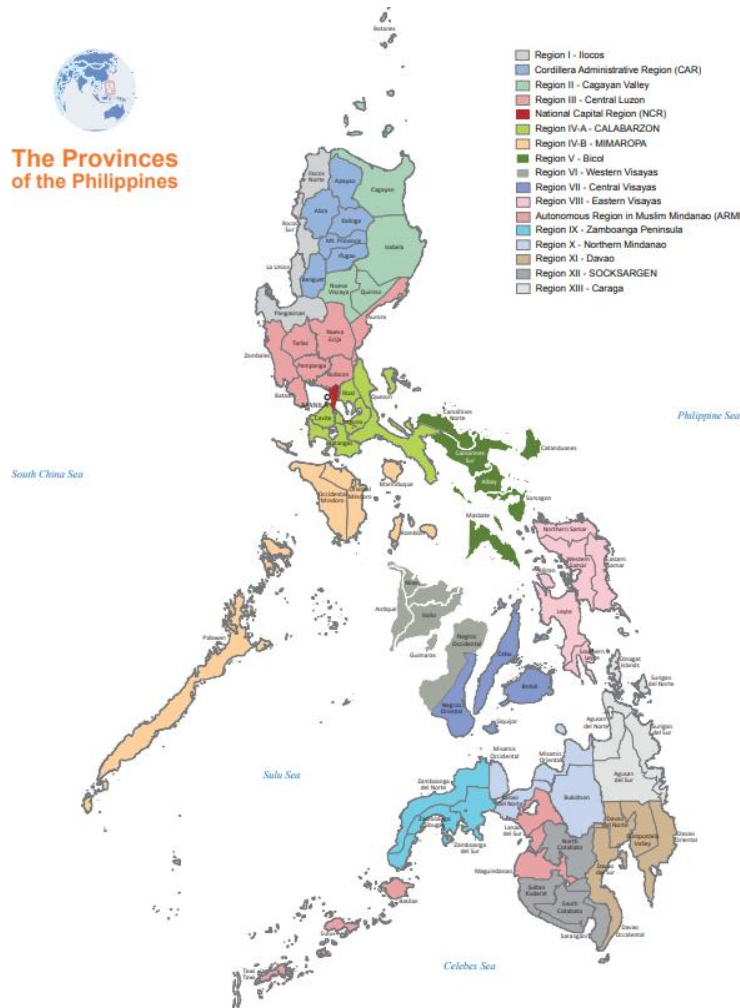


PHILIPPINES

Polio outbreak

On 19 September, the Philippine Department of Health (DOH) declared a national outbreak of polio following the confirmation of a polio case reported in Lanao del Sur province (Autonomous Region in Muslim Mindanao). As of 8 October 2019, there are two confirmed polio case after a second child from Laguna province (Calabarzon region) has been diagnosed with polio. In both cases the outbreak was caused by infection with a circulating vaccine-derived polio type 2 (cVDPV2). In addition, environmental samples have been tested positively for traces of the polio virus both for cVDPV1 and cVDPV2 types.



Source: OCHA Provincial Profiles (2018)

IMPACT



NEED FOR INTERNATIONAL ASSISTANCE



Humanitarian Constraints



Access conditions vary greatly across Philippine islands. This can pose a challenge to a large-scale outbreak response. Special attention should be paid to the weather developments such as the ongoing Hagibis typhoon situation and to the security situation in provinces on Mindanao island.

Anticipated scope and scale

The two confirmed polio cases of cVDPV2 have been reported in **Lanao del Sur province and in Laguna province**. The polio traces from environmental samples linked to cVDPV2 are from **Manila and Davao**. **Children under five years** are particularly vulnerable to polio. The circulating polio virus **cVDPV2** is **highly contagious** and can easily spread in populations with low immunization. Due to low immunization rates, there is a high risk for polio to spread in the Philippines. The traces of cVDPV2 in different areas of the countries increase concerns over a spread. An immediate outbreak response through mass immunization of children under five is necessary.

