Managing Global Health Disaster Risks in Asia: Lessons from the H1N1 Case in Japan

By Mika Shimizu

The global health disaster risks of the H1N1 pandemic influenza presented an enormous challenge. H1N1 was not an isolated event but part of an uncertain and complex set of risks affected by accelerated globalization, writes scholar Mika Shimizu in evaluating Japan’s imperfect response to the pandemic and finding lessons for the rest of Asia.
WHILE THE WORLD Health Organization (WHO) declared this August that the H1N1 influenza virus had largely “run its course” and was “moving into the post-pandemic period,” there are plenty of lessons to be learned from the “swine flu” scare; it should not be quickly dismissed, despite the fact that the death toll was far less than once feared.

Indeed, the global risks of the pandemic presented a daunting challenge and a plethora of uncertainties. The case of 2009 H1N1 also is not an isolated event, but part of a complex set of disaster risks affected by the accelerated globalization of the 21st century. How we capture our experiences confronting H1N1 will greatly influence the consequences of future, and perhaps worse, threats. Having gone through the waves of the virus in 2009, now is the time to evaluate the case for better global health disaster risk management.

The pandemic influenza challenge is characterized by uncertainty in determining the who, when and what of the disease. In the case of H1N1, until now scientists do not agree on how the virus will develop further. Although the WHO can declare a “pandemic” based on the analysis of how a virus spreads, it is not able to predict with any certainty who may be severely affected, or when and how the virus could be transformed from mild to severe, nor what associated disasters may occur.

An indicator of the severity of a pandemic, of course, is the number of fatalities. The WHO reported about 430 confirmed fatalities for H1N1 at the beginning of July 2009, 2,200 at the end of August 2009, 14,000 at the end of January 2010, and more than 18,400 as of the beginning of August. The fatalities are far short of what was originally expected, and compared to the estimated 50 million people who died in the 1919 Spanish flu pandemic, the toll is relatively small. However, the number of reported fatalities may not give a true picture of mortality during the pandemic, and it is expected that actual fatalities are higher than indicated by laboratory-confirmed cases for several reasons, including testing and recording problems. Additionally, in interpreting fatalities from 1919, it is important to recognize that the Spanish flu began as a slightly more potent version of the “mild” flu and then evolved into a far more virulent form — which fortunately has not been the case so far with the 2009 H1N1 outbreak.

Because the effects were relatively mild, some people may conclude that the H1N1 pandemic is to be taken lightly. Should it end, as seems likely given the WHO announcement of an end to pandemic status, with few serious impacts on society, some may criticize the experts who warned of a more severe impact — many people tend to believe the outbreak is over and focus on whom to blame for the possible exaggeration of the threat. However, it is too shortsighted just to criticize based on the current numbers of fatalities.

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LIVING IN THE EPICENTER

Asia is one of the epicenters of global health disaster risks, as evidenced by a number of recent cases. Severe Acute Respiratory Syndrome (SARS), which emerged in southern China in late 2002, resulted in 729 deaths and badly damaged the economy of Hong Kong. In late 2003, the H5N1 avian influenza impacted humans, and over the last six years has led to more than 250 deaths worldwide (most of them in Asia). In order to increase the capacity for addressing risks in Asia, it is vital to link the lessons from H1N1 to the knowledge from earlier disasters.

In the above context, this essay provides an analytical framework for the management of global health disaster risks, and also examines the response to the H1N1 case from April to December 2009 in Japan to provide implications for Asia.

MANAGEMENT KEYS IN GLOBAL HEALTH DISASTER RESPONSE

How do we define a “global” health disaster risk? In a nutshell, it is rooted in an abundance of uncertain variables influenced by accelerated globalization. Compounding the problem, global risks are linked to complex social interdependencies (urbanization, population density and congestion) and critical infrastructures that cross traditional organizational and national borders.

As a result, it is extremely difficult to predict the social and economic impacts of possible health disasters. For example, the SARS outbreak reportedly cost the global economy about $40 billion, largely due to flight cancellations, school closures and panic in Asian markets. The available data for the cost of the H1N1 outbreak is presently very limited, so concrete estimates are difficult to predict. But a truly virulent influenza pandemic could disrupt transportation, trade and critical infrastructure such as emergency, telecommunication and power services, which are all operationally interconnected. Some sources predict that such an event could cost more than $330 billion and result in more than 1.4 million deaths worldwide, depending on the virulence of the virus, the affected areas and the timing of the outbreak.

