

## HIGHLIGHTS

### Second assessment of cVDPV1 outbreak response in the Lao People's Democratic Republic

On 23-27 May 2016, World Health Organization, UNICEF, United States Centers for Disease Control and Prevention conducted the second assessment of response activities to the outbreak of circulating vaccine-derived poliovirus (cVDPV1) in the Lao People's Democratic Republic. The main objectives were to assess the status of implementation of the recommendations of the previous assessment and to produce recommendations to assist the country to interrupt poliovirus transmission as soon as possible.

The assessment team noted that remarkable progress has been made since the previous assessment in January 2016. Despite strengthened acute flaccid paralysis (AFP) surveillance no new cVDPV1 cases were detected since the onset of the last case on 11 January 2016. However, implementation of outbreak response strategies was variable across the country and gaps in population immunity and AFP surveillance were still present.

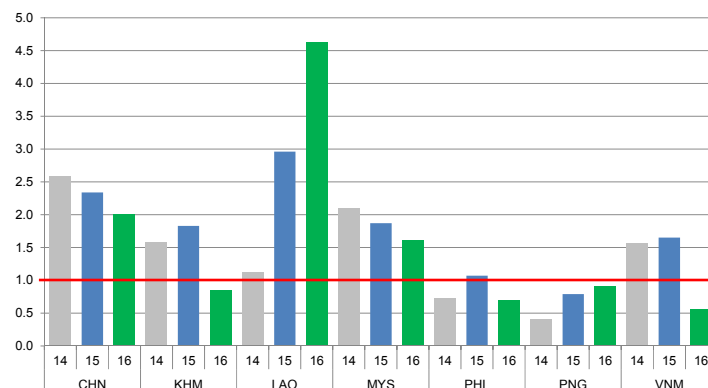
Following the findings of the assessment, the team developed and discussed with the Ministry of Health the following recommendations:

- Further strengthen AFP surveillance capacity of surveillance officers
- Increase awareness of AFP reporting among doctors and nurses in hospitals
- Assure effective coordination between public health and hospital teams for AFP reporting
- Further improve the quality of polio supplementary immunization activities planned for the remainder of 2016.
- Maintain high routine EPI coverage and quality AFP surveillance to sustain polio-free status

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Chart 1. Non-polio AFP rate (per 100 000 persons < 15 years of age), 2014–2016\*



\* AFP rate annualized as of week 23

Chart 2. Adequate specimen collection rate, 2014–2016

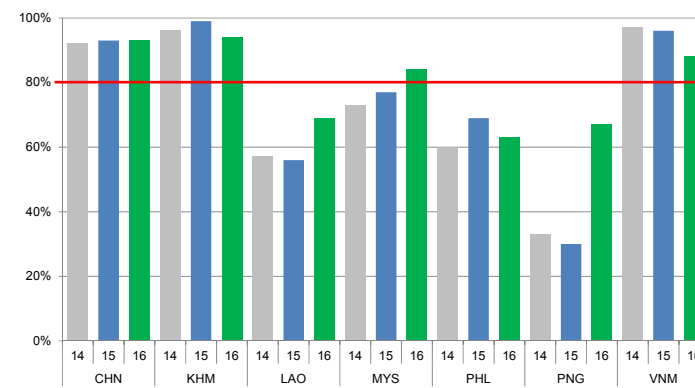


Chart 3. Percentage of reported AFP cases by number of polio vaccination doses, 2016

