

# Overseas infectious diseases of priority concern

This factsheet presents information on overseas infectious diseases of priority concern to border health from 2000 onwards. These diseases include Public Health Emergencies of International Concern (PHEICs) and other infectious diseases of priority concern to New Zealand.



Despite low measles cases reported globally in 2020/21, immunisation rates have declined from 2019–21. In South-East Asia immunisation coverage decreased from 94–86 %



Globally, reported COVID-19 cases increased four-fold (379.8 million) while deaths almost halved (1.3 million) in 2022, compared to 2020 (85.5 million cases and 2.0 million deaths reported)



Laboratory confirmed dengue was reported in 4 of the 22 Pacific Island countries in 2021, compared to 13 countries in 2019.



Poliovirus was reported in 23 countries in 2022, predominantly in African and Middle Eastern nations.

## Background information

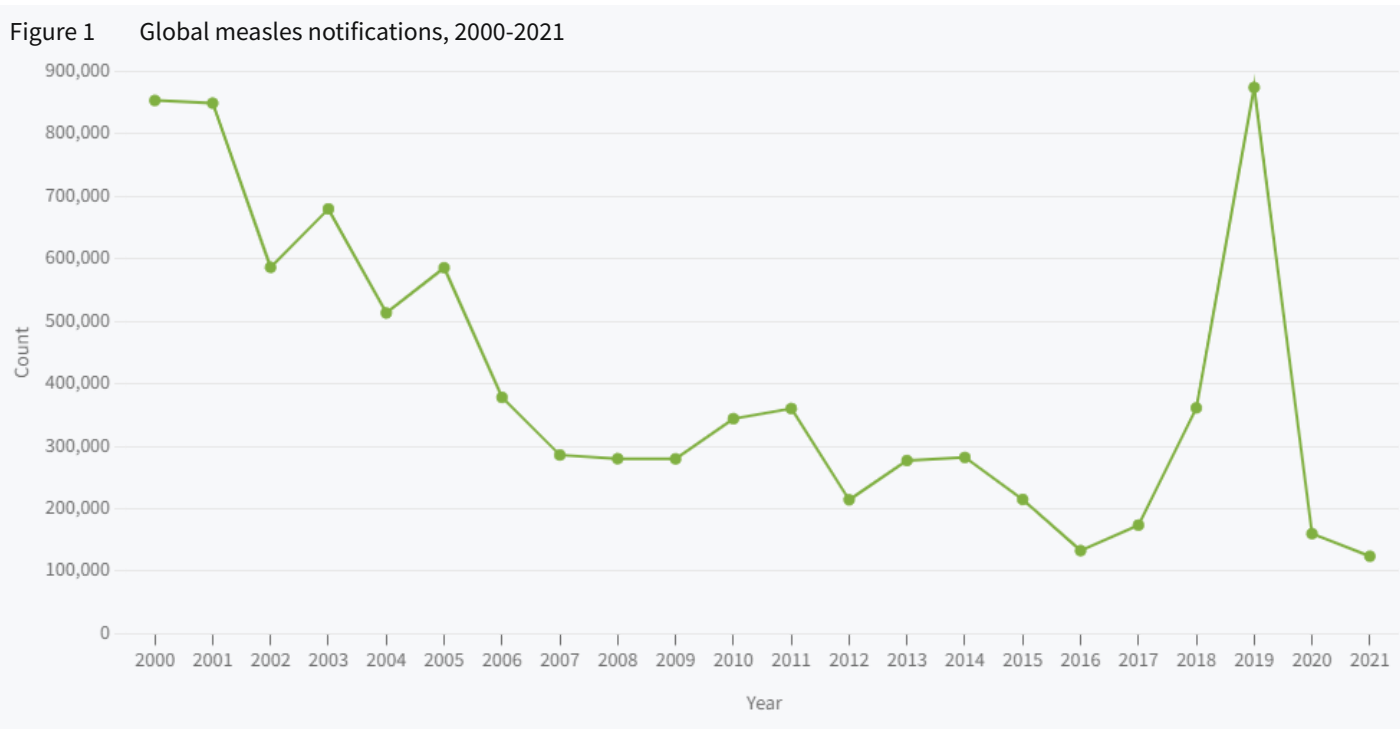
At the end of 2022 there were three Public Health Emergencies of International Concern (PHEIC), as classified by the World Health Organisation (WHO). These were Polio, COVID-19 and Monkeypox (renamed Mpox by Who in late 2022). Respiratory illnesses including measles, Middle Eastern Respiratory Syndrome (MERS) and non-seasonal influenza are also considered priority notifiable diseases to New Zealand. In addition, Dengue Fever, the most common arboviral disease entering New Zealand, is also reported here. For information surrounding selection of priority notifiable diseases, visit the [EHINZ website](#) or view the [metadata](#).

