Evidence for the role and impact of pharmacists: Description of a website

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AS FINANCIAL RESOURCES BECOME MORE LIMITED and drug expenses increase, the pharmacist has become a key health care professional in ensuring optimal drug use. In response to this, pharmacists' scope of practice is expanding, and they must use the best available evidence to support current pharmacy practice models and those about to be implemented. Although pharmacists are being taught about evidence-based pharmacotherapy, we believe there is insufficient exposure to evidence-based practice models in the pharmacy curriculum and daily practice. In this paper, we describe our new website, which focuses on Canadian pharmacy practice research and the role and impact of pharmacists in health care.

Development of the website

The "Impact Pharmacie" website (<http://impactpharmacie.org>) was developed by our research team (Unité de recherche en pratique pharmaceutique/Pharmacy Practice Research Unit). The project was initiated in 2012, and the first version was available online in October 2013. The website development and content relied on a reproducible and structured approach.^{1,2} Seventy themes, including 19 diseases, 28 patient care programs and 23 pharmaceutical activities, were identified and developed. A literature search was conducted for each of the identified themes. The literature search was conducted on PubMed using the terms pharmacist OR clinical pharmacy OR pharmaceutical care AND [name of the theme by checking its mention in the MeSH]. Articles written in French or English from 1990 to 2013 were evaluated. Articles had to include the following methods: systematic review or meta-analysis, literature review,

randomized controlled study, quasi-randomized controlled study, controlled pre-post study, prospective cohort, retrospective cohort, case-control, case series, observations, surveys and expert opinion. Articles describing the role and the impact of pharmacists were included. The selection was validated by 2 pharmacists of the research team.

A total of 1442 relevant articles about pharmacy practice published between 1990 and 2013 were included in the website. A summary page (e.g., fact sheet) was created for each theme, allowing readers to find a summary of the evidence, a description of activities performed by pharmacists and a list of relevant outcome indicators with positive, neutral or negative impact. For each relevant article, a summary sheet has been published with hyperlinks to the PubMed abstract. The current website includes 931 descriptive indicators and 1427 outcomes indicators, including 803 outcomes with a statistically significant positive impact of pharmacists' interventions, 596 with a neutral impact and 28 with a negative impact. The static pages of the website are published in French and English. The exact wording of the indicators was kept in their original French or English language with a translation, to limit misinterpretation or mistranslation. In addition to the website, a French weekly blog with an analysis of the most recent published articles about pharmacy practice models was started in March 2014.³ An international dissemination of this website is underway and has included presentations at various scientific meetings.⁴⁻⁶ Local professional organizations have ensured the visibility of the website by mentions on their websites.⁶⁻¹⁰

Profile of Canadian literature included in Impact Pharmacie

The website allows an exploration of the data per country. As of October 30, 2013, there were 109 pharmacy practice studies published in the *Canadian Journal of Hospital Pharmacy* ($n = 9$), the *Annals of Pharmacotherapy* ($n = 9$), *Pharmacotherapy* ($n = 7$), the *American Journal of Health-System Pharmacy* ($n = 6$) and the *Journal of Oncology Pharmacy Practice* ($n = 5$). (Since the *Canadian Pharmacists Journal* was only accepted into PubMed Central in May 2013, its articles have not been included in this first phase of the website.) Canadian studies included were either randomized controlled trials ($n = 29$), before-after studies ($n = 20$), or observational studies ($n = 18$) and surveys ($n = 14$). Canadian studies included pharmacists working in hospitals ($n = 37$) and community pharmacies ($n = 37$). The studies involved the current themes: HIV ($n = 9$ indicators), hyperlipidemia ($n = 8$), geriatrics ($n = 7$), asthma ($n = 6$), heart failure ($n = 6$) and cancer ($n = 6$). Canadian studies involved the current pharmaceutical activities: advising patients ($n = 49$ articles), evaluating pharmacotherapy ($n = 38$), monitoring drugs through laboratory tests ($n = 20$) and answering questions from patients and health care professionals ($n = 14$). Canadian studies included 76 indicators with positive impact on different aspects.

Unlike many static websites without updates, Impact Pharmacie will be updated continuously. To ensure the continuity of the project, a full-time research assistant will update the website. In 2015, our research team also plans to add relevant Canadian studies published in nonindexed or recently indexed journals to the database, including the *Canadian Pharmacists Journal*, the *Canadian Journal of Hospital Pharmacy* and the *Pharmactuel*.

Conclusion

To our knowledge, this Canadian initiative is a unique international website about the role and the impact of pharmacists. We believe such evidence should be largely circulated to all Canadian pharmacists, pharmacy students and other health care stakeholders to ensure that pharmacy professional health care models take advantage of pharmacists' expertise and potential contribution. Further phases of the project will include an annual update of published studies, inclusion of the platform in the current curriculum of pharmacy students, workshops with pharmacists in different areas both in community and hospital pharmacy, publication of the weekly blog of the most recent studies and further studies about the impact of such evidence on change management in pharmacy. ■

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References

- Guérin A, Barthélémy I, Merger D, Lebel D, Bussières JF. Projet impact pharmacie sur la description du rôle et sur les retombées du pharmacien: mise en contexte. *Annales de l'Unité de recherche en pratique pharmaceutique* 2014;23 janvier:1-6.
- Guérin A, Barthélémy I, Merger D, et al. Projet impact pharmacie sur la description du rôle et sur les retombées du pharmacien: méthodologie. *Annales de l'Unité de recherche en pratique pharmaceutique* 2014;30 janvier:1-8.
- Unité de recherche en pratique pharmaceutique. Impact Pharmacie. Available: <http://impactpharmacie.wordpress.com/> (accessed July 22, 2014).
- Guérin A, Lebel D, Tanguay C, Bussières JF. Développement d'un site Internet des meilleures preuves sur la description du

- rôle et sur les retombées du pharmacien. Poster session. Réseau mère-enfant de la francophonie; Paris, France; 3-4 June 2014.
5. Guérin A, Lebel D, Bussires JF. De-adoption of pharmaceutical activities by pharmacist: the role of an evidence-based website. Knowledge Translation Canada Scientific Meeting; Qubec, Canada; 12-13 June 2014.
6. Gurin A, Bussires JF. Workshop: Pharmacy a good option. International Pharmaceutical Students' Federation, 60th IPSF World Congress; Porto, Portugal; 5 August 2014.
7. Association des pharmaciens des tablissements de sant du Qubec. Accueil. Available: www.apesquebec.org/ (accessed July 22, 2014).
8. Universit de Montral. Impact Pharmacie. Available: http://pharm.umontreal.ca/faculte/documentation/nouvelles/nouvelle/?tx_ttnews%5Btt_news%5D=413&cHash=9548d0c6825c00855af5db66a57e1114 (accessed July 22, 2014).
9. Ordre des pharmaciens du Qubec. Prix de l'innovation remis Denis Lebel. Available: www.opq.org/fr-CA/l-ordre/espace-video/prix-innovation-2014-remis-a-denis-lebel/ (accessed July 22, 2014).
10. Socit Franaise de Pharmacie Clinique. Accueil. Available: www.sfpc.eu/fr/ (accessed September 29, 2014).