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## EDITOR'S MESSAGE / MESSAGE DE LA RÉDACTION

Welcome to the December issue of JCHLA/JABSC! I am happy to be serving as this year's Editor-in-Chief, and to recognize the stellar work done by Alison Farrell in the role last year. I and the rest of the editorial team – this year's Senior Editor Erin Watson, Junior Editor Sandra McKeown, Copyeditor Lucy Kiester, and Production Editor Nancy Gadoury – look forward to continuing to receive excellent submissions for the journal's readers.

In this issue we have two very timely articles: one on student health literacy support in the context of the recent legalization of recreational cannabis, and another on the transformation of health library services within a provincial model. We are also pleased to present this year's Student Paper Prize winner, Glyneva Bradley-Ridout's article on research data management roles among health sciences librarians. We round out the issue with two product and two book reviews.

**Nicole Askin**

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Voici le numéro de décembre du JABSC / JCHLA! J'ai le plaisir de tenir le rôle de rédactrice en chef cette année et de profiter du travail exceptionnel qu'a fait Alison Farrell à ce poste l'année dernière. Les membres de l'équipe éditoriale de cette année – la rédactrice principale, Erin Watson, la rédactrice adjointe Sandra McKeown, la réviseuse de textes Lucy Kiester, la directrice de la production Nancy Gadoury et moi-même – demeurent à l'affût de nouvelles soumissions pour des lecteurs du journal.

Dans le présent numéro, nous publions deux articles qui arrivent à point nommé : l'un traite des apprentissage en matière de santé pour les étudiants dans le contexte de la récente législation sur la consommation du cannabis à des fins récréatives, et l'autre traite de la transformation des services des bibliothèques de la santé selon un modèle provincial. Nous sommes également heureux de publier l'article de Glyneva Bradley-Ridout, qui a remporté le prix Exposé étudiant du JABSC / JCHLA, qui traite de la gestion des données de recherche, un nouveau rôle chez les bibliothécaires des sciences de la santé. Deux revues de produits et deux critiques de livres complètent le numéro.

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## ANNOUNCEMENT / NOUVELLE

### Award recipients CHLA/ABSC 2018

The CHLA/ABSC Board of Directors would like to announce the following Award recipients for 2018. Congratulations to everyone! We have the privilege of recognizing these members of our community for their contributions to our profession. We would like to thank all those who recognized their colleagues by nominating them this year.

David S. Crawford Lifetime Member Award: Ada Ducas

Emerging Leader Award: Erica Lenton

Hospital Librarian of the Year: Sandra Kendall

Special Recognition Award: Marlene Dorgan

JCHLA/JABSC Student Paper Prize: Glyneva Bradley-Ridout

### Mark your calendars for CHLA/ABSC 2019 in Ottawa, Ontario!

Our next conference will take place at the University of Ottawa in our nation's capital June 4-7, 2019.

This year we invite participants to share their "big ideas, big impact". Inspire us with your vision and outside-the-box thinking!

We look forward to participants sharing their knowledge and research through presentations, poster sessions and lightning talks. Vendors will share their product information at exhibitor booths and through Vendor Updates -- a more informal version of lightning talks. We can't wait to recognize the achievements of our members at our awards banquet and catch up with everyone during social events such as our opening reception, dine-arounds and after party.

The deadline for submissions is December 3rd, 2018. Check out the conference website at [https://www.chla-absc.ca/annual\\_conference.php](https://www.chla-absc.ca/annual_conference.php) for full details and to submit a proposal.

Visit the website in the New Year for registration details, and keep an eye on the CHLA listserv and social media (@chlaabsc19) for updates.

We can't wait to see you!

### Lauréats ABSC/CHLA 2018

Le conseil d'administration de l'ABSC / CHLA a le plaisir de dévoiler les noms des lauréats des prix décernés pour l'année 2018. Félicitations à tous les lauréats ! Nous avons le privilège de reconnaître ces membres de notre collectivité pour leur contribution à notre profession. Nous tenons aussi à remercier les membres qui ont reconnu leurs collègues en proposant leur candidature cette année.

Prix David S. Crawford – Membre honoraire à vie de l'ABSC / CHLA : Ada Ducas

Prix du Flambeau de la relève de l'ABSC / CHLA : Erica Lenton

Prix de l'ABSC / CHLA bibliothécaire de l'année au sein des hôpitaux canadiens : Sandra Kendall

Prix de reconnaissance spéciale de l'ABSC / CHLA : Marlene Dorgan

Prix Exposé étudiant du JABSC / JCHLA : Glyneva Bradley-Ridout

### Inscrivez dès maintenant à votre agenda la conférence annuelle 2019 de l'ABSC/CHLA à Ottawa, en Ontario

Notre prochaine conférence se tiendra à l'Université d'Ottawa – dans notre capitale nationale, du 4 au 7 juin 2019.

Cette année, nous invitons les participants à partager « *Des idées qui influencent* ». Faites-nous part de votre vision inspiratrice et de vos réflexions créatives.

Il nous tarde de partager avec vous les connaissances des participants grâce aux présentations des résultats de leurs recherches, aux séances d'affiches et aux exposés éclair. Les fournisseurs présenteront leurs produits aux kiosques d'exposition ainsi que lors d'exposés éclair informels. Nous avons également hâte de voir les réalisations de nos membres qui seront souligné au banquet lors de la remise des prix, et de renouer avec nos collègues lors de la réception d'ouverture, la tournée gourmande et l'après-soirée.

La date limite pour les soumissions est le 3 décembre 2018. Pour plus de détails et pour soumettre une proposition, visitez le site Internet de la conférence à l'adresse suivante [https://www.chla-absc.ca/annual\\_conference.php](https://www.chla-absc.ca/annual_conference.php).

Accédez au site Internet après le Nouvel An pour obtenir les détails relatifs à l'inscription, et surveillez le Listserv de l'ABSC/CHLA, ainsi que les médias sociaux (@chlaabsc19) pour les mises à jour.

Nous avons très hâte de vous revoir !

