

HIGHLIGHTS

Confirmation of circulating vaccine-derived polio virus in Indonesia

On 17 January 2019 the WHO Headquarters reported isolation of vaccine-derived poliovirus type 1 (VDPV1) from an AFP case from Papua province in Indonesia. On 13 February the WHO Headquarters reported confirmation of the second genetically-linked isolate from the stool specimens of a healthy community contact. Following global guidelines this event is now officially classified as a 'circulating' VDPV type 1.

This second VDPV1 was isolated from a healthy child (28 months old), from Papua province (from Yahukimo district, the same district from where the first isolate was reported). The index isolate is from an AFP case with onset of paralysis on 27 November 2018, also from Papua province. The two genetically-linked viruses have a 61 and 58 nucleotide divergence (respectively) from Sabin 1. This outbreak is not genetically linked to the ongoing cVDPV1 outbreak in Papua New Guinea.

A rapid outbreak response in the affected district is already underway and a broader outbreak response is now being planned, potentially to conduct SIAs in key areas targeting children aged under 15-years.



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Chart 1. Non-polio AFP rate (per 100 000 persons < 15 years of age), 2016–2018

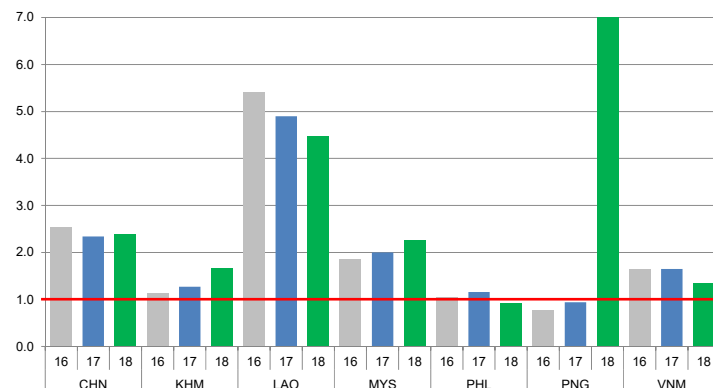


Chart 2. Adequate specimen collection rate, 2016–2018

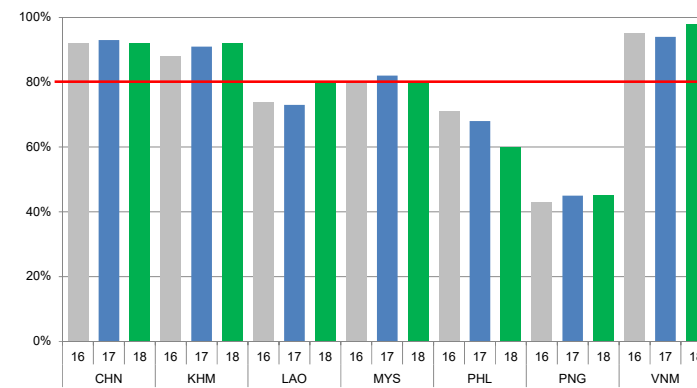


Chart 3. Percentage of reported AFP cases by number of polio vaccination doses, 2018

