
Volume 10

Issue 2 *Winter 2007: Symposium - Shaping a
New Direction for Law and Medicine: An
International Debate on Culture, Disaster,
Biotechnology and Public Health*

Article 4

October 2015

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Recommended Citation

Hillary R. Ahle, *Anticipating Pandemic Avian Influenza: Why the Federal and State Preparedness Plans Are for the Birds*, 10 DePaul J. Health Care L. 213 (2007)

Available at: <https://via.library.depaul.edu/jhcl/vol10/iss2/4>

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ANTICIPATING PANDEMIC AVIAN INFLUENZA: WHY THE FEDERAL AND STATE PREPAREDNESS PLANS ARE FOR THE BIRDS

Hillary R. Ahle¹

The (1918 Spanish Influenza) epidemic killed, at a very, very conservative estimate. . .550,000 Americans in ten months, that's more Americans than died in combat in all the wars of this century. . .the epidemic killed at least 30 million in the world and infected the majority of the human species. . . As soon as the dying stopped, the forgetting began.²

The pandemic clock is ticking, we just don't know what time it is.³

I. INTRODUCTION

Remember the last time you woke up on a winter morning with a sore throat, fever, and chills? You likely turned off your alarm, called into work sick, crawled back under the covers, and braced yourself to endure the obvious culprit, the flu. Influenza, or the flu, is ubiquitous in our society and often indiscernible from the common cold.⁴ Many Americans simply consider it to be an “inevitability of winter.”⁵ One commentator has even dubbed the flu a “cuddly disease” that keeps its

¹ DePaul University College of Law, J.D. Candidate, May 2007; University of Wisconsin – Madison, B.S., 2004. The author wishes to thank her parents for their support and encouragement, as well as the DEPAUL JOURNAL OF HEALTH CARE LAW's Editorial Board for their editorial efforts and suggestions.

² *Influenza 1918, The American Experience* [hereinafter “*Influenza 1918*”], PBS transcript, at <http://www.pbs.org/wgbh/amex/influenza/filmmore/transcript/transcript1.html> (last visited Feb. 16, 2006) (quoting Alfred W. Crosby).

³ *Pandemic Influenza Overview*, CENTERS FOR DISEASE CONTROL, at <http://www.hhs.gov/bloodsafety/presentation/Schwartz.pdf> (last visited Feb. 5, 2006) (quoting Ed Marcuse, a former Chairman of the National Vaccine Advisory Committee).

⁴ Mike Dorning, *Bird Flu Risk Hinges on Computation, Mutation*, CHICAGO TRIBUNE, Nov. 1, 2005, at C1. See generally JAMES E. CHIN, CONTROL OF COMMUNICABLE DISEASES MANUAL, (17th ed., American Public Health Association) (2000) (suggesting that it may be impossible to differentiate flu symptoms from that of other respiratory diseases without a lab test).

⁵ *Id.*

victims “curled up in bed on winter mornings instead of heading off to work.”⁶ But in reality, the flu is anything but cuddly.⁷

The flu is an acute respiratory infection caused by a variety of influenza viruses.⁸ Every year during flu season, ten to fifteen percent of the U.S. population is infected with the flu,⁹ and on average, 36,000 Americans die from the flu or its complications.¹⁰ Most flu fatalities, such as those of infants, the elderly, and people diagnosed with AIDS, result from weakened immune systems and, ultimately, viral or bacterial pneumonia complications.¹¹

⁶ Kristin Choo, *The Avian Flu Time Bomb*, 91 ABA JOURNAL 36, 38 (2005) (quoting Thomas Abraham, author of *Twenty-First Century Plague: The Story of SARS*).

⁷ *Influenza 1918*, *supra* note 1. Dr. Alfred Crosby, author of *America's Forgotten Pandemic* has said, “One of the factors that made [the 1918 flu] so particularly frightening was that everybody had a preconception of what the flu was: it's a miserable cold and, after a few days, you're up and around, this was a flu that put people into bed as if they'd been hit with a 2 x 4. That turned into pneumonia that turned people blue and black and killed them. It was a flu out of some sort of a horror story. They never had dreamed that influenza could ever do anything like this to people before.” *Id.*

⁸ Flu Fact Sheet, THE NATIONAL INSTITUTE OF ALLERGIES AND INFECTIOUS DISEASE OF THE NATIONAL INSTITUTES OF HEALTH, December 1997, at <http://www.niaid.nih.gov/factsheets/flu.htm> (last visited Dec. 27, 2005). Flu viruses are spread from person-to-person by coughing and sneezing and they enter the body through the mucous membranes of the eyes, nose, or mouth. *Id.* Symptoms of the flu are recognizable to most people and typically last anywhere from twenty-four hours to seven days or longer. Chin J, ed., *supra* note 4. Symptoms may include fever, headache, sore throat, cough, muscle aches, and fatigue. *Id.* These yearly flu outbreaks are known as epidemics and can be attributed to three virus types, influenza A, B, and C. The Influenza A virus causes regional and widespread epidemics and affects animals and humans alike, while milder illness and minor outbreaks are attributed to influenza types B and C. Because both virus types A and B go through constant but relatively slight mutations, known as antigenic drift, it is difficult to control the illness from one flu season to the next. *Nature's Terrorist Attack: Pandemic Influenza, Preparedness Planning for State Health Officials*, THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS, at <http://www.astho.org/pubs/PandemicInfluenza.pdf> (last visited Feb. 7, 2006) [hereinafter “*Nature's Terrorist Attack*”]. Additionally, flu viruses are constructed of Ribonucleic acid. This is significant because when an RNA virus replicates itself from inside a human cell, its copying mechanism makes numerous small errors in genetic translation. These slight errors, or mutations, are the reason that last year's vaccines do not protect against this year's flu strains. Dorning, *supra* note 4.

⁹ *Nature's Terrorist Attack*, *supra* note 8.

¹⁰ Dorning, *supra* note 4.

¹¹ *Id.*

America's casual perception of the flu may stem from many Americans having never experienced a full-blown flu pandemic.¹² The yearly flu season is an epidemic flu; epidemic flus are caused by strains of flu virus that are already circulating in the human population.¹³ People build up immunity against epidemic flu, either by having had prior contact with a specific virus or through vaccination.¹⁴ A pandemic flu, however, is a global outbreak caused by new strains of the flu virus and, as such, no immunity exists in the population and everyone is highly susceptible to falling seriously ill.¹⁵ A vaccine cannot be made until the virus has emerged in the population. . . when it is already too late for prevention.¹⁶

¹² *What Is An Influenza Pandemic?*, CDC, at <http://www.pandemicflu.gov/general> (last visited Feb. 17, 2006). "An influenza pandemic is a global outbreak of disease that occurs when a new influenza A virus appears or 'emerges' in the human population, causes serious illness in people, and then spreads easily from person-to-person, causes serious illness, and can sweep across the country and around the world in very short time." *Id.*

¹³ CENTERS FOR DISEASE CONTROL [hereinafter "CDC"], at <http://www.pandemicflu.gov/general> (last visited Feb. 21, 2006).

¹⁴ PandemicFlu.gov, *How Does Seasonal Flu Differ From Pandemic Flu*, at http://www.pandemicflu.gov/season_or_pandemic.html (last visited Feb. 7, 2006); The World Health Organization (WHO) has implemented surveillance around the world since 1947 to detect prevalent and emerging strains of flu, and this information is used annually in producing a flu vaccine. AW Hampson, *Surveillance for Pandemic Influenza*, 176 J. INF. DIS. S8-13 (1997).

¹⁵ Daniel DeNoon, *Avian Influenza and Pandemic Influenza in Historical Perspective*, WEB MD, Nov. 2, 2005, at <http://www.webmd.com/content/Article/114/111343.htm> (last visited Jan. 15, 2006). Because type A viruses can infect both animals and humans, there is a possibility that a new A virus will develop, either through mutation or the mixing of different viruses from different species. *The Pandemic Influenza Threat* [hereinafter "HHS Plan"], HHS Pandemic Influenza Plan, at <http://www.hhs.gov/pandemicflu/plan/pdf/HHSPandemicInfluenzaPlan.pdf> (last visited Feb. 20, 2006). A flu pandemic is triggered when a novel influenza A virus emerges in humans through recombination, or major change in the virus's composition, of human and animal antigens (swine or avian) causing serious illness, and then has sustained global transmission from person-to-person. *Nature's Terrorist Attack*, *supra* note 8; see also CDC, *supra* note 13. Pigs are a common reservoir for emerging viruses because they can be infected by both human flu and bird flu, and avian viruses have played a role in the last three influenza pandemics.

National Strategy for Pandemic Influenza [hereinafter "*National Strategy*"], Homeland Security Council, Nov. 2005, at <http://www.whitehouse.gov/homeland/pandemic-influenza.html> (last visited Feb. 20, 2006). Not all virus mutations will lead to a pandemic, but the more times recombination occurs, the more likely the necessary mutations will occur to cause sustained human-to-human transmission. *Nature's Terrorist Attack*, *supra* note 8.

¹⁶ CDC, *supra* note 12.

Consequently, pandemic flus are appreciably more deadly than epidemic flus and are cause for great concern.¹⁷ While it is nearly impossible to predict which strain of flu virus will cause a pandemic, experts say pandemics are inevitable and the modern world is overdue.¹⁸ In the last three hundred years there have been ten flu pandemics.¹⁹ There were three flu pandemics in the twentieth century, in 1918, 1957, and 1968, which killed approximately forty million, two million and one million people worldwide, respectively.²⁰ Dr. Michael T. Osterholm, Director of the Center for Infectious Disease Research and Policy at the University of Minnesota, has said, "Pandemic flus are like earthquakes and hurricanes. . . [t]hey're the one area in public health you can predict."²¹

Since late summer 2005, the deadly H5N1²² strain of avian flu has garnered increasing public interest due to the large number of poultry the disease has ravaged and its high fatality rate in humans.²³ The H5N1 virus has killed more than fifty percent of its human victims.²⁴ Presently, the H5N1 avian flu has not reached pandemic status because there has not been any sustained human-to-human transmission of the virus; it is currently spread to humans solely through direct contact with infected birds, although, in a few instances, human-to-human transmission is suspected.²⁵ In October 2005, scientists made the chilling announcement they had decoded the deadly

¹⁷ DeNoon, *supra* note 15.

¹⁸ Denise Grady, *Danger of Flu Pandemic is Clear, If Not Present*, N.Y. TIMES, Oct. 9, 2005, at Section 1 ("The timing of the bird flu's emergence also makes scientists nervous, because many believe that based on history, the world is overdue for a pandemic. . . In the 20th century there were three pandemics which means an average of one every 30 years. . . The last one was in 1968, so it's 37 years. Just on the basis of evolution, of how things go, we're overdue").

