



Chapter Twelve

The 2009 H1N1 Outbreak: A Chaotic North American Trigger with Evolving Global Consequences

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Introduction¹

Through the auspices of the United Nations (UN), quasilegal international agreements are being promoted that are generally designed to accommodate the interface of nation-state with global aspirations. The UN's Law of the Sea will redefine sovereignty among countries; the International Maritime Organization's (IMO's) International Ship and Port Security (ISPS) Code will assess how states can be expected to participate in dealing with international terrorism and transnational organized crime; the UN's International Criminal Court provides a forum for the judicial administration of war crimes committed in the name of a sovereign state, and the World Health Organization's (WHO) International Health Regulations (IHR 2005) provides a framework for limiting the spread of communicable disease among countries. An open display of noncompliance with these UN agreements by any countries suggests behavior characteristic of a "rogue state." Making allowances for the presence of rogues among us, James Rosenau's 1988 description of a future world becoming "Patterned chaos in global life" may be more prophetic than he is credited with.

Since Rosenau proposed such a vision of the future, the emergence of economic trading blocks like the North American Free Trade Agreement (NAFTA), Asia-Pacific Economic Cooperation (APEC), European Union (EU), and so forth, have evolved demonstrating a perceived need for "patterns" if cooperative global life is to be preserved and enhanced. At one end of the spectrum, we have the UN that serves to facilitate voluntary multinational oversight to a world composed of its member states. At the other end of the spectrum, the economic blocs perpetuate a state-centric world through their binding free trade agreements. The emergence of new global patterns through the intensification of these extremes could further aggravate the inherent tensions of global life.²



With reference to the 2009 H1N1 pandemic outbreak, this chapter will explore ways through which NAFTA could serve as a platform for promoting compliance with WHO's IHR 2005. This compliance will be defined within the context of the North American tradition of voluntary accreditation, emphasizing professionalism rather than authoritarianism to get the job done. The economical, cultural, and historical disparities among the communities that make up NAFTA, and the two-way ports of entry among the participating member countries, serve as a microcosm of global life. Establishing benchmarks for testing the usefulness of IHR 2005 within the context of NAFTA could provide performance targets for other global regions.

Such a perspective and analysis reflects the scholarly debate pitting state-controls over transnational/supranational influences. In another work, Rosenau presents this as a state-centric versus multi-centric tussle:³ Whereas the state remains the dominant actor in the former paradigm, meaning, the state serving as the H1N1 gatekeeper, the latter paradigm opens that gate to every other actor possible in the international system—individuals, corporations, nonstate organizations, among others—such that state-based gate-keeping does not necessarily guarantee safety from H1N1, and indeed cannot do so without complementary/supplementary action by a variety of those nonstate actors. Thus, H1N1 ultimately boils down to the efficacy of the state to rein in pandemics, as an example of transnational flows when that efficacy is partly determined by actors and actions the state cannot alone control. Does the H1N1 outbreak reaffirm a different kind of governance need that states cannot supply?

Since pandemics are not new in the course of human history, by over-viewing how such events were governed in the past, this chapter explores what can be done today with pandemics in general, but H1N1 in particular. This historical analysis shows a pattern of how European countries that were sworn enemies came together to discuss matters of quarantine and sanitation practices as frequently as their modern-day counterparts meet to discuss mutually advantageous economic practices. The fact that the 2009 H1N1 outbreak was not very severe does not take away from the urgency of considering such matters as the historic review will show. This chapter concludes with an example of international cooperation that could evolve into a global model for consideration.

