



Soldiers suffering from influenza at the hospital in Camp Funston, Kan., in 1918. Troops from the camp carried the virus to other Army bases during World War I. (New York National Guard/National Archives)

U.S. in ‘Worse Shape’ to Face Flu Pandemic Than 15 Years Ago, Warns Steven Hatfill

June 21, 2019 Bridget Johnson

The United States is “in worse shape than we were 15 years ago” in the ability to respond — particularly at the critical community level — to a potential pandemic that could be foreshadowed by a pattern of new influenza strain outbreaks, biodefense expert Steven Hatfill warned.

Hatfill, a onetime biodefense researcher at Fort Detrick, was wrongly accused of sending the 2001 anthrax letters and subsequently received a multimillion-dollar settlement from the U.S. government and official public exoneration from the Justice Department. He is currently an adjunct assistant professor in the Department of Microbiology, Immunology, and Tropical Medicine at George Washington University.

In a presentation Tuesday at the Biodefense World Summit in Bethesda, Md., Hatfill emphasized that rapid detection of emerging outbreaks is useless without an effective rapid-response plan — and in terms of the pandemic influenza threat, “we’re stuttering.” A “consequence management” approach, he said, will tell emergency managers what rapid diagnostic tools are necessary.

He explained that “when you have the flu, it’s not just one flu,” and no matter what vaccine is generated the virus strains are subject to seasonal and genetic changes. “These viruses undergo a lot of viral trafficking in nature,” he added.

There are 18 different subtypes of hemagglutinin and 11 subtypes of neuraminidase proteins on the surface of the flu virus, accounting for combinations such as the H1N1 flu pandemic that killed as many as 100 million people worldwide, the H5N1 strain that for the first known time infected humans in 1997, and the H7N9 strain that emerged in humans in 2013 but has already surpassed total H5N1 cases and in China has a 50 percent mortality rate. While a lethal outbreak hit Kansas in March 1918, an even greater pandemic wave hit globally in September as the virus mutated.

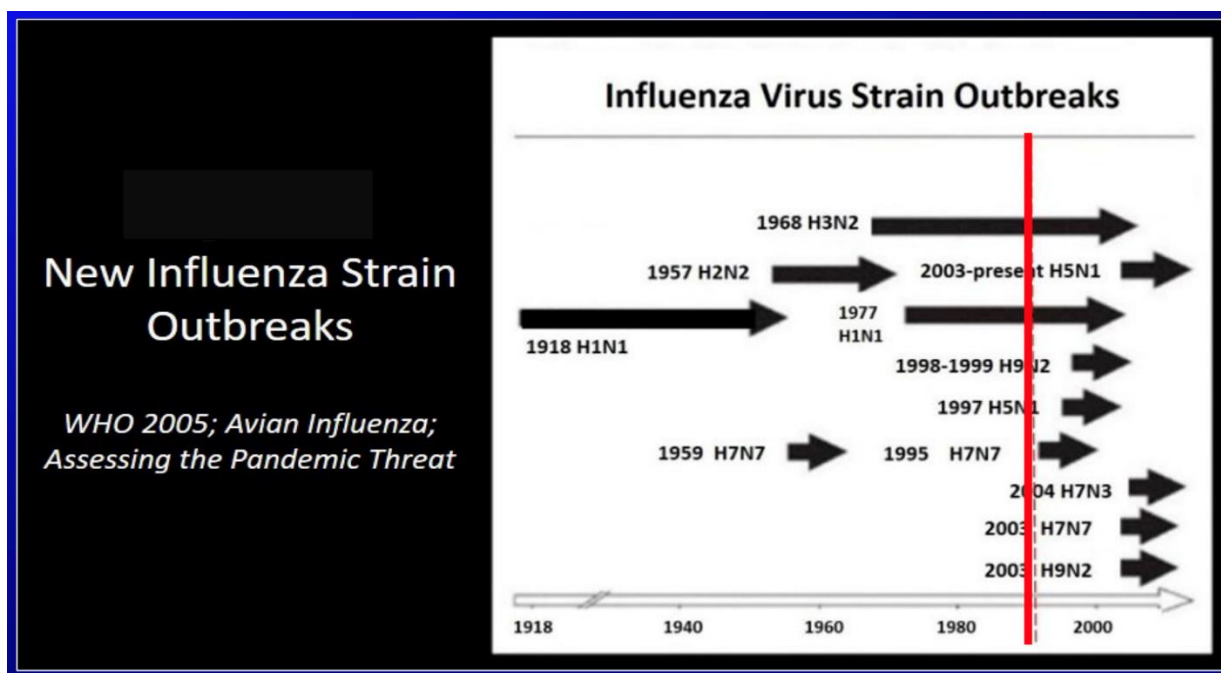
Hatfill noted that, while H7 avian flu and the H1N1 strain that emerged in 2009 have an affinity for infecting people through virus contact with their eyes, it’s not mentioned in national pandemic planning.

The influenza virus is spread when a carrier — infected people can shed the virus 24 hours before showing any symptoms — coughs and infected droplets are inhaled or come into contact with the eyes. A person can also acquire the virus from touching an infected surface and then touching his or her face, or through infected bird droppings or nasal secretions. Once microdroplets carrying the virus are released, they can remain suspended in the air for hours with low humidity offering protection to the virus.

