



Disease Outbreaks in the Pacific: The Samoa Measles Outbreak

Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)

Brief Description of Measles

From the World Health Organization (WHO): Measles is a highly contagious disease caused by a virus in the paramyxovirus family and is normally passed through direct contact and through the air. The virus infects the respiratory tract, then spreads throughout the body.

The first sign of measles is usually a high fever, which begins about 10 to 12 days after exposure, and lasts 4 to 7 days. In the initial stage, a runny nose, a cough, red and watery eyes, and small white spots inside the cheeks can develop. After several days, a rash erupts, usually on the face and upper neck. Over about 3 days, the rash spreads, reaching the hands and feet. The rash lasts for 5 to 6 days, and on average, the rash occurs 14 days after exposure to the virus. Most measles-related deaths are caused by complications and serious complications are more common in children under the age of 5, or adults over the age of 30.¹

Immunization is the most effective preventive measure against measles. High vaccination coverage of at least 95% with two doses of vaccine are recommended to ensure immunity.²

Before the measles vaccine was introduced in 1963 and ensuing widespread vaccination campaigns, major epidemics occurred approximately every 2–3 years and measles caused an estimated 2.6 million deaths annually. More than 140,000 people died from measles in 2018, and most were children under the age of 5, according to the WHO.³

Regarding the potential rapid spread of measles to other countries and regions, because measles has a long incubation period, with the average time from exposure to onset of early symptoms of about 10 - 12 days and from exposure to rash onset an average of 14 days (with a range of 7- 23 days), this means that international travel can be completed before an infected traveler becomes symptomatic. People may be infectious from approximately 3 days prior to and 4 days after a rash.⁴ Thus, travelers could quickly and easily spread the virus, without being aware of their contagious status until symptoms appear later.

The Measles outbreak in Samoa

Samoa lies approximately 80 miles (130 km) west of American Samoa, 1,800 miles (2,900 km) northeast of New Zealand, and 2,600 miles (4,200 km) southwest of Hawaii; or, located roughly halfway between Hawaii and New Zealand. Samoa shares the Samoan archipelago with American Samoa, and consists of

¹ Measles, <https://www.who.int/news-room/fact-sheets/detail/measles>

² Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

³ Measles, <https://www.who.int/news-room/fact-sheets/detail/measles>

⁴ Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

nine inhabited islands: Upolu, Savai'i, Manono, and Apolima, and the uninhabited islands of Fanuatapu, Namu'a, Nu'utele, Nu'ulua, and Nu'usafee.⁵

Its comparative land size area is slightly smaller than Rhode Island. The two main islands are Savaii, and Upolu.) The population is roughly 203,774 (July 2020 est.). About three-quarters of the population lives on the island of Upolu, where the capital, Apia, is located.⁶

Immunization programs since the late 20th century reduced the incidence of disease (until the latest measles outbreak), particularly among children; however, there are few doctors, and quality hospital care is limited. Obesity and poor diets are the top health concerns. The leading causes of death are congestive heart failure, cancers, cerebrovascular diseases, accidents, pneumonia, and septicemia.⁷ There are 0.34 physicians per 1,000 population (2016).⁸

On October 15, 2019, the Samoa Ministry of Health (MoH) reported an outbreak of measles after the confirmation of 7 measles cases confirmed by the Victorian Infectious Disease Reference Laboratory in Australia.⁹ A State of Emergency was declared on November 15, 2019 in an effort to combat the growing outbreak. In new restrictions, the government closed schools, limited public gatherings and restricted travel.

A National Emergency Operations Center (NEOC) was stood up to coordinate the response. According to the government, the NEOC served as the focal point providing collaboration and operational coordination, with advice and technical guidance from the MoH during the Emergency Period.

The ensuing measles outbreak in Samoa caused a significant impact on the population and strained the public health system. Case management and clinical care services were overburdened, particularly the intensive care and pediatric wards in the main hospital in Apia, according to the UN. The most affected by the outbreak were infants and young children under the age of 5, according to the WHO and UNICEF. The 2019 measles outbreak can be largely attributed to low vaccination rates in the country in recent years. Between 2017 and 2018, the World Health Organization and UNICEF estimated that the country's national immunization coverage fell from 74% to 34%. During that time, a medical scandal involving two improperly prepared measles, mumps, and rubella (MMR) vaccines prompted the government to halt its MMR immunization program for a nearly a year and sparked fear about vaccines among Samoan residents.¹⁰

To combat the outbreak, on November 20, 2019, Samoan authorities launched a mass vaccination campaign which initially targeted all boys and girls aged 6 months to 19 years and women aged 20 to 35

⁵ Samoa, <https://www.britannica.com/place/Samoa-island-nation-Pacific-Ocean/History>

⁶ World Factbook, https://www.cia.gov/library/publications/the-world-factbook/geos/print_ws.html