The H1N1 2009 Outbreak

Chaos happens when pandemics occur. That is evident from the initial global reaction to the 2009 H1N1 pandemic outbreak. However, the type of chaos that occurs upon a pandemic outbreak is different from what happens when there is an economic bubble burst or an act of

terrorism. Such situations are handled in a more technocratic manner, and with an immediacy that is easier to prepare for. When a geographically related number of fatalities are observed, along with increasing degrees of severe morbidity, the decision-making algorithm becomes only as effective as its weakest link. Pandemic outbreaks happen in a “knowledge vacuum.” This was evident during the 2003 SARS outbreak.⁴

On April 30, 2009 the *Washington Post* journalist, David Brown, provided a detailed account of lack of advanced warning about the Mexican Swine Flu outbreak of 2009 being acknowledged by CDC and WHO.⁵ Brown reports that news of an outbreak of severe respiratory illness in Mexico burst into the public consciousness on Friday, April 24. That was 18 days after Mexican public health authorities started looking into unusual cases of pneumonia in their country, eight days after Mexican authorities notified WHO of the growing outbreak and four days after the events came to the full attention of the Centers for Disease Control and Prevention in Atlanta.

As Mexican health authorities were finding cases of unusual illness, they at once officially notified the WHO’s regional office in Washington, and the Pan American Health Organization (PAHO), of a possibly brewing epidemic. People in WHO’s Geneva headquarters also received several urgent warnings from a biosurveillance firm, Veratect, based in Kirkland, Washington State.⁶

Reviewing the situation that transpired, the Centres for Diseases Control and Prevention (CDCP), *Morbidity and Mortality Weekly Report* dated June 5, 2009 states that, on April 17, Mexico intensified national surveillance for acute respiratory illness and pneumonia. During April 22–24, novel influenza A (H1N1) virus infection, previously identified in two children in the United States, was confirmed in several patients. During March 1–May 29, national surveillance identified 41,998 persons with acute respiratory illness; specimens from 25,127 (59.8 percent) patients were tested, of which 5,337 (21.2 percent) were positive for novel influenza A (H1N1) virus infection. As of May 29, 97 patients with laboratory-confirmed infection had died. Epidemiologic evidence to date suggested that the outbreak likely peaked nationally in late April, although localized cases continue to be identified.⁷

Around the last week of April 2009, the media generally started reporting on a respiratory disease outbreak in Mexico. It soon became apparent that the events in Mexico involved a novel influenza virus and that the situation was escalating in such a way as to be approaching pandemic proportion. Given that the Mexico was at the height of its tourist season, there was general realization that the disease would inevitably spread to other countries.

All WHO members were encouraged to have plans ready for the possibility of a pandemic influenza outbreak.⁸ The WHO influenza strategy

is based on an underlying assumption that the disease would evolve from Asia and be transported to other countries before such an outbreak was realized and containable. As will be discussed later, there was good reason for this assumption. The mindset of the pandemic preparedness community prior to March 2009 was focused on the next pandemic influenza outbreak occurring in Asia.

The most favored scenario was that such an outbreak would likely be initiated in an isolated region of an Asian country where there were close affiliations between humans and animals and where there was limited transportation into and out of the region.⁹ With the proper reporting mechanisms in place, rapid containment strategies were considered plausible so that the widespread consequences of the outbreak could be reduced and even, possibly, prevented. The likelihood that a novel pandemic influenza outbreak would start in a popular North American tourist location during the peak of the tourist season was not a scenario considered in any of the planning literature prior to March 2009.¹⁰

As a member of WHO Mexico had a pandemic influenza preparedness plan that was developed for a virus originating abroad. With the realization that the situation unfolding was local, Mexican health professionals had to adapt the existing planning structures to meet the needs of residents and visitors, and start creating communication strategies both for domestic and international purposes.

A Historical Perspective

The arrival of Europeans in North America saw the decimation of many aboriginal cultures through the introduction of diseases that were unfamiliar to their immune systems. By contrast, Europeans, being aware of such threats coming to their shores, had a long tradition of nation-state collaboration to limit disease outbreaks occurring among their populations.

European communities that were dependent on trade with ships from far off lands realized the risk of disease coming to their shores. In the fourteenth century the government of Venice required all ships entering their port to wait 40 days prior to offloading or embarking; the word “quarantine” is derived from the Italian word *quarantena* for a 40-day period. The arrival of people in ships coming from plague infected areas of the Middle East, the Orient, Africa, and the Indian subcontinent necessitated European countries to come together and promulgate various forms of legislation designed to protect their citizens from disease.

