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DEPARTMENTS / DÉPARTMENTS

Editor's Message

A number of important changes have taken place at the journal since our last issue. JCHLA/JABSC recently expanded its editorial team to complete the work of copyediting and layout in house. Grace Romund, University of Manitoba, is our inaugural copyeditor, and Kristen Romme, Memorial University, our first production editor. This is our first issue produced using these new workflows, and we thank everyone for their assistance and patience throughout the process. We also received the good news that we will continue to be listed in the Directory of Open Access Journals under the new, more rigorous inclusion standards.

Thank you to Tara Landry, Hôpital général de Montréal / Montreal General Hospital, who kindly acted as a guest editor for Sylvie Le May's description of the development of a bank of research measurement instruments. Tara, your assistance was greatly appreciated.

This issue features a research study by Lori Giles-Smith, Andrea Spencer, Christine Shaw, Ceceile Porter, and Michelle Lobchuk on the impact of training sessions on nurses' use of and attitudes towards mobile apps. Susan Murphy outlines the development of the Saskatchewan Health Information Resources Program (SHIRP). Lauren Seal, Vanessa Kitchin, and Grace Romund review books on small libraries, research support, and grant writing.

Cari Merkley
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Message de la rédaction

Notre journal a subi d'importants changements depuis sa dernière parution. Le JABSC / JCHLA a récemment enrichi son équipe éditoriale de façon à réaliser à l'interne l'édition et la mise en page. Grace Romund de l'Université du Manitoba agit comme première responsable de la révision du contenu et Kristen Romme de l'Université Memorial, comme première directrice de la production. Il s'agit de notre premier numéro réalisé selon ce nouveau flux de production et nous tenons à remercier chacune et chacun pour l'aide et la patience manifestées tout au long de ce processus. Nous avons aussi appris avec grand plaisir que nous demeurons inscrits dans le répertoire des journaux à libre accès, en vertu des nouvelles normes d'inclusion plus rigoureuses.

Merci à Tara Landry de l'Hôpital général de Montréal qui a généreusement accepté d'agir comme directrice scientifique invitée relativement à la description de Sylvie Le May du développement d'une banque d'instruments de mesure pour la recherche. Tara, vous avez été d'une aide précieuse.

Le présent numéro propose une étude de recherche effectuée par Giles-Smith, Andrea Spencer, Christine Shaw, Ceceile Porter et Michelle Lobchuk portant sur les effets de séances de formation sur l'utilisation et l'attitude du personnel infirmier à l'égard des applications mobiles. Susan Murphy décrit le développement du programme de ressources d'information en santé de la Saskatchewan (SHIRP). Lauren Seal, Vanessa Kitchin et Grace Romund procèdent à la revue de livres traitant de petites bibliothèques, de soutien à la recherche, et de la soumission pour l'obtention de bourses.

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PROGRAM DESCRIPTION / DESCRIPTION DU PROGRAMME

From Partnership to Program: The Evolution of SHIRP

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Abstract: Created to license a subset of the University of Saskatchewan Library's electronic resources for access by health care practitioners in the province, the Saskatchewan Health Information Resources Program (SHIRP) has undergone substantive organizational and administrative changes in its first decade of existence. Although its mandate remains the same, the transition of SHIRP from a partnership to a program and its subsequent integration into the University Library's operations, has streamlined processes, increased the visibility and understanding of SHIRP across the province, and enhanced SHIRP's ability to provide electronic resources and library services to practitioners working alongside Saskatchewan health sciences students.

Introduction

The Saskatchewan Health Information Resources Program (SHIRP) licenses a subset of the University of Saskatchewan University Library's subscribed e-resources for use by health care practitioners employed in the province of Saskatchewan. This program is among the first of its kind in Canada, tracing its origins back to the early 2000s. SHIRP has received two national awards in recognition of its achievements: the 2008 CLC/OCLC Award for Resource Sharing Achievement [1] and the 2009 CHLA/ABSC Flower Award for Innovation [2]. Other libraries, in accordance with developments in their provinces, have also created innovative solutions and programs to address the information needs of their health care practitioners [3, 4]. While most of these other solutions and programs provide e-resources on a cost-recovery, consortial purchase, or membership fee basis, funding for SHIRP e-resources is included as part of the operating budget the University of Saskatchewan receives from the provincial Ministry of Advanced Education. This article touches briefly on the history of SHIRP, describes its current state following its transition from a partnership to a program, and highlights its future plans.

SHIRP was created as the Saskatchewan Health Information Resources Partnership in a 2003 funding proposal to the Saskatchewan Academic Health Sciences Network (SAHSN) [5] written by representatives from the University of Saskatchewan (UofS) Health Sciences Library and the Saskatchewan Health Libraries Association (SHLA). This proposal responded to access to health information issues identified by the Liaison Committee on Medical Education (LCME) during their 1995 and 2002 undergraduate program accreditation visits to the UofS. LCME identified two main library issues: inadequacies in the UofS Health Sciences Library's collections, staffing, and space, as well as discrepancies in access to electronic health information resources for the province's health care practitioners who work alongside UofS medicine (and other health sciences) students [6]. The proposal was included in a larger submission to what at the time was the provincial government's Ministry of Advanced Education, Employment and Labour (the Ministry) as part of the plan by the UofS to address all of the College of Medicine undergraduate program accreditation issues.

At the time of these LCME accreditation visits, health care practitioner access to electronic health resources depended on their affiliation(s) throughout the province. Health care practitioners who are active UofS preceptors play an important role in the formal training and evaluation of students. Upon appointment as preceptors they are provided with full access to all

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UofS Library resources. However, other practitioners in the province who frequently work alongside UofS students and provide guidance and support in an informal capacity were not able to access any of the University Library's resources. The College of Medicine's distributed learning environment heightened the need for these practitioners to access key electronic resources from the University Library's collections. SHIRP was created to support this group of practitioners, by providing them with greater access to e-resources, training to optimize their use of these resources, and a free document delivery service.

The funding proposal identified:

> three distinct, yet interlinked, challenges … each requiring separate, ongoing funding. The first is to address the LCME accreditation and by extension the curricular needs of the College of Medicine as it applies to the University of Saskatchewan Health Sciences Library. The second challenge is to extend an initial suite of the U of S library's electronic resources to cover the Saskatoon, Regina Qu'Appelle and Prince Albert Parkland Health Regions….. The third is to extend access to this initial suite of health information resources to all health care practitioners in the province. [6]

SHIRP was created in response to the second and third challenges. The funding proposal also notes that access to SHIRP "will strengthen the student learning experience by ensuring that the health care providers they are working with have access to the most current information resources" and that

> SHIRP …. does not replace any of the existing regional health libraries, academic libraries or other entities within the province. Rather, it serves to gather and present the most valuable electronic information and knowledge resources and services to a shared clientele in a more systematic and cost effective manner. Some of the resources will be provided from member libraries, while the 'gaps' will be identified and filled by the partnership. [6]

By licensing a core suite of e-resources for use by health care practitioners across the province, and in later years for use by post-secondary health students and government health employees, SHIRP would be instrumental in providing equitable access to electronic resources to support health education and, by extension, health research and practice in Saskatchewan.

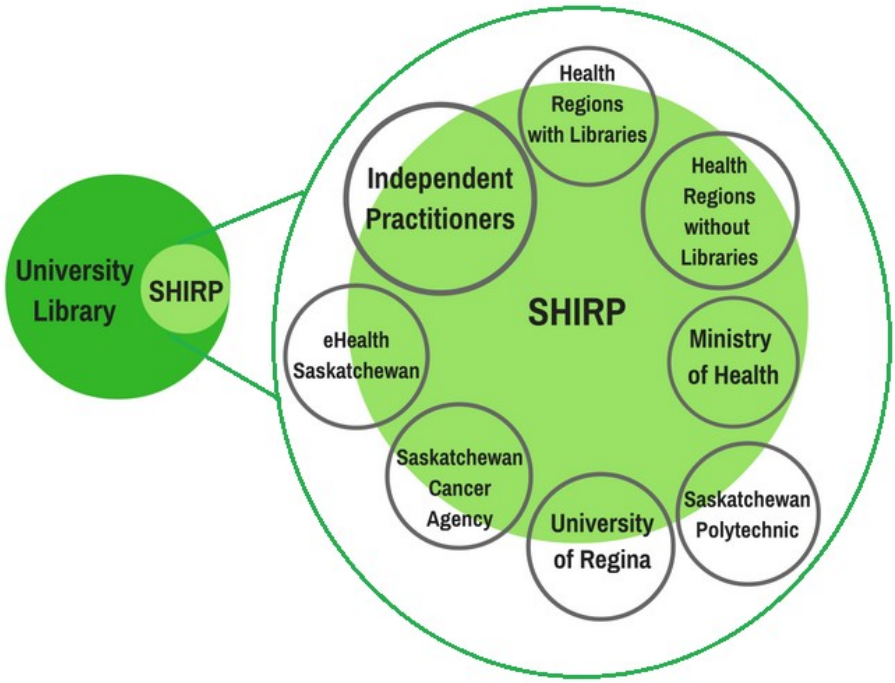
Description

The funding received by the UofS from the Ministry was divided into three budgets: College of Medicine, Health Sciences Library, and SHIRP, and was provided as separate envelope funding directed for accreditation expenditures only. For the first several years this funding had to be annually justified and re-requested from the Ministry. Over time, the way this funding was received from the Ministry evolved into targeted funding, then to being included as part of the University's annual operating grant in 2014-2015. This latest change in the way that the funding was provided impacted the financial accountability and overall reporting structure of SHIRP. When SHIRP was funded through envelope and targeted funding it was accountable to the Ministry via SAHSN. With the funding now part of the University's operating grant, financial and operational accountability for SHIRP rests with the University Library Dean. Under these circumstances, SHIRP was transitioned from a Partnership to a Program of the University Library in July 2014.

To address the second challenge of extending access, a portion of SHIRP funding was allocated to support the services offered by hospital libraries in the Regina, Saskatoon, and Prince Albert regional health authorities; these three health regions are the primary hubs where distributed medical education takes place. The SHIRP budget reimburses the salaries and benefits for 3.5 FTE librarians, 1 FTE library technician, interlibrary borrowing costs, and some funding for technology in those libraries. SHIRP electronic resources became accessible through the library catalogues and (or) websites of those regional health authority libraries between 2004 and 2005.

Starting in 2006, SHIRP resources were made available to the University of Regina and Saskatchewan Polytechnic employees and students through their library websites as a means of enhancing their health sciences collections. That same year, access to SHIRP was extended to the Saskatchewan Ministry of Health, eHealth Saskatchewan, Health Quality Council, and Saskatchewan Cancer Agency employees through their respective institutions' websites and (or) intranets. All other licensed health care practitioners in the province were eligible to sign up for a free account that would give them access to the SHIRP collections and services via the SHIRP website (Figure 1).

Fig. 1 Stakeholder Reliance on SHIRP Resources and Services [image credit: Valerie Moore]



The initial staffing structure of SHIRP consisted of co-chairs (the Head of the Health Sciences Library and a representative from one of the health region libraries) and two SHIRP librarians responsible for licensing and outreach. Under the partnership model, a SHIRP Advisory Committee was created in 2007 to act in an advisory capacity to the SHIRP executive, providing advice and input on significant issues, such as collection development, fund allocation in a broad capacity, evaluation of services, long-term planning, and policy items and issues. Membership on the Advisory Committee included representatives from health regions, post-secondary institutions, professional associations, and health related government agencies. The members were to also act as advocates for SHIRP and as liaisons between SHIRP and the groups which they represented. This committee was never populated. In June 2011 the proposed Advisory Committee was reconstructed as an advisory board with a slightly revised terms of reference and membership and met regularly until early 2014. This advisory board was replaced by the Collections Consultative Group (CCG) in mid-2014 following SHIRP's transition to a program of the University Library.