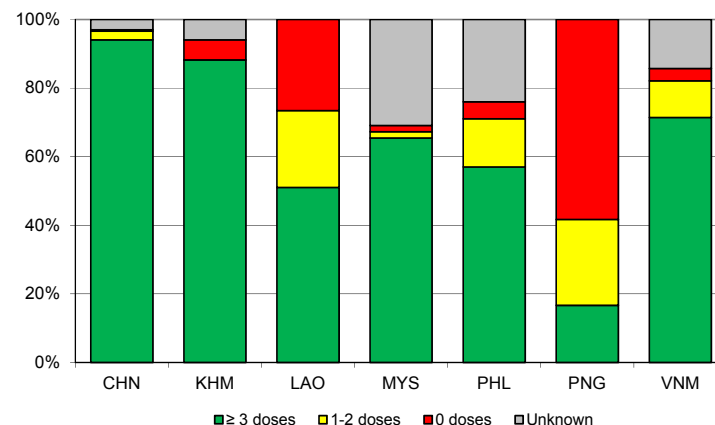
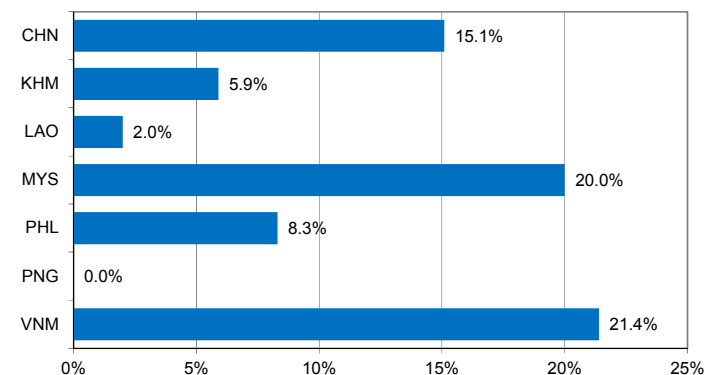


Chart 4. Percentage of reported AFP cases with pending classification > 90 days after onset, 2016



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 2015 and key surveillance indicators

Country/area	2014		2015											
	Total reported cases	Annual expected cases <15 years of age	Total reported cases	Classification						Indicators			Latest report date <sup>4</sup>	Days since last report <sup>5</sup>
				Confirmed wild poliovirus	Vaccine-derived poliovirus (VDPV)	Polio-compatible	Discarded (Non-polio)	Pending		Non-polio AFP rate	% with adequate specimens <sup>2</sup>	% investigated ≤ 2 days of notification <sup>3</sup>		
								Total	> 90 days <sup>1</sup> # (%)					≥ 1
Australia	60	44	53	0	0	0	53	0	0 (0.0%)	1.20	26%	100%	19-Feb-16	-
Brunei Darussalam	4	1	3	0	0	0	3	0	0 (0.0%)	3.00	100%	100%	18-Feb-16	-
Cambodia	72	46	84	0	0	0	84	0	0 (0.0%)	1.83	99%	100%	01-Feb-16	-
China	5758	2234	5217	0	0	1	5216	0	0 (0.0%)	2.34	93%	100%	18-May-16	-
China, Hong Kong SAR	19	8	10	0	0	0	10	0	0 (0.0%)	1.25	80%	100%	04-Feb-16	-
China, Macao SAR	1	1	1	0	0	0	1	0	0 (0.0%)	1.00	100%	100%	15-Jan-16	-
Japan	-	163	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	28	24	71	0	8 <sup>6</sup>	0	63	0	0 (0.0%)	2.96	56%	99%	11-May-16	-
Malaysia	161	77	144	0	0	0	144	0	0 (0.0%)	1.87	77%	79%	18-Apr-16	-
Mongolia	9	9	9	0	0	0	9	0	0 (0.0%)	1.00	100%	100%	02-Mar-16	-
New Zealand	8	9	7	0	0	0	7	0	0 (0.0%)	0.78	29%	100%	15-Apr-16	-
Papua New Guinea	12	34	27	0	0	0	27	0	0 (0.0%)	0.79	30%	78%	31-May-16	-
Philippines	272	387	413	0	0	0	413	0	0 (0.0%)	1.07	69%	98%	29-Mar-16	-
Republic of Korea	88	70	83	0	0	0	83	0	0 (0.0%)	1.19	86%	87%	22-Mar-16	-
Singapore	8	6	8	0	0	0	8	0	0 (0.0%)	1.33	100%	88%	03-Feb-16	-
Viet Nam	361	231	380	0	0	0	343	36	35 (9.2%)	1.65	96%	95%	22-Mar-16	77
Pacific island countries and areas	15	10	14	0	0	0	10	4	4 (28.6%)	1.40	71%	100%	11-Apr-16	57
<b>Total</b>	<b>6876</b>	<b>3354</b>	<b>6524</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>6474</b>	<b>40</b>	<b>39 (0.6%)</b>	<b>1.95</b>	<b>90%</b>	<b>98%</b>		

