Health Officer Issues Order to Vaccinate Health Care Personnel Against Influenza

To lower the risk of transmission of influenza to patients in licensed acute care hospitals, skilled nursing facilities, and intermediate care facilities in Los Angeles County, Jonathan E. Fielding, MD, MPH, Los Angeles County Health Officer and Public Health Director, issued a Health Officer Order in October, mandating that health care personnel (HCP) who work in these facilities receive an annual influenza vaccination during the annual influenza season. Those who decline to be vaccinated must wear a mask when they are in contact with patients during the influenza season, which is defined as November 1 through March 31. This applies to all HCP in these facilities, including paid and unpaid employees, contractors, students, and volunteers who have direct patient contact or work in patient care areas. All physicians who provide care within any of these facilities are covered by the order. Settings that deliver outpatient care within these facilities are also covered. Freestanding acute psychiatric hospitals are not covered but are encouraged to strongly recommend that their HCP be vaccinated against influenza.

The order excludes facilities in the cities of Long Beach and Pasadena because they are separate health jurisdictions.

Influenza, a highly communicable disease, is a major cause of serious illness and death that accounts for up to 200,000 hospitalizations and an average of 24,000 deaths in the U.S. each year, according to the Centers for Disease Control and Prevention.

“Getting vaccinated is one of the most important steps that health care personnel can take to protect their patients and themselves from the flu,” said Dr. Fielding. “Flu vaccines prevent illness among health care personnel, and there is growing evidence that it reduces the chance that patients, many of whom are at higher risk for flu complications, will become infected. This flu vaccination mandate supports health care personnel’s commitment to keeping patients safe from preventable harm.”

Many Flu Vaccination Policies Already in Effect

California has several policies in place to encourage flu vaccination among HCP. These include a California law, a Joint Commission standard, and the Cal/OSHA Aerosol Transmissible Disease Standard, all of which require selected HCP to offer influenza vaccines to employees at no charge.

Despite these policies, as well as efforts to educate personnel and provide easy access to vaccinations onsite, flu vaccination rates among HCP remain low. During the 2011-2012 flu season, an estimated one-third of HCP in the U.S. remained unvaccinated against influenza.

With this new Health Officer Order, Los Angeles County joins a growing number of public health stakeholders who support mandatory vaccination policies to protect personnel and patients from the flu. Mandates have been adopted by Alameda, Contra Costa, Sacramento, and several other California counties; endorsed by the

continued on page 2 >
Rx for Prevention | LA County Department of Public Health  September–October 2013

American Academy of Pediatrics, the American Academy of Family Physicians, and the National Association of City and County Health Officials; and adopted by more than 30 Los Angeles area hospitals, including all LA County Department of Health Services facilities.

Mandates Increase Immunization Rates
“Our goal is to close the gap between the current vaccination rate and our national objective of 90%. This mandate offers our best chance to achieve this,” said Dr. Fielding. “Health care personnel mandates greatly increase immunization rates. For instance, in the 2011-2012 flu season, 95% of health care personnel working in U.S. hospitals that required influenza vaccination were vaccinated, compared to 68% of personnel in hospitals that did not require vaccination. We expect this mandate to lead to similar results in Los Angeles County.”

The Los Angeles County Department of Public Health as well as the county’s health care professionals and facilities have a common goal to provide safe and effective care for our LA County population. “We trust that all facilities subject to this Order will comply fully with it and will notify their HCP of its provisions. We hope that HCP in other facilities, such as physicians’ offices, will follow the strong recommendation to voluntarily adopt the same protective procedures,” said Dr. Fielding.

For more information regarding the Health Officer Order, visit the Los Angeles County Department of Public Health, Immunization Program website at www.publichealth.lacounty.gov/ip/. Or contact the Immunization Program at (213) 351-7800 or ip@ph.lacounty.gov.

Rationale for Mandated Influenza Vaccination for Health Care Personnel

Flu in the workplace can lead to increased absences, lower productivity, and higher medical costs. In addition, nosocomial transmission from health care personnel (HCP) to patients has been documented in a variety of acute care settings, including neonatal intensive care units, pediatric and general medical wards, transplant units, oncology units, and emergency departments.1

Influenza vaccination reduces influenza, and mandatory vaccination programs in health care settings increase influenza vaccination rates. Thus, mandatory vaccination policies in health care facilities decrease illness among personnel, decrease staff absenteeism, and should decrease morbidity and mortality among patients.