The time series maps in this factsheet are not interactive. To access the data behind these maps, select the "Download data" option found under each map.

Measles cases remained low in 2021 but immunisation rates are declining

Measles is a highly contagious virus spread through droplets from the nose, throat or mouth and causes a fever, cough, and rash. For information visit the [MoH website](#).

Globally, measles cases declined from 2000–2016. Cases increased in 2017 and 2018, spiking in 2019 (874,342 cases) before declining in 2020 (160,163 cases) and 2021 (124,054 cases) (Figure 1).



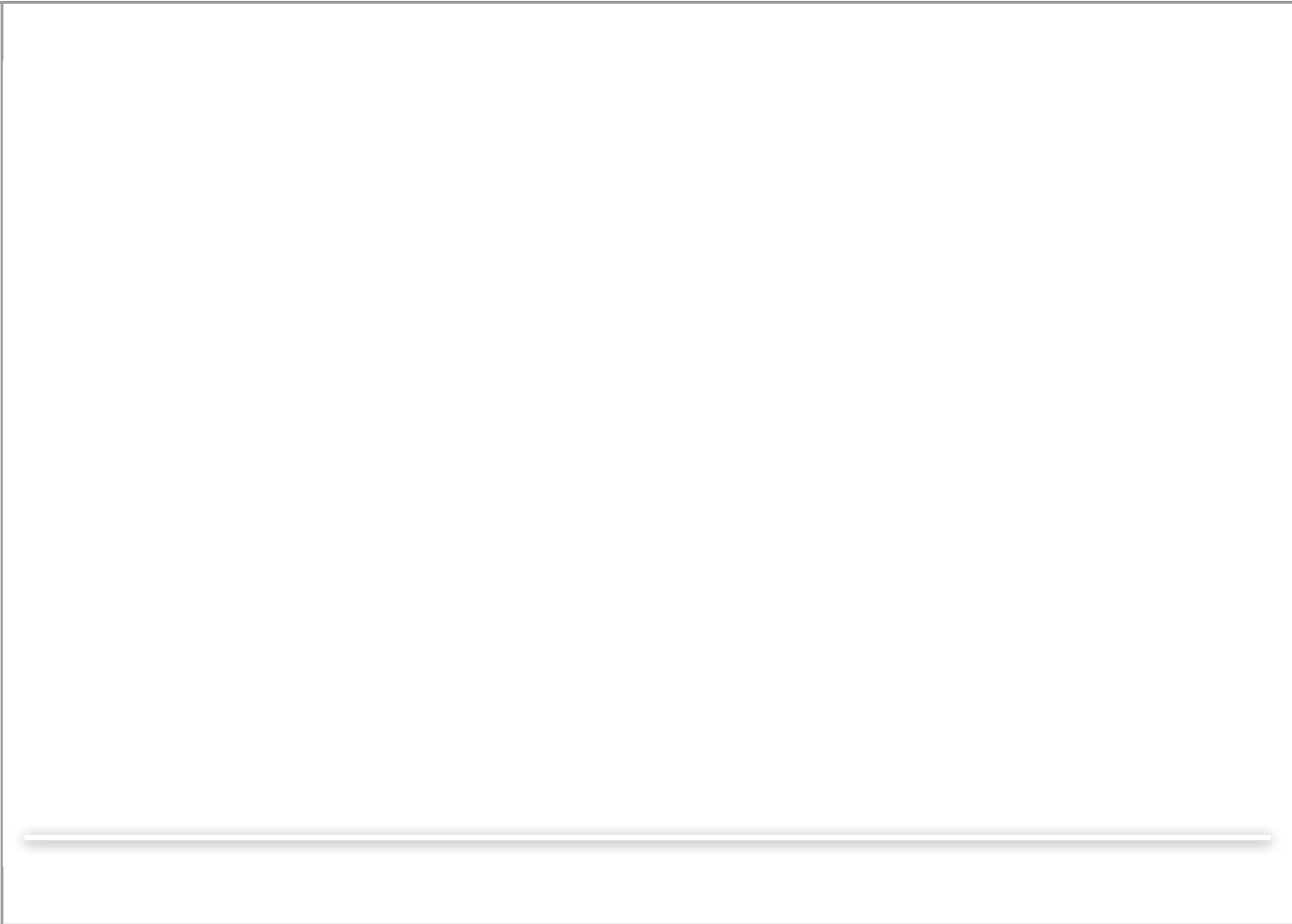
Source: WHO 2023a

In 2021, there were 15.7 cases of measles per million population globally, impacting 81 countries. This is a decrease from 144 countries affected in 2019 (112.6 cases per million population) and 115 countries in 2020 (20.4 cases per million population) (WHO 2022a) (Figure 2). New Zealand reported seven cases in 2020 and no cases in 2021. These declines are likely due to COVID-19 restrictions on international travel and lockdowns. Table 1 presents a list of Asia-Pacific countries with high measles cases and rates in 2021.

Table 1 Countries in the Asia-Pacific with high measles cases, 2021	
<b>Pakistan:</b> 10,399 cases (44.9 cases per million)	<b>India:</b> 5,700 cases (4.0 cases per million)
<b>China:</b> 554 cases (0.4 cases per million)	<b>Indonesia:</b> 394 cases (1.4 cases per million)
<b>Philippines:</b> 206 cases (1.8 cases per million)	<b>Vietnam:</b> 162 cases (1.7 cases per million)
<b>Malaysia:</b> 128 cases (3.8 cases per million)	<b>Thailand:</b> 66 cases (0.9 cases per million)

Source: WHO 2023a

**Figure 2** Measles notification rates, by country, 2000–2021.



Source: WHO 2023a  [Download data](#)