## RESEARCH ARTICLE / ARTICLE DE RECHERCHE

## Cannabis on campus: gateway to student health literacy for academic health science librarians

Dr. Laurelle LeVert

**Abstract: Introduction:** Effective 17 October 2018, recreational or adult-use cannabis becomes legal in Canada, and Provincial legislation will soon follow. The objective of this paper is to determine how Canadian universities are responding to this new reality via provision of web-based education and awareness materials through campus health centres. In addition, the paper explores what framework might exist or be created to partner academic health sciences librarians with student health services in the provision of best practice research for both students and clinicians. **Methods:** A scan of English Canadian university websites was undertaken to determine whether information on cannabis or marijuana directed at students was available, and whether identifiable resources in the area of health science librarians or subject guides were available. Website searches were performed between 25 February and 20 March 2018. **Results:** Results of a website scan of 78 English-language Canadian Universities indicated that only 8 universities (10.25%) have links to material available on cannabis or marijuana (although one link was unpopulated) whereas some 49 universities (63%) have qualified professional librarians associated with health sciences who could provide guidance on such material. **Discussion:** Academic librarians and libraries already play a pivotal role in the retention and support of student academic goals through liaison, reference and instruction. There is precedent as well in some institutions for library partnerships with student services areas such as career services, accessibility and common book programs. This paper suggest that the complex factors related to cannabis education, public health initiatives and health literacy in general present a unique opportunity for academic health science librarians to engage and partner with university health services and clinicians and grow the presence and influence of librarian support on university campuses.

### Introduction

In 2018 recreational or adult-use cannabis will become legal in Canada and Provincial legislation will soon follow [1]. How the impact of this new reality will be felt on university campuses across the country is unknown, but there is extensive literature on both increases in consumption and on the harms and impacts associated with cannabis use that universities and university health services must navigate [2-4]. The objective in this paper is to determine how Canadian universities, prior to legalization, have presented relevant information on cannabis or marijuana to students via student health services websites and to use this information as a point of departure to determine potential health literacy opportunities and partnerships between university libraries and health services.

There is research evidence on cannabis use in Canada. According to Duff “evidence indicating the normalisation of cannabis use in Canada is strong, particularly among individuals aged between 15 and 44 years” [2] and consumption rates in Canada have continued to rise [2]. Likewise, community attitudes have shifted and accessibility has increased even before plans for legalization. Extensive studies have also been done on risks and documented harms associated with cannabis use such as psychosis, respiratory disease and infertility as well as impact on student academic performance [2-5]. Additional adverse reactions and contraindications in young adults in particular may include cognitive and psychomotor impairment as well as gastrointestinal, cardiac and respiratory symptoms [6]. Periodontal risks associated with the smoking of cannabis

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independent of the use of tobacco have also been noted [7].

Research has also considered before-and-after impacts of cannabis legalization among college students in US States such as Colorado, focusing on the impact on grade point averages as well as the relationship between cannabis and alcohol. According to Jones et al., young adults (18-29) are “most likely to indicate current drug use” [8] and some research suggests that any frequency of use is associated with a reduction in overall grade point average. Further it has been suggested that heavier users who are college-aged are at the highest risk for drop-out and delay of completion when compared to non-users or moderate to infrequent users [3, 4]. And yet Jones et al. suggest that this may not necessarily be the case and that daily users’ GPAs are not significantly different from non-users’, positing that “regular cannabis users experience less disruption of cognitive performance than their casual use counterparts” due to increased tolerance and the suggestion that cannabis metabolizes more quickly in frequent users [8]. Studies following legalization in Colorado demonstrate only marginally decreased GPA rates among users of a “once a week or more often but not daily” [8]. In contrast, Suerken et al. suggest that users with infrequent, decreasing, increasing or frequent use all had lower GPA’s “on average” than non-users [4]. Furthermore, literacy levels for interpreting information may vary depending on demographic or cultural factors, including ethnicity, religious affiliation, age, gender and sexual orientation [9].

While the evidence is still contradictory, the concern about the impact of cannabis is well-founded based on what is currently known about patterns of use in this population. Although the reliability of this data may be challenged by the stigma associated with cannabis use and its currently illegal status, data of usage on Canadian campuses can be gleaned from the Canadian Reference Group of the AHCA-National College Health Assessment II instrument, comprising 41 Canadian institutions with a total sample size of 43,780 participants [10]. A 30-day sample suggested that while some 58.4% of students “never used” cannabis, 17.9% had some usage within the past 30 days, and 23.7% had used but not within the past 30 days. Heavy usage was identified in 3.6% of participants who used between 10-29 days of the sample, and 2.5% who used all 30 days [10].

Despite shifting societal attitudes and general increases in consumption [2] there continues to be a

growth in educational materials and campaigns that emphasize the risks of usage, but little effective programming aimed at a young adult population. Indeed, the contradiction of stigma and pending legalization has made health promotion and health literacy in this area very challenging. The National Library of Medicine defines health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” [11]. Some work has been done on health literacy among university students, though there is certainly room for more [12, 13]. Dahl specifically suggests that “[h]ealth sciences liaisons are likely to be apt liaisons to the student health centre. Instruction librarians, whether or not they have liaison assignments with academic departments, may have the background and interests that make them suitable liaisons for student learning centers” [14]. Dahl also reviews some of the literature on this topic and acknowledges the potential complexities including workload assignment, budget, politics and culture.

Important too is the opportunity to enhance public health programming on a broader scale [15-18]. Fischer et al. [15] provide support for focusing on evidence-based lower-risk use guidelines as a key public health tool, emphasizing informed choices for users and potential user groups in order to reduce negative health outcomes. Post-legalization, there will be a tremendous demand for informed and reliable information and such tools will be relevant for governments, agencies, and libraries in shaping the public’s understanding of this new reality, in particular the complexities of age-related usage, frequency or intensity of use, and administration routes. “[O]ne of the distinct advantages of legalization is that it allows open and direct information of users on risk behaviors, product properties, and more with the aim of reducing harmful outcomes from use” [15]. Opportunities for reliable, thoughtful and evidence-based knowledge translation can be expected to increase with legalization.

