

6. The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) website. <https://ncdetect.org/>. Accessed October 1, 2018.
7. Several healthcare systems restricting visitors due to flu. WCNC television station website. <https://www.wcnc.com/article/news/health/several-health-care-systems-restricting-visitors-due-to-flu/275-507119056>. Published 2018. Accessed September 26, 2018.
8. Charlotte hospitals to lift flu ban on kids. Here's what it means for visitors. *The Charlotte Observer* website. <https://www.charlotteobserver.com/news/local/article205266564.html>. Published 2018. Accessed September 26, 2018.

## Impact of expanded influenza post-exposure prophylaxis on healthcare worker absenteeism at a tertiary care center during the 2017–2018 season

Mireia Puig-Asensio MD, PhD, Margaret Douglas RRT, MPH, Stephanie Holley MBA, BSN, Mary E. Kukla BSN, RN, Oluchi Aboji MPH, MBChB, Lisa Mascardo PharmD, Brenda Carmody BS Pharm RPh, Courtney Gent PharmD, Daniel J. Diekema MD, MS, Patrick Hartley MB, BCh, BAO, Michael B. Edmond MD, MPH, MPA and Jorge L. Salinas MD

University of Iowa Hospitals & Clinics, Iowa City, Iowa

*To the Editor*—Healthcare workers (HCWs) are at risk of being exposed to influenza during routine patient care.<sup>1</sup> Consequently, HCW vaccination is advised to reduce influenza-related morbidity and absenteeism.<sup>2,3</sup> However, influenza vaccine effectiveness varies from season to season depending on the level of vaccine matching with circulating influenza strains.

During 2017–2018, there was an expected predominance of influenza H3N2, a subtype associated with lower vaccine effectiveness. We hypothesized that a surge in influenza cases paired with decreased vaccine effectiveness could increase HCW absenteeism and impact the delivery of care. Historically, we offered oseltamivir postexposure prophylaxis (PEP) only to unvaccinated exposed HCWs, but during the 2017–2018 season, we expanded PEP to all exposed HCWs regardless of their vaccination status. We report our experience describing PEP uptake, cost, and impact on HCW absenteeism at the University of Iowa Hospitals & Clinics (UIHC) during 2 influenza seasons (2016–2017 and 2017–2018).

The UIHC is an 811-bed tertiary-care hospital that serves as a referral and safety-net health system for eastern Iowa. During the 2016–2017 season, PEP (75 mg/day for 7 days) was offered free of charge to unvaccinated exposed HCWs. We defined exposure as proximity within 3 feet of a laboratory-confirmed influenza-infected person for  $\geq 10$  minutes without mask protection, or direct contact with respiratory secretions. Prophylaxis was not recommended if  $> 48$  h had elapsed since the exposure. During the 2017–2018 season, PEP was expanded to all exposed HCWs regardless of vaccination status. Other hospital infection control policies did not change over the study period: (1) Universal surgical mask use was advised for HCWs with direct patient contact in hematology-oncology units during respiratory virus season. (2) Oseltamivir prophylaxis was

recommended to all patients and HCWs in units with nosocomial transmission of influenza (ie,  $\geq 2$  new cases of influenza in inpatients 72 hours or more after admission). Influenza immunization status was recorded in a secure, on-line employee health portal (ReadySet, Axion Health, Westminster, CO). Influenza testing was performed by polymerase chain reaction during both seasons.

The study population was staff nursing and clinical technicians who worked at UIHC in both adult and pediatric units (inpatient and outpatient). We reviewed surveillance, employee health, pharmacy, and human resources records for the 2016–2017 and 2017–2018 seasons. “Influenza season” was defined as October 1 through March 31. For HCWs with multiple exposures, only exposure events that occurred  $> 7$  days apart were included. The primary outcome was the rate of absenteeism, expressed as all-cause sick leave in hours divided by the total scheduled work hours. We excluded absences  $< 1$  hour. We defined PEP uptake as prescriptions picked up divided by the number of HCWs who were referred. Oseltamivir prophylaxis prescribed because of nosocomial transmission was not considered PEP. Analyses were conducted in Stata version 15 software (StataCorp, College Station, TX).

During the 2016–2017 and 2017–2018 seasons, we identified 373 and 427 laboratory-confirmed influenza cases, respectively. The proportion of HCWs who received the influenza vaccine was similar for both seasons (89.7% vs 90.8%). PEP was recommended for 15 exposed HCWs in 2016–2017 and 280 in 2017–2018, and 5 (33.3%) and 133 (47.5%) HCWs picked up oseltamivir from the pharmacy, respectively. Oseltamivir cost an average of \$81.41 per PEP course. The total estimated cost of oseltamivir was \$407 in 2016–2017 and \$10,828 in 2017–2018. During the 2016–2017 season, there were 6,187 sick-leave requests with a median of 12 working hours (IQR, 10–24) lost per HCW. During the 2017–2018 season, there were 6,174 sick-leave requests with a median of 12 hours (IQR, 11.6–24). Absenteeism rates were similar in both influenza seasons (3.2% vs 3.4%, respectively).

