

philippine studies

Ateneo de Manila University · Loyola Heights, Quezon City · 1108 Philippines

The Philippines in the World of the Influenza Pandemic of 1918–1919

Francis A. Gealogo

Philippine Studies vol. 57, no. 2 (2009): 261–292

Copyright © Ateneo de Manila University

Philippine Studies is published by the Ateneo de Manila University. Contents may not be copied or sent via email or other means to multiple sites and posted to a listserv without the copyright holder's written permission. Users may download and print articles for individual, noncommercial use only. However, unless prior permission has been obtained, you may not download an entire issue of a journal, or download multiple copies of articles.

Please contact the publisher for any further use of this work at philstudies@admu.edu.ph.

<http://www.philippinestudies.net>

FRANCIS A. GEALOGO

The Philippines in the World of the Influenza Pandemic of 1918–1919

The influenza pandemic of 1918–1919 was a global public health crisis. This article traces the origins and spread of the pandemic in different countries and world regions, and assesses the reactions of different states to the crisis. The pandemic exhibited the same virological and epidemiological characteristics in the Philippines as it did in the rest of the world. However, the portrayal of the disease, ineffective quarantine, bureaucratic problems, military mobilization, and other factors made the experience of the influenza pandemic in the American-occupied Philippines historically peculiar. The admission by authorities of failure in combating the disease has yet to enter the historical assessments of public health during the American colonial period.

**KEYWORDS: INFLUENZA PANDEMIC · PHILIPPINE PUBLIC HEALTH ·
DEMOGRAPHIC HISTORY · MODERN EPIDEMIC DISEASES**

The 27 October 1918 issue of the *Manila Times* (1918a, 1) carried the headline that *trancazo* visited the Philippines for the second time as part of the global influenza pandemic. But colonial public health officials of the American-occupied Philippines also announced in the same news item that, compared with the first wave of the epidemic that peaked in June, the second wave supposedly was less severe than the first, and that the expected fatalities would possibly come from the very young and the aged. This official announcement is interesting not only for its dismissive tone and lack of seriousness, but also for the high level of misinformation made by health authorities in informing the public about the nature of the pandemic and the possible impact of its spread among the local population. Later field reports in the Philippines and elsewhere would prove that the second wave of the pandemic was more virulent than the first, and that the young adult population would be the age group hardest hit by the disease.

Given the apparent ineptness with which authorities responded to the health crisis, the Philippine experience of the influenza pandemic needs to be revisited in the context of the global experience at that time. There is a need to compare the reaction of different societies to the global public health crisis; the spread of the epidemic to different geographical locations; the effects of the epidemic on the demographic conditions of different societies; and the specific conditions pertaining to cultural attitudes, social structures, racial and social relations, and medical and public health programs that defined the epidemic's outcome in different parts of the world.

Although many scholars from other areas and world regions have studied the influenza pandemic of 1918–1919, there is a dearth of serious, in-depth study of the pandemic as it impacted the Philippines. Despite the evidently global pattern that can be established in understanding the contagion, the particular conditions of the Philippines during the period needs to be understood in order to highlight the place of the Philippines in the world of the influenza pandemic. The specific problems and challenges faced by colonial public health programs at the height of the epidemic have not been examined also; on the contrary, these are overshadowed in traditional assessments that celebrate the supposed success of health programs in the American-occupied Philippines. To redress these historiographic imbalances is the purpose of this article.

Origins, Spread, and Characteristics of the Pandemic

The influenza pandemic of 1918–1919 was one of the deadliest and most virulent epidemics ever to hit humanity. By most estimates, more than half of the global population became ill and at least 50 million individuals died in the pandemic. Unlike the regular seasonal flu, which tends to victimize mostly the elderly and the sick, the flu virus of 1918 killed mostly young adults. Ninety nine percent of excess deaths were among people under 65 years old. In most countries, mortality peaked in the 20- to 34-year-old age group. Women under 35 accounted for 70 percent of all female influenza deaths. The 1918 influenza pandemic killed more people in a single year than the bubonic plague in the Middle Ages killed in a century. The 1918 virus killed more people in 25 weeks than AIDS has killed in 25 years (Greger 2006, 6).

Various terms were utilized in different societies to identify the disease. It was, to a certain extent, considered as the “disease of other societies that is not one’s own.” The term “influenza” was first applied to the disease during an epidemic that occurred in Florence in 1580. The Italian word, meaning influence, referred to a supposed deleterious influence of the stars on the welfare of humans. The original locus of the outbreak in 1918 is still disputed, with implications for how it is labeled. Spanish medical reports placed its origin in Russian Turkestan, although newspaper reports in Spain called it the “French flu” (ibid., 3). The Russians, along with most of the world, thought it began in Spain and called it the “Spanish influenza,” or the “Spanish lady” (Bollet 2004, 105). Because of its prevalence in China some sectors in France concluded that Chinese coolies, who were brought to France to dig trenches during the war, brought the disease with them, so some called it “Chungking fever” (Collier 1974, 20). It was labeled “Flanders grippe” when it involved British soldiers; among German troops it was known as “Blitzkatarrh” (Weinstein 1976, 1058).

The influenza pandemic was widely known as the Spanish influenza because of the strict censorship rules applied by the powers involved in the First World War in the newspaper coverage of their respective countries, as reports of the spreading epidemic was thought to damage the morale of their combat troops and the general population. Being neutral, Spain allowed its press to publish reports on the spread of the epidemic within its territories—resulting in the disease being named as Spanish influenza, despite the fact that it did not originate in Spain (Greger 2006, 3).

Many analysts suggest that the 1918 pandemic originated in the central areas of North America early in the spring of 1918. During March and April of that year, the disease spread from the American Midwest into parts of the south and in military camps in various parts of the United States. Troops of the American Expeditionary Forces probably carried this form of influenza to Europe during that spring. As the spring epidemic waned in the United States, an even more virulent form surfaced in French port cities. The disease quickly spread to the other areas in Western Europe, Western Africa, South Asia, and other parts of the world starting from May 1918 (Pyle 1986, 40).

One important characteristic of the pandemic was its occurrence in waves of outbreaks, unlike most other outbreaks that occur in a single wave only. It has become customary to describe the 1918 pandemic as arriving in three waves, the first from April to July 1918, the second from October to November 1918, and the third from February to March 1919. The so-called second wave caused very high rates of mortality and morbidity in many parts of the world between late September and the end of November 1918 (Hope-Simpson 1992, 26–27).

Another important aspect of the 1918 influenza pandemic concerned the incidence of death among different age groups in almost all geographic areas that it reached. More applicable to the second than other waves of the pandemic, the mortality figures exhibited what demographers would regard as a W-shaped age mortality and morbidity curve. In other words, the age groups that exhibited peak morbidity and mortality included not only the more vulnerable age groups comprising the very young and the very old, but the disease seemed to be virulent also among the age groups that were regarded as the strongest and the most healthy—those between 18 and 40 years old. In most countries, fully half of all deaths were in this latter age group, a finding that is rather peculiar in the modern history of influenza (Pyle 1986, 40; Silverstein 1981, 17). This age structure of morbidity pattern would suggest that the virus might have occurred earlier in the history of the epidemic, which rendered some degree of immunity, consequently protecting some age groups from infection. Silverstein (1981, 17) noted that fully 30 to 40 percent of all people under 35 years of age became ill, while only 20 percent of those aged 50 years old and 10 percent of those aged 70 years showed clinical infection. Probably this particular virus had appeared not just in 1918 but many years before that, leaving the elderly of 1918 with some degree of immunity.

The Influenza Virus

The virus responsible for the pandemic had unique characteristics. According to Greger (2006, 19):

unlike most viruses, which have a consistent shape, influenza viruses may exist as round balls, spaghetti-like filaments, or any shape in between. One characteristic they all share, though, is the presence of hundreds of spikes protruding from all over the surface of the virus, much like pins in a pincushion. There are two types of spikes. One is a triangular, rod-shaped enzyme called hemagglutinin. The other is a square, mushroom-shaped enzyme called neuraminidase. There have been multiple varieties of both enzymes described, so far 16 hemagglutinin (H1 to H16) and 9 neuraminidase (N1 to N9). Influenza strains are identified by which two surface enzymes they display. The strain identified as H5N1 denotes that the virus is studded with the fifth hemagglutinin in the WHO-naming scheme, along with the spikes of the first neuraminidase.

