

Should All Pharmacists in Direct Patient Care Settings Be Authorized to Inject Medications?

THE “PRO” SIDE

It is a pleasure to argue the “Pro” side of this question, because the answer is both obvious and simple: yes, of course! Over the past couple of decades, the practice of pharmacy and the scope of pharmacy practice across Canada have evolved significantly. This evolution has been driven by escalating costs in the current health care system, identified gaps in patient care, and the need for patients to have access to timely health care services. Traditionally, registered nurses have been the health professionals most commonly administering medications by injection. Other health professionals, such as physicians, emergency medical technicians, and even licensed practical nurses may also perform injections under certain circumstances. However, even though pharmacists are known as “drug therapy experts”, up until recently Canadian pharmacists have not been allowed to administer medications by injection. Pharmacists in Alberta, British Columbia, New Brunswick, and most recently Ontario now have the authority to administer medications by injection, with legislation pending in several other provinces.¹ Accredited programs for injection training for pharmacists are available across the country, with some pharmacy schools starting to incorporate injection training into undergraduate pharmacy programs.² But is there any value in authorizing and training yet another group of health professionals to administer medications by injection? Again, my answer to this question is an unequivocal yes!

To support my argument, I will first use immunization as an example. In the 2002 report of the Commission on the Future of Health Care in Canada,³ immunization was identified as one of the most effective illness-prevention strategies. Childhood immunization programs in Canada have been largely successful, but there is clear evidence that this is not the case for adults. Adult vaccination rates fall well below national targets for many vaccine-preventable diseases, including pneumococcal disease, influenza, and tetanus.⁴ As a result, morbidity and mortality due to vaccine-preventable illnesses occur disproportionately in the adult population.⁵ A number of factors have been associated with low vaccine uptake among adults, including lower education and income levels, lack of transportation, and limited access. As one of the most accessible health professionals, pharmacists are in an ideal position to be immunization advocates, to screen patients for required

vaccinations, and to administer vaccines. In the United States, all 50 states allow pharmacists to administer vaccinations, and research has shown that pharmacists can significantly increase the uptake of vaccinations (e.g., for influenza), especially in the older adult population.^{6,7} Similarly, most pharmacists in practice today will remember the widespread outbreak of H1N1 virus in 2009. In an analysis of the US response to H1N1, including both accomplishments and challenges, Rambhia and others⁸ noted that the use of pharmacists was important to implementing mass vaccination programs. Pharmacists working in community settings have also developed unique and much-needed specialized practices in travel health medicine, offering Canadian travellers a “one-stop” alternative for obtaining required vaccinations along with their prescription and nonprescription medications.

Some may believe that community pharmacists are better positioned than hospital and health-system pharmacists to take on the “technical” role of administering vaccinations; however, we do not have to venture far to see why this is not the case. The goals of the CSHP 2015 initiative of the Canadian Society of Hospital Pharmacists include increasing the extent to which pharmacists working in hospitals and related health care settings apply evidence-based methods (Goal 3) and engage in public health initiatives (Goal 6).⁹ Objectives within these goals are aimed at increasing initiatives that target community health and ensuring that high-risk patients in hospitals and related health care settings receive vaccinations for influenza and pneumococcus. What better time to vaccinate adult patients at a higher risk of morbidity and mortality due to these infections than during hospital stays or visits to outpatient clinics? Hospital pharmacists are increasingly involved in outpatient clinics, taking care of patients with multiple chronic medical conditions. In a 2001 survey of ambulatory care pharmacists in the United States, 8% reported administering vaccinations as a routine function of their practice, and 19% reported routinely performing immunization screening.¹⁰ Even if health-system pharmacists do not routinely administer vaccinations to patients, they can play an important role in screening patients for vaccination history, as well as vaccinating fellow health care workers. Studies have found that vaccination-certified pharmacists, regardless of practice site location, were more involved as advocates, partners, or providers of immunization than pharmacists without such certification.¹¹ Studies have also shown that pharmacist-run vaccination clinics increased rates of employee vaccination for influenza.¹²

Vaccinations are important, but the authorization to administer medications by injection should extend beyond immunization. In many institutions, pharmacists are integral to the development of policies and procedures related to

medications given by injection, providing advice to physicians and nurses with regard to stability of preparations, compatibility of drugs, and routes of administration, as well as educating patients and their caregivers on how to administer injectable medications. An increasing number of conditions can be treated with injectable medications on an outpatient basis. Pharmacists are expected to provide education and even to teach patients how to do the injections, but cannot perform such injections themselves. Where is the logic in this? If the goal is to provide integrated, coordinated care across the health system, would it not make sense to give pharmacists authorization to administer medications by injection? In community settings, not only would this improve patients' access and convenience, but it might also reduce the chance of interruptions in the cold chain that occur when patients must go to another provider for the injection. For health-system pharmacists, having the authority to administer injections would offer the opportunity to incorporate this activity into existing and new practice models, such as home care and home parenteral therapy teams.

