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1918 influenza pandemic definition biology

Federal Health Sustainability Task Force Alternative Care (ACS) Toolkit: Third edition of the Federal Health Sustainability Task Force Alternative Care (ACS) Toolkit: Third edition of THE TOPIC TO EMAIL ALERTS We have not been able to process your request. Please try again later. If you continue to have this problem, please contact customerservice@slackinc.com. Studies have shown that the influenza pandemic is more common in spring or summer than at the height of seasonal influenza. But is there a way to predict exactly when the next one will happen? Infectious Disease News asked Peter Palese, Ph.D., professor and chair of the Department of Microbiology at the Icahn School of Medicine at Mount Sinai in New York, if the world should. Peter Palese influenza pandemics are caused by new influenza viruses that cause epidemics worldwide with high incidence and mortality. The most dramatic influenza pandemic in history occurred in 1918-1919. It is estimated that up to 100 million people have died worldwide, and the United States probably has 750,000 deaths in a population of 100 million people. This led to an 11-year drop in life expectancy at the time. Over the past 100 years, we have had three more pandemics: in 1957, caused by the H2N2 virus; 1968, caused by the H3N2 virus; and in 2009, caused by the new H1N1 virus (pH1N1). Viruses derived from the 1918 virus have been circulating for 39 years, viruses belonging to the H2N2 species have been prevalent for 11 years and H3N2 viruses have been with us for 51 years. Over the past 10 years, we have had pH1N1 viruses circulating together with H3N2 viruses. It is difficult to discern the pattern of influenza pandemics when we have pandemic viruses that occur after 11 or 39 years and H3N2 viruses that have been circulating in the human population for more than 51 years. These new pandemic viruses are believed to be the result of a re-spread of genes/RNA from the human influenza virus using the minichromosomes/RNA of the animal influenza virus. Since there is no noticeable pattern for the emergence of strains of pandemic influenza virus, the old saying is that it is difficult to make predictions, especially about the future. On the other hand, since new pandemic strains arise from the mixing of genetic information between human and animal strains, and now we have many more people and many more commercial chickens and pigs that are breeding grounds for influenza viruses, such an event requiring close contact between humans and animals is more likely than just 100 years ago. From everything we know about influenza viruses, we still don't understand what is important for human-to-human transmission and what makes the flu virus very virulent to humans. Thus, the best hope for a successful fight against a new pandemic virus is the best the biology of the virus and improved vaccines and antiviral drugs. It is very likely that new pandemic influenza viruses will emerge, but we do not have a good model for predicting such an event and assessing the severity of the next pandemic. Disclosure: Palese reports on the co-authors of patents covering the development of universal influenza virus vaccines that have been filed by the Icahn School of Medicine. PAGE BREAK studies have shown that the influenza pandemic is more common in spring or summer than in the height of seasonal influenza. But is there a way to predict exactly when the next one will happen? Infectious Disease News asked Ames A. Adalja, MD, a senior fellow at the Johns Hopkins Center for Health Safety, if the world should. Ames A. Adalja World is late with the flu pandemic. Influenza is an infectious disease that has been recognized since the days of Hippocrates and has caused perpetual seasonal outbreaks that occur at such a regular frequency that it was thought to be influenced by stars. Influenza pandemics have been declared a new strain of influenza A, resulting in the re-spread of other influenza A viruses, usually in avian species. In recent history, influenza pandemics occurred in 1918, 1957, 1968 and 2009 (although many pandemics have occurred before but have not been well documented). Of these, the 1918 pandemic was a civilizational global biological disaster, possibly killing 100 million people and killing only one third of the world's population. The conditions of 2019 are very different from the conditions of 1918. The development of antibiotics, antiviral drugs, vaccines and complex care interventions in critical condition are important factors that can mitigate the impact of the pandemic virus. These advances, however, probably outweigh the impact of reduced travel time - the virus currently travels at jet speed rather than boats - as well as the growth of megacities and the proliferation of large avian and pig and market sites of various combinations of hemagglutinin and neuraminidase proteins that characterize influenza A viruses, all circulating naturally in avian form. These churning viral proteins provide a constant stream of new combinations that can occur in humans at any time. Of the pandemic virus candidates, H7N9 is the most visible. The avian virus, which has caused more than 1,500 human infections in China since 2013, is now in the seventh wave of human infections. The mortality rate from this virus is approximately 40% in hospitalized patients, but has not yet been able to withstand