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Short Communication

Risk communication and management in public health crises

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As the world faces its first influenza pandemic in 40 years, it has been argued that we have never been better prepared. Concern about emerging infectious diseases has fuelled significant public health and political developments, such as the coming into force of the International Health Regulations (IHR). Since the turn of the century, the World Health Organization (WHO) has documented a historically unprecedented number of emerging infectious disease outbreaks, and lessons drawn from their management have confirmed the critical importance of effective communications, specifically through formal channels such as WHO and in the public domain.

In concert with novel emerging infectious diseases, the communication landscape itself has also changed radically. We now live in an era of real-time electronic communications; consequently, approaches to surveillance are being transformed. Data sources, information messengers, mechanisms of data and information transfer and audiences are all changing. Instant and global transmission of information has become a powerful ally, along with peer pressure, for WHO in ensuring that member states comply with new obligations to swiftly declare outbreaks considered to be of public health importance. There is now significant global attention and accompanying investment which should, the authors suggest, be used as an opportunity to improve strategic and operational communication capacity to respond not only to pandemic influenza but also to other public health threats.

There are many concepts of communication in relation to risk associated with outbreaks. As these are relatively new concepts, this article will consider approaches relating to highlighting public health threats and supporting operational management, addressing

these as the communication of risk and subsequent risk management. Strategic considerations are critical to both, although information, messengers, communication tools and audiences may differ. The communication of risk refers to the process by which information regarding outbreaks is identified and shared with the purpose of increasing awareness amongst key stakeholders of the threat. Key stakeholders for public health threats include WHO, national governments and the public. Risk management, by contrast, refers to the management processes associated with response to the outbreak, for which communication is crucial at each stage. Three examples are used to explore the challenges and demands of communicating effectively and coherently given this changing landscape. This brief paper will attempt to show the progress made, draw lessons to be learned and outline the ways forward.

The outbreak of severe acute respiratory syndrome (SARS) in 2002–2003 was an unprecedented public health emergency played out on the international stage. The disease, caused by a novel coronavirus, resulted from spread of the virus from civet cats to humans in the food markets of southern China; once individuals were hospitalized, the virus spread nosocomially to infect other patients and staff. The first reports of this novel disease outbreak came from the local media, and were later substantiated by e-mail messages. These caused international concern, in part because it was feared that a new influenza pandemic was emerging, and heightened as formal confirmation from Chinese authorities was not forthcoming.¹ Whilst the international community remained largely powerless, there being no legal mandate to ensure that China clarified what was occurring, cases appeared in other countries, further raising the stakes.

Thus, the SARS story highlighted a number of challenges to the communication of risk. First, with the advent of, and wide access to, the Internet and e-mail, information through informal and largely unverifiable sources can be transmitted to worldwide audiences within the public domain ahead of information sharing through formal channels. Second, because of the speed of movement of people, diseases can emerge in countries far from their source before outbreaks or the pathogens that cause them have been confirmed or identified.

SARS galvanized the international community to finally conclude drafting of the revised IHR. The IHR bind WHO member countries to not only notify all events that may constitute a public health emergency, but also to respond to requests for verification of information. WHO has also produced outbreak communication guidelines to aid in the dissemination of information to the public, recognizing that 'expertise [in communications] has become as

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essential to outbreak control as epidemiological training and laboratory analysis'.²

The boundaries between risk communication and management are not, however, sharply delineated, as illustrated by the controversy surrounding H5N1 influenza virus sharing. Indonesia is one of the countries hardest hit by outbreaks of H5N1. Virus sharing with the international community is the mechanism by which, first, viruses developing pandemic potential can be tracked (risk communication), and second, vaccines can be developed to meet global need (risk management). Indonesia refused to virus share, not because it was opposed to the sharing of technical information to better understand the threat posed by H5N1 avian influenza, but because it felt excluded from equitable access to the resulting vaccine, meaning that its management of a subsequent pandemic would be constrained.³ It could be argued that Indonesian authorities currently view virus sharing as an important element in risk management and thus a sovereign issue, although the international community, by contrast, views virus sharing as a critical element of risk communication and, by extension, a global risk management issue. Differing interpretations of international treaties are possible and resolution is proving challenging.⁴ Ultimately, the debate is centred on the boundary between the governance of risk communication and risk management, the former now being mandated through international laws, with the latter remaining, to a large degree, a national sovereignty responsibility.

Implicit to better risk communication is a belief that better risk management will automatically follow. Surveillance is, after all, 'information for action'. Communication, co-operation and co-ordination are necessary at an international level. However, they are also, as the illustration below highlights, necessary at national and subnational levels.

In August 2005, Hurricane Katrina made landfall on the Gulf coast of the USA. The worst consequences were felt in New Orleans, Louisiana, where the levee system was breached and billions of dollars of damage occurred. The storm also caused significant loss of life and many people were displaced from their homes. The magnitude of the hurricane was anticipated, the risk having been communicated at both local and national level. However, this risk warning was not heeded appropriately. For example, although mandatory evacuation was eventually ordered, there was little provision for the large numbers involved or for those citizens who could not evacuate themselves. The aftermath of the storm, with many people left living in squalid conditions, also revealed a risk management process that left much to be desired.⁵ One notable example was in the co-ordination of a bi-partisan emergency federal health policy response, attempts at which were blocked by the White House, citing multiple concerns including relevance and cost. The subsequent delay resulted in profound health, economic and political consequences.⁶

Several lessons may be drawn for the risk management of disease outbreaks. Firstly, although risk communication may occur, it does not automatically result in a co-ordinated risk management response. Second, this occurred in the USA, a country which clearly has the public health and disaster management resources to deal with such a problem. However, these resources were not mobilized effectively, efficiently or in a timely manner. At the heart of many of the problems were fractured communication systems. Among operational problems, there were failures in communication technologies subsequent to the weather conditions and, whilst some decisions required extensive information, others were made on the basis of unverified rumours reported by the media, leading to incoherent responses.⁵ Communication failures occurred between the local, state and federal agencies, and there was a lack of clear roles and responsibilities. Although New Orleans had experienced previous hurricanes and had a disaster management plan, the plan was clearly operationally fragile.

It is important to ensure that national strategic plans are operational. Recent reviews have reported that this does not yet seem to be the case.^{7–9} The confusion and lack of clarity in the response to Hurricane Katrina show that traditional ways of working and their dependency on traditional communication systems may falter in the heat of a crisis. New ways of communicating allied to clearly defined roles and responsibilities may be needed.

In the changing landscape outlined, there are clearly many challenges for effective risk communication and risk management. In terms of the communication of risk, this article has focused on progress on the international stage. It is recognized that challenges still remain at national level, but the diversity of these is beyond the scope of this brief paper.

As illustrated by the examples above, tensions exist at national level between international commitments to communicate risk and risk management responses. However, because of the speed of movement of people and goods, global risk management is now as fragile as the weakest link in the community of nations. The challenge is, as with risk communication, to develop an operational framework that acknowledges national sovereignty but is also cognisant of national and individual interdependencies and connectedness.

The global response is building effectively upon the 'dry-run' of SARS, and lessons can be drawn from other public health crises such as Hurricane Katrina. The current global influenza pandemic and the attendant international attention offer an opportunity that should not be squandered. The almost unprecedented energy, political commitment and resources committed to this need to be built upon and harnessed, integrated and extended to support effective responses to public health threats. As the current H1N1 pandemic unfolds, it will be interesting to see how well lessons drawn from earlier public health emergencies have been learned.¹⁰

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