Coping with the uncertain and complex characteristics of global health disaster risks requires good management. Above all, since our resources are limited from a policy perspective, the response hinges on how to manage these risks before serious events occur.

In this regard, people often tend to think the WHO can do everything required to meet health challenges on a global scale. Although the WHO has the task of providing leadership on global health matters and shaping the research agenda, it does not have the financial or operational resources to cover all necessary policy actions. As a result, it is critical to recognize the role of local and national governments and regional organizations to work in concert with the WHO.

In order to fill the void, three management keys can be pointed out.

First, incorporate the knowledge of past health crises into the policy formation process. This is fundamental and critical in terms of building the foundations for policies that must be operational at the time of any disaster and for managing policy resources effectively.

Second, seek substantial co-operative actions and solutions beyond traditional national and international policies. Although many stakeholders call for international cooperation, and some already exists, the point is that international cooperation must be able to fully address underlying uncertainty and complex global interdependency. This cannot be done only through domestic policy operations.

Third, develop policy processes that consider global health disaster risk management as a non-traditional, multi-disciplinary challenge. Indeed, as a consequence of accelerated globalization, this policy challenge cuts across lines that impact on public health/public safety, national security, foreign policy/foreign aid, and economics, as well as science and technology (see Figure 1). Current policymaking processes do not necessarily encompass these realms inclusively.

CASE STUDY: H1N1 IN JAPAN

In examining the approach to the H1N1 pandemic in Japan in light of the above management keys, the following questions may be raised:
What is the policy formation process toward global health disaster risk management in Japan? How did Japan respond to H1N1? How does it address the challenge in terms of national and international policies and multidisciplinary cooperation? How could we learn from the policy process and event response in Japan?

Although many different ways exist for categorizing the basic component of disaster risk management, in the context of policy formation, there are four main phases:

1. A Pre-Event “Preparedness” phase,
2. An Early-Warning “Mobilization” phase,
3. An Event “Response and Recovery” phase,

During the “Preparedness” phase, when there is little media and public attention, national policies need to be reviewed, and different experts should consider policy alternatives.

During the early-warning “Mobilization” phase, warnings by experts based on small events highlight possible signs of a larger event, while specific procedures should be planned and their detailed operations should be exercised among different stakeholders.

At the time of a major event, the “Response and Recovery” phase, diverse stakeholders from governments and media to businesses and civil society respond, as has been seen globally since April 2009 in the H1N1 case.

Finally, during the post-event “Evaluation and Knowledge Integration” phase, different experiences and lessons are evaluated and integrated to prepare for future disasters. Table 1 depicts the application of the response in Japan to the H1N1 pandemic flu in terms of these phases.

Table 1 overleaf illustrates that there were few policy activities in Japan in the “Preparedness” phase. Responding to the WHO request for national action plans in 2005, after SARS and H5N1 avian influenza surfaced, Japan’s Pandemic Influenza Preparedness Action Plan was formulated by the Ministry of Health, Labor, and Welfare (MHLW).
the same year. Following the plan the surveillance system was established and the relevant guidelines were drafted. However, these were the only major activities in Japan during the “Mobilization” phase. There were few follow-up policy activities, reporting updates or policy debates on this issue. Only after the WHO raised the alert level of pandemic influenza to Phase 4 did Japanese policy initiatives finally become active, including policy discussions and setting up relevant organizations.

What was the response in Japan to the H1N1 outbreak during the “Response and Recovery” phase? The following points are a summary of observations of this phase at both the national and local levels:

**National Event “Response and Recovery” Phase**
In response to the WHO Phase 4 alert, the Headquarters for Countermeasures against Pandemic Influenza was established on April 28, 2009, and then Prime Minister Taro Aso convened its first meeting that same day. Accordingly, the government released the Action Plan that targeted H5N1, the avian influenza, and focused on border-related measures.