Markel and others (2006, 34) clarified that the influenza virus is actually an RNA virus of the family Orthomyxoviridae arranged in a helical nucleocapsid that includes eight segments and whose lipoprotein contains two glycoproteins hemagglutinin (H) and neuraminidase (N). What makes the spread of the virus unique is that these are transferable from one species host to another, a fact that renders it necessary to control not only human-to-human transmission but, more importantly, its initial animal-to-human transfer.

The mutation of the virus according to the types of H and N proteins became key to understanding the various types of influenza and its outbreaks in different periods of history. According to Silverstein (1981, 55), when knowledge developed about H and N surface proteins, it became possible to define serologically the degree of change with great precision. Thus it was found retrospectively that the virus responsible for the 1918 pandemic could be defined as HswN1, scientific shorthand for a swine (sw) hemagglutinin antigen and a type 1 neuraminidase (N1). In 1929 a new flu virus appeared, which involved a change in the H protein, but not in the N protein: this was identified as H0N1. Subsequently, in 1946 the pandemic was accompanied by a further change in the H protein to H1N1, whereas the

Asian pandemic of 1957 was classified as H2N2, involving a change in both H and N molecules. The pandemic of 1968 involved only a further shift in the hemagglutinin (H3N3) (ibid.).

The 1918–1919 Influenza Pandemic: A Global Phenomenon

The global reach of the pandemic was one of its most phenomenal features. As the epidemic spread to other areas of the world, its movement assumed the pattern of an outward movement of ever-enlarging waves. Brest in France, Freetown in Sierra Leone, and Boston in Massachusetts became epicenters from where the virus spread outwards, especially during its second, more virulent wave. Most of the U.S. soldiers disembarked in Brest, France, and carried the virus to Europe and the British Isles. Freetown, Sierra Leone became the African epicenter because it was where the British had a major coaling center. The dockworkers involved in refueling ships with coal were infected, and then spread the virus to other parts of Africa when they returned to their homes (Sherman 2006, 396). In a few short years, the flu was worldwide and death followed its wake.

Africa was one of the hardest hit continents of the pandemic. Earlier studies already pointed that the spread to Africa came from its west coast fronting the Atlantic. From Sierra Leone or its neighborhood, the West African colonies of Senegal, Nigeria, Gambia, and others were infected beginning in late August 1918 onward. Because the first outbreaks in South Africa began about the middle of September, it was likely to have been derived from West Africa rather than from Europe (Burnet and Clark 1942, 71–72). Reports indicated the death rate in South Africa as 27 per 1,000 and in Cape Town 2,000 children were suddenly orphaned as a result of the pandemic (Morton 1973, 27).

From the port cities of Africa, the epidemic spread using the colonial railways. Studies showed that the rail system in southern and central Africa, and steamers on the rivers of the Congo basin, provided especially efficient means of dispersal of the virus (Patterson and Pyle 1991, 9). However, other nonrail communities in the south were also hit by the outbreak. The nature of colonial governance contributed to the spread of the epidemic in many parts of southern Africa. According to Ranger (1988, 173), the influenza epidemic broke out among Southern Rhodesian Africans wherever they were clustered together and in contact with travelers. In some large towns, a major

mechanism in spreading the disease was the symbolically appropriate Pass Office, to which all black applicants for employment had to report. Outside the towns, influenza raged most spectacularly in the mining compounds.

The Caribbean was another region hit hard by the pandemic. The infection seems to have been most severe in the islands of Jamaica, Puerto Rico, and the mainland territories of Belize and Guyana. Further research is required at the local and metropolitan levels to assess the full impact of the pandemic on the whole region, especially Cuba, Haiti, and the Dominican Republic, and the French and Dutch possessions. Before 1920 British authorities did not list influenza as an “imperial” disease, but the pandemic of 1918–1919 made it a reportable disease for all the empire. Jamaica was the first island to be affected and, along with Belize and Guyana, suffered most severely. A number of islands, particularly those in the eastern Caribbean, appear to have escaped relatively lightly. Although all sections of the population were vulnerable, the heaviest mortality rates were among the very poor, the East Indian immigrant laborers, and Native Americans. There was also a high toll among males aged 15 to 40 years. Altogether the death rate from influenza in the British Caribbean was around 30,000 (Killingray 1994, 83).

South America was also infected through its ports. It was noted that the ship *SS Demerara* from Lisbon carried the virus by way of Africa and brought influenza to Rio de Janeiro on 17 September and to Buenos Aires on 25 September 1918 (Jordan 1925, 946).

One of the most well-studied regions of the pandemic was North America. Starting in the northeastern United States, the disease moved rapidly overland, and was introduced by sea to the Gulf and Pacific coasts. According to Patterson and Pyle (1991, 9), “Important pathways included northward movement up the Mississippi valley, and movement from an early focus in Chicago into the Great Plains. Canada was attacked along the Atlantic coast, by shipping down the Saint Lawrence, along the route of the Trans-Canada railway, and overland from the United States, especially in the west.” With a population of barely 8 million, Canada lost 30,000, including 108 doctors from Ontario and the Prairie Provinces alone. Deaths in Ontario had reached 5,000 by November 1918 (Morton 1973, 26). Quebec was hit particularly hard: 535,700 people were infected and 13,800 died, including 3,000 in Montreal. At the peak of the epidemic in Montreal, a trolley car was adapted to carry coffins to the cemetery because city horses were unable

to meet demand; a trolley car could carry ten coffins at a time. In Toronto 1,682 people died from influenza between 9 October and 2 November 1918. People aged 20 to 39 years were the majority of the dead. In Winnipeg there were 12,863 reported cases of flu, and 824 people died by the end of 1918 (Wilton 1993, 2037).

The Pandemic in the Asia-Pacific Region

While most epidemiologists and historians point to other regions as the origin and center of the disease, the Asia-Pacific region was actually the focal point of its virulence as soon as it reached the region. According to Patterson and Pyle (1991, 17), the region can be considered as the center of epidemiological mortality of the 1918 pandemic. Turkey, Iran, and the Middle East had a population in the order of 43 million in 1918; modest death rates of 5–10 per 1,000 would indicate between 215,000 to 430,000 total fatalities. Japan’s rate of 6.4 per 1,000 was comparable to those of Europe and North America. An estimated 1.5 million deaths occurred in Indonesia, based on Brown’s (1987) detailed study. While there was no specific information on Korea, Thailand, Indochina, or Malaya—countries with a total population of approximately 44 million at the time of the pandemic—an average mortality rate of 5 per 1,000 would mean 220,000 deaths; and a rate equal to the 30.6 suggested by Brown’s data for Indonesia would have produced over 1.3 million deaths in these countries (Patterson and Pyle 1991, 17).

Table 1. Estimates of mortality rates from the influenza pandemic, selected Asian locations, Fall wave, 1918

PLACE	TOTAL DEATHS	DEATHS PER 1,000 POPULATION
Afghanistan	32,000 (?)	(?)
China	4.0–9.5 million	10–22.5
India	12.5–20 million	42–67
Indonesia	1.5 million	30.6
Japan	350,000	6.4
Philippines	70,000–90,000	6.8–9.2
Southwest Asia	215,000–430,000 (?)	5–10 (?)
Other East and Southeast Asia	220,000–1.3 million (?)	5–30.6
Whole continent, Asia	19–33 million	19.7–34.2

Source: Patterson and Pyle 1991, 14

Table 1 shows the estimates of the mortality rate and total deaths from the 1918 influenza as compiled by Patterson and Pyle (1991).

