higher HCW immunization and reduced incidence of HAI, data in acute care are lacking compared to the nursing home setting. **Objective:** Our goal was to assess the association between HCW influenza immunization and the incidence of HAI across 2 acute-care facilities. **Methods:** A multicenter prospective cohort study was undertaken at 2 acute-care hospitals including 1 university and 1 community-based academic hospital. Any patient prospectively identified with HAI was included between 2013–2014 and 2018–2019, whereas 2017–2018 was excluded due to vaccine mismatch. The HCW influenza immunization rate was defined as the proportion of HCWs (nurses and other allied and support staff but excluding physicians) immunized prior to December 15. A case of HAI was defined as laboratory-confirmed influenza A or B with symptom onset >72 hours after admission. The association between inpatient ward HCW influenza immunization rate and the incidence of HAI was compared using a Poisson regression analysis adjusting for hospital and influenza season. **Results:** Over 5 influenza seasons, the incidences of HAI at either facility were 0.24 and 0.22 per 1,000 patient days, whereas the median HCW influenza immunization rates were 57.3% (IQR, 42.5%–66.4%) and 66.6% (IQR, 50.6%–76.8%), respectively. When adjusting for hospital and influenza season in the multivariate analysis, HCW influenza immunization rates of 65% and 70% were not associated with HAI incidence. In contrast, HCW influenza immunization rates ≥75% was associated with a trend toward reduced HAI (IRR, 0.65; 95% CI, 0.39–1.08; $P = .096$) whereas inpatient wards above 80% immunization had significantly lower risk of HAI (IRR, 0.28; 95% CI, 0.089–0.89; $P = .03$). **Conclusions:** The risk of HAI across 2 acute-care hospitals was significantly lower among inpatient wards achieving HCW influenza immunization rates >80%. Acute-care facilities should aim for this minimum HCW immunization rate to protect patients from the complications of HAI.

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Missing the Point in Point Prevalence: Harnessing EMR Data to Identify Epi-Linked Patients in an Outbreak Investigation

Lisa Stancill, UNC Health Care; Lauren DiBiase, UNC Health Care; Emily Sickbert-Bennett, UNC Health Care

Background: A critical step during outbreak investigations is actively screening for additional cases to assess ongoing transmission. In the healthcare setting, one widely used method is point-prevalence screening on the whole unit where a positive patient is housed. Although this point-prevalence approach captures the "place," it can miss the "person" and "time" elements that define the population-at-risk. Methods: At University of North Carolina (UNC) Hospitals, we used business intelligence tools to build a query that harnesses the admission, discharge, and transfer (ADT) data from the electronic medical record (EMR). Using this data identifies every patient who overlapped in time and space with a positive patient. An additional query identifies currently admitted overlap patients and their current location. During an outbreak investigation, an analyst executes these queries in the mornings when surveillance screens are scheduled. The queries generate a list of patients to screen that are prioritized on the number of days they were in the same unit with the positive patient. This overlap methodology successfully captures the person, place, and time associated with possible disease transmission. We implemented the overlap method for the last 3 months following 1 year of point-prevalence approach screening during a novel disease outbreak at UNC Hospitals. Results: In total, 4,385 unique patients overlapped with previously identified infected or colonized patients, of which 781 (17.8%) from 40 departments were screened over 15 months. During a subsequent, currently ongoing, outbreak, we are utilizing the overlap method and in 6 weeks have already screened 161 of the 1,234 overlapping patients (13%). After 3 rounds of overlap screening, we have already been able to identify 1 additional positive patient. This patient was on the same unit as patient zero 4 months prior but was readmitted to a unit that would not have received a point-prevalence screen using the standard approach. **Conclusions:** Surveillance screening is a time-consuming, resource-intensive effort that requires collaboration between infection prevention, clinical staff, patients, and the laboratory. By harnessing EMR ADT data, we can better target the population at risk and more efficiently utilize resources during outbreak investigations. In addition, the overlap method fills a gap in the current CDC guidelines by focusing on patients who were on the same unit with any positive patient, including those who discharged and readmitted. Most importantly, we identified an additional positive patient that would not have been detected through a point-prevalence screen, helping us prevent further disease transmission.

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Modeling Transmission of Human Metapneumovirus in a Long-Term Care Facility

Erica Washington, Louisiana Department of Health; Ashley Terry, Louisiana Department of Health; Julie Hand, Louisiana Department of Health; Alexa Ramirez, Louisiana Department of Health

Background: In September 2019, the Louisiana Department of Health (LDH) was notified of a possible outbreak of influenza in a nursing home. Upon investigation, the infectious agent was determined to be human metapneumovirus (HMPV). By the conclusion of the outbreak, 35 (31.3%) symptomatic cases were identified of which 15 were laboratory-confirmed HMPV. Public health coordination, infection control interventions, environmental cleaning audits, halting new admissions, and ceasing group activities are credited with stopping transmission. Considering the high attack rate, LDH epidemiologists examined scenarios wherein the aforementioned interventions were not utilized. The aim of this analysis is to describe transmission of HMPV in a 112-bed nursing home using mathematical models under conditions wherein interventions were not readily implemented. **Methods:** Two deterministic and 1 stochastic susceptible–preinfectious–infectious–recovered (SEIR) models are presented. Although recovered persons can be susceptible to HMPV following an infection experience, the potential for reinfection was not considered for this analysis. Fixed variables considered include a 5-day incubation period, basic reproduction number of 2, 14-day infectious period, and 112 susceptible patients. Three counterfactual modeling conditions are considered: delaying notification of an outbreak to public health epidemiologists (model 1), staff hand hygiene compliance of 50% (model 2), and continuing to accept new admissions (model 3). Average rate of recovery per day was and other metrics are used to demonstrate the number of susceptible individuals. Excel workbooks developed by Vynnycky and White (2010) were used for analysis. **Results:** In model 1, the average rate of onset of