



the **Translator**

Canadian Pharmacy ► Research ► Health Policy ► Practice ► Better Health

Pharmacists and Travel Medicine

With a 4% increase in international tourism in 2014, and a new record of 1,135 million tourists annually,¹ tourism is a growing area of opportunity for pharmacists.

While the World Health Organization (WHO) advises all travellers to consult a health care professional at least four weeks before travelling, even consultations taking place as late as the day of departure can be beneficial.² Pharmacists are ideal candidates to provide these consultations; they are accessible, available and, in many provinces, have the authority to prescribe and administer the most appropriate vaccinations.



This issue of *The Translator* focuses on the crucial role pharmacists play in travel medicine. Two of the studies take place in provinces with and without expanded scope authority for pharmacists (Alberta and Quebec, respectively). The remaining two studies take place in the US and aim at quantifying the impact of pharmacists' intervention in travel medicine.

- Are pharmacists ready for a greater role in travel health? An evaluation of the knowledge and confidence in providing travel health advice of pharmacists practicing in a community pharmacy chain in Alberta, Canada
- Community pharmacists' knowledge, beliefs and attitudes towards immunization in Quebec
- A comparison of pharmacist travel-health specialists' versus primary care providers' recommendations for travel-related medications, vaccinations and patient compliance in a college health setting
- Evaluating health outcomes following a pharmacist-provided comprehensive pre-travel health clinic in a supermarket pharmacy

1. UNWTO annual report. Available: http://dtxqt4w60xqp.cloudfront.net/sites/all/files/pdf/unwto_annual_report_2014.pdf.

2. World Health Organization. Medical consultation before travel. Available: www.who.int/ith/precautions/medical_consultation/en/ (accessed March 2, 2016).



Are pharmacists ready for a greater role in travel health?

An evaluation of the knowledge and confidence in providing travel health advice of pharmacists practicing in a community pharmacy chain in Alberta, Canada

Bascom CS, Rosenthal MM, Houle SKD. Are pharmacists ready for a greater role in travel health? An evaluation of the knowledge and confidence in providing travel health advice of pharmacists practicing in a community pharmacy chain in Alberta, Canada. *J Travel Med.* 2015;22(2):99-104. doi: 10.1111/jtm.12172. Corresponding author: Sherilyn K.D. Houle, sherilyn.houle@uwaterloo.ca

Issue: The designation of 48 pharmacies as Yellow Fever Vaccination Centres, in addition to the prevalence of pharmacist-directed travel clinics, is evidence that pharmacy travel consultations is gaining traction in Alberta. The need for these services stems from a misconception regarding potential travel risk, and is compounded by the lack of available appointments for traditional travel clinics.

As accessible and trusted health care professionals, pharmacists are ideally suited to provide high-quality travel services in the community; however, generalist pharmacists may not always possess the knowledge and/or the confidence required to provide these services.

A solution: This small-scale study examines pharmacists' knowledge and confidence in the provision of travel-related advice. The study serves as a pilot to a larger evaluation and aims at developing knowledge translation strategies based on the findings.

Pharmacist knowledge was assessed by means of an email consisting of two cases. Each case was followed by three multiple-choice questions related to traveler's diarrhea, altitude sickness, malaria, travel vaccinations and pre-travel assessment. Participants were also asked to indicate their confidence in each answer provided, as well as their overall confidence in providing patients with travel advice. Finally, a list of services and potential learning programs was presented, which the participants were asked to rate as their preferred means for further education.



Travellers often neglect to seek pre-travel advice because of an inability to obtain appointments from existing travel clinics.

Of the 84 full-time pharmacists invited to participate in the survey, a response rate of 63% was achieved. The mean percentage of correct answers was 27.4% with most of the correct answers concerning the topics of pre-travel assessment (98%) and traveller's diarrhea (40%). Not surprisingly, pharmacists indicated the highest level of confidence in these two topics. Questions concerning travel vaccines and altitude sickness were answered the most poorly with the percentage of correct answers being 4% and 2%, respectively.

Only 21% of pharmacists felt confident providing travel advice unaided, but this number increased to 66% when pharmacists were given the option of using external resources. The discrepancy here may be attributed to the fact that few

pharmacists had formal training on the topic of travel medicine, where 57% of pharmacists relied on strategies such as self-study. When pharmacists were asked to rate education sources, they indicated that online/live medical support programs had the potential to provide the most educational value.

Implications: Study authors conclude that continuing professional development programs and undergraduate training are necessary for pharmacists to acquire the competence and confidence to effectively educate patients on travel-related topics. With the increase in tourism travel and the simultaneous expanding role of pharmacists, an investment in travel health education will be a rewarding one.