Since 1852 the countries of Europe, when they were not at war with each other, participated in a series of conferences with the purpose of preventing infection from the East spreading into and within their

countries. The primary concern at the time was cholera.¹¹ Conferences were held in Paris (1852), Constantinople (1866), Vienna (1874), and Rome (1885). The general outcome of these meetings was an approximate adoption of the principles that were advocated by Great Britain for many years.

Great Britain, an island country with a strong maritime tradition and experience of many episodes of widespread disease including the bubonic plague of 1666, had the most aggressive quarantine legislation in Europe. The country's original Quarantine Act was passed under Queen Anne's reign (1710). This legislation evolved to address the different diseases threatening the country. Each update of the legislation regulated how maritime cargo and passengers were allowed to safely enter Britain. This evolution of infectious disease legislation culminated in the 1896 Public Health Act, which dealt with arriving ships that were infected with yellow fever, plague, or cholera.

The aim of each international sanitary convention was to bind the participating governments to a uniform minimum of preventive action, with further restrictions permissible to individual countries. The Venice convention of 1892 was on cholera by the Suez Canal route; that of Dresden, 1893, on cholera within European countries; that of Paris, 1894, on cholera by the pilgrim traffic.¹²

The Venice Conference in 1897 was convened to address the outbreak of plague in the East and define the international actions that needed to be taken to prevent its spread into Europe.¹³ This conference also settled on an incubation period of 10 days and the principle of "Disease Notification." Under this principle, each government was obliged to notify other governments of the existence of plague within their jurisdiction and describe the measures of prevention that were being carried out to prevent its spread into other countries.¹⁴ The area deemed to be infected was limited to the actual district or village where the disease had been identified. It was decided that, during the prevalence of plague, every country had the inherent right to close its land frontiers against traffic coming from a neighboring country that revealed pockets of infection within its borders.

The lack of international collaboration in the management of global pandemic influenza in the past has had disastrous consequences. The earliest recorded pandemic influenza is believed to be the 1889–90 Russian flu. It is reported to have spread rapidly from Russia throughout Europe reaching North America in December 1889 before it spread to Latin America and Asia by February 1890. It is believed to have been responsible for 1 million deaths. There was a more recent Russian Flu epidemic in 1977–78 that infected mostly children and young adults under 23. It was not labeled a true pandemic as it did not spread around the globe and possibly because it affected only young people.

International collaboration and cooperation was not a major concern in the world during 1918, when the Spanish Flu pandemic broke out. The world was involved with the worst war it had known to date; there was little international economic order in place, and much widespread political instability.¹⁵ The pandemic lasted from March 1918 to June 1920 and quickly traveled to most parts of the world, partly due to troop movements to and from Europe. It is unclear exactly how many people around the world died but estimates range from between 20 to 100 million and it is estimated that 1 billion people contacted the virus and were seriously ill.

The 1918 Spanish Flu is believed to have first appeared on a military base in Kansas, United States. With troop movement in wartime it soon spread to other parts of the United States and into Europe. It was named “Spanish Flu” because it got its most public acknowledgment after passing from France into Spain in November 1918, at the end of the First World War. Spain was not involved in the war; it did not have the press censorship prevalent at that time in other countries. Hence the influenza became associated with Spain because it is the country where there was the first public acknowledgment that the pandemic existed. There’s no consensus that can ensure how many died because there was lack of awareness and knowledge on how to protect themselves.

There are many lessons to be learnt by comparing the way the 1962 British smallpox epidemic was handled relative to how Yugoslavian managed its smallpox epidemic in 1972. The British small pox epidemic arose from the arrival of Pakistan immigrants; the Yugoslavian outbreak arose as a consequence of pilgrim movement around Mecca in the early 1970s and the return of an infected Yugoslavian to his home village. The British were guided by the principle that the patient is not infectious until after the onset of the illness. The British approach resulted in the identification of 62 cases and 24 deaths from smallpox.