human-to-human transmission. However, it has now developed alarming mutations that are harbingers of human tropism, antiviral resistance and evasion of vaccination. Flu the epitome of a pandemic pathogen, and Hydra-like nature will continually generate new variants that represent a global catastrophic biological risk - and challenge - to the human species. Until an effective universal influenza vaccine is developed, which generally protects against all strains of the virus, influenza will remain a clear and present looming pandemic threat, and they deserve increased vigilance. Disclosure: Adalja does not report relevant financial statements. PAGE BREAK studies have shown that the influenza pandemic is more common in spring or summer than in the height of seasonal influenza. But is there a way to predict exactly when the next one will happen? Infectious Disease News asked Arnold S. Monto, MD, professor of epidemiology and global public health at the University of Michigan School of Public Health, if the world should. Arnold S. Monto Every summer, over the past few years, human cases of swine flu variant have been recognized, especially in the Midwest. Given the history of the 2009 pandemic, which dates back as swine flu reassortant when these viruses were first detected, there was concern that this could represent a new version of pandemic potential. However, it soon became known that the infection of these viruses was acquired as a result of such interaction between humans and pigs, which occurs in state and county fairs. It has become clear that, although these viruses tend to cause milder illness in those directly infected with pigs at fairs, there is limited evidence of further human-to-human spread; in other words, there was no sustained transmission. With the approach of the summer season, it is likely that these events of the transfer will happen again and will be recognized. At the same time, with the awareness, there is an opportunity to reduce the kind of pig-human interaction, which makes transmission more likely. Monitoring these events is still necessary, although it is highly unlikely that these viruses will acquire the ability to spread easily from person to person, with the flu virus, sometimes surprises occur. Reducing transmission from pig to human will make this possibility even less likely. Disclosure: Monto does not report the relevant financial statements. ADD TOPIC TO EMAIL ALERTS We were unable to process your request. Please try again later. If you continue to have this problem, please contact customerservice@slackinc.com. Influenza remains a serious threat to global health. New strains of pandemic potential continue to emerge, making global preparedness fundamental to protect the health and well-being of Americans and the world economy. To save lives as a result of the next pandemic, The U.S. (USG) is committed to preparedness and response efforts, including the development of new medical countermeasures - vaccines, medicines and diagnostics - and the introduction of implementation procedures, trainings, exercises and plans. What the Pandemic Group does to manage pandemics and emerging threats within the Framework of the Office of Global Affairs leads HHS to global diplomatic and political engagement to prevent, detect and respond to pandemic influenza. We coordinate with the White House National Security Council, the State Department and other federal agencies and agencies, nongovernmental organizations and global partners, including the World Health Organization (WHO), on political and technical issues. We provide leadership and technical and political analysis support for: Key achievements of the Office of Pandemics and Emerging Threats include: Convening six influenza stakeholder workshops between 2010 and 2013, attended by health ministers, finance ministers, manufacturers, regulators and NGOs to address key elements of influenza vaccine production, including economic analysis, communication strategies, business modelling, regulatory capacity, man-holding, and technology transfer. Develop a checklist in collaboration with WHO for policy makers and manufacturers to address gaps and opportunities for sustainable production of influenza vaccines in areas such as policy, surveillance, product development and production, product approval and regulation, and communication to support vaccination programmes. Support for the development of the WHO Interim Guide to Pandemic Influenza Risk Management. The African Vaccine Manufacturers Initiative (AVMI), which promotes sustainable vaccine production capacity in Africa by mobilizing resources and developing skills capacity, and promoting the development of a productive network of developing countries (DCVMN) that ensures a consistent and sustainable supply of quality and affordable vaccines for developing countries. Provide guidance on the logistical implementation of the U.S. donation of the H1N1 pandemic influenza vaccine to WHO in collaboration with HHS Assistant Secretary for Preparedness and Response, Vaccine Manufacturers, International Transportation Companies, the U.S. Agency for International Development and the State Department. Support from the National Security Council and the White House to develop policy options for providing WHO with a pandemic H1N1 vaccine and funding in response to H7N9's sudden call for WHO support. Content created by the Office of Global Affairs (OGA) Content was last reviewed on July 13, 2016.