Key priorities



Prevention Measures
outbreak control



WASH
hygiene promotion

Crisis impact

On 19 September, the Philippines Department of Health (DOH) declared a outbreak of polio following the confirmation of a polio diagnosis of a three-year old child in the Lanao del Sur province on Mindanao island (DOH 19/09/2019). A second polio case of a five-year-old child in Laguna province was confirmed by DOH later (DOH 20/09/2019). In both cases, the outbreak was caused by an infection with a circulating vaccine-derived polio type 2 (cVDPV2). The polio virus type cVDPV1 has been detected in environmental samples from the Manila and Mindanao sewage system and cVDPV2 in Manila and waterways in the southern Davao region (DOH 19/09/2019). The different locations raise concerns over a potential spread of polio in the Philippines. The re-emergence comes almost 20 years after the Philippines had been declared polio-free in 2000 and the last case of wild poliovirus was recorded in 1993 (WHO 19/09/2019).

Children under five years as they are considered most vulnerable to a polio infection (WHO Factsheet). The IFRC estimates that in the Philippines up to 11 million children under five could be at risk of polio (IFRC 02/10/2019).

Identified polio type related to outbreak

# of samples confirmed	cVDPV1	cVDPV2
Environmental	5	2
Human	0	2

Source: UNICEF/WHO Sitrep3 08/10/2019

The wild polio virus exists in three types (type 1, 2, and 3) (CDC). Rather than with a wild type of the polio virus, both children were infected with a vaccine-derived poliovirus (VDPV). A vaccine-derived poliovirus can emerge in populations with low immunization and inadequate sanitation and hygiene. In this case, the weakened virus contained in oral polio vaccine can circulate long enough to mutate into a vaccine-derived poliovirus which has then regained the ability to cause polio (WHO 19/09/2019). The polio virus strain found in both children is of type VDPV2. Tests of the polio traces isolated in the environmental samples from Manila and Davao showed a genetic link to VDPV2 classifying the virus as circulating (cVDPV2). The circulating virus cVDPV2 is considered highly contagious and a public health emergency. It can spread quickly in populations with low immunity against poliovirus type 2 (UNICEF/WHO Sitrep3 08/10/2019).

Only full immunization of communities protects children from either form of the virus (WHO 19/09/2019). However, immunization coverage for children against polio has declined

in the Philippines in the last years and falls short of the recommended coverage rate of 95%. In 2018, the bOVP3 coverage rate was only 66% (UNICEF/WHO Sitrep3 08/10/2019).

Traces of a circulating virus type 1 (cVDPV1) have been isolated in environmental samples from the Manila sewage system but are not linked to the outbreaks of the two children (UNICEF/WHO Sitrep3 08/10/2019).

Based on the confirmed polio virus samples of cVDPV1 and cVDPV2, areas affected by the re-emergence of polio are on Mindanao island and in the National Capital Region (UNICEF/WHO Sitrep3 08/10/2019).

Health: Polio is highly contagious and affects mainly children under five years of age. As there exists no cure, enhanced immunization of children under five is the focus of the outbreak response (UNICEF/WHO Sitrep2 30/09/2019). The DOH has begun rolling out mass vaccination campaigns targeting under-five children in areas affected by the outbreak in cooperation with UN and NGO partners (UNICEF/WHO Sitrep3 08/10/2019). Nevertheless, concurrent epidemics or health emergencies may strain capacities of local authorities to face this new one (ref: aggravating factors).

Humanitarian and operational constraints

There are no access constraints directly related to the polio outbreak but infrastructure conditions across the different areas in the Philippines vary and some remote areas can be hard to reach, for instance in Sulu province (OCHA). The overall probability of weather-related disruptions like floods is decreasing in the coming months since the southwest monsoon season has officially ended (PAGASA). This means that the weather conditions transition to the cooler and less rainy northeast monsoon season. Special attention should be paid to the developments regarding the typhoon Hagibis. Although Hagibis is unlikely to hit the Philippines, the situation should still be monitored for updates (PAGASA).

