Satisfaction with student pharmacists administering vaccinations in the University of Alberta annual influenza campaign

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ABSTRACT

Objective: To evaluate University of Alberta staff and students' acceptance of and satisfaction with receiving influenza vaccinations from student pharmacists during the university's annual influenza campaign.

Material and methods: A patient survey was created to collect patient demographics, influenza history and feedback on the services provided by pharmacy students and to measure willingness to receive vaccinations from a pharmacist in a community pharmacy. The 13-question survey was distributed to patients who received an influenza vaccination from a student pharmacist during the influenza campaign.

Key findings: A total of 1555 staff and students completed the satisfaction survey. Almost all (n = 1533, 99%) survey participants were satisfied or very satisfied with the service provided by student pharmacists. A total of 1437 (92%) participants agreed or strongly agreed that based on this experience, they would be willing to receive vaccinations from a pharmacist in a community pharmacy and 1526 (98%) participants rated their overall experience at the flu clinic as very good or excellent.

Conclusions: Positive responses to the survey suggest that University of Alberta staff and students are satisfied with the service provided by student pharmacists. Their willingness to receive vaccines from a pharmacist in a community pharmacy highlighted public acceptance of the expanding role of pharmacists as immunizers. *Can Pharm J (Ott)* 2013;146:227-232.

We were interested in assessing patient acceptance of and satisfaction with receiving influenza vaccinations from student pharmacists.

Nous avons voulu évaluer le niveau d'acceptation et de satisfaction des patients qui se sont fait vacciner contre la grippe par des étudiants en pharmacie.

Introduction

In recent years, community pharmacists have made significant contributions to influenza vaccination.[1] In 2010, the University of Alberta was the first pharmacy program in Canada to obtain approval to authorize student pharmacists to administer drugs by injection under the supervision of pharmacists registered for injection.

Evidence suggests that student pharmacists involved in administering immunizations at community pharmacy–based immunization clinics show increased self-confidence.[2] To help the student pharmacists maintain their knowledge and level of confidence and competence in their injection skills, the Faculty of Pharmacy and Pharmaceutical Sciences approached the University Health Centre with a proposal that student pharmacists participate in the university's annual influenza campaign.

The objectives of the students' participation in the influenza clinics were to:

1. Provide an opportunity for student pharmacists to be immunizers for the university's annual influenza campaign

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KEY POINTS

- Involvement of pharmacy students in a university's annual influenza campaign provides a hands-on opportunity for students to practise injection skills.
- University staff and students were satisfied with influenza vaccinations provided by student pharmacists.
- Patients are willing to receive vaccinations from pharmacists in a community pharmacy setting.

2. Provide an opportunity to reassess students' injection skills
3. Provide a hands-on opportunity for students to practise and maintain their injection skills
4. Provide students with an opportunity to educate patients on immunization and the influenza vaccine
5. Increase students' confidence in providing injections to the general public
6. Provide an opportunity for student pharmacists to collaborate with nursing students and other health care providers, such as nursing instructors, in an interdisciplinary setting

As of October 2012, Alberta is 1 of 5 provinces in Canada that has granted approval for authorized pharmacists to administer immunizations. Several other Canadian provinces are working toward a similar expanded scope of practice for pharmacists.[3] In the United States, where pharmacists in all states have the authority to administer vaccinations,[4] there has been a call to action for pharmacy schools to mandate immunization education and training as part of their core curriculum.[5] A similar call to action may impel other Canadian pharmacy schools to incorporate immunization certification as a component of their curriculum once regulations are finalized in their respective provinces.

Evidence from the United States shows that pharmacy schools were successful in involving student pharmacists in public health initiatives to improve vaccination rates.[6] Since the Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, is the first pharmacy program in Canada to involve student pharmacists in an annual influenza campaign as immunizers and advocates, it is important to measure the success of this involvement. In particular, the principles of patient-centred care, as outlined in the Blueprint for Pharmacy,[7] specify that it is important to evaluate patients' opinions regarding their care. The objective of this study was to assess patient acceptance of receiving influenza vaccines from student pharmacists and patient satisfaction with the student services.