Outcomes

The current organizational structure of SHIRP places operational oversight with the Head, Health Sciences Libraries and includes one SHIRP librarian and one 0.5 FTE library assistant. Much of the administrative activity associated with SHIRP's budget (i.e., projections, expenditure tracking, and contracts) is now managed out of the University Library Dean's office. The SHIRP operations and acquisitions budgets have been merged with those of the University Library, but continue to be tracked separately. Strategic planning for SHIRP has become part of the annual unit plan for the University Library's Health Sciences branch rather than a separate planning process with an external facilitator. Internal and external assessment for SHIRP is coordinated by the University Library's Assessment Analyst, which ensures a consistent approach that

aligns with University Library practices. This also provides additional resources for collecting, analyzing, and acting on assessment data.

The CCG is advisory to the Dean, University Library and (or) Head of the Health Science Libraries and provides feedback on existing resources under consideration for renewal or deselection from the SHIRP collection, new resources under consideration for inclusion in the SHIRP collection, and usage data gathered during assessment of the SHIRP collection. CCG members are invited by the University Library Dean and include librarians from various health libraries across the province as well as one licensed health care practitioner. Where appropriate, CCG members also assist in the promotion of SHIRP resources to Saskatchewan's licensed health care practitioners [7]. Selection and de-selection of SHIRP resources has always been a consultative exercise, but is ultimately tied to what the University Library subscribes to in keeping with SHIRP's mandate to support the education of health sciences students.

The University Library's Collections Services Unit conducts e-resource license negotiations for SHIRP as part of overall University Library e-resource license negotiations. The SHIRP librarian and library assistant continue to provide first-line e-resource troubleshooting assistance to health region libraries as well as directly to SHIRP clients. In keeping with practices in the University Library branches, higher level e-resource troubleshooting for SHIRP is conducted by employees in the University Library's Collection Services Unit.

These changes in e-resources licensing and management have leveraged University Library expertise and knowledge to SHIRP's advantage. The SHIRP Librarian is now able to focus on promotion of SHIRP collections and services to clients, building relationships with health care licensing bodies and continuing education groups, and acting as the central point of communication for the SHIRP CCG.

A refresh of the SHIRP website coincided with the integration of SHIRP into the University Library. This website is used by healthcare practitioners in independent practice, those in facilities without a health region library, as well as by eHealth Saskatchewan, Health Quality Council, and the Saskatchewan Cancer Agency employees. The new SHIRP website (http://shirp.usask.ca) was launched in July 2016 and uses the some of the same software as the University Library (LibGuides, SFX, and Drupal). It looks and functions like a University Library subject guide, which visually reinforces SHIRP as a program of the University Library. Where SHIRP requires its own instance of software solutions, e.g. due to technical aspects of providing access across the province by IP range, SHIRP has adopted business practices that align with the University Library. The creation of the website was an opportunity for both SHIRP and various units within the University Library to work together and discover where technological integration would be most beneficial.

SHIRP's new visual identity has provided a powerful message to SHIRP clients, many of whom are graduates of the UofS; SHIRP's connection with the University is understood more clearly now. Informal and unsolicited feedback from SHIRP clients indicate they are finding the new website easier to use and are more successful in finding and accessing SHIRP resources.

Reflecting back on the initial impetus for the creation of SHIRP, the UofS Undergraduate Medical Education program is fully accredited for an extended period through March 2018. None of the UofS health sciences library resource issues raised in the 1995 and 2002 accreditation reports were noted in recent LCME visits as ongoing concerns; and, Saskatchewan's 26 000+ licensed health care practitioners have had free access to a subset of the University Library's e-resources for about 10 years.

Discussion

SHIRP continues to serve its initial and core purpose of providing access to a subset of University Library licensed resources for the benefit of those working alongside health sciences students across Saskatchewan. Integration into the University Library is now complete and it has resulted in an efficient and effective management structure and a strong operational foundation. As a direct result of the integration, University Library employees now have a clearer understanding of how SHIRP's collections and clients intersect with, but differ from, the University Library's. Effort has also been made to inform SHIRP clients of the operational and administrative changes and explain their benefits to them.

Going forward, brief "spot check" assessments of SHIRP services, collections, etc., will be presented through the new website 2 to 3 times per year. Future larger scale, comprehensive assessment activity will occur in collaboration with the University Library's

Assessment Analyst and University Library Dean and will become part of the University's scheduled reviews of units and departments.

SHIRP has developed closer ties with the health sciences Continuing Education units at the UofS and provincial health care licensing bodies that offer their own continuing education. By making this subset of e-resources available to health care practitioners across the province, SHIRP is also helping to support the competency Role of Scholar within the CANMEDS framework [8] and the Standards and Foundation Competencies for the Practice of Registered Nurses in Education and Research [9].

SHIRP currently subscribes to 6 databases offering access to 2400+ journals in full text, 8 point of care tools, and over 150 e-books. With integration now in place, a major focus for SHIRP in the coming years will be to continue to ensure sustainable access to the most relevant subset of University Library e-resources through engagement with its CCG and with SHIRP clients. Continuing to build new relationships, especially groups serving aboriginal populations, optimizing available technologies to measure use of the website and collections, and expanding online instruction are also primary goals for SHIRP as it moves into its second decade of existence.

In early January 2017 the province announced plans to consolidate existing health regions into one provincial health authority by fall 2017. The impact of this consolidation on SHIRP service and e-resource provision is unknown at this time.

Acknowledgements

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PROGRAM DESCRIPTION / DESCRIPTION DU PROGRAMME

Banque d'instruments de mesure en recherche : Une innovation au service des membres chercheurs en sciences infirmières

Sylvie Le May[1], Marilou Bourque, Michelle Proulx, Matthias Duc

Résumé : Introduction : Face aux difficultés que rencontrent ses enseignants et étudiants à retrouver des instruments de mesure valides dans les bases de données, le Réseau de Recherche en Interventions en Sciences Infirmières du Québec (RRISIQ) a récemment choisi de développer une banque d'instruments de mesure accessible et bien documentée utilisant le logiciel bibliographique Zotero. Cet article a pour but de décrire la Banque d'instruments du RRISIQ, d'en exposer les défis et ses perspectives de développement. **Description :** La Banque comprend plus de 1400 liens ou références à des instruments de mesure reliés aux interventions cliniques, à l'organisation des services infirmiers et à la formation infirmière. L'utilisateur a accès à des références bibliographiques d'articles scientifiques sur les instruments, en anglais et en français. En naviguant dans la Banque, il clique sur l'article de son choix, obtenant ainsi une description bibliographique complète, dont une adresse web lui permettant d'accéder en ligne au plein texte. **Résultats :** La Banque d'instruments Zotero nécessite un faible coût d'entretien technique pour effectuer des sauvegardes, résoudre les difficultés et gérer les demandes d'accès. Elle est appréciée par ses utilisateurs. **Discussion :** La Banque prendra de l'ampleur dans les années à venir et des démarches sont actuellement réalisées par l'équipe pour la publiciser davantage auprès de ses membres et de leurs étudiants. L'équipe envisage de la rendre disponible à d'autres équipes de recherche du Québec.

Introduction

La navigation et la localisation de matériels pertinents et précis dans les grandes Banques de données représentent un réel défi, tant pour les étudiants des programmes universitaires, les infirmières que pour les professeurs [1, 2, 3]. Ce défi prend d'autant plus d'importance que les milieux académiques et cliniques ont accès à un nombre important de ressources informationnelles, sans toujours disposer des connaissances nécessaires pour réaliser des recherches ciblées [4, 5, 6]. Il appert que les enseignants et les étudiants des milieux académiques s'en tiennent, le plus souvent, à un nombre limité de bases de données avec lesquelles ils sont familiers, et qu'ils ne semblent pas bien connaître l'éventail des ressources documentaires qui s'offrent à eux.

Le Réseau de Recherche en Interventions en Sciences Infirmières du Québec (RRISIQ) existe depuis 2012 et comprend 169 membres chercheurs en sciences infirmières et leurs étudiants. Le Réseau a récemment choisi de mettre en place, pour ses membres et leurs étudiants, une Banque d'instruments de mesure et de guides d'entrevue facilement accessible et bien documentée. Une revue exhaustive de la littérature n'avait pas permis de retrouver de banques similaires. L'objectif visé par les auteurs était de rendre disponible une ressource documentaire facilement accessible et conviviale pour les membres du Réseau.

Cet article a pour but de décrire la Banque d'instruments du RRISIQ, d'exposer les défis rencontrés ainsi que les perspectives de développement.

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Cet article a été critiqué par des pairs. La rédactrice invitée : Tara Landry, Hôpital général de Montréal.

Description

La création de la Banque a débuté en janvier 2013 par une analyse des besoins effectuée auprès des membres via un sondage avec l'application SurveyMonkey. L'équipe souhaitait connaître les préoccupations et les besoins des membres en ce qui concerne les types d'instruments et les grilles d'entrevue que devait offrir la Banque.

Parallèlement, des démarches ont été effectuées pour identifier le support le plus approprié pour héberger la Banque. L'équipe a opté pour l'utilisation d'un logiciel bibliographique existant déjà plutôt que de programmer un nouvel outil. Au nombre des logiciels les plus utilisés pour la gestion documentaire (EndNote, Reference Manager, RefWorks, Zotero, Mendeley, BibTeX), EndNote et Zotero étaient les plus conviviaux. Les auteurs ont opté pour le logiciel Zotero en raison de sa flexibilité au niveau de ses fonctionnalités de partage et parce qu'il est simple d'utilisation, gratuit et accessible à tous.

Déploiement de la Banque

Plusieurs éléments ont guidé le déploiement de la Banque dans Zotero. L'équipe a opté pour un thésaurus unilingue anglophone. Ce choix s'est imposé alors que la majorité des bases de données et des thésaurus utilisés en sciences infirmières sont de langue anglaise, et que la tâche d'offrir un outil bilingue aurait été trop importante sans être indispensable, considérant que les membres du RRISIQ travaillent généralement avec des outils rédigés en anglais. Suite à une consultation menée auprès des chercheurs du Réseau les invitant à nommer les sources qu'ils utilisaient le plus souvent pour la recherche de documentation, les auteurs ont privilégié le recours au thésaurus de CINAHL. Reconnu pour sa qualité et sa grande couverture du domaine des sciences infirmières, le thésaurus de CINAHL permettait le mieux de décrire les trois domaines de recherche couverts par le Réseau (expertise clinique, administration des services infirmiers et formation infirmière).

D'autre part, des démarches ont été entreprises pour s'assurer du respect du droit d'auteur. Après avoir consulté Copibec (http://www.copibec.qc.ca), un organisme de gestion des droits d'auteurs au Québec, et la direction des bibliothèques de l'Université de Montréal, il a été établi que la Banque ne pouvait contenir le plein texte des documents sélectionnés. Néanmoins, une solution a été trouvée afin de contourner cet obstacle et de permettre d'accéder au plein texte lorsque souhaité : un lien URL est inclus dans la référence bibliographique. Cette adresse permet aux usagers d'accéder à la ressource en ligne à condition qu'ils se soient authentifiés (via leur code d'utilisateur et mot de passe) et à condition que l'institution à laquelle ils sont rattachés possède une licence d'utilisation de la ressource documentaire choisie. Si l'adresse URL proposée provient de l'Université de Montréal et donnera à cette communauté spécifique un lien instantané à la ressource, les fournisseurs de bases de données disposent de résolveurs de liens permettant dans une majorité de cas de reconnaître un usager d'une autre institution et de vérifier si celle-ci a acquis une licence d'utilisation de la ressource documentaire. L'usager est donc reconduit vers la ressource après avoir été « reconnu » (ainsi que l'institution à laquelle il est affilié) par le fournisseur de la base de données.

Enfin, il fallait s'assurer que l'outil Zotero comporte un espace de stockage suffisant pour les besoins de la Banque, ce qui s'est avéré. Le logiciel offre 300Mo d'espace gratuit, et la possibilité de payer à moindre coût pour obtenir de l'espace supplémentaire selon GMU. Il offre aussi la possibilité de stocker les données sur un serveur externe via le protocole WebDAV (Gestion de fichiers avec serveurs distants). Cependant, après analyse, cette option n'est pas apparue possible dans le cas d'un groupe partagé.

