



**World Health
Organization**

Regional Office for the Eastern Mediterranean



**Season's Greetings and Wishes for 2023
We wish the new year brings you happiness and success!
AND
EMRO Region and the whole WORLD becomes
“Polio Free”**

Please click to watch the below videos of the year 2022:

[Seasons Greeting](#)
[Polio in 2022](#)

EMR Polio Team

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

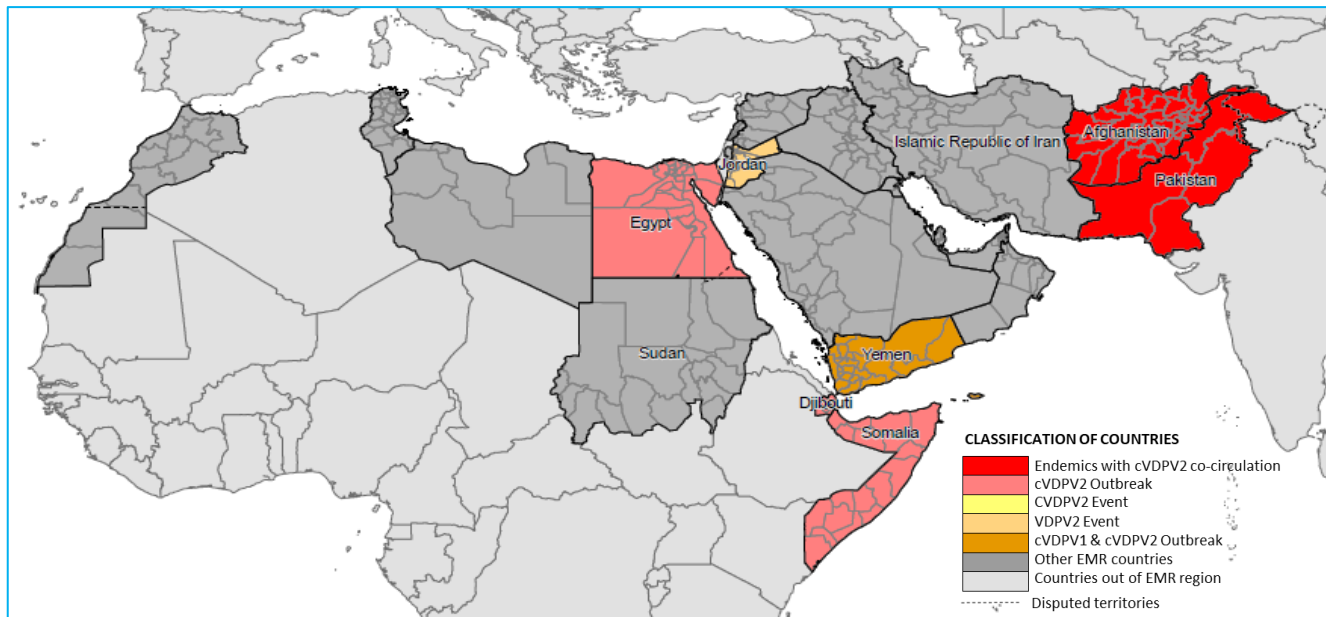
- **66 samples Wild Polio 1**
 - 01 in Afghanistan
 - 65 in Pakistan

- **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

- **57 samples Wild Polio 1**
 - 20 in Afghanistan
 - 37 in Pakistan

- **32 samples of cVDPV2**
 - 06 in Egypt
 - 12 in Djibouti
 - 03 in Somalia
 - 01 in Sudan
 - 10 in Yemen



