

Pandemic Influenza: Issues and Strategies in Healthcare and Risk Communication



Bird flu: Millions could die

Millions of people around the world could die if the H5N1 strain of bird flu in Asia combines with another strain of bird flu virus that is moving towards the region, the World Health Organization said.

Dr Shigeru Omi, health agency's office, said there are two viruses could trigger a global pandemic.

Ingredients in place for pandemic influenza outbreak: WHO

TORONTO - An outbreak of deadly avian flu in Vietnam which may have killed as many as 12 people could be the precursor to an influenza pandemic, experts admit.

Bird flu could mutate soon

1/21/2004

As health officials around the world kept a watchful eye on reports in China, a potentially more ominous threat could be emerging in Vietnam.

Bird flu epidemic is worst in history

Indonesia has become the latest country to admit that a massive outbreak of bird flu has been ravaging its chicken farms for months. The disease has now led to the death of many

"Everyone is looking at this avian influenza and worrying it's the P word," said Stephen Ostroff of the National Center for Infectious Diseases at the

Bird flu crisis unprecedented

BANGKOK, Thailand - A MASS slaughter of infected chickens and ducks is the only way of controlling the deadly birdflu sweeping across Asia, the World Health Organization has warned, as the human toll from the outbreak rises.

At least 10 people have now died from the virus, with fears growing the disease could become a pan-

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Disaster Medicine/Reilly
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The 20th century has seen its share of pandemics especially influenza, yet the current landscape of the vulnerable population has changed dramatically. A pandemic in the 21st century will affect more people in more ways than before due to not only the expanding population, but also its propensity to interconnect with one another across boundaries. The “global village” as it is now called will allow the transfer of a viral agent globally in the time when it would have spread locally. Therefore global health officials are actively trying to plan and prepare for the sheer logistical nightmare if there were to be a widespread pandemic of an infectious agent such as influenza. The key areas of concern are how the current healthcare system can accommodate such an influx of new patients. In addition how the media can assist in effective risk communications. The media by way of the HHS TV Network has already been involved in discussing vulnerable children in schools who might be affected both physically and psychologically during such a crisis. Also the logistics and effectiveness of quarantine will be judged through how the media passes on the critical information. Finally, new observations are pointing to how the federal health agencies along with astute physicians and communicators can assist in mitigating potential threats in a pandemic.

The better understand the effect of a Pandemic in today’s world, careful attention has to be paid on what was learned from past events. The best analysis can be based on the flu pandemics of 1918 and the mid 1950’s. These have been studied to look at how a population would react to such a virulent epidemic. In the small city of

Baltimore Maryland alone, the fall of 1918 proved to be a very trying time especially for a healthcare system that was not really prepared to handle such an influx of mass casualties. That fall, approximately 3,110 deaths occurred from influenza, which was about 0.5% of the city's population (Henderson et al, 2000). Accordingly the 1918 pandemic brought even more difficulties to light including the lack of staff and medical supplies to handle such a load of patients. In addition the 1918 pandemic was hitting the population of the United States in 3 waves that were defined as periods of time where the incidence rates peaked. Around the world 50 million people died as a result and the US suffered 365,000 deaths (Bartlett, 2006). The main issue at this time was that most of the American workforce was drafted overseas for military efforts. Thus a lack of healthcare workers compounded the problem. The epidemic of the 1918 influenza strain, also known as the "Spanish Flu" was mostly affecting soldiers in army bases such Camp Funston in Kansas (Garrett, 2005). Today experts predict that the influenza virus would be more mobile as civilians travel from continent to continent and not just soldiers. In fact the estimate is that if the 1918 influenza strain were to hit the US today the attack rate would reach 30% causing about 90 million cases and of those 45 million would seek immediate medical care (Bartlett, 2006). Just this figure alone underscores the importance of planning to accommodate the extra strain on the healthcare system. These predictions were based on the 1918 strain, yet experts all agree that future pandemics such as avian influenza could raise the number of cases. Thus, while the pandemic of 1918 may seem to be a historical

event, it is the basis of many analyses that provide the foundations for public health preparedness.

