

What the 1918 flu pandemic teaches us

Yesterday's lessons inform today's preparedness

By John M. Barry

The 1918 influenza pandemic killed more people in 26 weeks than the AIDS epidemic has killed in 26 years. According to Nobel laureate F. Macfarlane Burnett who studied the pandemic, the worldwide death toll was between 50 and 100 million people. If those 1918 figures were adjusted for today's global population, the numbers would be 175 to 325 million. But this was not the only lethal flu pandemic suffered by mankind. In all, 31 have been documented.¹

While, in some cases, we cannot prove that flu was the cause of the decimation of a population, it is likely that the influenza virus was the culprit in many outbreaks as far back as we can look in history. In 1699, what was likely an influenza pandemic reached the American colonies. In Virginia, one report claimed that "the people died ... as in a plague." Cotton Mather of Massachusetts wrote that "every kind of person was afflicted with a sickness, few escaped, and ... some dyed in a strange or unusual manner."² Three pandemics occurred in the 19th century. One of these is thought to have originated in China in 1889, spread through Russia to Europe, then North America and Japan. From North America, it spread to Latin America and Asia. Approximately 1 million people were known to have died as a result.¹

During the period that the 1918 influenza ran its course in this country, the outlook was particularly bleak. The first cases of the Spanish flu were discovered among soldiers returning from World War I barracked at Camp Devens outside of Boston. In a letter to a friend, a physician there described the symptoms among the soldiers as what appeared to be the gripe or influenza: "They very rapidly develop the most vicious type of pneumonia that has ever been seen. Soon you see the cyanosis extending from their ears and spreading all over the face." The soldiers would then die within a matter of hours. At Camp Devens, 100 deaths a day were not unknown. Special trains carried away the dead; and, at times, there would be no coffins in which to place the remains.²

Are we ready?

We often read or hear the phrase, "not *if*, but *when*," because we are poised on the brink of another flu pandemic, based on information we derive from experts. Birds are the repositories for influenza, so it is no surprise within the healthcare community that we face a so-called "avian flu." The surprise to us all might be the ramifications of a flu pandemic. While many readers of this publication might recall the 1957 and 1968 flu pandemics, neither of these came close to mimicking the consequences of what was called the "Spanish flu."

This first collision between modern science and epidemic disease in 1918 and the related pressures put on American society as a whole makes the story all too relevant for today's threats of bioterrorism and emerging pathogens. For us to be prepared for a

flu pandemic is still a possibility; however, it is essential to focus on several points that were overlooked in the 1918 pandemic — a model of what *not* to do.

Being a resident of New Orleans, the immediate and long-term results of a real catastrophe have become well known to me over the past year. Evacuation routes, vaccine stockpiles, stored canned goods and water, and other types of emergency planning apply to natural or man-made crises for which we typically hope to be prepared. In a fast-moving, lethal flu pandemic, however, there are other considerations, major among them a couple of issues about which we should be cognizant. The folks who suffered through the 1918 flu pandemic were not.

The 1918 virus and today's vulnerabilities

In 1918, evidence suggests a whole virus came from birds and mutated its way straight into humans to create this most lethal of all recorded pandemics and the most violent in terms of symptoms. There is no doubt that the H5N1 virus is mutating. The bird flu has not become easily transmissible from human to human. If it were to begin to replicate itself in a form that could spread more quickly among human beings, the projected statistics about disease casualties are staggering.

A most disturbing and unusual feature about the deaths during the 1918 pandemic was that the majority came from secondary bacterial infections. The toll was greatest among healthy young adults, most of whom died from acute respiratory disease syndrome. Today, the death rate from a flu pandemic would be higher not only because of population growth but also because scores of people with weakened immune systems from cancer treatment, HIV/AIDS, and organ transplants likely would not survive.

Aside from the medical vulnerabilities of our population, a flu pandemic would also have a stronger impact today because of our "just-in-time" method of running businesses. For example, only 40 years ago, 20% of food items sold were perishable; today, that figure is 48%. Supply-chain interruptions — inevitable even in a mild 1968-like pandemic — would wreak havoc, and few, if any, industries have any "surge capacity." Certainly, healthcare does not. Hospitals run the same way: syringes, gloves, gowns, medications, clean sheets, uniforms, and bandages — all are delivered "as needed."

Our penchant for just-in-time operations would have a crippling effect on all institutions, but particularly upon those charged with taking care of large patient populations suffering from influenza. We are so accustomed to having everything we need at our fingertips that the interruption of our national delivery systems would interfere considerably with day-to-day living. Only a hint of what could occur was evident when Hurricane Katrina inter-

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rupted the flow of gas in some parts of the country, when oil rigs had to be evacuated, and when the ports in the Gulf Coast were closed to shipping. This scenario can be applied to almost any American business, and the potential problems are apparent.