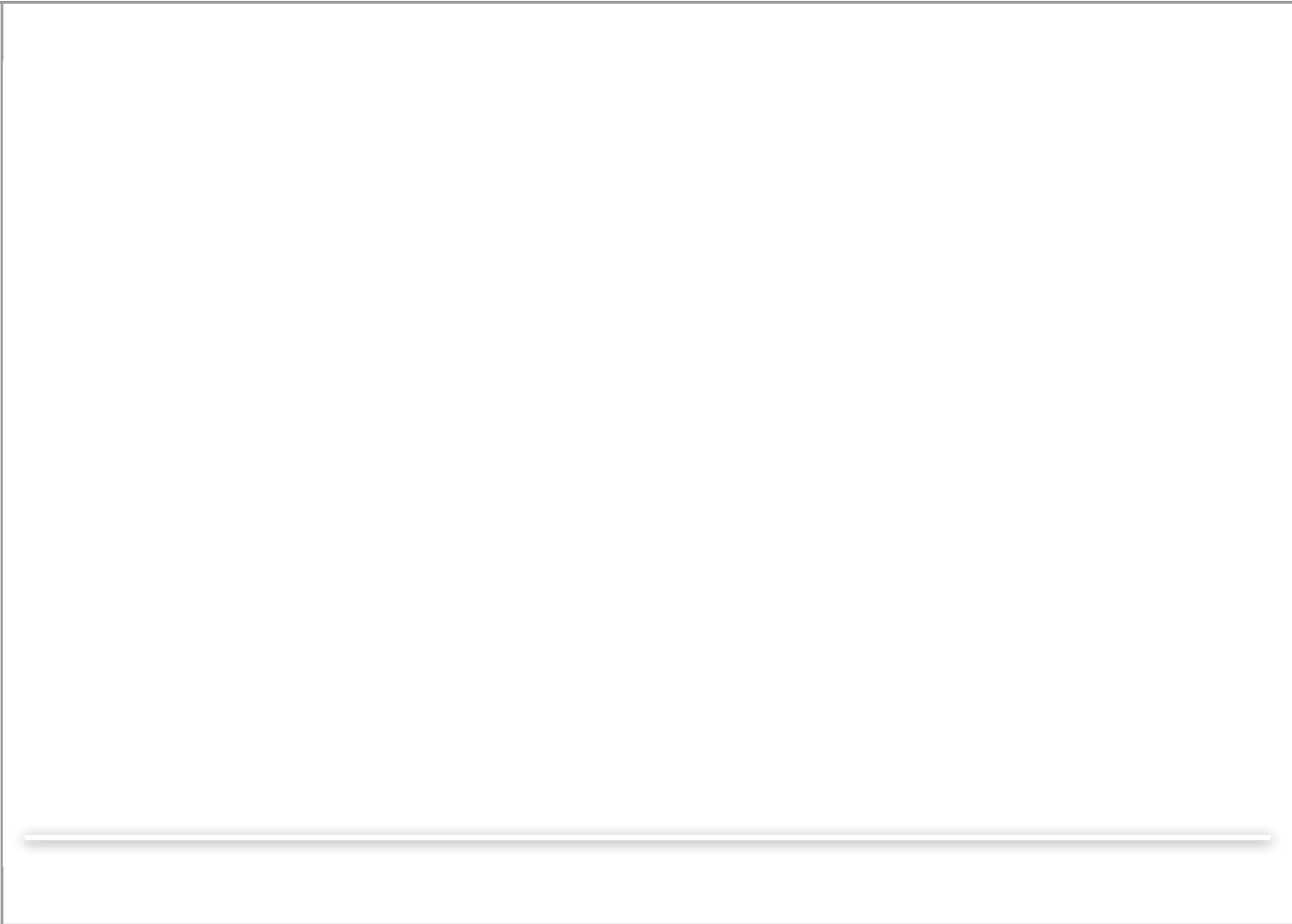
The international health community are concerned that measles cases could increase as international travel resumes due to disruptions to the global vaccination campaign (CDC 2021). Southeast Asia has been the worst affected region with vaccination coverage decreasing from 94% in 2019, to 86% in 2021 (Minta 2022).

**Roughly one case of COVID-19 reported for every 21 people on earth in 2022**

Coronavirus Disease 2019 (COVID-19) is the respiratory illness responsible for the COVID-19 pandemic. Emerging first in Wuhan, China (PRC), in late 2019, it quickly spread to most countries and territories. The most common symptoms are fever, dry cough, and fatigue. For more information visit the [MoH website](#).

Although cases increased from 85.5 million in 2020 to 379.8 million in 2022, the number of deaths declined. In 2020, 2.0 million deaths were reported globally for COVID-19, compared to 1.3 million deaths reported in 2022. Figure 3 presents the rate of COVID-19 cases from 2020–2022.

Figure 3 COVID-19 notification rates, by country, 2000–2022.