L'accessibilité à la Banque d'instruments Zotero a initialement été vérifiée auprès de six membres du RRISIQ provenant de différentes universités affiliées à partir d'une base de données pilote, ce qui a permis d'améliorer sa structure, de confirmer certains besoins et de procéder au téléchargement de références. Pour ce faire, les membres du Réseau ont de nouveau été consultés pour identifier les thèmes ou concepts dans leur domaine de recherche respectif pour lesquels ils souhaitaient que la Banque fournisse de la documentation (ex. sécurité des patients, évaluation de la douleur, transfert des connaissances). Un plan de concepts par domaine a été établi à partir desquels la recherche d'instruments et de grilles d'entrevue a été effectuée par l'interrogation des bases de données CINAHL, PubMed et Medline. La Banque a été publicisée sur le site du RRISIQ et rendue disponible aux membres au mois d'août 2013.

Structure et fonctionnement de la Banque

Les membres du RRISIQ peuvent accéder à la Banque Zotero de deux façons : soit directement en ligne sur le site de Zotero, soit en téléchargeant le logiciel sur leur poste de travail à l'aide de l'extension Firefox ou en version « standalone » pour utilisation avec d'autres navigateurs. Comme il s'agit d'une base de données privée, le membre qui désire avoir accès à la Banque doit d'abord se créer un compte Zotero et ensuite faire une demande d'accès au bibliothécaire gestionnaire de la Banque. Celui-ci lui fait parvenir un message d'invitation à partir de l'interface de gestion des membres du groupe dans Zotero. Le membre n'a qu'à accepter l'invitation pour ensuite pouvoir consulter la Banque.

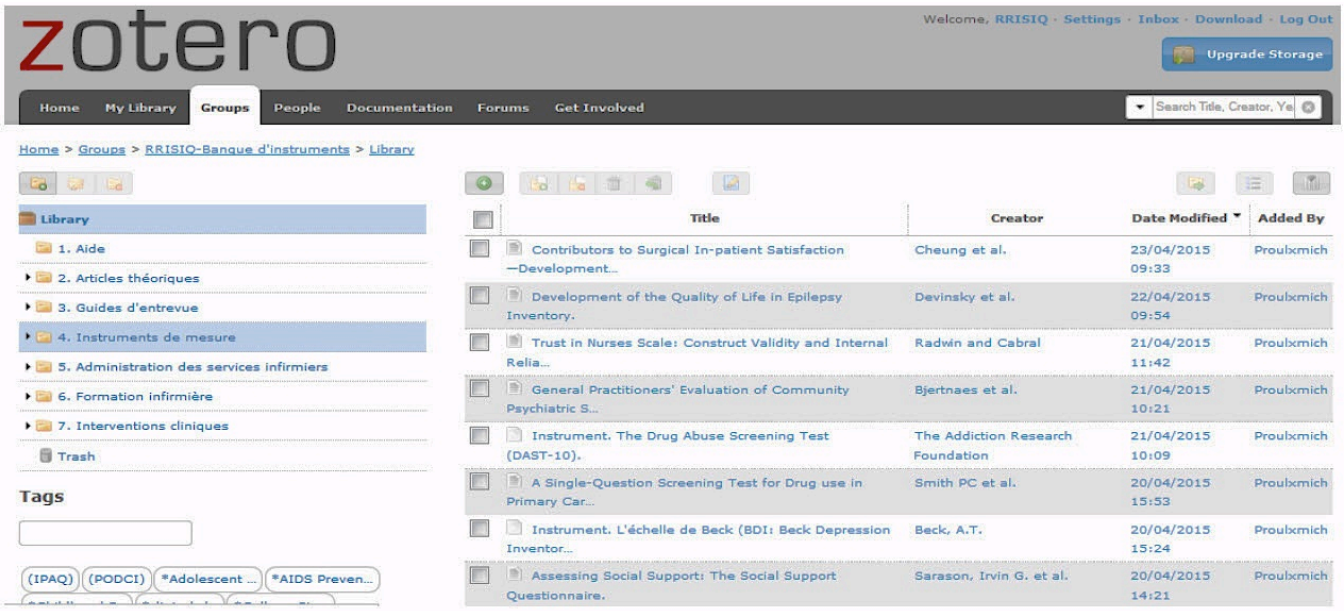
L'utilisateur de la Banque dispose d'un mode de recherche par dossiers et sous-dossiers (Figure 1). Plus précisément, il a accès à des dossiers par type de documents (articles théoriques, grilles d'entrevue, instruments de mesure) et à un dossier global pour chacun des trois domaines du RRISIQ (interventions cliniques, formation et gestion des soins infirmiers). Dans chacun des dossiers, un sous-dossier réunit les documents en français, ce qui correspond à l'un des besoins exprimés par certains des chercheurs du RRISIQ. L'utilisateur a aussi accès à un dossier Aide qui comprend des guides et aide-mémoires pour utiliser Zotero. Il peut aussi recourir à deux autres modes de recherche, soit à un nuage de mots-clés et à une boîte de recherche par auteurs et titres.

En navigant dans la Banque, le membre peut cliquer sur l'article de son choix et faire afficher sa description bibliographique complète (titre, auteur(s), type de document, résumé, etc.), de même qu'un lien URL lorsque disponible. Enfin, un champ Note fournit des indications sur le but visé par le document (par exemple, le développement et la validation d'un instrument), sur le nom de l'instrument lorsque possible (il arrive que des chercheurs ne donnent aucune appellation à leur instrument) et réfère l'utilisateur à des documents liés, si tel est le cas.

Les documents retenus réunissent des articles scientifiques traitant d'instruments de mesure et décrivant leur développement et (ou) leurs propriétés psychométriques. Ils regroupent également des articles qui permettent de juger de la pertinence de grilles d'entrevue (ex. liste de vérification ou Checklist en anglais, grille de questions ouvertes) avec à l'appui des données de recherche ou d'informations sur le développement des grilles. De même, ils peuvent contenir des articles théoriques faisant la revue d'instruments de mesure disponibles en rapport à un thème donné ou présentant des contenus théoriques en lien avec des aspects reliés aux qualités psychométriques d'instruments ou en appui au développement de grilles d'entrevues. Les documents sont liés entre eux, permettant soit de rediriger le lecteur d'un document (par exemple, un instrument de mesure) qu'il a ouvert vers un autre document (par exemples, article qui traite de l'instrument, un article théorique sur le thème de l'instrument). Pour être retenus et indexés, les articles doivent obligatoirement comporter l'ensemble des items de l'instrument à l'étude ou de la grille dont ils traitent, sauf exception. Un article qui ne présente pas l'instrument ou la grille dans son entièreté peut être indexé à la seule condition d'être relié à l'instrument ou à la grille dont il fait état dans un autre document à part.

Chaque document de la Banque est indexé par la professionnelle de recherche selon une liste de mots-clés (section Marqueurs de Zotero) provenant des thésaurus mentionnés précédemment. La professionnelle y consigne les mots-clés décrivant le mieux le contenu du document (ex. thème principal, provenance de l'instrument, nom de l'instrument, caractéristiques du document), en ayant le souci d'inscrire les mots, French Translation, lorsque le document original est écrit en français. Une fois la fiche complétée, le document est classé par la professionnelle de recherche dans le ou les différents dossiers généraux et spécifiques lui correspondant. Cette dernière est également responsable de la mise à jour de la Banque.

Fig. 1 Capture d'écran de la Banque d'instruments sous Zotero - Dossier général *Instruments de mesure*



Résultats

La Banque d'instruments Zotero contient à ce jour plus de 1400 références de documents abordant les trois domaines d'intérêts du RRISIQ. Elle nécessite un faible coût d'entretien technique (quelques heures par mois) pour effectuer des sauvegardes, résoudre les difficultés s'il y a lieu et gérer les demandes d'accès. Il est à noter que des sauvegardes sont effectuées automatiquement par Zotero et que par prudence, une sauvegarde supplémentaire est réalisée manuellement tous les deux mois et enregistrée dans un service Web de dépôt de documents. Seules quelques difficultés techniques ont été rencontrées jusqu'à maintenant, dont des problèmes de synchronisation entre le serveur de Zotero et sa version locale, lesquels ont été rapidement et facilement résolues.

La Banque a reçu une évaluation très positive de la part d'évaluateurs externes d'un organisme subventionnaire québécois dans le cadre de la demande de renouvellement du RRISIQ. Les évaluateurs ont souligné l'originalité, la pertinence et le travail rigoureux associé au développement de la Banque. De plus, il ressort qu'elle suscite de l'intérêt chez des chercheurs externes au RRISIQ. En effet, l'équipe du projet a récemment été approchée par une équipe en pédopsychiatrie pour leur fournir de l'information sur la Banque et éventuellement offrir des conseils pour le développement d'une Banque du même type.

De plus, la Banque semble être appréciée par ses utilisateurs, comme le montre un récent sondage sur son utilisation, administré auprès des membres du RRISIQ. Sur un total de 16 répondants, 23% des gens ayant utilisé la Banque ont mentionné qu'elle était facile ou très facile d'utilisation. Ils ont eu recours à la ressource pour les aider à la préparation de demandes de subvention. Le sondage a cependant permis de cerner des améliorations devant être apportées à la Banque. En effet, un nombre important de répondants (88%) ont indiqué qu'ils n'avaient pas utilisé la Banque parce qu'ils n'en connaissaient pas l'existence, ou parce qu'ils ne savaient pas comment y avoir accès et comment naviguer dans celle-ci. Certains ont précisé que, connaissant maintenant l'existence de la Banque, ils n'hésiteraient pas à l'utiliser ou ont dit apprécier de pouvoir compter sur ce type de ressources. Des démarches ont depuis été entreprises auprès de l'équipe de direction du RRISIQ. Le Réseau travaille présentement à publiciser la Banque sur une base régulière et à en faciliter l'accès et l'utilisation en offrant un soutien pour le téléchargement de Zotero à partir des postes de travail des membres. Un nouveau gestionnaire de la Banque a été engagé. Diplômé en

bibliothéconomie, il a pour mandat de solliciter directement les membres pour leur offrir de les aider à télécharger Zotero et à créer un accès à la Banque via leur bureau de leur ordinateur. Il a créé des tutoriels en anglais et en français pour permettre aux membres qui le désirent de télécharger Zotero et d'établir par eux-mêmes leur accès à la Banque. Ces tutoriels sont accessibles via le site Web du RRISIQ et servent de supports additionnels pour l'accès à la Banque. Cette approche plus personnalisée pour le marketing de la Banque a généré beaucoup d'intérêt et s'est avérée un moyen efficace d'augmenter la visibilité et l'accès à la Banque aux chercheurs, à leurs étudiants des cycles supérieurs ainsi qu'à leurs agents de recherche.

Discussion

La Banque d'instruments Zotero prendra de l'ampleur dans les années à venir. L'équipe du projet vise à ce que le nombre d'instruments de mesure et de grilles d'entrevue augmente et que la qualité des références soit reconnue par la communauté scientifique. L'équipe souhaite également augmenter le nombre d'utilisateurs, en s'associant des chercheurs externes de la francophonie. Elle poursuivra ainsi ses efforts pour capter et indexer le plus grand nombre possible d'instruments et de grilles d'entrevues en français du Québec et d'ailleurs. Le développement d'une telle Banque d'instruments est facile à réaliser dans de brefs délais. Cela nécessite peu de ressources si ce n'est l'expertise complémentaire de chercheurs, de professionnels en bibliothéconomie et en recherche. Cependant, l'efficacité d'une telle ressource repose également sur la mise à jour et l'entretien de celle-ci. Ces activités requièrent d'identifier un responsable central de la gestion de la Banque de même que des ressources financières pour rémunérer le personnel. À cet effet, l'appui du RRISIQ a été indispensable pour créer et maintenir les activités au niveau de la Banque. Les démarches pour augmenter la visibilité et l'accès, et la pertinence de la Banque pour ses membres doivent se poursuivre. Enfin, l'équipe entrevoit de développer la Banque pour y inclure éventuellement d'autres ressources documentaires pouvant être utiles pour la recherche en interventions infirmières.

