

Rationale for Mandated Influenza and COVID-19 Immunizations for Healthcare Personnel in Los Angeles County

Health Officer Order

In 2013, the Los Angeles County (LAC) Health Officer issued a Health Officer Order (Order) directing all licensed acute care hospitals, intermediate care facilities, and skilled nursing facilities in Los Angeles County require their healthcare personnel (HCP) who have patient contact or work in patient-care areas, receive an annual influenza immunization or wear a respiratory mask during the respiratory virus season (November 1 of one year through April 30 of the following year). This Order was previously expanded to include Emergency Medical Services (EMS) provider agencies and now to include HCP working in all licensed healthcare facilities in Los Angeles County.

Updated COVID-19 vaccines have been approved by the U.S. Food and Drug Administration (FDA) and are recommended by the U.S. Centers of Disease Control and Prevention (CDC) for everyone 6 months and older. Starting in the 2023-2024 respiratory virus season, this Order requires HCP working in all licensed healthcare facilities in Los Angeles County to also receive the updated COVID-19 vaccines (2023-2024 Formula) or wear a respiratory mask when in contact with patients or working in patient-care areas during the respiratory virus season. The Order remains in effect during the respiratory virus season, unless rescinded.

The [HOO was updated on December 27, 2023](#), to include an additional protective measure in Licensed Healthcare Facilities that provide Inpatient Care when the [COVID-19 Hospital Admission Level in Los Angeles County](#) meets or exceeds the Medium Level as defined by the federal Centers for Disease Control and Prevention (CDC). Specifically, the updated HOO requires that when the CDC COVID-19 Hospital Admission Level in Los Angeles County meets or exceeds the Medium Level, Licensed Healthcare Facilities that provide Inpatient Care must require:

- All HCP working in Licensed Healthcare Facilities that provide Inpatient Care, regardless of COVID-19 or influenza vaccination status, wear a Respiratory Mask while in contact with patients or working in Patient-Care Areas.
- All visitors to Licensed Healthcare Facilities that provide Inpatient Care wear a Respiratory Mask when around patients and while in Patient-Care Areas.
- This masking requirement will be in place until Los Angeles County's CDC COVID-19 Hospital Admission Level drops below the Medium Level for at least 2 consecutive weeks.

Licensed Healthcare Facilities that provide Inpatient Care are defined in the HOO and include acute care hospitals, skilled nursing facilities, intermediate care facilities, congregate living health facilities, chemical dependency recovery hospitals, acute psychiatric hospitals, and inpatient hospice facilities.

Additionally, given the risk posed by influenza and COVID-19, Public Health strongly encourages other unlicensed healthcare and direct care entities to voluntarily adopt the same measures for their employees to protect their personnel and patients during the respiratory virus season.

Supporting Rationale

Flu in the workplace can lead to increased absences, lower productivity, and higher medical costs. In addition, nosocomial transmission from healthcare personnel 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 is effective in reducing influenza, and vaccination requirements in healthcare settings have demonstrated increased influenza vaccination rates. Thus, vaccination requirements in healthcare facilities can lead to decreased illness and absenteeism among personnel and decreased morbidity and mortality among patients.

COVID-19 is another highly communicable disease with potentially severe complications. In 2022 alone, COVID-19 was Los Angeles County's third leading cause of death, behind coronary heart disease and Alzheimer's disease. Vaccination is the best protection against COVID-19 related hospitalizations and death, and also reduces the chances of long COVID, which may develop during or after acute infection.

Multiple studies confirm the safety and efficacy of COVID-19 vaccines.²

Influenza and COVID-19 in Healthcare Settings

Personnel can transmit viral infections, including influenza and COVID-19 to other personnel, which can lead to decreased productivity and increased absenteeism. Healthcare personnel can also transmit these viral infections to patients.

- Nationally, almost 80% of HCP received the influenza vaccine during the 2021-2022 season.³
- Over 87% of HCP in the U.S. completed the COVID-19 primary vaccination series in 2021-2022, however only 67% reported they received at least one booster.³
- Healthcare personnel may be more likely to work when ill than other professions, increasing the risk of flu and COVID-19 transmission in healthcare facilities.
- As many as 1 in 2 people with influenza never show classic flu symptoms,⁴ but can shed the virus for 5-10 days. Asymptomatic personnel can spread influenza unknowingly. Similarly, asymptomatic HCP can unknowingly spread COVID-19.
- Patient admissions and healthcare personnel absenteeism are typically higher during the respiratory virus season, which increases the impact of flu-related absenteeism on operations of these healthcare facilities.
- Influenza infection that is acquired during a hospital stay (nosocomial) leads to increased hospital days and mortality for inpatients.⁵ In addition, nosocomial influenza cases tend to be more severe than community onset cases.⁶ The CDC notes that higher staff vaccination levels have been associated with a lower risk of nosocomial flu cases and mortality.⁷
- One cohort study of HCP, inpatients, and caregivers showed that those who were fully vaccinated against COVID-19 had a shorter duration of viable viral shedding and a lower rate of transmission than those who were unvaccinated or partially vaccinated.⁸