The Pacific islands and the Australian continent had mixed results with regard to the spread and containment of the disease. Australia was relatively successful in containing the initial spread of the disease through a systematic imposition of quarantine, although it was also later infected through its ports. Official reports stated that authorities immediately put into effect a quarantine program devised to keep out infective diseases. Ships carrying infected persons arrived at Darwin, Townsville, Brisbane, Sydney, Melbourne, Adelaide, Hobart, Fremantle, and Broome, and at each port the quarantine cordon was tight. Steps were taken to isolate every person suffering from the disease. All who had been exposed to infection were kept in quarantine for one week. Over 3,000 persons were handled in this manner. There were over 500 patients, and mortality was kept at the relatively low figure of 3.8 percent (*The Medical Journal of Australia* 1918, 454–55).

Australia’s success in limiting the spread of the pandemic was translated to a relatively low mortality figure for the continent compared with other countries. Even contemporary reports noted the program’s efficacy in containing the spread of the epidemic. One report stated that, during the period October to December 1918, there were 128 deaths from influenza in Victoria with a population of 1,411,004, and 207 deaths in New South Wales with a population of 1,890,654. Had the same death rate in South Africa prevailed in Australia, the deaths in Victoria would have numbered 11,667 and in New South Wales 15,633. In New Zealand, with a population of 1,160,188, 33 percent of the population was affected and 5,471 individuals died. Had the disease of a similar virulence and prevalence invaded Victoria and New South Wales, the number of deaths would have been 6,652 and 8,915 respectively (*The Medical Journal of Australia* 1919, 160–62).

In New Zealand severe influenza of a pandemic type appeared in the neighborhood of Auckland in October 1918. The mortality from the first wave, although abnormal for New Zealand, was not alarming; but the virulence of the second wave was far in excess of anything that had been experienced with influenza. The second wave came to New Zealand soon after the primary. It began in October 1918, reached its peak in November, and then faded quickly. From October to December, there were 6,500 deaths in New Zealand from influenza and its complications. The influenza mortality rate

per 1,000 of population in that period was 4.96 in the population of European origin and 22.6 among the Maoris, the latter being one of the highest death rates in the world. An estimated 40 percent of the population was affected, halting most normal activities. The greatest mortality rate was among those between the ages of 20 and 45 years (Wright-St. Claire 1983, 767).

As in Africa, the epidemic assumed a racialized character in its spread in New Zealand. The differentiation in rates between the European settler and Maori populations was pronounced. Evidence indicated that in 1918 Maoris were more susceptible to be infected than non-Maoris, and that once infected their cases were more likely to prove fatal. The Maori crude death rate was five times that of non-Maoris. Maori mortality could have been higher because of lack of medical care, but it would not explain the higher incidence and case fatality rate of Maoris actually under medical supervision. Apparently non-Maoris had a greater degree of immunity to influenza than Maoris, which the former acquired by more frequent exposure to infection (Pool 1973, 274–81).

From New Zealand the epidemic was passed on to Samoa on board a ship. The death toll in Samoa was the highest on record during the pandemic. Within three months of the outbreak over 21 percent of Samoa's population had died; eventually 25 percent of the population in the two larger islands of Western Samoa perished (Burnet and Clark 1942, 73; Sherman 2006, 396). Through rigid quarantine restrictions the third (American) island of the group escaped infection.

Because of the dearth of reliable quantifiable medical and demographic data, the death toll in China presents itself as a problem for demographic and medical historians. With some 400–475 million population, the mortality figure for China would have been enormous. Some scholars have argued that, assuming a flu death rate of 10–20 per 1,000, which is well below estimates for Indonesia or India, total deaths would have been in the range of 4–9.5 million (Patterson and Pyle 1991, 17).

Of all the major Asian countries that suffered remarkably during the outbreak, the Indian subcontinent was one of the most notable. According to some estimates, a very large mortality in the order of 5 million deaths occurred in India, but there was a striking difference in various provinces. The central and western provinces suffered much more severely than the eastern provinces (Burnet and Clark 1942, 75).¹ Even British colonial health officials were themselves puzzled by such regional disparity, as climatic con-

ditions, or mode of living of the inhabitants appeared not to exhibit much regional differentiation (Great Britain Ministry of Health 1920, 383).

As a matter of fact, Bollet (2004, 104) in a later study opined that India was perhaps the worst affected country on earth, losing about 12 million people. According to Patterson and Pyle (1991, 18), death totals for British India, which included modern Pakistan and Bangladesh, were by far the highest for any single country. At the same time, uncertainty in the estimates provided the single largest source of imprecision for Asian and world mortality totals. The first official British estimates were that about 6 million died, but the authorities later revised this to 12.5 million, the figure used by Jordan. This translated to about 4 percent of the population. An Indian doctor who studied the pandemic put morbidity at 50–80 percent and suggested a total of 15 million deaths. A prominent demographer, analyzing later census returns, has persuasively argued that the pandemic caused at least 16 million deaths, but the figure of 20 million or more was probable. A more recent study strongly suggests that the best estimate is about 17–18 million (*ibid.*).

Just like in other regions, the epidemic spread to the subcontinent through its major ports. According to official reports, infection in Bombay and Calcutta was first noted in June 1918. In Karachi and Madras, the infection spread toward the end of the month. During July and August influenza became widespread throughout India, although in a mild form and with no appreciable increase in mortality rates. By mid-September, however, the mortality rate in Bombay began to rise alarmingly, increasing day by day such that by 6 October 768 deaths were recorded for that single day. The total mortality in India in October is without parallel in the history of the disease. Generally speaking, the coastal areas suffered less than inland districts, although the coastal areas served as major ports of entry for the disease (Great Britain Ministry of Health 1920, 383–84).

Other territories in the Indian Ocean, particularly the island and archipelagic territories, were also affected to different degrees. Burnet and Clark (1942, 74) state that Mauritius was one of the few places to experience the first severe attack of the pandemic relatively late in 1919. The epidemic commenced early in May and approximately 10,000 deaths had resulted by the middle of June 1919. Remarkably the islands that were missed by the waves of pandemic were some of the remotest parts of the world. Burnet and Clark (*ibid.*) state that the regions missed by the pandemic were all insular: St. Helena in the South Atlantic, and a considerable group of

islands in the southwestern Pacific including the Gilbert and Ellice Islands, New Hebrides, Norfolk Island, Papua and the Territory of New Guinea, Solomon Islands, and New Caledonia. The external trade relations of these islands were all with Australia, and their escape can be ascribed reasonably to the strict outward quarantine enforced by Australia on all vessels leaving for these groups (*ibid.*).

Indonesia, the most proximal archipelago to the Philippines, exhibited a peculiar tendency common to most archipelagic territories during the pandemic. The experiences of Indonesia as compared with the Philippines are worth noting. Experts estimate that probably at least 1.5 million people died (Brown 1987, 235).

Entering the archipelago from the Straits Settlements, the epidemic was first reported in Indonesia at Pankattan, on the east coast of Sumatra, later in the month of June 1918. By the end of July, major outbreaks of the disease had been noted in several parts of Java and in Kalimantan. The first wave seemed to have penetrated areas no further east than Java. Bali, Sulawesi, and the islands to the east were untouched. Although high levels of morbidity were recorded, mortality was generally low. A second wave of the disease, arriving in October 1918, was more widespread however. This time very few parts of the archipelago were unaffected, the eastern islands in particular being very badly hit. This second wave brought the most deaths (*ibid.*, 236).

While Indonesia exhibited the common tendency of having the pandemic come in waves, according to Brown, explaining why this differential pattern of mortality occurred is difficult. Broadly speaking, the mild first wave of the disease hit the western part of Java first, and then faded out fairly rapidly as it spread eastward through the island. Those areas hit hard by the first wave were often not badly affected by the second. Apparently exposure to the first wave gave people a measure of protection or immunity from the second. Brown (*ibid.*, 237) even noted that the further east the second wave reached the more deaths it caused, in line with the pattern noted in Java.

The Influenza Pandemic in the Philippines

The Philippine experience with the influenza pandemic of 1918–1919 exhibited similar epidemiological characteristics as those found in other countries. The pandemic also spread in the country in distinct waves, with noticeable age-specific mortality rates comparable to the experiences of

other countries. The geographical pattern of the spread in the country also showed similarity with other archipelagic societies like Indonesia and the Caribbean. Also remarkably similar was the pattern showing a distinct localization of the disease, with specific provinces suffering more than others because of geographical location or prior exposure.