During the 2017–2018 influenza season, our recommendation of providing PEP to all HCWs exposed to an influenza-infected case had no apparent impact on overall absenteeism rates or the

**Author for correspondence:** Mireia Puig-Asensio, Division of Infectious Diseases, Internal Medicine Department, University of Iowa Hospitals & Clinics, 200 Hawkins Drive, Iowa City, IA 52246. E-mail: mireia-puigasensio@uiowa.edu

**Cite this article:** Puig-Asensio M, *et al.* (2019). Impact of expanded influenza post-exposure prophylaxis on healthcare worker absenteeism at a tertiary care center during the 2017–2018 season. *Infection Control & Hospital Epidemiology* 2019, 40, 260–261. doi: 10.1017/ice.2018.317

duration of sick leave. Currently, oseltamivir prophylaxis is aimed at preventing influenza infection in unvaccinated or high-risk populations or to prevent secondary transmission in long-term care facilities in the context of an outbreak.<sup>4,5</sup> We could not demonstrate that expanding oseltamivir PEP to all exposed HCWs was associated with a decrease in absenteeism, but this is a single-center experience in a setting with high HCW vaccination rates. However, both 2016–2017 and 2017–2018 influenza seasons were similar in Iowa, with a predominance of A (H3N2) influenza viruses and an overall vaccine effectiveness of only 40%.<sup>6–8</sup> Absenteeism rates may have been similar due to HCWs presenting to work regardless of symptoms (ie, presenteeism). Expanded PEP may have been effective in those who took oseltamivir, but we could not analyze absenteeism stratified by PEP uptake. Expanding oseltamivir prophylaxis indications needs to be carefully assessed because it could contribute to the development of oseltamivir-resistant strains.<sup>9</sup>

In conclusion, we were unable to demonstrate reduced absenteeism by providing oseltamivir PEP to all exposed HCWs regardless of their vaccination status. Larger prospective studies may clarify the role of expanded PEP, especially during seasons with low vaccination effectiveness. Other preparedness strategies might be needed to achieve the right balance of minimizing sick leave by preventing HCW influenza acquisition while also minimizing presenteeism.

**Acknowledgments.** None.

**Financial support.** No financial support was provided for this analysis.

**Conflicts of interest.** All authors report no conflicts of interest relevant to this article.

## References

1. Rule AM, Apau O, Ahrenholz SH, *et al.* Healthcare personnel exposure in an emergency department during influenza season. *PLoS One* 2018;13:e0203223.
2. Saxen H, Virtanen M. Randomized, placebo-controlled double blind study on the efficacy of influenza immunization on absenteeism of health care workers. *Pediatr Infect Dis J* 1999;18:779–783.
3. Recommended vaccines for healthcare workers. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html>. Accessed October 16, 2018.
4. Influenza antiviral medications: summary for clinicians. Centers for Disease Control and Prevention website. <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>. Accessed October 16, 2018.
5. Booy R, Lindley RI, Dwyer DE, *et al.* Treating and preventing influenza in aged care facilities: a cluster randomised controlled trial. *PLoS One* 2012;7:e46509.
6. Seasonal influenza vaccine effectiveness, 2004–2018. Centers for Disease Control and Prevention website. <https://www.cdc.gov/flu/professionals/vaccination/effectiveness-studies.htm>. Accessed October 16, 2018.
7. Summary of the 2017–2018 influenza season. Centers for Disease Control and Prevention website. <https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm>. Accessed October 16, 2018.
8. Summary of the 2016–2017 influenza season. Centers for Disease Control and Prevention website. <https://www.cdc.gov/flu/about/season/flu-season-2016-2017.htm>. Accessed October 16, 2018.
9. Graitcer SB, Gubareva L, Kamimoto L, *et al.* Characteristics of patients with oseltamivir-resistant pandemic (H1N1) 2009, United States. *Emerg Infect Dis* 2011;17:255–257.

## Establishing a mass prophylaxis clinic during a hospital scabies outbreak

Caitlin M. Adams Barker MSN, RN, CIC<sup>1</sup>, M. James Alexander BS<sup>2</sup> and Antonia L. Altomare DO, MPH<sup>1,3</sup>

<sup>1</sup>Collaborative Healthcare-Associated Infection Prevention Program, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire, <sup>2</sup>Emergency Management Program, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire and <sup>3</sup>Section of Infectious Disease and International Health, Dartmouth-Hitchcock Medical Center, Lebanon, NH, US

*To the Editor*—An immunocompromised hospital inpatient with Norwegian (crusted) scabies went undiagnosed for 6 weeks without isolation or treatment. A literature review revealed little guidance on the logistics of providing mass prophylaxis to exposed individuals. We used a hospital-based incident command system to establish a mass prophylaxis clinic.

A patient with a history of gynecological malignancy undergoing chemotherapy was admitted to a 33-bed hematology-oncology, bone marrow transplant unit at our academic medical center in northern New England. The patient had skin

plaques and rash of unknown etiology, which went undiagnosed for 43 days due to the absence of pain or itching. Dermatology was consulted, and an exam revealed diffuse crusted hyperkeratotic scaly macules and papules including plaques in the webbing of the fingers. Skin scraping with mineral oil preparation revealed at least 5 scabies mites. The patient was diagnosed with crusted scabies, placed on contact precautions, and treated with oral ivermectin and topical permethrin.

Upon notification, the infection prevention (IP) program reviewed guidance from the Centers for Disease Control and Prevention and additional literature to assess recommendations for providing prophylaxis in the setting of a prolonged period of undiagnosed crusted scabies in a healthcare facility. Modified institution-wide prophylaxis for patients, staff, visitors, and household contacts was deemed necessary to prevent an outbreak of scabies within the facility. The literature lacked guidance on

**Author for correspondence:** Caitlin M. Adams Barker MSN, RN, CIC, 1 Medical Center Drive, Lebanon, NH 03756. E-mail: [Caitlin.m.adams.barker@hitchcock.org](mailto:Caitlin.m.adams.barker@hitchcock.org)

PREVIOUS PRESENTATION: These data were previously reported as a poster presentation at the 2015 SHEA Annual Conference on May 15, 2015, in Orlando, Florida.

**Cite this article:** Adams Barker CM, *et al.* (2019). Establishing a mass prophylaxis clinic during a hospital scabies outbreak. *Infection Control & Hospital Epidemiology* 2019, 40, 261–263. doi: 10.1017/ice.2018.322