Truths About Influenza in Health Care Settings
Unvaccinated personnel can transmit the flu to other personnel, which can decrease productivity and increase absenteeism. HCP can also transmit influenza to patients.

• Studies suggest that up to 25% of HCP are infected with influenza each season.2 3
• HCP may be more likely to work when ill than other professions, which increases the risk for flu transmission in health care facilities.
• As many as half of people infected never show classic flu symptoms,4 but can shed virus for 5-10 days. Thus, asymptomatic personnel can unknowingly spread influenza.
• Influenza infection that is acquired during a hospital stay (nosocomial) increases hospital days and mortality for inpatients.5 The CDC notes that higher staff vaccination levels have been associated with a lower risk of nosocomial flu cases and mortality.6

Impact of Influenza Vaccination on Infection, Illness, and Absenteeism
When well-matched to the circulating flu strains, Inactivated Influenza Vaccine (flu shot) and Live Attenuated Influenza Vaccine (nasal spray) are effective in preventing illness and may reduce provider visits, complications, hospitalizations, and absenteeism in healthy adults under 65 years of age.

• Two randomized control studies have shown reductions in influenza illness. In a season when the flu vaccine was well-matched to circulating strains, one study found influenza vaccination to be 88% effective in preventing influenza type A infection and 89% effective in preventing influenza type B infection in HCP.7 In the second study, healthy working adults who were vaccinated against flu had 34% fewer incidents of influenza-like illness (ILI), 42% fewer doctor visits, and 32% fewer sick days.8
• Results of research focused on absenteeism vary but several studies suggest that HCP vaccination can reduce work absences. A randomized, placebo-controlled, double-blind study of the impact of vaccination on absenteeism in a children's hospital found that influenza vaccination reduced absenteeism related to respiratory infections by 28%.9 In another randomized, double-blind, controlled trial over 3 consecutive years, vaccinated personnel had 29% fewer cumulative days of febrile respiratory illness and 53% fewer cumulative days of work absence than those in the control group. Neither difference was statistically significant, but the impact of vaccination on absenteeism may have been moderated by the fact that HCP may work when ill. No absences related to adverse vaccination events were reported.7
Impact of Influenza Vaccination in Health Care Settings Relative to Patient Protection

Several studies suggest that vaccinating HCP may reduce patient morbidity and mortality.

Long-term Care Facilities

A recent (2010) Cochrane review raised methodological questions regarding several studies that demonstrate the impact of HCP vaccination on patient health. There is, however, substantial evidence from other studies that vaccination in health care settings decreases influenza transmission from HCP to patients, particularly in long-term care settings.10 Studies in these settings have shown that staff vaccination against influenza has been associated with reductions in all-cause mortality,2,3 ILI,11 and hospitalizations for ILI.10 In addition, one study suggested that although staff vaccination rates did not independently predict ILI outbreaks, high rates of vaccination among both staff and residents can substantially reduce the rate and impact of influenza outbreaks.12

Acute Care Facilities

Three published studies suggest a potential positive impact of HCP vaccination on patient outcomes in acute care settings. A study conducted in a tertiary care academic hospital in the U.S. found a significant inverse association between HCP vaccination rates and the rate of nosocomial influenza.13 A modeling study suggested that the relative effect of HCP vaccination is lower in hospitals than nursing homes, but that the absolute number of infections that can be prevented in the hospital is higher.14 Further, a pragmatic cluster randomized controlled trial conducted recently in the Netherlands demonstrated that the intervention hospitals (where influenza vaccination was offered to employees at no cost, educate employees, and/ or require staff to be vaccinated or sign a declination) had approximately half the rate of nosocomial influenza and/or pneumonia infection in hospital inpatients than the control hospitals.15

