

A Brief Overview of Epidemics in Hawai‘i

Introduction

As Hawai‘i experiences the effects of COVID-19, this trying time reminds us to reflect upon our history for guidance on moving forward. Native Hawaiians have been experiencing the effects of foreign illnesses for over 200 years. Beginning with Captain Cook’s arrival, increased contact with the rest of the world enabled the spread of illnesses to Hawai‘i that would have catastrophic effects on the Native Hawaiian population throughout the islands.

As a people, Native Hawaiians come from a long history of being healthy. With the main occupations of farming and fishing, Native Hawaiians enjoyed a physically rigorous lifestyle. Kahuna Lā‘au Lapa‘au (healing experts) applied pule (prayer) and lā‘au (medicine) to known ma‘i (illnesses) that were present in Hawai‘i before the arrival of foreigners. Foreign illnesses that caused epidemics came to be known as ma‘i ahulau, because of the numerous bodies that were “ahu” or “heaped up” due to the number of deaths (Pukui & Elbert, 1986). The Merriam-Webster dictionary states that “A disease can be declared an epidemic when it spreads over a wide area and many individuals are taken ill at the same time” and may become a pandemic if the area and population affected become greater.

This is not meant to be an exhaustive account of all the illnesses that plagued Native Hawaiians, but is instead an overview of the major epidemics, the effects they had and the response and resilience of Native Hawaiians through those times. A timeline by Papa Ola Lōkahi entitled, “Hawaiian Health Timeline and Events,” was referenced in order to identify the major historical epidemics that are expanded upon in this paper (Papa Ola Lōkahi, 2016).

Kalawao Leper Settlement (Source: Hawai‘i State Archives)



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Ma'i 'Ōku'u

'Ōku'u means "To squat on the haunches, crouch, sit hunched up" and this illness was named as such "perhaps because it was dysenteric, and people were squatting ('ōku'u) much at stool" (Pukui & Elbert, 1986). The illness was also referred to as 'ōku'u lepo hehe'e, or literally "the running excrement 'ōku'u" (Pukui & Elbert, 1986). Another interpretation of this name was given because the people "okuu, wale aku no i ka uhane," or "dismissed freely their souls and died" (Andrews, 1865). While it is also not exactly known what this illness was, it is thought that it may have been typhoid fever, cholera or bacillary dysentery (Bushnell, 1993). Native Hawaiian historian and scholar, Samuel Kamakau (1992), described the symptoms of the 'ōku'u in the following excerpt:

It was at the end of this time [Kamehameha's mobilization on O'ahu en route to Kaua'i] that the pestilence appeared called 'Ōku'u [sic]. It was a very virulent pestilence, and those who contracted it died quickly. A person on the highway would die before he reached home. One might go for food and water and die so suddenly that those at home did not know what had happened. The body turned black at death. A few died a lingering death, but never longer than 24 hours; if they were able to hold out for a day they had a fair chance to live. Those who lived generally lost their hair, hence the illness was called "Head stripped bare" (Po'o-kole) (p. 189).

The ma'i 'ōku'u struck Hawai'i in 1804 during the time of Kamehameha I (Malo, 1951). It is not exactly known how ma'i 'ōku'u arrived in Hawai'i, however some speculate that the disease came on American ships, or may have been spread by the sandalwood trade (Schmitt, 1970).

One account, however, suggests that the ma'i 'ōku'u, or a similar disease, was present in Hawai'i prior to European arrival. According to Hawai'i Island Native Hawaiian historian David Malo, the 'ōku'u was believed to be an illness that had previously come to Hawai'i during the reign of pre-Kamehameha chief, Waia, who was the son of Hāloa, and the illness was known as ikipuahola. According to Malo (1951), lā'au lapa'au (medicine) used to cure the 'ōku'u included pilikai (a vine of the morning-glory family) and the loloi (knowledge about this medicine is unknown).