¹⁹ Donald G. McNeil, Jr., *Hitting the Flu at Its Source, Before it Hits Us*, N.Y. TIMES, Nov. 6, 2005, at Week in Review.

²⁰ *World Health Agency Tones Down Alarm on Possible Flu Pandemic* [hereinafter "*WHO Tones Down*"], N.Y. TIMES, Oct. 1, 2005, at A5.

²¹ McNeil, *supra* note 19.

²² DeNoon, *supra* note 15. "Type A flu viruses are subtyped according to proteins on their surfaces. There are 16 different H proteins and nine different N proteins. All H and N proteins occur in birds. Human disease has traditionally been caused by three H subtypes – H1, H2, and H3. Recently, humans have become ill after catching new H subtypes – H5, H7, and H9 – from birds. It's feared that one of these subtypes will emerge as the next flu pandemic – particularly the H5N1 virus causing an unprecedented global epidemic among domestic and wild birds." *Id.*

²³ CDC, *supra* note 12.

²⁴ Dorning, *supra* note 4.

²⁵ *WHO Tones Down*, *supra* note 20; HHS plan, *supra* note 15, at S5-27.

1918 strain of flu which had triggered a pandemic that infected half of the earth's population.²⁶ It, too, was an avian flu strain that was able to directly infect humans.²⁷ Experts were unnerved by this discovery; the genetic changes that allowed the 1918 strain to infect humans directly are beginning to appear in the H5N1 avian flu strain.²⁸

In the wake of the disastrous federal and state emergency response to Hurricane Katrina in late 2005, the possibility that the H5N1 avian flu virus will mutate to enable sustained human-to-human transmission has left many Americans doubting the government's ability to handle a flu pandemic, and rightly so. Irwin Redlener, Director of the National Center for Disaster Preparedness at Columbia University, has called the recent flurry of interest in a flu pandemic the "post-Katrina effect."²⁹ In an interview prior to the government's release of its pandemic plans, Democratic Senator Tom Harkin said, "'Trust us' is not something the administration can say after Katrina. . . We want plans. We want specific goals and procedures we're going to take to prepare for this."³⁰

And so the United States prepared. The federal government published a national pandemic plan in November 2005, but public health experts worry the plan is not comprehensive enough to prepare Americans for the inevitable.³¹ Dr. David Nabarro, the United Nations

²⁶ *Bird Flu and the 1918 Pandemic*, N.Y. TIMES, Oct. 8, 2005, at A14.

²⁷ *Id.* "The worrisome news is that the 1918 virus appears to have jumped directly from birds to humans, and that the genetic changes that allowed it to do so are already beginning to appear in the avian strain, known as H5N1, which has killed large numbers of birds and about 60 people in four Asian countries. The two most recent global pandemics, in 1957 and 1968, were caused by human flu virus that picked up some bird flu components. Now it turns out that the far more lethal 1918 virus, which killed perhaps 20 to 100 million people, was most likely an avian strain that jumped directly into humans. That gives today's avian strain two routes to wreak havoc among humans. . . Two top federal health officials said that the H5N1 virus has already acquired five of the 10 genetic sequence changes associated with human-to-human transmission of the 1918 virus." *Id.*

²⁸ *Id.*

²⁹ Gardiner Harris, *Fear of Flu Outbreak Rattles Washington*, N.Y. TIMES, October 5, 2005, at A23.

³⁰ *Id.*

³¹ See *National Strategy for Pandemic Influenza and the HHS Pandemic Influenza Plan: Thoughts and Comments from the Center for Biosecurity of UPMC* [hereinafter "UPMC"], UNIVERSITY OF PITTSBURGH MEDICAL CENTER: CENTER FOR BIOSECURITY, Nov. 7, 2005, at <http://www.upmc-biosecurity.org/avianflu/comments-fluplan.pdf> (last visited Jan. 15, 2006) (suggesting additional preparation is still necessary to properly prepare for a pandemic); see also McNeil, *supra* note 19 (Dr. Michael T. Osterholm comparing America to "the guy going to his 25th high school

coordinator for pandemic flu, has said the government will not be ready to combat pandemic flu until it has “vaccination, quarantine, and treatment plans written and stockpiles in place,” and has “run repeated simulation exercises involving doctors, police officers, utility workers,” and other relevant responders.³² While all of these requirements have been given lip service in the federal government’s pandemic plan, it remains to be seen whether the state authorities, health care responders, and the American public will be able to put the plan effectively into action to combat a flu pandemic.

This Article aims to apply lessons learned in prior public health emergencies to the current pandemic plans of both the federal government and state of Illinois. The Article will highlight necessary supplemental actions the government on both levels must still address prior to a pandemic emergency. Part I relays the gravity of a flu pandemic and background of the H5N1 virus. This section also identifies the weaknesses of government response to each recent public health crisis from the Anthrax attacks of 2001 to Hurricane Katrina, namely communication, distribution, organization, and the lack of clearly specified roles. Part II outlines and evaluates both the federal and state of Illinois plans in terms of their preparedness and communication; surveillance and detection; and response and containment initiatives. Part II concludes that the federal government has delegated excess responsibility to the individual states and that a more standardized delegation is necessary. Finally, Part III focuses on the largely-ignored role of the American health care system in pandemic response efforts. While the health care system’s role will be considerable, it has been left with an enormous unfunded mandate that requires both increased specificity and standardization. Four aspects of the health care system require further attention: enhancing the health care workforce, stockpiling medical supplies, appropriating sufficient funds, and creating public awareness of the ethical decisions that health care workers may be faced with during a pandemic. As Dr. Osterholm acknowledged, “If Katrina taught us nothing else, it’s not enough to have [a plan] on paper.”³³

reunion who decides the night before that he needs to lose 50 pounds,” and concludes the best he can do is “get a new suit and a shoeshine”).

³² McNeil, *supra* note 19.

³³ Michael Osterholm, M.D., *Pandemic Influenza; A Harbinger of Things to Come*, WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS, Sept. 19, 2005, at http://www.wilsoncenter.org/index.cfm?topic_id=1413&fuseaction=topics.event_summary&event_id=142787# (last visited Sept. 23, 2006).

II. BACKGROUND

A. The Public Health Threat: H5N1 Avian Flu Virus

H5N1 emerged as a virus when a bird flu virus and a human flu virus swapped genes inside an animal or a person that was infected by both viruses at the same time.³⁴ The first human cases of H5N1 avian flu were reported in Hong Kong in 1997 during an outbreak of avian flu in Chinese poultry.³⁵ The virus spread and infected wild birds throughout Asia and Europe during late 2003 and early 2004; more than 100 million birds in the affected countries either died from the disease or were killed to control the outbreak.³⁶ By March 2004, the outbreak was reportedly under control. Beginning in June 2004, however, fresh outbreaks in poultry occurred in several Asian countries.³⁷ These outbreaks are ongoing and the virus has been found in more than fifty countries to date.³⁸

Today, human infection by H5N1 has been reported in Cambodia, China, Indonesia, Thailand, Vietnam, Turkey, and most recently in Iraq.³⁹ Current statistics show 258 people have been

³⁴ Dorning, *supra* note 4.

³⁵ *Id.*

³⁶ CDC, *supra* note 12.

³⁷ *Id.* China has recently completed a campaign to vaccinate all of the country's 5.2 billion domesticated birds in order to contain the spread of the virus and prevent further possibility of mutations in humans. Since October 2005, 151,000 chickens, ducks and geese have died and 22 million more birds have been destroyed in China. See *China Reports 6th Human Case of Bird Flu* [hereinafter "*China Reports*"], N.Y. TIMES, Dec. 16, 2005, at A9. Diderik De Vleeschauwer, the U.N Food and Agriculture Organization's Bangkok spokesman, says eradication of avian flu in birds is already impossible, however, because the disease has become endemic in Southeast Asian bird populations. Keith Bradsher, *The Front Lines in the Battle Against Avian Flu Are Running Short of Money*, N.Y. TIMES, Oct. 9, 2005, at Section 1.

³⁸ Michael O. Leavitt, *Department of Health and Human Services Pandemic Planning Update II*, at 2, June 29, 2006, available at <http://www.pandemicflu.gov/plan/pdf/PanfluReport2.pdf> (last visited Sept. 1, 2006); CDC, *supra* note 11. In January 2006, the Agricultural Minister of Turkey, Mehdi Eker, alleged that countries neighboring Turkey were also experiencing poultry outbreaks of H5N1 but were covering it up and hampering global efforts to contain the virus. "The presence of the disease in several other countries – our neighbors governed by closed regimes – is known unofficially but those countries do not declare it openly." Ana Sayfa, *Turkey Claims Neighbors Cover up Bird Flu*, HURRIYET, Jan. 16, 2006, at <http://www.hurriyet.com.tr/english/3823765.asp?gid=74> (last visited Jan 22, 2005).

³⁹ Epidemic and Pandemic Alert and Response (EPR) Fact Sheet, World Health Organization (WHO), at

confirmed as infected with H5N1, and 154 people have died.⁴⁰ When avian flu infects birds, it concentrates in the digestive track.⁴¹ In humans, however, the virus attacks cells in the airways and lungs.⁴² Avian flu symptoms exhibited by humans have ranged from typical flu symptoms to eye infections, pneumonia, acute respiratory distress, viral pneumonia, and other life-threatening complications.⁴³ An article in the *Houston Chronicle* provides a horrifying description of the disease process:

A cell inside the lungs is doomed as soon as the virus invades it. . .it basically bursts, releasing vast numbers of new virus particles to invade other cells. . .[and] the immune system goes into a kind of biochemical panic [flooding] the lungs with other disease fighting substances. The patient suffocates on his own immune system chemistry.⁴⁴

Considering the uncertainty surrounding whether the H5N1 avian flu will in fact develop into a dreaded pandemic, some might question why it has dominated the recent headlines. There are, nonetheless, very good reasons for the attention.⁴⁵ The foremost cause for concern is that the H5N1 avian flu has an approximately fifty

http://www.who.int/mediacentre/factsheets/avian_influenza/en/index.html#current (last visited Sept. 22, 2006).

⁴⁰ For up-to-date numbers see *Cumulative Number of Confirmed Human Cases of Avian Influenza A/ (H5N1) Reported to WHO*, WORLD HEALTH ORGANIZATION (WHO), at http://www.who.int/csr/disease/avian_influenza/en/ (last visited Nov. 29, 2006). Out of the twenty-one confirmed human cases of avian flu in Turkey, all but two involved children aged four to eighteen, as children appear to be particularly susceptible to the H5N1 strain "...if only because [children] are more likely to touch or play with diseased birds or contaminated droppings." William J. Kole, "Keep Your Children Away:" *Bird Flu Most Common in Kids*, CHICAGO SUN TIMES, Jan. 18, 2006, at News 42.