An early medical report by the medical practitioner Francis Coutant, who personally witnessed the contagion as it struck Manila during the first and second waves of the epidemic, noted the start of the outbreak in the Philippines. Working at St. Luke's Hospital, Coutant (1918, 1566) observed that the epidemic began in Manila, and that cases were first noted among longshoremen and other laborers along the waterfront near Manila's ports, indicating that it had been brought in from some other part of the world.

One of the earliest medical reports about the pandemic in the Philippines appeared as a secondary citation in an American medical journal (American Medical Association 1919, 1048). The report noted that in the *Revista Filipina de Medicina y Farmacia*, Dr. Eugenio Hernando, the chief of the Provincial division of the Sanitary service of the Philippines, reviews the epidemic of influenza that occurred in the Philippines from June to December 1918 that stated an incomplete total number of deaths caused by the epidemic at 70,513, with morbidity of 40 percent of the total population. Early estimates of mortality were placed at about 2.5 percent. The epidemic was also noted as having occurred in waves, beginning in June and having the second, more severe one beginning in October 1918. The groups that suffered most were those between 10 and 29 years in age (*ibid.*).

An important statement in the early report was the assertion that “the disease did not seem to be imported, since cases were occurring before any ships arrived from infected countries, although after the importation of cases it assumed a more severe form” (*ibid.*, 1048)—a contention that the disease was of local origin and became severe only when mixed with the infection from outside. This early claim would be repeated in the summation by health authorities in their reports after the epidemic.

While the report was brief and exhibited several statistical limitations, it remained relevant in setting the tone of future presentations of quantitative data on the outbreak in the archipelago. The Philippine Health Service made the official reports on the pandemic in its annual report (De Jesus 1920). While the tone was nowhere apologetic, it recognized the severity

and seriousness of the outbreak in the history of disease control and colonial public health in the American colony. The report stated that

The year was a particularly disastrous one from the standpoint of epidemiology: never in its history, excepting perhaps during the years of the cholera epidemics of 1902 and 1903, have the resources of the Health Services been taxed so heavily. For this reason, although all the usual activities of the work were carried on throughout the year, few permanent sanitary improvements could be effected. Influenza and smallpox proved to be the most serious of the epidemiological problems during the year. From influenza alone there occurred an estimated 85,000 deaths. The disease appeared first in a mild form, with low mortality but the second wave which swept over the archipelago from Aparri to Sulu from the latter part of September to the end of the year caused a mortality of about 1.8 percent. Most of the deaths were due to respiratory, cardiac, and renal complications. (*Boston Medical and Surgical Journal* 1920, 512)

Demographic Impact of the Influenza Pandemic in the Philippines

Table 2 shows the demographic impact of the pandemic on the mortality figures of the archipelago. The table shows that the years that exhibited the highest rates were all epidemic years. Prior to the 1918 pandemic, the years with the most noticeable mortality figures were the cholera epidemic years of the early 1900s and 1908–1909. But these rates would not come nowhere near the high death rate of 40.79 registered in the 1918 pandemic. Clearly the pandemic contributed to the crisis mortality experienced at the time when the colonial government was ready to declare that the epidemiological conditions in the Philippines were already under the control of public health officials. The general trend can also be appreciated if disaggregated into the local rates. In Table 3, for example, the rates in Manila and fifteen provinces exhibited high mortality figures for 1918 compared with the years prior to the outbreak.

This particular trend is more marked if we consider the provincial influenza death rates. Table 4 indicates the degree of spread that the disease had taken when it took most of the provinces by 1918, only tapering off a bit a year later. One may deduce that, for most of the provinces, influenza was vir-

Table 2. Annual general death rates for the Philippine Islands, 1904–1918

YEAR	DEATH RATE PER 1,000 POPULATION
1904	27.05
1905	27.77
1906	28.31
1907	21.62
1908	29.6
1909	26.34
1910	26.14
1911	24.75
1912	23.6
1913	19.1
1914	19.95
1915	21.11
1916	22.42
1917	22.89
1918	40.79

Source: Philippine Islands Census Office 1920–1921, 971

tually nonexistent as a virulent disease as late as the year prior to the outbreak. But the peak of 1918 was experienced by all provinces without any exception, but particularly in provinces with ports: Pangasinan, Iloilo, and Albay. However, in Cebu where influenza deaths had existed prior to the pandemic, the total deaths in 1918 were not as severe as in the other port provinces, although Cebu would continue to have relatively high mortality in 1919. The rates for 1919 would indicate the third wave of the pandemic as it wound down in many parts of the archipelago.

One may also observe that the provinces that exhibited the highest rates were not necessarily those that were most proximal to Manila. Even Visayan (e.g., Negros) or Northern Luzon (e.g., Pangasinan) provinces exhibited tendencies of high mortality rates for influenza during the pandemic year. Apparently, as in archipelagic Indonesia, the outbreak of the first wave of the epidemic transpired in a core region, but the epidemic reappeared in more virulent form in the outer regions previously unaffected by the first wave. Manila and the provinces of Bataan, Bulacan, Batangas, Rizal, Laguna, Tayabas, Pampanga, and Nueva Ecija accounted for most of the pandemic mortality in the first wave,

while regions that were mostly open to global commerce outside of this core region, most notably Cebu, Iloilo, Pangasinan, Negros, and Camarines, would suffer most in the more virulent second wave. It would also appear that, just like in Indonesia, some areas that had been exposed to the milder first wave, like Manila and the core region proximal to it, would also exhibit lower mortality figures in the second wave, highlighting the possibility of the initial exposure to the virus as responsible for the immunity to the more virulent strain (Long and de Jesus, 1919, 116).

Table 5 reiterates such a trend. One must take caution, however, at the very low rates exhibited in the Mindanao and Cordillera regions compared with the other regions of the archipelago, despite the noteworthy cases reported by the health authorities. The low rates in Mindanao and the

Table 3. Crude death rates per 1,000 population, Manila and fifteen provinces, 1914–1923

YEAR	MANILA	FIFTEEN PROVINCES*
1914	24.7	21.74
1915	25.18	22.02
1916	26.06	23.73
1917	23.94	23.10
1918	43.67	42.34
1919	27.19	37.51
1920	26.30	21.66
1921	25.50	22.30
1922	24.09	20.83
1923	26.01	20.24
Average	27.22	25.50

*The fifteen provinces included in the study were: Albay, Batangas, Bulacan, Capiz, Cavite, Cebu, Ilocos Norte, Iloilo, Laguna, Nueva Ecija, Pampanga, Pangasinan, Rizal, Tarlac, and La Union

Source: Padua 1925, 6

Cordillera may be a function more of underenumeration and underreporting than actual low contamination of the disease.

Another interesting feature of the influenza pandemic in the Philippines was its marked seasonality, specifically for the mortality figures. Table 6 clearly indicates that, despite the early outbreak of the first wave in the months of May to July 1918, the increase in the death toll would not be as significant as compared with the second wave that occurred during October to December 1918. Just like the experience of other countries, the pandemic was more deadly in the second than in the first wave. Table 7 locates such seasonality in a three-year period ending in 1918. Again, as the numbers indicate, there were remarkable increases in the mortality rates in the periods of the second wave of the 1918 pandemic, compared with other months of the years covered.

