

Overseas infectious diseases of priority concern

This factsheet presents information on overseas infectious diseases for priority concern. These include Public Health Emergencies of International Concern (PHEICs), severe exotic respiratory diseases and mosquito-borne diseases in the Pacific.

Key facts



Polio has remained a PHEIC since first declared in 2014



Ebola in the Democratic Republic of the Congo declared a PHEIC July 2019. This is the second time WHO has declared Ebola a PHEIC; the first declaration in West Africa lasted from 2014–16



WHO lifted the Zika PHEIC in 2016



Two types of severe respiratory virus were reported, 2014–18



Dengue was present in eight Pacific Island countries and territories in 2018

Background information

High-risk exotic diseases, potentially harmful to New Zealand's health, are those which:

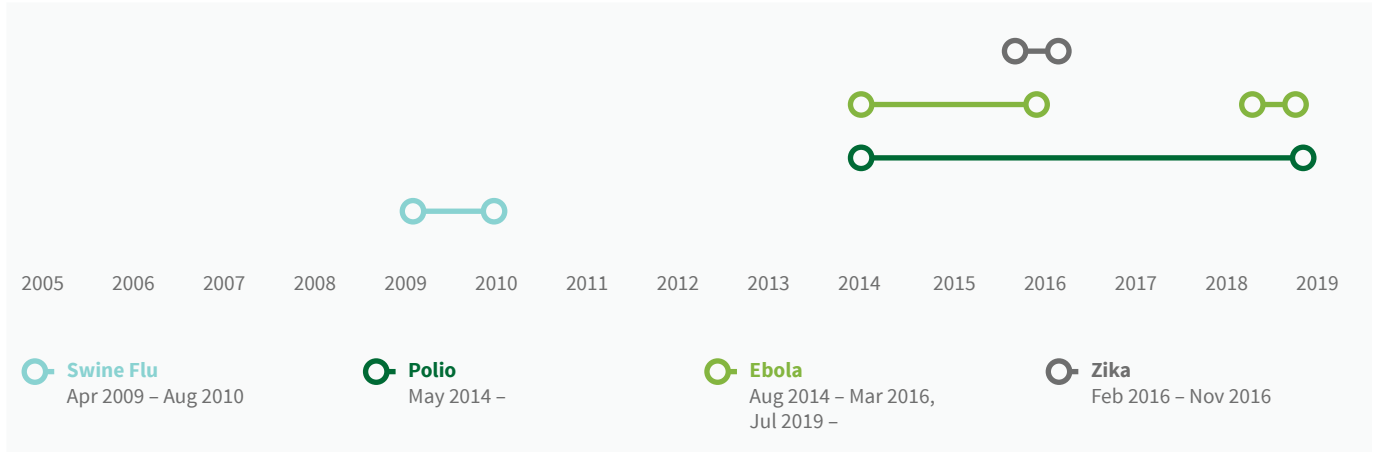
- spread easily
- New Zealand people are particularly vulnerable to (e.g. non-immune)
- can cause severe illness
- are difficult to treat

Exotic diseases overseas can be spread to New Zealand by New Zealand travellers, visitors and immigrants. International air travel can spread diseases very quickly across borders. Monitoring high-risk exotic diseases overseas is therefore important. It can tell us about the possible exposures of New Zealand travellers, visitors and immigrants to diseases, and help target our disease prevention and control work.

Public Health Emergencies of International Concern

The World Health Organization (WHO) can declare Public Health Emergencies of International Concern (PHEICs) when public health events arise that have international reach and may require an internationally coordinated response (WHO 2005). Since the inception of PHEICs in 2005, the WHO has declared PHEICs five times. Polio and Ebola are the only current PHEICs in 2019. WHO lifted the Zika PHEIC in 2016 (Figure 1).

Figure 1: Summary of PHEICs since 2005



Source: WHO n.d.

Polio remains a PHEIC in 2019

Polio is a viral disease which can cause severe neurological disability and sometimes death. It is preventable, and there is a global goal to eradicate it from the world using the polio vaccine (WHO 2016a). Between 2014 and 2018, the international spread of wild polio decreased. Since 2015, WHO have only reported wild polio cases in Afghanistan and Pakistan, with the exception of four cases in Nigeria in 2016 (Table 1).

In a statement issued on March 2019, WHO announced polio would remain a PHEIC. WHO said the eradication of polio is becoming a real possibility, but rising numbers of wild polio cases and cross-border spread between Pakistan and Afghanistan pose a risk to this. The removal of PHEIC status for polio could result in complacency at a critical time for eradication (WHO 2019a).