- 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
- Includes three cases that are 15 years old or older

Green	Reached or surpassed target
Yellow	Nearly reached target: 0.5–0.99 for non-polio AFP rate; 60–79% for other indicators
Red	Substantially below target

Table 1B. Classification of AFP cases with onset in 2016 and key surveillance indicators

Country/area	2015		2016											
	Total reported cases	Annual expected cases <15 years of age	Total reported cases	Classification						Indicators			Latest report date	Days since last report <sup>5</sup>
				Confirmed wild poliovirus	Vaccine-derived poliovirus (VDPV)	Polio-compatible	Discarded (Non-polio)	Pending		Non-polio AFP rate <sup>2</sup>	% with adequate specimens <sup>3</sup>	% investigated ≤ 2 days of notification <sup>4</sup>		
								Total	> 90 days <sup>1</sup> # (%)					
≥ 1	≥ 80%	≥ 80%	≤ 30											
Australia	53	45	29	0	0	0	5	24	7 (24.1%)	1.46	48%	86%	03-Jun-16	4
Brunei Darussalam	3	1	0	-	-	-	-	-	-	-	-	-	06-Jun-16	1
Cambodia	84	45	17	0	0	0	4	13	1 (5.9%)	0.85	94%	94%	09-May-16	29
China	5217	2234	1991	0	0	0	630	1361	300 (15.1%)	2.01	93%	100%	01-Jun-16	6
China, Hong Kong SAR	10	8	5	0	0	0	5	0	0 (0.0%)	1.41	80%	100%	06-Jun-16	1
China, Macao SAR	1	1	1	0	0	0	0	1	0 (0.0%)	2.26	100%	100%	12-May-16	26
Japan	-	163	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	71	24	49	0	3 <sup>6</sup>	0	31	15	1 (2.0%)	4.62	69%	96%	31-May-16	7
Malaysia	144	77	55	0	0	0	20	35	11 (20.0%)	1.61	84%	64%	16-May-16	22
Mongolia	9	8	3	0	0	0	2	1	0 (0.0%)	0.85	67%	100%	06-Jun-16	1
New Zealand	7	9	7	0	0	0	1	6	0 (0.0%)	1.76	43%	86%	26-May-16	12
Papua New Guinea	27	30	12	0	0	0	9	3	0 (0.0%)	0.90	67%	75%	31-May-16	7
Philippines	413	394	121	0	0	0	78	43	10 (8.3%)	0.69	63%	93%	15-May-16	23
Republic of Korea	83	69	29	0	0	0	17	12	0 (0.0%)	0.95	93%	100%	24-May-16	14
Singapore	8	6	2	0	0	0	2	0	0 (0.0%)	0.75	100%	100%	05-May-16	33
Viet Nam	380	231	56	0	0	0	6	50	12 (21.4%)	0.55	88%	98%	25-May-16	13
Pacific island countries and areas	14	10	7	0	0	0	3	4	1 (14.3%)	1.58	57%	100%	17-May-16	21
<b>Total</b>	<b>6524</b>	<b>3355</b>	<b>2384</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>813</b>	<b>1568</b>	<b>343 (14.4%)</b>	<b>1.61</b>	<b>89%</b>	<b>98%</b>		

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
6. Includes two cases that are 15 years old or older

Green	Reached or surpassed target
Yellow	Nearly reached target: 0.5–0.99 for non-polio AFP rate; 60–79% for other indicators
Red	Substantially below target