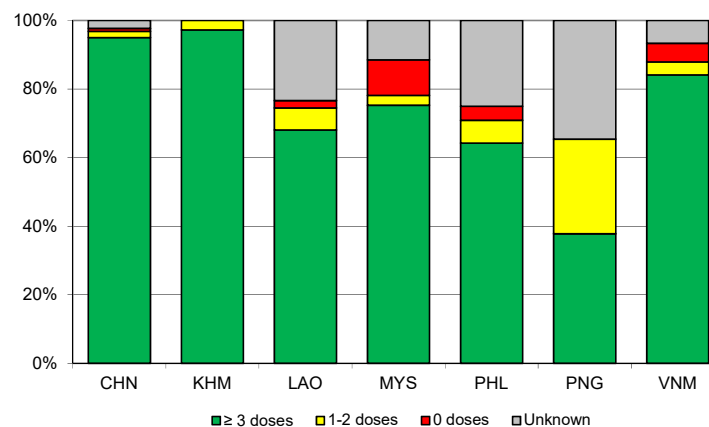
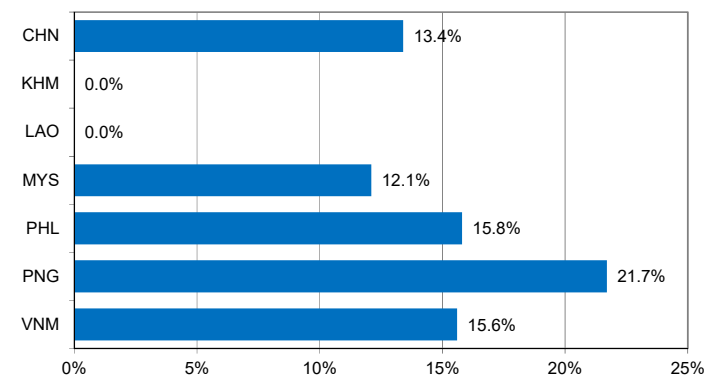


Chart 4. Percentage of reported AFP cases with pending classification > 90 days after onset, 2018



Note: Priority countries were selected for the charts. Official WHO acronyms have been used for abbreviation: CHN (China), KHM (Cambodia), LAO (Lao People's Democratic Republic), MYS (Malaysia), PHL (Philippines), PNG (Papua New Guinea), and VNM (Viet Nam).

Table 1A. Classification of AFP cases with onset in 2018 and key surveillance indicators

Country/area	2017		2018											
	Total reported cases	Annual expected cases <15 years of age	Total reported cases	Classification						Indicators			Latest report date ⁴	Days since last report ⁵
				Confirmed wild poliovirus	Vaccine-derived poliovirus (VDPV)	Polio-compatible	Discarded (Non-polio)	Pending		Non-polio AFP rate	% with adequate specimens ²	% investigated ≤ 2 days of notification ³		
								Total	> 90 days ¹ # (%)					
≥ 1	≥ 80%	≥ 80%	≤ 30											
Australia	60	46	57	0	0	3	54	0	0 (0.0%)	1.24	44%	89%	14-Feb-19	-
Brunei Darussalam	1	1	2	0	0	0	2	0	0 (0.0%)	2.00	100%	100%	24-Jan-19	-
Cambodia	57	44	73	0	0	0	72	1	0 (0.0%)	1.66	92%	85%	03-Jan-19	47
China	5278	2256	5419	0	1	0	3914	1504	726 (13.4%)	2.40	92%	100%	07-Feb-19	12
China, Hong Kong SAR	15	9	11	0	0	0	10	1	0 (0.0%)	1.22	82%	100%	21-Jan-19	29
China, Macao SAR	2	1	3	0	0	0	2	1	0 (0.0%)	3.00	100%	100%	11-Jan-19	39
Japan	-	161	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	103	21	94	0	0	0	84	10	0 (0.0%)	4.48	80%	79%	13-Feb-19	6
Malaysia	154	77	174	0	0	0	131	43	21 (12.1%)	2.26	80%	82%	23-Jan-19	27
Mongolia	6	9	6	0	0	0	6	0	0 (0.0%)	0.67	100%	83%	04-Feb-19	-
New Zealand	13	9	10	0	0	0	6	4	3 (30.0%)	1.11	60%	100%	28-Jan-19	22
Papua New Guinea	29	37	286	0	26	12	168	80	62 (21.7%)	7.03	45%	74%	15-Feb-19	4
Philippines	462	338	316	0	0	0	248	68	50 (15.8%)	0.93	60%	94%	31-Jan-19	19
Republic of Korea	68	67	70	0	0	0	65	5	0 (0.0%)	1.04	90%	100%	11-Feb-19	8
Singapore	7	6	13	0	0	0	13	0	0 (0.0%)	2.17	77%	100%	08-Feb-19	-
Viet Nam	385	234	315	0	0	0	235	80	49 (15.6%)	1.35	98%	86%	11-Jan-19	39
Pacific island countries and areas	16	11	13	0	0	0	1	12	9 (69.2%)	1.18	31%	100%	07-Feb-19	12
Total	6656	3327	6862	0	27	15	5011	1809	920 (13.4%)	2.05	88%	97%		