Impact of Mandatory Vaccination Policies on Vaccine Rates

Flu vaccination rates among HCP are suboptimal, which leaves workers and patients at higher risk for illness, complications, and death. During the 2011-2012 influenza season, vaccination coverage was highest at the national level among hospital-based HCP (77%), but about 1 in 4 hospital personnel remained unvaccinated.16 Mandatory vaccination offers an important opportunity to increase vaccination coverage among HCP. For the 2011-2012 influenza season, HCP vaccination rates were significantly higher in hospitals that required flu vaccination compared to those that did not. In a review of hospital policies and state laws regarding HCP vaccination, increased rates were significantly associated with mandated vaccination policies that included termination or other repercussions for noncompliance, including masking or reassignment. State laws, like California’s, which require hospitals to offer vaccine to employees at no cost, educate employees, and/or require staff to be vaccinated or sign a declination, did not have a significant effect on HCP vaccination rates.12

REFERENCES

New Influenza Vaccination Recommendations, 2013-2014

Willie Watts-Troutman, RN, BSN, PHN
Melanie Barr, RN, MSN

Since July 2013, several lab-confirmed cases of influenza, including one hospitalized case and one death, have been reported through the Los Angeles County Department of Public Health’s surveillance system. While this does not necessarily indicate an early influenza season, it does suggest that providers should start vaccinating their patients against influenza now and continue throughout the influenza season, which typically runs into the spring.

Providers should also ensure that all health care personnel (HCP) and staff who have patient contact have been vaccinated against influenza. This can protect HCP, reduce absenteeism, and prevent the spread of influenza to patients. To encourage vaccination this influenza season, all HCP who have patient contact or work in patient areas in licensed acute care hospitals, skilled nursing facilities, and intermediate care facilities in Los Angeles County will be required to receive an influenza vaccine or wear a mask (see cover story, “Health Officer Issues Order to Vaccinate Health Care Personnel Against Influenza.”)


2012-2013 Influenza Activity

Influenza seasons fluctuate in length and severity from year to year, as a result of the virus strains circulating. During the moderately severe 2012-13 influenza season, 68 confirmed influenza disease-related deaths were reported in Los Angeles County. Influenza also contributed to many deaths attributed to other causes. Nationwide, in comparison with recent flu seasons, there were more reported deaths attributed to pneumonia and influenza, higher rates of hospitalization, and a higher percentage of outpatient visits for influenza-like illness.

People 65 years and older accounted for approximately 50% of reported flu hospitalizations for the 2012-13 season. Just under half (46%) of the children hospitalized with lab-confirmed influenza during this season had no recorded underlying health condition. Increases in the number of influenza infections in all age groups this past season is a reminder of the importance of influenza vaccinations for all persons, including those not in high-risk categories.

2013-2014 Vaccine Strains and New Vaccines

Each year influenza vaccine strains are selected based on which influenza viruses are circulating, how they are spreading, and how well current vaccine strains protect against newly identified strains. This season (2013-14), the trivalent influenza vaccines contain an A/California/7/2009 (H1N1)-like virus, an H3N2 virus antigenically like A/Victoria/361/2011 virus, and a B/Massachusetts/2/2012-like virus. Two new quadrivalent inactivated influenza vaccines (IIV4-Fluarix Quadrivalent [GlaxoSmithKline] and IIV4-Fluzone Quadrivalent [Sanofi Pasteur]) and a quadrivalent live inactivated influenza vaccine (LAIV4-Flumist Quadrivalent [MedImmune]) are also available. The quadrivalent vaccines contain an additional B-strain B/Brizbane/60/2008-like virus.

Two new inactivated vaccine products are available this season, a trivalent cell-culture-based inactivated influenza vaccine (ccIIV3-Flucelvax [Novartis]), which is indicated for persons aged 18 years and older; and a recombinant hemagglutinin (HA) vaccine (RIV3-FluBlok [Protein Sciences]) indicated for persons aged 18 through 49 years. A complete list of vaccine products and approved age indications is available on CDC’s Seasonal Influenza page at www.cdc.gov/flu/professionals/acip/2013-summary-recommendations.htm#table1. The ACIP has not expressed a preference for any of the available licensed flu vaccine formulations or brands.

Resources


Additional resources and educational materials are also available on the following websites:

• Vaccines for Children Program (EZIZ) – http://eziz.org/resources/flu-promo-materials/
• Immunization Action Coalition – www.immunize.org/influenza/
New Vaccine for Persons with a History of Egg Allergy

Persons with a history of egg allergy who have experienced anaphylactic symptoms after exposure to eggs or egg-containing products may receive the new Recombinant Influenza Vaccine, Trivalent (RIV3) [Figure 1].