⁷ Samoa, <https://www.britannica.com/place/Samoa-island-nation-Pacific-Ocean/History>

⁸ World Factbook, https://www.cia.gov/library/publications/the-world-factbook/geos/print_ws.html

⁹ Measles Update: American Samoa Department of Health (October 17, 2019) , <https://reliefweb.int/report/american-samoa/measles-update-american-samoa-department-health-october-17-2019>

¹⁰ Samoa ends measles state of emergency, <https://abcnews.go.com/Health/samoa-ends-measles-state-emergency/story?id=67982048>

years. On December 2, 2019, the target age group was expanded to include people aged 6 months to 60 years.¹¹

The Samoa government on Dec. 28 2019 ended the Measles State of Emergency. In place of the emergency order, the Samoa Cabinet approved the State of Recovery for Samoa to commence immediately. For the Recovery Phase, the Ministry of Health and the Ministry of Foreign Affairs are tasked with the preparations of the Recovery Plan. The government also instructed that all works which were conducted by the National Emergency Operation Center, (NEOC) during the crisis are to be referred to the Health Emergency Operation Center (HEOC) going forward.¹²

Foreign Medical Teams (FMTs)

FMT's helped augment and support the overburdened health system in Samoa and teams also helped provide training to healthcare workers. A total of 18 international emergency medical teams comprised of 557 EMT personnel were deployed to assist Samoa.¹³ The largest FMT's came from France, Australia, New Zealand, Norway, the UK, Japan, Israel, the US, and the UN.

- Australia: Sent several Australian Medical Assistance Team (AusMAT) teams comprised of medical professionals from around the country to support Samoa's response.¹⁴ Australia also sent a team from Australia's National Critical Care and Trauma Response Centre, which was established after the Bali bombings in 2002, comprised of pediatricians, nurses and midwives.¹⁵
- European Union: Following a request from the WHO for emergency medical teams through the EU's Civil Protection Mechanism, teams from France and Norway flew to Samoa to support the government's response.¹⁶
- France: Since mid-November, France contributed medical professionals and medical equipment and supplies to help Samoa. Much of the support came from French Polynesia. A first team included three doctors and an epidemiologist, while a second team that joined them later was comprised of 10 medical professionals.¹⁷

¹¹ Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

¹² Measles State of Emergency ends, <https://reliefweb.int/report/samoa/measles-state-emergency-ends>

¹³ Emergency medical teams support to Samoa measles outbreak, <https://www.who.int/westernpacific/emergencies/measles-outbreaks-in-the-pacific>

¹⁴ Australian nurse describes grueling conditions in Samoa's dedicated measles ED, <https://www.smh.com.au/world/oceania/australian-nurse-describes-grueling-conditions-in-samoa-s-measles-dedicated-ed-20191204-p53gxn.html>

¹⁵ Australia sends medical team to Samoa to aid in measles epidemic, <https://www.abc.net.au/radio/programs/am/australia-sends-medical-team-to-samoa-to-aid-in-measles-epidemic/11768092>

¹⁶ Samoa – Measles outbreak (DG ECHO, Government of Samoa) (ECHO Daily Flash of 16 December 2019), <https://reliefweb.int/report/samoa/samoa-measles-outbreak-dg-echo-government-samoa-echo-daily-flash-16-december-2019>

¹⁷ Measles outbreak - 10 medical expert to land today in Samoa, <https://nz.ambafrance.org/Measles-outbreak-10-medical-expert-to-land-Samoa>

- Norway: On November 30, 2019, Norway sent an emergency medical team (EMT) to Samoa. The team consisted of medical doctors, public health experts, nurses, and logistics personnel.¹⁸ The team provided support until the end of 2019, in two hospitals in Apia.¹⁹
- New Zealand: Teams of doctors, nurses and support staff deployed as part of the New Zealand Medical Assistance Team (NZMAT) in several rotations to work alongside Samoan health personnel. Additionally, other personnel were deployed: Nurse vaccinators; Samoan-speaking medical professionals provided support, including psychological support for health staff and affected communities; Intensive care unit (ICU) specialists; New Zealand Red Cross nurses, worked with the Samoa Red Cross; Engineers were deployed; funding for 100,000 vaccines were provided by UNICEF, along with 15,000 vaccines from New Zealand; and, medical supplies and equipment were provided.²⁰
- Israel: A team of doctors and nurses were deployed from Sheba Medical Center’s Israel Center for Disaster Medicine & Humanitarian Response unit, in early December 2019.²¹
- Japan: At the request of the Government of Samoa, the Government of Japan dispatched two medical teams to Samoa to provide assistance. The Infectious Diseases Response Team of the Japan Disaster Relief (JDR) was composed of doctors, nurses, officials of the Ministry of Foreign Affairs and Japan International Cooperation Agency (JICA) The first team arrived on December 2 and the second team arrived in the middle of December.²²
- United Kingdom: A team from the UK-aid funded UK’s Emergency Medical Team (UK EMT) comprised of 13 British doctors and nurses deployed to Samoa in late November, following a request by the Samoan government and AusMAT.²³
- United States: US Centers for Disease Control and Prevention (CDC) teams flew to Samoa (and Fiji, Tonga and American Samoa) as well as a group of 70 doctors and nurses from Hawaii led by Lt. Gov. Josh Green. The CDC team to Samoa was comprised of two experts.²⁴