- Number (%) of reported cases pending classification more than 90 days from date of onset of paralysis to date of last report
- Percentage of reported cases with two stool specimens collected 24 hours apart and within 14 days of onset of paralysis
- Percentage of reported cases investigated within two days of notification
- Report date is fixed as soon as all cases for the year have been classified
- Countries are expected to submit data at least once per month to WPRO

	Reached or surpass target
	Nearly reached target 0.5-0.99 for non-polio AFP rate; 60-79% for other indicators
	Substantially below target

Table 1B. Classification of AFP cases with onset in 2019 and key surveillance indicators

Country/area	2017	2018												
	Total reported cases	Annual expected cases <15 years of age	Total reported cases	Classification						Indicators			Latest report date	Days since last report ⁵
				Confirmed wild poliovirus	Vaccine-derived poliovirus (VDPV)	Polio-compatible	Discarded (Non-polio)	Pending		Non-polio AFP rate ²	% with adequate specimens ³	% investigated ≤ 2 days of notification ⁴		
								Total	> 90 days ¹ # (%)					
≥ 1	≥ 80%	≥ 80%	≤ 30											
Australia	57	47	6	0	0	0	4	2	0 (0.0%)	0.95	50%	100%	14-Feb-19	5
Brunei Darussalam	2	1	1	0	0	0	0	1	0 (0.0%)	7.43	100%	100%	24-Jan-19	26
Cambodia	73	44	4	0	0	0	0	4	0 (0.0%)	0.68	100%	75%	12-Feb-19	7
China	5419	2256	0	-	-	-	-	-	-	-	-	-	07-Feb-19	12
China, Hong Kong SAR	11	9	4	0	0	0	0	4	0 (0.0%)	3.30	75%	100%	14-Feb-19	5
China, Macao SAR	3	1	0	-	-	-	-	-	-	-	-	-	19-Feb-19	0
Japan	-	161	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	94	23	6	0	0	0	0	6	0 (0.0%)	1.94	67%	83%	13-Feb-19	6
Malaysia	174	78	0	-	-	-	-	-	-	-	-	-	23-Jan-19	27
Mongolia	6	9	0	-	-	-	-	-	-	-	-	-	04-Feb-19	15
New Zealand	10	9	1	0	0	0	0	1	0 (0.0%)	0.83	100%	100%	28-Jan-19	22
Papua New Guinea	286	33	9	0	0	0	0	9	0 (0.0%)	2.03	56%	89%	15-Feb-19	4
Philippines	316	344	0	-	-	-	-	-	-	-	-	-	31-Jan-19	19
Republic of Korea	70	66	0	-	-	-	-	-	-	-	-	-	11-Feb-19	8
Singapore	13	6	1	0	0	0	0	1	0 (0.0%)	1.24	100%	100%	08-Feb-19	11
Viet Nam	315	234	0	-	-	-	-	-	-	-	-	-	11-Jan-19	39
Pacific island countries and areas	13	11	1	0	0	0	0	1	0 (0.0%)	0.68	100%	100%	07-Feb-19	12
Total	6862	3332	33	0	0	0	4	29	0 (0.0%)	0.07	70%	91%		