Impact of Vaccination on Infection, Illness, and Absenteeism

When well matched to the circulating flu strains, influenza vaccinations are effective in preventing illness and may lead to reductions in provider visits, complications, hospitalizations, and absenteeism in healthy adults under 65 years of age. Reduced absenteeism is especially beneficial for hospitals during the flu season, when

bed-days and staff illness tend to be high. COVID-19 vaccination was integral to curbing the global pandemic and remains key to preventing additional morbidity and mortality.

- The CDC tracks effectiveness of the influenza vaccine every year through observational studies in real-world situations. Early randomized controlled trials (RCTs) in 1999 and 2000 have shown reductions in influenza illness among adults. In a season when the flu vaccine was well matched to circulating strains, influenza vaccination was found to be 88% effective in preventing influenza type A infection and 89% effective in preventing influenza type B infection in healthcare personnel.⁹ In the second study, healthy working adults who were vaccinated against flu were found to have 34% fewer incidents of influenza-like illness (ILI), 42% fewer doctor visits, and 32% fewer sick days.¹⁰
- COVID-19 vaccine effectiveness is also tracked by the CDC and updated regularly. Data shows that the vaccine provides substantial protection from COVID-19 associated with invasive mechanical ventilation and death as well as decreased risk of becoming infected.¹¹
- Results of research focused on absenteeism vary but several studies suggest that vaccination of healthcare personnel 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 was associated with a 28% reduction in absenteeism related to respiratory infections.¹²

Impact of Influenza and COVID-19 Vaccination in Healthcare Settings Relative to Patient Protection

Research findings suggest that vaccinating healthcare personnel against influenza and SARS-CoV-2 can reduce patient morbidity and mortality. Of note, although a 2010 Cochrane review raised methodological questions regarding several studies, there is substantial evidence that vaccination in healthcare settings decreases influenza transmission from HCP to patients, particularly in long-term care settings.¹³

LONG-TERM CARE FACILITIES

Studies in long-term care settings, such as skilled nursing facilities, have shown that staff vaccination against influenza has been associated with reductions in all-cause mortality among patients, ILI,¹⁶ and hospitalizations with ILI.¹² In addition, one long-term care 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.¹⁷ Similarly, nursing home residents have been disproportionately affected by the COVID-19 pandemic and national numbers from early in the pandemic show that in the presence of a high community prevalence of COVID-19, nursing homes with low staff vaccination coverage had higher numbers of cases and deaths among residents than those with high staff vaccination coverage.¹⁴

DIALYSIS CENTERS

Rates of COVID-19 infection and complications, including death, are higher in dialysis patients than the general age-matched U.S. population.¹⁵ Dialysis patients are often at greater risk of exposure (to HCP and patients at dialysis centers, as well community members if using public transit or other shared transportation) and may have an attenuated response to vaccination. Therefore, vaccination of HCP is relevant to protecting this high-risk group.

ACUTE CARE FACILITIES

Three published studies suggest a potential positive impact of vaccinating HCP against influenza on patient outcomes in acute care settings. A study conducted in a tertiary care academic hospital in the United States suggested that there is a significant inverse association between HCP vaccination rates and the rate of nosocomial influenza among patients, suggesting that increasing rates may lower nosocomial infections.¹⁸

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, because of higher hazard rates.¹⁹ Further, a pragmatic cluster randomized controlled trial conducted in the Netherlands demonstrated that the intervention hospitals, where influenza vaccination was higher, had approximately half the rate of nosocomial influenza and/or pneumonia infection in hospital inpatients.²⁰

EMERGENCY MEDICAL SERVICES PROVIDERS

EMS healthcare personnel have frequent patient interactions and unvaccinated personnel are at high risk for contracting the influenza and SARS-CoV-2 virus and potentially transmitting these pathogens within their communities. As a result, EMS providers are encouraged to receive both influenza and COVID-19 vaccines. However, studies have shown that influenza and COVID-19 vaccination rates among EMS providers remain suboptimal.