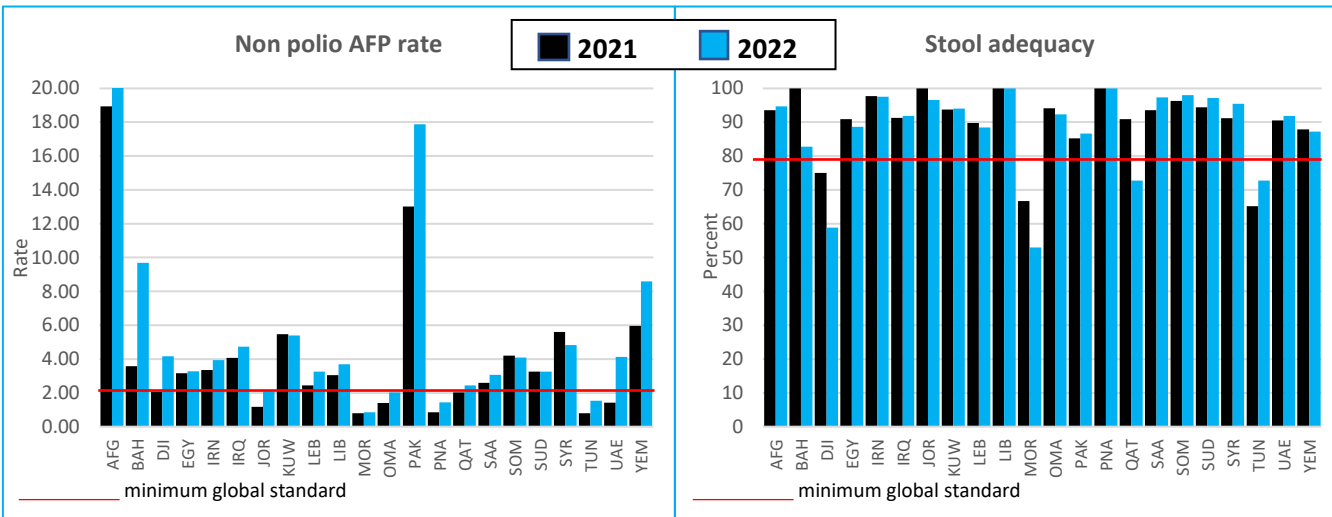
Highlights of the week

Wild Poliovirus

- No new Wild Poliovirus cases reported this week. The cases count in 2022 remains to be 22 cases (2 from Afghanistan and 20 from Pakistan).
- Three new WPV1 positive environmental samples reported this week from Afghanistan. The positive isolates are all from Nangarhar province, one each from Batikot, Jalalabad and Behsud districts. Specimens' collection dates varies between 1st and 4th December 2022.

Circulating Vaccine derived poliovirus (cVDPV)