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RESEARCH ARTICLE / ARTICLE DE RECHERCHE

A Study of the Impact of an Educational Intervention on Nurse Attitudes and Behaviours Toward Mobile Device and Application Use in Hospital Settings

Lori Giles-Smith[1], Andrea Spencer, Christine Shaw, Ceceile Porter, Michelle Lobchuk

Abstract: Introduction: Mobile devices provide nurses with access to evidence-based information at the bedside through software applications (apps). Librarians encourage app use by purchasing licenses and promoting their features. While many high-quality nursing apps exist, there is inconsistency in published reports on whether nurses use them in patient care. The aim of this research is to describe the use of mobile devices and apps by nurses at two urban hospitals and to examine the impact of educational sessions led by hospital librarians and educators on nurse usage, attitudes, and behaviour as they relate to mobile devices and apps. **Methods:** Phase I consisted of a descriptive, cross-sectional survey of inpatient nurses to determine mobile device and app use and attitudes. Phase II involved a one-group pre- and post-test design to examine the impact of educational sessions led by librarians and hospital educators on nurse attitudes, usage, and behaviours. A post-intervention focus group captured thoughts on using mobile devices and apps at the bedside. **Results:** Results indicate that most nurses who have a personal mobile device are interested in using them to access apps at the bedside though few are currently doing so. While nurses cite many conveniences and uses, they also highlight a number of barriers associated with using mobile devices that must be addressed in order to realize the benefits in patient-centred care. **Discussion:** Hospital librarians and educators should work together to provide the education and support nurses require to realize the benefits of using devices and apps at the bedside. Larger studies are needed to determine the impact of educational sessions on patient and health provider satisfaction with mobile device and app use.

Introduction

Mobile applications (apps) and devices, such as smartphones and tablets, allow nurses to access pertinent best practice and evidence-based resources at point of care. The ability to find information using a mobile device at the bedside eliminates the time required to visit the library, log onto a computer workstation, or search a print resource. This potentially increases time for direct patient care. Despite the advantages and promotion by hospital librarians, the evidence is split on whether or not mobile devices are being used routinely in nursing practice. A 2013 study of American nurse leaders reported that although a growing number of nurses owned smartphones or tablets, these devices are rarely used in the practice of caring for patients [1]. Johansson reports in 2012 that compared to earlier studies nurses were increasingly using mobile technology in their practice but desktop computers and even paper-based guidelines were still widely used [2]. From a survey of a NHS Trust institution in London, England during 2015, Mobasheri reports that a

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growing number of doctors and nurses own and are using mobile devises with medical apps in clinical practice. Ninety percent of doctors and 65% of nurses surveyed owned medical apps for use in their work [3]. In addition, while there is a proliferation of studies in recent years on mobile devices in healthcare, much of the research focuses on the use of mobile devices by nursing students or other healthcare providers [4-9]. Actual utilization of mobile devices by nurses is often overlooked in studies that explore the possibilities and challenges associated with their use.

Winnipeg is the largest city in the province of Manitoba with several hospitals and healthcare centres operated by the Winnipeg Regional Health Authority (WRHA) with library services provided by the University of Manitoba. A number of WRHA policies discuss the use of mobile devices by healthcare professionals. However, these policies appear vague and could be perceived as conflicting in nature at the time of the study. Clinical patient care managers who impose their own policies or personal preferences about mobile device use on their patient care units further confuse the issue for bedside nurses.

The first objective of this study was to describe the current knowledge and use of mobile devices and apps by nurses on inpatient medical and surgical units of a community hospital and a tertiary care hospital within the WRHA. Secondly, this study contributes to the evidence on mobile device use in healthcare by examining the impact of a short series of educational sessions on mobile devices and apps related to patient-centred care on nurse usage, attitudes, and behaviours. The main research questions addressed in this study were:

(1) What is the current usage of mobile devices and apps by nurses for direct patient care within the study sites?
(2) What are the attitudes of nurses at these study sites towards the use of mobile devices and apps for direct patient care?
(3) Does an educational intervention comprised of a series of short sessions on the use of mobile apps change usage of mobile devices and apps for direct patient care among nurses?
(4) Does the intervention change attitudes of nurses towards the use of mobile devices and apps for direct patient care?
(5) What are nurses' perceptions of attitudes held by colleagues, patients, and families about nurses' use of mobile devices and apps for direct patient care?

Literature Review

There is a growing body of research on the incorporation of mobile devices in nursing practice as a communication tool and as a means of supporting evidence-based practice by providing access to information resources, practice guidelines, and drug information [10-14]. Doran (2010) investigated the impact of mobile devices on nurses' access to research evidence in Ontario, Canada, and reported that the most frequently used resources accessed by nurses included drug dictionaries and medical reference sources [11]. Participants indicated they frequently accessed Google as well. Nurses felt that having access to devices changed their use of Registered Nurses Association of Ontario (RNAO) Best Practice Guidelines and that information resources assisted in their practice and improved patient care. In another study, nurses expressed the value of having clinical reference tools and drug information accessible on Personal Digital Assistants (PDAs) to their practice [12]. Mosbasheri reports more than half of nurses surveyed describe smartphones as very useful or useful. As well, mobile devices are believed to be helpful pieces of technology and used for work purposes by nurses according to Bautista in another study [3, 15].

Some researchers focused on the usefulness of integrating mobile devices in nursing education. Stroud et al. (2005) reported that students in a nurse practitioner program used drug information resources and clinical decision support resources available on a PDA [13]. More recent studies supported Stroud's (2005) early work and demonstrated how mobile devices could augment student learning on the ward, potentially reducing medication errors and improving patient safety [4, 6, 8]. As Day-Black and Merrill (2015, p. 79) wrote, "The use of the PDA and other mobile devices (Smart phone) is rapidly growing, and will be the next technology frontier for healthcare workers" [4].

Although there is a growing interest in utilizing mobile devices in nursing practice, the literature reports a variety of barriers. One concern was whether mobile device use would negatively affect their performance [16]. Many expressed fears that patients would assume they were playing games or using devices for personal use [2]. Nurses were also cognizant of potential distractions that mobile devices offer in the provision of patient-centered care [1, 2, 16, 17]. Addressing this idea of clinician distraction by mobile devices, McBride (2015, p. 2027) provided a

definition of distraction as "the interruption of a hospital clinician's primary task by the internally or externally initiated use of their smartphone" [18]. McBride and Levasseur (2015, p. 5) cautioned that registered nurses ". . . may not be able to accurately assess when it is appropriate to use them and to modify their behaviour accordingly" [16]. A recent survey of nurse leaders in the United States conducted by Hader (2013) showed that while the majority of nurses owned mobile technologies, most were prohibited from using these devices in the workplace [1].

Additional concerns by nurses included patient privacy, lack of comfort with the technology, infection control, cost, and lack of wireless connectivity [1, 10-12]. These obstacles should not be considered insurmountable given the potential mobile apps have for enhancing patient care. As healthcare administrators consider these issues in an environment where mobile technology is increasing, they need to work towards creating policies that will encompass the rights of the patient and information needs of the healthcare worker [19-21].

As mobile devices and apps grow in acceptance and use by nurses, administrators will need to develop policies that consider the integration of these technologies into patient care. Currently, most hospital policies regarding the use of mobile devices usually prohibit or limit usage [1, 15]. Bautista recommends clear policies with education on responsible use emphasizing the advantages of using mobile devices and apps for patient care [15].

Health librarians have always provided access to information and taught users how to find, evaluate, and use health information. The introduction of mobile device and app use to healthcare provides librarians with an opportunity to teach and offer services in a mobile environment. Health librarians at the University of North Carolina at Chapel Hill began in 2001 to offer services that incorporated mobile technologies, by integrating these tools into instruction, creating a web-based tutorial on Personal Digital Assistants (PDAs) for medical students and later nursing students [22]. The Dana Medical Library at the University of Vermont in 2013 offered group and individual instruction sessions, technical support and a subject guide to medical students on the use of mobile resources. Content covered in the sessions included apps available from the library, how to download and authenticate, and clinical relevance. [23]. Library services for mobile device and app use are becoming commonplace in medical libraries globally. Collaboration with health practitioners, such as the current study illustrates, is an expanding role for health librarians.

Methods

This study involved two phases that were implemented from March 2014 to December 2014. Phase I consisted of a descriptive, cross-sectional survey of inpatient nurses to determine mobile device and app use and attitudes. Phase II involved a one-group pre- and post-test design where nurses completed the same survey they completed in Phase I to determine the impact of four short educational sessions taught by librarians and hospital educators on nurses' use of mobile devices and apps as well as their attitudes and behaviours regarding the devices. A focus group consisting of Phase II volunteers was held after the trial period of use to gather in-depth thoughts on the impact of educational sessions on nurses' use of devices and apps on the wards.

Ethical approval for both phases of the study was obtained from the University of Manitoba Health Research Ethics Board and access approval was obtained from both hospitals.

Phase I

Phase I consisted of a convenience sample taken from a descriptive, cross-sectional survey of inpatient medical and surgical nurses at one community 251-bed hospital and randomly selected in-patient medical and surgical units at one 554-bed tertiary care hospital in Winnipeg. Inpatient nurses were selected for this study as the nature of their shifts allowed the opportunity to utilize the devices and apps around the clock and they would likely have a more consistent patient assignment than nurses in an outpatient setting. Units at the tertiary site were randomly selected to keep recruitment numbers at a manageable size for this study. To encourage recruitment, posters were placed on the units and emails with the survey and letter of invitation were sent to hospital listservs. As an incentive, a $100 gift card was drawn from among the people who completed the survey.

The survey was a 21-item fixed and open-ended survey developed by the researchers to capture demographic data and current usage and attitudes of nurses towards mobile devices and apps in support of direct patient care (Appendix A). Surveys were completed online using Fluid Surveys or by providing responses on hard copies of the survey that were left in

the break rooms for nurses to access. Consent forms were attached to the print copies and linked to the electronic copies of the survey.

Phase II

The Phase I survey contained information explaining Phase II and offered nurses the opportunity to volunteer for the second phase by submitting a short form with their name and contact information. Of the 54 Phase I survey participants at the community hospital, 13 volunteered to participant in Phase II. Of the 40 survey participants from the tertiary site, three volunteered to participate in Phase II. There was a total of 16 Phase II participants. To be included in Phase II, nurses had to own a mobile device with cellular data, be willing to download nursing-related apps, and attend four short educational sessions at their respective workplaces. All participants who completed Phase II received a $25 gift card.

Written, informed consent for Phase II was obtained in print at the first educational session. Installation of mobile apps and educational sessions were followed by a two-month period of device use on the units. After the two-month period of device use, Phase II participants completed a post-intervention survey using the same survey instrument administered in Phase I.

For the intervention, nurse participants attended four educational sessions facilitated by the researchers. Each session was approximately 30 minutes in length and covered one or more of the apps selected by the researchers for participants to use during the trial period. In the sessions, the facilitator discussed the relevance of each app to nursing care, features of each app, and exercises to become familiar with them. To ensure that the same material was taught at both sites, PowerPoint slides with notes and handouts were created and used as scripts by facilitators. The initial educational session oriented participants to the study and reviewed essential information such as the regional health authority's policies related to mobile device use, Personal Health Information Act, and infection control practices. Participants were not assessed for baseline knowledge prior to the intervention.

Apps were selected through careful consideration by the librarians and nurse educators involved in the project based on a number of factors. For budgetary purposes the apps had to be free (or low cost), provide nursing-related drug and medical information, and available on Android and iOS operating systems. Three of the five apps chosen were Medscape, Lab Tests Online, and Lexicomp. Licenses for the Lexicomp app were purchased for participants by the researchers. Twitter was also chosen as an information-sharing app which nurses could use to communicate with other healthcare professionals and stay current with nursing news. Participants were also given restricted access through Evernote to internal documents known as the regional health authority's drug monographs that include specific preparation and administration instructions of parenteral medications.