The Yugoslavian regime showed no such compassion in its approach. By 1972, vaccination for smallpox had long been widely available and the disease was considered to be eradicated in Europe. The population of Yugoslavia had been regularly vaccinated against smallpox for 50 years, and the last case there had been reported in 1930. This was a major cause of the slow reaction by doctors, who did not promptly recognize the symptoms of the disease. Once identified, the government’s reaction was swift and dictatorial. Martial law was declared. Measures included blockades of villages and neighborhoods, roadblocks, prohibition of public meetings, closure of borders, and prohibition of all unnecessary travel. Hotels were requisitioned for quarantines in which 10,000 people who may have been in contact with the virus were held under guard by the army. The authorities undertook a massive revaccination of the population, helped by WHO. Within two weeks of the identification of the presence of the disease, close to Yugoslavia’s total population of 18 million had been revaccinated. This

rapid containment strategy limited the infection to 175 people with 35 dying from the disease. The 1972 smallpox outbreak in Yugoslavia was the last major outbreak of the disease in Europe.

The Evolution of Asian Influenzas

The first Asian Flu was identified in Guizhou, China early in 1956 and lasted until 1958. This flu is attributed to have infected about 3 million and killed an estimated 1 million people worldwide. It later evolved into a milder pandemic between 1968 and 1969, and infected half a million Hong Kong residents—15 percent of the population. It spread to Vietnam and Singapore by July 1969 and by September it was in India, the Philippines, Australia, and Europe. U.S. troops returning from the Vietnam War brought the disease with them to America. In 1969 it was in Japan, Africa, and South America.¹⁶

As a consequence of its experience with influenza during the 1960s the government of Hong Kong made a substantial public health investment in pandemic influenza research during the 1970s. These investments have made Hong Kong a world-class center of excellence in prevention, mitigation of, and preparedness for pandemic influenza outbreaks. Today Hong Kong functions as a sentinel post monitoring the incidence of influenza among its avian (bird, chickens, geese, quail) populations and as an early warning pandemic influenza center for the world.

The avian population is not alone in harboring influenza viruses. Both the H2N2 and H3N2 pandemic flu strains contained genes from avian influenza viruses. The new subtypes arose in pigs coinfecting with avian and human viruses and were soon transferred to humans as Swine Origin Influenza Virus (SOIV). Swine were considered the original “intermediate host” for influenza, because they support reassortment of divergent subtypes. However, other hosts appear capable of similar coinfection (e.g., many poultry species), and direct transmission of avian viruses to humans is possible. H1N1 may have been transmitted directly from birds to humans.¹⁷

Containment of Severe Acute Respiratory Syndrome in 2003

Unlike the typical avian viruses, a new type of virus began in the Guangdong province of China, close to the border with Hong Kong in November 2002. This virus was identified as a Coronavirus and became

known as Severe Acute Respiratory Syndrome (SARS coronavirus), sometimes shortened to SARS-CoV. As documented in WHO Update 95—"SARS: Chronology of a serial killer,"¹⁸ SARS-CoV quickly spread to several countries in Asia as well as Canada through incidental contacts among travelers in hotels, airlines, tourist sites, shopping centers, and places of worship.

SARS-CoV was an unknown disease when it was diagnosed in a hospital in Guangzhou, China, in April 2003. Though some countries were slow to implement quarantine measures in the face of the world's first SARS outbreak, officials ultimately credited quarantine, particularly in Canada, one of the countries seriously affected through global travel of the disease, with helping to keep the number of global SARS cases to about 8,000, with 780 deaths.¹⁹

An opinion on the place for quarantine as a containment strategy in the management of a disease is discussed in the supplement of the U.S. Centers for Disease Control's (CDC) publication entitled *Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome Corona Virus (SARS-CoV) Version 2*. This document states that "Quarantine is only one of a spectrum of actions that may be considered during a future SARS outbreak in the United States. Although rapid control is likely to require bold and swift action, measures that are less drastic than legally enforced quarantine may suffice, depending on the epidemiologic characteristics of the outbreak."²⁰