ACUTE PSYCHIATRIC HOSPITALS

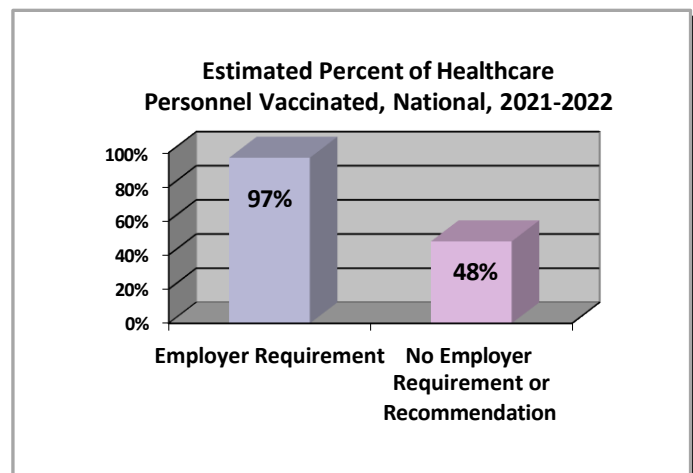
Easily transmissible viruses like influenza and SARS-CoV-2 are particularly difficult to control in locations with close quarters and mobile patients, like many psychiatric hospitals and wards. Furthermore, these patients are at risk of missing out on important psychosocial interventions if they become infected and require quarantine or even transfer to a hospital for care.

Impact of Policies Requiring Vaccination on Vaccination Rates

While vaccination rates among healthcare personnel have improved, they fall short of optimal levels, leaving workers and patients at higher risk for illness, complications, and death. This is especially concerning when several respiratory illnesses are circulating at once, like during the 2022-2023 season when we faced a triple epidemic and increased hospitalizations due to spikes in cases of influenza, COVID-19, and respiratory syncytial virus (RSV).

Requiring vaccination seems to offer the best opportunity to significantly increase vaccination coverage among healthcare personnel.

- Prior to the Los Angeles County Health Officer Order (2012-2013), HCP influenza immunization rates in acute care facilities in LA County were estimated at 60%. Since implementation of the Order, the average rate of hospital-based HCP immunization in Los Angeles County increased to 86% in 2020 but declined to 73% for the 2022-2023 season.



- During the 2021-2022 flu season, nationally, 80% of HCP reported receiving the influenza vaccination.³
- Policies requiring vaccination at acute care hospitals have been proven to increase immunization rates among healthcare personnel. At the national level, in the 2021-2022 flu season, coverage for healthcare personnel working in hospitals that required influenza vaccination was 97%, compared to 48% for personnel working in hospitals that did not recommend or require vaccination.³ Similarly, for the same timeframe, COVID-19 vaccination coverage was higher among HCP who reported employer vaccination requirements.³ Vaccination coverage for all three vaccine measures was higher among HCP who reported employer vaccination requirements and ranged from 95.8% to 97.3% for influenza, 90.2% to 95.1% for COVID-19 primary series, and 76.4% to 87.8% for COVID-19 booster vaccinations among HCP who

completed the primary series of COVID-19 vaccines, by work setting.³

- In a review of hospital policies and state laws regarding HCP vaccination, increased healthcare personnel vaccination rates were significantly associated with policies requiring vaccination that included: termination or other repercussions for non-compliance, including masking or reassignment.²²
- While vaccination is the most effective method to prevent influenza, masking may help prevent its spread between patients and personnel. Masking has been shown to reduce the exhalation of influenza virus from breathing and coughing.²² In addition, studies provide substantial evidence that masks can prevent the transmission of respiratory disease agents between patients and healthcare workers. Thus, requiring unvaccinated workers to wear a mask while in contact with patients is a reasonable step that can prevent flu and COVID-19 transmission, based upon available data.
- Policies requiring vaccination have been instituted by hospitals, the Department of Defense, and municipalities. In addition, a California law, Cal-OSHA, and The Joint Commission require facilities to offer flu vaccinations at no charge to personnel, as part of infection control programs.

Questions?

Contact the Los Angeles County Department of Public Health, Acute Communicable Disease Control Program at: (213) 240-7941. For more information, please visit: <http://publichealth.lacounty.gov/acd/respiratory.htm>