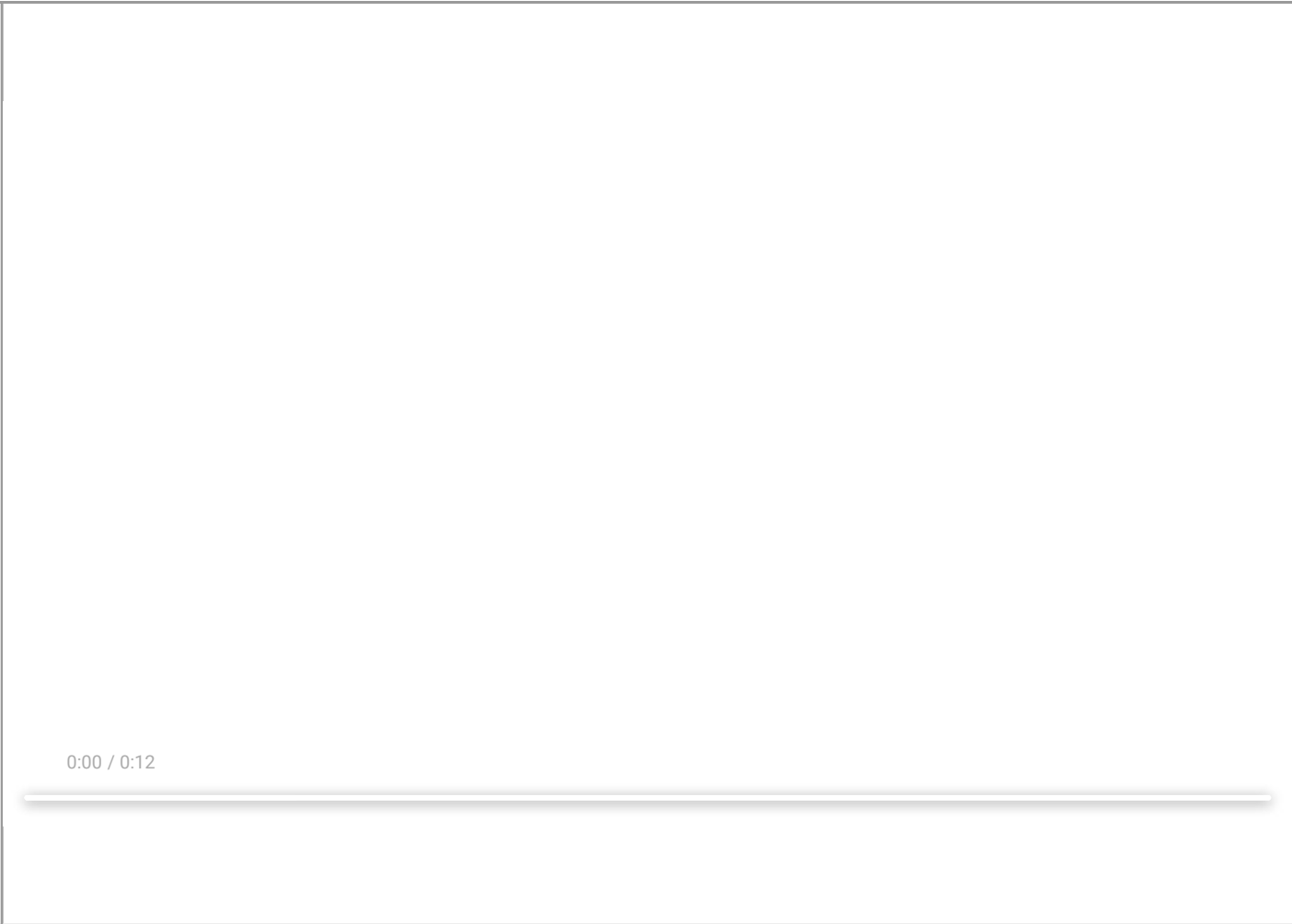
Source: WHO 2023b  [Download data](#)

**Laboratory confirmed dengue in Pacific Island countries has decreased during the pandemic**

Dengue virus is an arboviral disease spread by mosquitoes which can be separated into four serotypes (DEN-1, DEN-2, DEN-3 and DEN-4), all of which can cause severe illness in humans. For more information visit the [MoH website](#).