¹⁸ Norway to provide assistance for response to measles outbreak in Samoa,

<https://reliefweb.int/report/samoa/norway-provide-assistance-response-measles-outbreak-samoa>

¹⁹ Samoa – Measles outbreak (DG ECHO, Government of Samoa) (ECHO Daily Flash of 16 December 2019),

<https://reliefweb.int/report/samoa/samoa-measles-outbreak-dg-echo-government-samoa-echo-daily-flash-16-december-2019>

²⁰ Samoa Measles Outbreak – New Zealand Response, <https://www.mfat.govt.nz/en/aid-and-development/disaster-and-humanitarian-aid/samoa-measles/>

²¹ Israel sends humanitarian response unit to stem Samoan measles crisis,

<https://mfa.gov.il/MFA/ForeignPolicy/Aid/Pages/Israel-sends-humanitarian-response-unit-to-stem-Samoan-measles-crisis-8-December-2019.aspx>

²² Outbreak of Measles in the Independent State of Samoa: Dispatch of the 2nd Batch of Japan Disaster Relief Infectious Diseases Response Team, <https://reliefweb.int/report/samoa/outbreak-measles-independent-state-samoa-dispatch-2nd-batch-japan-disaster-relief>

²³ UK medics fight deadly measles outbreak in Samoa, <https://www.gov.uk/government/news/uk-medics-fight-deadly-measles-outbreak-in-samoa>

²⁴ CDC sends experts to fight measles outbreaks in Pacific islands neighboring Samoa,

<https://www.washingtonpost.com/health/2019/12/11/cdc-sends-experts-fight-measles-outbreaks-pacific-islands-neighboring-samoa/>

United Nations

The UN Children's Fund (UNICEF) has supplied more than 200,000 vaccines for the vaccination campaign, while the WHO brought in medical staff from across the globe to assist medical teams in the field. The UN also supported another campaign, with workers going door-to-door to promote awareness about the importance of vaccinations.²⁵

The UN's Central Emergency Response Fund (CERF) has allocated US\$2.7 million allocation to support response in Samoa and to address the measles cases in Tonga and Fiji.²⁶

Additional U.S. Government support

U.S. Indo-Pacific Command (USINDOPACOM)

A U.S. Navy medical officer, usually based in Auckland, was in Samoa to help the US Embassy determine the best ways to provide assistance.²⁷

United States Agency for International Development (USAID) Office of U.S. Foreign Disaster Assistance (OFDA)

USAID's Office of U.S. Foreign Disaster Assistance (OFDA) partnered with the WHO, which is helping to coordinate the international teams working in support of Samoa's measles response. USAID Global Health released US\$200,000 of disaster assistance to Samoa.²⁸

Current situation in Samoa

In the latest Government of Samoa's Health Emergency Operation Centre update published on January 20, 2020, the Ministry of Health said there was a cumulative total of 5,707 measles cases reported to the Disease Surveillance Team since the outbreak started.²⁹

In the latest situation report by the WHO, utilizing data from the Health Emergency Operation Centre, as of February 21, 2020, 95% of the 1 868 persons who were admitted to hospital had recovered and returned home while approximately 134,499 persons, representing 95% of the eligible population, were vaccinated. There have been 83 deaths due to the outbreak and affected families are receiving psychosocial support from the Ministry of Health.^{30,31}

According to the Health Emergency Operation Centre, there are currently no travel restrictions or vaccination requirement for those travelling to Samoa. Proof of MMR vaccination is not currently

²⁵ UN team aids Samoa response to deadly measles epidemic, <https://news.un.org/en/story/2019/12/1052881>

²⁶ Ibid.

²⁷ Samoa Measles Outbreak, <https://ws.usembassy.gov/samoa-measles-outbreak/>

²⁸ Ibid.