Table 2A. Laboratory investigation of stool samples from AFP cases with onset in 2015 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 <sup>1</sup>	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 <sup>2</sup>	Pending ITD	Discordant pending sequencing	% ITD results reported ≤ 7 days of receipt									
												Wild			Sabin	VDPV	Wild	Sabin	VDPV	Wild					Sabin	VDPV							
Australia	VIDRL	45	0	0	4	41	0	0	95%	5%	04-Mar-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Brunei Darussalam	VIDRL	3	0	0	1	2	0	0	100%	33%	04-Mar-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cambodia	NIID	84	1	0	10	73	0	0	96%	11%	14-Jan-16	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China (total)		5172	68	1	471	4632	0	0	96%	8%	18-May-16		177	0	52	1	0	61	7	0	54	0	2	0	0	0	0	0	0	0	98%		
China, Anhui	Prov. Lab	305	2	0	21	282	0	0	97%	6%		Prov. Lab/CCDC	4	0	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	100%		
China, Beijing	Prov. Lab	30	3	0	0	27	0	0	100%	0%		Prov. Lab/CCDC	10	0	3	0	0	4	0	0	3	0	0	0	0	0	0	0	0	0	100%		
China, Fujian	Prov. Lab	158	4	0	25	129	0	0	99%	15%		Prov. Lab/CCDC	11	0	0	0	0	7	0	0	4	0	0	0	0	0	0	0	0	0	100%		
China, Gansu	Prov. Lab	80	0	0	10	70	0	0	95%	9%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Guangdong	Prov. Lab	356	9	0	13	334	0	0	96%	3%		Prov. Lab/CCDC	31	0	4	0	0	14	5	0	8	0	0	0	0	0	0	0	0	0	100%		
China, Guangxi	Prov. Lab	279	3	0	42	234	0	0	98%	12%		Prov. Lab/CCDC	6	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	100%	
China, Hebei	Prov. Lab	303	6	1	58	238	0	0	99%	15%		Prov. Lab/CCDC	10	0	7	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Heilongjiang	Prov. Lab	129	1	0	5	123	0	0	100%	4%		Prov. Lab/CCDC	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	100%	
China, Henan	Prov. Lab	503	8	0	48	447	0	0	90%	7%		Prov. Lab/CCDC	16	0	11	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100%	
China, Hunan	Prov. Lab	295	1	0	33	261	0	0	98%	10%		Prov. Lab/CCDC	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Jiangsu	Prov. Lab	234	4	0	4	226	0	0	99%	2%		Prov. Lab/CCDC	6	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	100%	
China, Jiangxi	Prov. Lab	177	6	0	4	167	0	0	100%	2%		Prov. Lab/CCDC	12	0	6	0	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	100%	
China, Jilin	Prov. Lab	51	0	0	5	46	0	0	98%	7%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Shaanxi	Prov. Lab	98	1	0	5	92	0	0	96%	4%		Prov. Lab/CCDC	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Shandong	Prov. Lab	371	1	0	34	336	0	0	98%	7%		Prov. Lab/CCDC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Shanghai	Prov. Lab	39	0	0	1	38	0	0	100%	3%		Prov. Lab/CCDC	4	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100%
China, Shanxi	Prov. Lab	126	0	0	12	114	0	0	90%	8%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Sichuan	Prov. Lab	359	1	0	25	333	0	0	94%	6%		Prov. Lab/CCDC	5	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	100%	
