

Childhood vaccination continues to be one of the most cost-effective health policy interventions, preventing around 3 million deaths every year (UNICEF, 2019[1]). Nevertheless, while 86% of children globally receiving vaccines, more than 13 million children have never been vaccinated (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 and human papilloma virus) are included at national or subnational level based on local morbidity, mortality and cost-effectiveness analysis.

Diphtheria tetanus toxoid and pertussis, measles and hepatitis B are taken here as examples as they represent, in timing and frequency of vaccination, the full spectrum of organisational challenges related to routine vaccination. 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, together with diphtheria and tetanus toxoid reduces the risk of severe pertussis among infants. WHO recommends the administration of the first dose at 6 weeks of age and subsequent doses given 4-8 weeks apart, during 10-14 weeks and 14-18 weeks (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 by 73% between 2000 and 2018, measles is still common in many developing countries, including those in Asia. 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, mumps, or varicella, should be the standard for national childhood immunisation programmes (WHO, 2020[4]). Vaccination for hepatitis B is considered effective in preventing infection and its chronic consequences, such as cirrhosis and liver cancer. Yet, in 2015, hepatitis B resulted in 887 000 deaths, mostly from cirrhosis and hepatocellular carcinoma. Globally, WHO Western Pacific is the region with most infections in the world, amounting to more than 6% of the population (WHO, 2019[5]). 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, 2019[5]).

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 diseases they are treating. Hence, high coverage of these programmes illustrates effective delivery of high quality health care. The COVID-19 pandemic, however, is impeding access to childhood vaccinations in many countries as these services have been scaled down or closed, or people are concerned about risks of COVID-19 infection (WHO, 2020[2]).

In 2019, 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. Almost all children aged around one year received the recommended measles, DTP3 and Hepatitis B vaccination in high income Asia-Pacific countries, with a coverage higher than 95% – the WHO's minimum threshold to avoid vaccine-preventable diseases outbreaks. Conversely, the average vaccination rate in lower-middle and low income Asia-Pacific countries for these diseases was around 85%, which is still high but is insufficient to ensure interruption of disease transmission and protection of the whole population (Figures 7.1, 7.2 and 7.3).

Against DTP3, measles and hepatitis B, vaccination coverage was similar for each Asia-Pacific country. Brunei Darussalam, China, Mongolia and Sri Lanka had the highest rate in Asia-Pacific at 99% against all of them. However, in Lao PDR and the Philippines only two in three children were vaccinated against all three (Figures 7.1, 7.2 and 7.3).

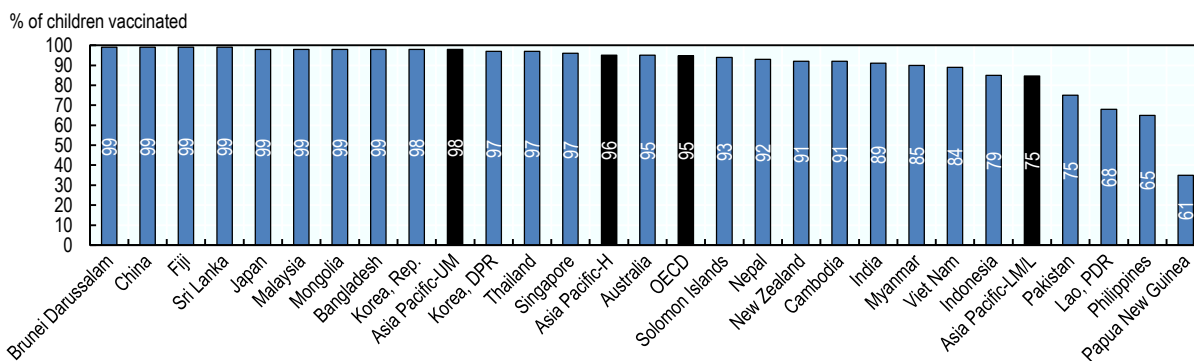
While vaccination rates have plateaued at a high level in many countries and territories in Asia-Pacific, some countries with historically low rates have made substantial progress in recent years. For example, in 2007, hepatitis B immunisation in India was only 6%, and measles immunisation in the Lao PDR was only 40% of the target population (WHO, 2019[6]; WHO, 2019[7]), but following international recommendations and subsequent national interventions, their respective vaccine coverage increased to 91% and 69% in 2019 (Figures 7.1 and 7.2). In Western Pacific countries, hepatitis B vaccination rate increased from 76% in 2005 to 93% in 2017. Consequently, the region has lowered hepatitis B infections to less than 1% of children by 2017, and prevented 7 million deaths (WHO, 2019[8]).