A kahuna lapa'au named Kama had foreseen the coming of this illness during the time of Kamehameha I, and, in the following words, warned his grandson, Kuauau, one year before the appearance of the 'ōku'u: "you will witness a great pestilence that is soon to make its appearance among us. You will doubtless be weary and worn out with your labors as a physician because this is the same disease as that which raged in the time of Waia. Ikipuahola is the name of it" (Malo, 1951, p. 245).

After six years of preparing his war fleet on Hawai'i Island in order to take over Kaua'i, it is said that "late in 1803 or early in 1804, a terrible pestilence, called the 'oku'u [cholera?] broke out, decimating

the armies of Kamehameha.” (Īī, 1995, p. 16). And thus, his war fleet never made it to Kauaʻi and the island was not taken through war, but negotiation. Kamakau (1992) notes that Kamehameha I contracted the illness, but recovered (p. 189). It is thought that this epidemic was the cause of “perhaps under 5,000” deaths in Hawaiʻi (Schmitt, 1970, p. 363).

In response to this illness, Native Hawaiians may have initiated the training of more medical experts. According to Īī (1995), “The method of training promising members of the court as medical kahunas is believed to have developed because of the great death rate among chiefs and commoners in the year 1806, perhaps owing to the terrible ‘oku’u disease, when the epidemic spread among all the chiefs and commoners of the islands” (p. 46).

Respiratory Illnesses

Following the ‘oku’u, Kamakau (1992) described another illness that affected the islands stating, “In 1826 thousands died, especially in the country districts, of an epidemic of ‘cough, congested lungs, and sore throat” (p. 236). Kamakau (1992) further reported that “in 1826 an epidemic of cough and bronchitis carried off several chiefs and commoners” (p. 274). One of the afflicted chiefs was George Humehume, son of Kauaʻi aliʻi, Kaumualiʻi (Kamakau, 1992). Symptoms of this illness included “a parched throat, followed by fever with pains in [the] head and chest” (Kamakau, 1992, p. 274).

In response to infectious diseases, such as these, among ship passengers traversing the Pacific and possibly en route to Hawaiʻi, Kamehameha III passed quarantine laws on May 29, 1839 that stated that “all persons not authorized by the Board of Health, are prohibited from visiting any foreign ship whatsoever, until she shall have been examined by a Health Officer or one of the Board of Health, as hereafter named, and pronounced healthy” and anyone found to disobey this law would be fined \$40 (*The Polynesian*, 1841). If those in charge of the ship “shall land or permit to be landed any persons affected with a contagious disease or any article containing such contagion, shall on being duly convicted thereof, be fined not more than one thousand dollars, or be imprisoned one year” (*The Polynesian*, 1841).

ʻUlālīʻi (Measles)

Measles is a highly contagious virus with symptoms that include a high fever, cough, runny nose, red watery eyes and a rash develops in the mouth and as small raised bumps on the body (Centers for Disease Control and Prevention (“CDC”) Website). ʻUlālīʻi is the Hawaiian term for measles (Pukui & Elbert, 1986), referencing the small (liʻi) red spots (ʻula) found on a person’s body after contracting the disease.

Although the quarantine law was put into place in 1839 to protect the health and wellbeing of the Hawaiian nation, the arrival of foreign diseases to Hawaiʻi was still prevalent in subsequent years. Between the years of 1845 and 1849, concurrent epidemics of measles (ʻulālīʻi), whooping cough

(kunu kalea) and influenza (palū) spread throughout the Hawaiian Kingdom (Schmitt & Nordyke, 2001). An article published in *The Friend* in March of 1849, estimated that 10,000 people died from these illnesses during that short time, decimating more than one tenth of Hawai‘i’s population. In 1845, the following excerpt was reported in the *Polynesian* regarding the severity of these foreign diseases and their impacts on Hawai‘i’s economy:

The prevailing influenza has the past week put a stop to nearly all business. The streets and shops are quite deserted, servants unable to attend to their duties, business and cookery almost at a stand, the police laid up, in short from hovel to palace everyone seems to be afflicted with the distressing epidemic. We do not hear that it is often fatal, but it occasions great distress among the poorer classes from the insufficiency of the care they bestow upon themselves. It commenced at Hilo, and has since been rapidly spreading westward.