These complex factors in their entirety present a unique opportunity for academic health science librarians to engage and partner with university health services and clinicians. The objective was thus to determine how Canadian universities are currently presenting relevant information on cannabis or marijuana to students via student health services websites as a point of departure to determine potential

health literacy opportunities and partnerships between university libraries and health services.

## Methods

English language Canadian university websites were explored utilizing the member list of Canadian universities of *Universities Canada* [19]. Of a total of 95 member-universities, 78 English language institutions are indicated and were identified for review (see Appendix – Universities Canada member universities for a complete list of universities considered). It should be noted that some of these member universities have status as affiliated or federated with a larger university but nonetheless were included separately because they are stand-alone institutions under Universities Canada; this status is noted in the Appendix. Some shared health centre or library resources of their affiliate but were still tallied independently for the purpose of this scan; it was not always clear whether library services were shared. The method of analysis consisted of documenting the findings from each website scan descriptively, highlighting search results and noting resources that appeared. Searches were performed between 25 February and 20 March 2018.

In order to reproduce the search technique of an average, non-professional searcher, each university website was first searched via its internal search engine for “cannabis” or “marijuana” to determine ease of finding materials via this method. Advanced Google search techniques were not employed. Websites were then explored to identify whether there was a student health centre (sometimes called a health clinic, wellness clinic, wellness services, etc.). University or campus health centres usually provide only primary care services and refer students on for specialist treatment. Campus care can range from full service physicians, allied health therapists, psychological or psychiatric care, to visiting nurse, nurse practitioner or physician services. If the search did not identify a health centre, the search was expanded to include counselling or other student support services. Those sites were reviewed for materials on “cannabis” or “marijuana” and if present to determine the source of the material (internal documentation vs external link or sources). It was also noted whether the sites contained information on alcohol or smoking cessation in order to determine whether educational resources on substance issues was

already a consideration and could provide a framework upon which to build.

Next each university’s library website was reviewed, and a search performed of its subject or research guides for resources related to “cannabis” or “marijuana.” An ancillary search for materials on alcohol or smoking cessation was done at the same time. In addition, a scan of program and degree was undertaken via the same list of subject or research guides to determine whether librarian-mediated resources related to health sciences were available based on the presence of guides in medical or health-related programs. If subject or research guides were not immediately visible on the library website or if the website was particularly complex to navigate, the search was supplemented with a general review of programs via other academic links as well as a review of liaison librarian assignments. As some institutions primarily focus on liberal arts education, it was not expected that there would be health science library resources universally available.

## Results

In the initial search it was common to find links to academic research or projects related to cannabis or marijuana. It was also common to see links to news items, events (on or off campus) related to cannabis or marijuana or the pending legislation. Of the 78 websites reviewed (Appendix) only 8 (10.25%) had specific links to education resources available on cannabis or marijuana. Two universities had embedded materials on their own webpages, and the rest provided external resource links to either governmental agency resource pages, Centre for Addiction and Mental Health (CAMH) or to community resource pages not affiliated with a healthcare agency or resource. No materials on external sites were developed for, or directed specifically to, university students but rather for a general, primarily adult, audience. One university had information on medical marijuana but only focused on the documentation required, not education or awareness. Of the 78 websites reviewed, 17 (22%) sites provided resources on, or links to, addiction services or local agencies such as Narcotics Anonymous or Alcoholics Anonymous, or materials on alcohol or smoking cessation. It should be noted that this is likely an incomplete representation, as such services may also be available through student and

employee health plans, and those relevant sites were not considered in the review.

The review of subject or research guides, academic programming and liaison librarian assignments revealed a similar absence of materials related to cannabis, marijuana, alcohol or smoking cessation, or addictions in general. While 49 (62%) of the 78 universities considered have librarians associated with one or more health sciences field, only one subject guide was located on alcohol use, drugs, and tobacco but was focused on public policy and statistics. One guide was found on student wellness that cross-referenced student counselling workshops and events but provided no resources on cannabis, marijuana, alcohol or smoking.

## Discussion

There exists at Canadian universities an untapped resource and under-explored opportunity to engage academic health science librarians in health literacy related to cannabis and substance use for students and clinicians alike. Professionals who deal with campus issues such as cannabis, smoking cessation and alcohol have ready but untapped access to a rich source of reputable, current information to support student affairs and health services. While the website review revealed a consistent lack of accessible information and resources available in these areas, it also revealed an opportunity for collaboration and partnership. It should be noted that one of the important limitations of this review was not accessing or considering what physical materials may also be made available in student health clinics, through counselling, student services offices or through the physical health libraries.

Librarians can help negotiate the mixed messages associated with cannabis research and resources. The legalization of cannabis a controversial issue. Its transition to a substance that is legal but controlled has been cause for concern among members of the public as well as medical professionals, and literature suggesting its particular impact on youth and university-aged students with respect to academic achievement and health [4, 8] is indicative of an increasing need for clear, valid and accessible information. The debate and analysis regarding impact on university and college students in particular in Canada is likely to increase exponentially with the legalization of cannabis as research becomes more

feasible and less stigmatized. This is a gateway opportunity to engage librarians with student services and health professionals as partners in health literacy related to an important issue with contradictory evidence.

Academic librarians already participate in student engagement and retention via their work with students as liaison librarians, reference librarians, instruction and other avenues including common book programs, writing centres and student service units [20-23]. Even the library itself is often a hub for student engagement and activity, what Grallo calls a “safe place” that facilitates student transition, retention and success [24]. Librarians are already considered a trusted resource in academic matters, and so the extension of this influence to health literacy in student affairs and programming is neither unreasonable nor unprecedented [24].