Background or research methods: Pharmacists working in the same mid-sized pharmacy chain in Alberta were sent an email that consisted of a survey link and a letter explaining the study. They were given two weeks to complete the survey, with a reminder email sent five days prior to the deadline.

The multiple-choice questions were made up of six options; the first five were potential answers, with the sixth one indicating that the respondent would need to consult an external reference. Each question had only one correct answer. Confidence level for each answer was ranked using a five-point Likert scale.

Questions were created by a practising community pharmacist completing a Diploma in Travel Medicine, with the aid of a number of accredited travel health references including the Centers for Disease Control (CDC) and the WHO. Pharmacists, physicians and experts reviewed questions.

Community pharmacists' knowledge, beliefs and attitudes towards immunization in Quebec

Valiquette JR, Bédard P. Community pharmacists' knowledge, beliefs and attitudes towards immunization in Quebec. *Can J Public Health*. 2015;106(3):e89-e94. doi: 10.17269/CJPH.106.4880

Corresponding author: Pascal Bédard, pascal.bedard.hsj@ssss.gouv.qc.ca

Issue: In the US pharmacists can immunize in every state, with certain states placing restrictions on types of vaccinations and the qualifying population demographic. In Canada, pharmacists are allowed to administer vaccinations in eight provinces; those same eight can also administer travel vaccines, with the addition of Ontario, where regulations are pending.¹

A survey administered to community pharmacists in Quebec from 2008 to 2009 indicated that half of pharmacists surveyed supported legislative changes allowing for provision of vaccinations.² This survey, carried out by the National Public Health Institute of Quebec, did not address the knowledge, beliefs and attitudes pharmacists had towards immunizations. It also did not address barriers that pharmacists felt prevented them from administering immunizations.

A solution: From the pharmacists asked to participate in this study, a response rate of 57% was achieved (115 pharmacists). This represented 1.9% of the total number of community pharmacists in Quebec at the time of the study.

There should be a renewed discussion of the role of pharmacists as immunization agents in provinces where pharmacists do not have the authority to administer vaccines.

According to survey results, 69% of pharmacists knew where to locate Quebec's immunization protocol; however, 72% of pharmacists used this resource less than once a month.

Nurses provided vaccination services in 24% of the pharmacies for an average of 13 hours per week, therefore patient accessibility to immunization services was limited. A possible solution arises from the fact that 52% of pharmacists believed they should be more involved in prescribing and administering vaccinations. Of those, 92% were interested in travel vaccinations.

Increased immunization training (95%) and adequate remuneration (92%) were indicated as factors to increase imple-

mentation of vaccination services. On the other hand, barriers to implementation included lack of both training (92%) and time (90%).

Pharmacists surveyed were knowledgeable regarding vaccines and immunizations. Ninety-seven percent disagreed with the statement "MMR vaccines can sometimes cause autism" and 95% disagreed with the statement "injectable influenza vaccine can cause the flu." Most importantly, 96% of pharmacists believed that the benefits of vaccines outweigh the adverse effects.

Implications: Quebec pharmacists may not be motivated to use immunization protocol because of their limited scope. Fortunately, the barriers pharmacists indicated in the study can be remediated through the introduction of training programs and an appropriate remuneration model, both of which are already available in Canada. In this way, pharmacists can significantly improve patient access to vaccinations including travel vaccinations.

What is the impact of student vaccination efforts on public health?



Find out more.

CPJRPC

Clinical Review • Peer-reviewed Article

Impact of pharmacy students in immunization initiatives:
A literature review

Dana Church et al.

www.pharmacists.ca/immunization

Background and research methods:

This study was descriptive in nature and, as such, no statistical analysis was carried out. The survey took place over the phone during a one-week period in January 2013. The study was exclusively administered in French.

Community pharmacists contacted were randomly chosen from a list of Quebec pharmacies. An introduction to the study and an invitation to complete an online questionnaire was given to the first pharmacist to answer the phone call at each

pharmacy. Authors noted that pharmacists might have agreed to participate due to their interest in immunizations; therefore, study results may not be entirely representative of the community-pharmacist population in Quebec.

1. Ontario Pharmacists Association. OCP consultation on expanded scope to broaden injection authority for pharmacists. *OPA Bulletin*. Available: <http://us5.campaign-archive2.com/?u=52d9e9dfa66c8bca909aa4569&id=3d13751936&e=1c2d348803>. Published April 7, 2016 (accessed April 18, 2016).
2. Sauvageau C, Dubé E, Bradet R, Mondor M, Moisan J. Les services de vaccination dans les pharmacies du Québec. Québec: Institut national de santé publique du Québec, 2011. Available: www.inspq.qc.ca/pdf/publications/1179_VaccinationPharmaciesQc.pdf (accessed March 2, 2016).