Dengue is the most common arboviral disease found to enter New Zealand. It accounted for 222 cases of the 272 arboviral diseases entering New Zealand in 2019 with the majority of these originating from the Pacific Islands (EHINZ 2021a). The primary vectors of dengue, *Aedes albopictus* and *Aedes aegypti* are not established in New Zealand therefore, local transmission is not currently possible (EHINZ 2021b). Figure 4 presents the Pacific Island Countries with laboratory confirmed dengue from 2013 to 2021.

**Figure 4** Pacific Island Countries with laboratory confirmed Dengue Virus cases, 2013–2021.



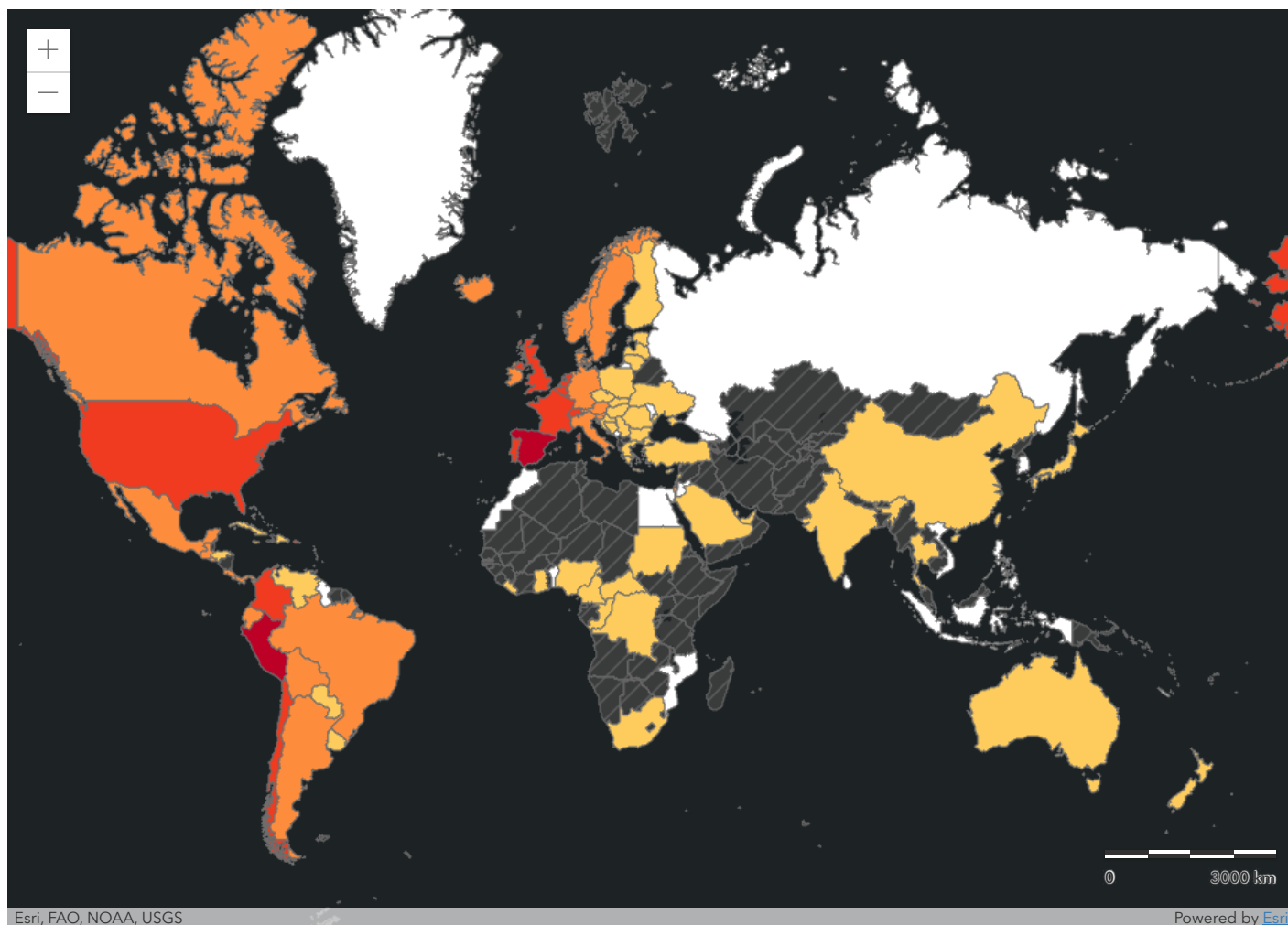
Source: Pacific Public Health Surveillance Network 2022  [Download data](#)