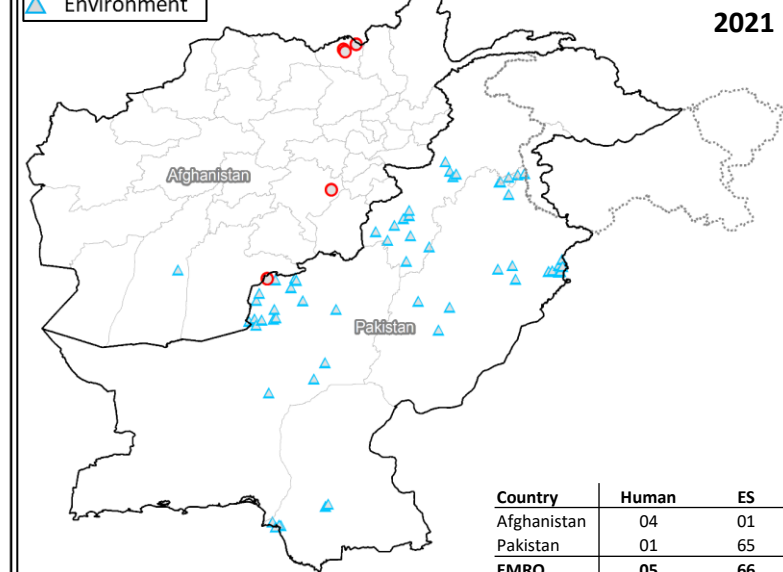
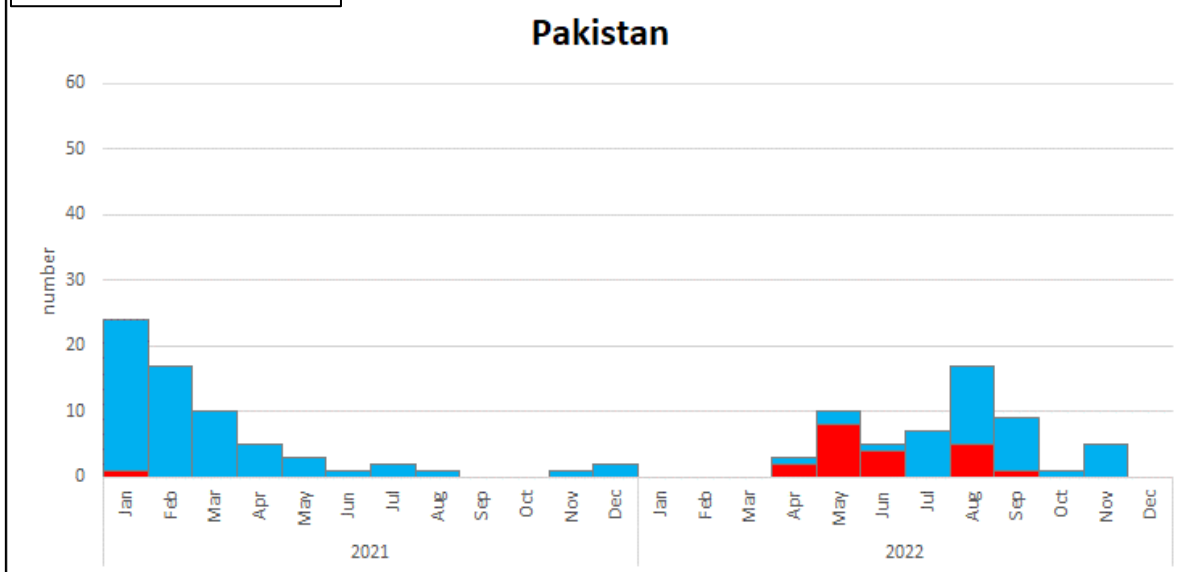
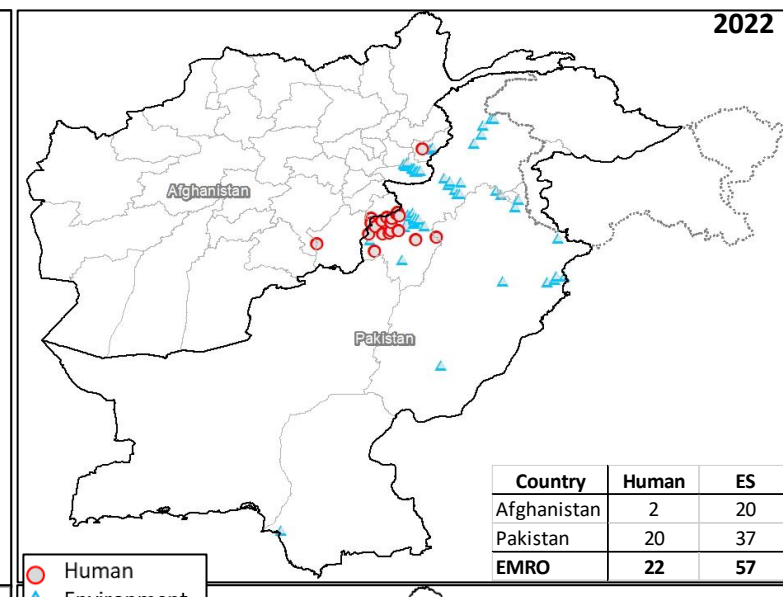
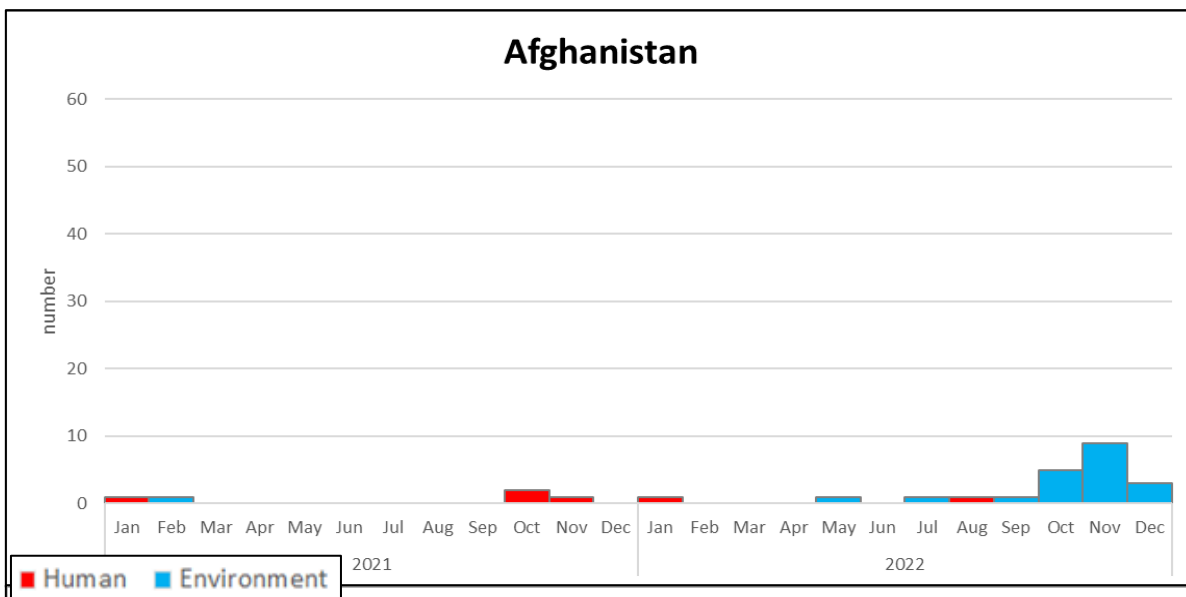
- No new cVDPV cases reported this week. The cVDPV2 cases count in 2022 remains to be 164 cases (1 from Sudan, 4 from Somalia and 159 from Yemen).
- One new cVDPV2 positive environmental sample reported this week from Sudan. The positive isolate is from West Darfur province, Genena district, with specimen collection date on 28th November 2022.