A comparison of pharmacist travel-health specialists' versus primary care providers' recommendations for travel-related medications, vaccinations, and patient compliance in a college health setting

Durham MJ, Goad JA, Neinstein LS, Lou Mimi. A comparison of pharmacist travel-health specialists' versus primary care providers' recommendations for travel-related medications, vaccinations, and patient compliance in a college health setting. *J Travel Med*. 2011;18(1):20-25. doi: 10.1111/j.1708-8305.2010.00470.x
Corresponding author: Melissa J. Durham, mdurham@usc.edu compared to primary care providers.

Issue: Pre-travel consultations encompass much more than the administration of vaccines; travellers seeking pre-travel advice also require risk-assessment of their travel-related illnesses, counselling on pharmacological and non-pharmacological options, and education on food, water and insect safety.

This study compared medication (anti-malaria and antibiotics) and vaccination recommendations, as well as patient compliance rates of travel-health specialized pharmacists and non-specialized primary care providers (PCPs) providing pre-travel consultations in a university health centre.

A solution: Pharmacists were 46% more likely to prescribe antibiotics for self-treatment when indicated versus PCPs. Primary care providers were 18% more likely to prescribe antibiotics when not indicated and 43% less likely to order antibiotics when indicated. Furthermore, patients were 12% more likely to comply when pharmacists ordered the prescriptions.

In addition, pharmacists were more likely to order vaccines when indicated, to which patients had a higher compliance rate. In comparison, more vaccines recommended by PCPs were inconsistent with guidelines. Pharmacists were also 17% more likely to prescribe anti-malarial medication when indicated versus PCPs; however, no difference was noted in com-



A pre-travel health clinic run by travel-health specialized pharmacists can provide more consistent evidence-based care compared to primary care providers.

pliance rates for anti-malarial medication.

Another category the authors studied was documentation, where they found that pharmacists were more likely to document the purpose of travel and planned travel activities.

Implications: Patients often face difficulty in accessing their primary care providers for travel purposes. This study highlights that coupling pharmacists' education with extra travel-health training allows for an enhanced role in maintaining travellers' health by providing consistent evidence-based care. It should be noted that training of this nature is also available to Canadian pharmacists.

Background and research methods: Clini-

cal pharmacists working in the pre-travel health clinic have prescriptive authority for vaccines and medications under physician protocol. Pharmacists also had the Certificate of Knowledge in Travel Health from the International Society of Travel Medicine in addition to post-doctoral residency training that included travel medicine. Primary care providers included physicians, physician assistants and nurse practitioners. This retrospective study took place in the University of Southern California's Student Health Center serving approximately 30,000 students.

All self-referred prospective international travellers seen at the clinic in 2007 were included in the study. Patients had the choice between booking a 30-minute

appointment with a PCP or a pharmacist. There was no statistically significant difference between the two populations except for destination and purpose of travel: pharmacists saw more volunteer travel and travel to North Africa versus PCPs who saw more travel to North and Southeast Asia, and study-abroad travel. Recommendations made by health care

professionals were compared with guidelines from the CDC, the WHO and Travax Encompass (a clinical decision support tool for travel medicine practitioners¹). Compliance was confirmed based on medical and pharmacy records of the students. Outcomes for vaccines and medications were categorized into the following four categories: indicated and ordered,

indicated and not ordered (excluding refused/declined), not indicated and ordered, ordered and received (excluding refused/declined).

It is important to note that one of the authors in this study has received honoraria from speaking for Merck and Sanofi Pasteur.

1. Overview. Shoreland Travax. Available: www.shoreland.com/services/travax (accessed April 18, 2016).

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Evaluating health outcomes following a pharmacist-provided comprehensive pre-travel health clinic in a supermarket pharmacy

Tran D, Gatewood S, Moczygemba LR, Stanley DD, Goode JVR. Evaluating health outcomes following a pharmacist -provided comprehensive pretravel health clinic in a supermarket pharmacy. *J Am Pharm Assoc.*2015;55(2):143-152. doi: 10.1331/JAPhA.2015.14140
Corresponding author: Sharon Gatewood, ssgatewood@vcu.edu

Issue: The efficacy of pharmacist-run travel clinics can be ascertained by means of various surrogate markers. Most commonly, this marker is patient adherence to pharmacists' pre-travel recommendations (e.g., anti-malaria medication, immunization recommendations). Another marker is patient outcomes following return from travel. This study uses the latter marker, in particular focusing on traveller's diarrhea, altitude sickness, sunburn and insect-borne diseases.

