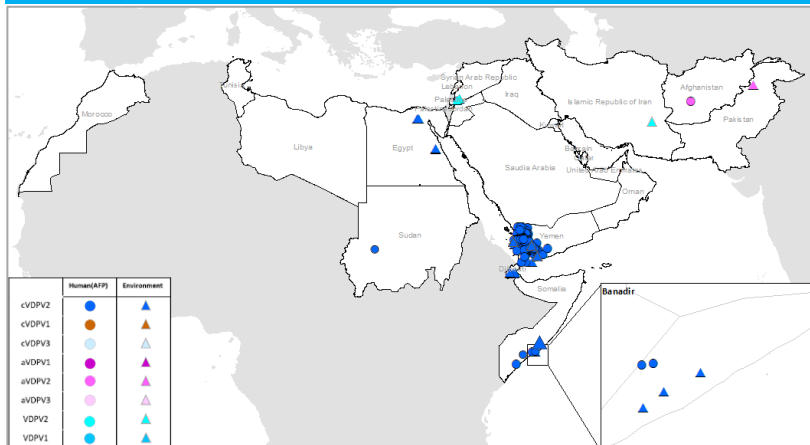
VDPV Isolates, EMR countries, 2021



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	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		1	31-10-22				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	159	24-10-22				23	38	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									

VDPV Isolates, EMR countries, 2022



Important links

EMR Polio Bulletin - Issue No. 1263, Week 50 (ending on 18/12/2022)

Important Links

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