H1N1...

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In the final analysis, our most basic common link is that we all inhabit this small planet. We all breathe the same air. We all cherish our children's future. And, we all are mortal.

John F. Kennedy
Address at American University, Washington, DC
10 June 1963

It is better to understand a little than to misunderstand a lot.

Anatole France
Revolt of the Angels, Ch 1

There was all of the talk about the inevitability of a worldwide influenza pandemic; and suddenly, it seemed like it was happening. An outbreak of disease caused by the mutated *Influenza A H1N1* virus infected many victims in Mexico and was reported to have been the cause of many deaths. The disease generally became known as "swine flu". There arose a fear that if the disease spread globally, the world would be unable to cope with the resulting pandemic. The media, for the most part, perpetuated the fear. Every influenza-like case that entered the patient-care system was reported by the media as "a suspected case of swine flu". It seemed as if much of the world's population would be doomed.

Many of the reactions to the outbreak were swift and public health officials activated plans and provided information about what was believed would be needed to contain the disease and mitigate the human damage that could result. The disease spread rapidly, prompting the World Health Organization (WHO) to raised its threat level to "5", one mark below that associated with a pandemic (this index relates to the incidence of the disease and is NOT related to the severity of the disease). The WHO did not consider it necessary to close borders, but did recommend that people take hygienic precautions to try to prevent contracting the disease. The WHO also recommended that persons apparently infected stay home from work and school, and many schools were closed when a sentinel case was detected. Some countries responded by limiting travel and some refused to allow their citizens to travel, especially to Mexico or in some cases, to North America. Although the disease quickly spread across the globe, it has become apparent that the disease produced by the *Influenza A H1N1* has limited severity. As the facts that this virus produced a mild disease became known, many thought that some of the reactions worldwide were unnecessary. Some chastised the WHO for its "over-reaction".

Several aspects of this outbreak and the reactions to it demonstrated that overall, the world was not adequately prepared to contain or treat the disease—BUT, the world was better prepared to cope with H1N1 than it was for the severe acute respiratory syndrome (SARS) outbreak—indeed, we had learned from the experience with SARS. We learned what measures had worked to contain SARS—and it seems that so far, these lessons have helped to contain the disease related to the *Influenza A H1N1* from becoming a pandemic. In addition, in many countries, the current episode has facilitated the identification of some of the gaps in preparedness for the inevitable influenza pandemic whether or not they directly experienced an outbreak of disease related to the virus. Furthermore, it opened a window of opportunity during which it should be possible to obtain resources for developing enhanced plans and responses to a dreaded, virulent, naturally occurring virus when one evolves. The H1N1 outbreak was a warning that we must invest in our respective public health infrastructure and provide the resources needed to cope with the "big one" when it appears.

Public health is responsible for *protecting* the population that is within its charge. After the terrorist attacks of 9/11 and the anthrax scare that followed, populations and their political representatives suddenly became aware of their vulnerability to a likely attack by terrorists using a biological agent. In the wealthier nations, a flood of resources were invested in an effort to quickly strengthen their respective, relatively weak public health structures, capabilities, and capacities. For some countries, the window of opportunity created by the events surrounding 9/11 was used effectively to begin to recognize the importance of public health in protecting their respective populations. Resources were made available with the caveat that they should be used to strengthen the ability to cope with an *intentional* release of a biological agent. In general, these resources were applied without coordination between the countries or even within countries.

But, there has been no such event! So, since there has been no attack by terrorists using biological weapons, rather than accepting that a substantial risk (probability) that a real worldwide threat actually exists, interest in continuing to prepare for an attack from a new, naturally occurring hazard that could kill millions declined steadily, and continued interest in preparing to cope with such a threat gradually waned. In many sectors, it was not appreciated that preparing for a terrorist event also could serve to mitigate the impact of a naturally occurring biological event. In addition, the validity of the preparedness measures taken by governmental and inter-governmental agencies could not be tested until such an event occurred, and hence, the benefits of such investments could not be demonstrated. Gradually, the availability of the needed resources to prevent or combat such an event dwindled and

we became complacent—again. Neither the public nor the politicians have been interested in continuing to build the public health infrastructure, policies, and procedures necessary to contain a world-threatening outbreak or to treat those who will become exposed—it seemed the real threat was not recognized by those who command the resources required to continue the development of preventive and treatment modalities that will be essential to cope successfully with a new, more virulent strain of the influenza viruses.

This progressive neglect was fueled further by the evolving financial crisis and the diversion of resources needed to build preparedness into the respective economies; the benefits associated with recovering the economy are much easier to demonstrate than measures to bolster prevention and preparedness. In most countries, there are "more pressing needs".

The invasion of the *Influenza A H1N1* virus provided the first real test of some of the preparedness plans as each country, and the world community sought to implement some of the measures devised to contain just such an outbreak and to enhance the ability of the individual communities to cope with the danger. Some of these measures seemed to be effective, other seemed not to work.

As the disease spread, it became apparent that more investment in public health is needed worldwide. Populations became aware of their vulnerability and many tried to protect themselves and their families. People looked to their public health "authorities" for *protection*. Antiviral agents were demanded by some populations and, in some instances, were administered to populations prophylactically. But, for the most part, public health was well-informed. However, in some instances, their recommendations were ignored and some countries responded irrationally. Nonetheless, in some instances, had this form of the virus been virulent and deadly, most of the measures taken would have been quite appropriate.

Now, it is essential that we carefully examine those measures that appeared to have worked, what didn't work, and to postulate and try others that could work. For the time being, the outbreak seemingly is being contained in the northern hemisphere. Most of the world did not panic. What is clear is that when such events do occur, populations must heed the advice of public health experts. Some mechanisms to help to contain such outbreaks have been tested and are available. The essence of protection will occur at the community and family levels. The politicians must listen to the experts. This is a medical matter and not a political one.

In such matters, the world looks to the WHO for leadership, and the WHO must guide the responses and must be given the authority to do so. The WHO has a worldwide mandate for such actions, but it must be given the authority and resources to act to control or even better, prevent future outbreaks. In such instances, the world is the community and member countries must accept the efforts of the WHO to attempt to prevent such outbreaks from becoming pandemic. However, the WHO must base its actions on the available evidence and, together with the World Association for Disaster and Emergency Medicine (WADEM), must develop evidence where there is little or none. What exactly happened (and is happening) during the H1N1 outbreak and why, must be analyzed carefully. Reporting mechanisms must be standardized and mandated. The WHO has the responsibility as well as the infrastructure and has access to the expertise. It must continue to develop its capabilities and capacities to cope with such events. The WHO Regional Offices must play an active role and be given the resources needed to contain such threats.

The WADEM must assist the WHO in obtaining and testing the evidence required to build capabilities and capacities. The Global Health Cluster must guide the coordination and control of such efforts at the regional and country levels. We have been warned by the *Influenza A H1N1* virus. There is not much time to augment preparedness as the southern hemisphere is entering its flu season. And, it is not possible to predict what will happen to this virus or where and when the next, more virulent strain will attack us. The window of opportunity is open—let us use it to adjust our global priorities. We must use what we have learned and continue to learn from the H1N1 experience. This is a matter of life and death.

He who is not prepared today, will be less so tomorrow.
(Qui non est hodie, cras minus aptus erit)

Ovid
Remediorum Amoris, 1. 94

**Editor's Note: This editorial was written in mid-May, so some of the information regarding disease spread and pandemic status may have changed.