1. Number (%) of reported cases pending classification more than 90 days from date of onset of paralysis to date of last report
2. Annualized non-polio AFP rate per 100 000 population under 15 years of age
3. Percentage of reported cases with two stool specimens collected 24 hours apart and within 14 days of onset of paralysis
4. Percentage of reported cases investigated within two days of notification
5. Countries are expected to submit data at least once per month to WPRO

	Reached or surpass target
	Nearly reached target 0.5-0.99 for non-polio AFP rate; 60-79% for other indicators
	Substantially below target

Table 2A. Laboratory investigation of stool samples from AFP cases with onset in 2018 and key laboratory indicators

Country/area	Polio laboratory	Total no. of AFP cases with specimens	Results of virus isolation for AFP cases										Intratyptic differentiation/ Sequencing laboratory ¹	No. of isolates received	Results of intratyptic differentiation (ITD)/sequencing for virus isolates											
			L20B positive	L20B positive + NPEV	NPEV only	Negative	Pending ≤ 14 days	Pending > 14 days	% results reported ≤ 14 days	% specimens positive for NPEV	Latest report date	Type 1			Type 2			Type 3			NPEV ²	Pending ITD	Discordant pending sequencing	% ITD results reported ≤ 7 days of receipt		
												Wild			Sabin	VDPV	Wild	Sabin	VDPV	Wild					Sabin	VDPV
												≥ 80%			≥ 80%			≥ 80%								
Australia	VIDRL	44	1	0	1	42	0	0	91%	3%	05-Feb-19	VIDRL	1	0	0	0	0	0	0	0	0	0	1	0	0	100%
Brunei Darussalam	VIDRL	2	0	0	0	2	0	0	50%	0%	04-Feb-19	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	NIID	74	0	0	13	61	0	0	93%	15%	18-Jan-19	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China (total)		5350	38	0	379	4883	0	50	98%	6%	07-Feb-19		88	0	24	0	0	0	0	0	63	1	0	0	0	99%
China, Anhui	Prov. Lab	339	3	0	16	315	0	5	100%	4%		Prov. Lab/CCDC	8	0	3	0	0	0	0	0	5	0	0	0	0	100%
China, Beijing	Prov. Lab	35	0	0	0	35	0	0	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Chongqing	Prov. Lab	69	0	0	2	67	0	0	93%	2%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Fujian	Prov. Lab	181	1	0	13	167	0	0	97%	6%		Prov. Lab/CCDC	1	0	0	0	0	0	0	1	0	0	0	0	0	100%
China, Gansu	Prov. Lab	114	1	0	6	102	0	5	99%	5%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	100%
China, Guangdong	Prov. Lab	432	2	0	20	405	0	5	91%	4%		Prov. Lab/CCDC	4	0	0	0	0	0	0	4	0	0	0	0	0	100%
China, Guangxi	Prov. Lab	220	2	0	18	199	0	1	99%	8%		Prov. Lab/CCDC	4	0	3	0	0	0	0	1	0	0	0	0	0	100%
China, Guizhou	Prov. Lab	198	1	0	14	183	0	0	97%	6%		Prov. Lab/CCDC	2	0	2	0	0	0	0	0	0	0	0	0	0	100%
China, Hebei	Prov. Lab	299	1	0	38	258	0	2	100%	10%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	100%
China, Heilongjiang	Prov. Lab	91	0	0	4	86	0	1	100%	4%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Henan	Prov. Lab	555	5	0	56	490	0	4	99%	9%		Prov. Lab/CCDC	13	0	5	0	0	0	0	8	0	0	0	0	0	100%
China, Hubei	Prov. Lab	173	1	0	13	158	0	1	99%	7%		Prov. Lab/CCDC	4	0	2	0	0	0	0	2	0	0	0	0	0	100%
China, Hunan	Prov. Lab	246	0	0	25	220	0	1	99%	9%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Jiangsu	Prov. Lab	251	8	0	11	232	0	0	100%	4%		Prov. Lab/CCDC	16	0	2	0	0	0	0	13	1	0	0	0	0	100%