²⁹ Health Emergency Operation Centre: Update on the measles outbreak, January 20, 2020, <https://reliefweb.int/report/samoa/health-emergency-operation-centre-update-measles-outbreak-january-20-2020>

³⁰ WHO helps Samoa and Tokelau to prepare for COVID-19, <https://reliefweb.int/report/samoa/who-helps-samoa-and-tokelau-prepare-covid-19>

³¹ Health Emergency Operation Centre: Update on the measles outbreak, January 20, 2020, <https://reliefweb.int/report/samoa/health-emergency-operation-centre-update-measles-outbreak-january-20-2020>

required for Samoans travelling to Australia, New Zealand, or the United States, with only travelers to American Samoa required to provide proof of vaccination.³²

As of Feb. 1, 2020, based on data shared by the Samoa Ministry of Health, DoH informed cabinet members that numbers remain the same for measles cases in the independent state since the last briefing on Jan. 26th - with 5,707 total cases and 83 deaths. Officials were waiting on a lab test sent to Honolulu to confirm a suspected case of measles.³³

According to the WHO, with Samoa close to declaring the end of its measles outbreak, the country is now preparing for COVID-19.

COVID-19

Due to the COVID-19 threat, a State of Emergency was declared in March 2020. As of March 30, 2020, suspected cases have been tested, but so far no tests have come back positive.³⁴ According to the WHO, the Health Emergency Operations Committee (HEOC) has shifted focus to COVID-19, and is working to prevent and mitigate its impact on an already stressed population. The HEOC, a 40-plus multidisciplinary team chaired by the Ministry of Health, has been monitoring COVID-19 and has put in place several prevention measures. This includes screening at all ports of entry, tracing movements from affected countries and providing prevention advice to travelers. Various WHO guidelines are also being implemented, the WHO reports. The MoH also continues to educate the public on how to stop the spread through the adoption of proper hygiene. These messages are being disseminated on the Ministry of Health website and Facebook pages, TV and Radio, the WHO reported.³⁵

Dr Rasul Baghirov, WHO Representative for Samoa, American Samoa, Cook Islands, Niue and Tokelau said that “all countries under the country office’s purview will continue to receive technical support to build their capacity in clinical management, risk assessments and risk communications as part of COVID-19 country preparations.”³⁶

On March 26, 2020, the World Bank provided Samoa US\$5.1 million to support Samoa’s response. In December 2019 the World Bank had already committed US\$9.3 million to strengthen Samoa’s health systems through the “Samoa Health System Strengthening Program.” In early March, the World Bank announced a US\$14 billion COVID-19 response package to support the global response which will also support developing countries to strengthen health systems and the World Bank is working to provide support to Pacific countries through this.³⁷

³² Health Emergency Operation Centre: Update on the measles outbreak, January 20, 2020,

<https://reliefweb.int/report/samoa/health-emergency-operation-centre-update-measles-outbreak-january-20-2020>

³³ No new confirmed cases for measles in American Samoa, <https://reliefweb.int/report/american-samoa/no-new-confirmed-cases-measles-american-samoa>

³⁴ Coronavirus: The virus sweeping the world is yet to touch down in Samoa, <https://www.stuff.co.nz/national/health/coronavirus/120691319/coronavirus-the-virus-sweeping-the-world-is-yet-to-touch-down-in-samoa>

³⁵ WHO helps Samoa and Tokelau to prepare for COVID-19, <https://reliefweb.int/report/samoa/who-helps-samoa-and-tokelau-prepare-covid-19>

³⁶ Ibid.

³⁷ World Bank provides US\$5.1m for Samoa COVID-19 response, <https://reliefweb.int/report/samoa/world-bank-provides-us51m-samoa-covid-19-response>

The Samoa Ministry of Health has tightened border controls, requiring all travelers to undergo a medical examination three days before travel and travelers have also been asked to put themselves in a 14-day quarantine prior to heading to Samoa. A medical clearance report was now required before check-in onto flights bound for Samoa. The ministry has also cut the number of passengers flying into Samoa from New Zealand due to confirmed cases of the virus in New Zealand. There is also compulsory screening of all passengers and crew upon arrival. In further efforts to prevent COVID-19 from reaching the country, the MoH has also banned all chartered flights, cruise ships and yachts to the country.³⁸

The Measles outbreak in American Samoa

The Territory of American Samoa is comprised of the eastern part of the Samoan archipelago, located in the south-central Pacific Ocean. It lies about 1,600 miles (2,600 km) northeast of New Zealand and 2,200 miles (3,500 km) southwest of Hawaii, or roughly halfway between Hawaii and New Zealand. American Samoa includes the inhabited islands of Tutuila, Tau, Olosega, Ofu, Aunuu, and including Swains Island, an inhabited coral atoll, and uninhabited Rose Atoll. The capital of American Samoa is Pago Pago, located on Tutuila. Comparative land size is described as slightly larger than Washington, D.C.^{39,40}

The population is roughly 49,437 (July 2020 est.)⁴¹ Health conditions are described as generally good. The leading causes of death include heart diseases, cancers, and diseases of the respiratory system. Life expectancy is in the low 70s for men and low 80s for women, somewhat higher than regional averages.⁴²