The first institution to be affected by a pandemic would be the healthcare system and efforts are being made to ensure that it can handle the mass casualties arising from a pandemic. Not only will hospitals have to be prepared to care for the increasing numbers of cases, but also they will be critical in helping to identify disease patterns that suggest influenza. The health care system will be the most important factor when it comes to containing and controlling the spread of an epidemic. First and foremost the average hospital today has only 4 to 6% of open beds according to the National Hospital Association. During a recent review by The University of Pittsburgh Medical Center for Biosecurity a pandemic of influenza will require at least 197 % hospital beds and over 400 % Intensive Care beds (Bartlett, 2006). Many hospitals are just not equipped to handle the new influx of patients. Many planners are trying to prepare hospitals to be able to convert non-traditional patient care areas such as the cafeteria and lobbies into available space for flu patients. The problem of not having available beds for the massive amount of patients is not merely a space issue but it is also involves mobilizing a hospital to be able to quickly transition to emergent care. This requires a level of triage and coordinated protocols so that equipment such as limited ventilators can be allocated appropriately. The main obstacle with preparing hospitals for surge capacities in case of an epidemic is the financial burden placed on the administration in the era of rising costs.

Many hospital administrators are quick to say that it is not in the hospital's best interest to invest so much money to a problem that "could happen" when money could be invested to increase the hospital's bottom line. For example, Yale New Haven hospital, after completing a study on how to better improve their preparedness, concluded that yet additional federal assistance was required to implement the necessary improvements to accept a surge of patients in case of an epidemic (Duley, 2005). It is actually estimated that costs of treating this surge in patients nationwide could reach 166 billion dollars. To address this, the federal government has raised its funding to CDC's anti influenza plans to 41 million dollars in 2004, but some still say that will not be able to help hospitals prepare the infrastructure nationwide to accommodate the surge of patients (Garrett, 2005). Since looking back at the 1918 Spanish flu, experts recognize that hospitals can not simply accept all of the new patients and many of them will not only suffer immense issues with space, but also with staff and supplies. Even the simplest supplies such as syringes etc can be depleted in case of an epidemic. Hospital staff succumbing to long hours and often secondary infection can be one of the causes of a potential healthcare system collapse in face of a pandemic. In the 1918 flu epidemic many of the healthcare workers were deployed in the war effort and this proved to be another cause for concern. An interesting point is made on how the healthcare workforce may be affected during a pandemic. Physicians, nurses and important lab personnel are also affected by the epidemic and they have also have family and personal concerns. Although many have chosen to be in healthcare because they have a sense of duty, in the time of a pandemic, staff may

be reluctant to report to duty out of fear of spreading the illness to their loved ones. The aftermath of the SARS epidemic prompted the Canadian Medical Association to take action on this issue as many of the physicians and nurses involved were acting on personal fears.

The CMA has adopted into its code of ethics that its members must adhere to, the clause that states that members must give priority to the fundamental responsibilities of the public especially in a crisis (Ruderman et al, 2006). The American Medical Association has followed a similar stance after the attacks of September 11th, 2001. The AMA 's code of ethics has a specific section on instructing physicians on how to conduct themselves in a public health emergency: "Because of their commitment to care for the sick and injured, individual physicians have an obligation to provide urgent medical care during disasters. This ethical obligation holds even in the face of greater than usual risks to their own safety, health or life" (AMA Policy Document, 2004). This doesn't guarantee however that in state of emergency every healthcare worker will be reporting in for duty. This is why it is essential to activate volunteer physicians such as those in the Medical Reserve Corps to deal with the onslaught of patients needing care. The problem with influenza unlike SARS is that it is highly contagious and that according to British researchers potential staffing shortages is the reason why hospitals will be overwhelmed.

The National Health System in the UK estimates that in a 15-week pandemic, approximately 82, 000 additional hospital admissions would take place. This number

is compounded with the fact that many patients will not realize they have contracted the virus until they see symptoms and by that time even more potential patients will develop (MacFarlane, 2005). In addition to the ordinary surge of patients actually infected with the virus there will be those patients known as the “worried well” who seek emergent care on suspicion of being infected. This only compounds to the problem and calls for training of the healthcare force to be able to triage patients efficiently so that the “worried well” will not hamper the healthcare system. This may even compel physicians to engage in difficult ethical questions of how to ration care to different patients based on factors such as age and overall health (Gostin, 2006). Overall in the event of an pandemic, the healthcare system will be one of the most hardest hit areas and planners have the burden to prepare the healthcare force both physically and also psychologically so that they will be able to handle the expected surge in patients.

