

Childhood vaccination

Childhood vaccination continues to be one of the most cost-effective health policy interventions, preventing 4 to 5 million deaths every year (WHO, 2019^[1]). Nevertheless, the global coverage for three doses of diphtheria-tetanus-pertussis (DTP3) vaccine dropped from 86% in 2019 to 81% in 2021 and an estimated 25 million children under the age of 1 year did not receive basic vaccines, the highest number since 2009 (WHO, 2020^[2]).

All countries and territories in Asia-Pacific have established vaccination programmes including a minimum number of routine vaccines (i.e. against polio, diphtheria, tetanus, pertussis, measles); additional vaccines (i.e. against pneumococcus, rotavirus, Japanese encephalitis and human papilloma virus) are included at national or subnational level based on local morbidity, mortality and cost-effectiveness analysis.

Health systems providing high quality of care deliver effective, safe and people-centred health care. These national and subnational vaccination programmes are effective and safe in reducing disease burden of the population, and the level of adherence to the guidelines on childhood vaccination also reflects importantly the quality of care provided in countries, as well as availability, accessibility and affordability of vaccination services.

Diphtheria tetanus toxoid and pertussis, measles and hepatitis B vaccines are taken here as examples as they represent, in timing and frequency of vaccination, the full spectrum of organisational challenges related to routine vaccination for children. Pertussis, known as whooping cough, is a respiratory infection caused by bacteria. Immunisation is the most effective way of preventing infection. Three doses of pertussis vaccine, together with diphtheria and tetanus toxoid reduces the risk of severe pertussis among infants. WHO recommends the administration of the first dose as early as 6 weeks of age, subsequent doses given at least 4 weeks apart, and the third dose of the primary series should be completed by 6 months of age, if possible (WHO, 2020^[3]). Measles is a highly contagious viral disease. The measles vaccine is not only safe and effective, but also inexpensive. Although vaccination has substantially reduced global measles deaths and the estimated number of deaths decreased by 62% between 2000 and 2019, measles is still common in many developing countries and measles incidence has increased globally including in Asia since 2016 (Patel et al., 2020^[4]). WHO recommends measles immunisation to all susceptible children, adolescents and adults if not contraindicated. Two doses of measles vaccine, either alone, or combined with rubella, and/or mumps, should be the standard for national childhood immunisation programmes (WHO, 2020^[5]). Vaccination for hepatitis B is considered effective in preventing infection and its chronic consequences, such as cirrhosis and liver cancer. Yet, in 2019, hepatitis B resulted in 820 000 deaths, mostly from cirrhosis and hepatocellular carcinoma. Globally, WHO Western Pacific is the region with most infections in the world, and 116 million people are chronically infected (WHO, 2022^[6]). Hepatitis B vaccination is recommended for all children, and at least three doses of hepatitis B vaccine should be the standard for national immunisation programmes (WHO, 2021^[7]).

Reviews of the evidence supporting the efficacy of vaccines included in routine immunisation programmes have concluded that they are safe and highly effective against mortality and morbidity caused by the diseases concerned. Hence, high coverage of these programmes illustrates effective delivery of high-quality health care. The COVID-19 pandemic, however, impeded access to childhood vaccinations in many countries as these services had been scaled down or closed, or people were concerned about risks of COVID-19 infection (WHO, 2020^[2]). Consequently, vaccination rates have not returned to the pre-pandemic period in about half of the countries in the Asia-Pacific region (see Chapter 2 “The health impact of COVID-19”).

In 2021, the overall vaccination of children against pertussis (provided through combined vaccines containing diphtheria and tetanus), measles and hepatitis B was high in most Asia-Pacific countries. In most high and upper-middle-income Asia-Pacific countries, almost all children aged around one year received the recommended measles, DTP3 and hepatitis B vaccination, meeting the WHO's minimum threshold of 95% to avoid vaccine-preventable diseases outbreaks. On the contrary, the average vaccination rate in lower-middle and low-income Asia-Pacific countries for these diseases was around 75%, which is insufficient to ensure interruption of disease transmission and protection of the whole population (Figures 7.1, 7.2 and 7.3). The average rate for these countries in 2021 was about 10 percentage points lower than the average rate in 2019 (European Commission, 2017^[8]; OECD/WHO, 2020^[9]), suggesting a substantial negative impact of COVID-19 pandemic on vaccination programmes.

Vaccination coverage rates for DTP3, measles and hepatitis B were similar for each Asia-Pacific country. Brunei Darussalam and China had the highest rate in Asia-Pacific at 99% against all of them. However, in Papua New Guinea, Myanmar and DPRK, less than one in two children were vaccinated with all three (Figures 7.1, 7.2 and 7.3).