**Monkeypox cases were confirmed in 109 countries in 2022**

Mpox is a viral disease transmitted by contact with skin lesions, body fluids and respiratory droplets. Despite being endemic in Western and Central Africa since 1970, mpox was a low priority disease until 2022 when an increase in global cases resulted in WHO classifying it as a PHEIC. For more information visit the [MoH website](#).

In 2022, 109 countries reported at least one case of Monkeypox with the United States recording roughly a third of all cases, 29,724 cases. Countries with the highest rates of mpox include Gibraltar (183.8 cases per million), Spain (157.7 per million) and Peru (108.2 per million) (Figure 5). New Zealand recorded 40 cases.

Figure 5 Mpox notification rates, by country, 2022.



## Polio cases remained elevated globally from 2019 to 2022

Poliomyelitis (polio) is a viral disease that can cause severe neurological disability and sometimes death. In addition to wild virus, circulating weakened polio virus from oral polio vaccine (cVDPV) may cause polio in places where vaccination coverage is low (Venkatesan 2022). An injectable inactivated polio vaccine has replaced the oral polio vaccine in many countries including New Zealand. For more information visit the [MoH website](#).

From 2018–2022, four countries recorded cases of wild poliovirus; Pakistan (264 cases), Afghanistan (76 cases), Mozambique (8 cases) and Malawi (1 case), with all other cases being cVDPV.

From 2012–18, cases reached a low with less than 500 globally reported cases each year before increasing to a peak in 2020 (1,253 global cases) and remaining elevated in 2021 (697 cases) and 2022 (611 cases) (Figure 6). Countries most affected in 2022 were the Democratic Republic of Congo (272 cases) and Yemen (159 cases), with Mozambique, Nigeria, Pakistan, Chad, Niger and Benin all having 10 or more cases.

Figure 6 Wild poliovirus and vaccine derived poliovirus notification rates, by country, 2000–2022



Source: WHO 2023d  [Download data](#)

### Non-seasonal influenzas and MERS persist in parts of the world

Despite the focus being placed on COVID-19 in past years, multiple other highly infectious respiratory diseases have persisted across the globe, including MERS and non-seasonal influenzas.

Non-seasonal influenzas are defined as any novel influenza strain that may have pandemic potential. These include avian influenzas, such as H5N1, H3N8 and H10N3, and swine influenzas, such as H1N2 and H3N2. For more information visit the [MoH website](#).

In 2022, human cases of avian influenzas were identified in four regions: the United Kingdom, United States, China and Spain, while a human case of swine influenza was identified in Germany. All events were contained with sources identified and spread limited to one or two known human cases. Since 2011, there have been 34 unique reports of humans contracting avian or swine influenza’s with nine of these reported in China and the rest occurring across the globe (Figure 7).