Tables 8 and 9 would reveal the unique features of the epidemic, when viewed from the age groups of its victims. In ordinary influenza outbreaks, the youngest and oldest members of the population would tend to exhibit the highest mortality figures for the entire population, following a pattern known as the U-curve in age-specific mortality figures. In the case of the influenza pandemic of 1918–1919, however, the victims were no longer restricted to

Table 4. Summary of total deaths caused by influenza, selected provinces, 1916–1919

PROVINCE	1916	1917	1918	1919
Abra				116
Albay			4,074	374
Ambos Camarines			2,413	347
Antique			3,885	47
Bataan			579	19
Batanes			84	6
Batangas			2,282	76
Bohol	40	11	382	609
Bulacan	20	4	2,894	41
Cagayan	2	26	1,566	177
Capiz	87	214	1,607	52
Cavite			1,436	9
Cebu	549	293	1,560	716
Ilocos Norte			1,959	18
Ilocos Sur	4		1,767	275
Iloilo			4,724	275
Isabela		6	1,093	263
Laguna	1		1,761	28
La Union		6	1,783	54
Leyte			1,351	328
Mindoro			720	134
Mountain Province	45	10	2,526	183
Nueva Ecija			3,308	57
Nueva Vizcaya			1,470	
Occidental Negros	85	129	3,940	215
Oriental Negros			1,737	299
Palawan			463	212
Pampanga		15	3,773	5
Pangasinan	41	20	7,907	87
Rizal			1,510	70
Romblon			124	9
Samar			132	167
Sorsogon	32	19	1,499	252
Tarlac			2,072	98
Tayabas			1,694	73
Zambales			1,168	53
Total	906	753	71,243	5,744

Source: De Jesus 1919, 101–106; 1920, 198–99

Table 5. Influenza deaths and death rates, by province, Philippines, 1918

PROVINCE	TOTAL DEATHS	DEATH RATE PER 100,000	PROVINCE	TOTAL DEATHS	DEATH RATE PER 100,000
Lanao	6	0.1	Lepanto	1,849	19.6
Sulu	50	0.5	Amburayan		
Batanes	73	0.8	Bulacan	1,914	20.4
Siquijor	134	1.4	Ilocos Norte	1,982	20.9
Cotabato	272	2.9	Capiz	2,042	21.5
Romblon	279	2.9	Tarlac	2,038	21.5
Masbate	308	3.2	Cavite	2,065	21.8
Abra	391	4.1	Oriental Negros	2,197	23.1
Surigao	460	4.8	Cagayan	2,241	23.6
Agusan	471	5.0	Ambos Camarines	2,456	25.9
Bataan	504	5.3	Batangas	2,584	27.2
Manila	627	6.6	Antique	2,732	28.8
Catanduanes	688	7.2	Nueva Ecija	2,742	28.9
Bohol	765	8.1	Albay	3,135	33.0
Davao	774	8.2	Pampanga	3,419	36.0
Benguet	824	8.7	Samar	3,909	41.2
Zambales	969	10.2	Cebu	4,105	43.2
Marinduque	979	10.3	Occidental Negros	4,298	45.3
Isabela	998	10.5	Leyte	5,055	53.3
Mindoro	1,003	10.6	Iloilo	5,250	55.3
Zamboanga	1,002	10.6	Pangasinan	7,886	83.0
Ilocos Sur	1,220	12.9	Total	88,906	936.6
Misamis	1,240	13.1			
Sorsogon	1,372	14.5			
Nueva Vizcaya	1,384	14.6			
Rizal	1,414	14.9			
Tayabas	1,516	16.0			
Palawan	1,640	17.3			
Laguna	1,806	19.0			
La Union	1,838	19.4			

Source: Philippine Islands Census Office 1920–21, 1046ff

Table 6. Total mortality and mortality rates, January to December, Philippines, 1918

MONTH	TOTAL MORTALITY	MORTALITY RATE PER 100,000	MONTHLY RATE AS PERCENTAGE OF TOTAL FOR 1918
January	379	4.0	0.43
February	220	2.3	0.25
March	234	2.5	0.26
April	258	2.7	0.29
May	248	2.6	0.28
June	339	3.6	0.38
July	496	5.2	0.56
August	379	4.0	0.43
September	389	4.1	0.44
October	2,237	33.6	2.52
November	48,523	511.2	54.58
December	35,204	370.9	39.6
Total	88,906		

Source: Philippine Islands Census Office 1920–1921, 1046

Table 7. Mortality and mortality rates, January to December, Manila, 1916–1918

	1916		1917		1918	
	NUMBER OF DEATHS	ANNUAL DEATH RATE PER 1,000	NUMBER OF DEATHS	ANNUAL DEATH RATE PER 1,000	NUMBER OF DEATHS	ANNUAL DEATH RATE PER 1,000
January	634	27.96	485	21.4	713	31.36
February	559	26.37	469	22.91	685	33.47
March	593	26.17	539	23.78	878	38.75
April	567	25.85	500	22.80	854	43.51
May	548	24.18	545	24.05	1,125	50.09
June	513	23.39	500	22.60	1,242	56.64
July	573	23.29	555	24.49	1,083	47.8
August	717	31.64	615	27.14	957	42.23
September	827	37.71	548	24.99	917	41.82
October	351	25.31	598	26.39	1,127	49.47
November	494	22.53	639	29.14	1,867	85.15
December	589	25.99	689	30.41	817	36.05
Total	7,165	26.84	6,682	25.03	12,369	46.33

Source: Long and de Jesus 1919, 282

Table 8. Age-specific influenza deaths, Philippines, 1918

AGE GROUP	DEATHS	AS % OF TOTAL POPULATION
Under 30 days	898	1.01
30 days to under 1 year	5,718	6.43
1 year to under 2 years	6,042	6.80
2 years to 4 years	17,777	20.00
5 years to 9 years	12,916	14.53
10 years to 14 years	3,980	4.48
15 years to 19 years	5,218	5.87
20 years to 29 years	13,669	15.37
30 years to 39 years	10,062	11.32
40 years to 49 years	5,857	6.59
50 years to 59 years	3,139	3.53
60 years to 69 years	1,992	2.24
70 years and over	1,532	1.72
Unknown	106	0.12

Source: Philippine Islands Census Office 1920–21, 1046

Table 9. Age-specific death rates per 1,000 population in Manila and fifteen provinces, 1914–1915, 1918–1919, 1922–1923

AGE GROUP	MANILA			FIFTEEN PROVINCES*		
	1914–1915	1918–1919	1922–1923	1914–1915	1918–1919	1922–1923
Under 10	66.25	75.61	49.72	44.46	81.21	38.18
10-19	3.76	7.71	5.11	5.11	12.40	5.44
20-29	7.25	13.54	10.98	7.03	14.07	7.06
30-39	11.90	18.53	14.74	8.65	16.34	9.42
40-49	17.62	24.53	19.36	14.76	26.88	13.32
50-59	24.83	40.02	33.03	18.46	30.25	18.96
60-69	48.10	71.17	62.60	25.17	37.49	24.97
70 above	161.33	244.10	203.04	92.34	160.72	99.99

*See Table 3 for the fifteen provinces

Source: Padua 1925, 7

the very young and the very old. The able-bodied, young adult population between ages 20 to 39 years also became one major age bracket among whom influenza-related deaths became very pronounced. This pattern conforms to the W-curve in age-specific mortality figures. This is more pronounced in the rates in Table 8, but a bit truncated in the figures for Table 9. This trend was not unique to the Philippines, because as noted earlier other countries exhibited similar trends in the age distribution of mortality figures.

Problems in Combating the Pandemic in the Philippines

A major problem that confronted the Philippine Health Service in combating the disease was the problem of retaining the personnel who administered the measures it adopted at the height of the epidemic. Even Surgeon John D. Long resigned his position as Director of Health for the Philippine Islands, effective 3 December 1918, paving the way for Vicente de Jesus, the first Filipino to assume charge as Acting Director of Health on 1 January 1919.

The commissioned personnel were considerably depleted during the year, through resignations, retirement, death, and the military exigencies of the First World War. The clerical force was likewise handicapped by the lack of men. The provincial public health institutions did not escape from a similar problem. The shortage of personnel reached such a point as to threaten the organizational operation of the Health Service, as only a small number of personnel were forced to take the extra tasks left behind by the health practitioners.