Even though vaccines are designed to be both safe and effective, adverse events following immunisation do occur and need to be reported in order to identify problems and take appropriate corrective actions. Vaccine safety surveillance is progressing globally and in the WHO regions of South East Asia and Western Pacific, 73% and 63% of countries respectively, report adverse events following immunisation (Lei et al., 2018[9]).

Definition and comparability

Vaccination rates reflect the percentage of children at either age one or two that receives the last dose of primary immunisation series by the respective vaccination in the recommended timeframe. 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. Some countries ascertain vaccinations based on surveys and others based on administrative data, which may influence the results.

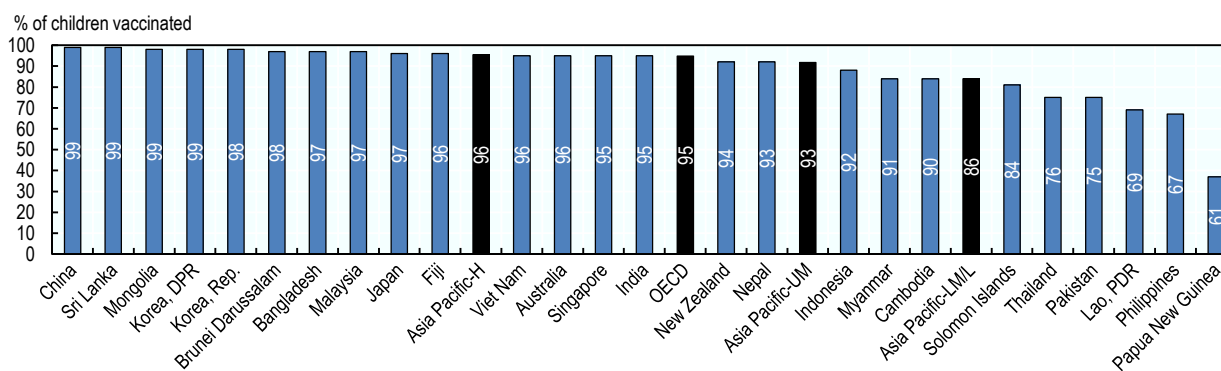
Figure 7.1. Vaccination rates for diphtheria tetanus toxoid and pertussis (DTP3), children aged around 1, 2019



Source: WHO GHO 2020.

StatLink <https://stat.link/5bsrqc>

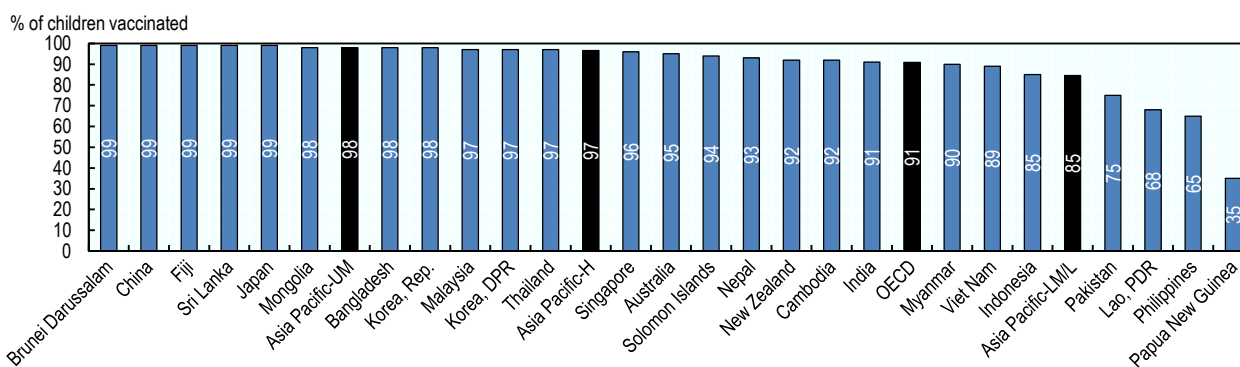
Figure 7.2. Vaccination rates for measles (MCV), children aged around 1, 2019



Source: WHO GHO 2020.

StatLink <https://stat.link/9yi24r>

Figure 7.3. Vaccination rates for hepatitis B (Hep3), children aged around 1, 2019



Source: WHO GHO 2020.

StatLink <https://stat.link/v2dczb>



From:
Health at a Glance: Asia/Pacific 2020
Measuring Progress Towards Universal Health Coverage

Access the complete publication at:
<https://doi.org/10.1787/26b007cd-en>

Please cite this chapter as:

OECD/World Health Organization (2020), "Childhood vaccination", in *Health at a Glance: Asia/Pacific 2020: Measuring Progress Towards Universal Health Coverage*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/bb31b049-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.