With its large harbor Hilo, Hawai‘i, was easily accessible and became a hotbed of diseases carried by foreign vessels. According to Kamakau (1992), “In September, 1848, an American warship brought the disease known as measles to Hilo, Hawaii. It spread and carried away about a third of the population” (p. 236-37). Schmitt and Nordyke (2001) further noted that the illness was brought to Hawai‘i from Mexico via the *Independence*, an American Naval ship. A letter published by the *Missionary Herald* in 1849, reported on the progression of the measles epidemic stating:

During the last four months of 1848, several epidemics have swept over the Islands, some of them simultaneously, others following in a quick succession ...The [measles] spread with great rapidity; so that in two months it had reached the utmost extremes of the Islands ... whole neighborhoods, and even whole villages, prostrate at once with this disease, there not being persons enough in health to prepare food for the sick. Still, advice and medicines did much for the people. The measles soon passed off; and the mortality from this cause was not great (pp. 359-360).

Kunu Kalea (Whooping Cough)

Kunu Kalea is the Hawaiian term for the highly contagious and communicable infection; Kunu means “to cough” and Kalea means “to choke; to whoop in coughing” (Pukui & Elbert, 1986). According to the *Missionary Herald* (1849), “This [whooping cough] also spread with some rapidity; but it had been in the Islands before...[W]e soon saw it cutting down infants and little children in great numbers” (p. 360).

During an 1888 whooping cough outbreak, Punahou School and O‘ahu College “Resolved, that no person known to have whooping cough be allowed to attend Oahu College or Punahou Preparatory School during the continuance of the disease; and Resolved that persons attending schools from families where the whooping cough is prevalent be required to use extra precautions in regard to

clothing worn to school” (“To Our Patrons,” 1888). *The Daily Bulletin* of Honolulu reported that the “Whooping cough is now raging at Hilo as an epidemic, and was most probably imported from Honolulu” (*The Daily Bulletin*, 1888).

Palū (Influenza) & Hī (Dysentery)

Amongst the different diseases that accompanied the measles and the whooping cough, were the palū (influenza) and the hī (dysentery). The influenza, or “flu” epidemic of 1848-1849, spread quickly throughout Hawai‘i attacking the unprotected immune systems of Native Hawaiians. According to the *Missionary Herald* (1849):

A diarrhea then succeeded the measles, which affected the great mass of the people from one end of the Islands to the other... The dying multiplied around us; and from every part of the Islands we heard only tidings of suffering and death (p. 360).

Ma‘i Ho‘oka‘awale (Hansen’s Disease)

The history of Hansen’s Disease (historically referred to as Leprosy) is one of the most highly documented epidemics in Hawai‘i. Like many of the past epidemics mentioned in this paper, it is not definitively known when the first case of leprosy arrived in the islands. The disease is known by various Hawaiian terms summarized in the Table 1. on the following page.

The term “Ma‘i Pākē” was associated with the Chinese, perhaps because the illness is endemic to China or that it may have come to Hawai‘i with Chinese laborers (Inglis, 2004). Early missionary accounts indicate that cases may have been present in Hawai‘i as early as the 1820s or 1830s (Mouritz, 1916). One of the earliest known cases among Native Hawaiians was recorded in 1835; a Kōloa woman named Kamuli (Mouritz, 1916).