References

- ¹ Talbot T, Bradley S, Cosgrove S, et al. SHEA Position Paper: Influenza vaccination of healthcare workers and vaccine allocation for healthcare workers during vaccine shortages, 2005. Available at <https://pubmed.ncbi.nlm.nih.gov/16320984/> Accessed August 28, 2013.
- ² Graña C, Ghosn L, Evrenoglou T, et al. Efficacy and safety of COVID-19 vaccines. *Cochrane Database Syst Rev.* 2022;12(12):CD015477. Published 2022 Dec 7. doi:10.1002/14651858.CD015477
- ³ Razzaghi H, Srivastav A, de Perio MA, Laney AS, Black CL. Influenza and COVID-19 Vaccination Coverage Among Health Care Personnel — United States, 2021–22. *MMWR Morb Mortal Wkly Rep* 2022;71:1319–1326. DOI: <http://dx.doi.org/10.15585/mmwr.mm7142a2>
- ⁴ Stott DJ, Kerr G, Carman WF. (2002) Nosocomial transmission of influenza. *Occup Med (Lond)*, 52(5):249-53.
- ⁵ Van Voris LP, Belshe RG, Shaffer JL. (1982) Nosocomial influenza B virus infection in the elderly. *Ann Intern Med*, 96:153-158.
- ⁶ Jhung MA, D’Mello T, Pérez A, et al. Hospital-onset influenza hospitalizations—United States, 2010–2011. *Am J Infect Control.* Janv 2014;42(1):7-11
- ⁷ CDC. Influenza Vaccination Information for Health Care Professional. Available at www.cdc.gov/vaccines/vpd/flu/hcp/index.html. Accessed August 29, 2013.
- ⁸ Jung J, Kim JY, Park H, Park S, Lim JS, Lim SY, Bae S, Lim YJ, Kim EO, Kim J, Park MS, Kim SH. Transmission and Infectious SARS-CoV-2 Shedding Kinetics in Vaccinated and Unvaccinated Individuals. *JAMA Netw Open.* 2022 May 2;5(5):e2213606. doi: 10.1001/jamanetworkopen.2022.13606. PMID: 35608859; PMCID: PMC9131744.
- ⁹ Wilde JA, McMillan JA, Serwint J, et al. (1999) Effectiveness of influenza vaccine in health care professionals: a randomized trial. *JAMA*, 281:908-13.

- ¹⁰ Bridges CB, Thompson WW, Meltzer MI, et al. (2000) Effectiveness and cost-benefit of influenza vaccination of healthy working adults: A randomized controlled trial. *JAMA*, 284:1655-63.
- ¹¹ Centers for Disease Control and Prevention. COVID Data Tracker. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2023, September 13. <https://covid.cdc.gov/covid-data-tracker>
- ¹² Saxen H, and Virtanen M. (1999) Randomized, placebo-controlled double blind study on the efficacy of influenza immunization on absenteeism of health care workers. *Pediatr Infect Dis J*, 18:779-83.
- ¹³ Thomas RE, Jefferson T, and Lasserson TJ. (2010) Influenza vaccination for healthcare workers who work with the elderly. *Cochrane Database Syst Rev*
- ¹⁴ McGarry BE, Barnett ML, Grabowski DC, Gandhi AD. Nursing Home Staff Vaccination and Covid-19 Outcomes. *N Engl J Med*. 2022 Jan 27;386(4):397-398. doi: 10.1056/NEJMc2115674. Epub 2021 Dec 8. PMID: 34879189; PMCID: PMC8693685.
- ¹⁵ Navarrete J, Barone G, Qureshi I, et al. SARS-CoV-2 Infection and Death Rates Among Maintenance Dialysis Patients During Delta and Early Omicron Waves — United States, June 30, 2021–September 27, 2022. *MMWR Morb Mortal Wkly Rep* 2023;72:871–876. DOI: <http://dx.doi.org/10.15585/mmwr.mm7232a4>
- ¹⁶ Hayward A, Harling R, Wetten S et al. (2006) Effectiveness of an Influenza Vaccine Programme for Care Home Staff to Prevent Death, Morbidity, and Health Service Use among Residents; Cluster Randomised Controlled Trial. *BMJ*,333:1241.
- ¹⁷ Shugarman L, Hales C, Setodji C et al. (2006) The Influence of Staff and Resident Immunization Rates on Influenza-like Illness Outbreaks in Nursing Homes. *Journal of the American Medical Directors Association*, 7(9); 562-567.
- ¹⁸ Salgado CD, Giannetta ET, Hayden FG, et al. (2004) Preventing nosocomial influenza by improving the vaccine acceptance rate of clinicians. *Infect Control Hosp Epidemiol*, 25:923-8
- ¹⁹ Van den Dool C, Bonten MJ, Hak E, et al. (2009) Modeling the effects of influenza vaccination of health care workers in hospital departments. *Vaccine*, 27(44):6261-7.
- ²⁰ Riphagen-Dalhuisen J, Burgerhof JG, Frijstein G, et al. Hospital-based cluster randomised controlled trial to assess effects of a multi-faceted programme on influenza vaccine coverage among hospital healthcare workers and nosocomial influenza in the Netherlands, 2009 to 2011. *Euro Surveill*. 2013;18(26) Available at www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20512 Accessed September 4, 2013.
- ²¹ Zimmerman RK, Lin CK, Raymund M, et al. (2013) Hospital Policies, State Laws, and Healthcare Worker Influenza Vaccination Rates. *Infect Control Hosp Epidemiol*.,34(8):854-7
- ²² Milton DK, Fabian MP, Cowling BJ, Grantham ML, McDevitt JJ (2013) Influenza virus aerosols in human exhaled breath: particle size, culturability, and effect of surgical masks. *PLoS Pathog* 9: e1003205