## Viruses go where infected persons go

### All cases of poliovirus AFP or positive ES samples.

2 WPV1 cases reported from Paktika Province in Afghanistan. No WPV1 cases in Pakistan nor WPV1 positive ES samples collected in either country. 9 cVDPV2 positive ES samples collected; 2 in Chad and 7 in PNG. 1 VDPV1 case in Lao.

- In Afghanistan 2 WPV1 cases.
- In Chad 2 cVDPV2 positive ES samples collected.
- In Lao 1 VDPV1 case.
- In PNG 7 cVDPV2 positive ES samples collected.

This list excludes 3 cVDPV2 positive ES samples shown in the GPEI detail table. These are included in my detail tables so that there is consistency. (Small differences occasionally occur, but they are rectified later.) The positions are shown in the attached charts but for 2025 the counts are:

<u>In 2025:</u> (Without the VDPV or iVDPV reports that are accounted for differently)

- 35 WPV1 cases: Pakistan 29 and Afghanistan 6.
  2 MORE CASES THIS WEEK IN AFGHANISTAN.
- 506 WPV1 positive ES samples: Pakistan 453, Afghanistan 53.
  3 MORE POSITIVE ES SAMPLES THIS WEEK IN PAKISTAN. (But bot included in summary table?)
- 146 cVDPV2 cases: Ethiopia 40, Nigeria 35, Yemen 29, Chad 18, Angola 11, Benin 3, Niger 3, Sudan 2, Burkina Faso 1, the CAR 1, Djibouti 1, PNG 1 and Somalia 1.
   NO MORE CASES THIS WEEK.
- 159 cVDPV2 positive ES samples: Papua New Guinea 51, Chad 16, Djibouti 16, Algeria 15, Germany 12, Nigeria 10, Yemen 9, Gaza 7, Somalia 5, Tanzania 4, Benin 2, Cameroon 2, Cote D'Ivoire 2, Israel 2, Angola 1, the CAR 1, Poland 1, Senegal 1, Sudan 1 and UK 1.
  9 MORE POSITIVE ES SAMPLES; 7 IN PNG AND 2 IN CHAD.
- 2 cVDPV1 cases: Algeria 1 and the DRC 1 NO MORE CASES THIS WEEK.
- 20 cVDPV1 positive ES samples Israel 10, Djibouti 9 and Algeria 1.
  NO MORE POSITIVE ES SAMPLES THIS WEEK.
- 5 cVDPV3 cases: Guinea 2, Chad 2 and Cameroon 1.
  NO MORE CASES THIS WEEK.

In the tables that follow, if the aggregate of numbers in the current week increases, the total is shown in **red**. The prior years with the highest numbers are shown with a yellow background.

Reported totals may change, not just because of new reports, but also with the reclassification of past cases.

Increased environmental surveillance, shorter laboratory diagnosis times and genetic sequencing of isolates, means that reporting times will be less, and the figures will be less likely to change.

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#### Poliovirus isolation in cases of AFP and positive ES samples collected

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Full	07-Oct								
	year	2025								
WPV1	37	22	33	176	140	6	30	12	99	35
countries	3	2	2	2	2	3	3	2	2	2
WPV1 ES	65	152	224	468	504	66	65	190	768	506
countries	3	2	2	3	2	2	2	2	2	2

WPV2 declared eradicated 20 September 2015. (Last case of WPV1 in India January 2011.) WPV3 declared eradicated 24 October 2019. (World Polio Day.) 5 of 6 WHO Regions declared polio free. (America 1994, Western Pacific 2000, Europe 2002, SE Asia 2014 and Africa 2020.) Coronavirus interrupted immunisations and increased cases.

Then there were transmissions to Malawi and Madagascar when flights resumed after the pandemic. (The outbreaks in Malawi and Madagascar were closed in May 2024.)

In 2024 WPV1 there were significant outbreaks in Pakistan of both cases and positive ES sample collections. (At the end of May the Pakistan increase in WPV1 positive ES samples started and the TAG for polio eradication expressed concerns about the deteriorating situation.) Vaccine refusals are a problem in some areas.

WPV1 in Afghanistan is a concern with fewer reports being received and house-to-house calls ended.

cVDPV1	3	0	27	12	34	17	192	134	11	2
cVDPV2	2	96	71	366	1079	671	687	395	448	146
cVDPV3	0	0	7	0	0	0	1	0	4	5
Total cVDPV	5	96	105	378	1113	688	880	529	463	153
countries	3	1	8	20	27	24	26	26	22	18
cVDPV1 ES	0	0	7	26	9	31	155	92	0	20
cVDPV2 ES	5	2	65	198	<mark>537</mark>	496	338	351	289	159
cVDPV3 ES	0	0	11	0	0	13	34	0	3	0
Total ES	5	2	83	224	546	540	527	443	292	179
countries	2	1	5	14	26	28	26	30	23	23

The bOPV Switch in 2016 allowed time for pre-Switch tOPV viruses to mutate.

cVDPVs samples were collected and polio herd immunity dropped so cVDPVs cases arose.

