

SEASONAL INFLUENZA: PROTECT YOUR PATIENTS BY PROTECTING YOURSELF

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We are now in the midst of the first pandemic of the 21st century. Influenza has been prominent in the news since reports of novel swine-origin influenza A virus (S-OIV)

H1N1 infections in Mexico emerged in March 2009. In April 2009, the first cases in the United States were reported. Since then, human infections have been documented in all 50 states and many other countries around the world. On June 11, 2009, Dr Margaret Chan, director of the World Health Organization, declared, "The world is now at the start of the 2009 influenza pandemic."¹

Because humans have limited experience with this new H1N1 influenza virus, it is difficult to predict what course the spread of disease will take or the magnitude of its impact. The new strain could follow the path of the novel H1N1 "Hong Kong" influenza A viral pandemic, which was relatively mild.² Alternatively, the new strain could follow a pattern similar

to the 1918-1919 H1N1 "Spanish flu" pandemic, when 3 waves of deadly influenza caused approximately 50 million deaths worldwide.³

No one can accurately predict what will occur during the remainder of the current influenza pandemic. However, the pattern and effects of seasonal influenza are more predictable. Seasonal influenza appears annually in the fall and winter. It is a major source of mortality, morbidity, and cost. In an average year in the United States, seasonal influenza leads to 36 000 deaths and more than 200 000 hospitalizations. People with cardiovascular, pulmonary, and endocrine diseases are at higher risk for complications from influenza, so the problem is particularly relevant for critically ill patients. Importantly, there are specific measures that we can take to reduce the effects of seasonal influenza for our patients and ourselves. Vaccination is the strongest weapon in the influenza prevention arsenal.

Vaccination Reduces Seasonal Influenza Burden

Although it is not clear when a vaccine for the new pandemic influenza will be available, seasonal

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influenza vaccine is available every fall. The magnitude of seasonal influenza can be reduced through annual vaccinations. Seasonal influenza vaccine is formulated for each influenza season based on predictions of the most likely strains of seasonal influenza viruses. The seasonal vaccine generally becomes available in September or October, and vaccinations can begin then. Vaccination is indicated as long as seasonal influenza is circulating; the influenza season usually lasts until April or May in the northern hemisphere. The vaccine is effective, reducing a healthy adult's risk of contracting influenza by 70% to 90% in years when the vaccine is well matched to the seasonal influenza strains. Even in years when the match of vaccine to the circulating viruses is not perfect, the vaccine generally offers some cross protection that reduces severity of disease.

Vaccination against seasonal influenza lags far behind optimal vaccination rates. For example, only about one-third of people who have a high-risk medical condition receive influenza vaccinations each fall. Conversely, at least two-thirds of the patients in a typical intensive care unit (ICU) will not have received influenza vaccination and will be susceptible to infection. If critically ill patients contract influenza, it can worsen existing diseases and cause additional complications. In part, low vaccination rates are due to providers missing opportunities to offer vaccination.

One opportunity to vaccinate persons at risk for influenza complications is during a hospitalization. The Centers for Disease Control and Prevention (CDC) recommends, “Unvaccinated persons of all ages (including children) with high-risk conditions and persons aged 6 months - 8 years or >50 years who are hospitalized at any time during the period when vaccine is available should be offered

and strongly encouraged to receive influenza vaccine before they are discharged.”⁴ Consider vaccination before hospital discharge as part of discharge planning for all patients leaving the ICU during influenza season. There is no reason to withhold immunization based on general concerns about patients being unable to respond to vaccination at the end of their hospitalization. In fact, immunosuppression (including that caused by medications or HIV disease) is a strong indication for vaccination, and even patients on steroids⁵ and patients undergoing cancer chemotherapy⁶ are able to make protective responses to influenza vaccine.

Vaccination Is Important for Health Care Providers

Because health care providers who are infected with seasonal influenza can transmit the virus to their patients, health care providers are a target group for vaccination. The CDC is very clear in its recommendation: “All health care professionals, as well as those in training for health care professions, should be vaccinated annually against influenza.”⁴ Vaccination of health care providers is important because it offers protection to our patients who are vulnerable and at highest risk for complications from influenza. Health care providers can transmit seasonal influenza to their patients for up to 1 day before becoming symptomatic; thus, planning to stay home when you are sick does not eliminate the risk of exposing others to the influenza virus.

Unfortunately, fewer than half of health care providers are vaccinated in any influenza season. Although compliance with the recommendation that all health care providers receive vaccine each year has increased slowly, there is much room for improvement. In the most recently available data from the 2007 National Health Interview Survey, influenza vaccination coverage of health care providers increased to the highest rates ever reported—to a less than impressive 45%!⁷

Vaccination of health care providers is so important that many entities, including several states and the Infectious Disease Society of America, recommend mandatory vaccination for all health care providers unless there are clear medical or religious contraindications. The Joint Commission issued a new infection control standard (Standard IC.4.15)

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effective January 1, 2007, that requires accredited organizations to offer influenza vaccinations on-site to staff. Elements of performance for this standard also require staff education regarding influenza control, tracking of staff immunization rates, and efforts to increase participation in influenza vaccination. The Joint Commission instituted a “Flu Vaccination Challenge” during the 2008-2009 influenza season to promote increased rates of influenza vaccination.⁸

Benefits for Health Care Providers

Several studies have examined the dynamics of why health care providers choose or decline influenza vaccination for themselves as well as the effectiveness of strategies to increase vaccination rates. In an interesting analysis of 25 studies on the reasons hospital based providers accept or decline vaccination, Hollmeyer and colleagues⁹ concluded that those who choose to be vaccinated “do so primarily for their own benefit and not for the benefit to their patients.” It is important to point out the considerable personal benefits seasonal influenza vaccination might have for health care workers.

Those who have received vaccination are less likely to become ill and less likely to have severe illness or die if they contract influenza despite vaccination. Influenza patients should stay home from work for 7 days after symptoms begin, or for 24 hours after symptoms completely resolve if the illness lasts longer than 7 days. Extended absences of health care providers who contract influenza will have an impact on those individuals as well as on the functioning of the units where they work. Seasonal influenza vaccination has been linked to less time lost from work, which can positively impact income and job performance. Adequate staffing in critical care units is more likely and more predictable if fewer staff have unexpected illness.

Get Vaccinated!

This year’s influenza season is likely to be complicated by the unfolding of the new H1N1 pandemic. Doing our best to reduce the impact of seasonal influenza will enable us to concentrate our attention and resources on the less predictable pandemic influenza. Whereas other infection control practices

can contribute to containing influenza, the first and most powerful preventive strategy for seasonal influenza is vaccination.

The 2009-2010 seasonal influenza vaccine will be available at about the same time you receive this issue of the *American Journal of Critical Care*. It will be offered on-site in health care workplaces accredited by the Joint Commission. The vaccine can reduce transmission to vulnerable patients in critical care. It could also benefit you personally. Heed the CDC vaccine campaign message: “Don’t get the flu. Don’t spread the flu. Get vaccinated.”

The statements and opinions contained in this editorial are solely those of the coeditors.

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FINANCIAL DISCLOSURES

None reported.

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