

HIGHLIGHTS

The first assessment of outbreak response in Papua New Guinea

During 3-7 December 2018, a joint WHO/UNICEF/US CDC team conducted the first outbreak response assessment (OBRA) in Papua New Guinea. The main objectives of the assessment were to assess quality and adequacy of outbreak response activities and to produce recommendations to assist the country to interrupt poliovirus transmission as soon as possible.

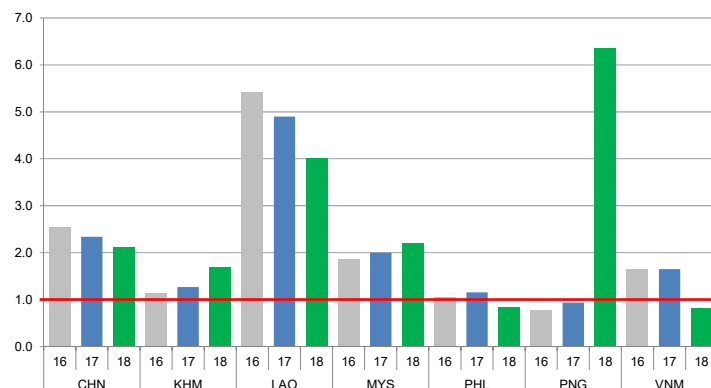
Based on the findings of the assessment, the team concluded that the PNG national/international polio partnership has been very successful to rapidly initiate and closely coordinate wide-ranging activities to respond to the cVDPV1 outbreak. However, most recent results of surveillance indicate that transmission is ongoing and that even stronger efforts are needed to improve the quality of SIAs, which still miss too many children. Further increases in surveillance sensitivity are required to reliably monitor the impact of SIAs as well as progress towards interrupting transmission. The OBRA team recommended at least two more SIAs in February and in April 2019. A follow-up outbreak response assessment should be planned between the first and second NIDs in 2019.



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



* AFP rate annualized as of week 50

Chart 2. Adequate specimen collection rate, 2016–2018

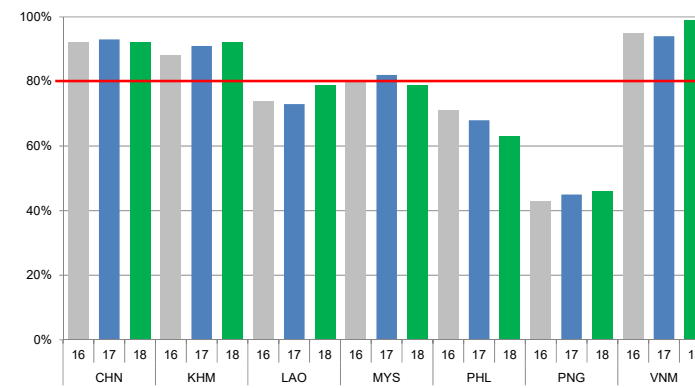


Chart 3. Percentage of reported AFP cases by number of polio vaccination doses, 2018

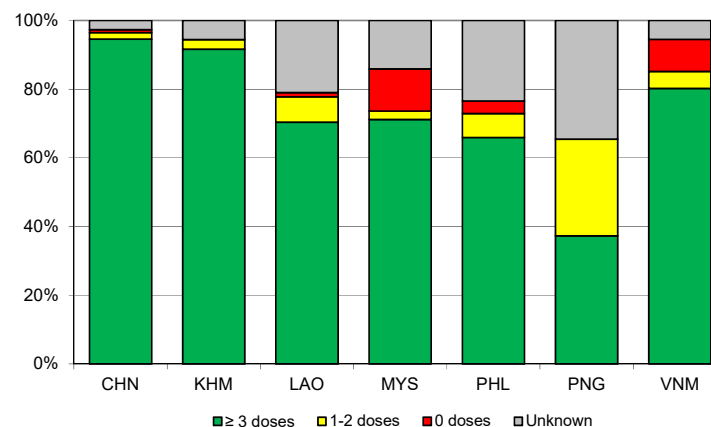
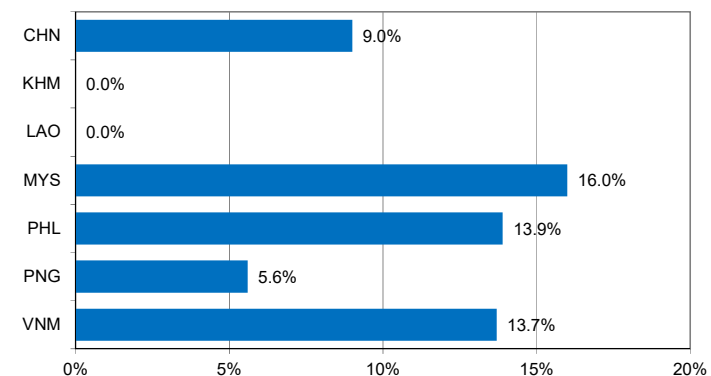