The novel nature of the SARS-CoV virus initially caused some risk assessment in the possibility that it may be associated with a terrorism incident. As soon as the possibility of SARS being a bioengineered pathogen was removed from the equation, the scientists were able to focus on other options to consider in dealing with a naturally occurring virus. It also resulted in those individuals dealing with the possibility of there being a terrorist situation exiting the team.²¹

The New Swine Origin Influenza Virus H1N1 in 2009

The new Swine Origin Influenza Virus (SOIV) resulting in the 2009 H1N1 outbreak was traced to a pig farm in La Gloria (population 2,155) in the southeastern Mexican state of Veracruz. By the time the situation was recognized as a novel influenza in Veracruz and the Federal District of Mexico, it was probably too late to think about initiating rapid containment plan. Given the intermingling of natives and visitors during the tourist season and the challenges of overall disruption to societal functions like transportation and public gatherings, the resource requirements for

rapid containment would have been very high, particularly at the height of the tourist season, and the likelihood of success would have been relatively low.

Comparing the isolated Asian village scenario with what happened in Veracruz, Mexico in 2009 suggests that an occurrence curve exists along which rapid containment is feasible to varying degrees. This curve extends from the isolated village where the population is relatively stable to cities that have domestic and international transportation nodes. The three criteria likely to indicate if rapid containment is feasible upon suspicion that an outbreak has occurred are in-migration, out-migration, and the size of the transient population that may be resident locally for a period of time, such as transient workers or tourists. These criteria will characterize the kinds of exercise that could be developed in determining if a rapid containment strategy is feasible given its dependency for success on controlling the movement of people into and out of an affected region. A decision-making apparatus could be designed to include other criteria such as the size of urban area, population density, percentage of population that commutes daily, kilometer commuted per commuter, primary means of travel, access to rail, plane, maritime travel as well as the local and national government's operational and management capacity.

A secondary infected population node where the disease is discovered through people traveling into the area could also benefit from a rapid containment strategy. The success of such a strategy would likely depend on the mode of transportation employed by the infected traveler. If the means of transportation is a plane or bus, the success of such a rapid containment strategy will be dependent on the tracing of the random contacts the infected person made in transit. At some point there will inevitably be a trade-off decision to be made between conducting a rapid containment strategy and learning to live with the situation presented.

In a comparative review of how H1N1 was managed in New York City and Mexico City, Bell et al. acknowledge that "The percentage of the world's population living in urban areas will increase from 50% in 2008 to 70% (4.9 billion) in 2025. Crowded urban areas in developing and industrialized countries are uniquely vulnerable to public health crises and face daunting challenges in surveillance, response, and public communication." According to these authors, "Cities are the norm of global development in the twenty-first century. As cities become larger and more crowded, traditional guidance for detecting and responding to public health crises requires innovation. Modified guidance may be helpful, but new strategies, technologies, and metrics also will be needed."²²

The trigger for a containment strategy is the rapid identification of a critical cluster of cases with similar unusual symptoms and histories in a related geographic area. The determination of such a cluster would be a routine process within the United States through the CDC network.

Similarly Canada has such a network through its Canadian Public Health Agency. The challenge from a North American perspective is creating a similar resource in Mexico, particularly where there are isolated communities in which families live in close proximity to animals and sub-standard public health and personal hygiene conditions prevail.

In a true “walking with Kings but keeping the common touch” moment,²³ recalled in his memoirs, *Revolution of Hope*, former Mexican president,²⁴ Vicente Fox Quesada refers to a visit he made to a rural indigenous village school in southern Mexico where he needed to use the local bathroom facilities. After removing himself from a primary school desk, and amidst giggles from the students, he described the experience:

I excused myself and walked out of the class—to the sewer ditch where students and teachers alike were expected to squat in the muddy river. Up river to one side was a textile mill that polluted the river to a mere trickle, where a strange greenish foam choked the reeds. Downstream lay the indigenous village where women wash their cloths and hauled the foul water by hand in buckets to the rough kitchens outside their doors.