Materials and Methods

Upon approval from the University of Alberta Research Ethics Board, this study was conducted during the University of Alberta's annual influenza campaign, which offered influenza vaccines to all University of Alberta staff and students. The University Influenza Campaign 2011 consisted of 4 clinic days on the main campus and 2 single-day offsite influenza clinics at extension campuses: Campus Saint-Jean and Enterprise Square Campus. Both pharmacy and nursing students were involved in administering influenza vaccines at the main campus. Vaccinations during the first 2 clinic days on the main campus and Enterprise Square Campus were performed solely by student pharmacists under the supervision of registered pharmacists authorized to administer drugs by injections. The last 2 days of the clinic on the main campus provided student pharmacists with a unique opportunity to work with nursing students in an interdisciplinary setting. Eighty student pharmacists participated in the clinic. Twenty-seven community pharmacists volunteered to supervise the student pharmacists, providing them with guidance, encouragement and emotional support. All staff and students who received influenza vaccines from student pharmacists were included in the study.

The influenza clinic was organized into 3 areas: 1) preclinic, 2) vaccination and 3) after care. With assistance from the university's Human Resource Services, student pharmacists at the preclinic area were responsible for screening patients regarding their eligibility to receive vaccination, distributing a vaccination registration/history form to patients, assisting patients in filling out all required fields in the registration form, answering questions regarding the vaccination process and assisting patients in proceeding to a waiting area until they were accepted for immunization. The vaccination area consisted of 20 stations with 2 students (pharmacy or nursing) at each end of the station. Student pharmacists in this area reviewed the

form with patients to confirm vaccination eligibility, obtained patient consent and administered the influenza vaccine. Following vaccination, patients were escorted to rest in the after-care area, where student pharmacists monitored patients for adverse reactions to the vaccination. While waiting in the after-care area, patients were asked to complete a satisfaction survey regarding their vaccination experience. On the days that clinics were operated by pharmacy and nursing students, staff and students were given a satisfaction survey immediately after receiving their vaccination from the pharmacy student. The study received approval from University of Alberta Research and Ethics Board.

The satisfaction survey was divided into 3 sections. The first section consisted of demographics such as age, sex and university status. The second section consisted of questions regarding patient satisfaction with the service provided by student pharmacists and feedback on the quality of service provided within each respective field. The quality of service questions included the provision of adequate information about the flu shot, level of helpfulness and level of respect and professionalism. The last section consisted of questions that assessed patient influenza history and their willingness to receive vaccinations from pharmacists in community pharmacies based on their experience at the influenza clinic.

At the end of the influenza campaign, the student pharmacists were asked to fill out an online program evaluation.

POINTS CLÉS

- En participant à la campagne universitaire annuelle contre la grippe, les étudiants en pharmacie ont eu la chance d'améliorer leurs compétences pratiques en matière d'injection.
- Le personnel et les étudiants de l'université ont été satisfaits du travail effectué par les étudiants en pharmacie durant la campagne de vaccination.
- Les patients sont disposés à se faire vacciner par les pharmaciens des pharmacies communautaires.

Results

A total of 4589 University of Alberta staff and students participated in the annual influenza campaign, with 1555 completing the survey (34%) (Table 1). The demographics of the subjects responding are shown in Table 2. Most

TABLE 1 Distribution of administered vaccines

Campus	Doses administered	No. of students working at clinics
Main campus		
Day 1	963	42 (Pharmacy)
Day 2	879*	46 (Pharmacy)
Day 3	1150	19 (Pharmacy), 25 (Nursing)
Day 4	1284	16 (Pharmacy), 25 (Nursing)
Enterprise Square Campus	202	14 (Pharmacy)
Campus Saint Jean	111	12 (Nursing)

*The clinic ran out of vaccines for 3 hours in the afternoon.

TABLE 2 Demographics of study participants

	Female, *n* (%)	Male, *n* (%)	Preferred not to disclose, *n* (%)	Total
Student	655 (42)	417 (27)	1 (0)	1073 (69)
Faculty member	55 (4)	86 (6)	0	141 (9)
Staff	178 (11)	120 (8)	0	298 (19)
Others	17 (1)	25 (2)	1 (0)	43 (3)
Total	905 (58)	648 (42)	2 (0)	1555

TABLE 3 Location of influenza vaccine received in previous year (n = 1027)*

Place	n (%)
University influenza clinic	655 (64)
Public clinic	253 (25)
Doctor's office	54 (5)
Other locations	45 (4)
Pharmacies	20 (2)

*Of those surveyed, 518 did not receive a vaccine, and 10 people declined to answer this question.

receiving the influenza vaccine were between 18 and 30 years old and 58% were female.