Communications is quickly becoming an integral part of public health and when it comes to emergency preparedness, it can prove to be vital. The mass public is more and more relying on the television news and the Internet to help them cope with a national crisis as seen with the coverage of the September 11th attacks. News media outlets are now beginning to work with public health agencies to ensure that the public will be informed of important health bulletins and are making efforts to reduce overall panic. The CDC along with the DHHS has coordinated together to create media offices that connect with journalists and television outlets. The WHO has also

taken steps to involve communications in a possible pandemic response plan. Dr. David Nabarro, has been appointed as the top coordinator for the United Nations in case of a pandemic. He has been actively working along with WHO Media Officer, Dick Thompson on a project that will create a "media nerve center" (Reuters, 2006).

Dr. Nabarro said in his interview to Reuters News Agency that the WHO media bunker will allow experts as he called them "Flucasters" for be able to interconnect with news agencies around the globe to provide a uniform analysis of pandemic spread using maps and satellites. The bunker is a 5 million dollar facility able to use satellite communications to interact with several of the international news agencies such as the BBC and CNN along with other local television outlets in Asia and Africa. The main reason why DHHS along with WHO have decided to invest in communications is that during a pandemic misinformation or sometimes even conflicting information can make matters worse when governments and health ministers have to make crucial decisions. An example of critical communications is in the development domestically of the Health Alert Network in the United States. The Health Alert Network or HAN is important in disseminating information in a pandemic. The CDC's interaction with media occurs through the Division of Media Relations (DMR). During a pandemic the Joint Information Center (JIC) comes into action to quickly relay accurate information to the main media sources such as the main broadcast networks as well as cable news outlets. The JIC will also send important health alerts to US Newswire and PR Newswire to ensure that what is being reported to the public is accurate and

uniform (Gerberding, 2006). In addition the CDC has prepared an extensive website for the media that provides media briefings and video news releases. State and local health officials are informed through the HAN and this provides vital information during a crisis. Overall, the media and communications in general are being recognized as essential during a potential pandemic.

Communications infrastructure is being heavily invested in, yet how is this helpful in mitigating strategies and general preparedness during a pandemic? The answer lies in the field of risk communications especially at a time when public panic is sure to arise. Risk communications focuses on how to connect with the public during a crisis in way that helps to facilitate an environment of less panic and at the same time proper precautions. The WHO has implemented guidelines for journalists and others in the communication industry to help provide a balanced message. For example, when people think of the flu they may seem ambivalent as almost every minor respiratory infection is classified as "some type of flu" and this attitude may make the public less compelled to follow CDC guidelines for infection control. On the other hand, creating unnecessary hype about the deadly potential of the pandemic is going to create an atmosphere of panic (Sandman et al, 2005). The main downside of creating an atmosphere of panic is to compel the population to go to an emergency room for treatment "just in case" or to address psychological fears. This extra influx of the "worried well" to emergency rooms or other care areas only adds to the already overwhelmed healthcare system. In addition, these "worried well" patients may actu-

ally become infected by going to healthcare sites from existing cases and this will just compound the situation even further. During a pandemic, it is estimated that the public will be hungry for information and it is necessary for the media to understand the situation along with having experts being able to pass on accurate information. In this regard the WHO has created a manual for broadcast journalists. The WHO although stresses the fact that panic should be avoided, but in this era of the 24 hr news cycle viewers are likely to become ambivalent and the communicator should never "give overconfident reassurance in the form of 'everything is under control'" (Sandman et al, 2005). This is why many public health officials are relying on competent medical and science journalists to be able to provide accurate information to the public during a crisis.