Among the population of post-secondary students, the unfamiliar and sometimes overwhelming nature of medical terminology are potential barriers to adequate health literacy. Additionally, as noted by Millican, the increase in international students for whom English is not a first language and who may also struggle with cultural barriers may present particular challenges in the area of health literacy [9]. But even a high language proficiency and education level does not preclude low health literacy. Patients can still struggle with understanding medical terminology or instructions, as well as with “cognitive overload” either through lack of familiarity or a high volume of information leading to resistance and avoidance. Canadian universities are a societal microcosm urgently in need of consistent health literacy programming, and campus health clinics play an important role. The campus health clinic, in addition to basic primary care services, usually supplements a family physician although for international students or students from other regions without a family physician it may serve as a first-stop for all healthcare needs. But whatever the level of medical care provided, the health centre is often the first point of contact for students with medical issues, and so needs to be resourced not only with appropriate and trained staff, but also with appropriate and readily accessible information on public health concerns [25].

Conversely, the traditional academic librarian may not see their role as partnering outside of academic units, and any successful model will be heavily reliant on good relationships and mutual respect. But starting small, perhaps informally, can reap tremendous

benefits not only for students and clinicians, but also for the library itself as librarians are increasingly seen as integral to multiple forms of information seeking taking place across the university community. The academic hierarchy that pervades university culture may be a deterrent to partnerships, and there may be an assumption that librarians are only there to serve the academic mission and not its ancillary support services network.

The traditional academic support model may or may not be relevant here. Considering the lack of librarian-mediated resources or guides gleaned from this study, librarians could initiate the relationship with health services practitioners and students by providing resources and subject guides, cross-referencing health and library services on relevant websites, and perhaps even using library displays to highlight health issues and topics (cannabis, smoking cessation, alcohol, addictions etc.). This would be a small start that could evolve into referring student patients to librarians for resources, and the natural promotion of library services. Expansion of such relationships could include engaging librarians on campus committees or taskforces that relate to student services or student health; sourcing of accessible, plain language materials (print and video) through regional health authorities that could be used in the health centre and made available online; subject guides for health centre, accessibility centre, counselling centres, career services and more.

Campus healthcare providers are also often part of formal or informal case management teams and work with students accessing a variety of services and supports, including perhaps personal counselling, accessibility services, academic advising and even faculty members. Issues of addiction counseling and awareness about addictive substances and controlled substances are not uncommon. There is already a culture within student services to a holistic approach to student support, acknowledging not only the intellectual but also the mental, emotional, physical and spiritual self, and so integrating librarians and their expertise provides another facet to enhance student development. This is a complex task with many participants and multi-faceted information needs and would be well supported by clear pathways to health information literacy.

## **Limitations of this research and areas for further study**

The websites considered were for universities specifically listed with Universities Canada and would not include multi-college universities such as the University of Toronto, with the exception of its independent or federated colleges likewise listed with Universities Canada. Nor were community colleges considered. This research was limited to web resources available via standard search practices, and no advanced Google searches were performed within institutional URLs since the objective was to reproduce the search method of general or average searchers. Some information could therefore potentially have been missed. It is also possible, even likely, that there are print materials available through health services or other student service areas. It is also unknown whether informal relationships already exist between campus health science librarians or whether they are already involved in providing resources for staff or students, and further research could include surveying these populations. However, even if they are, there is little evidence available through publicly available websites, and nor do student health centres or student services website refer to library resources or librarians for health information sources. In addition, the timeframe for the website review was some seven months prior to legalization of adult-use cannabis, and so a similar study could be undertaken following legalization to assess the content and approach taken on this subject by universities through the transition period.

## **Opportunities for further research**

There are several avenues for further related research, including a comprehensive survey and analysis of health-information seeking behaviour of university students to glean a clearer understanding of their needs related to the health concerns and risks of cannabis use. In addition, research could be done on how university students use campus health services for informational or educational purposes either within or separate from a clinical appointment in order to determine current methods of health literacy seeking and better define the information needs of these services and the potential role of librarians to fill those needs. Also, an interview-type study could be conducted to assess the baseline knowledge of students

regarding cannabis, and then a follow-up study could determine whether health literacy increased after accessing librarian-mediated resources. This research could also be extended to Francophone universities, and both English and French community colleges.

## Conclusion

Academic health science librarians are an underutilized resource in improving health literacy related to cannabis use among university students and supporting campus healthcare professionals. The introduction of legal adult-use cannabis presents a unique opportunity for librarians to step in (and step up) to propose a new model of collaboration and partnership. This opportunity could enhance the health literacy of students and student health care professionals alike; reduce time needed by health care workers to source and make available information; increase the profile of librarians and library; and drive attention to the multi-faceted role that health science librarians can play outside of a narrowly-defined academic role.

## Acknowledgements

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## References

1. Government of Canada. A Framework for the legalization and regulation of cannabis In Canada: the final report of the task force on cannabis legalization and regulation [Internet]. Ottawa ON: Health Canada; 2016 [cited 2018 March 6]; Available from: <https://www.canada.ca/en/services/health/marijuana-cannabis/task-force-marijuana-legalization-regulation/framework-legalization-regulation-cannabis-in-canada.html>
2. Duff C, Erickson P. Cannabis, risk and normalisation: evidence from a Canadian study of socially integrated, adult cannabis users. *Health Risk Soc* 2014;16(3):1-17. doi.org/10.1080/13698575.2014.911823
3. Bolin P, Pate M, McClintock J. The impact of alcohol and marijuana use on academic achievement among college students. *Soc Sci J* 2017;54(4):430-437. doi.org/10.1016/j.soscij.2017.08.003
4. Suerken CK, Seboussin BA, Egan KL, et al. Marijuana use trajectories and academic outcomes among college students. *Drug Alcohol Depend* 2016;162:137-145. doi.org/10.1016/j.drugalcdep.2016.02.041
5. Martinez JA, Roth MG, Johnson DN, Jones JA. How robustly does cannabis use associate to college grades? Findings from two cohorts. *J Drug Educ* 2015 03;45(1):56-67. doi.org/10.1177/0047237915596606
6. RxTx [Internet]. Ottawa (ON): Canadian Pharmacists Association; c2018. CPS online: Cannabis; [cited 2018 Oct 1]. Available from: [www.myrxtx.ca](http://www.myrxtx.ca)
7. Thomson WM, Poulton R, Broadbent JM, et al. Cannabis smoking and periodontal disease among young adults. *JAMA*. 2008;299(5):525-531. Doi.org/10.1001/jama.299.5.525
8. Jones J, Jones KN, Peil J. The impact of the legalization of recreational marijuana on college students. *Addict Behav* 2018;77:255-259. doi.org/10.1016/j.addbeh.2017.08.015
9. Millican K. How are medical librarians addressing health literacy barriers? *Ser Libr* 2014 October;67(3):260-275. doi.org/10.1080/0361526X.2014.915606