⁴¹ Jeff Nesmith, *Avian Flu Ambushes the Body*, HOUSTON CHRONICLE, Oct. 23, 2005, at A9, available at http://www.chron.com/CDA/archives/archive.mpl?id=2005_3914103 (last visited Jan. 20, 2006).

⁴² *Id.*

⁴³ CDC, *supra* note 12.

⁴⁴ Nesmith, *supra* note 41.

⁴⁵ See *Pandemic Influenza Overview*, *supra* note 2. For an argument that H5N1 avian flu is overhyped see generally Andrew Weil, M.D., *Is Bird Flu Overhyped?*, 167 TIME 68 (January 2006).

percent fatality rate.⁴⁶ In comparison to the most destructive flu pandemic yet, the Spanish flu pandemic of 1918 (which killed an estimated forty million people worldwide but only two percent of its victims), a fifty percent fatality rate is highly disturbing.⁴⁷ Further, a pandemic in 2007 would wreak much more havoc than any prior pandemic due to the globalized nature of modern society.⁴⁸ Global travel and commerce are far more commonplace than ever before; one need not look further than the 2003 SARS outbreak to see how fast a disease can spread via international travel.⁴⁹ Additionally, the increasing population density may make containing the disease difficult.⁵⁰ Moreover, the aging baby boom generation and explosion of the HIV/AIDS virus provide an ample supply of potential victims in the elderly and immunosuppressed populations.⁵¹ Similarly, there are more daycare and nursing homes today, and these concentrations of susceptible people could facilitate the spread of disease.⁵²

In planning for a possible H5N1 avian flu pandemic, the U.S. government has projected a worst-case scenario in which thirty percent of the U.S. population will become ill, millions of people will require hospitalization, and nearly two million Americans will lose their lives.⁵³ Assuming no interventions, the direct and indirect health costs

⁴⁶ EPR, at http://www.who.int/csr/disease/avian_influenza/en/ (last visited Mar. 7, 2006). Choo, *supra* note 6, at 38.

⁴⁷ Choo, *supra* note 6, at 38.

⁴⁸ *See id.* at 40. "The economic effects of a pandemic could be devastating, says Laurie Garrett, a senior fellow for global health at the Council on Foreign Relations in New York City...The airlines and travel industry would feel the hit first, predicts Garrett...She says that international trade might then dry up as frantic governments try to shut down their borders to prevent spread of the disease. Essential imported goods, such as raw materials, medicines and certain foods, would become suddenly unavailable. As the pandemic progresses... '[p]arents will stop coming in to work to stay home and take care of their children' Garrett says. 'Business will grind to a halt all over the place. What if supermarkets stop being stocked? What if you can't get milk?'" *Id.*

⁴⁹ *See* Choo, *supra* note 6, at 39. "In 2003, the world got a hint of how a localized disease outbreak could spread into a pandemic. That year, severe acute respiratory syndrome...emerged in southern China. Within days, the virus was carried by international air travelers from a hotel in Hong Kong to Singapore and Hanoi, and as far as Toronto. Within months, the disease had infected more than 8,000 people in 29 countries..." *Id.*

⁵⁰ *See, e.g., Nature's Terrorist Attack, supra* note 8.

⁵¹ Dorning, *supra* note 4.

⁵² *See, e.g., Pandemic Influenza Overview, supra* note 3.

⁵³ Table 1: Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Influenza Scenarios, HEALTH AND HUMAN

of a moderately virulent flu pandemic are expected to approach \$181 billion.⁵⁴ From these statistics alone, there are very good reasons for the H5N1 hype. Regardless of whether H5N1 develops into a pandemic flu, some virus will eventually cause a pandemic. The U.S. government must have the foresight to properly plan and prepare for it.

B. Lessons Learned From Other Health Crises and Crisis Exercises

Even though the majority of the American public has never experienced the likes of a modern pandemic, a wealth of knowledge exists in the public health crises Americans have faced in the new millennium. By objectively scrutinizing the country's response efforts to Hurricane Katrina, the 2003 Canadian SARS scare, and the 2001 anthrax attacks, in conjunction with the 2001 Smallpox tabletop exercise, the government may pinpoint weaknesses that must be immediately addressed. These lessons must instruct the federal government's preparation for a flu pandemic.

1. Hurricane Katrina 2005

The best illustration of bureaucratic inefficiencies in times of catastrophe can be found in the response efforts of the Federal Emergency Management Agency ("FEMA") after Hurricane Katrina devastated the U.S. Gulf Coast in August 2005. FEMA's emergency response was gradual at best. Problems included failed communications between local, state, and federal authorities,⁵⁵ delayed emergency response of firefighters in order to give them sexual-harassment training,⁵⁶ and supply distribution complications.⁵⁷ Aaron Broussard, Louisiana's Jefferson Parish president, commented on FEMA's incompetence, "It's not just Katrina that caused all these

SERVICES (HHS) PANDEMIC INFLUENZA PLAN, at
<http://www.hhs.gov/pandemicflu/plan/> (last visited Jan. 20, 2006).

⁵⁴ *Id.* at 16.

⁵⁵ Choo, *supra* note 6, at 39.

⁵⁶ Walter Williams, Opinion: *Disasters Expose Inefficiencies of Government*, DESERET MORNING NEWS, Jan. 25, 2006, at A12.

⁵⁷ *Transcript of Interview with Aaron Broussard*, Meet the Press, Sept. 4, 2005, at <http://www.msnbc.msn.com/id/9179790/> (last visited Feb. 15, 2006) ("We had Wal-Mart deliver three trucks of water, trailer trucks of water. FEMA turned them back. They said we didn't need them").

deaths in New Orleans here. Bureaucracy has committed murder here.
 ..⁵⁸

Wal-Mart's response efforts stood in stark contrast to FEMA's response. Prior to the storm making landfall, Wal-Mart had trailer-trucks full of water and supplies shipped to the area, while FEMA officials were just arriving.⁵⁹ In light of Wal-Mart's life-saving preparation and response efforts, some Louisiana officials remarked that Wal-Mart would have done a better job at emergency response than FEMA. Others assert that Wal-Mart was able to respond successfully in that emergency specifically because it was *not* a government agency.⁶⁰

2. SARS 2003

Severe Acute Respiratory Syndrome ("SARS") emerged in southern China in 2003.⁶¹ SARS was carried by oblivious airline passengers from Hong Kong to Singapore and Hanoi and then Toronto within days.⁶² It infected eight thousand people in twenty-nine countries within months, causing approximately eight hundred deaths.⁶³ Fortunately, SARS was not very contagious, unlike most influenza viruses.⁶⁴ Only a few people referred to as "superspreaders"⁶⁵ could transmit the disease.

When SARS surfaced in Toronto, the Canadian public health system sprung into action. The infected patients were isolated, patient contacts were quarantined, the affected hospitals turned away non-SARS-related patients, and strict contagion control was implemented region-wide.⁶⁶ But the Canadians' efforts to curb the outbreak were not

⁵⁸ *Id.*

⁵⁹ Sheldon Richman, *Hurricane Katrina: Government Versus the Private Sector*, THE FREEMAN, October 2005, available at <http://www.fee.org/pdf/the-freeman/1005Perspective.pdf> (last visited Feb. 20, 2006).

⁶⁰ *Id.*

⁶¹ Choo, *supra* note 6, at 39.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ A superspreader is a person that was able to easily spread the SARS disease to others. *Id.*

⁶⁶ Choo, *supra* note 6, at 39. See also Lawrence K. Altman, M.D., *The Doctor's World; Behind the Mask, The Fear of SARS*, N.Y. TIMES, June 24, 2003, at F1 ("Toronto imposed two types of quarantines – one that confined people to their home, the other that allowed some hospital staff members to commute in their own cars from

seamless. Canadian hospital administrators were surprised when suppliers and hospital support staff refused to provide services or deliver supplies to the hospitals because they were afraid to put their own lives in danger.⁶⁷ As with any disease outbreak, some health care providers were more willing to care for those infected with SARS than others.⁶⁸ One hospital reported that “[s]ome doctors declined to examine patients suspected of SARS.”⁶⁹ For example, “[o]ne radiologist in Toronto isolated himself in his office and interpreted x-ray films only if they were slipped under the closed door.”⁷⁰ Canadian infectious disease specialists appealed to American doctors for assistance when half of the Canadian medical staff was quarantined and others were forced to work overtime.⁷¹

One of the American doctors who traveled to Canada to provide relief, Dr. Trish M. Perl, the chief hospital epidemiologist at Johns Hopkins University in 2003, found that Canada was “generally better prepared than the United States to deal with the mental health problems of health workers in a prolonged outbreak. . . .”⁷² She was also impressed with the sharing of case information between public health officials and clinicians. After her experience, she suggested the U.S. adopt a system “in which an experienced doctor who understands the daily workings of hospitals act as the leader in communicating to the public” in the case of a pandemic.⁷³

home to work but nowhere else, including grocery stores. So the hospital had to set up a grocery store for them in its cafeteria”).

⁶⁷ Choo, *supra* note 6, at 39 (“One of the challenges in crafting effective preparedness plans is to envision as many scenarios as possible, says Steven D. Gravely, a health care practice lawyer at Troutman Sanders in Richmond, Va., . . . The key, he says, is to identify the potential surprises. . . ‘Imagine you’re a hospital being called on to surge – to rapidly expand capacity – and you need to beef up your infrastructure, but your suppliers refuse to deliver because they’re afraid of being infected,’ Gravely says. ‘In retrospect, it was kind of like a ‘duh,’ but it was surprising at the time’”).

⁶⁸ Altman, *supra* note 66 (Some doctors would move to the other side of the room when a colleague that had cared for a SARS patient was present. Some doctors “collapsed in the SARS outbreak because they were worried about becoming infected or infecting their families”).

⁶⁹ *Id.*

⁷⁰ Altman, *supra* note 66.

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

3. Anthrax 2001

Anthrax, an infectious agent, was mailed to various American politicians in the fall of 2001.⁷⁴ Twenty-two people became ill with the disease.⁷⁵ Eleven people contracted the most lethal form, inhalation anthrax, and of those eleven, five people died.⁷⁶ The remaining eleven people suffered from cutaneous anthrax, which primarily affects the skin.⁷⁷

The most important information to be gleaned from the high-profile anthrax experience is the necessity of clear and effective communication. During the anthrax attacks, the American public criticized health officials for communicating to the public in a “confusing and inadequate” manner.⁷⁸ A study conducted by the RAND Corporation to evaluate the lessons learned in the anthrax attacks was published in the American Journal of Public Health in March 2005.⁷⁹ Generally, the study’s focus groups characterized the Centers for Disease Control (“CDC”) and the District of Columbia health department as providing “very little useful information,” “an absence of information,” and “poor quality of information.”⁸⁰ The lead author of the RAND report, Janice Blanchard, said the study’s findings “underscore the need to develop better ways [to] deliver direct, consistent and accurate information to different groups during a health care emergency.”⁸¹

4. Smallpox Tabletop Exercise 2001 – *Dark Winter*

Dark Winter was a simulated terrorist attack conducted in June 2001 by the Johns Hopkins Center for Civilian Biodefense Strategies in order to explore the challenges following a hypothetical release of the smallpox

⁷⁴ Randy Dottinga, *Anthrax Attacks Left a Lingering Mistrust*, HEALTH DAY, Feb. 24, 2005.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Altman, *supra* note 66.

