

Background

- Influenza vaccination of healthcare workers is an important component of keeping patients safe, but must be paired with exclusion of ill healthcare workers (HCW) from work.
- CDC recommends exclusion from work until afebrile for 24 hours, but not all HCW with influenza develop fever and may still be a risk for spreading.
- Half of HCW with influenza in an H1N1-dominant season (2013-14) at our institution were afebrile.
- Due to concerns for influenza transmission among HCW and between HCW and patients, we have performed institution-wide HCW screening in the 2014-15, 2015-16, and 2017-18 seasons as well. In the 2016-17 season, we only screened HCW in the neonatal intensive care unit due to localized concerns for transmission.
- Overall employee vaccination rate at UCM has increased from 68.3% in the 2013-14 season to 91% in the 2017-18 season.

Methods

- Due to widespread influenza activity and concerns regarding transmission in the hospital, we instituted HCW screening on 1/29/18.
- Based on previous experience, HCW with fever OR cough were referred for testing. Additional symptomatic HCW tested by their primary care providers were included.
- HCW were instructed to call a Flu Response Pager. During regular business hours (Monday – Friday from 7:30 am – 4:00 pm), testing was performed in the occupational medicine clinic. After-hours, the inpatient Advanced Practice Nurse Service team performed testing.
- Influenza vaccination status and symptoms (fever, cough, runny nose, sneezing, congestion, sore throat, chills, body aches) collected
- HCW with fever were sent home after being screened for influenza. HCW without fever could return to work with a mask pending test results (Fig. 1).
- To decrease cost and turn-around-time for results, testing was performed using Cepheid® Xpert® Flu/RSV. This platform cannot distinguish between FluA types.
- Infection control practitioners (ICPs) contacted each influenza-positive HCW to identify potential patient or HCW exposures and offered oseltamivir prophylaxis to exposed patients and HCW.
- HCW screening was stopped on 4/24/18 when community influenza activity decreased.

Results

Employee Screening Process

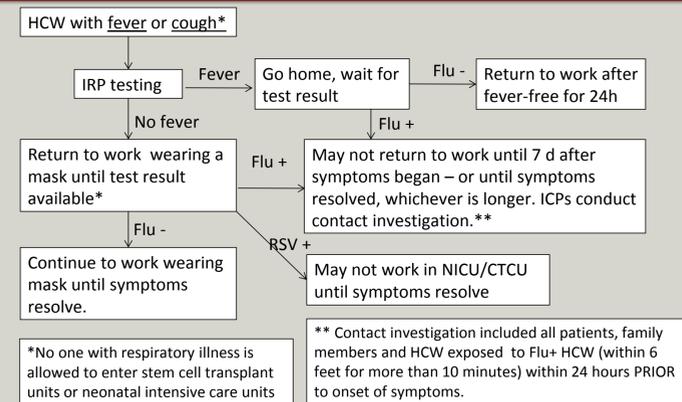


Figure 1: HCW Influenza Screening Algorithm

Healthcare Worker Screening Results

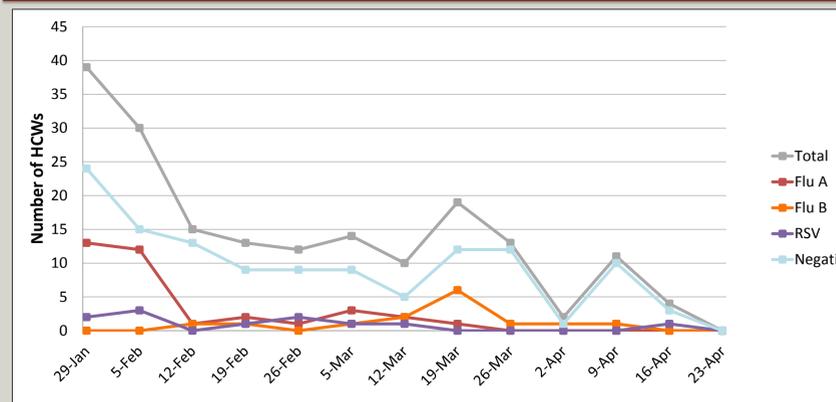


Figure 2: HCW Screening test results..