Two-thirds of patients (n = 1027, 66%) who completed the survey received an influenza vaccine in 2010. Of these patients, close to two-thirds (n = 655, 64%) had received their vaccination during the influenza campaign organized by the University Health Centre. Meanwhile, one-fourth of these patients (n = 253, 24%) had received their influenza vaccine in 2010 at public clinics. Only a small fraction had received an influenza vaccine from a community pharmacy (n = 20, 2%) (Table 3). More than 30% of university staff and students (n = 518, 33%) had not received an influenza vaccine in 2010 (Table 3).

A 5-point Likert scale was used to evaluate different aspects of services provided by student pharmacists. Overall, university staff and students were satisfied or very satisfied with the service provided by student pharmacists (n = 1533, 99%) (Table 4). Most staff and students agreed or strongly agreed that, based on their experience at the influenza clinic, they would be willing to receive vaccines from a pharmacist at a community pharmacy in the future (n = 1437, 92%).

Discussion

The University of Alberta is the first pharmacy program in Canada to implement an injection certification program as part of the curriculum and to incorporate the university flu clinic as part of the training program. The principles of patient-centredness call for an assessment of patient satisfaction with pharmacist care. We found a high level of satisfaction with the care provided by the student pharmacists and broad acceptance of pharmacists' expanded scope of practice in providing immunizations in more than 1500 university students and staff. This high degree of acceptance and satisfaction has important implications for our student program as well as for pharmacist vaccination in general.

The results are consistent with previous studies conducted in the United States, where clinics were held at an assisted-living facility, a pharmacy specialty immunization clinic and a travel health clinic located in an independent pharmacy.[8-10]

The university influenza campaign was successful in promoting influenza awareness, as 4580 doses of vaccine were administered in 2011. With the participation of student pharmacists in the 2011 influenza campaign, the University Health Centre was able to expand the clinic from 2 days in 2010 to 4 days in 2011 on the main campus. The increased accessibility to influenza vaccines may be in part responsible for a 30% increase in staff and students receiving the vaccine in 2011 compared with 2010.

TABLE 4 Patient satisfaction with services provided by student pharmacists

Service	Satisfied or very satisfied, n (%)
Provided adequate information	1538 (99)
Provided answers to questions	1496 (96)
Provided explanation in a way that is easy to understand	1541 (99)
Was helpful in assisting patients with the registration form	1288 (83)
Demonstrated respect and professionalism	1548 (100)
Overall service	1533 (99)
Overall experience	1526 (98)

Legislation in Alberta has approved pharmacist administration of drugs by injection since 2006. Even though pharmacists are among the most accessible health care professionals, interestingly, fewer than 2% of the university staff and students received their influenza vaccine at a pharmacy in 2010, even though the vaccine is free of charge to all residents of Alberta regardless of who administers it. Many staff and students commented in the survey that they were not aware that pharmacists were authorized to provide immunizations. Our findings suggest that there is a need for pharmacists to promote immunization services in community pharmacies.

The influenza clinic provided students with a direct patient care experience that could not be simulated in a lab or classroom. The presence of pharmacists at the clinic provided support and guidance, which increased the confidence of students in their injection skills. The students were asked to fill out a program evaluation survey after the influenza campaign. On the basis of the results of the evaluation, all students felt more confident in their knowledge, skills and competence in immunization after participation in the clinic.

The benefits of having student pharmacists involved in an influenza clinic include:

1. Students learn better through peer learning—the students were more confident in providing injections to the public in a clinic with other students, as it was less intimidating than being alone in a pharmacy clinic.
2. This is an efficient way of providing practical experience in immunization, as well as providing influenza vaccines to university staff and students.
3. Promoting the expanded scope of practice for pharmacists in the academic community.

Limitations

A major limitation of this study was that not all patients who were vaccinated by a student pharmacist completed the satisfaction survey. Some staff and students did not have an opportunity to complete the satisfaction survey due to the limited number of student pharmacists available in the after-care area to hand out the survey. A few invited staff and students refused to complete the survey due to lack of interest or reluctance to remain in the after-care area. Furthermore, due to the unexpected large number of staff and students interested in receiving vaccinations, not enough surveys were prepared for distribution during the first day of the clinic. A potential bias could have been introduced by having the student pharmacists themselves administer the survey. Finally, because the results are mainly from students and staff from a university setting, they may not be generalizable to patient satisfaction in other settings such as community pharmacies or hospitals.

Conclusion

Overall positive responses from patients at the university's influenza campaign suggest that University of Alberta staff and students are satisfied with the immunization service provided by student pharmacists. The influenza campaign enabled the student pharmacists to gain experience in providing vaccinations, as well as promote the role of pharmacists as immunizers, and helped build greater awareness of pharmacists' expanded role in the university and community. ■

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