10. American College Health Association. American college health association - national college health assessment II: Canadian reference group executive summary spring 2016 [Internet]. Hanover MD: American College Health Association; 2016 [cited 2018 March 1]; Available from: <http://www.acha-ncha.org/docs/NCHA-II%20SPRING%202016%20CANADIAN%20REFERENCE%20GROUP%20EXECUTIVE%20SUMMARY.pdf>
11. National Library of Medicine. Health literacy: a prescription to end confusion [Internet]. Washington DC: 2004 [cited 2018 March 1]; Available from: <https://www.nap.edu/read/10883>
12. Ickes M, Cottrell R. Health literacy in college students. *J Am Coll Health* 2010 March;58(5):491-498. doi.org/10.1080/07448481003599104
13. Joseph R, Fernandes S, Hyers L, O'Brien K. Health literacy: a cross-disciplinary study in American undergraduate college students. *J inform Lit* 2016 December;10(2):26-39. doi.org/10.11645/10.2.2103
14. Dahl C. Library liaison with non-academic units: a new application for a traditional model. *Can J Libr Inf Prac Rsh* 2007 2(1):1-12
15. Fischer B, Russell C, Sabioni P, et al. Lower-risk cannabis use guidelines: a comprehensive update of evidence and recommendations. *Am J Public Health* 2017; 107(8), 1-12. Doi.org/10.2105/AJPH.2017.303818
16. Pacula RL, Kilmer B, Wagenaar AC, et al. Developing public health regulations for marijuana: lessons from alcohol and tobacco. *Am J Public Health*. 2014;104(6):1021-1028. Doi.org/10.2105/AJPH.2013.301766.
17. Canadian public health association. A public health approach to the legalization, regulation and restriction of access to cannabis [Internet]. Ottawa. 2018 [cited 2018 Oct 1]. Available from: <https://www.cpha.ca/public-health-approach-legalization-regulation-and-restriction-access-cannabis>
18. Government of Canada. Cannabis in Canada [Internet]. Ottawa. 2018 [cited 2018 Sept 28]. Available from: [https://www.canada.ca/en/services/health/campaigns/cannabis.html?utm\\_campaign=cannabis-18&utm\\_medium=vurl-en&utm\\_source=canada-ca\\_cannabis](https://www.canada.ca/en/services/health/campaigns/cannabis.html?utm_campaign=cannabis-18&utm_medium=vurl-en&utm_source=canada-ca_cannabis)
19. Universities Canada. Member universities [Internet] [Cited 2018 March]; Available from: <https://www.univcan.ca/universities/>
20. Boff C, Schroeder R, Letson C, Gambill J. Building uncommon community with a common book: the role of librarians as collaborators and contributors to campus reading programs. *Rsh Strat* 2005 January;20(4):271-283. doi.org/10.1016/j.resstr.2006.12.004
21. Cooke C, Bledsoe C. Writing centers and libraries: one-stop shopping for better term papers. *Ref Libr* 2008;49(2):119-127. doi.org/10.1080/02763870802101310
22. Love E, Edwards M. Forging inroads between libraries and academic, multicultural and student services. *Ref Serv Ref* 2009 February;37(1):20-29. doi.org/10.1108/00907320910934968
23. Swartz P, Carlisle B, Uyeki E. Libraries and student affairs: partners for student success. *Ref Serv Ref* 2007 February;35(1): 109-122. doi.org/10.1108/00907320710729409
24. Grallo J, Chalmers M, Baker P. How do I get a campus ID? The other role of the academic library in student retention and success. *Ref Libr* 2012 April;53(2):182-193. doi.org/10.1080/02763877.2011.618787
25. Benson-Tilsen G, Cheskis-Gold R. Mind and body: wellness center trends in U.S. Higher Education. *Plan High Ed J* 2017;45(4):137-156.

## Appendix – Universities Canada member universities list (English)

English language Canadian university websites were explored utilizing the member list of Canadian universities of Universities Canada. Of a total of 95 member-universities, 78 English language institutions are indicated and were identified for review. Universities marked with an asterisk (\*) indicate the presence of links to resources on cannabis or marijuana at the time of the search. The link on the Queen's University website was unpopulated.