Following the completion of the four educational sessions, participants had a two-month period to experiment with the apps on their respective patient care units. Unit managers were informed of this study and encouraged by hospital administration to support it. Nurse participants could contact the researchers for help in using the apps at any time throughout the study.

To solicit additional feedback on the participant's experiences on the education provided in the study and the use of mobile devices and apps, the researchers employed an open-ended script of questions in an hour long audio-recorded focus group (Appendix B). The focus group discussion was led by two of the researchers who had no previous contact with these participants.

Results

Phase I

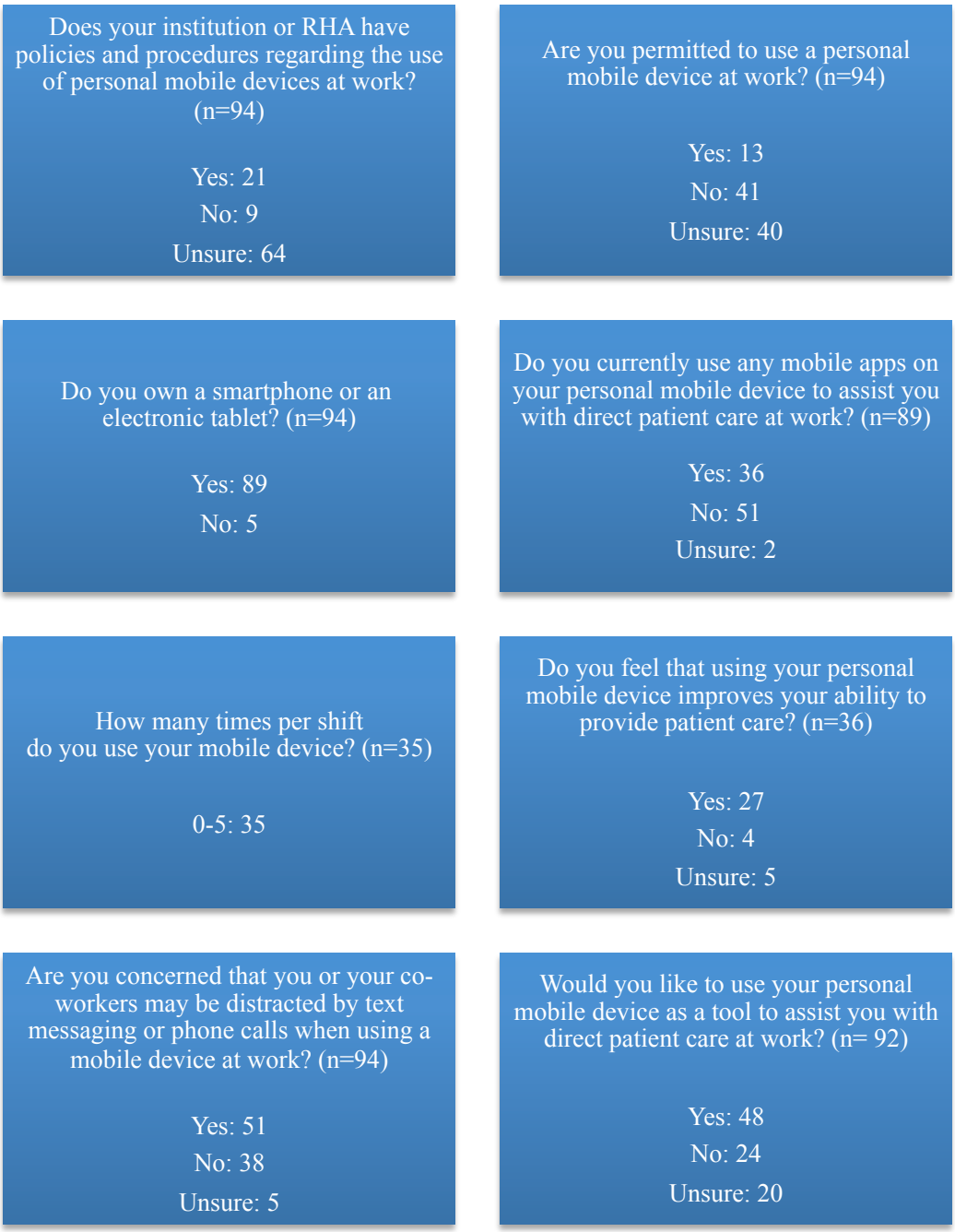
In Phase I, descriptive statistics were conducted including frequencies and means for nurse demographics and attitudes and current usage of mobile devices and apps in direct patient care. The authors examined the qualitative responses in the Phase I survey responses. Using methods described in the nursing literature [24-26], content analysis and constant comparison techniques were performed to identify, code, and categorize primary patterns in the data. A coding template was developed and tested for 95% inter-rater reliability among two authors. In instances where disagreement occurred in coding, discussion ensued until consensus was attained. The authors employed the coding template and analyses continued where similar codes were grouped into themes and subthemes.

A total of 94 of 348 eligible nurses completed the Phase I survey for a 27% response rate: 54 from the community hospital and 40 from the tertiary hospital. Although all age ranges were represented, the most frequent age range of nurse participants was 25 to 34

years (35%; 33 of 94) and 48% (45 of 94) stated that they had less than five years of nursing experience. The majority of participants (54%; 51 of 94) had a Bachelor of Nursing degree and 39% (37 of 94) held a Diploma in Nursing.

Most nurses owned a mobile device but many were uncertain if they were permitted to use it at work. The majority were unsure if there were any institutional policies regarding the use of these devices. Over half stated they had an interest in using their devices at work even though a similar number also thought that mobile devices would be a source of distraction. Less than half of study participants stated that they already used their mobile device for patient care purposes but none of the nurses used their devices more than five times in a shift (Figure 1).

Fig. 1 Phase I Survey Data



Phase I participants (n = 94) provided their qualitative responses on the use of mobile devices in the pre-intervention survey (Figure 2). Four main themes emerged from their answers:

(1) *Policy: Thoughts regarding rules and regulations within individual hospitals and the health region governing the use of mobile devices.*

Many nurses indicated they were not allowed to use mobile devices on their units because of policy or their clinical managers did not approve of device use. Others were unsure if there were policies regarding device use.

(2) *Barriers: Real or perceived barriers that prevent nurses from using mobile devices and applications at the bedside.*

Participants indicated a number of barriers that either prevented or caused nurses to feel hesitant to use their mobile devices at work including cost, potential damage or loss of personal devices, and infection control. Some participants stated they were not familiar enough with mobile devices or health-related applications to feel comfortable using them at work. As a solution to many of these concerns, some participants commented that the regional health authority or respective hospitals should provide mobile devices for work-related purposes rather than nurses using their own personal equipment.

(3) *Patient Perception: Nurses' ideas of how patients perceive mobile devices and application use in patient care.*

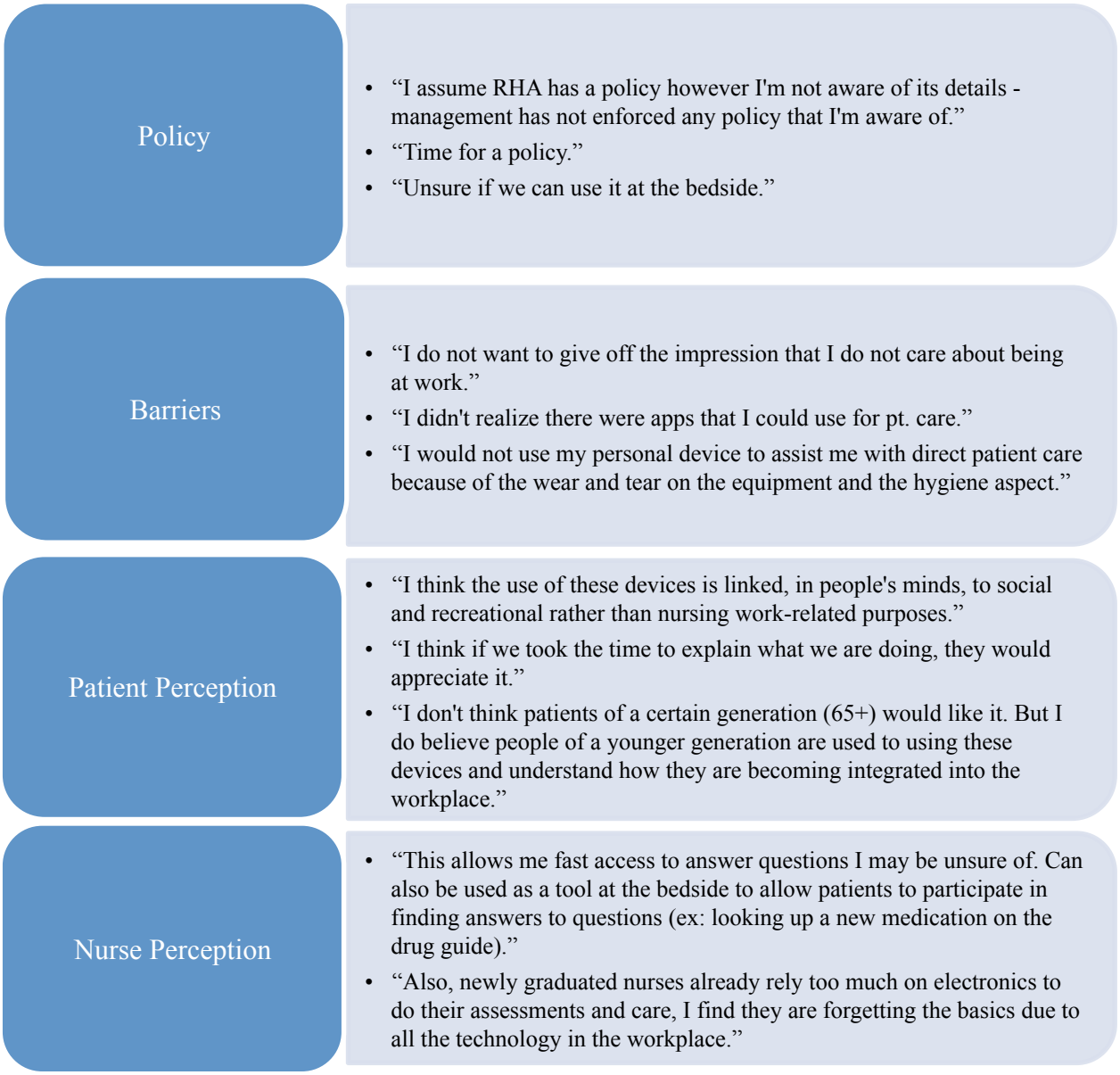
A recurring theme in the Phase I survey comments was about nurse concern for patients' thoughts and feelings regarding mobile device use at the bedside. Participants generally felt that younger patients would accept mobile devices providing that the devices were used for work purposes. Some participants pointed out that patients were familiar with mobile devices and nurse use of devices would demonstrate that the hospital is progressive in embracing technology. Others were less confident and predicted older patients would feel mobile device use was inappropriate and disrespectful. Regardless of whether patients reacted positively or negatively to device use, Phase I participants indicated that education and communication were key in garnering patient acceptance.

(4) *Nurse Perception: Nurses' thoughts and feelings about mobile devices and application use in patient care.*

Nurses' feelings about their use of devices on the units were mixed. The majority of nurses pointed out the value of using devices as a means to quick and easy access to reliable information. However, others felt that mobile devices would consume more of their time and they did not want to carry them around. Some were concerned that it would be a source of distraction and decrease their professionalism. Many nurses indicated that they were unsure of how a mobile device or app could help them due to their lack of experience in using the technology.

