Impact of Vaccine Promotion Strategies and Facility Type on Health Care Employee Influenza Vaccination Rates in Oregon

Monika S. Lampe, R.N., Katherine Elingston, Ph.D., Zinta G. Delano, M.S.

PUBLIC HEALTH DIVISION

BACKGROUND
• To reduce morbidity and mortality among patients, and to reduce healthcare worker (HCW) illness and absenteeism, the Advisory Committee on Immunization Practices recommends annual influenza vaccination for healthcare workers (HCW).
• Healthy People 2015 and 2020 objectives include HCW vaccination rates of 75% and 90%, respectively.
• The Oregon Health Authority (OHA) began mandatory reporting of HCW influenza vaccination rates for hospitals in 2009, skilled nursing facilities (SNFs) in 2010, and outpatient surgery centers (ASCs) in 2011.

OBJECTIVES
1. Evaluate differences in the use of vaccine promotion strategies by facility type.
2. Assess the impact of vaccine promotion strategies on employee vaccination rates in hospitals, ASCs and SNFs.

METHODS
• Influenza vaccination rates and promotional strategies collected from 61 hospitals, 139 SNFs, and 88 ASCs for 2012–2013 and 2013–2014 influenza seasons.
• Data were submitted through the National Healthcare Employee Influenza Vaccination Survey (NHEIVS) and verified by OHA in direct follow-up.
• We excluded non-employee data and focused on employee data because facility strategies should, in theory, affect employee’s rate.
• The impact of each vaccine promotion strategy on employee vaccination rate was modeled with GEE logistic regression, for 2012–13 and 2013–14 influenza seasons:

RESULTS
2012–13
2013–14
Season
Hospital
SNFs
ASCs
Hospital
SNFs
ASCs
Overall promotional strategy use (all facility types combined)
Most common:
• By-cost vaccine (88%)
• Required declaration form (64%)
Least common:
• Link to credential (0%)
• When required, employee must provide a reason why
• Employee that provides a reason why
2012–13
77%
57%
75%
2013–14
82%
58%
77%
Average
80.0%
57.5%
70.5%

Vaccine Promotion Strategy
No and influenza vaccine offered for free
Mobile carts: vaccine brought to work station
Free: required declaration form
Commercial forms: one or more forms required
Free: required declination form
Recognizes employee’s right to refuse vaccine
Vaccine form required from employee
Mandatory training or conferences
Offer vaccine during events such as fairs
Mobile: offered vaccine employees in their breaks
In the occupational health clinic
Employees’ coworkers at any time
Peer vaccinators
Vaccine is required
Vaccine offered for employees
Vaccine is available
Vaccine form required from employee
Vaccine brought to work station

Table 1. Aggregate and average employee vaccination rates across facility types

Table 2. Health care employee vaccination rates among adopters of vaccine promotion strategies, difference in vaccination rates between adopters and non-adopters, significance of association between promotion strategy adoption and vaccine rates, and prevalence of promotion strategy adoption for hospitals, skilled nursing facilities (SNFs), and ambulatory surgical centers (ASCs)

CONCLUSIONS
Summary of findings:
• Employee vaccine rates were highest at hospitals and lowest at SNFs.
• Both SNFs and ASCs used vaccine promotion strategies less frequently than hospitals.
• Different types of vaccination promotion strategies are associated with success rates in different settings.
• Mask use is effective in hospitals and ASCs.
• Notes cards and destination forms are effective in SNFs.

Limitations:
• When an employee’s vaccination status is unknown, the individual is considered unvaccinated, which could affect rates.
• This degree to which a facility implemented a promotional strategy was not assessed.
• For some strategies, there may have been insufficient variability to assess significance of association.

Recommendations:
• Vaccination campaigns should be tailored to facility type for maximum effectiveness.
• Future surveys of promotional strategies should include specific implementation practice questions.

REFERENCES
1. CDC. Immunization of health-care personnel: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep 2011;60(No. RR-7)
4. Acute and Communicable Disease Program

Figure 1. Use of vaccine promotion strategies by facility type: averaged over 2012–13 and 2013–14 influenza seasons

Figure 2. Health care employee vaccination rates among adopters of vaccine promotion strategies, difference in vaccination rates between adopters and non-adopters, significance of association between promotion strategy adoption and vaccine rates, and prevalence of promotion strategy adoption for hospitals, skilled nursing facilities (SNFs), and ambulatory surgical centers (ASCs)

Figure 3. Health care employee vaccination rates among adopters of vaccine promotion strategies, difference in vaccination rates between adopters and non-adopters, significance of association between promotion strategy adoption and vaccine rates, and prevalence of promotion strategy adoption for hospitals, skilled nursing facilities (SNFs), and ambulatory surgical centers (ASCs)