On November 13, 2019, the American Samoa government declared a public health emergency following outbreaks in Samoa and Tonga, as well as because of two suspected cases of measles in two children under five, visiting from Samoa. Governor Lolo Matalasi Moliga said that all visitors entering American Samoa through Samoa or Tonga had to provide proof of MMR immunization. Additionally, all American Samoan residents travelling to affected countries would be subject to screening. The original emergency declaration was valid for 30 days with the possibility of extension.⁴³

The emergency sparked a vaccination campaign, bans on public gatherings, school closures, and strict border controls to combat the spread of the disease and the government also activated an Emergency Operations Center (EOC) as part of its response. The two children who sparked the public health emergency, had tested positive for measles and were found to have been visiting from neighboring Samoa. In early December, the Director of Health, Motusa Tuileama Nua, said if the people the children met had not been vaccinated, the territory would have had an outbreak. Department of Health epidemiologist Aifili John Tufa said as soon as anyone presented with symptoms, they conducted

³⁸ Suspected coronavirus case reignites fears felt during Samoa's measles outbreak, <https://www.stuff.co.nz/national/health/coronavirus/120424142/suspected-coronavirus-case-reignites-fears-felt-during-samoas-measles-outbreak>

³⁹ Samoa, <https://www.britannica.com/place/American-Samoa>

⁴⁰ American Samoa, <https://www.cia.gov/library/publications/the-world-factbook/geos/aq.html>

⁴¹ Ibid.

⁴² Samoa, <https://www.britannica.com/place/American-Samoa>

⁴³ American Samoa declares health emergency over measles, <https://www.rnz.co.nz/international/pacific-news/403264/american-samoa-declares-health-emergency-over-measles>

contact tracing, and in this case established that all those the children had met had been vaccinated. At the time the department put the country's MMR vaccination rate at 99.7 percent.⁴⁴

On December 8, 2019, the state of emergency was extended with additional restrictions on public gatherings and the closure of public and private schools, as well as entry restrictions.⁴⁵ A restriction on public gatherings was lifted on December 17, 2019 while the ban on entry permits was also lifted but restrictions remained in place.⁴⁶ Schools and child care centers were shut down on December 6, 2019 as a precaution and then re-opened January 6, 2020 after no new confirmed cases for several weeks.⁴⁷ In early January, the public health emergency was extended until February 6.⁴⁸

In the latest available Government of American Samoa Measles outbreak situation report, published on Jan. 19, 2020, the government reported that American Samoa continued its campaign to vaccinate all school aged children. All schools were open, however, students without 1 dose of MMR would not be permitted to attend without proof of MMR vaccination. On December 11, 2019 American Samoa began its campaign to vaccinate all adults with no evidence of MMR vaccine, and as of the date of the report, 14,128 doses had been given to adults 19 years and older. American Samoa continued to restrict entry at its borders from travelers via Samoa and Tonga, with proof of immunity required for entry from Apia, Samoa and the Kingdom of Tonga.⁴⁹

United States Government support

On January 10, 2020, the U.S. Department of the Interior announced US\$490,000 in funding to support the prevention of the spread of measles in American Samoa and to help efforts to vaccinate the entire population with the Measles, Mumps, Rubella (MMR) vaccination. Funding also supported the purchase of medical supplies, lab equipment, and border patrol efforts as part of the government's overall strategy. The Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services is the territory's primary partner for disease prevention.⁵⁰ A CDC team was sent to assist American Samoa.

⁴⁴ High vaccination rates keeping American Samoa measles free, <https://www.rnz.co.nz/international/pacific-news/404824/high-vaccination-rates-keeping-american-samoa-measles-free>

⁴⁵ Interior Provides \$490,000 to Help Prevent Measles Outbreak and Support Vaccination Campaign in American Samoa, <https://reliefweb.int/report/american-samoa/interior-provides-490000-help-prevent-measles-outbreak-and-support-vaccination>

⁴⁶ Governor Lolo releases Amended Proclamation, https://reliefweb.int/sites/reliefweb.int/files/resources/4bfff9_88a80992c0ef4201947a0ec0f426a7fa.pdf

⁴⁷ American Samoa to reopen schools following measles outbreak, <https://www.rnz.co.nz/international/pacific-news/406483/american-samoa-to-reopen-schools-following-measles-outbreak>

⁴⁸ American Samoa extends public health emergency, <https://www.rnz.co.nz/international/pacific-news/406985/american-samoa-extends-public-health-emergency>

⁴⁹ American Samoa Measles Outbreaks Situational Report for December 29, 2019 - January 18, 2020, <https://reliefweb.int/report/american-samoa/american-samoa-measles-outbreaks-situational-report-december-29-2019-january>

⁵⁰ Interior Provides \$490,000 to Help Prevent Measles Outbreak and Support Vaccination Campaign in American Samoa, <https://reliefweb.int/report/american-samoa/interior-provides-490000-help-prevent-measles-outbreak-and-support-vaccination>