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 (Jan. 01, 2022 to Jan. 01, 2023)

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Source / Virus type 	AFG	DJI	PAK	EGY	IRN	JOR	SOM	SUD	YEM	Total
 Human (AFP only)	3		20				4	1	159	187
Wild	2		20							22
cVDPV2							4	1	159	164
aVDPV2	1									1
VDPV2										
 Environment	20	12	38	7	1	3	4	1	11	97
Wild	20		37							57
cVDPV2		12		6			3	1	10	32
aVDPV2			1							1
VDPV2				1	1	3	1		1	7
Total	23	12	58	7	1	3	8	2	170	284

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	31 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	0	0		29-Aug-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	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	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	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	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	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				
Yemen	0	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	5199	2	0	4991	1	7	0	23.55	94.71	29-Dec-22
BAHRAIN	11	0	0	11	0	0	0	3.58	100.00	29	0	0	19	0	3	0	9.69	82.76	29-Dec-22
DJIBOUTI	8	0	0	8	0	0	0	2.06	75.00	17	0	0	14	0	0	0	4.16	58.82	1-Jan-23
EGYPT	1251	0	0	1250	1	0	0	3.17	90.89	1298	0	0	1136	0	29	1	3.29	88.60	29-Dec-22
IRAN	681	0	0	680	1	0	0	3.36	97.65	798	0	0	772	0	0	0	3.94	97.49	31-Dec-22
IRAQ	709	0	0	709	0	0	0	4.08	91.26	824	0	0	749	0	27	0	4.73	91.87	31-Dec-22
JORDAN	47	0	0	47	0	0	0	1.19	100.00	87	0	0	85	0	0	0	2.09	96.55	29-Dec-22
KUWAIT	48	0	0	48	0	0	0	5.47	93.75	50	0	0	47	0	0	0	5.40	94.00	25-Dec-22
LEBANON	39	0	0	39	0	0	0	2.45	89.74	52	0	0	27	0	8	1	3.26	88.46	24-Dec-22
LIBYA	79	0	0	79	0	0	0	3.05	100.00	96	0	0	69	0	0	0	3.70	100.00	31-Dec-22
MOROCCO	78	0	0	78	0	0	0	0.80	66.67	85	0	0	44	0	27	1	0.85	52.94	30-Dec-22
OMAN	17	0	0	17	0	0	0	1.41	94.12	26	0	0	25	0	0	0	2.03	92.31	1-Jan-23
PAKISTAN	13118	1	4	13095	18	0	0	13.01	85.19	18050	20	1	16843	0	267	4	17.88	86.60	1-Jan-23
PALESTINE	16	0	0	16	0	0	0	0.85	100.00	29	0	0	12	0	1	0	1.44	100.00	22-Dec-22
QATAR	11	0	0	11	0	0	0	2.03	90.91	11	0	0	8	0	0	0	2.44	72.73	31-Dec-22
SAUDI ARABIA	217	0	0	217	0	0	0	2.59	93.55	265	0	0	196	0	1	0	3.08	97.36	1-Jan-23
SOMALIA	349	0	0	348	1	0	0	4.21	96.28	340	0	0	312	4	4	4	4.09	97.94	1-Jan-23
SUDAN	636	0	0	636	0	0	0	3.26	94.34	634	0	0	608	1	1	0	3.25	97.16	29-Dec-22
SYRIA	431	0	0	431	0	0	0	5.60	91.18	372	0	0	344	0	0	0	4.83	95.43	31-Dec-22
TUNISIA	23	0	0	23	0	0	0	0.81	65.22	44	0	0	36	0	0	0	1.53	72.73	30-Dec-22
U.A.E.	21	0	0	21	0	0	0	1.42	90.48	61	0	0	0	0	36	0	4.14	91.80	28-Dec-22
YEMEN	921	0	0	849	72	0	0	5.96	87.84	1325	0	0	972	159	14	0	8.58	87.17	31-Dec-22
EMR POL	22799	5	5	22651	138	0	0	7.97	88.33	29692	22	1	27309	165	425	11	10.33	89.11	