Institution-wide Influenza and RSV Test Results (Patients and HCW)

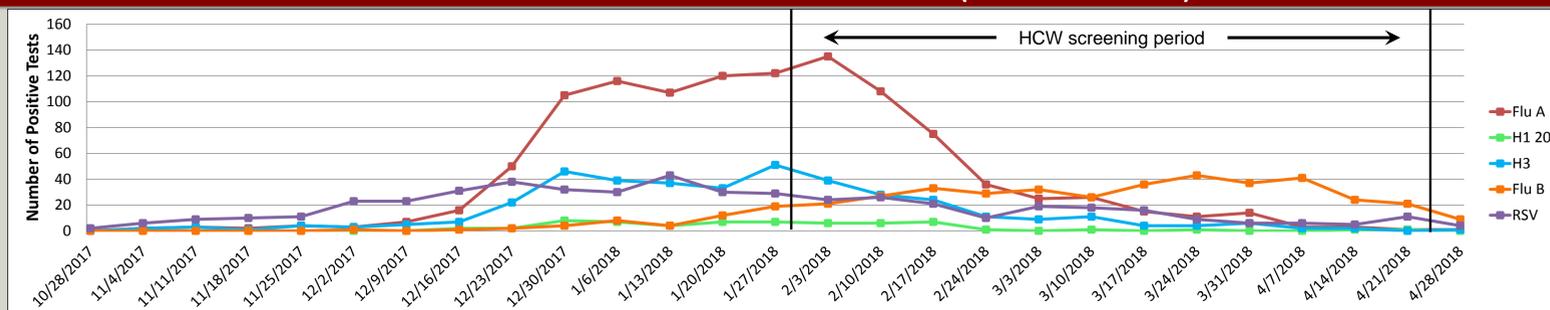


Figure 3: Results of institutional Influenza and RSV testing (two platforms used). BioFire® Respiratory Panel, distinguishes Flu A H1N1 and H3N2. Cepheid® Xpert® Flu/RSV does not type Flu A strains. Flu A line on graph does NOT include H1N1 and H3N2.

Symptoms and Vaccination Status

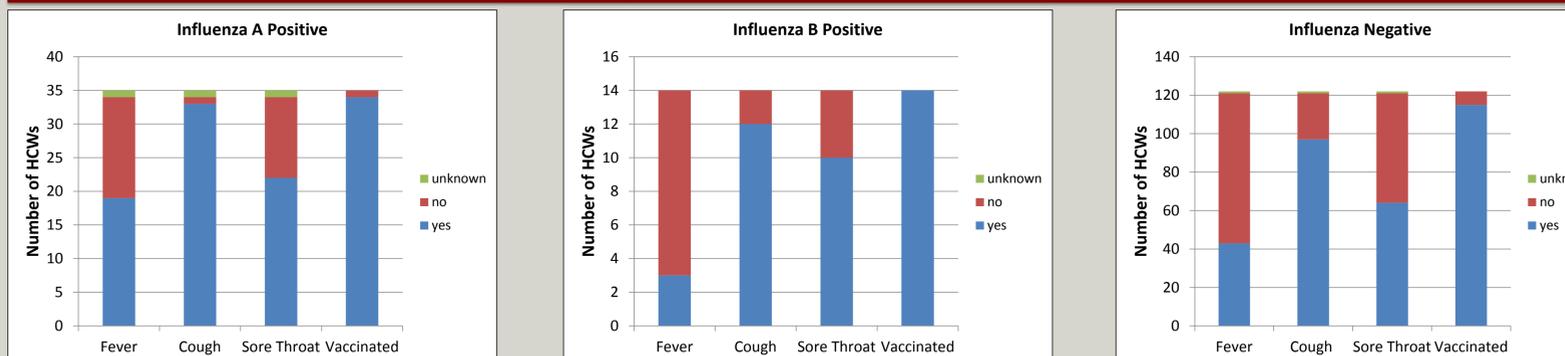


Figure 4: Symptom prevalence and vaccination status of HCW who underwent screening for influenza.

Results, continued

- 186 HCW were tested over a 12-weeks period. 49 (26%) tested positive for influenza (35 with influenza A; 14 with influenza B) and 11 (6%) tested positive for RSV.
 - Of the 11 HCW who tested positive for RSV, all had cough, 6 had sore throat, and only 1 reported fever.
- An additional 55 HCW were diagnosed with influenza by their primary care providers.
- Requiring fever for screening would have missed 11/14 (79%) flu B cases and 15/34 (44%) flu A cases, or 26/48 (54%) cases overall.
- Infection control practitioners performed 43 contact investigations of HCW who reported exposure to patients or other HCW between 24 hours before symptoms onset through the time of diagnosis.
- Occupational medicine provided 138 courses of prophylactic oseltamivir to HCW, and additional courses were prescribed for HCW to be picked up at their preferred pharmacy.

Limitations

- Use of the Cepheid® platform limited our ability to identify Flu A type
- Data on the number of patients given oseltamivir prophylaxis as a result of exposure to an influenza-positive HCW are not available.

Conclusions

- Afebrile influenza illness is common. Current workforce guidelines which focus on management of febrile employees are insufficient to prevent exposure in the healthcare setting.
- Expanding employee influenza screening to include fever OR cough doubled the number influenza positive HCW identified.
- Despite excellent influenza vaccination rates, vigilance is critical to prevent influenza transmission in the hospital.
- HCW screening for influenza based on fever OR cough, exclusion from work, and identification of potential exposures can help keep patients and colleagues safe.

Acknowledgements

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