China, Jiangxi	Prov. Lab	175	1	0	12	157	0	5	98%	5%		Prov. Lab/CCDC	3	0	2	0	0	0	0	1	0	0	0	0	0	100%
China, Jilin	Prov. Lab	58	2	0	9	47	0	0	98%	11%		Prov. Lab/CCDC	8	0	4	0	0	0	0	4	0	0	0	0	0	100%
China, Neimongol	Prov. Lab	100	2	0	4	94	0	0	98%	4%		Prov. Lab/CCDC	4	0	1	0	0	0	0	3	0	0	0	0	0	100%
China, Ningxia	Prov. Lab	26	0	0	2	24	0	0	96%	6%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shaanxi	Prov. Lab	101	1	0	2	92	0	6	84%	2%		Prov. Lab/CCDC	1	0	0	0	0	0	0	1	0	0	0	0	0	0%
China, Shandong	Prov. Lab	418	2	0	27	387	0	2	100%	5%		Prov. Lab/CCDC	3	0	0	0	0	0	0	3	0	0	0	0	0	100%
China, Shanghai	Prov. Lab	42	0	0	0	42	0	0	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shanxi	Prov. Lab	129	1	0	7	121	0	0	98%	4%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	100%
China, Sichuan	Prov. Lab	313	1	0	21	289	0	2	97%	6%		Prov. Lab/CCDC	1	0	0	0	0	0	0	1	0	0	0	0	0	100%
China, Tianjin	Prov. Lab	22	0	0	0	22	0	0	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Xinjiang	Prov. Lab	145	1	0	7	136	0	1	91%	4%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	100%
China, Yunnan	Prov. Lab	269	0	0	35	230	0	4	95%	11%		Prov. Lab/CCDC	1	0	0	0	0	0	0	1	0	0	0	0	0	100%
China, Zhejiang	Prov. Lab	187	2	0	7	177	0	1	99%	3%		Prov. Lab/CCDC	7	0	0	0	0	0	0	7	0	0	0	0	0	100%
China, Hainan	Prov. Lab	36	0	0	6	30	0	0	100%	14%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Liaoning	Prov. Lab	86	0	0	3	81	0	2	98%	2%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Qinghai	Prov. Lab	32	0	0	0	31	0	1	100%	0%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Tibet	Prov. Lab	8	0	0	1	6	0	1	85%	8%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hong Kong SAR	PHLC	11	0	0	0	11	0	0	100%	0%	28-Jan-19	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Macao SAR	PHLC	3	0	0	0	3	0	0	100%	0%	24-Dec-18	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Japan	NIID	-	-	-	-	-	-	-	-	-		NIID	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	NIID	115	1	0	8	106	0	0	96%	4%	18-Feb-19	NIID	1	0	0	0	0	0	0	1	0	0	0	0	0	100%
Malaysia	IMR	148	0	0	8	138	0	2	94%	4%	09-Nov-18	IMR	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	PHI	6	0	0	3	3	0	0	100%	50%	04-Jan-19	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-
New Zealand	IESR	8	0	0	1	7	0	0	100%	13%	25-Jan-19	IESR	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	VIDRL	296	93	1	20	181	1	0	88%	5%	19-Feb-19	VIDRL	187	0	63	46	0	0	0	0	78	0	0	0	0	100%
Philippines	RITM	395	5	1	14	374	1	0	96%	3%	12-Feb-19	RITM	7	0	2	0	0	0	0	4	0	0	1	0	100%	
Republic of Korea	NIH	69	0	0	5	64	0	0	97%	7%	11-Feb-19	NIH	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Singapore	SGH	13	0	0	2	11	0	0	96%	8%	30-Jan-19	SGH	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam (North)	NIHE	175	3	0	24	148	0	0	100%	12%	30-Jan-19	NIHE	4	0	2	0	0	0	0	0	2	0	0	0	0	100%
Viet Nam (South)	PI	170	4	0	20	136	10	0	100%	13%	02-Jan-19	PI	8	0	2	0	0	0	0	0	6	0	0	0	0	100%
Pacific island countries and areas	VIDRL	11	0	0	1	10	0	0	97%	6%	04-Feb-19	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		6890	145	2	499	6180	12	52	97%	6%			296	0	93	46	0	0	0	0	154	1	1	1	0	100%