RIV3 is egg-free and may be used for persons aged 18-49 years who have no other contraindications. Persons who have only experienced hives after eating eggs or egg-containing products can receive either RIV3 or any inactivated influenza vaccine products (trivalent or quadrivalent), but they should be observed for at least 30 minutes after vaccination.

Vaccine Dose Considerations for Children 6 Months through 8 Years of Age

Children aged 6 months through 8 years who have received at least 2 seasonal influenza vaccines during any previous season and at least 1 dose of a 2009(H1N1)-containing vaccine (i.e., 2010-11, 2011-12, or 2012-13 seasonal vaccine or monovalent 2009 H1N1 vaccine) only need 1 dose of influenza vaccine for the 2013-14 season [Figure 2]. Children in this age group who have never been vaccinated or have never received an H1N1-containing influenza vaccine require 2 doses of vaccine administered at least 4 weeks apart.

Frequently Asked Questions

How do I respond to patients who claim they became sick with influenza after being vaccinated?

Inform your patients that the influenza vaccine cannot cause influenza. Patients may experience pain or tenderness at the injection site and, on rare occasion, a low-grade fever or muscle aches after receiving an influenza vaccination. However, since the viruses contained in the inactivated influenza vaccine are inactivated or made from individual proteins, they cannot cause influenza. Persons receiving

continued on page 6 >
the nasally administered live attenuated influenza vaccine may experience mild congestion but the vaccine has been modified so that it is unable to persist in the airway long enough to cause infection. Emphasize that these side effects are most commonly mild and short-lived, especially when compared to symptoms of influenza.

Assure your patients the influenza vaccine has an excellent safety profile and that getting vaccinated is the most important thing they can do to prevent influenza. Influenza vaccine typically prevents 70% or more of vaccinated persons from developing a moderate-to-severe case of influenza.

If an individual becomes ill within days of receiving an influenza vaccination, it is most likely that the illness was caused by a non-influenza virus or the influenza virus was already present at the time of vaccination.

**Why is it important for health care personnel to be vaccinated annually?**

The ACIP recommends an annual influenza vaccination for all HCP to reduce their risk of becoming ill from influenza and being unable to work or, if they work, to reduce their risk of transmitting influenza to patients and other HCP. Preventing influenza among HCP who might transmit the virus provides additional protection to patients at risk for influenza complications.

Cal/OSHA’s Aerosol Transmissible Disease Standards require all health care facilities, including clinics, skilled-nursing facilities, hospitals, and long-term care centers to offer influenza vaccinations to their employees because the employees have a greater risk of contracting influenza as compared to persons who do not work in health care facilities. The standard also requires health care facilities to establish an infection control program to increase influenza vaccination rates among HCP. More information and resources can be found on the California Department of Public Health website at [www.cdph.ca.gov/programs/ohb/Pages/ATDStd.aspx](http://www.cdph.ca.gov/programs/ohb/Pages/ATDStd.aspx).

Importantly, Jonathan E. Fielding, MD, MPH, Director of Public Health and Health Officer, has issued an order mandating that HCP in acute care hospitals, long-term care facilities, and intermediate care facilities in Los Angeles County be vaccinated against influenza or wear a protective mask during the flu season (November 1 through March 31). This order applies to all individuals, paid and unpaid, working in these settings who have direct patient contact or work in patient areas.

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**Figure 2. Influenza vaccine dosing algorithm for children aged 6 months through 8 years — Advisory Committee on Immunization Practices, United States, 2013-14 influenza season**