Seven commissioned officers resigned during the year. The exigencies of war made necessary the redeployment of two chiefs of office, ten men from the commissioned personnel, and six presidents of municipal sanitary divisions from the provincial organizations to other posts. In the case of the commissioned personnel, the absence of so large a percentage from the total available number caused a serious handicap in routine health work—the more serious because commissioned officers were the men who supervised all work done in connection with the eradication of communicable diseases (Long and de Jesus 1919, 5).²

While the Filipino-led Health Service was experiencing its worst epidemic at the time of extreme personnel shortage, critics of the administration were united in laying the blame on the Filipinization program of then Gov.-Gen. Francis Burton Harrison. These criticisms were clearly part of the infamous political infighting among different colonial officials at the time

of the change of colonial administration. Most of the critics of the Health Service's performance during the epidemics either served in the administration before or after Harrison. Dean C. Worcester, for example, criticized not only the health department but also the research arm of the medical profession in the Bureau of Science. He lamented the collapse of the health campaigns as one of the most woeful that occurred during the Harrison administration. With racialized undertones, he described the conditions at the Philippine General Hospital as "no longer a place fit for white patients." Worcester (1921) even criticized the government for "completely wrecking" the Bureau of Science, making it incapable of dealing with a serious outbreak of a dangerous communicable disease, and noting the organizational incapacity of the government to deal with such problems.

Joseph Ralston Hayden, who would later serve as vice governor-general to Frank Murphy more than a decade after the pandemic, was also relentless in his criticism of the Harrison administration's performance in the health campaigns. He stated that the main cause of the problem was administrative in nature. He pointed out that the General Hospital was placed under the Secretary of the Interior while the Bureau of Public Health was put under the Department pointed out of Public Instruction (Hayden 1924, 14).

Another aspect in assessing the health program at the time of the epidemic pertained to the establishment of a system of effective quarantine of the Islands. A lot of triumphalist attitude at the start of the American occupation suffused the quarantine procedures that the health programs adopted for the archipelago, including, according to Worcester (n.d.), the ones established in Mariveles, Cebu and Iloilo, where a system of quarantine stations were set up at which vessels with quarantinable diseases aboard were treated. Inspection stations were also set up in all the remaining ports of entry in the Philippines, ideally to make the introduction of quarantinable diseases under control. Despite the bravado pertaining to the institutionalization of the quarantine system, the outbreak of the pandemic indicated that such a system failed to check the entry of the disease and its spread in the archipelago. One leaves to question whether such quarantine procedures were but mere indications of administrative politicking and showing off, and not substantially safeguarding the Islands from virulent diseases like influenza, as was seen to be effective in Australia and American Samoa.

Another important cause of the spread and virulence of the disease was the military mobilization campaigns of the colonial administration in prepa-

ration for an anticipated participation of the Philippines in the First World War. With the full support of the government in Washington, Governor-General Harrison, in September 1918, took formal steps to organize the Philippine Council of National Defense, and with the cooperation of the U.S. Army Department of the Philippines an officers' training school was opened in Manila. A three-month training course for these officers and troops was implemented, but the troops were not fully mobilized to engage in actual combat as it was not until 1 November 1918 that the division was mobilized at the big cantonment of Camp Claudio on the outskirts of Manila. Not until 19 November was authority for federalization received. By this time the armistice had been signed (*Manila Daily Bulletin* 1919, 81ff).

The result of that mobilization at the time of the epidemic resulted in disastrous consequences from the perspective of public health. Not only were a great number of people more vulnerable to disease as a result of concentration and crowding but the events also proved significant to the spread of the virus, which coincided with the mobilization of troops from various Philippine localities and their concentration in a single training camp. In other countries involved in the war where such mobilization was undertaken, a similar spread of the epidemic was experienced.

Sanitation in the camps became a primary concern of the authorities, who identified the sanitation component of the mobilization as equally important as the military training. Nevertheless, the camp became a virtual cesspool for the spread of the influenza epidemic; on 9 November, 650 cases of the flu were reported, with 162 patients with other medical conditions undergoing treatment in the camp hospital (Jose 1988, 295–96).

The concentration of men recruited from all over the archipelago in a single camp made the place a convenient breeding ground for the spread of the influenza virus, prompting the government to take the necessary but belated steps to contain the spread of the disease. Efforts were made to quarantine Camp Claudio and its environs for the sake of the Philippine National Guard. Executive Order no. 38 of Governor-General Harrison, dated 18 October 1918, declared the environs of Camp Claudio as threatened with the influenza epidemic, and ordered that all localities situated in the provinces of Rizal and Cavite and the city of Manila, comprised within a circular area or zone having a radius of seven miles from Camp Claudio, Rizal, as center, were to be designated as the "camp Claudio extra cantonment zone" (Bureau of Insular Affairs n.d., Box 500). The zone was the only one estab-

lished in the country for the purpose of containing the spread of influenza if only to ensure that the National Guard was free from the disease.

To contain the spread of influenza, this extra cantonment zone was declared as a working quarantine camp. The district was placed under the administration of Senior Surgeon Felino Simpao, and included the towns of Pasay, Parañaque, Las Piñas, Muntinlupa, San Pedro Makati, San Juan del Monte, San Felipe Neri, Pasig, Pateros, and Tagig in Rizal province, and Bacoor and Imus in Cavite. The zone included a population of 107,914. As the epidemic progressed, 6,067 cases and 935 deaths from communicable diseases were registered, most of which were due to influenza. Imus, Pasig, and Parañaque were the greatest sufferers of the epidemic.

According to official communications, the activities to contain influenza at the extra cantonment zone included lectures on preventive measures against dangerous communicable diseases; treatment of cases found and reported by sanitary inspectors, and distribution of medicines; distribution of anti-influenza bulletins; inspection of 21,360 houses, and sanitary orders issued for general cleaning; weekly inspection of public schools and monthly physical examination of school children; sanitation of populated centers, especially those lying around Camp Claudio; disinfection of houses where cases of dangerous diseases had been registered; disinfection of forty surface wells; partial vaccination; construction of six public midden sheds; construction of 1,956 closets of the Antipolo system; sanitation of 486 stables with absorbent tanks provided; inspection of all tiendas, 440 of which were found to be in sanitary condition; sanitary supervision of establishments for the sale of candy and ice cream; poisoning of 307 stray dogs; and statistical work in the municipalities of Pasay, Parañaque, Las Piñas, Bacoor, and Imus for automatic sanitary control (Long and de Jesus 1919, 19–20). Clearly the activities listed went far beyond the control of influenza, but rather were meant to restructure communities along the lines of the colonial sanitary order implemented since the American occupation of the Philippines.

Aside from military camps, the other notably confined and concentrated populations that exhibited a marked tendency to become centers for the spread of the disease were prisons, leper colonies, and schools.

In the case of the Bilibid Prisons, almost all of the inmates became sick of the disease during the height of the epidemic in October and November 1918. Of those among whom respiratory complications developed, nearly half died. Among the 2,674 cases of this disease treated during the year,

seventy-one cases of lobar pneumonia complications occurred with thirty-one deaths. Almost all of the inmates had influenza, and of those who contracted complications in their respiratory organs nearly half died. At the outbreak of the first epidemic the hospital was so overcrowded that 1,897 patients who could not be admitted were treated in their respective brigades. Due to influenza and pulmonary tuberculosis, the death rate for the year 1918 was higher than that of 1917 (*ibid.*, 14–15).

The Culion Leper Colony also did not escape the contagion, despite its supposed well-quarantined conditions. For the first time in its history, an epidemic disease had reached the colony proper. Influenza entered the colony in October 1918 and took a toll of 216 lepers (*ibid.*, 45).

The Iwahig Penal Colony was also not left unscathed. Official reports indicated that influenza was the only epidemic disease registered during the year. The disease manifested itself starting on 22 November 1918 spreading to all inhabitants of the colony, including the nurses and servants. Without counting the employees and their families, only five of the colonists remained well. They were given medical assistance in their own houses by the medical personnel of the colony, similar to those who were not gravely ill because of the epidemic. The disease was supposed to have originated from the epidemic that occurred in Puerto Princesa early in November. The mortality reached 4 percent, a relatively low rate considering that in the colony there existed many cases of malarial anemia, advanced pulmonary tuberculosis, debilitated old people, and some young children (*ibid.*, 45, 52).