The government kept this action plan in place until they revised it for H1N1 in June 2009. Since the severity of the H1N1 virus was at first uncertain, it is understandable that the government initially applied it to the older avian influenza case. However, it is questionable why the government stuck to border-related measures for more than one month, even after a domestic case of H1N1 flu was identified in Kobe on May 15 in a person who had never traveled abroad. Moreover, the border measures posed many other questions. Why did investigators focus only on travelers coming from North America, not from Asia and other regions? If the nature of global disaster risks, including the fact that a virus can move beyond national boundaries at anytime, was understood at the policy level, the actions should have been different.

Looking at the “Response and Recovery” phase carefully, other than the border-related measures, other actions were ad-hoc and inconsistent, which illustrates the lack of operational preparation. Examples are listed below:

- **Surveillance**: The MHLW established the National Epidemiological Surveillance of Infectious Disease (NESID) office in 2007, an electronic system based on the Internet and central and local government networks, aimed at compiling centralized reports from medical institutions diagnosing specified infectious diseases. Although NESID was in operation during the pandemic, some significant problems were found. Since NESID was designed for specific situations, it could not add items or modify exist-
In the 19th Century, the inhabitants on the rim of the vast Pacific Ocean barely knew one another. During the 20th Century they met, sometimes violently. But when the history of the 21st Century is written, it will record that the peoples of the Pacific Rim came to know one another and to share in values that led to a greater peace and prosperity than the region had ever known.

This is the vision of the Pacific Century Institute. Its mission is to build bridges between the peoples of the Pacific Rim, focusing especially on gaps not being filled by other institutions. PCI uses imaginative programming to foster education, research, cross-cultural communication, and policy dialogue. Its constituency – scholars, government officials, businesspersons, journalists, military, students, workers, environmentalists, and social activists – is determined only by the ability to build a better bridge to understanding. The prestigious Building Bridges Award is given each year to an individual who has exemplified a commitment to enhancing relations among the peoples of the Pacific Rim. Project Bridge provides American high school students from diverse backgrounds a year long program, culminating in a trip to Asia, designed to develop mutual understanding between cultures.
Communications, which has jurisdiction over local government, saying he could not immediately contact heads of local governments because of the lack of hotline phone systems to link the ministry and local governments. Other risk communication issues are identified below in the H1N1 case in Kobe. By December 2009, since the number of deaths in Japan was relatively small (around 100), compared to the eventual global tally of about 14,000 and about 1,400 deaths in the US, many people, including professional experts and the policy community, tended to believe that Japan had succeeded in responding to the H1N1 threat. Complacency was common by the end of 2009.

The Case in Kobe
Kobe, the sixth largest city in Japan, with a population of 1.5 million, experienced a major earthquake in 1995 that killed more than 6,400 and in its wake raised disaster awareness to a level higher than elsewhere. But even in Kobe, where a domestic H1N1 case was found at the early phase of the 2009 H1N1 pandemic influenza in Japan, they found their activities during the “mobilization” phase was limited, such as sharing some literature on pandemic influenza among the office’s staff, which a director of the city health office initiated; thus, the preparedness was hardly institutionalized or formalized. In the “Response and Recovery” phase, immediately after a doctor in Kobe found the first case on May 15, a news report was aired at 11.40 pm on television before city officials had made an announcement. Because of pressures from the media and the public, a city official was forced to brief the press at 1.00 am and then 4.00 am on May 16. After the briefings, Kobe city set up a headquarters in response to H1N1 and conducted its first press conference open to the public at 7.00 am that day.

This series of actions reflects how city officials needed to rush into action ahead of specific national government policies. A city official confessed that there had been no internal city government planning meetings prior to the news conferences, leaving city officials in the position of having to attend the media briefings simply to find out what was going on in their own city government. Thus, the first priority was the response to the media and the public.

The public was furious — more than 1,000 phone calls to the city medical center were recorded every day for the first 10 days (sometimes there were 2,700 calls in a day). Hospitals and medical centers were packed with panicky people, and many others rushed out to buy facemasks that sold out in every local store within a few days.