University	Health Science Librarian or Subject Guide	Website
*Acadia University		<a href="https://www2.acadiau.ca/home.html">https://www2.acadiau.ca/home.html</a>
Algoma University		<a href="https://www.algomau.ca">https://www.algomau.ca</a>
Athabasca University		<a href="http://www.athabascau.ca">http://www.athabascau.ca</a>
Atlantic School of Theology		<a href="http://www.astheology.ns.ca">http://www.astheology.ns.ca</a>
Bishop's University		<a href="http://www.ubishops.ca">http://www.ubishops.ca</a>
Brandon University		<a href="https://www.brandonu.ca">https://www.brandonu.ca</a>
Brescia University College (Western University)		<a href="http://brescia.uwo.ca">http://brescia.uwo.ca</a>
Brock University	X	<a href="https://brocku.ca">https://brocku.ca</a>
Campion College (University of Regina)	X	<a href="http://campioncollege.ca">http://campioncollege.ca</a>
Canadian Mennonite University		<a href="http://www.cmu.ca">http://www.cmu.ca</a>
Cape Breton University	X	<a href="https://www.cbu.ca">https://www.cbu.ca</a>
*Carleton University	X	<a href="https://carleton.ca">https://carleton.ca</a>
*Concordia University		<a href="https://www.concordia.ca">https://www.concordia.ca</a>
Concordia University of Edmonton		<a href="https://concordia.ab.ca">https://concordia.ab.ca</a>
Dalhousie University	X	<a href="https://www.dal.ca">https://www.dal.ca</a>
Emily Carr University		<a href="http://www.ecuad.ca">http://www.ecuad.ca</a>
First Nations University of Canada		<a href="http://fnuniv.ca">http://fnuniv.ca</a>
Huron University College (Western University)		<a href="http://www.huronuc.on.ca">http://www.huronuc.on.ca</a>
King's University College (Western University)		<a href="https://www.kings.uwo.ca">https://www.kings.uwo.ca</a>
Kwantlen Polytechnic University	X	<a href="http://www.kpu.ca">http://www.kpu.ca</a>
Lakehead University	X	<a href="https://www.lakeheadu.ca">https://www.lakeheadu.ca</a>
Laurentian U	X	<a href="https://laurentian.ca">https://laurentian.ca</a>
Luther College (University of Regina)	X	<a href="https://www.luthercollege.edu">https://www.luthercollege.edu</a>
MacEwan University	X	<a href="https://www.macewan.ca">https://www.macewan.ca</a>
McGill University	X	<a href="https://www.mcgill.ca">https://www.mcgill.ca</a>
McMaster University		<a href="http://www.mcmaster.ca">http://www.mcmaster.ca</a>
Memorial University of Newfoundland	X	<a href="http://www.mun.ca">http://www.mun.ca</a>
Mount Allison University		<a href="http://www.mta.ca">http://www.mta.ca</a>
Mount Saint Vincent University		<a href="http://www.msvu.ca">http://www.msvu.ca</a>
Mount Royal University	X	<a href="http://www.mtroyal.ca">http://www.mtroyal.ca</a>
Nipissing University	X	<a href="http://www.nipissingu.ca">http://www.nipissingu.ca</a>

NSCAD (Nova Scotia College of Art and Design)		<a href="https://nscad.ca">https://nscad.ca</a>
OCAD University (Ontario College of Art and Design)		<a href="https://www.ocadu.ca">https://www.ocadu.ca</a>
*Queen's University	<u>X</u>	<a href="http://www.queensu.ca">http://www.queensu.ca</a>
Redeemer University College		<a href="https://www.redeemer.ca">https://www.redeemer.ca</a>
Royal Military College of Canada		<a href="https://www.rmc-cmr.ca">https://www.rmc-cmr.ca</a>
Royal Roads University		<a href="http://www.royalroads.ca">http://www.royalroads.ca</a>
*Ryerson University	<u>X</u>	<a href="https://www.ryerson.ca">https://www.ryerson.ca</a>
Saint Mary's University		<a href="http://www.smu.ca">http://www.smu.ca</a>
Saint Paul University		<a href="https://ustpaul.ca">https://ustpaul.ca</a>
Simon Fraser University	<u>X</u>	<a href="https://www.sfu.ca">https://www.sfu.ca</a>
St. Francis Xavier University	<u>X</u>	<a href="https://www.stfx.ca">https://www.stfx.ca</a>
St. Jerome's University (University of Waterloo)		<a href="https://www.sju.ca">https://www.sju.ca</a>
St. Paul's College (University of Manitoba)	<u>X</u>	<a href="http://umanitoba.ca/stpauls/">http://umanitoba.ca/stpauls/</a>
St. Thomas More College (University of Saskatchewan)	<u>X</u>	<a href="https://stmcollege.ca">https://stmcollege.ca</a>
St. Thomas University	<u>X</u>	<a href="http://w3.stu.ca/stu">http://w3.stu.ca/stu</a>
The King's University		<a href="https://www.kingsu.ca">https://www.kingsu.ca</a>
Thompson Rivers University	<u>X</u>	<a href="https://www.tru.ca">https://www.tru.ca</a>
Trent University	<u>X</u>	<a href="https://www.trentu.ca">https://www.trentu.ca</a>
Trinity Western University	<u>X</u>	<a href="https://www.twu.ca">https://www.twu.ca</a>
University of Alberta	<u>X</u>	<a href="https://www.ualberta.ca">https://www.ualberta.ca</a>
University of British Columbia	<u>X</u>	<a href="https://www.ubc.ca">https://www.ubc.ca</a>
University of Calgary	<u>X</u>	<a href="http://www.ucalgary.ca">http://www.ucalgary.ca</a>
University of Guelph	<u>X</u>	<a href="https://www.uoguelph.ca">https://www.uoguelph.ca</a>
University of King's College		<a href="https://ukings.ca">https://ukings.ca</a>
*University of Lethbridge	<u>X</u>	<a href="http://www.uleth.ca">http://www.uleth.ca</a>
University of Manitoba	<u>X</u>	<a href="http://umanitoba.ca">http://umanitoba.ca</a>
University of New Brunswick	<u>X</u>	<a href="http://www.unb.ca">http://www.unb.ca</a>
University of Northern British Columbia	<u>X</u>	<a href="https://www.unbc.ca">https://www.unbc.ca</a>
University of Ontario Institute of Technology	<u>X</u>	<a href="https://uoit.ca">https://uoit.ca</a>
University of Ottawa	<u>X</u>	<a href="https://www.uottawa.ca/en">https://www.uottawa.ca/en</a>
University of Prince Edward Island	<u>X</u>	<a href="http://www.upei.ca">http://www.upei.ca</a>
University of Regina	<u>X</u>	<a href="https://www.uregina.ca">https://www.uregina.ca</a>
*University of Saskatchewan	<u>X</u>	<a href="https://www.usask.ca">https://www.usask.ca</a>
University of St. Michael's College (University of Toronto)	<u>X</u>	<a href="https://stmikes.utoronto.ca">https://stmikes.utoronto.ca</a>
University of Sudbury		<a href="https://usudbury.ca">https://usudbury.ca</a>
*University of the Fraser Valley	<u>X</u>	<a href="https://www.ufv.ca">https://www.ufv.ca</a>
University of Toronto	<u>X</u>	<a href="https://www.utoronto.ca">https://www.utoronto.ca</a>
University of Trinity College (University of Toronto)	<u>X</u>	<a href="http://www.trinity.utoronto.ca">http://www.trinity.utoronto.ca</a>
University of Victoria	<u>X</u>	<a href="https://www.uvic.ca">https://www.uvic.ca</a>