Kalawao Leper Settlement (Source: Hawai‘i State Archives)

On January 3, 1865, “An Act to Prevent the Spread of Leprosy” was passed by Kamehameha V and the Legislature. This act empowered the Minister of the Interior to set aside government land to “secure the isolation and seclusion of such leprous persons,” and allowed the police to arrest those thought to have leprosy so that they may be inspected by the Board or held in isolation. The act further stated that “The property of all persons committed to the care of the Board of Health... shall be liable for the expenses attending their confinement (p. 64).

Many Hawaiians were more concerned with being separated from their loved ones than with the actual illness itself; some even accompanied their loved ones to Molokaʻi to live with them as kōkua (helpers) (Inglis, 2004). Life at Kalaupapa was extremely difficult. People were sent there without food, water or shelter and sought these basic needs from the residents there who took them in (Inglis, 2004). Children born of parents with Hansen’s disease at Kalaupapa were taken at birth to be placed with relatives elsewhere or adopted into other families (Worth, 1960 as quoted in Inglis, 2004, p. 95).

Table 1. Hawaiian Terms for Hansen’s Disease

Term	Translation	Source
maʻi lēpela or lēpela	Leprosy, leper; leprous (Oihk. 13.2). Formerly only leprosy, and not leper	Pukui & Elbert, 1986
maʻi aliʻi	Royal disease, leprosy (so-called because the first leper was said to have been a chief)	Pukui & Elbert, 1986
maʻi Pākē	Leprosy. Lit., Chinese disease	Pukui & Elbert, 1986
maʻi hoʻokaʻawale	Leprosy. Lit., separation disease	Pukui & Elbert, 1986
maʻi makamaka ʻole	Illness that deprives one of relatives and friends	Pukui, 1983, p. 86

More is known about the illness today. According to the Centers for Disease Control (“CDC”):

Hansen’s Disease (also known as leprosy) is an infection caused by slow-growing bacteria called mycobacterium leprae. It can affect the nerves, skin, eyes, and lining of the nose (nasal mucosa). With early diagnosis and treatment, the disease can be cured. People with Hansen’s Disease can continue to work and lead an active life during and after treatment. Leprosy was once feared as a highly contagious and devastating disease, but now we know it doesn’t spread easily and treatment is very effective. However, if left untreated, the nerve damage can result in crippling of hands and feet, paralysis, and blindness (para. 1).

Throughout the duration of this epidemic in Hawaiʻi, between 7,000-8,000 people were believed to have succumbed to this illness; 90% were Native Hawaiian (Inglis, 2009, p. 103). A few patients still

reside at Kalaupapa which has since been designated as the Kalaupapa National Historic Park.

Ma'i Pu'upu'u Li'ili'i (Smallpox)

Smallpox is recorded to have had multiple outbreaks in the islands throughout the century. According to the CDC, "Before smallpox was eradicated, it was a serious infectious disease caused by the variola virus... People who had smallpox had a fever and a distinctive, progressive skin rash." In Hawaiian, smallpox is known by multiple terms summarized in Table 2 (Pukui & Elbert, 1986).

An early outbreak occurred in 1853 and is described by 'Ī'i (1995) as spreading on O'ahu in the following passage:

In February 1853 a ship anchored outside of the harbor with a man on board who was very sick with smallpox. The ship was stopped, and those on board were forbidden to come ashore in Honolulu. Some passengers who were local residents landed at Kaluahole in Waikiki, and the sick man was landed at Kahakaaulana in Kalihi. This event caused much excitement. In the month of May the disease appeared in Kapuukolo and death was rife in the section on the Ewa side of Poliahu road. On June 1, after all the members of Ii's household had been vaccinated, they left Mililani house, where they had been living since November 1, 1852, to sail to Hawaii (p. 169).

Table 2. Hawaiian Terms for Smallpox

Term	Translation
ma'i hepela	Hebrew. Ma'i Hepela, smallpox. Eng.
ma'i pu'upu'u li'ili'i	Smallpox. Lit., disease with many little pimples
hanakapahu	Smallpox (perhaps short for hana i ka pahu, build the coffin)
kapuahikuni	Smallpox, Also kamolapoki

While on Hawai'i island, 'Ī'i's retinue got word that the smallpox had spread there at Haleili and Kawaihae ('Ī'i, 1995, p. 171). En route back to O'ahu, they saw "a white flag at Lahaina where people from Oahu were not allowed to land because of the smallpox" ('Ī'i, 1995, p. 172).