⁷⁹ Amy Keller, ROLL CALL, Mar. 1, 2005, available at <http://www.rand.org/news/press.05/02.22.html> (last visited Sept. 6, 2006). The study was commissioned to aid federal authorities in dealing with public health emergencies and involved focus groups with thirty-six postal workers from the affected mail-sorting facility and several Senate staffers. *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

virus into a community within the United States.⁸² Participants included twelve high-level government or military employees who portrayed members of the National Security Council (“NSC”), five news journalists who participated in mock news briefs, and approximately fifty people familiar with biological warfare.⁸³

Several worrisome trends emerged in the simulation that are likely to present in an actual pandemic flu outbreak. First, the exercise participants quickly learned it was impossible to make decisions without the data and expertise of people in the medical and public health sectors.⁸⁴ Unfortunately, few systems existed that could provide “a rapid flow of the medical and public health information needed in a public health emergency” of this magnitude.⁸⁵ Second, vaccine shortages in the simulation significantly constrained attempts to control the epidemic, as well as the ability of political leaders to reassure the American people, and led to intense public anxiety for the people who could not get vaccinated.⁸⁶ Third, the health care system was overwhelmed because it already operated near capacity and lacked the ability to “surge”⁸⁷ in order to deal with mass casualties.⁸⁸ Finally,

⁸² See Johns Hopkins Center for Civilian Biodefense et al., *Dark Winter 43* (June 22-23, 2001) [hereinafter “Dark Winter”], available at <http://www.hopkins-biodefense.org/DARK%20WINTER.pdf> (last visited Jan. 22, 2006).

⁸³ *Id.*

⁸⁴ Tara O’Toole, et al., *Shining Light on “Dark Winter,”* 34 CLINICAL INFECTIOUS DISEASES 972-983, 981 (2002), available at <http://www.journals.uchicago.edu/CID/journal/issues/v34n7/020165/020165.web.pdf?erFrom=-7079282228424833896Guest> (last visited Sept. 28, 2006).

⁸⁵ *Id.* During the exercise the Governor of Oklahoma, Frank Keating, said, “We can’t ration....Who do you choose and who do you not choose to get vaccinated?...People are going to go where the vaccine is. And if they know that you’re going to provide the vaccine to my people, they’ll stay to get vaccinated. I think they’ll run if they think the vaccine is somewhere else.” *Id.*

⁸⁶ *Id.*

⁸⁷ Surge capacity is a health care system’s ability to rapidly expand beyond normal services to meet the increased demand for qualified personnel, medical care, and public health in the event of bioterrorism or other large-scale public health emergencies or disasters. AGENCY FOR HEALTHCARE RESEARCH AND QUALITY, at <http://www.hsnet.net/ahrq/surgecapacity/> (last visited Oct. 12, 2006).

⁸⁸ O’Toole, *supra* note 84, at 982. In *Dark Winter*, “[t]he numbers of people flooding into hospitals across the country included people with common illnesses who feared they had smallpox and people who were well but worried. The challenges of distinguishing the sick from the well and rationing scarce resources, combined with shortages of health care staff, who were themselves worried about becoming infected or bringing infection home to their families, imposed a huge burden on the health care system.” *Id.*

tensions mounted between state and federal authorities in *Dark Winter* because of unclear, unsettled, or conflicting protocol and roles.⁸⁹

III. THE FEDERAL PANDEMIC INFLUENZA PLAN AND THE ILLINOIS PANDEMIC INFLUENZA PREPAREDNESS AND RESPONSE PLAN

Amid ongoing international and domestic debate regarding the H5N1 virus, the U.S. federal government finally unveiled its own pandemic flu plan in November 2005. The plan divides preparedness and response functions between federal, state, and local governments, with the bulk of the responsibility landing on the individual states. Within the federal plan, roles to be played by state and local governments are identified, but not developed, and the states are left to formulate and fund individualized plans.

While this division of labor reflects the constitutional division of governmental responsibility for public health (which places the authority for protecting the public's health with the states), most state and local public health agencies lack the people, money, and political clout to manage an epidemic. State and local leaders will quickly recognize that they have just been assigned responsibility for a huge unfunded mandate.⁹⁰

The federal plan consists of two documents, *The National Strategy for Pandemic Influenza* and the *HHS Pandemic Influenza Plan*. *The National Strategy for Pandemic Influenza* is a twelve-page overview of the government's plan, which President Bush revealed during his speech at the National Institutes for Health on November 1,

⁸⁹ *Id.* "State leaders wanted control of decisions regarding the imposition of disease-containment measures (e.g., mandatory vs. voluntary isolation and vaccination), the closure of state borders to all traffic and transportation, and when or whether to close airports. Federal officials argued that such issues were best decided on a national basis to ensure consistency and to give the President maximum control of military and public-safety assets. Leaders in states most affected by smallpox wanted immediate access to smallpox vaccine for all citizens of their states, but the federal government had to balance these requests against military and other national priorities. State leaders were opposed to federalizing the National Guard, which they were relying on to support logistical and public supply needs. A number of federal leaders argued that the National Guard should be federalized." *Id.*

⁹⁰ UPMC, *supra* note 31, at 1.

2005.⁹¹ During his speech, President Bush stressed the importance of virus detection, vaccine development, and federal, state, and local involvement in the response efforts.⁹²

Most experts expected the highly-anticipated *HHS Pandemic Influenza Plan* (“federal plan”)⁹³ to “describe the priorities, roles and responsibilities, and operational details of the actual implementation of the national strategy in states, cities, towns, and hospitals across the nation.”⁹⁴ In actuality, the lengthy plan merely advises the states of considerations and problems that might emerge in a flu pandemic, but it does not effectively engage the states by mandating standard and specific roles states must fill.⁹⁵ The federal government has reserved for itself, among other duties, primary responsibility for vaccine research, development, and capacity, as well as responsibility for managing national and international surveillance activities, and creating a national information database on the internet.⁹⁶

The University of Pittsburgh Medical Center’s Center for Biosecurity (“UPMC”) has criticized the federal plan for troubling gaps the UPMC says will hinder the plan’s effectiveness. For example, the UPMC points to the plan’s uncertain vaccine development and supply, unanswered questions about the availability and efficacy of antiviral medicines, unspecified response actions to be taken by individual states and local governments, unfunded hospital responsibilities, and “false hopes of disease containment.”⁹⁷

Then, in May 2006, the federal government published the *Implementation Plan for the National Strategy for Pandemic Influenza* (“implementation plan”) in an attempt to fill the gaps left by the existing federal plan.⁹⁸ The implementation plan identifies more than

⁹¹ *Bush Outlines Anti-Pandemic Strategy* [hereinafter “*Bush Outlines*”], THE WHITE HOUSE BULLETIN, Nov. 1, 2005.

⁹² *Id.*

⁹³ HHS plan, *supra* note 15.

⁹⁴ UPMC, *supra* note 31, at 1.

⁹⁵ *Id.* The federal government is expected to begin reviewing state readiness plans around January 2007, and the first official assessment of state readiness should be available in spring 2007. Lauran Neergaard, *State Pandemic Preparations Vary Widely*, AP News, Dec. 17, 2006, at http://news.yahoo.com/s/ap/20061217/ap_on_he_me/pandemic_readiness (last visited Dec. 17, 2006). The responses outlined by the states will be key in assisting less-prepared neighboring states copy best practices. *Id.*

⁹⁶ See HHS plan, *supra* note 15, at 23-25.

⁹⁷ See UPMC, *supra* note 31.

⁹⁸ HOMELAND SEC. COUNCIL, NATIONAL STRATEGY FOR PANDEMIC INFLUENZA IMPLEMENTATION PLAN (2006) [hereinafter “*Implementation Plan*”], available at

three hundred specific actions to be taken by the federal government, as well as timelines for their completion and “performance metrics.”⁹⁹ Nevertheless, slow vaccine creation, lack of funding, and insufficient emphasis on the health care system detract from the implementation plan’s potential effectiveness.¹⁰⁰ Notable provisions affecting the health care system include an initiative to improve the credentialing of health care volunteers “through the Emergency System for Advance Registration of Volunteer Health Professionals Plan (ESAR-VHP)” and a proposed “[twenty percent] expansion of the Medical Reserve Corp (MRC)” within the upcoming twelve months.¹⁰¹

In analyzing these and other health care-focused additions, the UPMC has stated that it would be “helpful if HHS worked to improve the overall organization of the federal government’s medical and nonmedical volunteer programs and to clarify how. . . [these] disaster-related federal programs will work together in planning for and responding to a health crisis.”¹⁰² Because many of the criticisms discussed in this Article remain unheeded by the federal government’s implementation plan, this Article remains focused on the weaknesses of the federal plan.

Locally, the Illinois Pandemic Influenza Preparedness and Response Plan (“Illinois plan”) was created by the Illinois Department of Public Health (“IDPH”) and last revised in March 2006 “to provide a framework for Federal, State and local public health and medical officials to work together to reduce the influenza-morbidity, mortality, and social disruption which would result from a pandemic influenza outbreak.”¹⁰³ At its most basic level, the Illinois plan breaks down

http://www.whitehouse.gov/homeland/nspi_implementation.pdf (last visited Sept. 2, 2006).

⁹⁹ *Comments from the Center for Biosecurity of UPMC on the National Strategy for Pandemic Influenza: Implementation Plan* [hereinafter “UPMC Comments”], 4 BIOSECURITY AND BIOTERRORISM 320-24, 320 (2006), available at <http://www.liebertonline.com/doi/pdf/10.1089/bsp.2006.4.320?cookieSet=1> (last visited Oct. 27, 2006).

¹⁰⁰ *See id.*

¹⁰¹ *See* Implementation Plan, *supra* note 98, at 117-18.

¹⁰² UPMC Comments, *supra* note 99, at 322.