China, Tianjin	Prov. Lab	42	1	0	0	41	0	0	100%	0%		Prov. Lab/CCDC	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	100%	
China, Xinjiang	Prov. Lab	114	3	0	16	95	0	0	98%	13%		Prov. Lab/CCDC	6	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Yunnan	Prov. Lab	212	7	0	21	184	0	0	93%	9%		Prov. Lab/CCDC	16	0	6	0	0	4	0	0	6	0	0	0	0	0	0	0	0	0	0	86%	
China, Zhejiang	Prov. Lab	187	3	0	18	166	0	0	95%	8%		Prov. Lab/CCDC	10	0	2	1	0	4	0	0	1	0	2	0	0	0	0	0	0	0	0	100%	
China, Chongqing	Prov. Lab	75	1	0	8	66	0	0	99%	7%		CCDC	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	67%	
China, Guizhou	Prov. Lab	210	0	0	27	183	0	0	99%	11%		CCDC	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Hainan	Prov. Lab	39	0	0	3	36	0	0	90%	6%		CCDC	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Hubei	Prov. Lab	179	1	0	22	156	0	0	96%	12%		CCDC	4	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	100%	
China, Liaoning	Prov. Lab	91	0	0	5	86	0	0	97%	4%		CCDC	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100%	
China, Neimongol	Prov. Lab	89	2	0	3	84	0	0	99%	2%		CCDC	5	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	100%	
China, Ningxia	Prov. Lab	20	0	0	1	19	0	0	98%	3%		CCDC	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	100%	
China, Qinghai	Prov. Lab	19	0	0	2	17	0	0	100%	11%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Tibet	Prov. Lab	2	0	0	0	2	0	0	100%	0%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Hong Kong SAR	PHLC	10	0	0	0	10	0	0	84%	0%	19-Jan-16	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
China, Macao SAR	PHLC	0	-	-	-	-	-	-	-	-	19-Jan-16	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Japan	NIID	-	-	-	-	-	-	-	-	-	-	NIID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lao People's Democratic Republic	NIID	76	11	2	7	56	0	0	99%	10%	07-Mar-16	NIID	18	0	5	6	0	2	0	0	5	0	0	0	0	0	0	0	0	0	100%		
Malaysia	JMR	147	0	0	11	136	0	0	98%	5%	11-Feb-16	JMR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mongolia	PHI	9	0	0	2	7	0	0	94%	22%	11-Jan-16	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
New Zealand	IESR	4	0	0	0	4	0	0	100%	0%	20-Jan-16	IESR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Papua New Guinea	VIDRL	25	1	0	6	18	0	0	95%	21%	01-Feb-16	VIDRL	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100%	
Philippines	RITM	483	4	0	61	418	0	0	89%	10%	16-Mar-16	RITM	9	0	1	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0	0	100%	
Republic of Korea	NIH	83	0	0	8	75	0	0	87%	8%	22-Mar-16	NIH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Singapore	SGH	8	0	0	1	7	0	0	100%	6%	15-Jan-16	SGH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Viet Nam (North)	NIHE	211	3	0	20	188	0	0	99%	9%	12-Jan-16	NIHE	7	0	4	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	100%	
Viet Nam (South)	PI	175	0	0	17	158	0	0	98%	10%	16-Feb-16	PI	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pacific island countries and areas	VIDRL	15	1	0	3	11	0	0	93%	18%	01-Feb-16	VIDRL	2	0	0	0	0	0	0	0	2	0	0	0	0	0							