University of Waterloo	<u>X</u>	<a href="https://uwaterloo.ca">https://uwaterloo.ca</a>
University of Windsor	<u>X</u>	<a href="http://www.uwindsor.ca">http://www.uwindsor.ca</a>
University of Winnipeg		<a href="https://www.uwinnipeg.ca">https://www.uwinnipeg.ca</a>
Vancouver Island University	<u>X</u>	<a href="https://www.viu.ca">https://www.viu.ca</a>
Victoria University (University of Toronto)	<u>X</u>	<a href="http://www.vicu.utoronto.ca/home">http://www.vicu.utoronto.ca/home</a>
Western University	<u>X</u>	<a href="http://www.uwo.ca">http://www.uwo.ca</a>
Wilfrid Laurier University	<u>X</u>	<a href="https://www.wlu.ca">https://www.wlu.ca</a>
York University	<u>X</u>	<a href="http://www.yorku.ca/index.html">http://www.yorku.ca/index.html</a>

## RESEARCH ARTICLE / ARTICLE DE RECHERCHE

# Preferred but not Required: Examining Research Data Management Roles in Health Science Librarian Positions

Glyneva Bradley-Ridout

**Abstract:** **Introduction:** Research data management (RDM) is being recognized as an increasingly important role for librarians, but little work has been done to investigate whether RDM tasks are being asked of librarians in their professional roles. In this paper, current job postings in health science librarianship are examined to investigate whether research data management job duties are being included in advertised health science librarian positions. **Methods:** Job postings available as of April 5<sup>th</sup>, 2018 on the University of Toronto's Faculty of Information (iSchool) jobsite were collected and analyzed to identify positions related to health science librarianship. The job responsibilities and descriptions were further examined to identify instances where research data management was mentioned. **Results:** Thirty-two job descriptions were identified as meeting the inclusion criteria. Of these thirty-two health science librarian postings, eight included supporting research data management services, in some capacity, as part of the position description. **Discussion/Conclusion:** Through the job posting analysis, a trend emerged where RDM is not consistently seen as a role for health science librarians. However, the literature indicates that in many instances, research data management is already being done by health science librarians, and is a service which is likely to continue in the future. As such, it is important that research data management roles start being acknowledged and reflected in education and job description opportunities.

## Introduction

In the past decade, libraries have begun to recognize the importance of supporting research data management (RDM), and the emerging and significant role that it plays for librarians [1]. As acknowledgement has increased of the importance of proper data storage, sharing, preservation and dissemination, librarians have been at the forefront of supporting researchers in these endeavors [2]. Across Canada, most academic libraries have produced, or are in the process of producing, research data management plans to clarify the roles and boundaries of librarians when collaborating with academics during their research process [2]. Health and hospital libraries provide a unique setting where there is opportunity to undergo research data management in partnership with health care practitioners and researchers, due to the existing role of librarians on the research team when collaborating on knowledge synthesis projects.

However, there has been less of a focus on research data management services in this sector so far [1, 3]. Generally, extensive RDM services are not provided or acknowledged in health libraries or are just starting to emerge as an area of importance [3].

In this paper, the current expectations for health science librarians in supporting research data management endeavors will be examined through a quantitative key word analysis of job postings for positions related to health librarian jobs. Job descriptions are assessed for indications of research data management responsibilities and tasks. Ultimately, it is argued that supporting research data management is an important and logical extension of what health science librarians do, and that these skills should be an acknowledged and supported part of the health librarian role.

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## Definitions

Before continuing, it is important to clarify some definitions and outline the scope which will be investigated in this paper. Firstly, there is the term research data management, which may encompass many elements and be varied in extent. The Canadian Association of Academic Research Libraries (CARL) presents one definition, describing research data as “factual records... used as primary sources for research” and research data management as the maintenance of that data throughout all stages of the data’s lifecycle [4]. This endeavor incorporates many elements, including tasks such as backing up data in well-preserved and accessible storage locations, creating metadata and controlled vocabularies, sharing and reusing data, and ensuring the security and privacy of data [5].

Next, it is important to explicitly define the title of health science librarian, and discuss what this role entails. In using the term health science librarian throughout this paper, it refers to any professional librarian whose role is to either a) to liaison to health and biomedical research areas, b) to collaborate with health care practitioners on any area of their research, including as part of the research team, and (or) c) to provide a focus on health information resources, databases, or medical terminology as part of their expertise. Based on this definition, librarians employed in a variety of sectors may be health science librarians, including those in academic, public, hospital, health care, government, association and not-for profit libraries. Other job titles which may be considered synonymous to “health science librarian” are, for example: health information librarian or specialist, health research librarian or specialist, medical librarian, hospital librarian, consumer health librarian and liaison librarian to health or biomedical subject areas [6]. For the rest of the paper, the term health science librarian will be used to refer to any librarian working in a health-discipline related capacity as defined here.

## Background

Research data management (RDM) is an emerging field, as more and more governing bodies recognize the growing importance of properly organized, reported, and stored data. In 2011, the National Science Foundation in the United States declared that

all grant proposals would require a research data management plan, which meant that researchers needed to start planning for proper data management and stick to that plan throughout the research life cycle [7]. There has been similar progress in Canada, with major grant governing bodies such as the National Science and Engineering Research Council (NSERC) and the Social Science and Humanities Research Council (SSHRC) releasing the Tri-Agency Open Access Policy in 2015, which calls for improved transparency and accessibility of data of Canadian Institutes of Health Research (CHIR) funded research projects [8].

In recent years, literature about the state of health science librarianship, particularly in North America, sheds light on a field with evolving roles and activities, marking a distinct difference between librarian jobs in the present and future compared to the past. One of the clear trends which stands out when examining recent investigations into the field is that research data management responsibilities and roles are being seen as an increasingly important place for health science librarians. In Crum and Cooper’s systematic review on emerging roles for biomedical librarians from 1990-2012, a popular trending new role in both hospital and academic library settings was support for research, including researcher collaboration tools and data curation and management [7]. Holst et al. further identified that hospital librarians are “leaders in knowledge management” and that support of hospital research, including data management, is a clearly significant part of the role that health librarians play [9].