Table 1: Reported distribution of wild polio, 2014–18

	2014	2015	2016	2017	2018
PHEIC declared	Yes	Yes	Yes	Yes	Yes
Asia	Afghanistan (28) Iraq (2) Pakistan (306) Syrian Arab Republic (1)	Afghanistan (20) Pakistan (54)	Afghanistan (13) Nigeria (4) Pakistan (20)	Afghanistan (14) Pakistan (8)	Afghanistan (21) Pakistan (12)
Africa	Cameroon (5) Equatorial Guinea (5) Ethiopia (1) Nigeria (6) Somalia (5)	–	–	–	–

Source: WHO 2019b

Ebola in the Democratic Republic of the Congo declared a PHEIC in 2019






Ebola Virus Disease can cause fever, internal bleeding and death. It is transmitted from animals (eg, bats in parts of Africa) before spreading between humans. A large outbreak began in 2014 and affected more than 28,000 people in West Africa (CDC 2016a). A few cases were imported to high-income countries (Table 2), but disease spread within these countries was rare (WHO 2019c). Before 2014, outbreaks were small and contained within remote African areas (WHO 2016b).

WHO initially declared Ebola a PHEIC in August 2014 (WHO 2014). Increasing population size, movement, urbanisation, and less developed public health capacities in West Africa contributed to the emergency developing.

In March 2016 WHO lifted the PHEIC for Ebola. WHO deemed the risk of international spread of Ebola low and believed affected countries could respond to new emergences of the virus (WHO 2016c).

However, in 2019, the committee began meeting again after an outbreak of Ebola in the Democratic Republic of the Congo (DRC). Concerns were raised about the potential for the outbreak to spread to other neighbouring countries; on 17 July 2019, the WHO committee announced Ebola in the DRC a PHEIC (WHO 2019d). As of August 2019 there have been three imported cases to Uganda (WHO 2019d).

Table 2: Reported distribution of Ebola, 2014–19*

	2014	2015	2016	2017	2018	2019
PHEIC declared	Yes	Yes	Yes	No	No	Yes
Africa	Guinea Liberia Mali Sierra Leone DRC Nigeria	–	–	DRC	DRC	DRC Uganda 
Europe	Spain  UK 	Italy 	–	–	–	–
North America	USA 	–	–	–	–	–

* Partial dataset. 2019: January through August.

Key:  imported

Source: WHO 2019c

Zika PHEIC lifted in 2016

Zika is a vector-borne virus, transmitted by the bites of virus-carrying mosquitoes. The primary vector species, *Aedes aegypti*, is found in tropical, subtropical, and some temperate climates (CDC 2018). In New Zealand, there are no known species competent of transmitting Zika and no locally acquired vector-borne cases of the virus (WHO 2018). Infections have been imported from overseas with one case acquired locally through sexual contact (ESR 2016). The symptoms of the infection are generally mild and short-lived (2–7 days), of more concern are the complications microcephaly and Guillain-Barré syndrome which Zika can trigger (WHO 2016d).

In February 2016 the WHO declared Zika infection and microcephaly and other neurological disorders a PHEIC following the continuing geographic spread of the disease (Table 3) and a suspected (later confirmed) link between Zika and microcephaly. WHO lifted the PHEIC declaration in November, however as the disease continued to spread geographically, WHO advised a high level of vigilance (WHO 2016e).

Table 3: Reported distribution of Zika, 2014–18

	2014	2015	2016	2017	2018
PHEIC declared	No	No	Yes	No	No
Africa	–	Cape Verde	–	–	–
Asia	–	–	–	India	–
Asia (South East)	–	–	Maldives, Vietnam	–	–
Europe	–	–	France (sexually transmitted)	–	–
North America	–	–	USA (sexually transmitted)	–	–
Oceania	–	–	Papua New Guinea	–	–
South/Central America	–	Brazil, Colombia, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Suriname, Venezuela	French Guiana, Martinique, Puerto Rico, Guyana, Barbados, Ecuador, Bolivia, Haiti, Saint Martin, Guadeloupe, Dominican Republic, United States Virgin Islands, Costa Rica, Curaçao, Jamaica, Nicaragua, Bonaire, Aruba, Trinidad and Tobago, Saint Vincent and the Grenadines, Sint Maarten, Argentina, Dominica, Cuba, Chile, Saint Lucia, Peru	–	–

Source: WHO 2019c

Two severe respiratory diseases of particular concern were detected in the world, 2014–18

Two types of serious influenza ('Flu') viruses and one serious coronavirus of priority border health concern were reported between 2014 and 2018 (Table 4).

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) is a lung disease with a high death rate (WHO 2016f). It is thought to have spread to humans from camels and bats in the Middle East. The largest person-to-person outbreaks have occurred in the Middle East between 2014–18 (WHO 2019c) (Table 4). Cases were also imported to North America, Asia, Africa and Europe.

Avian influenza A(H7N9)/A(H5N6) is a flu virus transmitted by birds (CDC 2016b). It also has a relatively high death rate in humans. Cases were reported in China between 2014–17 (WHO 2019c) (Table 4). A few cases were also imported to Malaysia and Canada during this period but did not spread. The virus does not easily spread between people currently.