¹⁰³ *See* ILL. DEP’T OF PUB. HEALTH, PANDEMIC INFLUENZA PREPAREDNESS AND RESPONSE PLAN 14 (2006) [hereinafter “IDPH plan”], available at http://www.idph.state.il.us/flu/Pandemic_Flu_Plan_3_17_06.pdf (last Feb. 20, 2006); *see also* PandemicFlu.gov, State Pandemic Plans, <http://www.pandemicflu.gov/plan/stateplans.html> (last visited Feb. 20, 2006) (This website provides links to pandemic plans that are currently available on state web sites).

responsibilities between the Governor's office, which will develop the communication strategy and exercise general oversight; the Illinois Department of Public Health ("IDPH"), which will be responsible for preparedness activities; and the Illinois Emergency Management Agency ("IEMA"), which has the task of managing the state's response and recovery efforts.¹⁰⁴ The Illinois plan also lists many support agencies as key players, including, but not limited to, the Illinois Department of Transportation, the Illinois Department of Corrections, the Illinois Department of Human Services, the Illinois Department of Military Affairs, the Illinois Department of Central Management Services, and the Illinois Office of the Attorney General.¹⁰⁵

In December 2005, Illinois Governor Rod Blagojevich was awarded more than \$13 million in federal grant money to advance the progress of Illinois' hospitals and health organizations in preparation for a pandemic or bioterrorist event.¹⁰⁶ This federal grant was conditioned upon the state's creation and maintenance of an emergency response plan for its communities.¹⁰⁷ Some of the grant's requirements included "conducting drills and exercises to test response plans and surge plans," holding POD¹⁰⁸ hospitals accountable for "developing a surge plan for their region that provides for triage, treatment and initial stabilization to care for patients affected in mass numbers. . . [and] conduct[ing] drills to test those plans," and participating "in community-based training and education sessions."¹⁰⁹ It is unfortunate that an update on the Illinois health care system's progress towards meeting these requirements is not addressed and developed within the Illinois plan.

Though different in content and scope, three themes are central to both the federal and Illinois plans: preparedness and communication; surveillance and detection; and response and containment.¹¹⁰ The following is a very brief overview of how these themes materialize in

¹⁰⁴ See *id.*

¹⁰⁵ See IDPH plan, *supra* note 103, at 23-30.

¹⁰⁶ Press Release, Ill. Dep't. of Pub. Health, Gov. Blagojevich Announces Grants for Communities to Better Prepare for a Major Emergency or Bioterrorist Attack [hereinafter "*Gov. Announces*"], available at <http://www.idph.state.il.us/public/press05/12.30.05.htm> (last visited Feb. 20, 2006).

¹⁰⁷ *Id.*

¹⁰⁸ A POD is the hospital designated to take the lead in healthcare during a disaster. Gov. Announces, *supra* note 106.

¹⁰⁹ Gov. Announces, *supra* note 106.

¹¹⁰ See *National Strategy*, *supra* note 15; IDPH plan, *supra* note 103.

both plans, including an analysis of each plan's deficiencies in light of lessons learned through other public health emergencies.

A. Preparedness and Communication

1. Federal Plan

In terms of preparedness and communication, the federal plan focuses on ramping up vaccine manufacturing capabilities and establishing communication strategies. Prior to a pandemic outbreak, the federal plan calls for the creation of a national stockpile of flu vaccine and an increase in domestic flu vaccine manufacturing capacity.¹¹¹ Additionally, the government must assess the state and local vaccine distribution plans to ensure they are easily implemented and practiced. Moreover, the government must gather the people, equipment, and facilities to monitor vaccine coverage, adverse events, and effectiveness and guarantee the availability of approved antiviral drugs.¹¹² The federal plan also delegates an extensive list of flu preparedness activities to hospitals, such as establishing "new systems for communication between hospitals and the CDC" and creating "mechanisms by which competitive hospitals can 'share' their staff."¹¹³

Once a pandemic virus strain emerges in the population, the federal government is to manufacture, test, license, and produce a vaccine effective against the specific strain.¹¹⁴ Additionally, it must coordinate allocation and administration of the vaccine to pre-defined priority groups and ensure protection for scarce vaccine dosages.¹¹⁵

Preceding a pandemic outbreak, the federal government must develop and test communication materials to provide the public with both easy-to-understand information regarding pandemic influenza and information regarding the procedures through which authorities within each community will update the public during a pandemic.¹¹⁶ At the pandemic's onset, the federal government must be ready to provide public education and information to communicate measures the public can implement to minimize risk and decrease the spread of infection. The government must also be prepared to provide honest, accurate,

¹¹¹ HHS Plan, *supra* note 15, at 24.

¹¹² *Id.*

¹¹³ UPMC, *supra* note 31, at 2.

¹¹⁴ HHS Plan, *supra* note 15, at 24.

¹¹⁵ HHS Plan, *supra* note 15, at 24.

¹¹⁶ *Id.*

understandable, and timely information and have the ability to counter confusion and panic.¹¹⁷

2. Illinois Plan

According to the current Illinois plan, the Office of the Governor will take the lead in all aspects regarding the development of a pandemic communication strategy and the IDPH will implement training exercises to ensure the strategy is effective.¹¹⁸

The Illinois plan aims to provide the needed pandemic information to the public and key partners as part of a “well-coordinated and consistent communication strategy.”¹¹⁹ This communication strategy includes creating a plan for emergency risk communication to “educate the media, public, partners and stakeholders” regarding relevant risks and appropriate responses; training and conducting drills to assess “communications capacity, needs and readiness”; and completing a plan to address the specific needs of special populations such as the disabled, mentally ill, non-English speaking, homeless, and elderly.¹²⁰

The Governor’s office will be responsible for alerting and informing the public about pandemic influenza via state and local web sites, providing educational material about self-care, prevention and psychological well-being during a pandemic, identifying and training “government spokespersons on public health crisis response and risk communication principles to effectively communicate helpful, informative messages in a timely manner during a pandemic influenza outbreak,” and developing and implementing both informational and rumor control hotlines with the capacity to handle peak call volume as recommended by the CDC.¹²¹

In terms of preparing vaccine priorities, Illinois will follow the vaccine priority group guidelines as set by the U.S. Department of Health and Human Services.¹²² A “support annex” lists the preparation activities that should be addressed by hospitals in Illinois, however, as previously mentioned, adequate funding has not yet been provided and

¹¹⁷ HHS Plan, *supra* note 15, at 25.

¹¹⁸ See generally IDPH plan, *supra* note 103.

¹¹⁹ *Id.* at 73.

¹²⁰ IDPH plan, *supra* note 103, at 73.

¹²¹ *Id.*

¹²² *Id.* at 56-57.

proposed activities are presented as suggestions rather than requirements.¹²³

3. Analysis

As the lack of leadership and confusion of authority during Hurricane Katrina response efforts has demonstrated, the federal government must name a knowledgeable person to assume control over the pandemic preparedness and response programs.¹²⁴ In her February 8, 2006 testimony before the U.S. House of Representatives Committee on Homeland Security Subcommittee on Emergency Preparedness, Science and Technology, Dr. Tara O'Toole, Director and CEO of the UPMC, reported that because "federal agencies do not now include the full range and depth of talent and experience required to develop and implement a pandemic flu plan," there is a need to assemble a sizable staff of "senior professionals and executives" who could implement the pandemic response efforts.¹²⁵

The federal plan falls short on its lofty preparedness provisions. While the federal government has claimed responsibility for creating a stockpile of vaccines and antivirals, the federal plan is silent on the construction of a specific nationalized process for the allocation or distribution of either vaccines or antivirals.¹²⁶ Moreover, the plan instructs states to devise their own distribution systems for the vaccines and antiviral medications, even though distribution systems have long been "recognized as a missing vital ingredient in state bioterrorism preparedness."¹²⁷ If FEMA's response to Hurricane Katrina is any indication of the government's distribution capabilities, America is in dire straits. As distribution was arguably FEMA's greatest limitation in its hurricane response efforts, the government simply cannot leave the creation of distribution plans for life-saving vaccines to be determined by the individual states at a later time. This weakness in the

¹²³ *Id.* at 91.

¹²⁴ See *Protecting the Homeland: Fighting Pandemic Flu From the Front Lines February 8, 2006: Hearing Before the H. Comm. On Homeland Sec.*, (Testimony of Tara O'Toole, MD, MPH) [hereinafter "O'Toole Testimony"], U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON HOMELAND SECURITY SUBCOMMITTEE ON EMERGENCY PREPAREDNESS, SCIENCE AND TECHNOLOGY, available at <http://hsc.house.gov/files/TestimonyOTOole.pdf> (last visited Feb. 20, 2006)

¹²⁵ *O'Toole Testimony*, *supra* note 124, at 7.

¹²⁶ UPMC, *supra* note 31, at 2.

¹²⁷ UPMC, *supra* note 31, at 2.

distribution process must be remedied by concrete plans standardizing a regional distribution scheme.

Furthermore, despite the federal government's suggestion that hospitals undertake preparedness activities, the money earmarked for such endeavors is grossly insufficient.¹²⁸ Until the federal government identifies ways to compensate hospitals for their efforts, the plan's critics find it "highly unlikely that any hospital will act on the [federal] Plan's recommendations."¹²⁹

At the state level, the original Illinois plan was relatively bare-boned, had sizeable gaps in its communication strategy, and left vaccine priorities to be determined after a pandemic was declared. Fortunately, the updated Illinois plan provides far greater detail regarding both the roles and procedures that will be implemented by the state to ensure optimal preparedness.

The Illinois plan delegates the creation of a communications strategy to the Office of the Governor, but the actual strategy does not yet exist.¹³⁰ Significantly, following the 2001 anthrax attacks, the victims complained about "confusing and inadequate" communication by health officials.¹³¹ This inadequacy should indicate the importance of providing "direct, consistent and accurate information" in the event of a pandemic.¹³² Similarly, throughout Hurricane Katrina there were devastating disconnects in communication between federal, state, and local authorities that led to slow and disorderly rescue efforts; the failure of some to evacuate the area; and problems with obtaining necessary supplies.¹³³ While the content of the communication strategy may not be prepared in advance, the communication structure should be developed and practiced before the stress of a public health emergency is underway. Lists of pertinent contacts could likely be generated effortlessly and thoroughly with the benefit of time. Websites could be established and advertised well in advance to assure the public it will be informed of developments. In addition, as Dr. Perl suggested after

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ IDPH plan, *supra* note 103, at 7-8.

¹³¹ Keller, *supra* note 79.

¹³² *Id.*

¹³³ See CNN.com, *Brown Says He's Been Made Katrina Scapegoat*, Feb. 10, 2006, at <http://www.cnn.com/2006/POLITICS/02/10/katrina.brown/index.html> (last visited Feb. 15, 2006). See also Jeanne Meserve, *E-mails show FEMA Infighting, Frustration*, CNN.com, at <http://www.cnn.com/2005/POLITICS/10/18/fema.memos/index.html> (last visited Feb. 20, 2006).

her experience assisting the Canadian public health system during the SARS outbreak, states should assign “an experienced doctor who understands the daily workings of hospitals” to lead the public communication efforts in communities.¹³⁴ Not only should this provide the public with comfort due to familiarity, but it would also enhance the credibility of information dispensed.