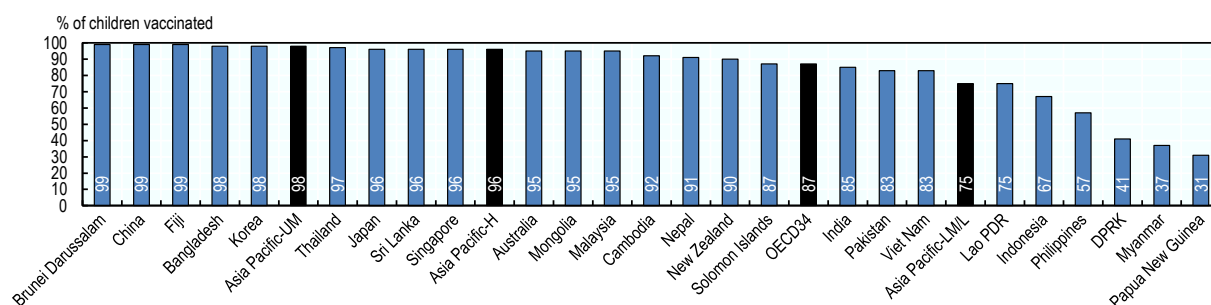
Definition and comparability

Childhood vaccination policies differ slightly across countries. Thus, these indicators are based on the actual policy in a given country. Some countries administer combination vaccines (e.g. MR for measles and rubella) while others administer the vaccinations separately.

References

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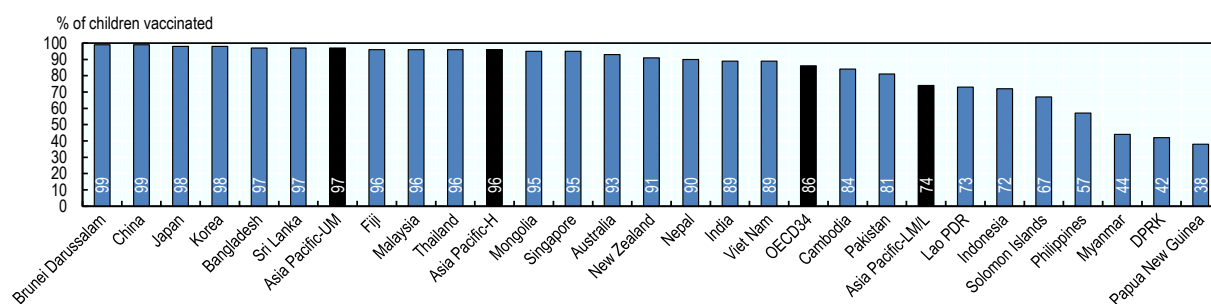
Figure 7.1. Vaccination coverage for diphtheria, tetanus toxoid and pertussis-containing vaccine, third dose (DTP3), 2021



Source: WHO/UNICEF estimates of national immunisation coverage (WUENIC) 2022.

StatLink <https://stat.link/9b0loa>

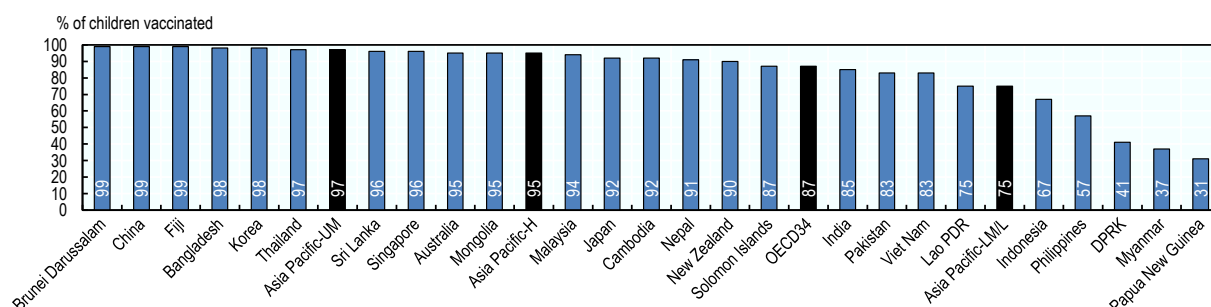
Figure 7.2. Vaccination coverage for measles-containing vaccine, first dose (MCV1), 2021



Source: WHO/UNICEF estimates of national immunisation coverage (WUENIC) 2022.

StatLink <https://stat.link/vspokj>

Figure 7.3. Vaccination coverage for hepatitis B-containing vaccine, third dose (HepB3), 2021



Source: WHO/UNICEF estimates of national immunisation coverage (WUENIC) 2022.

StatLink <https://stat.link/18j25l>



From:

Health at a Glance: Asia/Pacific 2022

Measuring Progress Towards Universal Health Coverage

Access the complete publication at:

<https://doi.org/10.1787/c7467f62-en>

Please cite this chapter as:

OECD/World Health Organization (2022), "Childhood vaccination", in *Health at a Glance: Asia/Pacific 2022: Measuring Progress Towards Universal Health Coverage*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/025deec6-en>

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