It was a legacy of three quarters of a century of authoritarian neglect in a nutshell: a tireless teacher with no resources to educate children who grew up in unspeakable conditions; mothers and fathers who had been left on the margins of the global economy with no way to better themselves; a public health disaster in the making as rampant development nearby destroyed the only thing these people had left—the natural environment that had fed, housed, clothed and cleaned the Mayan peoples for thousands of years.

The situation described by Fox is not limited to aboriginal communities in Mexico. Canadian First Nations peoples (North American Native Indians) have been subject to higher than average incidents of H1N1 attributed to the prevailing public health standards endured on reservation. At a Webcast organized by Health Canada on October 20, 2009, National Chief Shawn Atleo of the Assembly of First Nations said:

Aboriginal Canadians will continue to be hit hard by illnesses until living conditions on reserves improve. Some reserves are overcrowded, lack clean drinking water and don't have easy access to medical facilities. Hopefully, the H1N1 pandemic will prompt more action to fix chronic social problems.

Viruses and bacteria do not recognize political borders that economic instruments like NAFTA perpetuate. Furthermore, such instruments tend to obliterate the “intra” and “inter” cultural disparities that prevail among partners of such agreements. Under these government protocols, the economics of public health care tends to be treated more in terms of

cost than in the interests of promoting global health. In the same way that the Merchants of Venice realized in the fourteenth century that no nation is an island unto itself at times when the plague visited their shores, we can only hope that modern-day free trade negotiators will see the value of facilitating sound public health policies that will prevent novel pandemic diseases from mutating among their sister countries.

The U.S.-Mexico Border Health Commission

The U.S.-Mexico Border Health Commission (BHC or Commission) was created in July 2000 by the signing of an agreement by the U.S. Secretary of Health and Human Services and the Secretary of Health of Mexico. On December 21, 2004 the Commission was designated as a Public International Organization by Executive Order of the President of the United States. The BHC is the classic international government organization (IGO) called for by Rosenau with an emphasis on local matters, but interaction with universal international concerns. For a similar IGO between U.S. and Canada see Cooperative Vessel Travel Service (CVTS) that manages the organization of shipping between both countries in the Pacific North West.²⁵

The ongoing need for a working relationship in public health between the United States and Mexico is demonstrated by the work of the Border Infectious Disease Surveillance (BIDS) project that was started in 1997. BIDS surveys infectious diseases that pass between the border sentinel sites in the following sister cities along the U.S.-Mexico border: Tijuana-San Diego, Nogales-Nogales, Las Cruces-Ciudad Juarez-El Paso, and Reynosa-McAllen. The new cities are Mexicali-Imperial (the sister city pair near Tijuana-San Diego) and Brownsville (near McAllen).²⁶

This type of international collaboration reduces administrative infrastructure and cedes political barriers to cross-border public health collaboration and enhance the effectiveness of disease prevention. If these management arrangements (patterns) were to be conducted within the context of IHR 2005, lessons learned from them may be applicable for other border agencies around the world.

The Commission, in collaboration with affiliated U.S. and Mexican federal and state health agencies, serves as a platform for innovative practices in public health among states on both sides of the border. Addressing the H1N1 situation in collaboration with other state and federal agencies the Commission was involved in a workshop that addressed the “2009 H1N1 Pandemic Influenza as a Case Study in Border Response between U.S. and Mexico Border States.”²⁷

The existence of such an infrastructure that deals with infectious disease issues across such a complex international border provides a valuable resource for contributing to public health organization and management between countries around the world. The piecemeal arrangements by Europeans in the eighteenth, nineteenth, and twentieth century to meet and discuss questions of quarantine and information sharing have evolved into WHO's, twenty-first century IHR 2005. The conventional perspective is to see IHR 2005 as an instrument that individual countries are expected to follow. The experience of 2009 demonstrates that those tasked with managing a pandemic influenza outbreak cannot simply rely on any single country being prepared to act. IHR 2005 is primarily founded for success on the two-way interface relationships between all affected countries.

