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The Global Ability to Respond: Applying SARS Knowledge to H1N1 and Beyond

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Abstract:

Influenza outbreaks may be alarming, but they are nothing new in the 21st century. At this point, the various strains of influenza have broken into cities and homes, acted as silent killers by causing fear, death and destruction, and spreading uncontrollably. This repetitive cycle arouses the question of when people will learn how to take care of these epidemics. Well, according to Flahault and Zylberman, knowledge may not be the only factor necessary to stop influenza from disrupting lives. The authors reveal that “Influenza epidemics occur regularly and prediction of their conversion to pandemics and their impact is difficult” meaning there is no tangible definition of each strain or explanation of what it will do (319). Despite this reminder of the lack of control humans have at the viral level, there are aspects of hope that are visible from one outbreak to the next. Specifically, response to the H1N1 epidemic of 2009 was much calmer than the typical reaction to epidemics in the past. This reveals that people were able to learn from past outbreaks, such as SARS in 2003. The effectiveness of response increased in a mere six years which offers a great deal of hope for the way future outbreaks will be handled.

Introduction:

The reaction to the SARS outbreak of 2003 was chaotic and overwhelming. Harsh measures were taken quickly and without warning or time to think them through. On the

other hand, people seemed far more composed when dealing with the H1N1 outbreak of 2009 when there was a greater emphasis placed on preventive measures. In addition to the basic reaction, the media held a big part in how each of the outbreaks were portrayed. The research done on both the SARS and H1N1 epidemics reveals a major difference in not only peoples' reaction but also the role the media played in alerting the general public about each outbreak. This paper will demonstrate that the reaction to H1N1, although it included a slight panic, was much more composed and focused than the reaction to SARS which was tumultuous due to the frightening portrayal the media gave the disease.

Body

Part 1: SARS

Back in 2003, the alarm sounded as SARS began to spread on the Asian continent. Hong Kong was the first Chinese city affected by the disease but certainly was not the last. The World Health Organization (WHO) sent out a warning in mid-March when it stated SARS was a worldwide health threat. This was the first global alert for a severe outbreak of a disease in a very long time. First, WHO issued a global alert on the twelfth of March. In just three short days, WHO revised this to a "heightened global health alert about the mysterious pneumonia...that included a rare emergency travel advisory to international travelers, healthcare professionals and health authorities" (WebMD). While this critical alert may have seemed premature at the time, it was soon noted as necessary. According to Altman, "one person has apparently spread the illness to scores of residents of an apartment complex in Hong Kong, and the government has put the entire complex in isolation and closed all schools" which reveals the gravity of SARS' ability to spread (Altman). The spread of infection in residents in the apartment complex led to the

realization that SARS could be spread through the air or via close contact proving that SARS definitely had the ability to have an impact. In hindsight, this stark realization had an influence on people that was similar in intensity to the disease itself; people were terrified.

Generally, when people become frightened, they make rash decisions at a moment's notice. An example of this was seen in China when SARS reemerged. The new strain was blamed on civet cats which were thought to be a carrier of SARS. Despite the messages of caution that were sent from international health officials, the Chinese officials were intent on killing the cats in order to stop the disease once and for all. Yardley, in an article from The New York Times, reports that "Guangdong officials decided Monday to kill the civets hours after Chinese researchers announced that the local SARS patient had a new strain of SARS similar to one found in the ferretlike animal" (Yardley). This example portrays the level of fear that was present in China as SARS reemerged. The people felt as though there was no time to wait even though international health officials advised differently. Yardley later states that the "World Health Organization cautioned that more scientific research was needed to definitively prove that SARS had spread to humans from civets" (Yardley). Various organizations tried to warn China that there was no tangible proof that civets were to blame, but Guangdong officials acted aggressively ordering local health workers to submerge "caged civets into pools of water" where they were drowned (Yardley). In addition to the numerous other health risks that could have come from the intense animal killings, health officials wanted the Guangdong officials to realize that these killings might not even be necessary. This message was never heard due to the high level of fear and the desire to do something effective to protect the people. In their minds, acting too quickly was a much better option than simply sitting back and watching SARS take over.