Table 2B. Laboratory investigation of stool samples from AFP cases with onset in 2016 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 <sup>1</sup>	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 <sup>2</sup>	Pending ITD	Discordant pending sequencing	% ITD results reported ≤ 7 days of receipt						
												Wild			Sabin	VDPV	Wild	Sabin	VDPV	Wild					Sabin	VDPV				
Australia	VIDRL	20	0	0	2	18	0	0	92%	5%	30-May-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brunei Darussalam	VIDRL	0	-	-	-	-	-	-	-	-	30-May-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	NIID	17	1	0	3	13	0	0	94%	15%	25-May-16	NIID	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	100%
China (total)		1963	21	0	88	1819	2	33	96%	4%	01-Jun-16		49	0	7	0	0	15	0	0	25	0	0	0	2	0	0	0	97%	
China, Anhui	Prov. Lab	84	0	0	3	80	0	1	100%	4%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Beijing	Prov. Lab	12	0	0	0	12	0	0	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Fujian	Prov. Lab	57	1	0	1	55	0	0	100%	1%		Prov. Lab/CCDC	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	100%		
China, Gansu	Prov. Lab	38	2	0	0	36	0	0	95%	0%		Prov. Lab/CCDC	6	0	0	0	0	3	0	0	3	0	0	0	0	0	0	80%		
China, Guangdong	Prov. Lab	146	2	0	1	143	0	0	90%	0%		Prov. Lab/CCDC	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	100%		
China, Guangxi	Prov. Lab	114	0	0	7	105	0	2	100%	4%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Hebei	Prov. Lab	106	1	0	6	98	0	1	98%	4%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100%		
China, Heilongjiang	Prov. Lab	35	0	0	1	34	0	0	97%	3%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Henan	Prov. Lab	130	1	0	9	117	0	3	81%	5%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100%		
China, Hunan	Prov. Lab	93	1	0	9	82	0	1	100%	9%		Prov. Lab/CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100%		
China, Jiangsu	Prov. Lab	70	0	0	2	67	0	1	100%	3%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Jiangxi	Prov. Lab	88	1	0	4	83	0	0	100%	4%		Prov. Lab/CCDC	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	100%		
China, Jilin	Prov. Lab	16	0	0	0	15	0	1	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Shaanxi	Prov. Lab	44	0	0	2	35	0	7	95%	3%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Shandong	Prov. Lab	124	2	0	4	117	1	0	99%	2%		Prov. Lab/CCDC	5	0	0	0	0	2	0	0	3	0	0	0	0	0	0	100%		
China, Shanghai	Prov. Lab	19	1	0	0	18	0	0	100%	0%		Prov. Lab/CCDC	4	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	100%	
China, Shanxi	Prov. Lab	76	3	0	0	72	0	1	98%	0%		Prov. Lab/CCDC	5	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	100%	
China, Sichuan	Prov. Lab	167	3	0	17	147	0	0	96%	8%		Prov. Lab/CCDC	5	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	100%	
China, Tianjin	Prov. Lab	16	0	0	0	16	0	0	100%	0%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Xinjiang	Prov. Lab	38	1	0	0	33	1	3	97%	0%		Prov. Lab/CCDC	4	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	100%	
China, Yunnan	Prov. Lab	118	0	0	3	112	0	3	87%	2%		Prov. Lab/CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Zhejiang	Prov. Lab	75	1	0	1	73	0	0	99%	1%		Prov. Lab/CCDC	3	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	100%	
China, Chongqing	Prov. Lab	32	0	0	1	29	0	2	100%	2%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Guizhou	Prov. Lab	72	0	0	3	68	0	1	96%	4%		CCDC	4	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	100%	
China, Hainan	Prov. Lab	16	0	0	1	15	0	0	94%	6%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Hubei	Prov. Lab	80	0	0	9	71	0	0	96%	10%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Liaoning	Prov. Lab	37	0	0	1	30	0	6	98%	2%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Neimongol	Prov. Lab	26	0	0	1	25	0	0	96%	4%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Ningxia	Prov. Lab	13	0	0	0	13	0	0	92%	0%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Qinghai	Prov. Lab	19	0	0	2	17	0	0	87%	8%		CCDC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Tibet	Prov. Lab	2	1	0	0	1	0	0	100%	0%		CCDC	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100%		
China, Hong Kong SAR	PHLC	5	0	0	0	5	0	0	82%	0%	31-May-16	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
China, Macao SAR	PHLC	0	-	-	-	-	-	-	-	-	31-May-16	PHLC	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Japan	NIID	-	-	-	-	-	-	-	-	-	-	NIID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lao People's Democratic Republic	NIID	85	11	0	6	68	0	0	99%	7%	04-Jun-16	NIID	24	0	9	4	0	3	0	0	8	0	0	0	0	0	0	0	100%	
Malaysia	IMR	55	0	0	1	54	0	0	99%	2%	09-May-16	IMR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mongolia	PHI	3	0	0	0	3	0	0	83%	0%	19-May-16	NIID	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
New Zealand	IESR	5	0	0	0	4	1	0	100%	0%	06-May-16	IESR	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Papua New Guinea	VIDRL	10	0	0	2	8	0	0	100%	22%	30-May-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Philippines	RITM	162	3	0	13	136	10	0	96%	6%	31-May-16	RITM	4	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	100%	
Republic of Korea	NIH	28	0	0	2	23	3	0	94%	8%	24-May-16	NIH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Singapore	SGH	2	0	0	0	2	0	0	100%	0%	03-Jun-16	SGH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Viet Nam (North)	NIHE	46	2	0	6	38	0	0	95%	10%	24-May-16	NIHE	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	100%	
Viet Nam (South)	PI	29	2	0	5	20	2	0	96%	19%	11-May-16	PI	6	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	100%	
Pacific island countries and areas	VIDRL	8	0	0	2	5	1	0	93%	20%	30-May-16	VIDRL	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>2438</b>	<b>40</b>	<b>0</b>	<b>130</b>	<b>2216</b>	<b>19</b>	<b>33</b>	<b>96%</b>	<b>4%</b>			<b>87</b>	<b>0</b>	<b>17</b>	<b>4</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>98%</b>		