On a positive note, Illinois has a fully functional vaccine distribution plan that was established and tested as part of the IDPH’s Y2K contingency plans.¹³⁵ This plan accounts for distribution, inventory, security, excess storage space, “cold chain” maintenance, and controlling vaccine losses through expiration dates, among other important concerns.¹³⁶

B. Surveillance and Detection

1. Federal Plan

Duties retained by the federal government with regard to surveillance activities include increasing international surveillance, collaborating with the World Health Organization (“WHO”) to track worldwide outbreaks, developing containment activities, obtaining samples of virus to be used in vaccine production, implementing control measures (e.g., quarantines and isolation of cases) at points-of-entry to the U.S., conducting studies on adverse vaccine reactions, and implementing public health measures to limit the spread of infection.¹³⁷

2. Illinois Plan

In Illinois, the IDPH will be responsible for activating sentinel surveillance doctors to observe and alert the CDC regarding whether the virus has spread throughout Illinois.¹³⁸ The IDPH is to coordinate ongoing studies with the local health departments and the CDC regarding hospital case load, efficacy of the vaccination, unusual pathologic features linked to fatalities, and the success of containment

¹³⁴ See Altman, *supra* note 66.

¹³⁵ Vaccine Delivery/Antiviral Usage Annex, IDPH Pandemic Influenza Preparedness and Response Plan, (Revised 2004 version) (on file with author).

¹³⁶ *Id.*

¹³⁷ See HHS plan, *supra* note 14, at 23-25 (The full text of federal responsibilities under the HHS’s plan can be found in Table 2: Key Pandemic Response Elements and Key Capabilities for their Effective Implementation).

¹³⁸ IDPH plan, *supra* note 103, at 43.

measures, among other things.¹³⁹ Regarding surveillance, the Illinois plan states:

Public Health Surveillance is the on-going systematic collection, analysis, interpretation, and dissemination of health data essential to the planning, implementation, and evaluation of public health practice. . . Syndrome surveillance is an investigational approach to surveillance typically using electronic databases, which may assist in both early identification of an outbreak, and defining the size and scope of a recognized health event. . . The Illinois National Electronic Disease Surveillance System (INEDSS) is part of a national electronic disease reporting system that not only links health providers and state and local public health agencies within Illinois, but also provides data to the U.S. Centers for Disease Control and Prevention.¹⁴⁰

The INEDSS system will eventually be fully implemented in Illinois for “hospitals, doctors and other health care providers to electronically report infectious diseases to the state and local health departments.”¹⁴¹ The IDPH will develop the reporting of relevant data to monitor “influenza and its complications. . . according to guidance from the CDC.”¹⁴²

3. Analysis

The federal government has been criticized for failing to adequately finance key elements of its surveillance and containment efforts, such as surveillance and containment in Asia.¹⁴³ Additionally, the federal plan implies that a flu pandemic could be stopped in Asia if the virus is detected speedily.¹⁴⁴ This is already impossible because H5N1 avian flu is currently endemic in Asian poultry and the virus has already spread to Africa and Europe.¹⁴⁵ Thus, presenting these suggestions

¹³⁹ IDPH plan, *supra* note 103, at 44.

¹⁴⁰ *Id.* at 52.

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ UPMC, *supra* note 31, at 1.

¹⁴⁴ HHS plan, *supra* note 15, at 17.

¹⁴⁵ Bradsher, *supra* note 37.

may “create false expectations” about the federal government’s proposed disease surveillance and containment measures.¹⁴⁶

For its part, like most states, the Illinois plan relies on sentinel doctors throughout the state to determine when the virus has emerged in Illinois. Only about twenty-five percent of the states, however, anticipate or currently utilize “real-time syndromic surveillance of influenzalike illness (ILI) in persons seeking care at clinics or hospital emergency departments to detect the onset of pandemic influenza.”¹⁴⁷ Illinois is one of the states anticipating syndromic surveillance.¹⁴⁸ The implementation of a syndromic surveillance system within Illinois will facilitate the flow of disease-related data within Illinois and nationwide and is central to effective surveillance and detection of pandemic flu. Other states should follow suit to ensure the rapid detection of pandemic flu.

C. Response and Containment

1. Federal Plan

As part of the federal government’s response and containment efforts, the federal plan instructs the federal government to ensure that equipment and supplies maintained by the Strategic National Stockpile and state stockpiles are sufficient to enhance hospital surge capacity. The federal government must also make available accurate rapid diagnostic methods to detect and characterize flu viruses and develop workforce resiliency programs.¹⁴⁹ After a pandemic is declared, the federal government must oversee the distribution of stockpiled ventilators and medical supplies to hospitals and agencies, deploy federal Medical Stations to provide health care surge capacity as needed, assist communities with surge mortuary services to accommodate a large number of expected fatalities, and provide psychosocial support to responders.¹⁵⁰

¹⁴⁶ UPMC, *supra* note 31, at 3.

¹⁴⁷ Scott D. Holmberg et. al., *State Plans for Containment of Pandemic Influenza*, 12 EMERGING INFECTIOUS DISEASES 1414-1417, 1415 (2006).

¹⁴⁸ IDPH plan, *supra* note 103, at 52.

¹⁴⁹ HHS plan, *supra* note 15, at 25.

¹⁵⁰ HHS plan, *supra* note 15, at 25.

2. Illinois Plan

Vaccine remains the primary response mechanism for preventing influenza-related illness and fatalities.¹⁵¹ Once the vaccine becomes available, the IDPH must ensure that manpower and logistics are in place to activate the vaccine and drug distribution.¹⁵² The plan states that vaccine will be administered to persons in priority groups, in accordance with existing recommendations as listed in the HHS Pandemic Influenza Plan.¹⁵³ During a pandemic, the precise composition of the priority groups may change in order to preserve societal functions.¹⁵⁴ Furthermore, the plan instructs that priority groups should be re-evaluated during the pandemic as “information is obtained regarding the epidemiology of the virus and vaccine effectiveness.”¹⁵⁵ Later in the pandemic, the full at-risk population will be vaccinated.¹⁵⁶

In terms of communication during the response period, the Governor’s Office will filter information from all state agencies, conduct media briefings, make experts (e.g., the Director of Public Health, the IDPH Infectious Diseases physician, the IDPH State Epidemiologist, etc.) available to the media, and “oversee the issuance of news releases.”¹⁵⁷ IEMA staff will ensure the news releases are shared with the other state organizations and agencies and with the county and local health departments.¹⁵⁸ The state will also distribute “timely, accurate, and consistent information to local health departments and health care providers on treatment and care of patients, vaccine prioritization and use, use of antiviral medications, infection control practices, isolation and quarantine procedures, clinical and laboratory diagnostics, travel control authority, [and] stigmatization management,” as well as information regarding “legal issues related to the pandemic.”¹⁵⁹

In the event that a pandemic results in mass casualties, the Illinois plan outlines IEMA’s responsibilities in implementing the

¹⁵¹ IDPH plan, *supra* note 103, at 54.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 74.

¹⁵⁸ *Id.*

¹⁵⁹ IDPH plan, *supra* note 103, at 74.

existing mass fatality plan for the collection, identification, storage, and disposal of dead bodies.¹⁶⁰

Recovery efforts will primarily be coordinated by IEMA and will involve helping “individuals, communities, and commercial enterprises return to pre-pandemic conditions as quickly and painlessly as possible. State and federal statutes govern many aspects of the recovery phase.”¹⁶¹

3. Analysis

The federal plan’s response and containment initiatives may be best evaluated by examining what is absent from the plan. The federal plan does not specify that the federal government will “coordinate or intervene in the delivery of medical services during a pandemic.”¹⁶² The access-to-care problems and inefficiencies that already beleaguer the American health care system will create unique challenges during a pandemic, at a time when the demand for medical services will far exceed the supply.¹⁶³ The federal government has delegated this problem “to the private sector and to any governors or mayors brave enough to tackle these immense and entrenched problems.”¹⁶⁴ In addition, there is no mention in the federal plan of the intent to financially support the hospitals providing care to the millions of ill people, even though the federal government’s planning assumptions state unequivocally that millions of Americans will seek care. This is an unfortunate oversight as hospitals will have no way to finance their battles against a pandemic once their elective treatments, or income sources, are eliminated.

In terms of local response, because “current HHS Guidance is not clear regarding purchasing, stockpiling, and distribution expectations for the public and private sectors,” the development of definitive state response plans is hindered.¹⁶⁵ As the quantities of vaccine and antiviral medication that will be allotted to Illinois remain uncertain, it may therefore be prudent for Illinois to add antiviral assets to the Illinois Strategic Stockpile, which the plan does suggest.¹⁶⁶

¹⁶⁰ *Id.* at 78-85.

¹⁶¹ *Id.* at 8.

¹⁶² UPMC, *supra* note 31, at 2.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ IDPH plan, *supra* note 103, at 54.

¹⁶⁶ *Id.* at 55.

From a communication standpoint, Illinois' plan to coordinate the release of information to "health care providers, contiguous states, volunteer agencies providing disaster relief, the federal government, and affected local governments" will be essential in order to gain the public's confidence.¹⁶⁷ This plan, however, must provide specific guidance and must be tested and practiced prior to a pandemic to ensure that it is effective.

Unfortunately, like most states, the Illinois plan does not devote coverage to early containment responses that emphasize practical "personal avoidance steps," such as working from home and keeping sick children from going to school.¹⁶⁸ In this computer-based society, working from home may provide an easily-implemented and effective form of social distancing to prevent the spread of the flu.¹⁶⁹ The Illinois plan also fails to encourage other straightforward containment recommendations, "such as avoiding mass gatherings; shopping on off hours; and household and workplace strategies such as frequent hand washing, avoiding handshaking, and keeping towels separate."¹⁷⁰ Instead, the Illinois plan encourages the evaluation of those options after the pandemic's arrival.

IV. THE FORGOTTEN FRONT LINE: CRITICAL CONCERNS FOR AMERICA'S HEALTH CARE SYSTEM

The one seemingly forgotten aspect of both federal and state influenza pandemic preparedness plans may be the most important feature: the health care system. The 1918 influenza pandemic killed between thirty and fifty million victims worldwide without any interventions.¹⁷¹ Scientists and physicians at the time were not aware they were looking for a virus.¹⁷² Today, scientists know which viruses they are handling and have the ability to create vaccines and antiviral medications that

¹⁶⁷ *Id.* at 74.

¹⁶⁸ Holmberg, *supra* note 147, at 1416.

¹⁶⁹ See Holmberg, *supra* note 147, at 1416 (suggesting working from home to prevent spread of flu).