In addition to mass killings of animals, the police in places such as Hong Kong ordered quarantines to try to contain the disease. As the number of people infected increases, so does the unpredictability of the disease as there are more outlets through which it can be spread. This causes health officials to plan for more types of scenarios. Hong Kong's secretary for Health, Welfare and Food spoke on the matter saying "we are imposing restrictions on personal freedoms. This is something we have never done before and hope never to do again in the future" (Crampton). However, the Chinese government argued that in times of disaster, personal liberties seem trivial and insignificant when compared to the well-being of the majority. Some residents of the contaminated block in Hong Kong had fled in order to avoid the disease and avoid being quarantined. This triggered the problem of the disease spreading even further as potentially infected individuals were making their way to new locations. Beijing was another location that applied quarantines to individuals to hinder SARS from spreading. Eckholm notes that Beijing housed over four thousand individuals who had been exposed to SARS and a "hospital was put under total quarantine as China struggled to contain the disease in the capital" (Eckholm). While quarantining is a practice that tends to be unfavorable, Chinese officials found it necessary during the SARS outbreak. SARS was spreading more readily, and news coverage of the disease was also spreading very quickly through the media. According to Bradsher, "Because so little is known about the highly contagious disease and because, aside from standard nursing care and help in breathing there is no treatment or vaccine, health officials here and around the world remain deeply concerned" (Bradsher). These aspects caused a great amount of fear and played a major role in justifying quarantines.

The risk of contracting SARS became a huge threat to people on the continent of Asia. At the beginning of April 2003, nearly eighty people died from the disease in the province of Guangdong, and sixteen people died in Hong Kong. As for the global count, over two thousand people have been infected by SARS. To put matters into perspective, Dawn Matus, a writer for The New York Times explains that most travelers in Asia are more intimidated by the possibility of contracting SARS than they are by potential terrorist activity. Chris Guinness is a prime example of a traveler who canceled a trip to avoid meeting up with the disease. Guinness says, "I feel that planes are one of the most likely places to catch this thing because you're traveling in an enclosed environment for a period of time, and you just don't know who you're going to be sitting next to" (Matus). Guinness is a working man and the trip he canceled was actually for business in China and Japan. He decided that in his case, his good health was much more important than the points of his business' (which is based in London) agenda.

Guinness's business was certainly not the only one affected by SARS. Rather, as the disease continued to spread, "its impact on business activity is stretching from Hong Kong around the globe, disrupting complex supply chains and forcing industries from airlines to banking to adjust their operations" (Bradsher). Many companies such as Swiss Bank and Intel were forced to take precautionary actions like canceling meetings and conferences, as well as require that all traveling employees stay out of the office for a certain amount of days to ensure they have not contracted SARS. This overarching fear of SARS was "affecting so many businesses that economists at many of the big investment banks reduced their estimates today for economic growth in East Asia" (Bradsher). Was SARS really an omnipotent disease that had the power to disrupt more than just the immune systems of

the individuals it attacked? In actuality, it is much more probable that the disruption did not come from the disease alone, but rather another outlet such as the media.

Media plays a very important role in society today. Whether people are watching news reports, reading magazine or newspaper articles, or surfing social media sites, the general public has overwhelming amount of access to the latest information at any given time. Ergo, people rely on news coverage in its various forms, and “many members of the media perceive their job as supplying information for the benefit of the public” (Yu 3). Thus, members of the media enjoy sharing information with the public, and a mutual relationship has been formed between these two parties. This relationship was clear during the SARS outbreak. Members of the media provided coverage on the disease and readers reacted accordingly. It was soon obvious that the public desired more information on the outbreak because it was so new to the world, and this is what they received. However, according to Yu, “the outbreak of SARS caused an irrational fear in China, as well as in the United States and other countries. Media experts believe the press played a large part in causing the spread of fear with this disease” (4). Had SARS not been immensely covered, people would not have been plagued with information on it. Whether they were hearing about new cases, potential causes, or updated death rates, individuals were simply drowning in the reports. The constant coverage led people into hopelessness and fear, causing them to assume they would inevitably be affected by the disease. Yu scolds the media personnel and journalists during the SARS outbreak saying their “coverage made people more frightened of SARS than they needed to be” (4). This demonstrates a major challenge for journalists everywhere. Diseases should not be treated as just a normal story to grasp readers’ attention and get higher ratings. Rather, “SARS coverage can and should

be used as an example of why threats of disease should be handled in a scientific way and how journalists' coverage should not push the public into overreacting to the threat" (Yu 4). The effect the media had during the SARS epidemic is evident and lessons were learned from this in the future.