The core competencies listed in Annex 1 of IHR 2005 for managing land, sea, and air "ports of entry" reflect the precedents created by the mariners entering the port of Venice in the fourteenth century and traveling through the Suez Canal in the nineteenth century as well as the experience encountered by the modern-day traveler who can traverse the globe within a day or two. Annex 2 of IHR 2005 provides the generic baseline framework for the establishment of and compliance with national, regional, municipal, and aboriginal/reserve public health systems. It is against such structural patterns and processes, created by man as well as by chance, that IHR 2005 outcomes will be assessed in the management of communicable disease practices.

Cross-border communication at the ground level is critical in the fight against communicable diseases. Guidance is needed at the local, state and national levels on both sides of any international border in how to identify unusual presenting symptoms with related histories that may be potential pandemic influenza, followed by the reporting of such observations to regional public health authorities and the ongoing monitoring and surveillance of such cases regionally, nationally, and internationally. Protocols in place for communicating with WHO regional offices have to be followed and there must be an assurance that the response from WHO will be appropriate on a 24/7 basis.

The critical part in this chain of events is the establishment of communication protocols between frontline clinical workers (primary care physicians/nurses) and the regional public health officials. This relationship has to be a cooperative effort involving a two-way communication process. Early warning by public health authorities should sensitize frontline clinical workers to be on the lookout for specific symptoms and related patient histories. The reporting of such observations has to be supported by a collaborative team process that complements the task-oriented working environments of frontline clinical workers with

the process-oriented culture of public health policy and administrative personnel.

Developing Voluntary Accreditation Processes

It is chaos at the molecular and DNA level that will decide if a zoonotic mutation occurs that results in the formation of a deadly novel pandemic influenza. Such chaotic behavior will inevitably lead to human beings of all nationalities to deal with a new reality. Innovative patterns of public health are needed to create a global life and shield the world's societies from such zoonotic mutations that can arise anywhere in the world.

The U.S.-Mexico BHC provides an example for creating a voluntary accreditation process in international public health practice. Using the outlines described in Annex 1 and 2 of IHR 2005 as its data collection baseline BHC could define benchmarks for evaluating the implementation of IHR 2005 that could be applied anywhere in the world. Given the port of entry jurisdictional relationships between the United States and Mexico there would need to be an active participation by national authorities in such deliberations. A stress on voluntary accreditation would emphasize the professional education aspect of such a proposal rather than any top-down policing threat. These arrangements would serve as a knowledge generating exercise in the practice of public health between countries. Once such accreditation practices are established in the context of the U.S.-Mexican Border Health Commission jurisdictions, there would be a strong rationale for the expansion of the program to all NAFTA international borders and federal, state, or provincial, municipal, aboriginal reservation public health communities.

With the 2009 H1N1 experience behind it, the U.S.-Mexican Border Health Commission could take the lead in helping to propagate the mission and purpose of WHO's IHR 2005. These Regulations are the universal instrument of defense against the spread of communicable diseases around the world. It is critical that public health professionals are made aware of the practicalities of their implementation between national borders. Given the economic inequality between both countries and the complexity of U.S./Mexico border, the Commission and its constituents provide laboratory-like conditions for putting the practicalities of IHR 2005 to the test. Similar to how Hong Kong became a center of excellence for avian influenza pandemic warning, the U.S.-Mexico Border Health Commission could facilitate a center of excellence around evidence-based best practices and benchmarking in the implementation

of IHR 2005.²⁸ Clearly, this cannot be national or regional, but must instead seek broader more global spaces.

Notes

This chapter is derived from an analysis of methodologies around the rapid containment of respiratory communicable diseases, which was conducted for WHO, Geneva between early March 2009 and June 29, 2009. Send comments to tim@infolyнк.ca

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