Current Situation

On February 11, 2020, health officials said that another measles case had been confirmed in a 24-year old woman after a laboratory in Honolulu confirmed a sample, bringing to 16 the total number of confirmed measles cases. The woman had no history of travel outside of the territory and therefore is considered a locally transmitted case.⁵¹

The Government of American Samoa extended the measles public health emergency on Feb. 27, 2020, saying that Measles remains a public health threat, while also acknowledging the new threat by the novel Coronavirus. The notice extended the measles emergency for 30 days until March 26, 2020.⁵²

COVID-19

American Samoa has continued stringent travel restrictions from the measles outbreak to continue to combat the spread of measles and to counter the threat of the coronavirus. As of March 25, 2020, American Samoa had a suspected case of COVID-19, however, the territory has had trouble getting the sample tested. Both American Samoa and the Commonwealth of the Northern Mariana Islands (CNMI) have declared states of emergencies. CNMI and American Samoa currently do not have the capability to test its own samples and must send these away to other US laboratories. Only two territories, Guam and Puerto Rico, are able to test their own samples. American Samoa is working on equipping the Lyndon B. Johnson Tropical Medical Center, its only hospital, to test samples, but this is likely to take around two months and needs CDC approval. The hospital can currently only accommodate 10 coronavirus patients in a special facility. Travelers arriving on the territories from affected countries must face a screening process and quarantine.⁵³

Measles in other Pacific Island Nations

According to the WHO, a resurgence of measles cases has been seen globally since 2017. In the Asia Pacific Region, outbreaks of measles have been reported from countries where measles has previously been eliminated (including Australia, Cambodia, Japan, New Zealand, Republic of Korea) and in endemic countries with high incidence rates (including Lao PDR, Malaysia, the Philippines, Thailand and Viet Nam).⁵⁴

Pacific Island Countries and Areas (PICs) are responding to outbreaks of measles with cases being reported for the first time since 2014. In the Pacific, the Ministries of Health in each affected country is coordinating response with support from WHO and partners.

According to the WHO, in 2019, the Pacific saw the re-emergence of measles, along with the rest of the world, with outbreaks declared in Tonga, Fiji and cases reported in Kiribati, in addition to the outbreaks in Samoa and American Samoa.

⁵¹ Another confirmed measles case in American Samoa, <https://www.rnz.co.nz/international/pacific-news/409282/another-confirmed-measles-case-in-american-samoa>

⁵² Declaration of Continued Public Health Emergency in American Samoa (February 27, 2020), <https://reliefweb.int/report/american-samoa/declaration-continued-public-health-emergency-american-samoa-february-27-2020>

⁵³ American Samoa's coronavirus conundrum: No way to test, <https://www.nbcnews.com/health/health-care/american-samoa-s-coronavirus-conundrum-no-way-test-n1167776>

⁵⁴ Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

Tonga

On October 22, 2019, the Tonga Ministry of Health declared a measles outbreak. The first cluster of cases was amongst teenage rugby players who had travelled to Auckland, New Zealand. The outbreak has been characterized by transmission in schools. As of December 2, 2019, a total of 440 cases of confirmed or suspected measles and no deaths were reported. Most cases are males and have been reported from the island of Tongatapu. In 2018, WHO-UNICEF estimated the national routine immunization coverage for MCV1 and MCV2 to be over 95% in Tonga. Immunization was ongoing for high risk groups.⁵⁵

Fiji

From January 1 through 3 December 2019, a total of 15 confirmed cases of measles were reported; of which 11 cases were from, or were linked to cases in Serua/Namosi subdivision, two from Suva and two from Rewa subdivision. In 2018, WHO-UNICEF estimated the national routine immunization coverage for MCV1 and MCV2 to be 94%. No measles-related deaths have been reported thus far and over 100,000 people have been vaccinated.⁵⁶

New Zealand

A measles outbreak occurred in New Zealand in 2019 and extended to the start of 2020, with the original outbreak being spread from people who travelled to Auckland who had measles, according to New Zealand's Ministry of Health (MoH).⁵⁷

According to the MoH, from January 1, 2019 to January 29, 2020 there have been a total of 2193 confirmed cases of measles, of these 1736 confirmed cases are in the Auckland region.⁵⁸

On February 24, 2020 the MoH reported that it has drawn down its emergency response to the measles outbreak but will continue to monitor the situation. This is due to the number of cases dropping significantly to just seven in January. Due to the decline in cases, the Ministry considers the situation to be stable enough to remove MMR vaccination as a priority.⁵⁹

Kiribati

In mid-December, 2019, the Kiribati Ministry of Health reported the country's first case of measles. The Kiribati Measles Task Force was stood up to conduct contact-tracing and coordinate measures to minimize the spread of the disease.⁶⁰

⁵⁵ Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

⁵⁶ Ibid.