Participants who were already using mobile devices to assist with patient care identified a wide variety of useful apps including Micromedex, Medscape, and iTriage. However, the most frequently mentioned apps were Google and internet browsers (e.g., Safari). Many participants commented that they also used their devices as a watch, a timer, a calculator, and for looking up unit conversions. The most common usage for apps was to locate drug, disease, and diagnostic information.

Fig. 2 Sample of Phase I qualitative responses (open ended survey)



Phase II

A total of 16 participants completed the four Phase II educational sessions. Of these participants, 14 completed the survey after a two-month trial period of device use on the units. Six participants were between 45 and 54 years of age and six were between 25 and 34 years of age; one participant was between 18 and 24 years; and another participant was between 35 and 44 years. Eight nurses had a Bachelor of Nursing degree and five held a Diploma in Nursing. One person was a Licensed Practical Nurse. Fifty percent (7 of 14) of the participants had five to 15 years of nursing experience. Forty-three percent (6 of 14) had less than five years of experience and one participant had more than 15 years of experience in nursing.

Each participant's (n = 14) Phase II quantitative results were matched to their own Phase I quantitative results. The researchers examined the qualitative responses in the Phase II surveys and the focus group transcript using the same techniques as in Phase I. The first author transcribed the Phase II focus group discussion verbatim and the second author verified the transcription of the audio recording.

Our comparison of pre- and post-responses indicated, after attending the educational sessions, more nurses were aware of mobile device use policies

in the workplace (Figure 3). Most participants reported using their devices post-intervention as often as in the Phase I survey but none reported using it more than five times per shift. They were, however, more concerned about distraction due to mobile devices after the interventional and trial period of use (Figure 4). In both pre- and post-surveys, the majority of nurses wanted to use their mobile devices in patient care (Figure 5).

Fig. 3 Does your institution or the Regional Health Authority have policies and procedures regarding the use of personal smartphones or electronic tablets in the work setting?

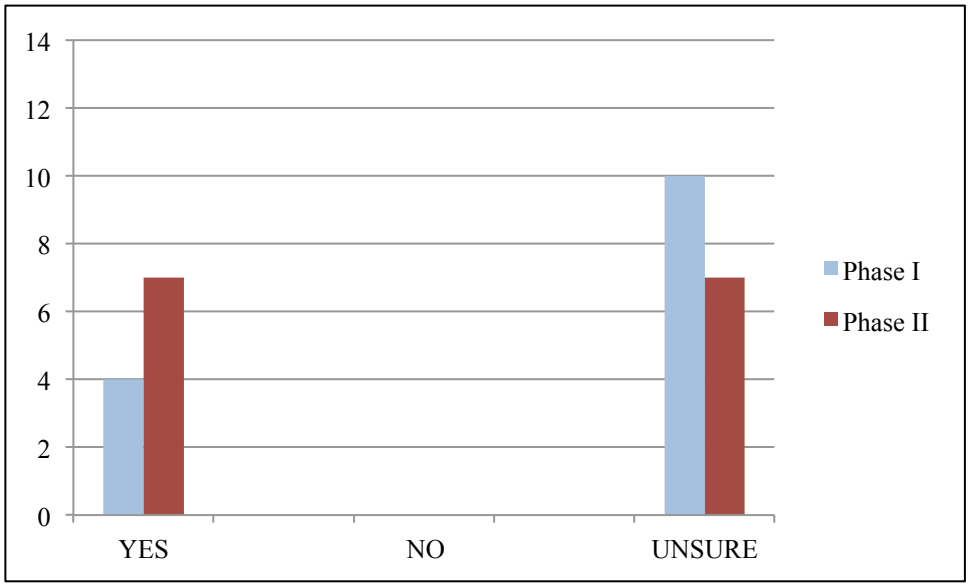


Fig. 4 Are you concerned that you or your coworkers may be distracted by personal text messaging or phone calls when using a smartphone or electronic tablet in the work setting?

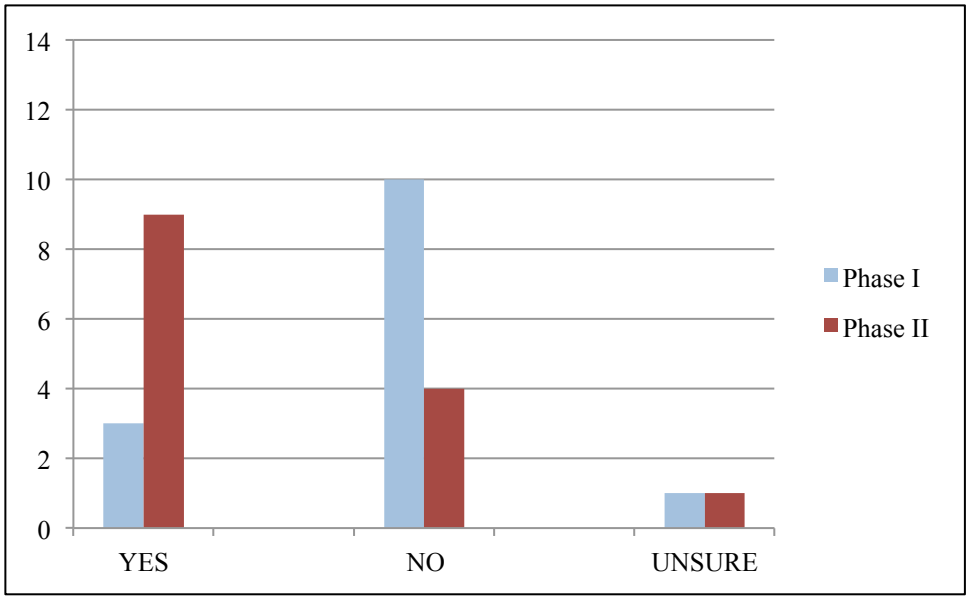
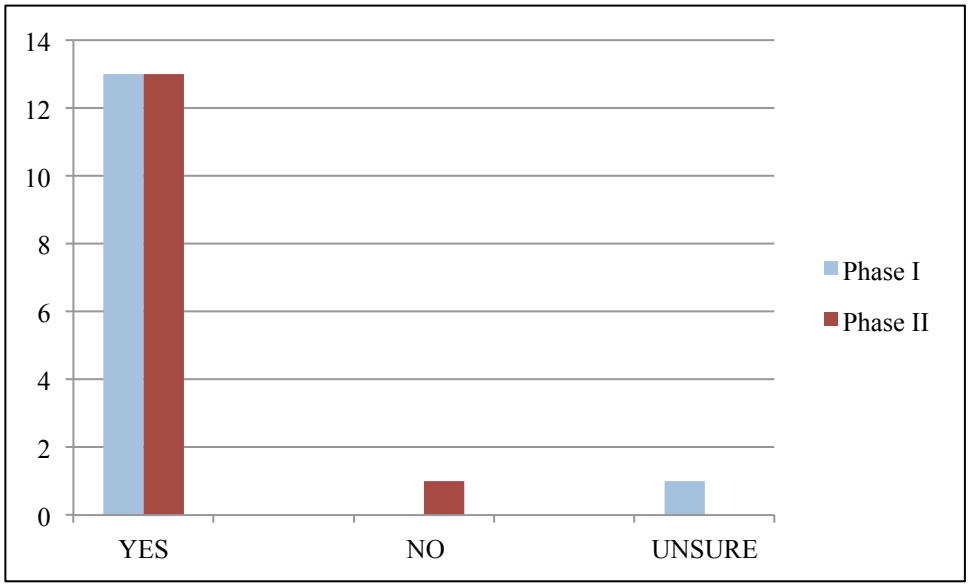


Fig. 5 Would you like to use your personal smartphone or electronic tablet as a tool to assist you with direct patient care in the work setting?



Phase II participants provided their thoughts on the use of mobile devices and apps in the post-intervention survey (n = 14) and in the focus group (n = 6) (Figure 6). Again, four main themes emerged from the data:

(1) Barriers: Real or perceived barriers nurses face using mobile devices and apps at the bedside.

As in the pre-intervention survey, barriers to device use was expressed as a common concern for participants in the post-intervention survey. Some barriers were similar to those reported by Phase I participants such as the lack of wireless internet and mobile devices were not "allowed" for use in patient care. After trying the apps on the units, some Phase II participants still felt uncomfortable due to their lack of experience in using the device in front of patients. Other participants admitted that they were distracted by personal texts and email. None of the participants commented on any fears of losing their device or infection control which were frequently cited barriers in the Phase I survey.

(2) Perceived Patient Acceptance and Non-Acceptance Factors: Factors nurses believe help to determine patients' and family members' acceptance of device and app use by nurses.

Comments from the participants focused on two main factors that could positively affect patient acceptance of device use among nurses. The first factor, education, could help patients appreciate mobile device usage by nurses when it is explained how the device helps nurses to locate information for patient care. The second factor that participants felt would impact patient acceptance of mobile device usage was patients' growing familiarity with and exposure to mobile device technology. However, participants in the post-intervention phase continued to believe that older patients would have more negative reactions toward use of mobile devices by nurses in patient care. Although no participants described any personal experience of disapproval from patients or family members, some still feared patients would think they were distracted and unprofessional if they were using devices at the bedside.

(3) Information Need, Accessibility of Information, and Convenience of Information: What nurses need in a bedside app, and benefits and convenience of having medical and drug information.

Participants described their need for apps that were easy to use, did not contain too much

Fig. 6 Sample of Phase II qualitative responses (open ended survey and focus group responses)

Barriers	• "It takes a while to sort through the app for the info I need, time can be better used." • "It can be hard to ignore messages and texts, and that's not how I want to use my time." • "I don't know if I'm allowed to and I gotta go hide in the corner - make sure nobody sees what I'm doing." • "If they had wifi in the hospital it would make a difference."
Perceived Patient Acceptance/ Nonacceptance Factors	• "If I am using my device at the bedside I explain to them what I am doing so that they don't assume I am making personal phone calls or texts." • "Most patients are quite familiar with smartphones and appreciate the resources they provide." • "I think that the more elderly patients would think it rude to use the phone in front of them."
Information Need/Accessibility of Information/Convenience in Locating Information	• "It's handy since I don't know everything." • "Ability to access quality information quickly leaves more time for bedside nursing." • "It is a lot easier and quicker to look up info on the phone than going to find it somewhere else." • "I thought it was a little in depth for what we do as nurses on a day to day basis."
Change of Behaviour and Attitude	• "People were interested in it and they were like "How did you get all that stuff?" " • "I think the general feel from management is that they want good patient care so if we take the time to find information and to teach our patients, whether it's from a desktop computer or our phones or in whatever other way, I think that there's generally a feeling of support towards that."

information beyond what was required to do their job, and provided information on drugs and medical information they could use to enhance care and answer patient questions. Apps were seen to have many benefits over print resources. Practical issues such as carrying a "heavy binder" and "fighting" with other people who needed to use the same print resource were also mentioned. Participants also described the convenience of finding detailed information quickly when using mobile devices. The use of apps allowed them to answer patient questions at the bedside and increase their time for patient care. Participants even indicated that the use of paper resources was a patient safety issue as these resources were often outdated and had missing pages of required information. For instance, some participants described their safety concerns with the IV compatibility chart which was confusing to use and had many blank boxes. One nurse referred to it as "useless". With the Lexicomp app they were able to access clear information on IV compatibilities quickly; one participant stated that Lexicomp was "essential" for this purpose. Phase II participants stated that the app they used most frequently during the intervention period was Lexicomp followed by Medscape, drug monographs (via Evernote) and LabTests Online. None of the participants indicated that they used Twitter and two participants continued to use Google in their nursing practice.

(4) Change of Behaviour and Attitude in Nurses: Change of nurse behaviour and attitude as a result of apps and or mobile device use in patient care.

Focus group participants felt that a two-month intervention period did not provide enough time to become familiar with the apps and to alter their old habits such as referring to print texts. Most participants anticipated that behavioural and attitude change would likely occur over time as more people accept and engage in mobile device use. Overall, nurses spoke positively about the educational sessions and trial period of mobile device use on the units. One person commented, "I appreciated just . . . having an educator and a librarian take some time, like, 'Ok, here's some things that can help you and that can make your job a little bit easier.' So, I'm hoping in the future maybe something like this will happen again".