During her brother's world tour, acting Regent of the Kingdom, Lili'uokalani (1990) described an 1881 outbreak of smallpox in Honolulu:

King Kalakaua had been gone but a few weeks when the startling news was in circulation that the small-pox had broken out in the city. It was supposed to have been introduced from China; but our past experience with the disease had shown us how fatal it might become to the Hawaiian people, and whatever the inconveniences it became necessary at all hazards to prevent its spread. Summoning the cabinet, I had all arrangements perfected to stay the progress of the epidemic. Communication between the different islands of the group was stopped. Vessels were absolutely prohibited from taking passengers. A strict quarantine of all persons infected or under suspicion was maintained; and so scrupulously and energetically

were these regulations enforced, that when they were relaxed and quarantine raised, it was found that no case had been reported outside the place of its first appearance. But it was a serious thing to confine its ravages to the city of Honolulu, in which there were some eight hundred cases and about three hundred deaths (p. 79).

The 1881 outbreak was said to have “been introduced here by the steamer Quinta from China” (“Hawaiian Epidemics,” 1897, p. 99). The Board of Health used quarantine measures and placed restrictions on inter-island travel to try and contain the outbreak (“Hawaiian Epidemics,” 1897). The outbreak was contained on O‘ahu, lasted about five months, and claimed 282 lives (“Hawaiian Epidemics,” 1897).

Bubonic Plague (Piwa ‘Ele‘ele)

Today, the Bubonic Plague is thought to be transmitted by the bites of fleas infected with the bacteria that causes the illness (CDC Website). Symptoms include “sudden onset of fever, headache, chills, and weakness and one or more swollen, tender and painful lymph nodes (called buboes)” (CDC Website). These fleas are known to live on rodents.

It is believed to possibly have been transmitted to Hawai‘i via rats on ships from Asia (Ikeda, 1985). The plague was also referred to as the Black Plague or piwa ‘ele‘ele (black fever) in Hawaiian (Pukui & Elbert, 1986). In the beginning of December 1899, one of the first cases was confirmed, the victim a bookkeeper at Wing Wo Tai’s store in Chinatown (“Bubonic Plague,” 1899).

Chinatown was put under strict military quarantine, the Port of Honolulu was shut to incoming and outgoing traffic and government schools were closed (“The Story of the Epidemic,” 1900). Inspectors were sent throughout Chinatown to locate and disinfect infected areas (Ikeda, 1985). Later that month, quarantine restrictions were prematurely lifted which resulted in nine more cases (Ikeda, 1985). A stricter quarantine was put into place and the first fires in Chinatown commenced by the end of the year with an



“Bubonic Plague, 1900” (Source: Hawai‘i State Archives)

estimated 38 acres of Chinatown being burned (Ikeda, 1985; Iwamoto, 1967). It was thought that fire would eliminate the illness (Ikeda, 1985). Outbreaks also spread on the neighbor islands at Kahului and Hilo (“The Story of the Epidemic,” 1900). The Citizens Sanitary Committee and Inspectors encouraged people to kill rats in Honolulu by means of poison or trapping (“Pied Piper Redivivus,” 1900). The Board of Health offered a reward “of twenty-five cents apiece for live rats and fifteen cents apiece for dead ones” (*Pacific Commercial Advertiser*, 1900).

By May 1900 there had been a total of 71 cases on O‘ahu, of which 61 resulted in death (“The Story of the Epidemic,” 1900). Many of those who suffered from the plague were of Japanese and Chinese descent who lived in or near Chinatown (“The Story of the Epidemic,” 1900). Of the 16 Hawaiians who contracted the illness, 15 passed away and one recovered (“The Complete List of Cases of Plague,” 1900).