Part 2: H1N1

By the time the H1N1 outbreak hit in 2009, the world seemed as prepared as it could for the possible destruction that could potentially follow. While Flahault and Zylberman remind us that prediction can never be exact or definite, the factor of preparedness was more developed. The beginning of the H1N1 reaction was characterized by the need for medicinal advancements, rather than rash actions. For example, many people headed on the hunt for a great H1N1 vaccine. Kim Blinky was among many Americans who waited to get the vaccine. She recalls that she and her husband were the first in line at 6:30am when they arrived and "by the time they were done, it had swelled to 6,000 and people were being turned away" (Weise). Clearly, people were not willing to sit around and wait for the disease to get to them; they preferred to actively resist it.

The fact that people were willing to seek out medicinal help such as vaccines reveals the air of composure that accompanied the H1N1 outbreak. While there was certainly a threat as there is with any infection, people were much more confident in procedures to follow and protocols to observe. This is much different than the actions taken during the SARS epidemic. Since the vaccine was so new, there was only a limited supply. This caused a problem in distribution as only some groups of people that the CDC outlined as "target groups" could get the vaccine. These target groups included "health workers, pregnant women, children and people with chronic illness" (Weise). Despite this distribution issue,

Kim Blinky says that people remained polite during long waits (Weise). This demonstrates the high levels of comfort and trust that people had with the medical system. They believed that they would have access to supplies quickly, and were not overly worried about the hazard of H1N1.

During the H1N1 outbreak, the process of quarantining did occur in some places. According to Chu, this process was for containment or mitigation. After doing a brief study to better understand the method of quarantining, the authors realized that it does indeed work. This is demonstrated in their findings when they examined the outcomes of students who were quarantined in a room with a confirmed case of H1N1. In their article, the authors referred to students who had contracted H1N1 prior to the quarantine as virus-positive contacts, and students who had not contracted H1N1 prior to the quarantine as virus-negative contacts. In conclusion to their study, they determined that “the attack rate of suspected cases among pandemic (H1N1) 2009 virus-negative contacts increased significantly when persons were quarantined in the same room or used the same bathroom as a virus-positive contact (Chu 1301). This reveals that isolating the cases of H1N1 was beneficial in hindering the disease from spreading further.

While some quarantining did occur during the H1N1 epidemic (mostly on college campuses), there were many other measures taken so that people could attempt to go about their lives as normally as possible, at least in the sense that they could leave their house. Sales at drug stores increased where “over-the-counter flu drugs, hand sanitizers, vitamins and face-masks” were popular items at the check-out counter (Hampson). Since not everyone could receive the novel vaccine, exceptions in places such as offices and schools were instated. This is partially due to the fact that swine flu strangely infected more

teenagers and young adults than other diseases of its natures. Therefore, it was “expected to spread more rapidly when students return to close quarters of classrooms and dormitories” (Copeland). In an attempt to counteract some of the spread, during the outbreak, “schools questioned the perfect attendance awards, employers looked twice at sick-day limits,” and in addition to this, “airlines encouraged the ticketed ill to stay on the ground” (Hampson). Overall, a major effort to halt the spread of H1N1 ensued by cutting out unnecessary requirements and practices. Changes in worship rituals were also suggested. According to Grundy, Christians have had to “introduce health measures at Communion services and in the use of holy water that some use to bless themselves when entering churches” (1). These alterations have offered a more sanitary way of worshiping that is safer for all participants. Most of the precautions and actions taken during the H1N1 outbreak were to sterilize the environment and keep people out of the way of germs. This was beneficial as it helped to keep people occupied with directions to follow while simultaneously stopping the disease from spreading.

A study documented in the New England Journal of Medicine examines the infectivity of the H1N1 virus and how it compares to the typical seasonal influenza. Their findings show that “children were twice as susceptible to infection with the 2009 H1N1 virus from a household member as adults 19 to 50 years of age and that adults older than 50 years of age were less susceptible than younger adults” (Cauchemez 2625). This was coordinated to other previous findings proving that there was no bias or miscalculation of data. Instead, children and younger adults were indeed more susceptible to the disease. Also, the results are “consistent with serologic analyses of the 2009 H1N1 virus suggesting that there are some preexisting pandemic H1N1 immune responses in the elderly”

(Cauchemez 2625). For some reason, just as the world was more prepared for the H1N1 outbreak, so were the immune systems of elderly adults. Findings such as this added to the comfort that people felt when dealing with H1N1. It is characterized as a fightable disease that some individuals are immune to. This makes it much less scary than it would be if there was no such immune response.