On Mindanao island, the security situation can hamper humanitarian access in certain areas, especially in conflict affected areas of Autonomous Region in Muslim Mindanao (ARMM). For instance, access to Sulu province was severely limited in spring 2019 because of a high risk of kidnapping, particularly of foreigners (OCHA 20/03/2019).

Vulnerable groups affected

Children under five years are considered most vulnerable to a polio infection (WHO Factsheet). Young children are also a ready source of transmission (GPEI). In addition to children in communities with low immunization coverage, children in communities with a poor level of hygiene and sanitation are at an increased risk of infection. This can be the case in areas affected by natural disaster or conflict.

Aggravating factors

Previous health emergencies

The current polio outbreak comes at a time when national authorities have already responded to two more health emergencies this year that have strained resources. On 6 August, DOH declared a national dengue epidemic. As of 4 October, there are over 300,000 cases including almost 1,300 deaths reported this year and 15 out of 17 regions are either exceeding the alert or the epidemic threshold (WHO Sitrep8 04/10/2019). Additionally, response to a measles outbreak declared in February 2019 is ongoing. It affects 17 regions (IFRC 06/09/2019). Over 40,000 measles cases and more than 500 deaths have been reported as of August (IFRC 28/09/2019).

Mindanao humanitarian situation

Provinces on the Mindanao island are affected by particular humanitarian challenges, particularly related to displacement. Over two years since armed conflict broke out in context of the Marawi conflict, about 66,000 people remain displaced staying in evacuation shelters, temporary shelters or with host families (OCHA 25/09/2019). In many shelters access to water and sanitation is difficult due to limited water supply (OCHA 25/09/2019). Marawi City which has been heavily affected by the conflict is in Lanao del Sur province where the first confirmed polio case was reported.

In addition to the Marawi conflict, as of 4 September over 8,000 people in Maguindanao remain displaced following an armed conflict between government forces and a non-state armed group (OCHA 25/09/2019).

Additionally, natural disasters have led to food and shelter needs of people on Mindanao. As of 23 September, almost 7,000 people in Zamboanga del Norte, Zamboanga del Sur, Davao del Sur, South Cotabato and Sultan Kudarat provinces on Mindanao remain displaced because of the effects of the southwest monsoon. The majority of them are staying with host families (OCHA 25/09/2019).

Low immunization coverage and lack of trust in vaccination

Immunization rates in the Philippines have dropped in the last years (UNICEF/WHO Sitrep3 08/10/2019). The recommended polio vaccination coverage among children under one year with the three doses of bivalent OPV (bOPV) should be 95%. For 2018, it is estimated to have been only 66% (UNICEF/WHO Sitrep3 08/10/2019). The rate for injected vaccination (IPV) is currently at 23% for 2019 (UNICEF/WHO Sitrep3 08/10/2019).

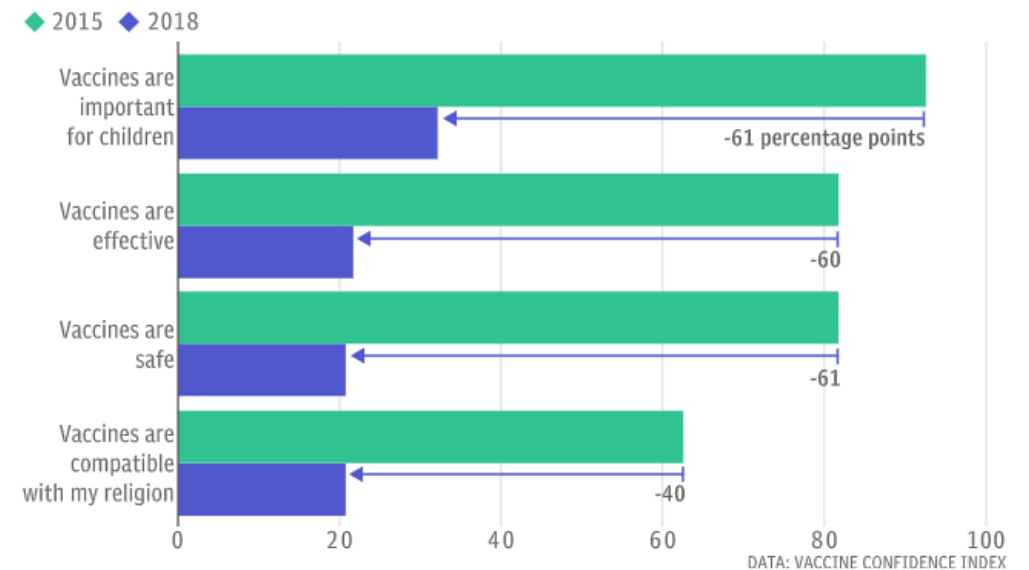
Already in 2018, 12 out of the 17 regions in the Philippines were high-risk areas for a potential polio re-emergence because of the low vaccination coverage rate (DOH). This