Spanish Flu

Also known as the Spanish Influenza, the Spanish Flu, or La Grippe, this pandemic caused 2,300 deaths in Hawai‘i (Schmitt & Nordyke, 1999). According to the CDC, the virus emerged during World War I, and was first discovered in the U.S. amongst military personnel in 1918. Some of the first cases in Hawai‘i appeared on O‘ahu’s military bases (Schmitt & Nordyke, 1999). In July 1918, *The Maui News* reported that “An epidemic of la grippe is raging in the army camps on Oahu, more than 100 men in the various posts being affected. The disease is supposed to have been brought to Honolulu by one of the national guard companies. None of the men are reported to be very seriously ill” (“Influenza in Oahu Camps”). Some attribute the first wave coming to Hawai‘i through shipping from Chinese and Japanese ports (Schmitt & Nordyke, 1999).

While in Washington, famed Native Hawaiian Olympic swimmer, Duke Kahanamoku, reported coming down with influenza and later pneumonia, but recovered (“Kahanamoku Has Had Pneumonia,” 1918). Pure Hawaiians suffered the highest death rates for influenza and related pneumonia complications (Schmitt & Nordyke, 1999).

The Territorial Board of Health adopted measures that required sterilization between each use of glassware and cutlery for hotels and restaurants and that “all theaters and churches be and are hereby ordered closed, and all other public gatherings held within enclosed buildings, except public and private secular schools, be and are hereby prohibited” (“By Authority,” 1919). Guidelines were also published in the *Honolulu Star-Bulliten* in 1925 to help prevent the spread of the flu that recommended “Keep your hands clean” and “Don’t shake hands” (as quoted in Schmitt & Nordyke, 1999, p. 106).

According to the CDC, “the properties that made it so devastating are not well understood. With no vaccine to protect against influenza infection... control efforts were limited to non-pharmaceutical

interventions, such as isolation, quarantine, good personal hygiene, use of disinfectants, and limitations of public gatherings."

Reflection

As evidenced above, Native Hawaiians have endured in the face of epidemics before. Traditional healers attempted to address these new illnesses by training additional kahuna and through worship at the Loulu heiau, a heiau specifically aimed at the prevention of epidemics, famine and destruction (Pukui & Elbert, 1986).

The Hawaiian Kingdom implemented many measures throughout the 19th century to alleviate the negative effects of these ma'i on Native Hawaiians. In addition to quarantine measures established by Kamehameha III, he also sought to increase the capacity of the health care system by establishing a Board of Health in 1850 that was tasked with investigating "any existing nuisance, deleterious to the public health," ("A Law Establishing A Board of Health," 1851, p. 12). Queen Emma and Kamehameha IV established the Queen's Hospital in 1859 ("About Us," Queen's Medical Center Website). Kamehameha IV (1861), in his address to the opening of the 1855 legislature, reflected upon the issue of the survival of his people:

"A subject of deeper importance, in my opinion, than any I have hitherto mentioned, is that of the decrease of our population. It is a subject, in comparison with which all others sink into insignificance; for, our first and great duty is that of self-preservation. Our acts are in vain unless we can stay the wasting hand that is destroying our people. I feel a heavy, and special responsibility resting upon me in this matter; but it is one in which you all must share; nor shall we be acquitted by man, or our Maker, of a neglect of duty, if we fail to act speedily and effectually in the cause of those who are every day dying before our eyes" (p. 15).

Native Hawaiians also come from a long history of perseverance. Both ali'i and maka'āinana shared the burden of these epidemics and their ability to respond to the needs of the people as ali'i, kōkua, kahuna or 'ohana (family) allowed them to be steadfast through these epidemics.



Alexander Liholiho (Kamehameha IV) (Source: Hawai'i State Archives)

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