1. CCDC (Chinese Center for Disease Control and Prevention, China); IESR (Institute of Environmental Science and Research, New Zealand); IMR (Institute of Medical Research, Malaysia); NIH (National Institute of Health, Republic of Korea); NIHE (National Institute of Hygiene and Epidemiology, Ha Noi, Viet Nam); NIID (National Institute of Infectious Diseases, Japan); PHI (Public Health Institute, Mongolia); PHLC (Public Health Laboratory Center, China, Hong Kong SAR); PI (Pasteur Institute, Ho Chi Minh, Viet Nam); RITM (Research Institute for Tropical Medicine, Philippines); SGH (Singapore General Hospital); VIDRL (Victorian Infectious Diseases Reference Laboratory, Australia)

2. NPEV growing in L20B cells

Table 2B. Laboratory investigation of stool samples from AFP cases with onset in 2019 and key laboratory indicators

Country/area	Polio laboratory	Total no. of AFP cases with specimens	Results of virus isolation for AFP cases								Intratyptic differentiation/ Sequencing laboratory ¹	No. of isolates received	Results of intratyptic differentiation (ITD)/sequencing for virus isolates																
			L20B positive	L20B positive + NPEV	NPEV only	Negative	Pending ≤ 14 days	Pending > 14 days	% results reported ≤ 14 days	% specimens positive for NPEV			Latest report date	Type 1			Type 2			Type 3			NPEV ²	Pending ITD	Discordant pending sequencing	% ITD results reported ≤ 7 days of receipt			
														Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV							
Australia	VIDRL	4	0	0	0	2	2	0	100%	0%	14-Feb-19	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brunei Darussalam	VIDRL	1	0	0	0	1	0	0	100%	0%	04-Feb-19	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	NIID	2	0	0	0	2	0	0	100%	0%	07-Feb-19	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China (total)		0	-	-	-	-	-	-	-	-	07-Feb-19		0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Anhui	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Beijing	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Chongqing	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Fujian	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Gansu	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Guangdong	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Guangxi	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Guizhou	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hebei	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Heilongjiang	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Henan	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hubei	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hunan	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Jiangsu	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Jiangxi	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Jilin	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Neimongol	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Ningxia	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shaanxi	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shandong	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shanghai	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Shanxi	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Sichuan	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Tianjin	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Xinjiang	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Yunnan	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Zhejiang	Prov. Lab	0	-	-	-	-	-	-	-	-	-	Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hainan	Prov. Lab	0	-	-	-	-	-	-	-	-	-	CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Liaoning	Prov. Lab	0	-	-	-	-	-	-	-	-	-	CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Qinghai	Prov. Lab	0	-	-	-	-	-	-	-	-	-	CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Tibet	Prov. Lab	0	-	-	-	-	-	-	-	-	-	CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Hong Kong SAR	PHLC	4	0	0	0	4	0	0	100%	0%	18-Feb-19	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Macao SAR	PHLC	0	-	-	-	-	-	-	-	-	-	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Japan	NIID	-	-	-	-	-	-	-	-	-	-	NIID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	NIID	4	0	0	0	6	0	0	100%	0%	18-Feb-19	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysia	IMR	0	-	-	-	-	-	-	-	-	-	IMR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	PHI	2	0	0	0	1	1	0	100%	0%	14-Feb-19	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Zealand	IESR	1	0	0	0	1	0	0	100%	0%	18-Feb-19	IESR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	VIDRL	2	0	0	1	0	0	1	100%	67%	19-Feb-19	VIDRL	3	0	0	0	0	0	0	0	0	2	0	1	100%				
Philippines	RITM	12	0	0	0	5	7	0	100%	0%	12-Feb-19	RITM	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Republic of Korea	NIH	0	-	-	-	-	-	-	-	-	-	NIH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Singapore	SGH	1	0	0	0	1	0	0	100%	0%	15-Feb-19	SGH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam (North)	NIHE	1	0	0	0	1	0	0	100%	0%	15-Feb-19	NIHE	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam (South)	PI	8	0	0	1	6	1	0	100%	14%	18-Feb-19	PI	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pacific island countries and areas	VIDRL	1	0	0	0	1	0	0	0%	0%	13-Feb-19	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		43	0	0	2	31	11	1	100%	7%			3	0	0	0	0	0	0	0	0	2	0	1	100%				