includes the National Capital Region (NCR) where the OVP coverage rate decreased from 77.25% in 2016 to only 23.45% (DOH).

Although the WHO considers the risk of an international spread of the Philippines polio outbreak to be low, there is a high risk of spread within the Philippines due to the limited population immunity (WHO 24/09/2019).

A contributing factor to low immunization is the recent decline in public trust in vaccination triggered in 2017 after a dengue vaccine had to be pulled from the Philippine market in 2017 because it posed a health risk to children (Sciencemag 24/04/2019).

Decline in trust in vaccines in the Philippines: People who strongly agreed with the statements, 2015 and 2018 (%)



Source: The Telegraph 20/09/2019

Poor hygiene and sanitary conditions

Access to safe clean water and sanitation facilities as well as appropriate hygiene practices are important to reduce the risk of transmission of polio (ECDC). In areas with poor hygiene and sanitation the risk of transmission of the polio virus through faeces is especially high (GPEI). Particularly open defecation and poor sanitary practices contribute to the risk of a polio re-emergence (DOH). The DOH urges the public to practice good hygiene (DOH 19/09/2019).

Contextual information

Cause and symptoms

Poliomyelitis (polio) is a highly infectious illness caused by the poliovirus that can attack the brain and spinal cord of an infected person and cause paralysis and potentially death. It affects mainly children under 5 years of age (WHO).

Most people infected with the poliovirus do not develop symptoms or mild symptoms (about 90%). Nevertheless, symptomless infected people can still spread the virus (GPEI). Polio is transmitted from person to person. Infections with the poliovirus commonly occur through the faecal-oral route but the virus can also be transmitted through contaminated water and food. The poliovirus can survive several weeks in faeces of an infected person (CDC).

Initial symptoms of polio include flu-like symptoms such as fever, fatigue, headache, and vomiting followed by stiffness and pain in the limbs. In about 1 out of 200 infected people, the poliovirus causes irreversible paralysis. Between 5% to 10% of paralysed people die because their breathing muscles lose function (WHO).

The Global Polio Eradication Initiative (GPEI) considers the Philippines one of 14 outbreak countries worldwide where the outbreak of the wild polio virus stopped but re-emergence can occur through import of a wild virus or through the emergence of a vaccine-derived polio virus (GPEI).

Treatment

There is no cure for polio and treatment can only help alleviate symptoms (GPEI). Effective prevention in the form of polio vaccine exists.

Vaccines, control and prevention

Strengthening the immunisation coverage through vaccinations of children is the key element in the prevention of polio. There are two types of vaccinations: the inactivated poliovirus vaccine (IPV) that is given through an injection in leg or arm and the oral poliovirus vaccine (OPV) (CDC). Children are usually vaccinated with four or five doses to achieve full immunity.

Additionally, surveillance is an important prevention mechanism. This include both the surveillance of cases of acute flaccid paralysis (AFP) in children to test them for a potential polio infection and testing of routine environmental samples (ECDC).

Access to safe water and sanitation facilities as well as appropriate hygiene practices (hand washing, safe storage and preparation of food, safe disposal of children's faeces) are further important elements to reduce the risk of transmission of polio (ECDC).