Then there was the coronavirus pandemic:

Personal contacts were avoided and immunisations were impacted.

Then transmission of cVDPV2 via international transport hubs (New York, Montreal, London, Israel, etc.) when flights resumed after the pandemic.

nOPV2 is now available. Overall decline in detections except for areas of conflict. Also, there have been more positive ES samples in Gaza and some European countries, but no new cases reported.

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# Poliovirus isolation in asymptomatic contacts of cases of AFP

1 new cVDPV2 contact reported this week.

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Full	07-Oct								
	year	2025								
cVDPV1	5	0	7	10	0	26	19	7	1	0
cVDPV2	3	85	74	177	286	345	114	134	92	31
cVDPV3	0	0	2	0	1	0	3	0	0	1
Total	8	85	83	187	287	360	136	141	93	32

# **VDPV** reports

### 1 VDPV1 case in Lao.

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
	Full	Full	Full	Full	Full	Full	Full	Full	Full	07-0ct	
	year	year	year	year	year	year	year	year	year	2025	
	Acute Flaccid Paralysis (AFP) cases										
VDPV1	0	0	0	3	3	4	4	1	4	2	
VDPV2	6	2	2	17	22	8	1	12	9	20	
VDPV3	1	1	1	1	3	0	0	1	1	1	
Total	7	3	3	21	28	12	5	14	13	23	
	Positive environmental surveillance (ES) samples										
VDPV1	0	0	2	3	1	7	4	0	6	2	
VDPV2	7	18	20	20	38	120	26	22	26	16	
VDPV3	0	0	4	1	2	1	0	4	7	2	
Total	7	18	26	24	41	128	30	26	39	20	

Reg Ling, EPNC Chief Information Officer

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Polio is a contagious, acute viral disease caused by poliovirus, a highly infectious enterovirus. There are three poliovirus serotypes (type 1, 2 and 3), each of which can cause polio. Wild polio virus type 2 was eradicated in 2015 and type 3 in 2019.

Polio primarily affects children, with 50% of all cases in children under three years of age, although Infants under the age of 12 months are generally protected by maternal antibody, but this depends on maintaining high population vaccination levels. However, people of all ages can be infected with and potentially transmit poliovirus. Most infected people have no or very mild flu-like symptoms. Thus, infection with the poliovirus usually goes unrecognized. Fewer than 1% of cases result in varying

degrees of irreversible paralysis (usually in the legs), and possible death. The death rate for paralytic polio is 2-5% among children and up to 15-30% for adults.

There is no cure for polio and once the disease has been contracted the only treatment is based on alleviation of symptoms, with variable success. In the pre-vaccination era polio was the leading cause of permanent disability, but since 1955 when the first inactivated polio vaccine (IPV) was introduced, there has been a dramatic reduction in the number of polio cases, and since 1988 cases of paralysis caused by wild poliovirus have decreased by over 99.99% from an estimated 350,000 cases per year. It was only with the introduction of live oral polio vaccine (OPV) in 1962 that endemic transmission began to be interrupted, and as the number of countries where there was still uninterrupted transmission gradually declined countries could be declared polio-free.

The virus multiplies in lymphoid cells in the throat and small intestine, from where it can enter the blood stream and invade the nervous system where it can cause paralysis by destruction of motor nerve cells. The strategy for eradicating polio is based on preventing transmission by immunising every child with polio vaccine until transmission stops and the world is polio-free. Today only two countries, Pakistan and Afghanistan, have not completely stopped transmission of polio. Both inactivated and live polio vaccines are highly effective at inducing protective immunity, but because of the infectiousness of the virus it is desirable to achieve rates of vaccination in children of greater than 95%.

The main route of polio virus transmission is by direct contact with an infectious child or adult and ingestion of virus in respiratory or faecal secretions, although less frequently, it may be through a common vector such as contaminated water or food. In populations where vaccination levels are significantly less than optimal, the virus in OPV may be transmitted from person to person over a period of months, and very rarely can revert to neurovirulence causing symptoms which are indistinguishable from the wild type virus (vaccine derived polio). As immunisations began to diminish with the reducing number of infections, then aggravated by the coronavirus pandemic that limited person to person contacts, inevitably some under or un-vaccinated children became infected and transmitted the virus in their stools. A spectrum of virus variants came to the fore and with herd immunity diminished, the transmissions infected others. These are effectively controlled by outbreak responses but, the variants are still present environmentally so, until the transmissions are interrupted, immunisation rounds must continue to establish herd immunity. In areas where conflicts continue or where communities may be inaccessible, the variants remain a challenge.

Rotary International is committed to continue the polio eradication campaign until the WHO declares that polio has been eradicated. Effectively this means interruption of transmission of polioviruses for at least three years. This depends on a high degree of effective surveillance and also the containment of all laboratory poliovirus stocks. However, post-polio syndrome may occur years after infection, with a slow development of muscle weakness.