As mentioned earlier, along with the problem of H1N1 came a solution; the vaccine. Although people were nervous about the arrival of the disease, there was a flicker of hope as the public learned that a vaccine would be available that could save them and their loved ones from sickness, and simultaneously stop the disease from spreading. As previous research has shown, there was a large rush of people that desired to be vaccinated as quickly as possible. Scientists in charge of the vaccine knew however that not everyone would be initially in favor of being vaccinated. Ergo, they decided it was necessary to urge people to do so. They decided to use an approach called the problem frame to grasp the public's attention. In their expert opinions, "if a large percentage of the population received the immunization, herd immunity would have developed, making those susceptible to the disease less likely to encounter an infected person and protecting the entire herd of people" (Chang 3). This is a great concept that housed enough potential to aid the population and protect them from H1N1. The scientists also realized that "the public learns most of what it knows about science from the mass media" so the media portrayal would be vital in determining who would feel comfortable receiving the vaccine (Chang 3). In his results, Chang notes that he examined various newspapers with articles on the H1N1 outbreak to see how they presented the vaccine. One frame that was used frequently was that the vaccine was available and necessary to "protect the vulnerable". At the beginning,

“messages were rather mild and direct: the vaccine protects women and children. However in time period (b) [at the end] with an escalated problem frame, the phrases became more fear inducing, like ‘prevent a hospital stay’” (Chang 10). Ergo, journalists played off the fear of the public with the H1N1 outbreak. However, they did so to urge people to be proactive in order to prevent the disease from developing further and destroying the lives of many.

Conclusion:

Both the SARS and H1N1 epidemics received a great deal of attention at their respective times. When SARS emerged, there was still a global fear of bioterrorism since the September 11 attack on the United States had just happened two short years earlier. As Heymann mentions, “The reality of bioterrorism immediately raised the infectious disease threat to the level of a high-priority security imperative worthy of attention in defense and intelligence circles” (Heymann 185). This issue is just another example of the numerous ways the SARS was blown out of proportion. It is also very closely linked to the other problems previously mentioned, such as the harsh measures taken far too quickly, and the ominous depiction the media gave the disease. In essence, the world was simply not ready when SARS emerged. Scientists were not prepared with a vaccination for the disease, media personnel were not apt to report on the outbreak, and people were not sure of how to react. This intense lack of preparation led to immense desperation, during which odd measures were taken as a sort of compensation method.

On the contrary, H1N1 was received with more of an equipped and organized nature. Scientists and doctors urged individuals to be immunized against the disease so they would not be affected, and so the population as a whole could be protected. Instead of

implementing mass quarantines, people were advised to stay home until they were positive that they were not infected with H1N1. Also, schools and businesses changed attendance policies so that people would not feel compelled to go in if they were feeling under the weather. These tactics were much more beneficial to individuals involved and the environment than jumping to actions such as killing large amounts of a type of cat that could potentially be a carrier of SARS. Also, while SARS hurt the economy by putting businesses on hold and hindering air travel, H1N1 aided drug store sales for items such as vitamins, hand sanitizer and over the counter medicine. Finally, the media learned a major lesson during the SARS outbreak. This newly acquired knowledge allowed them to be much more polished and coordinated with medical and scientific personnel in their news reports. News reports focused more on reaching a cure and combatting the H1N1 outbreak rather than simply reporting the death rates of SARS along with the new strains of the disease that had developed. The answer is not exactly a simple one when comparing these two disease outbreaks. Some may assume that the H1N1 outbreak was not as severe as the SARS outbreak was. This is not necessarily true. The research reveals that numerous other factors played a major role in how each outbreak was received and handled. Most notably of these factors was the media. Thus, the media directly influenced the public's reactions to both disease outbreaks. It made the response to SARS one characterized mainly of worry and panic, and implied a response of composure and prevention to H1N1.