Chart 4. Percentage of reported AFP cases with pending classification > 90 days after onset, 2018



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

Country/area	2017		2018							Indicators			Latest report date	Days since last report ⁵
	Total reported cases	Annual expected cases <15 years of age	Total reported cases	Classification				Pending		Non-polio AFP rate ²	% with adequate specimens ³	% investigated ≤ 2 days of notification ⁴		
				Confirmed wild poliovirus	Vaccine-derived poliovirus (VDPV)	Polio-compatible	Discarded (Non-polio)	Total	> 90 days ¹ # (%)					
≤ 30														
Australia	60	46	53	0	0	2	47	4	1 (1.9%)	1.20	47%	89%	11-Dec-18	7
Brunei Darussalam	1	1	2	0	0	0	2	0	0 (0.0%)	2.08	100%	100%	13-Oct-18	66
Cambodia	57	44	72	0	0	0	61	11	0 (0.0%)	1.70	92%	85%	12-Dec-18	6
China	5278	2256	4587	0	1	0	3018	1568	412 (9.0%)	2.11	92%	100%	12-Dec-18	6
China, Hong Kong SAR	15	9	10	0	0	0	10	0	0 (0.0%)	1.16	90%	100%	04-Dec-18	14
China, Macao SAR	2	1	3	0	0	0	2	1	0 (0.0%)	3.12	100%	100%	14-Dec-18	4
Japan	-	161	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	103	21	81	0	0	0	74	7	0 (0.0%)	4.01	79%	78%	14-Dec-18	4
Malaysia	154	77	163	0	0	0	110	53	26 (16.0%)	2.20	79%	75%	04-Dec-18	14
Mongolia	6	9	5	0	0	0	5	0	0 (0.0%)	0.58	100%	80%	12-Dec-18	6
New Zealand	13	9	9	0	0	0	6	3	0 (0.0%)	1.04	56%	100%	31-Oct-18	48
Papua New Guinea	29	37	252	0	26	12	144	70	14 (5.6%)	6.35	46%	77%	18-Dec-18	0
Philippines	462	338	273	0	0	0	225	48	38 (13.9%)	0.84	63%	94%	28-Nov-18	20
Republic of Korea	68	67	65	0	0	0	50	15	0 (0.0%)	1.01	89%	100%	10-Dec-18	8
Singapore	7	6	10	0	0	0	10	0	0 (0.0%)	1.73	90%	100%	10-Dec-18	8
Viet Nam	385	234	182	0	0	0	115	67	25 (13.7%)	0.81	99%	89%	21-Oct-18	58
Pacific island countries and areas	16	11	10	0	0	0	1	9	4 (40.0%)	0.95	30%	100%	17-Dec-18	1
Total	6656	3327	5777	0	27	14	3880	1856	520 (9.0%)	1.80	88%	97%		

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

Country/area	Intratyptic 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	232	151	0	182	0	0	0	1	0	480	2	1089	4	0	
China, Fujian	Prov. Lab/CCDC	53	22	0	8	0	0	0	0	0	42	0	331	0	0	61	43	0	13	0	0	0	0	0	86	1	462	4	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	44	37	0	26	0	0	0	0	0	93	1	193	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	36	19	0	6	0	0	0	0	0	36	0	102	0	0	
China, Shandong	Prov. Lab/CCDC	48	28	0	18	0	0	0	0	0	90	0	272	0	0	27	8	0	13	0	0	0	0	0	36	0	149	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	33	33	0	119	0	0	0	1	0	214	0	104	0	0	
China, Yunnan	Prov. Lab/CCDC	28	0	-	-	-	-	-	-	-	-	-	57	0	0	14	0	-	-	-	-	-	-	-	-	-	15	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	79	5	0	2	0	0	0	0	0	2	0	24	1	0	
Papua New Guinea	RITM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	13	0	9	7	0	0	0	0	11	0	9	5	0	
Total		395	198	0	214	0	0	0	1	0	658	0	1205	0	0	350	171	0	195	7	0	0	1	0	493	2	1134	10	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) iVDPV2 + iMDPV3 (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) aVDPV2 (1 env)	aVDPV3 (1 AFP)	aVDPV3 (1 AFP) iVDPV3 (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.