International Aid
In terms of international aid, Japan was active even before the event, pledging $222 million to Asian countries in 2006, which included stockpiles of 500,000 courses of antiviral treatment; it had also undertaken communication campaigns in rural areas, enhanced surveillance through international organizations and needed research. In September 2009, it was announced that Japan would provide a further $10 million for vaccines to developing countries through the WHO.

However, some of the international aid activities exhibited the same inconsistencies identified at the national level. For example, Japan import-
ed the H1N1 vaccine for about half its own population, failing to give away vaccines like other developed countries. As an excess of H1N1 vaccines happened to occur in many other developed countries, this problem did not impact developing countries this time. But practically speaking, given that vaccine production takes several months, the effectiveness of financial aid for vaccines is questionable if there is no supply to purchase.

LESSONS FROM JAPAN
To date, several lessons can be drawn from Japan’s response to H1N1 in the context of global health disaster risk management:

First, very few actions were initiated in the “Preparedness” and “Mobilization” phases; most policy actions were spawned only in the immediate “Response and Recovery” phase. This means the response to H1N1 in Japan was characterized by ad-hoc and inconsistent action. Overall, there is a tendency to pay attention to policy formulation and action only at the time of a critical event, thus underestimating the need to be active in all four phases of disaster risk management, from planning to post-event analysis.

The case of H1N1 illustrates that there are few policy processes in Japan that incorporate knowledge accumulation, policy evaluation/analysis and learning into the disaster management process. Practical policies and operational plans must not happen only in the “Response and Recovery” phase, and operational policies, including the linkage between data, policies and risk communications, should be built up through all four phases of disaster risk management.

Second, the “Response and Recovery” phase in Japan revealed daunting challenges in both the international and the multidisciplinary aspects. The current response was limited to an issue-based approach, focusing on event response. The health ministry tried to handle the issue mainly on its own, with few institutionalized mechanisms available for co-operation with different stakeholders to address the multi-disciplinary dimensions of the challenge. Although Japan has provided substantial international aid and co-operation, national and international policies are not yet linked. The H1N1 challenge tends to be considered just as a one-time issue, separated conceptually from other disasters.

Third, as of 2010, Japan should be in the post-event “Evaluation and Knowledge Integration” phase, having experienced the waves of H1N1 in 2009. How well we can evaluate and integrate the experiences and knowledge gained from the outbreak will affect the way that Japan deals with any future health disaster risk.

The challenge for the future
is to assess the lessons we have learned and apply them. This is not the time for complacency, but for evaluating and integrating recent lessons. Even in developed countries like Japan, there are tremendous gaps in terms of national and international capacity building, from risk communication at micro levels to policy implementations at macro levels.

**IMPLICATIONS FOR ASIA**
Since Asia experienced SARS and H5N1, different regional mechanisms for co-operation have been developed, such as the ASEAN Technical Working Group on Pandemic Preparedness and Response. Through these, new forms of international co-operation, including information sharing and facilitating infectious disease training, are under way. But the issues discussed in this essay are not a problem only for Japan. There are daunting regional challenges in terms of both national and international capacity building in the face of potential global health disasters.

In terms of national capacity building, each country in Asia needs to:
- Review national action plans in detail;
- Review how plans can be made operational at the time of an emergency;
- Review risk communication plans;
- Learn lessons from disasters and responses in other countries;
- Conduct practical emergency simulations as often as possible;
- Integrate knowledge from the above actions into specific policies.

In terms of international capacity building, regional organizations should:
- Provide continuous venues for persons in charge of national disaster management to discuss national action plans;
- Analyze and evaluate different disasters or event responses in other countries;
- Conduct practical emergency response drills among different nations as often as possible;
- Integrate knowledge taken from the above actions to strengthen disaster risk management in Asia.

In conclusion, there is a need to recognize that the global health challenge is not a traditional “developed” versus “developing” countries issue, but a challenge common to all. While Japan is ahead of developing countries and many other developed countries in terms of sanitation and medical treatment, the country still has a lot of work to do in managing global health disaster risks. Meeting this challenge will require unprecedented multi-agency communication, expertise and collaboration at national, regional and international levels. We need to look for mechanisms whereby both developed and developing countries can continuously learn from different disasters and reflect that knowledge in specific policies at the global level.

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**NOTE**
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