

# THE VIRUS II

## Make Me a Virus

A flu pandemic is a global outbreak that occurs when a new influenza A virus strain, to which people have little or no immunity, causes serious human illness and spreads easily from person to person. Most experts believe another outbreak will occur, but it is impossible to predict which strain will emerge as the next pandemic strain, when it will occur or how severe it will be. Ever since the disastrous influenza pandemic of 1918, epidemiologists, geneticists, microbiologists and others have pondered ways to combat another global disaster.

The 1918 pandemic killed an estimated 20-50 million people worldwide, including 675,000 in the United States. The disease's most striking feature was its unusually high death rate among otherwise healthy people aged 15-29. During normal seasonal flu outbreaks, severe complications and death are most common among the elderly and young children.

Scientists at the Centers for Disease Control and Prevention (CDC), have successfully reconstructed the influenza virus strain responsible for the 1918 pandemic, a project that greatly advances preparedness efforts for the next one. It will help unlock the mystery of the 1918 pandemic, and is critically important to efforts to prepare for any influenza outbreaks "by indentifying the characteristics that made the 1918 influenza virus so harmful, we have information that will help us develop new vaccines and treatment."<sup>1</sup>

In reconstructing the 1918 influenza virus, researchers learned which genes are responsible for making the virus so harmful. This is an important advance for preparedness efforts because knowing which genes are responsible for causing severe illnesses helps scientists develop new drugs and vaccines, focusing their research on those genes.

This discovery can go far toward the goals of prevention and cure of all viral diseases. Let us hope that this important event and subsequent research can complete the journey.

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