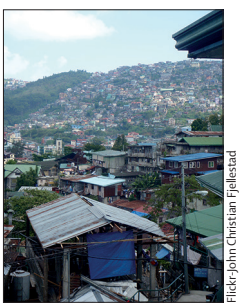
Infectious disease crisis in the Philippines



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For more on **the controversy around Dengvaxia** see **Editorial** *Lancet Infect Dis* 2018; **18:** 123

The Philippines was among the first countries in the world to introduce the *Haemophilus influenzae* type b vaccine, and one of the earliest countries in the Western Pacific region to introduce the rotavirus vaccine and the pneumococcal conjugate vaccine. The country achieved the Millennium Development Goal of reducing child mortality by two-thirds in 25 years thanks to Government-declared immunisation months during which millions of children were vaccinated annually. However, vaccine-preventable diseases are again rampant in the Philippines, potentially reversing the positive results of decades of successful immunisation campaigns.

This year the country has reported outbreaks of dengue, diphtheria, measles, and polio. In August, the Department of Health declared a national dengue epidemic. As of Nov 5, 371 717 dengue cases, including 1407 deaths, have been reported in 2019, which is 106% cases more than in 2018. Children aged 5–9 years have been the most affected age group for dengue incidence (23%) and deaths (38%). For diphtheria, the Department of Health has reported 197 cases with 47 deaths through Oct 5, an increase in cases of 47% compared with the same period in 2018. In 2019, health officials have also reported more than 42 200 measles cases up to early October. In addition, measles complications were responsible for 560 deaths. More than eight out of ten people affected by the measles outbreak were children aged 4 years and younger. For polio, four cases caused by infection with vaccine-derived poliovirus have been reported in the country, which had been polio-free for 19 years; these polio cases were due to low population immunity. The Department of Health has now launched campaigns to bolster polio immunisation, planning to inoculate large numbers of children younger than 5 years in several parts of the country.

These outbreaks of vaccine-preventable diseases in the Philippines indicate that vaccination rates are currently insufficient to provide protection. Whereas a reduction in immunisation has been observed in many countries around the world, mistrust in vaccines in the Philippines has been heavily fuelled by the discussion around the use of Dengvaxia, the only dengue vaccine available on the market, and its subsequent ban. Dengue, a viral disease trasmitted by *Aedes* spp mosquitoes, is endemic in the Philippines. Poverty, geographical remoteness, rapid urbanisation, malnutrition, and poor hygiene and sanitation are all contributing factors in the spread of dengue (and how to address these factors will be a topic in an upcoming Lancet Commission on *Aedes*-borne viral diseases), and a dengue vaccine is considered an essential tool to control the spread of the disease.

In April, 2016, the Philippines was the first country, alongside Brazil, to introduce a national immunisation campaign for dengue using Dengvaxia. However, as reported in our Editorial in February, 2018, in late 2017, health authorities in the Philippines decided to stop the immunisation campaign after 14 children died out of more than 800 000 inoculated with Dengvaxia in 2016–17. Although no death was directly linked to the vaccine, concerns were further raised by a study funded by Sanofi Pasteur, the producer of the vaccine, that indicated that dengue-seronegative children vaccinated with Dengvaxia had higher chances of subsequent hospitalisation for dengue than seropositive children. This outcome depends on the fact that dengue virus occurs in four serotypes, and immunity against any one serotype does not generate lasting immunity against the other three serotypes. What happens instead is that a new infection with a different serotype might lead to more severe disease manifestations. In individuals not previously exposed to dengue virus, the vaccine simulates a primary infection. On the basis of the new Sanofi data, WHO then recommended the use of Dengvaxia only in children older than 9 years in endemic areas where seropositivity is expected to be high. However, the suspension of Dengvaxia vaccination in the Philippines ultimately resulted in a drop of confidence for parents and caregivers in the safety of immunisation in general.

Although new vaccine candidates are currently under study for dengue, the main issue for the Philippines now is to rebuild the trust of the population in the safety of vaccines for diphtheria, measles, and polio. The current crisis faced by the Philippines should be a warning for other countries where immunisation rates are dropping to invest in public health and information campaigns to promote the use of vaccines. It is unacceptable that a child can die of a disease that is preventable by a readily available vaccine. ■ *The Lancet Infectious Diseases*