Another related vulnerability to consider with respect to a potential flu pandemic is employee absenteeism from the institutions necessary to provide goods and services. If there is no one to deliver foodstuffs to the local grocery, to deliver medicines to the pharmacy, to dispense medications, to pick up trash, to drive the busses or subways, to pilot airplanes, to care for children and the elderly — the list is endless — then the entire population will have difficulty obtaining the means by which to function at even the most basic levels. During Katrina, Rita, and several other massive storms of recent memory, other parts of our nation were not damaged and could provide the support and the goods necessary. In a flu pandemic, there would be no such provision. Preparedness for a pandemic takes on new meaning in comparison with other types of disasters.

The 1918 media and today's mindset

In 1918, the information being given to the American public was strictly controlled. Today's Patriot Act pales in comparison to President Woodrow Wilson's tight grip through newly enacted laws that made it illegal and punishable by up to 20 years in jail to "utter, print, write, or publish any disloyal, profane, scurrilous, or abusive language about the government of the United States." Furthermore, the truth about how the government was handling the 1918 influenza pandemic was highly censored. Almost universally, public officials told half-truths, gave false reassurance, and often lied — and the media volunteered its complicity out of patriotism.

Newspapers printed statements from the country's surgeon-general: "There is no cause for alarm if precautions are observed." A national health officer told the Associated Press, "The so-called Spanish influenza is nothing more or less than old-fashioned gripe." A public-health commissioner in Chicago said, "It is our duty to keep the people from fear. Worry kills more people than the epidemic." That line — fear kills more people than the disease — became a mantra in 1918.

In Philadelphia, the public-health commissioner closed all public places (e.g., theaters, churches, schools, restaurants, saloons); one newspaper insisted that the order was "not a public-health measure" and reiterated "there is no cause for panic or alarm." At the same time in that city, priests were traveling in horse-drawn wagons to cart away dead bodies wrapped in sack cloth because there were no coffins. The 1918 flu pandemic killed 675,000 Americans at a time when the population of the United States was 100 million. (There are no statistics on how many people were worried to death.)

American citizens in 1918 watched people die daily by the hundreds, so that the credibility of governmental authority rapidly disintegrated. People had no one to turn to or trust and, ultimately, society began to disintegrate. Fear destroyed relationships among people. Those well enough and strong enough to volunteer did not come forward, despite repeated calls for help. Victor Vaughan, head of communicable diseases for the Army and, before the war, dean of the University of Michigan Medical School said at the time, "In a few more weeks, civilization could easily disappear from the face of the earth."

Red Cross workers in rural Kentucky at the time reported that people with the flu were starving to death because well persons were panic-stricken and would not go near them. "A fear and panic akin to the Middle Ages and the plague" had set in, according to their accounts. In North Carolina, one man recalled that people were afraid to breathe: "The fear was so great, people were actually afraid to leave their homes."

The terror among Americans about the 1918 influenza was a direct result not of the disease itself but the result of the way in which authorities and the media systematically destroyed trust. The same is true today. It is absolutely crucial for government officials and news outlets to retain credibility in the face of any disaster, natural or man-made. Falsely reassuring people who are depending on the truth to make decisions and formulate plans is the worst possible thing the government and/or the media can do. Authorities and media must *tell* the truth, not *manage* it. And in terms of international transparency, the truth is absolutely necessary if we are to have any chance to contain the virus during the initial outbreak.

Lessons from 1918 impact today's solutions

Our world is changing. Globalization brings us together in new ways and for new reasons. No matter how much we might like to isolate ourselves from the menace of infectious diseases, the horror of terrorist activities, or the ongoing threat of natural disasters, there are not too many places we can hide. Confronting the realities that are inherent in our modern world and understanding the consequences of those realities should become part and parcel of our preparedness principles. As we acknowledge and choose to study "what went wrong" in often frightful circumstances — like the 1918 flu pandemic — we can learn lessons that will guide us to finding and implementing appropriate solutions for specific types of emergencies.

From the 1918 flu pandemic, we learn, among other things, that knowing the truth is essential to our survival and that mistrust can destroy the fabric of our society, that in a pandemic there may not be caretakers available to meet our basic needs, and that preparation for a global flu pandemic differs in many ways from preparation for local natural or man-made disasters. Even these simple lessons can aid us in finding ways to prepare our families and our workplaces before H5N1, or a flu-bug like it, decides to take a sharp turn and mutate all out of proportion. □

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