An outbreak of polio type 2 is of special concern because the wild polio type 2 had been considered eradicated globally since 2015 (CDC). Since 2016, oral polio vaccinations (OPV) worldwide only target only the two types 1 and 3 (bivalent OPV) (GPEI 2019). Thus, the GPEI outlines specific guidelines for responses to a type 2 outbreak (GPEI 2019).

Key characteristics in the two provinces with confirmed polio outbreak

	Laguna province (Region IV-A, Calabarzon)	Lanao del Sur province (ARRM)
Total population (million) (country level 106.5)	3.03	1.04
Pop. Density (persons per square kilometre)	1.574	69
Urban population (% of total population)	71.9%	4.2%
Children (0-2 y.o.)	177,700	87,800
Health personnel:		
Doctors	944	136
Nurses	2,172	185
Water supply by faucet community system	37.9%	29.7%
Access to water-sealed toilets	95.5%	39.5%
Chronic malnutrition among children (0-60 months old)	27.7%	49%

Sources: UN Data 2018, GoP PSA 2015, OCHA Provincial Profiles (2018)

Response capacity

Local and national response capacity

The identified virus type impacts the vaccination response which is twofold. The global polio advisory group recommends to prioritize the response to polio type 2 while also enhance routine immunization for polio type 1 (UNICEF/WHO Sitrep2 30/09/2019). Based on this, the DOH plans two mass vaccination campaigns against the different polio virus types in cooperation with local health officials and has requested the support of the Philippine Red Cross (PRC), UN and NGO partners. The PRC is currently mobilizing volunteers to support the mass vaccinations (PRC 24/09/2019).

In response to cVDPV2, a mass vaccination campaign carried out in three rounds will target over 6.5 million children under five years in affected areas and vaccinate them with a kind of oral vaccination that targets virus type 2 (mOPV) (UNICEF/WHO Sitrep2 30/09/2019). This vaccination type had not been available in the Philippines yet (UNICEF/WHO Sitrep2 30/09/2019). Vaccines shipped from the global stockpile of the Global Polio Eradication Initiative (GPEI) have arrived in Davao (Mindanao) on 8 October (UNICEF/WHO Sitrep3 08/10/2019).

A second vaccination campaign against cVDPV1 will be rolled out in two rounds in the National Capital Region where the virus strain has been detected in environmental samples. It will target over 2.5 million children under five (UNICEF/WHO Sitrep3 08/10/2019).

When	Where	Who	#
14-27 Oct 2019	Davao City, Davao del Sur, Lanao del Sur	<5 years	427,008
25 Nov-7 Dec 2019	Mindanao (Region 9, 10, 11, 12, CARAGA and BARMM)		3,111,650
6-18 Jan 2020			3,111,650

Source: UNICEF/WHO Sitrep3 08/10/2019

International response capacity

National authorities work are responding to the polio outbreak in cooperation with WHO and UNICEF through the Global Polio Eradication Initiative (GPEI) and receive technical advice, assistance with monitoring and risk communication (UNICEF 19/09/2019). Additional international partners involved in the support include Rotary International (GoP 20/09/2019) and the IFRC (IFRC 29/09/2019).