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 2014–2015 <sup>1</sup>

Country/area	Intratyptic differentiation lab <sup>2</sup>	2014													2015														
		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	3	0	-	-	-	-	-	-	-	-	-	3	0	0	29	2	0	0	0	1	0	0	1	0	26	0	0	
China (total) <sup>3</sup>		167	167	0	79	0	0	129	2	0	115	0	0	0	0	1486	630	0	193	0	0	243	1	0	274	0	851	5	35
China, Fujian	Prov. Lab/CCDC	14	14	0	1	0	0	4	0	0	0	0	0	0	0	77	13	0	0	0	0	12	0	0	1	0	64	0	0
China, Gansu	Prov. Lab/CCDC	0	0	-	-	-	-	-	-	-	-	-	-	-	-	88	46	0	11	0	0	9	0	0	28	0	37	5	0
China, Guangdong	Prov. Lab/CCDC	48	48	0	21	0	0	22	0	0	15	0	0	0	0	171	43	0	11	0	0	24	1	0	7	0	128	0	0
China, Guangxi	Prov. Lab/CCDC	0	0	-	-	-	-	-	-	-	-	-	-	-	-	261	71	0	10	0	0	12	0	0	52	0	190	0	0
China, Heilongjiang	Prov. Lab/CCDC	18	18	0	11	0	0	37	1	0	47	0	0	0	0	47	20	0	2	0	0	16	0	0	2	0	27	0	0
China, Shandong	Prov. Lab/CCDC	48	48	0	13	0	0	16	0	0	23	0	0	0	0	305	108	0	43	0	0	25	0	0	40	0	197	0	0
China, Shanghai	Prov. Lab/CCDC	12	12	0	6	0	0	12	0	0	10	0	0	0	0	129	21	0	2	0	0	12	0	0	7	0	108	0	0
China, Xinjiang	Prov. Lab/CCDC	27	27	0	27	0	0	38	1	0	20	0	0	0	0	396	308	0	114	0	0	133	0	0	137	0	88	0	35
China, Yunnan	Prov. Lab/CCDC	0	0	-	-	-	-	-	-	-	-	-	-	-	-	12	0	0	0	0	0	0	0	0	0	0	12	0	0
Malaysia	IMR	21	7	0	1	0	0	1	0	0	5	0	7	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>		<b>191</b>	<b>174</b>	<b>0</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>2</b>	<b>0</b>	<b>120</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>1515</b>	<b>632</b>	<b>0</b>	<b>193</b>	<b>0</b>	<b>0</b>	<b>244</b>	<b>1</b>	<b>0</b>	<b>275</b>	<b>0</b>	<b>877</b>	<b>5</b>	<b>35</b>

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); VIDRL (Victorian Infectious Diseases Reference Laboratory, Australia)

Table 4. Vaccine-derived poliovirus identified from laboratory testing<sup>2</sup>, 2000-2016

Country/area	2000–2009 <sup>3</sup>	2010	2011	2012	2013	2014	2015	2016
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) iVDPV3 (1 AFP)	aVDPV1 (1 AFP) aVDPV2 (2 AFP) cVDPV2 (2 AFP + 1 contact) iVDPV2 + iVDPV3 (1 AFP)	aVDPV2 (1 non-AFP) iVDPV2 + iVDPV3 (1 AFP)	aVDPV1 (1 non-AFP) aVDPV2 (2 AFP) iVDPV3 (1 AFP)	aVDPV1 (1 AFP) aVDPV2 (1 AFP) iVDPV2 (1 AFP)	
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							
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, "?VDPV" = pending.

Suffix number refers to the poliovirus serotype (types 1, 2 or 3).

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

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