Large news organization such as CBS News and CNN have medical news units staffed with MD's and PhD's as well as other public health experts who will be able to explain the risks and appropriate symptoms to look for to viewers. For example, the medical doctor may go on air to help viewers identify certain symptoms before they go rushing to an already overwhelmed healthcare system needlessly. In addition physician and scientist broadcasters who are familiar with the networks will be able to go on air to answer viewer questions about the pandemic as well. Although the free press is likely to do it's own thing, past experience from the SARS epidemic shows that the public health agencies must be making sure that wrong or rumored information does not go to the public (Pickles, 2006). During the SARS epidemic, peo-

ple suffered more from trying to “self –medicate” themselves instead of the virus it self. Often the behaviour of the public in times of crisis is in itself a factor in the severity of a pandemic and it can further complicate matters. Therefore media professionals need to understand their viewers and the potential implications of the messages that they pass along. It is vital to ensure that risk communications are accurate and that the media and public health officials work together in a potential pandemic.

Not only is the media useful in helping to curb panic and effective risk communication, it is essential to help inform viewers about Points of Distribution and disseminating general information from public health agencies to ensure that emergency protocols can be followed. Learning from the public past response to the 1918 pandemic has greatly helped the CDC along with the DHHS to create effective communication strategies. As DHHS secretary Leavitt noted, in this era of the 24hr news networks, communications will be the “social Tamiflu®”(CDC, 2006). Looking back at 1918, although communications was limited in scope widespread fear was more dangerous than influenza itself. Analysts say that it is vital that true information still should not be withheld as some of the people in 1918 were falsely reassured about prevention strategies. An exception that is noted is San Francisco’s health department with took out ads in the press with such slogans as “Wear as mask, save your life”(CDC, 2006). In addition, proper communication to the public to help minimize the spread of infection only was effective if it was done during the first wave of the pandemic. Research shows that later attempts in Baltimore to encourage people to take basic

precautions were ineffective as they were implemented during the second wave of the pandemic. Pandemics such as the potential future influenza avian type is predicted to appear in 2-3 waves where each wave is a sudden surge in cases followed by a drop in infection rates. In addition the communications issue has greatly changed from 1918, both in a positive way as more information can be disseminated over several media platforms, yet also in a negative way as this can become the vehicle for misinformation. Misinformation during the pandemic of 1918 was so severe that simple rumors stating that dogs acted as a reservoir for the virus caused many people in the Phoenix area started to kill their pets! (CDC, 2006) In looking at the importance of effective risk communication one has to also take into account the everchanging demographic of the US as more and more Spanish speaking segments of the population begin to grow. This will bring the added responsibility of public health agencies to tailor their public health communication strategies to be available in different languages such as Spanish. This provides public health planners an extra burden of coordinating proper risk communications to the appropriate communities with special attention on population demographics. This becomes especially important when it comes to helping local communities inform people on how POD procedures will work with regard to the dispensing of vaccinations.

The media can save public health agencies a great deal of time by explaining the process and protocols beforehand. This can be facilitated by creating a scrolling "ticker" on the bottom of the screen that is customized to each to each locale up-

dated with POD information similar to what is done on the “Weather Channel”. This could be done on the national cable networks and is an effective way to reach out to wide audiences. On the whole, the past has taught us some important lessons on how to avoid compounding an already public health crisis such as a pandemic with misinformation and creating panic. The challenge now lies in integrating the vast array of media platforms to help deliver unified and accurate public health information to audiences to help ease fear and to facilitate an organized response.

Past research shows that although ideas are being formulated on how to improve public health communication strategies, there are lapses that have to be corrected for in order for it to be effective. During the SARS epidemic the CBC in Canada, Piya Chattopadhyay a correspondent was quoted as saying that “I had a better base than others might have had, but then of course you don’t really know the intricacies of how hospitals work. I didn’t have a number to call CDC. I didn’t know the media contact. Those things would have been helpful to have in getting organized” (USDHHS, 2005). It seems that the media is not poised to accept the immense responsibility it has to ensure that its staff are properly orientated to public health agencies and the type of information that is pertinent during a health crisis.

The media is going to have the responsibility to reduce panic and to direct people to proper POD’s to receive vaccinations and more importantly as discussed earlier to ensure that hospitals do not get overwhelmed with the “worried well”. This problem may be so great as researched by Robert Ursano, M.D, a physician with the

department of defense. He noted that in past crises just the stress and fear will cause otherwise healthy individuals to be feeling headache and malaise, often confused for serious illness (CDC, 2005? p.17). On air Physician correspondents and other special experts will have to be on hand to describe symptomatology and to be able to in most instances answer questions by viewers. The DHHS has also stressed that in an actual pandemic situation where communities may be asked to be quarantined, information will be vital to put the population at ease. Disseminating information during a crisis is compounded by the public's strong emotions of anger and fear and news agencies must be able to empathically relay the proper information as the director of the CDC notes that sometimes epidemiological data can be confusing and frightening and it takes great skill to be able to make it easier for the viewer to understand (DHHS, 2005, CDC, 2005?). In all, media has a great task during a health crisis and lessons can be learned from the past.