If a person has the flu, 23 to 59 percent of the objects in his or her home will be contaminated with the influenza virus, which lasts up to two days on nonporous surfaces and up to 12 hours on porous surfaces — the H5N1 strain can last up to six days on some surfaces. The H1N1 strain can survive on paper money for 10 days and the H3N2 virus can last on bills for 17 days; Hatfill noted that little research is being conducted on paper treatments, such as colloidal silver, that might keep currency from being contaminated.

Another situation that sets up “viral trafficking” can be seen in China, where polyculture mixes species such as waterfowl and fish, chickens and pigs in close quarters. “You have this constant circulation going on of any strains coming from the waterfowl or migratory birds,” Hatfill said.

Hatfill called “alarming” the emergence of micro-outbreaks of new influenza strains in recent years, and the predicted debut of new pathogenic viruses in the coming years.



(STEVEN HATFILL)

The death toll from the 1918 flu made it one of the worst three pandemics in history, joining the 6th Century Justinian Plague and the Medieval Black Death. If the 1918 flu pandemic struck the world today with the same strain and mortality rate, it could kill up to 380 million people worldwide. Today, though, there is more urbanization with prime conditions to spread illness in high-density cities — many without the means to properly prepare or respond to an outbreak.

“Influenza is going to strike low-resource areas first and the hardest, and these are the areas that are going to transmit it to the rest of society,” Hatfill said.

The [National Strategy for Pandemic Influenza](#), released in 2005 and most recently updated by Health and Human Services in 2017, warned that “the next pandemic is likely to come in waves, each lasting months, and pass through communities of all size across the nation and world,” and “while a pandemic will not damage power lines, banks or computer networks, it will ultimately threaten all critical infrastructure by removing essential personnel from the workplace for weeks or months.”

The pillars of the strategy are preparedness and communication, surveillance and detection, and response and containment. The [2017 update](#) added the domains of surveillance, epidemiology, and laboratory activities; community mitigation measures; medical countermeasures; diagnostic devices, vaccines, therapeutics, and respiratory devices; healthcare system preparedness and response activities; communications and public outreach; scientific infrastructure and preparedness; and domestic and international response policy, incident management, and global partnerships and capacity building.

“For all these entities, budgetary, legal, and other administrative actions pose opportunities and operational challenges. Identifying and addressing such practices as staffing, contracting, procurement, and statutory authorities that can be used during an emergency are critical to efficient and effective response activities even when funding is limited,” said the update.

The Strategic National Stockpile, managed by the Centers for Disease Control and Prevention, can deliver emergency supplies to a requesting state within 12 hours. But with three months to produce a new influenza vaccine, initial doses will be rationed to those needed to ensure continuity of government and critical services as well as the military, first responders, and high-risk populations with pregnant women, infants and toddlers getting first priority. That means about 123 million Americans ages 19-64 may not receive any vaccine through the peak of the pandemic; in the 1918 pandemic, the most fatalities were seen among those ages 14 to 50 years old.

“They may be reduced to the same non-pharmaceutical interventions as 1918” — stay home, wash your hands, cover coughs and sneezes, clean surfaces, etc., Hatfill noted.

Faced with consequences such as hospital beds past capacity with a flu surge, and the reality that quick diagnostics will be of greatest use at the community level, Hatfill said local communities bear the brunt of pandemic preparedness but as of now are notably unprepared — “they’ve had a couple of tabletop meetings and that’s it.”

A flu pandemic would “simultaneously affect communities all over the U.S.,” possibly interrupting supply chains, he said. Communities need to get one step ahead by establishing neighborhood emergency help centers that could pop up in the event of a pandemic, run rapid diagnostics (ideally with emerging breathalyzer technology, enabled with Bluetooth to quickly share data), and triage confirmed cases to home care — with detailed instructions for families — or a treatment center, where hospitals could also take stable patients. The separating of the infected from the well must be rapid, he stressed, because waiting rooms are essentially incubators for the virus. Community outreach teams could make home visits, test and educate families about home care; portable technology would be essential.

“Something’s going on in the world, and it’s not good,” Hatfill said of the new influenza strain micro-outbreaks. “We’re not prepared. I’ve spent five years going over this stuff... we’re in worse shape than we were 15 years ago.”

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Bridget Johnson is the Managing Editor for Homeland Security Today. A veteran journalist whose news articles and analyses have run in dozens of news outlets across the globe, Bridget first came to Washington to be online editor and a foreign policy writer at The Hill. Previously she was an editorial board member at the Rocky Mountain News and syndicated nation/world news columnist at the Los Angeles Daily News. Bridget is a senior fellow specializing in terrorism analysis at the Haym Salomon Center. She is a Senior Risk Analyst for Gate 15, a private investigator and a security consultant. She is an NPR on-air contributor and has contributed to USA Today, The Wall Street Journal, New York Observer, National Review Online, Politico, New York Daily News, The Jerusalem Post, The Hill, Washington Times, RealClearWorld and more, and has myriad television and radio credits including Al-Jazeera and SiriusXM.