

# AMMI Canada position paper: 2012 Mandatory influenza immunization of health care workers

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## STATEMENT

Annual influenza immunization should be required as a condition of new and ongoing employment or appointment for all workers who spend time in areas where patient care is provided and/or patients are present.<sup>1</sup>

## BURDEN OF INFLUENZA

Influenza remains the most common infectious disease cause of death in Canada and is a frequent cause of outbreaks in both acute and long-term care facilities (1,2). The majority of morbidity and mortality associated with influenza accrues to older adults, infants and individuals with significant underlying illnesses. While immunization is of significant benefit in these populations, vaccine efficacy is limited, and considerable morbidity and mortality occurs even in vaccinated persons (3,4). Outbreaks of influenza in long-term care homes for the elderly are common, occurring in as many as 50% of institutions annually (5). In acute care, hospital-acquired influenza occurs at an estimated rate of three to eight per 1000 patient admissions and has a case fatality rate estimated to be 7% to 16% (6). For this reason, Canadian public health officials have, for nearly 30 years, recommended immunization not only of these at-risk populations, but also of close contacts and caregivers who may transmit influenza to them (3).

## BENEFITS OF HEALTH CARE WORKER INFLUENZA IMMUNIZATION

In healthy adults 18 to 64 years of age, influenza immunization is approximately 60% effective in preventing infection overall, and reduces the duration and severity of symptoms in persons in whom infection occurs (7). Serious adverse events are rare and the benefits of influenza immunization of adults substantially outweigh the risks (3,4).

As many as 26% of unvaccinated health care workers are infected with influenza annually, and transmission of influenza from health care workers to patients has been described in many different health care settings (3-6,8,9). Influenza may be transmitted to patients by workers with symptomatic or asymptomatic infection, or before the onset of

symptoms (10); many studies have documented that the majority of health care workers continue to work when ill with acute respiratory illness, including influenza (11-13).

Four randomized controlled trials have demonstrated that health care worker immunization in chronic care hospitals/long-term care homes for the elderly reduces patient mortality (14-17). The striking benefit – a 20% to 40% reduction in mortality during the influenza season – is consistent across studies, occurs only during periods of influenza activity and increases with increasing health care worker immunization rates. Observational studies also suggest that the risk of influenza outbreaks decreases as the immunization rate of health care workers increases (5,18).

There are no randomized controlled trial data to assess the impact of health care worker vaccination on patient illness in acute or ambulatory care settings. However, the biological rationale for health care worker immunization does not vary from one health care setting to another. In acute care, two observational studies have found that lower health care worker immunization rates were associated with higher rates of laboratory-confirmed hospital-acquired influenza (18,19), and transmission of influenza-like illness among and between health care workers and patients in acute care hospitals was common (20). The frequency and importance of this transmission is confirmed in influenza outbreaks in acute care, where health care worker attack rates mirror – and sometimes exceed – patient attack rates (6,8,20,21). There are also mounting data confirming that protection is provided to close contacts of vaccinated individuals, strengthening the evidence from acute and long-term care that vaccination of health care workers not only reduces the risk of individual worker to patient transmission, but also reduces the overall risk of influenza in vulnerable patient populations (22,23).

Modelling studies and observational data suggest that increases in health care worker immunization from any baseline will lead to incremental reduction in transmission and better patient protection; that is, optimal patient protection requires that all health care workers be vaccinated (5,24,25).

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## VOLUNTARY HEALTH CARE WORKER INFLUENZA IMMUNIZATION PROGRAMS HAVE FAILED

Despite this evidence, and despite efforts to promote health care worker immunization, influenza immunization rates among health care workers remain unacceptably low. For instance, the median rate of health care worker immunization in Toronto, Ontario, in 2010/2011 was 37% in acute care facilities and 58% in long-term care homes (26). In Ontario, immunization rates among health care workers in long-term care homes have been decreasing rather than increasing over the past five years (unpublished data, Ontario Ministry of Health and Long-Term Care).

Studies of health care worker immunization have demonstrated that single interventions (eg, provision of information, incentives) have either no effect, or an effect too small to be detected when studied (27). Programs that introduce multiple interventions simultaneously, which are based on principles of social marketing or quality improvement, and have strong and visible institutional support, have been reported to increase immunization rates by 10% to 25% (28-30). However, numerous studies of voluntary immunization programs have demonstrated that several years of multidisciplinary programs that have strong senior management support and include all of the nine components recommended by the United States Advisory Committee on Immunization Practices result in health care worker immunization rates of no greater than 65% to 75% (28-35). In addition, wavering of attention to such programs has rapidly resulted in decreases in immunization rates (35).

## MANDATORY HEALTH CARE WORKER INFLUENZA IMMUNIZATION PROGRAMS HAVE SUCCEEDED

These data have resulted in public health departments and health care agencies considering various forms of requirement for health care worker immunization. Several American states now have laws that require hospital-based health care workers to either receive or formally decline influenza immunization each year (36), and an increasing number of health care agencies have implemented institutional requirements for annual influenza immunization among their employees and other staff. Reports from programs with requirements for immunization and termination of employees who refuse have

demonstrated that such programs achieve immunization rates of >90% sustained over time, result in termination of <0.2% of employees, and are accepted and viewed positively by employees and other staff (32,33,37,38).

## IMMUNIZATION AS A CONDITION OF EMPLOYMENT IS ETHICALLY JUSTIFIED

As workers in occupations that are freely chosen, all persons who work in health care, but physicians in particular, are granted special privileges and powers by society. As a result, we also have specific obligations to do no harm, and to take all reasonable action to protect the patients we care for. Being vaccinated against influenza is a duty of care; the needs and safety of patients must come before the personal preferences of individual health care workers (39,40).

Three criteria have been proposed that must be met to justify mandating compliance with a preventive intervention (41). First, there should be clear medical value from the intervention to the individual. Second, the public health benefit of the intervention must be clear. Third, a requirement must be considered the only option.

It is the position of AMMI Canada that these three criteria have been met in relation to health care workers and influenza immunization. Health care workers and their employers have an ethical obligation to act in the best interest of the patients for whom they provide care. Influenza immunization should be required annually for all workers who spend time in areas where patient care is provided and/or patients are present.

<sup>1</sup>Workers are defined as employees, physicians, contract workers, students and other consultants whose occupations require them to be present in areas where patient care is provided. When influenza is circulating in the local community, health care workers who cannot receive influenza vaccine because of a medical contraindication should be accommodated by reassignment or other methods used to protect patients [eg, health care worker wearing mask in patient care areas]

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