During the periods of the epidemic, many schoolhouses were used as temporary hospitals, where teachers received patients, cared for them, and taught others to care for them. During the influenza epidemic of 1918, hundreds of teachers spent the greater part of their time trying to save lives and helping to check the spread of the disease by nursing the sick, distributing medicines, and giving helpful advice to the people (Bureau of Insular Affairs n.d., Box 422). The University of the Philippines campus had to suspend registration for the second semester of school year 1918–1919 due to the outbreak of the epidemic. A great number of professors and students were affected, with three students dying of the disease (*Manila Times* 1918b; 1918c).

The Aftermath of the Pandemic

Overall the influenza epidemic of 1918 resulted in a number of changes in the medical, social, and administrative orientation of colonial epidemiology

and public health programs in the Philippines. The official report of the health authorities that assessed the impact of the epidemic concluded the following (Long and de Jesus 1919, 119–120):

First. The epidemic that raged from May to July was the grippe, also so-called influenza or *trancazo*.

Second. The disease had a preference for the age groups between 10 and 29 years.

Third. The epidemic of October was merely a recrudescence and a continuation of the May to June epidemic.

Fourth. The attack of influenza during the first period of the epidemic conferred immunity against another attack of the second.

Fifth. The epidemic was of autochthonous origin, but the importation of foreign strains increased the virulence of the native strains.

Sixth. Maritime and land quarantines, hospitalization and the closing of schools and places of amusement failed to cut the diffusion of the epidemic short.

While other societies were quick to ascribe an external origin to the disease, Philippine officials were quick to ascribe to it an autochthonous origin, and were comfortable in claiming that the epidemic was native to the country. The use of the local term *trancazo* helped in the linguistic localization of its origin. By using *trancazo* in official discourse, the health officials were no longer concerned with “othering” the disease, but rather were comfortable in owning it.

At the same time, the triumphalism in the scientific and medical field was drowned by the admission that the measures adopted by health authorities in combating the disease failed. The admission of failure was not only forthcoming but was largely anticipated by most sectors. This admission veered away from the mood of the earlier era of Victor Heiser, with its great celebrations highlighting the achievements and successes of public health measures. In a way, if the control of the cholera epidemic in the early twentieth century was presented as the remarkable triumph of the American colonial health program in the Philippines, the debacle of influenza represented its most obvious failure.

One impact of the influenza pandemic was the reorientation of the manner by which health authorities reported the occurrence, handled the outbreak, controlled the spread, and contained the mortality and morbidity

rates of the epidemic. In 1920 the Philippine Health Service prepared a handbook entitled *Proposed Sanitary Code Prepared for General Use in the Philippine Islands*, which included influenza as a dangerous communicable disease that health authorities were required to report. Isolation and institutionalization of the sick, and the disinfection of the environment were all made compulsory. The previous prohibition on spitting in public places was reiterated as part of the influenza control mechanism. Even the movement of laundry to the laundress was controlled and subjected to disinfection.

Specific provisions were also spelled out for the control of a possible epidemic outbreak of influenza in the future. The proposed manual for the management of communicable diseases, published in 1919 (Hernando 1919, 25) provided the following information regarding influenza not previously cited in other sanitary codes published earlier:

Grippe, also called influenza and *trancazo* is a specific pandemic disease, appearing at irregular intervals, characterized by rapid spread and a high percentage of incidence wherever it occurs.

The specific cause of the disease is the bacillus influenza which was described by Pfeiffer in 1892 and 1893. The disease may appear under four forms or types; respiratory, nervous, gastrointestinal and febrile. Incubation period – least, less than 24 hours; average 2 to 4 days; greatest 5 days

Quarantine period – five days from last exposure to infection, but impracticable

Infective period – from earliest symptoms till convalescence is well established

Transmission – 1. From person to person. 2. By fomites: handkerchiefs, towels, cups, and other objects contaminated with the fresh secretions. 3. By carriers: from nose, throat and respiratory passages

Incidence – influenza is a disease of all ages

Immunity – slight and an attack thereof does not usually confer it

Of all the important changes made for the proposed sanitary code, the inclusion of influenza as a “subsequent addition” to the list of reportable diseases became one of the most significant (ibid., 17, 25–26). This was a new development considering that information and reporting was critical in the control of disease transmission at the initial outbreak of the epidemic.

Prior to the 1918 pandemic, however, influenza was not considered a reportable disease, hence the inability to detect its occurrence at the early stage of contamination.

Conclusion

Apart from the view of contemporaries, the failure of containing the spread of the disease could be seen as part of the intrinsic conflict between Western medicine and public health measures and the colonial society's differing views on health and medicine. In assessing the African experience, for example, Harrison (2004, 152) states that the popular response to influenza varied enormously from one country to another, and within countries too. If Western medicine had little effect in treating a powerful disease like influenza, then confidence in the entire system could easily be shaken.

The other dimension of this conflict between the delivery of public health programs based on Western public health measures and the practices of local communities pertained to hygiene, public health, and medicine as areas and arenas of contestation of various levels of existence, as Bashford (2004, 115) has pointed out. The attempts at implementing new hygienic-cultural practices to be effective on a personal level became national campaigns. For colonial and imperial powers, these became areas of projection of their effective territorial control over large areas populated by different societies with different cultural and social practices and attitudes regarding disease and wellness. Bashford points that quarantine efforts were actually done as part of the administrative development of nations and states attempting to define its boundaries, to draw the line between those that it can create as geobodies subject to the medical-administrative rules of states, and those that it cannot contain because it is part of a larger international body, that will eventually separate the sick from the healthy, the foreign from the local, and the outsider from the insider.

Overall, the influenza pandemic in the Philippines exhibited the same tendencies as in the rest of the world in terms of its virological characteristics and epidemiological spread. The W-curve age-specific mortality, the three-wave experience of the epidemic, and the relative virulence of the second wave compared with the others were characteristic features of the global pandemic that were also manifested in the Philippines. The social and political conditions in the American-occupied Philippines, however, made the Philippine experience historically unique. In the middle of the outbreak,

public health authorities in the country had to deal with the transfer of authority from an American-dominated health bureaucracy to a Filipinized one. This happened with the attendant political intrigues that accompanied the transfer of authority from one that was dominated by the colonial power to one that was local in composition. There was also the absence of a serious effort at containment of the epidemic and the segregation of the population outside the established special cantonment zone. The special cantonment zone, as a matter of fact, may be viewed more as a means to protect the possible Filipino draftees who were about to take part in the First World War than protect the local population and contain the spread of influenza to other localities. These conditions rendered unnecessary the possibility of having "escape populations" and to establish a quarantine system as authorities simply let the spread of the virus take its natural course to reach previously uninfected areas.

But the most noticeable feature of the local reaction to the epidemic was the presentation that it was something autochthonous and localized. Not only did the authorities present it as part of the usual indigenous *trancazo* that afflicted the local population but also no real effort was made to recognize its foreign origin. Therefore, the pandemic could not be contained through a systematic effort of reporting, recording, isolation, and quarantine.

Evidently the world has learned some lessons from the influenza pandemic of 1918–1919. Recent emerging diseases like Ebola, bird flu, SARS, and swine flu would tend to point to the ability of societies and states to avoid the repetition of some of the mistakes taken by the health authorities almost a century ago. While most of the public health and medical institutions of the old imperial order gave way to institutions of the nation-states that inherited the old system, the challenge remains for most societies to be prepared for the emergence of the next possible pandemic.

Notes

- 1 The mortality rates for every 100,000 population were as follows: Eastern India: Bengal 850, Burma 1,390; Madras 1,670; Assam 1,860; Bihar and Orissa 2,050; Western and Central India: United Provinces 4,340; NW Frontier 4,360; Punjab, 4,500; Bombay 5,490; Central Provinces 6,600 (Burnet and Clark 1942, 75).
- 2 According to Long and de Jesus (1919, 5), among those who resigned were John D. Long, Director of Health; Senior Medical Inspectors Gilbert Cullen, Arlington Pond, Claude E. Norris, Senior Surgeons Domingo Santos and Andres Bautista, and Surgeons Guillermo Jimenez and Jose

Chavez. Those who were reassigned to serve with the U.S. Army were Senior Medical Inspectors Arlington Pond, Almon Goff, and Henry Pick; Sanitary Engineer E. L. Barber; Chief of Clerical Force M. J. Walsh; Senior Surgeons Pacifico Laygo, Jose Raymundo, Enrique Ochoa; Surgeons Benito Panganiban and Manuel Arguelles; Assistant Surgeon Juan Crisolago and Presidents of the Sanitary Division Ramon Santa Ana, Pedro Buenaseda, Virgilio Gonzales, Rafael Perez, Gaspar Garcia, and Eliseo Bundoc.

