

What might increase influenza vaccination rates among healthcare workers?

Presenter: George Astrakianakis

Authors: George Astrakianakis, Eleanor Murray, Phyllis Stoffman, Karen Ngan, Sharla Drebit, Carole Taylor

Objectives:

In Canada as elsewhere influenza vaccination for healthcare workers (HCWs) is widely recommended by public health authorities in order to decrease the risk of infection and complications in the vulnerable populations for which they care. In the province of British Columbia (BC), influenza immunization policy ensures free vaccine to all HCWs and requires that all facilities implement a written policy promoting staff immunization. Vaccinations are not yet compulsory but policy mandates that unvaccinated HCWs be reassigned or take unpaid leave during an outbreak if they decline antiviral prophylaxis. All BC HCWs are offered free influenza vaccine through comprehensive, convenient, and well-organized annual campaigns. Nonetheless, provincial vaccine coverage remains between 43% - 46% in acute care and between 50%-80% in long term care facilities -- below the overall goal of 80% coverage for all HCWs. Consequently compulsory influenza vaccination policies are being contemplated. Analyses of HCW characteristics associated with having been vaccinated were conducted in one BC jurisdiction to support vaccine campaign planning.

Methods:

Yearly vaccination rates were calculated (2004/05 to 2007/08) and stratified by employee variables (e.g. occupation, employment status, age group, gender). The vaccine coverage rates were calculated using a denominator that includes all staff employed by the health authority in October each year and excludes staff not available for work during the influenza season. Multivariate analyses were conducted using logistic and probit regressions (SAS V9.2).

Results:

Results were highly consistent across analysis methods and across outcome categorizations. The final model included six variables: gender, age group, subsector, occupation employment status, and health service delivery area (Hosmer-Lemeshow goodness-of-fit test $P=0.73$). The largest differences in regular vaccination were seen in occupational category and subsector. For example, health science professionals were 44% more likely to receive regular vaccine (OR: 1.44, 95% CI: 1.20, 1.74) than workers in the 'other occupation' category (including Maintenance, Lab Assistant/Technicians, Health Services Assistants, and Unknown Occupation), while care aides were 47% less likely to receive regular vaccine than other workers (OR: 0.68, 95% CI: 0.57, 0.79). Similarly, workers in long-term care facilities were 29% more likely to receive regular vaccinations than acute care workers (OR: 1.29, 95% CI: 1.11, 1.50), while workers in 'other or multiple' sectors were nearly 50% less likely to receive regular vaccinations than acute care workers (OR: 0.67, 95% CI: 0.50, 0.90).

Conclusions:

The practical implications of identifying key groups of workers who are less likely to receive seasonal influenza vaccinations are many. Non-full-time workers have approximately 50% lower odds of receiving seasonal influenza vaccine regularly than full-time workers. A targeted vaccination promotion program which successfully increased the rate of vaccination up-take among non-full-time workers to a rate equivalent to that among full-time workers would result in 887 additional workers (6% of the total workforce) vaccinated regularly just from this category. A health region or agency could use such data to guide campaign strategies by choosing to allocate resources to those areas and categories with the lowest coverage with the potential of increasing rates to recommended levels without the need of a compulsory vaccination policy.