⁵⁷ Measles epidemic in New Zealand not surprising say academics, <https://www.stuff.co.nz/national/health/116798873/measles-epidemic-in-new-zealand-not-surprising-say-academics>

⁵⁸ 2019/20 measles outbreak information, <https://www.health.govt.nz/your-health/conditions-and-treatments/diseases-and-illnesses/measles/2019-20-measles-outbreak-information>

⁵⁹ Ibid.

⁶⁰ Kiribati records first measles case, <https://www.rnz.co.nz/international/pacific-news/405799/kiribati-records-first-measles-case>

According to the joint WHO-UNICEF measles outbreak situation report in the Pacific, as of January 19, 2020, Kiribati had three laboratory confirmed cases of measles. Kiribati had not declared an outbreak or state of emergency. No evidence of local transmission was seen and a vaccination campaign continued.⁶¹

Current Pacific situation on Measles

According to the WHO-UNICEF in early January 2020, a low level of transmission continued in American Samoa, Fiji, Samoa and Tonga, but the overall situation had stabilized. The situation in other PICs was being closely monitored with deployment of experts for surveillance and preparedness support from WHO, UNICEF, and other partners. WHO also deployed staff to several PICs with elevated risks related to measles and other infectious diseases. These areas included Kiribati, the Commonwealth of the Northern Mariana Islands (CNMI), the Republic of the Marshall Islands (RMI), the Federated States of Micronesia (FSM) and Vanuatu.⁶²

In late January, in Samoa, Tonga and Fiji, the vaccination campaigns were bringing the outbreaks under control. Other Pacific countries and areas also conducted supplementary immunization activities to reduce the risk of potential outbreaks. Due to these public health efforts, the risk of measles spreading in the Pacific has reduced, according to the WHO.

However, the WHO continues to recommend that all individuals exercise standard health precautions when travelling abroad. In the Pacific, all individuals travelling between Pacific Island countries, or to and from the Pacific were advised by the WHO to ensure they are up to date with their vaccinations at least two weeks prior to departing.⁶³

WHO advice on Measles in the Pacific

According to the WHO, population movement is a large factor in the spread of measles. Countries experiencing regular movement of tourists or overseas workers, are at risk for introduction of measles, and countries with immunization coverage below 95% are most vulnerable. The most recent outbreaks in the Western Pacific Region are due to low immunization coverage.

According to the WHO, the Pacific region is unique due to:

- (1) The islands setting and relative geographic isolation;
- (2) Large number of population movement between PICs and to other countries in the Region;

⁶¹ Measles Outbreak in the Pacific, Situation Report No. 11, https://www.who.int/docs/default-source/wpro---documents/dps/outbreaks-and-emergencies/measles-2019/20200122-measles-pacific-who-unicef-sitrep-11.pdf?sfvrsn=9e1851f5_2

⁶² Measles Outbreak in the Pacific - Situation Report No 10, January 8, 2020 Measles Outbreak in the Pacific - Situation Report No 10, January 8, 2020, <https://reliefweb.int/report/samoa/measles-outbreak-pacific-situation-report-no-10-january-8-2020>

⁶³ Joint WHO-UNICEF statement on Pacific measles situation: Effective outbreak response reduces the risk of measles spread in the Pacific, <https://reliefweb.int/report/samoa/joint-who-unicef-statement-pacific-measles-situation-effective-outbreak-response>

- (3) High interaction rates amongst people;
- (4) Absence of noticeable measles virus circulation for many years in most PICs and therefore limited experience with case management; and,
- (5) Accumulation of susceptible populations in a number of PICs (vaccinated but non-immunized cohorts, suboptimal vaccination coverage in several PICs, and population immunity below herd immunity thresholds in others.⁶⁴

Measles Resources:

Two main health strategies exist for the Pacific, led by the WHO. The first one is:

Asia-Pacific Strategy for Emerging Diseases and Public Health Emergencies: Advancing Implementation of the International Health Regulations (2005)

<https://apps.who.int/iris/bitstream/handle/10665/259094/9789290618171-eng.pdf;jsessionid=7EECD60081F1511D7F6F41AD55782EDB?sequence=1>

This document addresses health system strengthening in the Asia-Pacific region. According to the WHO, the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III), previously called the Asia Pacific Strategy for Emerging Diseases (APSED), is the framework to address shared threats as required by the International Health Regulations (2005), or IHR (2005). The framework provides an collaborative platform for Member States, WHO and partners to work together to strengthen preparedness and response to outbreaks and public health emergencies. When the strategy was first developed in 2005, it focused on building minimum capacities for dealing with outbreaks and public health emergencies. The updated version in 2010 was aimed at further developing the core capacities. The current report, APSED III, is an upgrade of the previous versions of APSED and aims to strengthen health systems and capacities beyond IHR (2005).