The strategies for ensuring that that during a pandemic the healthcare system is not overwhelmed is first and foremost. Proper planning for hospitals and in addition a reliable media resource that viewers can turn to for accurate information is essential. I believe that information has to be on the local level. Local cable operators can help by providing a scrolling bar at the bottom of the television screen providing specific local information such as which numbers to call and where to go for vaccines etc. Also during a crisis, there will be important messages that could be disseminated such as warnings and even in some cases quarantine information. The national media will

definitely cover the crisis, yet as the CDC has noted, the local media will be the most vital resource for the public. The Weather Channel currently uses a local message system through the cable operators using local area codes so that local forecasts can be broadcast around the US. Currently another strategy when it comes to the media, is that reporters need to be involved in training sessions simulating an event, this will allow them to practice the proper risk communication techniques. There also has been some discussion on integrating HAN network resources into news organization's specific databases. For example, CNN as well as NBC News use software that automatically scans news wires and press releases and sends them to the assignment desk at the medical news unit. This allows for reporters and editors to quickly be able to assemble critical information as it comes out of the CDC or DHHS.

With regard to the problem of the overwhelmed healthcare system, the media can play a role by reducing the anxiety that cause the "worried well" to flood the system needlessly. Yet, more importantly, the area hospitals should set up plans for helping to convert gymnasiums and other areas as triage places for influenza victims (Fauci, 2006). Cities may have to use areas such transit centers for example New York may be poised to turn Grand Central Terminal as a triage center. As noted earlier, staffing shortages may be present especially if healthcare workers are concerned about their own health and of those of their families. It is essential that there be adequate personal protective equipment for healthcare staff, as well as other prophylactic measures. Supplies set aside in each hospital that is dedicated for a potential event

could be a solution. The main problem however is that many hospitals do not have enough financial incentive to create a disaster plan. Legislation providing more funds could be needed and furthermore, hospitals should be given tax credits based on their level of disaster preparedness. Hospitals should also undergo simulations to see if their staffing structure and plans are adequate for an actual event. In case of a pandemic, hospitals are going to be on the frontlines in controlling infection and treating the ill and it is vital that they are prepared for the expected surge in patients.

In all, a pandemic influenza will provide many challenges for society especially in a world that has become more and more interconnected. A viral infection starting in Hong Kong could easily travel to the US as passengers travel with so much ease as compared to 1918, and clear coordination between foreign and domestic health officials will be essential. The media will play a huge role in this effort as people will be looking for information in this data age and will rely on the media to provide them instructions. Governments have monitored media outlets during the course of wars and according to the WHO; the media will be closely monitored in the event of a pandemic. New cases will be reported to the CDC yet sometimes the media will help in surveillance as viewers may recognize symptoms that would otherwise go unreported. With regard to controlling panic, the public health agencies have to use the media to get their message across and this will be vital in controlling a fear driven population to the proper areas for vaccination, treatment and even more importantly to encourage infection prevention. It is a delicate balance as giving false reassur-

ances as in 1918 made the public become lax in infection preventive measures and giving too much fear through epidemiological predictions may cause widespread panic. It becomes a difficult issue and the CDC along with the WHO are beginning to train journalists especially in the medical news units to work as a team with the health agencies to mitigate the potential crisis in case of a pandemic situation. Hospitals and other healthcare systems will be overwhelmed by the fear driven “worried well” and the media will help here in this regard as well. Hospitals will have to coordinate plans to convert community spaces for the extra surge in patients and will most likely rely on the media to disseminate this information as well. Overall to sum up, as the late director general of the WHO stated in 2004: We have had great success in the [last] five years in controlling outbreaks, but we have only recently come to understand that communications are as critical to outbreak control as laboratory analyses or epidemiology. “(WHO, 2005)

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