References

- American Medical Association*. 1919. Influenza in the Philippines. *Journal of the American Medical Association* 73 (Oct.): 1048.
- Arnold, David, ed. 1988. *Imperial medicine and indigenous societies*. Manchester: Manchester University Press.
- Bashford, Alison. 2004. *Imperial hygiene: A critical history of colonialism, nationalism and public health*. New York: Palgrave Macmillan.
- Bollet, Alfred Jay. 2004. *Plagues and paxes: The impact of human history on epidemic disease*. New York: Demos.
- Boston Medical and Surgical Journal*. 1920. The Philippine health service. *Boston Medical and Surgical Journal* 182 (May): 512–14.
- Brown, Colin. 1987. The influenza pandemic of 1918 in Indonesia. In *Death and disease in Southeast Asia: Explorations in social, medical and demographic history*, ed. Norman Owen, 235–56. Singapore: Oxford University Press.
- Bureau of Insular Affairs. N.d. Record Group 350, Entry 5, Box 422, General Classified Files 1898-1945. United States National Archives and Records Administration, College Park, Md.
- . Record Group 350, Entry 5, Box 500, General Classified Files 1898-1945. United States National Archives and Records Administration, College Park, Md.
- Burnet, F. M. and Ellen Clark. 1942. *Influenza*. Melbourne: Macmillan and Company.
- Collier, Richard. 1974. *The plague of the Spanish lady: The influenza pandemic of 1918-19*. New York: Atheneum.
- Coutant, Francis. 1918. An epidemic of influenza at Manila, PI. *Journal of the American Medical Association* 71 (Nov.): 1566–7.
- Crosby, Alfred. 1989. *America's forgotten pandemic: The influenza of 1918*. New York: Cambridge University Press.
- de Jesus, Vicente. 1919. *Report of the Philippine Health Service, 1918*. Manila: Bureau of Printing.
- . 1920. *Report of the Philippine Health Service, 1919*. Manila: Bureau of Printing.
- . 1923. *Report of the Philippine Health Service, 1922*. Manila: Bureau of Printing.
- Great Britain Ministry of Health. 1920. *Reports on public health and medical subjects no. 4: Report on the pandemic influenza 1918–19*. London: His Majesty's Stationary Office.
- Greger, Michael. 2006. *Bird Flu: A virus of our own hatching*. New York: Lantern Books.
- Harrison, Mark. 2004. *Diseases and the modern world: 1500 to the present*. Cambridge: Polity.
- Hayden, Joseph R. 1924. Report of the Public Health Service. Joseph R. Hayden Papers, Box 11. Bentley Historical Collections, University of Michigan, Ann Arbor.
- Heiser, Victor. 1936. *An American doctor's odyssey: Adventures in forty-five countries*. New York: W. W. Norton and Co.
- Hernando, Eugenio. 1919. *Management of communicable diseases*. Philippine Health Service Health Bulletin No. 21. Manila: Bureau of Printing.
- Hope-Simpson, R. Edgar. 1992. *The transmission of epidemic influenza*. New York: Plenum Press.
- Jordan, Edwin. 1925. The present status of the influenza problem. *American Journal of Public Health* 15 (Nov.): 943–47.
- Jose, Ricardo. 1988. The Philippine National Guard and World War I. *Philippine Studies* 36 (3): 275–99.
- Killingray, David. 1994. The influenza pandemic of 1918-19 in the British Carribean. *The Social History of Medicine* 7(1): 59–87.
- Long, John D. and Vicente de Jesus. 1919. *Report of the Philippine Public Health Service fiscal year 1918*. Manila: Bureau of Printing.
- Manila Daily Bulletin*. 1919. The Philippines and their part in the great war. *Manila Daily Bulletin Anniversary Number*. Feb.: 81–86.
- Manila Times*. 1918a. Trancazo is again visitor but epidemic is not so severe. *Manila Times*. 27 Oct.: 1.
- . 1918b. UP President Villa postponed matriculation of students. *Manila Times*. 10 Nov.: 1
- . 1918c. 3 U.P. students died of trancazo. *Manila Times*. 12 Nov.: 1
- Markel, Howard, Alexandra Stern, Alexander Navarro, and Joseph Michalsen. 2006. A historical assessment of nonpharmaceutical disease containment strategies employed by selected US communities during the second wave of the 1918-1920 influenza pandemic. Ann Arbor, MI: University of Michigan Center for the History of Medicine.
- The Medical Journal of Australia*. 1918. Influenza on ships. *The Medical Journal of Australia* 2 (Nov.): 454–55.
- . 1919. Influenza and medical quarantine. *The Medical Journal of Australia* 2 (Aug.): 160–62.
- Morton, Gladys. 1973. The pandemic influenza of 1918. *Canadian Nurse* 69 (Dec.): 25–27.
- Padua, Regino. 1925. Preliminary analytic study on the measure of the force of mortality during the last decade in the Philippines. *The Journal of the Philippine Islands Medical Association*, 5 (Jan.): 4–16.
- Patterson, K. David and Gerald Pyle. 1991. The geography and mortality of the 1918 influenza pandemic. *Bulletin of the History of Medicine* 65(1): 4–21.
- Philippine Health Service. 1920. *Proposed sanitary code prepared for general use in the Philippine Islands*. Manila: Bureau of Printing.
- Philippine Islands Census Office. 1920–21. *Census of the Philippine Islands taken under the direction of the Philippine legislature in the year 1918*, vol. 2. Manila: Bureau of Printing.
- Pool, D. I. 1973. The effects of the 1918 pandemic of influenza on the Maori population of New Zealand. *Bulletin of the History of Medicine* 47 (May-June): 273–81.
- Pyle, Gerald. 1986. *The diffusion of influenza: Patterns and paradigms*. New York: Rowman and Littlefield.

- Ranger, Terence. 1988. The influenza pandemic in Southern Rhodesia: A crisis of comprehension? In *Imperial medicine and indigenous societies*, ed. David Arnold, 172–187. Manchester: Manchester University Press.
- Sherman, Irwin. 2006. *The power of plagues*. Washington, D.C.: ASM Press.
- Silverstein, Arthur. 1981. *Pure politics and impure science: The swine flu affair*. Baltimore: The Johns Hopkins University Press.
- Weinstein, Louis. 1976. Influenza 1918—A revisit? *The New England Journal of Medicine* 294 (May): 1058–60.
- Wilton, Peter. 1993. Spanish flu outdid WWI in number of lives claimed. *Canada Medical Association Journal* 148 (June): 2036–37.
- Worcester, Dean. N.d. Dean C. Worcester Papers, folder 3.1. Worcester Philippine Collection. Special Collections Library, University of Michigan, Ann Arbor.
- . 1921. Letter to the Special Mission to the Philippine Islands, Manila, 4 Aug. Dean C. Worcester Papers, 1900–1924 Box 1. Bentley Historical Collections, University of Michigan, Ann Arbor.
- Wright-St. Claire, R.E. 1983. Influenza in New Zealand and the doctors who died from it. *New Zealand Medical Journal* 96 (Oct.): 765–68.

Francis A. Gealogo is associate professor, Department of History, School of Social Sciences, Leong Hall, Ateneo de Manila University, Loyola Heights, Quezon City 1108, Philippines. A demographic and social historian, he was in 2008 a Fulbright Visiting Senior Scholar at the Center for the Study of the History of Medicine and the Asian/Pacific Island American Studies Program, both at the University of Michigan in Ann Arbor, where he conducted research on the influenza pandemic of 1918–1919. <fgealogo@ateneo.edu>