According to the document, the eight focus areas in APSED III are as follows:

1. Public health emergency preparedness
2. Surveillance, risk assessment and response
3. Laboratories
4. Zoonoses
5. Prevention through health care
6. Risk communication
7. Regional preparedness, alert and response
8. Monitoring and evaluation

The second major strategy is:

Western Pacific Regional Framework for Action for Disaster Risk Management for Health

https://iris.wpro.who.int/bitstream/handle/10665.1/10927/9789290617082_eng.pdf?ua=1

⁶⁴ Measles – Pacific Island Countries and Areas, <https://reliefweb.int/report/samoa/measles-pacific-island-countries-and-areas>

According to the WHO, this framework attempts to position the health sector as a key actor in disaster risk management. It recommends health sector actions for each of the phases of the disaster risk management cycle – prevention, preparedness, response and recovery. The WHO urges governments to select priorities on which to focus according to their own national plans.

WHO Regional Office for the Western Pacific (WPRO)

<https://www.who.int/about/regions/wpro/en/>

<https://www.who.int/westernpacific>

The WPRO supports 15 countries in the region. Main focus is on: communicable diseases, health security and emergencies, non-communicable diseases and health through the life-course, and health sector development.

Other useful documents for the Pacific include:

"For the future: Towards the healthiest and safest Region: A vision for the WHO work with Member States and partners in the Western Pacific"

<https://iris.wpro.who.int/handle/10665.1/14476>

“The document sets out thematic priorities for WHO work in the Western Pacific Region for the next five years, as well as a series of ideas for collectively responding to current and future health challenges.”

Regional Strategy and Plan of Action for Measles and Rubella Elimination in the Western Pacific

<https://apps.who.int/iris/bitstream/handle/10665/275089/9789290618515-eng.pdf?sequence=1&isAllowed=y&ua=1>

“This strategy and plan of action identifies a range of actions to better address remaining challenges for measles and rubella elimination in the Western Pacific Region. The strategy and plan of action is designed to be easily adapted for development of national plans of action for achieving and sustaining measles and rubella elimination, tailored to the specific strengths, challenges and issues faced by Member States.”

WPRO (WHO Regional Office for the Western Pacific) Measles Rubella Bulletins

<https://iris.wpro.who.int/handle/10665.1/14338>

Information bulletins on Measles Rubella outbreaks in the Western Pacific can be found here

Preparedness in the Pacific

“The Pacific’s first international Emergency Medical Team is ready to go”

<https://www.who.int/westernpacific/about/how-we-work/pacific-support/news/detail/13-05-2019-the-pacific%E2%80%99s-first-international-emergency-medical-team-is-ready-to-go>

In May 2019, the WHO reported Fiji’s Emergency Medical Assistance Team (FEMAT) was ready for international deployment, becoming the first team in the Pacific islands with this capability. Verified as a Type 1 Fixed Emergency Medical Team (EMT), FEMAT is now able to respond domestically and across the Pacific, providing a broad range of medical and emergency services for up to 100 patients per day.

Other documents:

Interim Infection Prevention and Control: Recommendations for Measles in Healthcare Settings

<https://www.cdc.gov/infectioncontrol/pdf/guidelines/Measles-Interim-IC-Recs-H.pdf>

Aimed at healthcare workers, this CDC guide aims to discuss fundamental elements to prevent measles transmission in the healthcare system

IHR Procedures concerning public health emergencies of international concern (PHEIC)

<https://www.who.int/ihr/procedures/pheic/en/>

Interesting commentary from an article, “Is the global measles resurgence a “public health emergency of international concern”? in the International Journal of Infectious Diseases:

Here is an excerpt:

“The 2005 revision of the International Health Regulations (IHR) came into force on 15 June 2007 and is legally binding on 196 countries, including all the Member States of World Health Organization (WHO). In the IHR, a public health emergency of international concern (PHEIC) is defined as: “an extraordinary event that may constitute a public health risk to other countries through international spread of disease and may require an international coordinated response.” (World Health Organization, 2005). The IHR requires that countries notify the WHO of any public health event that meets any two of the following four criteria: Is the public health impact of this event potentially serious? Is this event unusual or unexpected?; Is there the potential for international spread?; or Is there the potential for travel and trade restrictions? ...The decision to declare a PHEIC rests with the WHO Director-General...To date four PHEICs have been declared; the: 2009 H1N1 influenza pandemic declaration; 2014 polio declaration; 2014 Ebola declaration with the outbreak in West Africa; and 2016 Zika virus declaration.”⁶⁵

⁶⁵ Is the global measles resurgence a “public health emergency of international concern”?
[https://www.ijidonline.com/article/S1201-9712\(19\)30186-9/fulltext](https://www.ijidonline.com/article/S1201-9712(19)30186-9/fulltext)