* 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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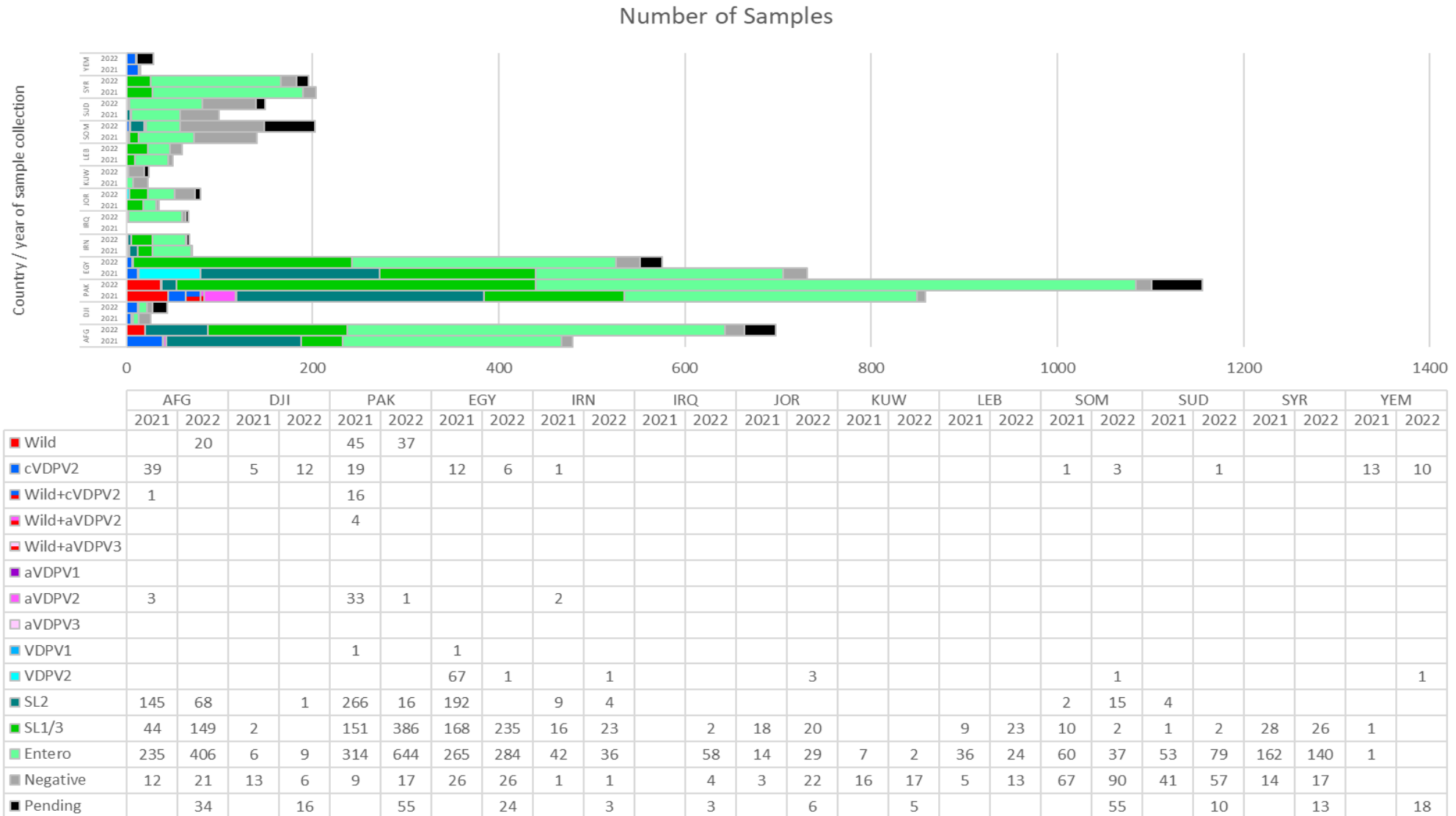
Country	Polio laboratories	AFP cases with specimens	Preliminary virus isolation results of AFP cases						Poliovirus intratypic differentiation results												Indicators				Latest report Date	
	ITD / Nucleotide Sequencing		Referred for ITD		NPEV only	Negative	Pending		Type 1			Type 2			Type 3			Discordant 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	5193	295	44	897	3748	158	1	2	225			8			257						15%	97%	100%	99%	1-Jan-23
Bahrain	NPL Oman / CDC	28			1	27																3%	96%		71%	1-Jan-23
Djibouti	NPL Kenya / CDC	17	2		5	8		2		2			2			2						33%	67%		73%	1-Jan-23
Egypt	RRL Egypt	1319	22	5	178	1064	45	5		8						14			5	1		12%	95%	100%	99%	28-Dec-22
Iran	NPL Iran / CDC	795	11		9	774	1			4	1					8						1%	100%	100%	98%	31-Dec-22
Iraq	NPL Iraq, RRL Egypt	828	3		64	728	27	6								4					2	8%	100%	50%	99%	29-Dec-22
Jordan	NPL Jordan, RRL Egypt	87	3		19	59	2	4								3						25%	99%	1	100%	2-Jan-23
Kuwait	RRL Kuwait / RIVM	52	2			47	2	1		1						1		1	1		1	2%	100%	1	100%	2-Jan-23
Lebanon	NPL Jordan, NPL Syria, RRL Egypt	34	1			33																0%	100%			13-Dec-22
Libya	RRL Tunisia / RIVM	75			2	70		3														3%	100%		100%	19-Nov-22
Morocco	NPL Morocco, RRL Tunisia	5				5																0%	100%		100%	30-Dec-22
Oman	NPL Oman / CDC	31			4	24	3															13%	82%		100%	1-Jan-23
Pakistan	RRL Pakistan	17652	463	60	3007	13544	545	19	17*	276			1			375						15%	98%	100%	97%	1-Jan-23
Palestine & UNRWA		29				22		7														0%	29%		95%	22-Dec-22
Qatar	NPL Oman / CDC	14	1			13				1												0%	93%	0	100%	1-Jan-23
Saudi Arabia	NPL Saudi Arabia / CDC	267	4		5	250	5	4		1						2						2%	90%	33%	98%	25-Dec-22
Somalia	NPL Kenya / CDC	340	10	1	60	251	1	24		2			9	4								19%	6%		88%	1-Jan-23
Sudan	NPL Sudan / RRL Egypt	638	9		154	449	25	1						1				1				25%	77%	100%	30%	29-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	61			2	59																2%	84%		75%	1-Jan-23
Yemen	NPLs Oman, Jordan & Kenya, RRL Egypt	1184	180	5	196	754		49		10			8	155**		23		5	1	1	3	16%	24%	36%	9%	31-Dec-22
Total EMR 2022		29032	1008	115	4627	22277	814	135	22	530	1		28	164		689		6	8	2	6	14%	93%	89%	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