1. CCDC (Chinese Center for Disease Control and Prevention, China); IESR (Institute of Environmental Science and Research, New Zealand); IMR (Institute of Medical Research, Malaysia); NIH (National Institute of Health, Republic of Korea); NIHE (National Institute of Hygiene and Epidemiology, Ha Noi, Viet Nam); NIID (National Institute of Infectious Diseases, Japan); PHI (Public Health Institute, Mongolia); PHLC (Public Health Laboratory Center, China, Hong Kong SAR); PI (Pasteur Institute, Ho Chi Minh, Viet Nam); RITM (Research Institute for Tropical Medicine, Philippines); SGH (Singapore General Hospital); VIDRL (Victorian Infectious Diseases Reference Laboratory, Australia)

2. NPEV growing in L20B cells

Table 3. Laboratory confirmation of polio isolates from environmental samples in 2017–2018 ¹

Country/area	Intratyphic differentiation lab ²	2017													2018															
		Total number of samples processed	Total number of samples with polio isolates	Polio isolates									NPEV	Pending ITD	Discordant pending sequencing	Total number of samples processed	Total number of samples with polio isolates	Polio isolates									NPEV	Pending ITD	Discordant pending sequencing	
				Type 1			Type 2			Type 3								Type 1			Type 2			Type 3						
				Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV						Wild	Sabin	VDPV	Wild	Sabin	VDPV	Wild	Sabin	VDPV				
Australia	VIDRL	6	2	0	0	0	0	0	1	0	1	0	4	0	0	17	2	0	2	0	0	0	0	0	0	0	0	12	0	0
China (total)		325	188	0	213	0	0	0	0	0	650	0	1158	0	0	265	171	0	195	0	0	0	1	0	539	2	1348	0	0	
China, Fujian	Prov. Lab/CCDC	53	22	0	8	0	0	0	0	0	42	0	331	0	0	67	46	0	16	0	0	0	0	0	97	1	532	0	0	
China, Gansu	Prov. Lab/CCDC	12	10	0	10	0	0	0	0	0	29	0	18	0	0	9	6	0	2	0	0	0	0	0	8	0	33	0	0	
China, Guangdong	Prov. Lab/CCDC	48	39	0	18	0	0	0	0	0	87	0	108	0	0	48	41	0	27	0	0	0	0	0	102	1	217	0	0	
China, Guangxi	Prov. Lab/CCDC	36	20	0	22	0	0	0	0	0	36	0	94	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Heilongjiang	Prov. Lab/CCDC	42	17	0	12	0	0	0	0	0	34	0	112	0	0	40	21	0	6	0	0	0	0	0	41	0	105	0	0	
China, Shandong	Prov. Lab/CCDC	48	28	0	18	0	0	0	0	0	90	0	272	0	0	39	16	0	21	0	0	0	0	0	63	0	282	0	0	
China, Shanghai	Prov. Lab/CCDC	22	18	0	17	0	0	0	0	0	65	0	51	0	0	8	5	0	3	0	0	0	0	0	7	0	31	0	0	
China, Xinjiang	Prov. Lab/CCDC	36	34	0	108	0	0	0	0	0	267	0	115	0	0	36	36	0	120	0	0	0	1	0	221	0	109	0	0	
China, Yunnan	Prov. Lab/CCDC	28	0	-	-	-	-	-	-	-	-	-	57	0	0	18	0	-	-	-	-	-	-	-	-	-	39	0	0	
Malaysia	IMR	24	0	-	-	-	-	-	-	-	-	-	22	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Philippines	RITM	40	8	0	1	0	0	0	0	0	7	0	21	0	0	87	8	0	2	0	0	0	0	0	2	0	24	4	0	
Papua New Guinea	RITM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	23	0	15	7	0	0	0	0	0	21	0	9	0	0
Total		395	198	0	214	0	0	0	1	0	658	0	1205	0	0	396	204	0	214	7	0	0	1	0	562	2	1393	4	0	