¹⁷⁰ *Id.* at 1417.

¹⁷¹ Grady, *supra* note 18.

¹⁷² See Crosby, *supra* note 2 ("Science knew next to nothing about viruses at this time. The optical microscopes they had couldn't show you a virus, virus is much too small for them. Nobody would ever see virus until the electron microscope came along and that was decades after that. These poor scientists were looking for a needle in a haystack, when they didn't know it was a needle they were looking for and the needle was too small for them to see. No wonder they didn't find it").

may lessen the pandemic's impact. Governments have begun to create and implement preparedness plans for viral attacks. Why, in a country with pandemic preparedness plans and advanced medical knowledge, is the health care system still so unprepared?

Public health officials and practitioners alike believe that America's main line of defense against pandemics, the health care system, is incredibly vulnerable. In her February 8, 2006 testimony, Dr. O'Toole urged Congress that much remains to be done as "hospitals are among the most fragile components of mass casualty response."¹⁷³ In support of this contention, Dr. O'Toole elaborated by saying that "hospitals have little money of their own to spend on stockpiling supplies or planning for catastrophes."¹⁷⁴ O'Toole also noted that "[t]he US health care sector is highly fragmented, competitive and largely private,"¹⁷⁵ and that "[o]ne third of US hospitals [already] do not meet operating costs."¹⁷⁶

In the worst case scenario, following the declaration of a pandemic, no vaccine will be ready for the first seven to eight months. Furthermore, the nation's entire supply of ventilators will be in use¹⁷⁷ and emergency rooms will overflow with gravely ill patients. These limitations have not been remedied by either the federal or the Illinois plan. Ironically, none of the state pandemic plans that exist nationwide discuss helping health care providers make the tough ethical decisions

¹⁷³ *O'Toole Testimony*, *supra* note 124, at 3.

¹⁷⁴ *Id.* "Hospitals do not have the funds to pay for pandemic preparedness planning or to purchase stockpiles of equipment or train staff. Federal funds for hospital preparedness began only in FY 2002 and have remained at low levels. The federal appropriation for FY 2006 was only enough to cover the salary of a single nurse at each of the country's approximately 5000 hospitals for one year." *Id.* at 3.

¹⁷⁵ *Id.* at 4.

¹⁷⁶ *Id.* at 3. "Among non-profit hospitals which are in the black, operating margins average only 3%. In a pandemic, hospitals would be forced to close clinics, cancel surgery and defer most money making services to care for the volume of flu victims. Many hospitals may be forced to close down due to lack of staff and/or lack of revenue." *Id.*

¹⁷⁷ Michael T. Osterholm, *Preparing for the Next Pandemic*, FOREIGN AFFAIRS, July/Aug. 2005, available at <http://www.foreignaffairs.org/20050701faessay84402-p30/michael-t-osterholm/preparing-for-the-next-pandemic.html> (last visited Feb. 26, 2006). "Aside from medication, many countries would not have the ability to meet the surge in the demand for health-care supplies and services that are normally taken for granted. In the United States, for example, there are 105,000 mechanical ventilators, 75,000 to 80,000 of which are in use at any given time for everyday medical care. During a routine influenza season, the number of ventilators being used shoots up to 100,000. In an influenza pandemic, the United States may need as many as several hundred thousand additional ventilators." *Id.*

that will confront everyone in a pandemic, such as “should an elderly patient be taken off the ventilator to provide a ventilator to a fifteen-year-old child in respiratory distress?” and “is it more of a priority to provide vaccines to children or adults?”¹⁷⁸ An effective preparedness plan requires Congress to “appropriate sufficient funds, on an ongoing basis, to allow hospitals to execute specific, clearly identified and measurable preparedness activities.”¹⁷⁹ Accordingly, four aspects of the health care system must be examined by the federal and state governments, local health departments, and hospitals with an eye toward improvement: supplementing the health care workforce on short notice, increasing and monitoring medical supply levels, securing funding for health care initiatives, and generating public awareness of impending ethical decisions.

A. Supplementing Workforce Plans

One thing is certain, in the event of a pandemic, hospitals will be filled to capacity and unable to treat all who seek care; what is less clear is why the federal and state governments have not made increasing hospitals' surge capacity a priority. Predictions published by the CDC suggest that “a 'medium-level' pandemic [without drugs or vaccines] could cause. . . 314,000 to 734,000 hospitalizations [and result in] 18 to 24 million outpatient visits. . .”¹⁸⁰ The U.S. Census Bureau reports that approximately 7,500 hospitals nationwide employ nearly 5.1 million people; the current supply of medical staff is hardly sufficient to provide for the projected hospitalizations and outpatient visits.¹⁸¹

¹⁷⁸ Helen Branswell, *Public Debate Needed on Pandemic Ethics*, CNEWS Canada, Nov. 27, 2005, at <http://cnews.canoe.ca/CNEWS/Canada/2005/11/27/1326646-cp.html> (last visited Feb. 26, 2006).

¹⁷⁹ *O'Toole Testimony*, *supra* note 124, at 8. “[Congress] should charge HHS with responsibility for designing processes, possibly in collaboration with the Joint Commission on Accreditation of Health Care Organizations, for ensuring that these activities are implemented and adequate.” *Id.*

¹⁸⁰ Centers for Disease Control, *Pandemic Flu: Key Facts*, Jan. 17, 2006, <http://www.cdc.gov/flu/pandemic/keyfacts.htm> (last visited Feb. 17, 2006).

¹⁸¹ Press Release, U.S. Census Bureau, *Facts For Features*, April 29, 2005, available at http://www.census.gov/Press-Release/www/releases/archives/facts_for_features_special_editions/004491.html (last visited Feb. 17, 2006). See also Donald G. McNeil, Jr., *States and Cities Lag in Bird Flu Readiness* [hereinafter “*States Lag*”], N.Y. Times.com, Feb. 6, 2006, at <http://www.nytimes.com/2006/02/06/politics/06flu.html?ex=1141016400&en=2c79aeebed2c0c32&ei=5070> (last visited Feb. 23, 2006) (“Dr. Roger P. Baxter, head of flu preparedness for Kaiser Permanente, said his Northern California hospital network

Additionally, as the first responders, the health care workforce will be the most vulnerable population in the event of a flu pandemic. Those infected with the H5N1 virus, or the flu in general, are contagious before they even know it.¹⁸² Thus, patients will arrive at the hospital with symptoms of a bad cold, pneumonia, or seasonal influenza, and, without a prior vaccination, health care workers will be exposed. Health care workers will also lead the vaccination campaigns, again putting themselves at risk of exposure. Furthermore, throughout the pandemic, health care workers will be highly susceptible to illness due to their constant and close exposure to the mass amounts of ill patients.

The unfortunate reality of these hypothetical scenarios is that among the sick will be some of the country's medical staff. Hospitals will have to contend with a staff that is ill, dead, or too scared to come into work for fear of putting themselves or their families at risk.¹⁸³ The staff that does show up for work will soon become overworked and exhausted and might not be allowed to return to their families in order to contain the disease.

Four actions should be implemented by health departments nationwide to protect and supplement this workforce. First, state licensing boards should mandate provisions to ensure that physicians and support staff may be credentialed at various hospitals in a region prior to an emergency, and licensing boards should also determine how to temporarily extend licenses to retirees.¹⁸⁴ Supplemental plans may include enlisting the help of retired physicians or nurses, volunteers, or non-credentialed health care workers from another state.¹⁸⁵ To rally support in communities and engage the public in supplementing the health care workforce, state and local governments should educate the public about the seriousness of a pandemic emergency and the need for the public's participation in response efforts.¹⁸⁶

Second, local health departments must work alongside hospitals in their regions to create databases of health care workers and support

was 'probably better off than 90 percent of the health systems out there, and we have no surge capacity. We're a business, and we operate on a thin margin,' Dr. Baxter said. 'We don't have extra ventilators. Even in normal flu seasons,' he added, 'we tend to divert patients to other hospitals. There's no way we can realistically plan for this''').

¹⁸² CDC, *supra* note 12.

¹⁸³ Osterholm, *supra* note 177. O'Toole Testimony, *supra* note 124, at 3.

¹⁸⁴ O'Toole Testimony, *supra* note 124, at 5.

¹⁸⁵ *Id.*

¹⁸⁶ *See id.* at 8.

staff so that they may be quickly accessed during a public health emergency. Hospitals must be able to quickly identify and contact physicians and support staff to coordinate an effective response effort.¹⁸⁷ Aside from New York City, Minneapolis, and Seattle, these plans do not generally exist.¹⁸⁸ Illinois Governor Blagojevich signed a bill into law in July 2005 that requires the IDPH to create a database containing contact information for “all licensed medical professionals in the state,” as well as “all active-status health care professionals who could be contacted to volunteer their medical skills during emergencies.”¹⁸⁹ Generally, however, public health agencies have not undertaken this endeavor due to the lack of funding and lack of “legal power to direct, manage or coordinate hospitals in crisis.”¹⁹⁰ Still, there is an “urgent need to create regional databases of health care workers that would allow rapid identification of and contact with professionals” of specified credentials and skills.¹⁹¹

Third, states must ensure that health care workers have adequate liability protection wherever they might need to practice.¹⁹² While the standard of care will likely decrease in the event of a pandemic, physicians will make tough decisions and people will die. In today’s litigious society, it is more than likely there will be lawsuits in the pandemic’s aftermath.

Finally, hospitals must consider in advance how to keep the staff separate from the sick, which may involve instituting a quarantine of the staff and preventing staff from returning to their families or venturing outside. For example, when SARS appeared in Toronto, health care workers were merely able to travel from their respective homes to the hospital and back.¹⁹³ Hospitals even set up grocery stores in their cafeterias so health care workers could purchase their food without interacting with the public.¹⁹⁴

B. Stockpiling Medical Supplies

In the event of a pandemic, experts agree the demand for supplies will greatly outpace production, which may come to a grinding halt all over

¹⁸⁷ *O’Toole Testimony*, *supra* note 124, at 5.

¹⁸⁸ *Id.*

¹⁸⁹ *Gov. Announces*, *supra* note 106.

¹⁹⁰ *O’Toole Testimony*, *supra* note 124, at 5.

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ Altman, *supra* note 66.

