Immunization against influenza and pneumococcal disease in residents of long term care facilities

Immunization's contribution to the prevention, control and, occasionally, eradication of communicable diseases, such as smallpox globally and poliomyelitis in the western hemisphere, is beyond question. A recent meta-analysis of 20 cohort studies on the efficacy of the influenza vaccine in elderly, mostly institutionalized individuals came to a similar conclusion concerning the value of influenza vaccine (1). The studies demonstrated that vaccination prevented hospitalization for pneumonia (33% to 45% vaccine efficacy), hospital deaths from pneumonia and influenza (31% to 65%) and hospital death from all respiratory conditions (43% to 50%). Nevertheless, despite the impressive accumulated evidence of influenza vaccine efficacy, many individuals who are at high risk for influenza- and pneumococcal-related morbidity and mortality are not immunized. As a result, improving influenza and pneumococcal vaccine uptake has emerged as one of the most important challenges we face in contemporary adult immunization.

Although influenza immunization coverage rates of Canadians at high risk for influenza morbidity or mortality are still lower than proclaimed target levels, immunization against this recurring epidemic in Canada has increased progressively, and impressively: from 1980 to 1992 influenza vaccine distribution increased from 32 to 140 doses per 1000 population (2). This rate was only exceeded in the United States and France where 145 and 175 doses per 1000 population, respectively, were distributed. In 1991 and 1992, the Canadian Omnibus Survey, a door-to-door survey of a modified probability sample of the general population, determined that 11% (95% CI 10 to 13) of the population 18 years of age or older stated they received influenza vaccine (3). This yields a calculated vaccine uptake rate of 110 (100 to 130) doses per 1000, a figure similar to Fedson's estimate of 140 doses per 1000 (1). Among noninstitutionalized persons, the survey determined that 43% of individuals 65 years of age or older reported receiving influenza vaccine in the preceding year. This, however, is still substantially less than the 70% goal for the year 2000 set at a recent Canadian Consensus Conference on Influenza (4). In the article by De Wals et al (pages 296-300) in this issue, new data are presented on influenza and pneumococcal vaccination rates of a random sample of residents in Quebec long term care facilities. They reported that overall, 70% of residents received influenza vaccine, and in three of the 25 facilities surveyed, rates exceeded 95%, the target set for these institutions at the Canadian Consensus Conference. However, some rates were as low as 30%. De Wals and colleagues were unable to identify the critical determinants that distinguished institutions where 100% of residents were immunized from those where only 30% were vaccinated. Such microepidemiological information on immunization practices may assist us in identifying strategies to enhance vaccine uptake further. No individual in this study had been immunized against pneumococcal infection.

In addition to highlighting the narrowing gap between immunization practices and public health goals, De Wals et al also provide revealing information on the attitudes and behaviours of physicians and their patients in these institutions. The difference between the attitude and behaviour of physicians was evident with respect to pneumococcal vaccine, which 43% of surveyed physicians stated they recommended for all residents or at least those with high risk conditions. Pneumococcal vaccine was, however, only promoted at one of the 25 facilities surveyed and no resident was reported to have received it. Such a discrepancy had been reported previously with respect to influenza vaccine. Pachucki et al (5) reported that 87% of physicians believed the vaccine to be protective, but only 24% of them had received it in the previous year, 39% planned to receive it and 55% planned to recommend it to their patients. The attitude of nursing home residents concerning influenza vaccine was noteworthy because only 36% of those who were offered it declined to receive it. This is similar to the results of a study done in a community clinic in Hamilton where 44% of
elderly adults living independently refused influenza vaccine (6), but higher than the 14% refusal rate reported for elderly adults living independently in New York State (7). De Wals et al have identified a group of institutionalized elderly individuals analogous to the ‘hard core’ of elderly persons living independently who do not accept vaccination because of negative beliefs about the vaccine’s risks and benefits. Pneumococcal vaccine was unknown to 98% of the long term care residents interviewed in Quebec, so their attitude to immunization with it remains unknown.

Thus, notwithstanding the fundamental differences in the role of public sector programs for vaccine purchase and distribution in Canada and the United States, attitudes and behaviours of Canadian physicians and their patients appear more likely to be quantitatively, rather than qualitatively, different from those of their American counterparts. Accordingly, it seems reasonable to adapt results from American vaccine-related research cautiously for Canadians until more Canadian data, such as those of De Wals and colleagues, are available to address immunization issues in this country directly. Until more explicit made-in-Canada data allow us to identify validated, consistent effective strategies to secure the consent of patients in Canadian long term care facilities (or their responsible next-of-kin or guardian) to be immunized, practitioners should be mindful of the following in thinking about their own attitudes and behaviours concerning influenza and pneumococcal vaccination of residents of long term care institutions.

- Levels of influenza immunization ranging from 30% to 75% in nursing home residents are cost effective (8).
- The correct view of pneumonia and vaccination is that vaccination, not pneumonia, is the old man’s friend (9).
- Organizational initiatives that ensure systematic offering of vaccine to all eligible individuals are more effective than strategies that depend upon initiatives of individual providers or clients (10). This includes the need to systematically obtain informed consent annually from all residents, recognizing that this is time-consuming.
- In the light of accumulating data on the efficacy and safety of influenza and pneumococcal vaccination for elderly institutionalized individuals, immunization increasingly should be viewed as the standard of care, not an option. Reasons for deviation from this standard should be recorded in the patient chart by the attending physician.

REFERENCES
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