Table 4: Distribution of Severe Exotic Respiratory Diseases of Priority Border Health Concern to New Zealand, 2014–18

Year	2014	2015	2016	2017	2018
Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV)					
Middle East	Islamic Republic of Iran, Jordan, Kuwait, Lebanon, Saudi Arabia, United Arab Emirates, Yemen	Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates	Saudi Arabia, Oman, United Arab Emirates, Qatar, Bahrain	Saudi Arabia, Qatar, United Arab Emirates, Lebanon, Oman	United Kingdom
Europe	Austria, Greece, Netherlands, Turkey	Germany	Austria	–	–
Africa	Egypt, Algeria	–	–	–	–
Asia	–	China, Republic of Korea	–	–	Malaysia
South-East Asia	Malaysia	The Philippines, Thailand	Thailand	–	–
North America	USA	–	–	–	–
Non-seasonal influenza: Human infection with Avian influenza A(H7N9)/A(H5N6)					
Asia	China	China	China	China	–
South-East Asia	Malaysia	–	–	–	–
North America	–	Canada	–	–	–

Source: WHO 2019c

Spread of mosquito-borne diseases in the world, 2014–18

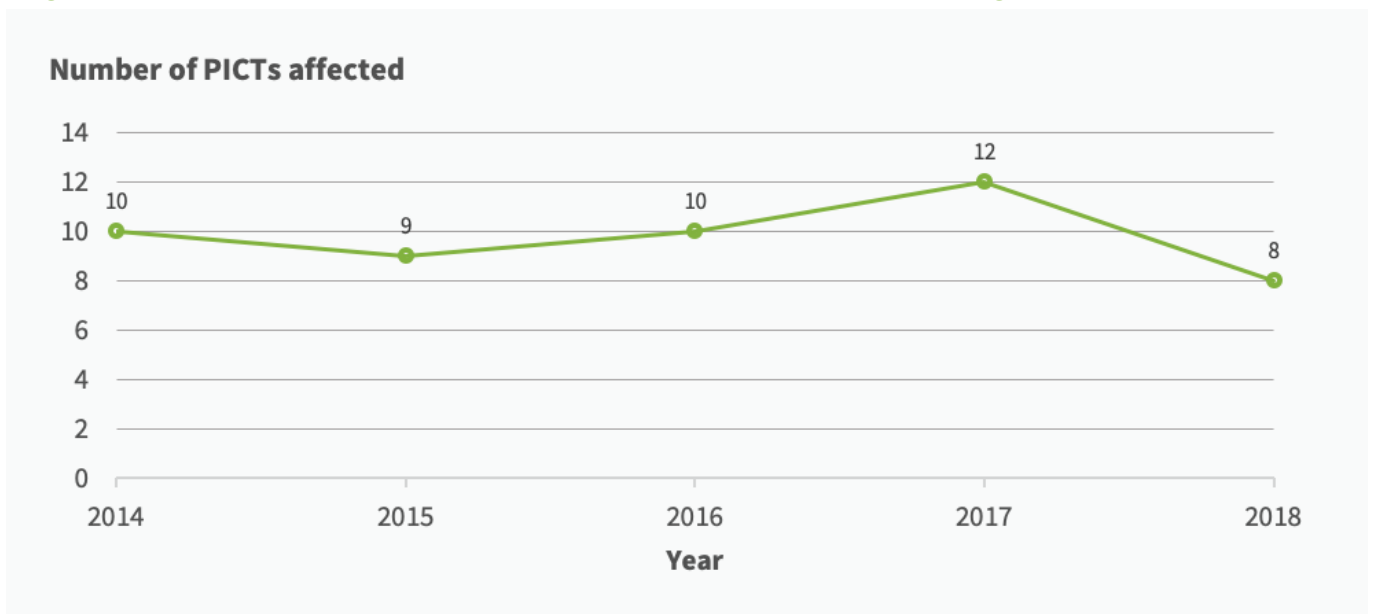
Mosquito-borne diseases often cause fever and a rash and may include: joint pain (eg, Chikungunya, Zika), bleeding problems (eg, Dengue, Rift Valley and Yellow Fevers), and red-eye (Zika, Chikungunya). They can be fatal.

The WHO reported outbreak alerts for six mosquito-borne diseases, 2014–18: Chikungunya, Zika, Dengue Fever, Rift Valley Fever, Yellow Fever and West Nile Virus (WHO 2019c). Combined, these diseases were present across the Pacific, North and South America, Asia, Africa and Europe.

Dengue affected eight countries and territories in the Pacific in 2018

The Asia-Pacific region is a high-risk region for the importation of exotic disease to New Zealand. Between 2014 and 2018 the number of Pacific Island countries and territories reporting cases of dengue ranged from eight to twelve (Figure 2). Over this period all four serotypes of Dengue were detected.

Figure 2: Number of Pacific Island Countries and Territories (PICTs) with dengue outbreaks, 2014–18



Source: Pacific Public Health Surveillance Network 2019

Notes: There was no similar information source found for countries in Asia, therefore closer analysis for Asia was not possible. Only Dengue is reported, there was no information available for Zika and Chikungunya in the Pacific at the time of report.

Trends in Mosquito-borne Diseases in the Pacific

For live and historical data see:

Pacific Public Health Surveillance Network www.pphsn.net

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WHO = World Health Organization;

CDC = Centers for Disease Control and Prevention

Other border health topics include

[Border health in New Zealand](#)

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

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

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