References

- Altman, Lawrence K, 2003. "The Doctor's World; Step by Step, Scientists Tack Mystery Ailment." *The New York Times*, April 1. <http://www.nytimes.com/2003/04/01/health/the-doctor-s-world-step-by-step-scientists-track-mystery-ailment.html> (October 26, 2012).
- Bradsher, Keith. 2003. "The SARS Epidemic: Progress; SARS Cases In Hong Kong Have Begun To Level Off." *The New York Times*, April 23. <http://www.nytimes.com/2003/04/23/world/the-sars-epidemic-progress-sars-cases-in-hong-kong-have-begun-to-level-off.html> (November 2, 2012).
- Bradsher, Keith. 2003. "A Respiratory Illness: Economic Impact; From Tourism to High Finance, Mysterious Illness Spreads Havoc." *The New York Times*, April 3. <http://www.nytimes.com/2003/04/03/world/respiratory-illness-economic-impact-tourism-high-finance-mysterious-illness.html> (November 13, 2012).
- Cauchemez, Simon, Donnelly, Christl A., Reed, Carrie, Ghani, Azra C., Fraser, Christophe, Kent, Charlotte K., Finelli, Lyn, Ferguson, Neil. 2009. "Household Transmission of 2009 Pandemic Influenza A (H1N1) Virus in the United States." *New England Journal of Medicine* Vol. 361 (December) : 2619-2627.
- Chang, Jimmy. 2010. "How U.S. Newspapers Frame the 2009 H1N1 Vaccine." 1-14.
- Chu, Chen-Yi, Li, Cheng-Yi, Zhang, Hui, Wang, Yong, Huo, Dong-Hui, Wen, Liang, Yin, Zhi-Tao, Li, Feng, Song, Hong-Bin. 2010. "Quarantine Methods and Prevention of Secondary Outbreak of Pandemic (H1N1) 2009." *Emerging Infectious Diseases* Vol. 16, No. 8 (August): 1300-1302.

- Copeland, Larry. 2009. "Schools Prep For Spread of Swine Flu." *USA TODAY*, August 3.
http://usatoday30.usatoday.com/news/health/2009-08-02-swineflu_N.htm (December 1, 2012).
- Crampton, Thomas. 2003. "As SARS Rages, Hong Kong Orders A Quarantine." *The New York Times*, April 1. http://www.nytimes.com/2003/04/01/news/01iht-sars_ed3_.html
(November 2 2012).
- Eckholm, Erik. 2003. "The SARS Epidemic: SARS; Beijing Broadens SARS Quarantine; More Cases Found." *The New York Times*, April 26.
<http://www.nytimes.com/2003/04/26/world/the-sars-epidemic-sars-beijing-broadens-sars-quarantine-more-cases-found.html> (November 9, 2012).
- Flahault, Antoine, and Patrick Zylberman. "Influenza Pandemics: Past, Present and Future Challenges." *Public Health Reviews* 32, 1:319-340.
- Grundy, Trevor. 2009. "Britain Alters Worship Rituals Over Swine Flue Fears." *USA TODAY*, July 29. http://usatoday30.usatoday.com/news/religion/2009-07-29-swine-flu_N.htm
(November 27 2012).
- Hampson, Rick. 2009. "H1N1 Flu Spreading Changes in Behavior." *USA TODAY*, October 30.
http://usatoday30.usatoday.com/news/health/2009-10-29-flu_N.htm (November 5, 2012).
- Heymann, David L., Rodier, Guenael. 2004. "SARS: A Global Response to an International Threat." *Brown Journal of World Affairs*. Vol. X Issue: 2 (Winter/Spring): 185-197.

Matus, Dawn. 2003. "Weighing the Risks Amid the SARS Crisis." *The New York Times*, April 4.
http://www.nytimes.com/2003/04/04/style/04iht-trasia_ed3_.html (November 12, 2012).

WebMD. "Lung Disease & Respiratory Health Center: SARS: Timeline of an Outbreak."
<http://www.webmd.com/lung/news/20030411/sars-timeline-of-outbreak> (December 8 2012).

Weise, Elizabeth. 2009. "Race for H1N1 Vaccine is On." *USA Today*, November 3.
http://usatoday30.usatoday.com/news/health/2009-11-02-swine-flu-vaccine_N.htm
(November 12, 2012).

Yardley, Jim. 2004. "The SARS Scare in China: Slaughter of the Animals." *The New York Times*,
January 7. <http://www.nytimes.com/2004/01/07/world/the-sars-scare-in-china-slaughter-of-the-animals.html> (November 10, 2012).

Yu, Sun. 2003. "Lessons From SARS Coverage." *Nieman Reports: Nieman Foundation for Journalism at Harvard*, Winter.
<http://www.nieman.harvard.edu/reports/article/100974/Lessons-From-SARS-Coverage.aspx> (December 2, 2012).