1. Based on year of collection of sample, if available. Otherwise, based on year of receipt at reference laboratory.

2. CCDC (Chinese Center for Disease Control and Prevention, China); IMR (Institute of Medical Research, Malaysia); RITM (Research Institute for Tropical Medicine, Philippines); VIDRL (Victorian Infectious Diseases Reference Laboratory, Australia)

Table 4. Vaccine-derived poliovirus¹ identified from laboratory testing², 2000–2018

Country/area	2000–2009 ³	2010	2011	2012	2013	2014	2015	2016	2017	2018
Australia									aVDPV2 (1 env)	
Cambodia	2006 - 1 Total - 2									
China	2009 - 1 Total - 27	aVDPV2 (3 AFP + 1 contact + 1 non-AFP) aVDPV3 (1 AFP + 1 non-AFP)	aVDPV1 (1 AFP) aVDPV2 (2 AFP + 1 contact) cVDPV2 (2 AFP) iVDPV2 (1 AFP + 1 non-AFP) iMDPV3 (1 AFP)	aVDPV1 (1 AFP) aVDPV2 (2 AFP) cVDPV2 (2 AFP + 1 contact) iMDPV2 + iMDPV3 (1 AFP)	aVDPV2 (1 non-AFP) iMDPV2 + iMDPV3 (1 AFP)	aVDPV1 (1 non-AFP) aVDPV2 (2 AFP) iMDPV3 (1 AFP)	aVDPV1 (1 AFP) aVDPV2 (1 AFP) iVDPV2 (1 AFP) aVDPV2 (1 env)	aVDPV3 (1 AFP)	aVDPV3 (1 AFP) iMDPV3 (1 AFP) ⁴	aVDPV2 (1 env) iVDPV3 (1 AFP + 1 non-AFP) aVDPV3 (2 env)
China, Hong Kong SAR	2005 - 3									
Japan	2005 - 1 Total - 2									
Lao People's Democratic Republic	2004 - 3						cVDPV1 (8 AFP + 21 contacts)	cVDPV1 (3 AFP + 4 contacts)		
Mongolia	2003 - 1									
Papua New Guinea										cVDPV1 (26 AFP + 8 contacts + 7 env)
Philippines	2001 - 3					aVDPV2 (1 AFP)				
Viet Nam				aVDPV2 (2 AFP)						

1. Prefix letter refers to the VDPV category: "cVDPV" = circulating VDPV, "iVDPV" = immunodeficiency-associated VDPV, "aVDPV" = ambiguous VDPV, "vVDPV" = pending. Suffix number refers to the poliovirus serotype (types 1, 2 or 3).

2. Source of specimens could be AFP cases, contacts, non-AFP cases or environmental

3. Refers to year of last VDPV case, and aggregate total of VDPV cases for 2000-2009

4. Continuous excretion for 4 months; potential immunodeficient person.