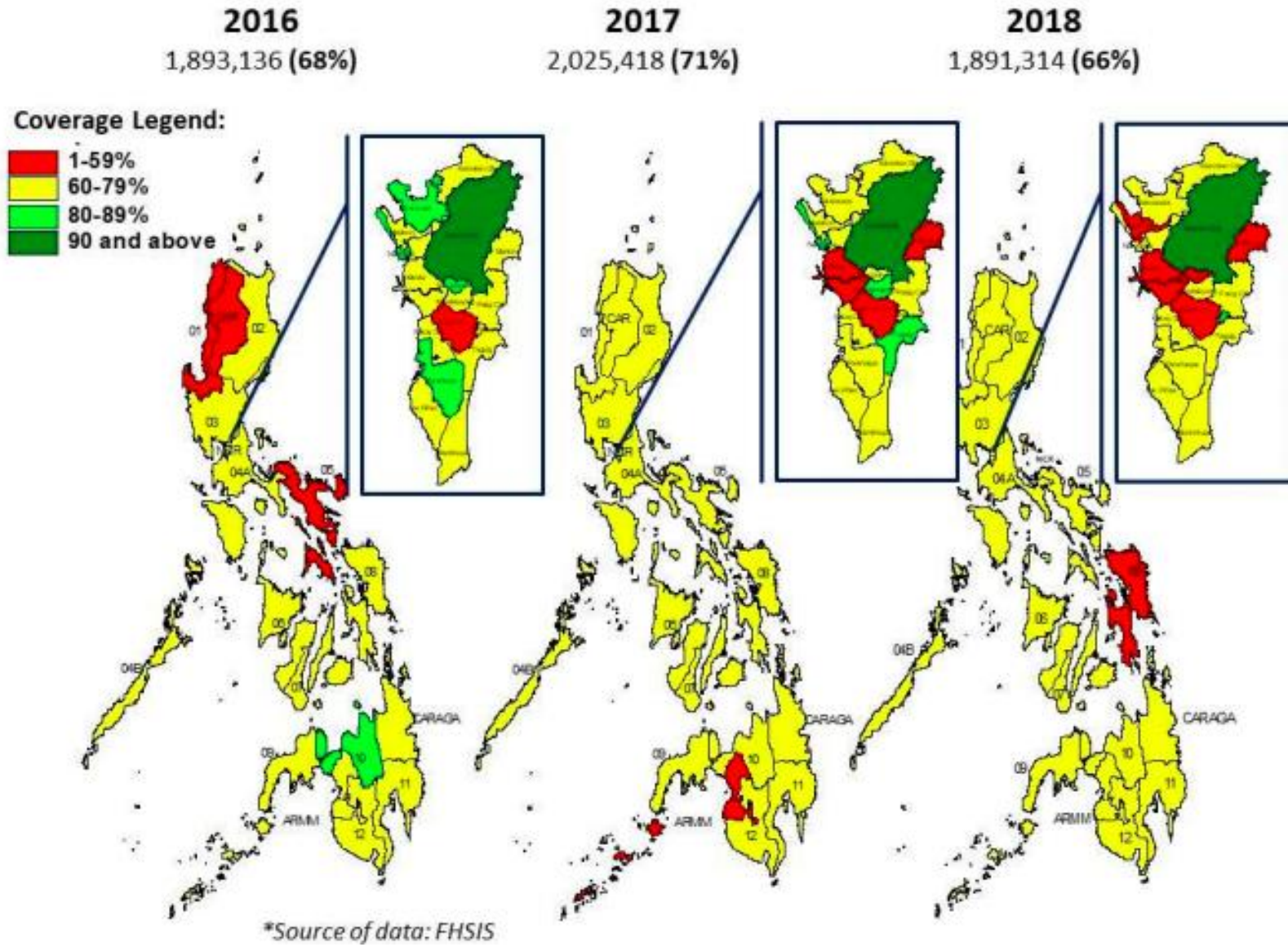
Lessons learned

Under the International Health Regulations (IHR), the Philippines are currently classified as a state infected with VDPV2 with a risk of international spread (GPEI). The country is thus subject to the temporary recommendations of the twenty-second IHR Emergency Committee as of 16 September (WHO 02/10/2019).

Technical guidelines for a polio outbreak response are outlined in the GPEI's standard operating procedures (GPEI 2019).

Regarding people travelling to polio-affected areas, the WHO's International Travel and Health recommends that all visitors should be fully vaccinated against polio. They should receive an additional dose of OPV or inactivated polio vaccine (IPV) within 4 weeks to 12 months of travel (GPEI, WHO International Travel and Health).

Polio immunization in the Philippines: regional bOPV3 coverage, 2016-2018



Source: UNICEF/WHO Sitrep3 (08/10/2019).