Within the context of increasing demand for and cost of health care services, re-evaluation of professional scopes of practice is needed to ensure that patient care is coordinated across the continuum. Pharmacists should have authorization to administer medications by injection! Increasing the number of health professionals who can administer vaccines and medications by injection benefits patients, through increased access and convenience, and will ultimately lead to better patient outcomes. Incorporating authorization for injection into an expanded scope of pharmacist practice allows pharmacists to utilize their knowledge and skills as medication therapy experts and to work collaboratively with patients and other health professionals. It also allows the profession of pharmacy to contribute as an equal partner in pandemic planning and mass immunization, should the need arise.

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THE “CON” SIDE

Over the past few years, several provinces have made legislative changes enabling pharmacists to broaden their scope of practice to include immunization and injections. Initiatives to expand pharmacy practice in this manner are largely related to addressing suboptimal immunization rates within the Canadian population and missed opportunities for vaccination in other areas of the health care system. Among health care professionals, community-based pharmacists are uniquely accessible to the public, particularly during evening and weekend hours. Furthermore, evidence supports community pharmacists as trusted health care professionals whose recommendations regarding immunization are generally followed by their patients.^{1,2} These factors give community pharmacists the opportunity to enhance Canadian immunization rates, which should ultimately reduce the burden of illness secondary to vaccine-preventable diseases.

What is not clear, however, is whether such arguments are applicable to hospital pharmacists. First, hospital pharmacists are not as accessible to the public as their community counterparts. Although many hospitals have extended pharmacy hours, pharmacists working evening and weekend shifts spend most of their time performing medication order entry and review, as well as reactive problem-solving, rather than direct patient care activities.³

Moreover, many Canadian hospital pharmacies have not yet achieved optimal levels of patient care activities, even during hours of full staffing. The 2009/2010 Hospital Pharmacy in

Canada survey indicated that many clinical services, including those provided in critical care areas, did not have clinical pharmacy coverage,⁴ despite evidence that such coverage has positive impacts on clinical and economic outcomes.^{5,6} Likewise, only 69% of respondents to the survey reported that medication reconciliation occurs at the time of admission, and they placed a low priority on pharmacists conducting admission drug histories,⁷ which implies that other health care professionals primarily conduct this activity. Yet admission medication histories conducted by pharmacists are associated with lower in-hospital mortality rates, fewer medication errors and adverse drug events, shorter lengths of stay, and lower drug costs, as well as lower total costs of care.⁸⁻¹² It is difficult to justify having hospital pharmacists serve as immunizers when core clinical activities that are known to improve patient outcomes and save scarce health care dollars are not being performed.

A third reason why it may be inappropriate for hospital pharmacists to perform routine vaccination are the data clearly demonstrating that community pharmacist immunizers enhance immunization rates at the population level,¹³⁻¹⁷ especially in medically underserved areas.^{16,17} The level of evidence for hospital pharmacists in this role, though positive, is not nearly as strong.^{18,19}

The foregoing rationale does not mean that hospital pharmacists should avoid involvement in immunization-related activities, but any such activities should be evidence-based and should be incorporated into core clinical activities. One example would be inquiring about vaccinations as part of the medication history.²⁰⁻²² Through this process, pharmacists can identify people needing vaccination, provide education to patients, and write orders for the required vaccines to be administered by a nurse or physician. This approach improves immunization rates but would not detract from core clinical pharmacy activities.

Finally, we must consider the cost of the education required to certify pharmacists as immunizers. Until widely incorporated into the undergraduate pharmacy curriculum, immunization by pharmacists remains a postgraduate competency, which comes with both direct costs (for the education program itself) and indirect costs (for staffing coverage for any pharmacist taking the program) to the organization. In times of fiscal restraint, such as the Canadian health care system is currently experiencing, it is important to prioritize educational activities for pharmacists. Given the need to enhance core clinical pharmacy services in Canadian hospitals, perhaps priority should be given to education that supports pharmacists in the provision of these activities.

There is no doubt that hospital pharmacists have an important role to play in the provision of immunization, but not necessarily as immunizers. Before such programs are implemented, consideration should be given to their impact on core clinical activities.

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travel support from the Public Health Agency of Canada; payments for writing and review of continuing education programs about immunization from Safeway, Public Health Agency of Canada, and Canadian Paediatrics Society; and payments for development of continuing education from the Pharmacy Association of Nova Scotia and Dalhousie Continuing Pharmacy Education. Dr Bowles is the current Chair of Immunize Canada (<http://immunize.ca>), a coalition of nongovernmental organizations, consumer groups, and government and private sector agencies which aims to increase awareness of vaccines recommended by the National Advisory Committee on Immunization and to promote their use by the Canadian population.

Having recently spent 6 months successfully arguing that her organization should include immunization as part of pharmacists' daily practice, Dr Bowles has heard all the arguments against doing so.

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