A solution: This study assessed patients' socio-demographics, satisfaction, travel information, immunizations and experiences with travel-related conditions. Overall, 103 patients participated in the study with a total response rate of 29%.

Of the 99 patients counselled on traveller's diarrhea, almost 90% of patients used pharmacist recommendations at least 75% of the time. Recommendations included drinking bottled water (89% patient acceptance), eating well-cooked foods (82%) and administration of bismuth subsalicylate for prevention (5%). It is important to note that 20% of patients developed this condition on their travels and all treated it with one of the antibiotics recommended by the pharmacist (azithromycin, ciprofloxacin, loperamide and bismuth subsalicylate).

Twelve patients were educated on altitude sickness prevention with more than half of patients reporting using pharmacist-provided nonpharmacological advice 100% of the time, where the most commonly used recommendation was slow mountain ascension (75%).

Seventy-eight of those participating in the study were educated about sunburn prevention, for which half of patients indicated using pharmacist-recommendations at least 75% of the time. The recommendations included application of sunscreen (100%) and wearing long protective clothing (74%). Of the 5% of patients who experienced sunburn, two patients reported using a cool compress and a skin lubricant, respectively, to treat the condition.

Eighty-nine patients were educated on insect bite prevention, for which 43% used pharmacist-provided nonpharmacological



Community pharmacists are accessible, visible and knowledgeable clinicians who can provide education on preventative measures before patient travel as well as administer travel-related immunizations in certain jurisdictions.

advice at least 75% of the time. This included wearing insect repellent (61%) and treating clothes with permethrin (29%). Of individuals counselled on bite prevention, 89% were counselled on anti-malarial medication, of which 79% accepted the pharmacist recommendations and 92% self-reported adherence to medication. None of the patients developed malaria on their travels.

Of the travel vaccines, pharmacists recommended typhoid and hepatitis A vaccines most often. Patient adherence was greatest for yellow fever vaccination (100%) and typhoid vaccination (82%), and lowest for influenza (13%), Japanese encephalitis (10%) and pneumococcal (0%) vaccinations.

Patients rated the satisfaction with the clinic as satisfied or very satisfied, based on overall information and education provided.

Implications: Authors suggest that there may be a positive relationship between patient adherence to pharmacological/non-pharmacological recommendations and perceived severity of the conditions. This is especially important when patients are travelling to destinations that may be isolated from medical services.

It is important to note that the pre-travel clinic in this study charges consultation fees, with immunizations, administration fees and prescription medications paid for out-of-pocket or through third parties. Despite this, patients' overall satisfaction levels were very high, indicating that patients recognize the value of such a service.

Background and research methods: This retrospective and cross-sectional study took place in a Central Virginia pharmacy and took place over a year period (July 2011 to June 2012). It consisted of a 75-question over-the-phone survey administered to all patients over 18 years of age who partook in a pre-travel health consultation during the study period.

In pre-travel consultations, pharmacists holding a certificate in travel health from the International Society of Travel Medicine inquired about the location, date, length of travel and immunization status of prospective travellers. Pharmacists used this information, as well as information from travel-related resources such as the WHO, the Health Information for International Travel of the CDC, and Travax (a clinical decision support tool for travel medicine practitioners¹), to determine travel requirements and recommendations.

Pharmacists then contacted patients' physicians for necessary medication and vaccination authorizations. Afterwards, pharmacists educated patients regarding prevention of non-vaccine preventable diseases (e.g., over-the-counter medication, clothing and devices), administered appropriate vaccinations, and dispensed prophylactic medications. This education was in the form of 30- to 60-minute appointment-based consultations.



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Moderator: Mike Boivin |
| 9:45 – 10:45 am | Pneumococcal: a look at the disease & vaccines
Speaker: Betty Golightly |
| 11:00 – 12 pm | Vaccine hesitancy: what can pharmacists do to help?
Speaker: Anna Taddio |
| 1:45 – 2:45 pm | An update on adult immunizations
Speaker: Betty Golightly |
| 3:00 – 4 pm | Travel medicine for pharmacists: an introduction to conducting pre-travel consultations in community practice
Speakers: Sherilyn Houle; Ajit Johal |
| 4:15 – 5:15 pm | Influenza vaccine: still your best shot
Speaker: Susan Bowles |



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— presented by: Ajit Johal

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