Discussion

The purpose of this study was to describe the current knowledge and use of mobile devices and apps by nurses in patient care. The second aim was to examine the impact of education sessions led by hospital educators and librarians about mobile devices and apps on nurse usage, attitudes, and behaviours in patient care. Although the sample in this study was small and limited to two hospital settings, our findings revealed that most nurses had mobile devices and were interested in using them to enhance patient-centred care though few were actually doing so. This was in line with previous studies showing low use among nurses despite perceived advantages [1, 2]

While our research questions did not intend to focus on barriers to app usage, our study identified a number of factors that accounted for this lack of use including uncertainty regarding institutional policies, inexperience with using the technology, and infection control concerns.

In particular, participants were worried about potential damage to their personal devices and costs of using cellular data as wifi was unavailable in the hospitals at the time of the study. These obstacles have been discussed in previous studies of mobile device utilization by healthcare workers [1, 5, 8, 14, 27]. Nurse participants were also mindful of their image and worried that device use would decrease nurse professionalism by posing a source of distraction. Interestingly, after the educational sessions and the trial period of device use, nurse participants were more concerned about mobile devices causing distraction in the workplace. As is reflected in other research [1, 2, 14, 16, 18], a significant number of participants' comments centered around the perceptions of patients and family. Highlighted in our findings were nurse participants' concerns that older patients would feel their nurses were being rude and disrespectful– especially if patients believed that nurses were using their mobile devices for personal or entertainment purposes.

Interestingly, however, none of the participants reported any negative interactions with colleagues, patients, or family members due to their use of mobile devices during the intervention period. In fact, many participants recounted expressions of interest about mobile device usage from others. Nurse participants in Phases I and II emphasized that the acceptance of mobile device by colleagues, patients, and families would be dependent upon clear communication and education of how mobile devices and apps could be used to support patient care.

Education could assist in addressing barriers uncovered in the study results. Hospital librarians and

educators are well positioned to collaboratively offer such education as promoting best practice is a fundamental aspect of their work. As purveyors of evidence-based information, hospital librarians review and select resources including mobile apps. Teamed with hospital educators who are intimate with the particulars of nursing work and pressures, librarians can help nurses feel more comfortable with using mobile apps to their best advantage.

To address nurses' concerns as well as perceived benefits of using mobile devices in the workplace, clear policies need to be developed and communicated at all levels where management and patient care decisions are made. Nurse participants' comments in this study illustrated their uncertainty pertaining to institutional policies. Policies on mobile device and app use in healthcare settings, such as those identified by Gill, Bautista and Visvanathan, would help to normalize mobile device use and counter issues that cause concern for patients, families, nurses, and hospital administrators [15, 19, 21]. Based on the study findings, the nurse educators and librarians could advocate for enhancement and creation of policies related to the use of mobile devices in the hospital setting. Further to this, communication and associated education related to policies is often the role of nurse educators.

Although nurse participants in this and previous studies identified a number of hindering factors, they also highlighted many advantages and potential uses of mobile devices in healthcare. Our study findings corroborated previous research that mobile devices and apps enabled their ease of accessibility to evidence-based information. Garrett and Klein (2008) and Stroud et al. (2009) reported that nurses used their mobile devices for clinical decision support and drug information [12, 14]. As reported in Johansson's (2014) study, nurse participants suggested that the use of mobile devices and apps saved them time and helped them to provide improved safe care based on reliable information sources other than frequently outdated print resources [2]. Apps that provided drug and medical information, such as Lexicomp, Medscape and the WRHA Parenteral Drug Monographs were considered most useful by the nurses in this study.

While this research provided insights into the current use of mobile devices and apps among nurses as well as advantages and disadvantages to mobile device use on the units, there were limitations to this study. The sample was small and limited to nurses in direct patient care on surgical and medical units and therefore it was difficult to generalize the findings to other healthcare disciplines and patient care settings. Our Phase II participants were volunteers so there is a risk of response bias, being that they may have been more interested in the research study to begin with than others. Some participants in Phase II of this study were novice app users while other nurses used apps regularly and were even familiar with some of the apps taught in the educational sessions. There was no baseline measurement of participants' knowledge of evidence-based information prior to the intervention and so it is not known if this intervention had an impact on their knowledge of the apps. As well, as the post-test was administered after both the educational intervention and the two-month trial period it is difficult to determine which had the strongest impact on outcome. More rigorously controlled studies of nurse, patient, and family perceptions regarding use of mobile devices and apps in nursing practice are required to provide convincing evidence and insights into their respective opinions.

Conclusions

These findings were the first to demonstrate the degree of mobile device usage and interest among nurses working at the bedside in Winnipeg. Our results revealed that most nurses were familiar with mobile devices and interested in using them to provide evidence-based care. Post-intervention responses of participants were positive regarding mobile device use in direct patient care. They also reported many advantages to using mobile devices and apps over traditional means of obtaining and sharing information. Despite this interest, a number of barriers still existed that prevented bedside nurses from using their mobile devices at work. These barriers included uncertainty of regional policies, costs, and potential damage to personal mobile devices. Bedside nurses were also mindful of their patients' opinions of using mobile devices and did not want to offend patients or potentially diminish their nursing professionalism.

With evidence of strong interest by bedside nurses in using technology in their clinical work, it is incumbent upon managers and administrators in hospital settings to address potential uses and barriers of mobile device and app usage in patient care. Outcomes of further research can be used to strengthen policy in the regional health authority and improve the

communication of such policies at all levels where patient care policies are developed and decision-making happens. Additionally, future studies should focus on strategies that hospital librarians and educators could utilize to facilitate appropriate use of technology to the benefit of patient care.

Acknowledgements

This work was supported by the Grace Hospital Patient Care Research Award through the Grace Hospital Research Fund and Grace Hospital Foundation. Thank you to the nurses who took time from their busy schedules to participate in this study as well as the hospital managers and administrators who supported them in this project. Thank you to Lisa Demczuk whose comments greatly improved this manuscript. We would like to thank Dr. Elif Acar and Mr. Erfanul Hoque from the Statistical Advisory Service at the University of Manitoba for their general statistics advice and help with the statistical analysis.

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Appendix A. Survey questions

Mobile Device and Application Use in Direct Patient Care Nursing Survey

1. Which hospital are you employed at?
    - Grace Hospital
    - St. Boniface Hospital
    - Both hospitals

2. Are you a direct patient care nurse?
    - Yes
    - No

3. What area of nursing do you work in?
    - Critical care
    - Medicine program
    - Surgery program

4. What length of nursing shifts do you work?
    - 8 hour
    - 12 hour
    - A combination of 8 and 12 hour
    - Other

5. What nursing rotation(s) do you work?
    - Days only
    - Evenings only
    - Nights only
    - Days/evenings
    - Days/evenings/nights

6. What is your highest level of nursing education?
    - Licensed Practical Nursing
    - Diploma in Nursing
    - Bachelor of Nursing Degree
    - Masters of Nursing
    - PhD in Nursing
    - Degree in another discipline (please specify)

7. What is your age?
    - 18-24
    - 25-34
    - 35-44
    - 45-54
    - 55 years of older
    - Prefer not to answer

8. How many years have you been employed as a nurse?

   - Less than 5 years
   - 5-15 years
   - More than 15 years

   Comment:

9. Are you permitted to use a personal smartphone or electronic tablet in the work setting?

   - Yes
   - No
   - Unsure

   Comment:

10. Does your institution or the Winnipeg Regional Health Authority (WRHA) have policies and procedures regarding the use of personal smartphones or electronic tablets in the work setting?

    - Yes
    - No
    - Unsure

    Comment:

11. Are you concerned that you or your co-workers may be distracted by personal text messaging or phone calls when using a smartphone or electronic tablet in the work setting?

    - Yes
    - No
    - Unsure

12. Do you own a smartphone or an electronic tablet?

    - Yes
    - No

    List the mobile device(s) (including brands) you currently own: (e.g., Apple iPhone, Samsung Galaxy S4)

13. Can you access the internet with your personal smartphone or electronic tablet via wireless internet?

    - Yes
    - No
    - Unsure

    Comment:

14. Can you access the internet with your smartphone or electronic tablet without wireless internet? (i.e., via a cellular data plan)

    - Yes
    - No
    - Unsure

    Comment:

15. Do you currently use any mobile applications on your personal smartphone or electronic tablet to assist you with direct patient care in the work setting?

    - o Yes
    - o No
    - o Unsure

    Comment:

16. What mobile applications are you using to assist you with direct patient care? Please provide an answer in the box.

17. On average how many times per shift do you use mobile applications to assist with direct patient care?

    - o 0-5
    - o 6-10
    - o 11-15
    - o Greater than 15

18. Do you feel that using your personal smartphone or electronic tablet improves your ability to provide patient care?

    - o Yes
    - o No
    - o Unsure

    Please explain:

19. If you are not using your mobile device for direct patient care please explain why in the box below.

20. How do you think patients would perceive the use of smartphones or electronic tablets by nurses at the bedside? Please provide an answer in the box.

21. Would you like to use your personal smartphone or electronic tablet as a tool to assist you with direct patient care in the work setting?

    - o Yes
    - o No
    - o Unsure

    Please explain:

Thank you for completing the survey.

Appendix B. Focus group questions

Incorporation of Mobile Applications in Clinical Nursing Practice

Opening question

1. Can you tell me about why you volunteered to participate in this research project?

Intervention questions

In the following questions we are interested in hearing about your thoughts and feelings about the education sessions.

1. We had four half-hour education sessions.
    a. I am wondering if you could describe whether you would change the number of sessions?
    b. Could you say something about the length of the education sessions?
    c. Can you tell me whether there were any problems with the education sessions?
    d. Can you describe to me what you enjoyed about the education sessions?
    e. Could you tell me about how easy was it for you to attend these sessions?
        i. What do you think about holding any future sessions at different times or on different days?
2. Can you tell me whether you think two months was long enough to see if using these apps had an effect on your work?
3. Can you tell me whether you think you will continue to use these apps in the future?

Exploratory questions

1. Can you give examples of how you used the mobile applications in your work over the last two months?
2. During the course of the two months can you describe whether any patients or patient's family members commented on your use of a mobile device?
3. When you think about the apps you used what do you think about them?
    a. Could you share some suggestions for others mobile apps that you think would be more useful?
4. Could you tell me about any comments you received from colleagues regarding the use of mobile apps and devices on the unit?
5. Could you tell me how supportive your administrators/managers were towards your involvement in this project?

Ending question

Is there anything else you would you like to add regarding either the research project or use of apps in nursing?

BOOK REVIEW / CRITIQUE DE LIVRE

Moorman JA, ed. **Running a small library: a how-to-do-it manual for librarians.** 2nd ed. Chicago: ALA Neal-Schuman; 2015. Softcover: 288 p. ISBN: 978-0-8389-1273-7. Price: USD $80.00. Available from: http://www.alastore.ala.org/detail.aspx?ID=11141

How a library functions, and the roles librarians play, is greatly influenced by the size of the library. While recently completing my graduate education, I had suspected I would find employment in a medium- to large-sized library where I would focus on one particular aspect of librarianship, such as cataloguing, programming, or reference services. However, upon graduating, I found employment in a hospital library composed of three staff members – me, another librarian, and a library technician. I soon discovered that working in a small library required me to learn to do a bit of everything. Graduate studies had taught me the theory of providing reference services, cataloging, performing collection development duties, and even teaching, but I was ill-prepared to perform more administrative tasks, such as minor budgeting, writing policies and procedures, and supervising volunteers. I was ecstatic to learn about John A. Moorman's book, *Running a Small Library: A How-To-Do-It Manual for Librarians*, and jumped at the chance to read it and learn more about all aspects of working in a small library. For thirty-eight years, Moorman, the editor of the book and author of multiple chapters, served as a director of public libraries and multitype library systems in Texas, Illinois, North Carolina, and Virginia. His career provided him with extensive experience working in and running small libraries, experience which is passed on to librarians and library professionals in this book.