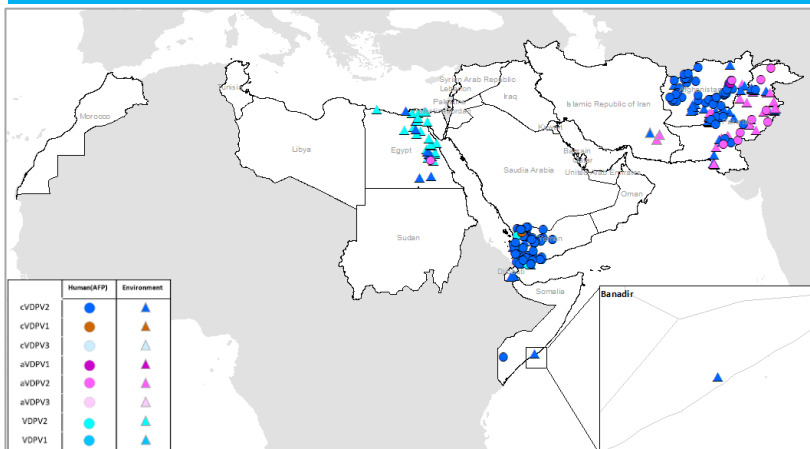
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VDPVs isolations by Source and Country

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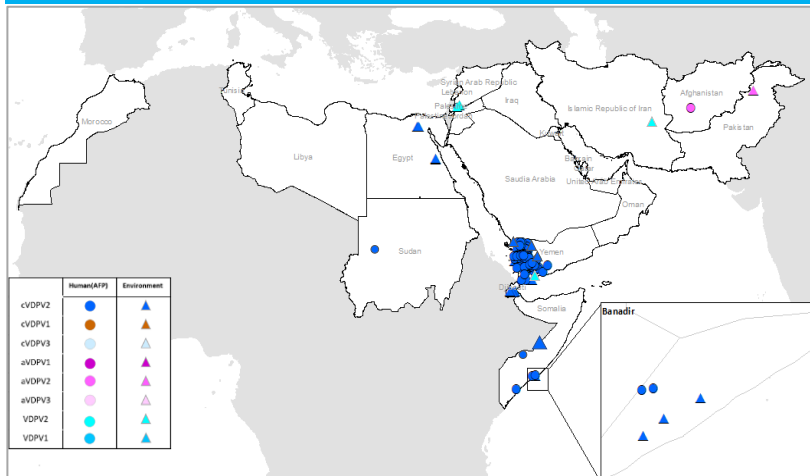
VDPV Isolates, EMR countries, 2021



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		<u>1</u>	<u>28-11-22</u>				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	10		28-05-22								
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								
aVDPV3	Yemen				3			01-11-21			1			09-12-21															
	Afghanistan				1			23-06-20																					
	Egypt																	2			30-09-20								
	Pakistan																		1		05-04-21								
VDPV1	Libya				1			15-01-20																					
	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							
	Yemen																			1		24-04-22							

VDPV Isolates, EMR countries, 2022



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)