**Figure 7** Countries and territories reporting non-seasonal influenza cases, 2011–2022



Source: WHO 2022e  [Download data](#)

Middle East Respiratory Syndrome (MERS) is a lung disease caused by a coronavirus (MERS-CoV) with a high death rate spread to humans from camels and bats in the Eastern Mediterranean. For more information visit the [MoH website](#). In 2022, MERS cases were identified in three Middle Eastern countries: Oman, Qatar and Saudi Arabia. This is similar to previous years with the last outbreak outside of the Middle East being in 2018 with cases reported in the United Kingdom, South Korea and Malaysia. To view mapping of MERS globally, contact the EHINZ team.

Data for this indicator

Priority notifiable diseases are selected from ESR’s annual notifiable disease list. All PHEICs, selected by WHO, are included as well as severe respiratory diseases. Information on vector-borne diseases is currently only investigated from a New Zealand context. For additional information, see the metadata link below.



References

CDC. 2021. *Global Measles Outbreaks* Atlanta: Centers for Disease Control and Prevention. URL: <https://www.cdc.gov/globalhealth/measles/data/global-measles-outbreaks.html> (accessed 17 January 2023).

Environmental Health Intelligence NZ, 2021a. *Mosquito-borne disease in New Zealand*. Wellington: Environmental Health Intelligence NZ, Massey University.

Environmental Health Intelligence NZ, 2021b. *Exotic mosquito species established in New Zealand*. Wellington: Environmental Health Intelligence NZ, Massey University.

Minta A, Ferrari M, Antoni S, Portnoy A, Sbarra A et al. 2022. Progress Toward Regional Measles Elimination — Worldwide, 2000–2021. *MMWR Morb Mortal Wkly Rep.* 71(47): 1489-1495.

Venkatesan P. 2022. Global polio eradication set back by COVID-19 pandemic. *The Lancet Microbe.* 3(3): 172. DOI: [https://doi.org/10.1016/S2666-5247\(22\)00042-8](https://doi.org/10.1016/S2666-5247(22)00042-8).

WHO. 2023a. *The Global Health Observatory, Measles*. Geneva: World Health Organisation. URL: <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/measles---number-of-reported-cases> (accessed 10 January 2023).

WHO. 2023b. *WHO Coronavirus (COVID-19) Dashboard*. Geneva: World Health Organisation. URL: <https://covid19.who.int/> (accessed 10 January 2023).

WHO. 2023c. *2022 Mpox (Monkeypox) Outbreak: Global Trends*. Geneva: World Health Organisation. URL: [https://worldhealthorg.shinyapps.io/mpx\\_global/](https://worldhealthorg.shinyapps.io/mpx_global/) (accessed 11 January 2023).

WHO. 2023d. *Extranet polio database*. Geneva: World Health Organisation. URL: <https://extranet.who.int/polis/public/CaseCount.aspx> (accessed 10 January 2023).

WHO. 2023e. *Disease Outbreak News (DONs)*. Geneva: World Health Organisation. URL: <https://www.who.int/emergencies/disease-outbreak-news> (accessed 09 January 2023).

Previous factsheet(s):  
[2022](#)

[2021](#)

[2019](#)

Other related topics include:

[Exotic diseases of concern to New Zealand](#)

[Mosquito-borne disease in New Zealand](#)

[High-risk pests caught at New Zealand’s border](#)

[Exotic mosquito species established in New Zealand](#)

### Disclaimer

Environmental Health Intelligence NZ – Rapu Mātauranga Hauora mo te Taiao - Aotearoa, makes no warranty, express or implied, nor assumes any legal liability or responsibility for the accuracy, correctness, completeness or use of any information that is available on this factsheet.

### Author

To get in touch with the author  [ehinz@massey.ac.nz](mailto:ehinz@massey.ac.nz)

### Citation

Environmental Health Intelligence NZ, 2023. *Overseas infectious diseases of priority concern*. Wellington: Environmental Health Intelligence NZ, Massey University.

### Further information

For descriptive information about the data  [Metadata](#)

 [Visit our website](#)

 [Subscribe to our newsletter](#)

