Ebola is no Spanish Flu

By William C. Kashatus

The recent death of Thomas Eric Duncan, the 42-year-old who traveled to Dallas from disease-ravaged Liberia while infected with the Ebola virus, along with the confirmed infection of two of Duncan's nurses, has created widespread concern that an epidemic is imminent in the United States.

It is a valid concern. The worst Ebola outbreak in history is now sweeping through West Africa, with a fatality rate of 70 percent, according to the World Health Organization. Roughly 9,000 people have been sickened by the disease, and 4,500 of them have died, as of Friday. Still, the possibility of an epidemic is unlikely, if history is a guide.

Medical science in general, and virology in particular, have made great strides since the Great Influenza Epidemic of 1918, better known as the "Spanish flu" — the last and worst recorded influenza epidemic in the world. It claimed the lives of between 50 million and 100 million people in a population of 1.8 billion. In large U.S. cities, more than 10,000 deaths a week were attributed to the virus.

Initially, hundreds of troops returning from the World War I battlefront were bringing the flu back home. By September 1918, the disease had spread to the civilian population and moved swiftly across the country. Morgues were overwhelmed, the supply of caskets quickly depleted. Public activities were canceled. Spitting on the street was made a crime. So many youngsters died that average life expectancy was reduced by 10 years.

The global medical community learned much from the Spanish flu, and it continues to act on those lessons today — actions that are likely to prevent a similar epidemic involving Ebola.

World War I era scientists and medical researchers were unable to pinpoint the origins of the Spanish flu, which might have been in China, India, France, Britain or, as many believed, Spain. Without knowing the origins of the virus, it was difficult to conduct any meaningful surveillance to reduce its spread. That is certainly not the case now.

The World Health Organization, established in 1948 by the United Nations, was created for the specific purpose of monitoring disease outbreaks and providing worldwide epidemiological and statistical information in order to identify potential health crises.

The WHO first discovered the Ebola virus in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, the organization has monitored sporadic outbreaks, including the current outbreak in West Africa.

In addition, U.S. pharmaceutical companies are contracted to create an updated bank of seed-stock for vaccines every time a new strain of an influenza-like virus, including Ebola, is discovered. University of Maryland physicians are now helping to conduct the first human trials of an Ebola vaccine in Mali.

World War I era scientists and medical researchers also did not have the depth or breadth of knowledge of virology that exists today. They did not understand the epidemiology of influenza, or how it behaved or spread. Nor did they understand the precise course of the disease in the human body or the protocol to treat it. Without this knowledge, scientists were unable to develop a vaccine or a cure.

That is not the case today. Today's epidemiologists are familiar with the Ebola virus due to two well-documented outbreaks, one in 1995 in Zaire, and another in Uganda in 2000. Medical researchers know, for example, that Ebola has a lower reproductive rate than the Spanish flu, producing 1.3 to 1.8 secondary cases on average. Thus, while Ebola has a high fatality rate when contracted, it is low in terms of transmission.

Researchers also know that the disease has an incubation period of 21 days and that about two weeks elapse between the first Ebola case and the generation of secondary cases. This allows sufficient time to identify the sick and to protect most people who might come in contact with them.

To be sure, those infected with Ebola are contagious, but they are only able to transmit the virus when they are showing symptoms. If 50 percent of the infectious contacts can be prevented by quarantine, an epidemic can be avoided. To this end, U.S. hospitals are now training their staffs on an effective protocol.

While there is no way to predict whether the current Ebola virus will mutate into an epidemic, it's clear that medical science is better prepared to prevent such an event than ever before.

William Kashatus is a historian and writer living in Pennsylvania. His email is bill@historylive.net.

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