The content of the book is broken up into five parts: Introducing a Small Library, which provides an overview of libraries in different sectors, such as public or special libraries; Administration in the Small Library; Public Services in the Small Library; Collection Development in the Small Library; Computers and Automation. The separation of the book into the essential functions of running a small library allows the reader to quickly consult the sections of most relevance to them. In addition to the main content, the book contains an appendix titled "Running a Small Library Sourcebook", which provides a list of America's state library agencies, book and periodical vendors, furniture and supply vendors, automation vendors, professional organizations, and professional statements. The information compiled in the appendix is intended to provide readers further assistance with any problems they may have and guide their research into more specific topics. An extensive index is located at the end of the book.

Moorman sets up a lofty goal for himself with this book: "It is to provide assistance to those operating or working in small libraries, no matter the individuals served or the units with which they are affiliated" (p. vii). The book makes a worthy attempt to meet this goal, particularly in the first section of the book in which multiple library settings are discussed, but this attempt falters from Part II to Part V, during which public libraries gradually become the focus until school, college, academic, and special libraries cease to be mentioned. Although the book is, ostensibly, meant to aid librarians working in all sectors of librarianship, it is best suited to those working in the public library sector.

In addition to attempting to appeal to all librarians, *Running a Small Library* valiantly tries to cover all aspects of running a library, with chapters addressing a variety of topics: budgeting, buildings, community partnership, collection development, integrated library systems, and more. However, as can be expected, it is nearly impossible to include every aspect of running a library–regardless of size–in a 288-page book. As a result, the information in the book is provided at a very superficial level. This is particularly evident in the section on collection development; the chapter on cataloging is only 6 pages long, which is long enough for a very brief summary of what cataloging entails, but not nearly long enough (or detailed enough) to provide more than cursory knowledge of how to actually catalogue resources. Throughout the book, detail is sacrificed for breadth of subject coverage. Fortunately, nearly every chapter ends with suggestions for further reading and the appendix provides readers with an ample number of sources to consult in order to deepen their knowledge of small libraries.

Despite its shortcomings, I believe *Running a Small Library: A How-To-Do-It Manual* is a valuable resource due to its focus on the practical skills and knowledge necessary to work in a small library. As a

student, the textbooks I encountered discussed the theoretical side of working in libraries (such as theories of information seeking) and rarely focused on the more concrete, practical or administrative tasks required. I believe this book would be a valuable resource for a library and information science course, particularly one focusing on public libraries, in order to generate discussion and instruction on the everyday administrative tasks librarianship entails.

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BOOK REVIEW / CRITIQUE DE LIVRE

Hoffman S (Ed). **Dynamic research support for academic libraries.** Chicago: ALA Neal-Schuman; 2016. Paper: 147p. ISBN: 978-0-8389-1469-4. Price: USD $75. Available from: http://www.alastore.ala.org/detail.aspx?ID=11532

Academic research librarians are regularly challenged by new and varying approaches to supporting research. The research support path is best paved by innovators and experimenters, hence the premise for *Dynamic Research Support for Academic Libraries*: a presentation of models and "illustrative examples" (p. 2) of the work librarians do to bridge the many facets of research support. Editor Starr Hoffman, Head of Planning and Assessment at the University of Nevada, Las Vegas, places research and instruction services, metadata creation, and data services under the broader term "research support" and through the use of examples, attempts to expand and enrich the concept of research support practice. The purpose and rationale for *Dynamic Research Support* is not to serve as a "how-to" so much as an aggregation of different approaches that have worked in academic institutions. In this way, the book serves as current awareness for practicing librarians and will serve best as a resource in a masters of information (MI) or library & information science (LIS) context to provide case study discussion. In my professional practice as a liaison and education librarian and later as a research analyst, I have found a high level of value in current awareness with respect to innovation and creativity in project management and understanding diverse information needs. Academic institutions serve diverse populations in a political environment and require stakeholder buy-in and support, even with respect to something as unchanging as research. Having a sound knowledge base of the different iterations of research practices in academia is paramount to professional librarian practice and *Dynamic Research Support* provides concrete examples for that base.

In terms of topic coverage and level of detail, the layout is comprised of three parts and each part contains three to four case studies. The sections are quite relevant to the current trends of academic librarianship: "Training and Infrastructure" (the role of staff development and library spaces in research support), "Data Services and Data Literacy" (the rise of research data services in universities) and finally, in keeping with the Association of College & Research Libraries' (ACRL) *Framework for Information Literacy for Higher Education*, "Research as a Conversation" (highlighting how emerging scholars can find, cite and interact with existing research). Each part provides robust case study content, illustrating the practicalities of research support and decision-making processes; this combination of theory and practice should be very useful for LIS and (or) MI students. The individual projects that are highlighted are unique and exemplify the variety early career librarians can expect. In my own capacity as an education and liaison librarian, I served on a Smart Classroom Task Force, creating, investigating and implementing a proposal to support the best layout and instructional technology to support active learning. I was further called upon by graduate level clinical staff to assist with devising a search strategy for a systematic review. Colleagues were asked to serve as data services experts, helping researchers traverse the world of research data management. In my subsequent role as a research analyst I was asked to serve as a conduit linking the divide between datasets and data visualization tools. Truly the sphere of research support is multi-dimensional, and teaching various literacies is an expectation new librarians will need to meet.

The book reads at a fast pace with language that is accessible and not jargon-laden. It is clear that each chapter/article was selected based on a tone of accessibility and description. What this book does extremely well is provide a diverse environmental scan of projects and efforts that have worked both in North America and internationally. There is a chapter on implementing open access (OA) at Edinburgh University Library that explains OA policy in the UK as well as the effects OA has on research outputs. Again the strength of descriptive analysis proves useful in an LIS or MI graduate studies course on project management or information literacy. This is particularly exemplified in Chapter 4, "Training researchers to manage data for better results, re-use, and long term success". It has been noted in LIS literature that recent graduates experience a crisis of profession when entering the workforce. Expectations of individual universities can be almost impossible to predict. In this chapter Heather Coates clearly states one of the main shortcomings of universities today, something that will help recent LIS and (or) MI

graduates in ascertaining their research support expectations: universities "failing to provide graduate students with adequate data management skills for research" (p. 52). This chapter is particularly useful because it argues that the skills gap faced by graduate students and mid- and late-career faculty will be bridged best by librarians using "our most valuable contributions: […] expertise and trust" (p. 52). Research data management is a relatively new knowledge base (what the ACRL Framework refers to as "knowledge practice") and Coates argues that librarians will be the academics to fill the research literacy gap. They will do so, she argues, by using "information management expertise, teaching ability, ability to facilitate conversation across departmental and disciplinary boundaries and a uniquely holistic understanding of the scholarly record" (p. 54). In addition to this exposé on data management gaps, the final chapter found in the Research as a Conversation section relays the process of implementing an institutional repository for the scholarly output of faculty and students at the University of North Texas. Authors Hannah Tarver and Mark Philips describe and analyze the process of implementing naming authorities and the value of enhancing metadata. From a digital collection and digital asset perspective, the librarian role could not be more essential.

Academic librarian roles require the provision of specialized research support services as well as the creation of tools related to that support. Each chapter provides sound examples of successful and thoughtful implementation. The reference lists also point to seminal works and are very well comprised; they would serve MI and (or) LIS students well for further reading. While the book cannot teach readers how to implement a data repository or become a geographic information system expert, it absolutely serves its intended purpose, which is to inspire creativity and unify the many aspects of research support services. Librarianship is about service and facilitation and *Dynamic Research Support* presents a dense albeit cursory base set of content illustrating the practicalities of research support and decision-making processes.

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BOOK REVIEW / CRITIQUE DE LIVRE

Collaborative grant-seeking: a practical guide for librarians. Bess G. de Farber. Lanham, MD: Rowman & Littlefield; 2016. Hardcover: 164 p. ISBN: 978-1-4422-6326-0. Price: USD$99.00. Available from: https://rowman.com/ISBN/9781442263284/

Grants are an essential part of the library world, allowing librarians to undertake innovative and progressive projects that would otherwise not be realized without necessary funding. The American Library Association publishes a directory of library funding sources with hundreds of entries proving that there is grant money available for those who show up to get it, but to have a grant one must first have a grant proposal [1]. Because the process of grant-seeking can sometimes be viewed as more arduous than the grant's intended project itself, grant-seeking is not always a librarian's first thought when undertaking a new project.

According to Bess G. de Farber in *Collaborative Grant-Seeking: A Practical Guide for Librarians*, grant-seeking is an important tool for librarians who strive to respond to constantly changing library and information landscapes. She holds the opinion that grants are untapped resources and opportunities for librarians to improve the quality of service and programming in their libraries. She emphasizes not only the importance of developing competence in grant-writing for library-specific projects, but also that librarians are better able to serve their clients who are grant-seeking when they themselves have a better understanding of grant-seeking. This aspect of the book is particularly pertinent to health librarians because grant-seeking within health research is pervasive.

The author has been the grants manager at the University of Florida Libraries since 2008 and previously held similar positions. She has extensive experience as a grant-writer and grant-manager. Writing from the context of a library system with a well-developed grant-seeking program, her context may not be relevant to all readers, but she also brings with her the useful perspective of being on several grant review panels, including the National Endowment for the Arts and Florida Division of Cultural Affairs. She shows she speaks from experience about what grant review panelists are looking for in reviewing grant applications when she notes, "it can be quite annoying for a reviewer to have to read proposals loaded with pronouns" [2].

de Farber offers a number of possible reasons for the lack of grant-seeking in many libraries including, but not limited to lack of time, resources, and proficiency. The book is intended to lessen these barriers by providing an overview of the grant-seeking process with specific recommendations to make grant-seeking efforts a success.

The book is organized into seven chapters with an inverted pyramid structure beginning with broad information in opening chapters, and then with each chapter the information becomes more specific, with the final chapters providing detailed instructions and tips on how to complete grant applications. The value of collaboration in grant-seeking is underscored by its mention in the title, but the book's content is not exclusively relevant to collaborative projects. It includes everything relating to grant-seeking from a history of funding for American libraries and description of grantsmanship and grant-seeking, to a sample budget narrative document. Although much of the content of the book insofar as description of context has an American focus, the recommendations for grant-writing and examples of documents provided are universally relevant.

In chapter three, de Farber discusses a process for developing an internal "mini-grant" program within an organization. She outlines practical steps to develop an internal program the primary purpose of which is "to develop knowledge, skills, and interests in pursuing grant-related experiences" [2]. She provides detailed real-world examples in this chapter by listing library systems that have mini-grant programs. She also gives further insight into how such programs work by summarizing projects within her own organization funded by their mini-grant program. The number of examples provided allows the reader to have a clear understanding of how such a program and its projects could be implemented.

The book is intended as a practical guide for librarians, as the title would suggest. Although the author is writing from an academic libraries perspective, she includes various examples of grant-seeking in public and academic libraries to appeal to a wider range of librarian experiences. Because the author attempts to encompass all aspects of grant-seeking within the book, I believe that the various

chapters could have distinct intended audiences. For example, the chapters “Creating a Library Grant-Seeking Program” and “Ways to Grow a Culture of Grantsmanship” appear to be aimed at those library management who seek to encourage their librarians to participate in grant-seeking activities, while other chapters such as “Strategies for Completing Application Components” and “Grant-Writing Tips and Potential Errors to Avoid” are targeted to librarians in the process of applying for grants.

The book is conveniently organized in a way that allows its reader to jump to useful information on the aspects of grant-seeking of that are of interest to them without needing to read other parts of the book which may not apply. After reading this book, any librarian can be more eager and less intimidated to pursue grant-seeking opportunities because of the way the author demystifies the process of developing a grant proposal. I would recommend the purchase of this book to any librarian or library wishing to develop an understanding of grant-seeking because it will provide you with a step by step guide to achieve that goal.

References

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