* Doses should be administered at least 4 weeks apart.
† For simplicity, this algorithm takes into consideration only doses of seasonal influenza vaccine received since July 1, 2010. As an alternative approach in settings where vaccination history from before July 1, 2010, is available, if a child aged 6 months through 8 years is known to have received at least 2 seasonal influenza vaccines during any previous season, and at least 1 dose of a 2009(H1N1)-containing vaccine (i.e., 2010-11, 2011-12, or 2012-13 seasonal vaccine or the monovalent 2009[H1N1] vaccine), then the child needs only 1 dose for 2013-14. Using this approach, children aged 6 months through 8 years need only 1 dose of vaccine in 2013-14 if they have received any of the following: 1) 2 or more doses of seasonal influenza vaccine since July 1, 2010; 2) 2 or more doses of seasonal influenza vaccine before July 1, 2010, and 1 or more doses of monovalent 2009[H1N1] vaccine; or 3) 1 or more doses of seasonal influenza vaccine before July 1, 2010, and 1 or more doses of seasonal influenza vaccine since July 1, 2010. Children in this age group for whom one of these conditions is not met require 2 doses in 2013-2014.
Will this season's vaccine be a good match for circulating viruses?
It is not possible to predict with certainty which influenza viruses will predominate during a given season. From the available data, experts selected virus strains for the vaccine many months in advance in order for vaccine to be produced and delivered on time. The strains in this year’s vaccine are the best match given the information available. However, the quadrivalent vaccines, which contain four different vaccine strains and which were licensed for the first time this year, should further enhance the level of vaccine protection. For more information about the vaccine virus selection process, visit the CDC’s “Selecting the Viruses in the Influenza Vaccine” webpage at www.cdc.gov/flu/professionals/vaccination/virusqa.htm.

In general, when should health care providers begin offering influenza vaccination?
Generally influenza vaccination begins in September, but health care providers can begin offering vaccine as soon as it becomes available and may continue until the following May. This is because the timing and duration of influenza seasons vary. While the influenza season may begin as early as October, seasonal influenza activity typically peaks in January, February, or later.

Why is it important to vaccinate everyone 6 months of age and older?
The recommendation to vaccinate all persons 6 months and older was implemented to expand protection against influenza for more people, including infants and young children who are likely to be hospitalized and have complications if they acquire influenza. While it’s important for everyone to obtain an influenza vaccination, it is especially important for those known to be at risk for complications from the flu (e.g., persons with a chronic illness or those who have contact with certain high-risk populations). This helps to ensure the most vulnerable populations are protected.

Why is it important that pregnant women receive an influenza vaccination?
Influenza is more likely to cause severe illness in pregnant women than women who are not pregnant. Changes in the immune system, heart, and lungs during pregnancy make pregnant women more prone to severe illness from influenza. Influenza vaccination during pregnancy is also beneficial for the infant and has been shown to protect both the mother and her infant (up to 6 months of age) from influenza illness, hospitalizations, and influenza-related preterm birth.

REFERENCES
3. CDC. Influenza Activity – United States, 2012-13 Season and Composition of 2013-14 Influenza Vaccine MMWR. 2013; 62(23)
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Index of Disease Reporting Forms

All case reporting forms from the LA County Department of Public Health are available by telephone or Internet.

Reportable Diseases & Conditions
Confidential Morbidity Report
Morbidity Unit (888) 397-3993
Acute Communicable Disease Control
(213) 240-7941

Sexually Transmitted Disease
Confidential Morbidity Report
(213) 744-3070
www.publichealth.lacounty.gov/std/providers.htm (web page)
www.publichealth.lacounty.gov/std/docs/STD_CMR.pdf (form)

Adult HIV/AIDS Case Report Form
For patients over 13 years of age at time of diagnosis
Division of HIV and STD Programs
(213) 351-8196
www.publichealth.lacounty.gov/dhsp/ReportCase.htm

Pediatric HIV/AIDS Case Report Form
For patients less than 13 years of age at time of diagnosis
Pediatric AIDS Surveillance Program
(213) 351-8153
Must first call program before reporting
www.publichealth.lacounty.gov/dhsp/ReportCase.htm

Tuberculosis Suspects & Cases
Confidential Morbidity Report
Tuberculosis Control (213) 745-0800
www.publichealth.lacounty.gov/tb/forms/cmr.pdf

Lead Reporting
No reporting form. Reports are taken over the phone.
Lead Program (323) 869-7195

Animal Bite Report Form
Veterinary Public Health (877) 747-2243
www.publichealth.lacounty.gov/vet/biteintro.htm

Animal Diseases and Syndrome Report Form
Veterinary Public Health (877) 747-2243
www.publichealth.lacounty.gov/vet/disintro.htm

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