¹⁹⁴ *Id.*

the world and result in a deadly shortage of necessary supplies. As noted by Dr. Osterholm,

Today we have a just-in-time delivery system for masks, syringes, for IV bags [and] the two manufacturers of N95 masks in this country are operating on 100% capacity. They have no surge capacity. We will run out quickly of all these things. And at that time, we'll be dealing with the equivalent of a 1918 health care system.¹⁹⁵

An article in the Wall Street Journal stated the above premise eloquently, "The very rules of capitalism that make the U.S. an ultra-efficient marketplace also make it exceptionally vulnerable in a pandemic."¹⁹⁶ This just-in-time mentality is fundamentally at odds with the necessary mentality for preparedness: stockpile, stockpile, stockpile.¹⁹⁷ Examples of critical supply shortages abound from the Canadian SARS experience. The Canadian health system was surprised by their suppliers' refusal to deliver medical supplies to hospitals dealing with SARS patients for fear of contracting the illness.¹⁹⁸ Canadian nursing unions were outraged when vital N95 masks were diverted to Asian countries that were hardest hit by SARS, which forced Canadian nurses to use less effective masks and recycle used masks from earlier shifts.¹⁹⁹ In response to this inevitability, hospitals must review their supplier contracts to be sure they will be enforceable in a medical emergency and stockpile the necessary supplies in advance. As states may depend on hospitals to provide ancillary supplies, such as syringes or gauze, in the event of a mass vaccination effort, plans must consider additional financing to ensure

¹⁹⁵ Anita Manning, *States Must Create Flu Plans: Pandemic Readiness is All Local*, USA TODAY, Feb. 2, 2006, at 8D, available at http://www.usatoday.com/news/health/2006-02-01-flu-meeting_x.htm (last visited Oct. 27, 2006).

¹⁹⁶ Bernard Wysocki Jr. and Sarah Lueck, *Just-In-Time Inventories Make U.S. Vulnerable in a Pandemic*, WALL ST. J., Jan. 12, 2006, at A1, available at <http://www.post-gazette.com/pg/06012/636982.stm> (last visited Feb. 24, 2006) ("Near-empty warehouses are a sign of strong inventory management. Production of drugs takes place offshore because that's cheaper. The federal government doesn't intervene as a guaranteed buyer of flu drugs, as it does with weapons. Investors and tax rules conspire to eliminate redundancy and reserves. Antitrust rules prevent private companies from collaborating to speed development of new drugs").

¹⁹⁷ See *id.*

¹⁹⁸ Choo, *supra* note 6, at 39.

¹⁹⁹ Wysocki and Lueck, *supra* note 196.

hospitals have sufficient quantities of the necessary supplies to effectuate these plans.

C. Securing Federal Funding

The lack of funding for hospital response efforts is of heightened consequence during a pandemic emergency because hospitals' traditional sources of income will be non-existent or quickly depleted. While the federal government has earmarked billions of dollars for vaccine and drug research, it has only allotted \$350 million to local health departments.²⁰⁰ After the \$350 million is divided among the five thousand existing health departments, each will only receive approximately \$70,000, an astonishingly low amount of funding.²⁰¹ A concerned citizen has pointed out that in communities with a population greater than seventy thousand, a one dollar donation from each resident would equal or surpass what the government has provided in funding the local health care systems.²⁰²

Several forces will ultimately coalesce to exacerbate the funding crunch during a pandemic, including excess demand for care, cancellation of elective surgeries, and the requirements of the Emergency Medical Treatment and Active Labor Act ("EMTALA"). EMTALA is a federal statute that was enacted to prevent "patient dumping" and requires that hospitals provide a medical screening for any patient who comes to the emergency room with an emergency condition.²⁰³ If a patient comes to a hospital with an emergency medical condition, and an H5N1 infection would qualify as an emergency medical condition, the hospital must stabilize that patient without consideration of whether the patient has the means to pay for the services.²⁰⁴ As a result, the hordes of infected people that could potentially show up on the hospitals' respective doorsteps will need to be treated. In actuality there is no way to ensure that every patient seeking care in a pandemic emergency will get it, and the EMTALA requirements may need to be relaxed in the event of a pandemic.

²⁰⁰ *States Lag, supra* note 181.

²⁰¹ *Id.*

²⁰² Creative Funding For Local Flu Pandemic Preparedness - Part 2, Pandemic Plan Blogspot, Feb. 6, 2006, at http://reports.typepad.com/pandemic_plan/2006/02/creative_fundin_1.html (last visited Oct. 27, 2006).

²⁰³ Emergency Medical Treatment and Active Labor Act, 42 U.S.C.A. § 1395dd (2003).

²⁰⁴ *Id.*

The excess demand for care is an obvious effect of a pandemic, but the cancellation of elective surgeries is just as imminent.²⁰⁵ Hospitals will likely delay elective surgeries, as was the case during the Canadian response to SARS, in order to limit exposure to the virus. Elective surgery is a typical profit center at any hospital, and when that source is severed, hospitals will suffer greatly. Even so, a third of all hospitals in Illinois are already losing money on overall operations, and some of these hospitals currently operate on deficits.²⁰⁶ The cancellation of elective surgeries in addition to the care required by EMTALA may push hospitals nationwide over the financial edge in minimal time.

With meager federal funding, no steady source of income, and the responsibility of financing the care of the masses, hospitals truly have a challenging and unenviable role in the response efforts. To close these gaps, Congress must appropriate adequate funds to enable hospitals to meet the responsibilities that have been delegated to them.²⁰⁷

Another act that Congress should contemplate is the possibility of enforcing “eminent domain” over private hospitals in a public health crisis.²⁰⁸ This would allow the government to take control of privately-owned hospitals to ensure that hospitals stay afloat and provide non-discriminatory care during the financial turmoil that may exist.

²⁰⁵ See Nancy Shute, *SARS Hits Home*, USNews.com, May 5, 2003, at <http://www.usnews.com/usnews/health/articles/030505/5sars.htm> (last visited Feb. 26, 2006) (discussing how SARS required hospitals to cancel elective surgeries such as heart surgery). See also Mary Ann Childers, *Cost High To Ready Hospitals For Flu Pandemic*, CBS Broadcasting, Nov. 1, 2005, available at http://cbs2chicago.com/topstories/local_story_305173040.html (last visited Feb. 26, 2006) (Dr. Dino Rumoro, an emergency medicine expert at Rush University Medical Center says that one of the keys to containment may be to cancel elective surgery).

²⁰⁶ Press Release, Ill. Hosp. Ass’n, *Hospital Leaders Urge General Assembly to Reject Damaging Proposals on Charity Care and Billing* (Feb. 7, 2006), available at <http://www.ihatoday.org/issues/payment/charity/pressconfrelease.pdf> (last visited Feb. 26, 2006).

²⁰⁷ *O’Toole Testimony*, *supra* note 124, at 8.

²⁰⁸ *Id.*

D. Generating Public Awareness of Ethical Decisions

A substantial oversight afflicting the existing preparedness plans is the failure to address the issue of helping health care workers make ethical life and death decisions that the general public will find acceptable. The public must be informed that the medical sector will be making medical judgments concerning the rationing of medical care, supplies, and equipment. It will be difficult for the public to access the health care system, and hospitals may refuse to perform elective surgeries in this environment. A Canadian article discussing pandemic preparedness emphasizes that “[health care workers] shudder at the thought of having to decide what to do when they've run out of life-saving mechanical ventilators and a gravely ill 15-year-old comes through the emergency department door. . . [d]o they take the oldest person on a ventilator in the hospital off it?”²⁰⁹

Several experts maintain this very decision could indeed become a common occurrence if H5N1 turns into a pandemic.²¹⁰ Dr. Allison McGeer, head of infection control at Toronto's Mount Sinai Hospital, has said it is hard to have these discussions without frightening people.²¹¹ Yet the responsibility remains to have these deliberations regarding what will be ethically acceptable before the crowded emergency rooms become a reality. Dr. Peter Singer, Director of the University of Toronto's Joint Centre for Bioethics, maintains, “the ethical issues are . . . going to be the glue that holds a society together when it's struggling through a very, very tough time. . .”²¹²

Some experts have also suggested that “ad hoc prioritization” of vaccines and antivirals will create dissent, unrest, and disruption among the American public.²¹³ While a genuine consensus of the American public regarding ventilator, vaccine, or antiviral rationing may be impossible due to extreme variations in political, religious, and moral beliefs, there can be no harm in starting the discussion and building

²⁰⁹ Branswell, *supra* note 178.

²¹⁰ *Id.* See also *The Oprah Winfrey Show: Bird Flu: The Untold Story* (Harpo Studios television broadcast Jan. 24, 2006) (Dr. Michael T. Osterholm was the guest and discussed how older, irreversibly ill people may be removed from the limited ventilators to care for younger people suffering from H5N1 infections).

²¹¹ Branswell, *supra* note 178.

²¹² *Id.*

²¹³ Osterholm, *supra* note 177. For example, to prevent the unrest, Canadian public health officials intend to present Canadian prioritization plans to the public in order to generate debate and hopefully arrive at a mutually acceptable arrangement before a pandemic. *Id.* See also Branswell, *supra* note 178.

awareness of pandemic realities. Local health departments can initiate committees comprised of state officials, medical staff members, and city council members, or the general public. The more the public is included in these conversations, the less opposition critical decision-makers will face when it comes time to make the tough ethical calls. Canadian health care workers that are currently practicing this community involvement agree,

[these] discussions. . .won't make the news any less devastating at the individual level if, during a pandemic, a doctor informs a person his mother can't be put on a ventilator because someone else needs it more. . . 'But people [might] recognize that some of those really tough choices that we will be faced with are perhaps unfortunate, but not unfair.'²¹⁴

Furthermore, the standard of care will likely be significantly less exacting during a pandemic; now is the time to determine and specify the standard of care owed by physicians and medical staff in this situation. As shown in the Canadian SARS outbreak, some health care workers will not show up for work and others will flatly refuse to see patients infected with H5N1, an understandable and human response. The government and licensing boards must discuss and plan for these outcomes. Besides guaranteeing that health care workers will receive the first rounds of priority vaccinations, the government should, at the very least, offer incentives such as disability insurance, bonuses, and death benefits to encourage health care workers to participate in response efforts. But it would be wise for the licensing boards also to evaluate the possibility of enacting license restrictions after a pandemic for those who refuse to serve in the response efforts. This may stimulate and encourage a robust workforce in an emergency situation.

V. CONCLUSION

While the world has had ample opportunity to prepare for a pandemic, many obvious gaps in American preparedness exist and the most important ones plague the health care system. The federal and Illinois pandemic preparedness plans were well-intended documents that may be greatly improved by an increased specificity and standardization. In

²¹⁴ Branswell, *supra* note 178.

order to improve the federal plan, the federal government must clearly identify and delegate which actions must be completed by state and local governments, hospitals, and public health departments. The Illinois plan would benefit from additional direction regarding practical containment and social distancing practices. In addition, Congress must appropriate sufficient funds to support the preparedness efforts on all levels. While the health care system may currently be America's weakest link, it must become the nation's strongest asset. Federal and state actions, such as creating supplemental workforce plans, stockpiling medical supplies, securing federal funding, and generating public awareness, may mean the difference between a functioning health care system and one that is dead on a pandemic's arrival.