Embracing research data management as a new area of expertise makes sense, because it is a natural extension of what health science librarians already do. Health science librarians play an extremely important role during the knowledge synthesis processes as an embedded member of the research team and are often recognized as co-authors on knowledge syntheses and other projects [10]. Traditionally, some of the roles for librarians as part of this team has been to clarify and fine-tune research questions, identify resources to search including both indexed databases and grey literature, to construct and run comprehensive and exhaustive searches and to document their search strategies and search methodologies [9]. There have been multiple studies which indicate that having a librarian as a partner during this process results in enhanced quality of research and improved patient outcomes [9, 11]. As health science librarians are

already collaborating with researchers during this process, extending this role to include research data management is a logical and natural extension of the part that health science librarians are already playing, and is likely to result in similar benefits of increasingly well documented, preserved and transparent information.

Finding new areas of expertise and service, and expanding the librarian's role to include RDM also has benefits for the librarian. Crum and Cooper write, that through "seizing [the] opportunity" to support biomedical researchers, librarians are able to develop new skills and build relationships. Further, having the opportunity to gain additional insight into the research that is being done by the library's users provides an important "learning opportunity to gain insights into the types of research being completed" which in turn "serves to inform [...] future service development" [12]. In other words, when librarians are more involved in the research process throughout all of its stages, we are given the opportunity to provide better service, and understand the needs of our users in a more significant way. In turn, this provides us an opportunity to fill a gap for our users, and become more knowledgeable and practiced librarians in the process.

With this background information in mind, an investigation into recent health science librarian job postings was conducted to examine whether or not research data management tasks and responsibilities are being reflected in current health science librarian positions.

# Methods

Job descriptions found on job advertisements provide an excellent source of information for examining the tasks and responsibilities of librarians in different areas of specialty. To investigate the role that health science librarians are currently expected to play in supporting and collaborating on research data management, all job postings as of April 5<sup>th</sup>, 2018 available on the University of Toronto's Faculty of Information (iSchool) jobsite were analyzed (<https://ischool.utoronto.ca/job-site/>). Job postings found on this website are manually submitted for posting using an online form, and are then added to the site within a short time period. Jobs remain on the site even after the deadline to apply has passed, resulting in a small repository of both current and recently

closed job opportunities. The jobs available on the site at the time of writing included postings from approximately February 2017 to April 2018.

The website's built-in search bar was used retrieve job postings which were related to health science librarian positions. This search bar retrieves items when search terms are found in the job title, or in the description of the job itself. Table 1 details the search terms used to find relevant postings (including terms such as health, hospital, medicine, medical and biomedical), as well as the number of total and relevant job posts that were retrieved with each search.

**Tab. 1** Search terms used to retrieve results from the iSchool Jobsite.

Search Term	Postings retrieved	Unique postings that met the inclusion criteria, and were not already retrieved in another search
Health	158	27
Hospital	41	3
Medicine	28	2
Medical	51	0
Life science	35	0
Biomedical	25	0

Job postings were included in the analysis if they referred to any professional librarian position (i.e., requiring an ALA accredited Master's degree in a library or information related area) that included duties to support or collaborate with health science professionals and subject areas. The full descriptions of the jobs were read and examined, even if the job titles did not indicate a health focus, to ensure all relevant postings were included. For the scope of this research, library technicians and other library staff were not considered. However, librarians in all types of libraries were included in the analysis. There were no limits placed on when the job posting was created, and all available job posts on the website were searched. There were also no limits placed on the geographical location of the job opportunities, which

included jobs located across Canada and the United States. For a summary of inclusion and exclusion criteria used when analyzing the job postings as relevant to this study, please see Table 2. Ultimately, 32 postings were identified as meeting the inclusion criteria, and were therefore included in the analysis.

**Tab. 2** Inclusion/exclusion criteria for job descriptions retrieved.

Postings were included if:	Postings were not included if:
<ul style="list-style-type: none"><li>• The posting was full-time or part-time, permanent or contact position</li><li>• The job included the words “health”, “hospital”, “life science”, “medical”, or “medicine” or “biomedical” in the job title OR job description, referring to the area of focus for the position</li><li>• Through reading the job description, it was clear that the position is some way related to health science librarianship</li></ul>	<ul style="list-style-type: none"><li>• The position was a volunteer, student, or internship position</li><li>• If the position did not require a professional Masters degree (ie. was not a librarian position, but a library technician or other library position)</li><li>• The job posting did not clearly indicate a focus on health science as part of the expected role</li></ul>

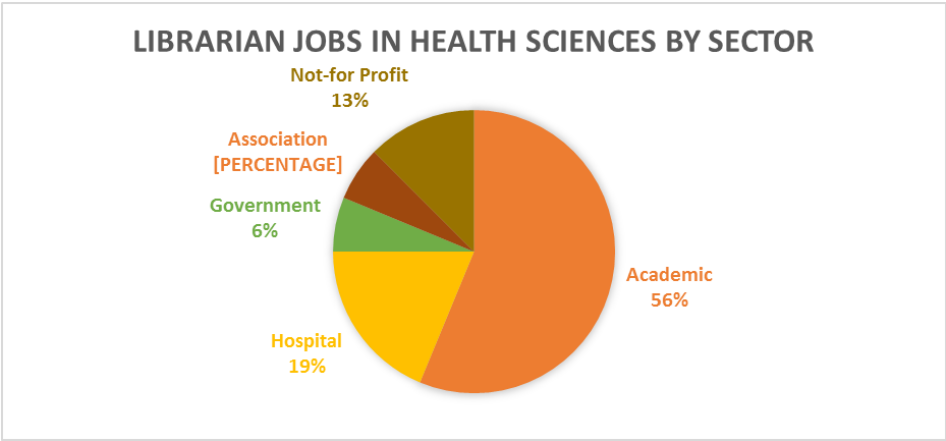
Once these 32 postings were identified, further work was done to investigate the job responsibilities and roles to be carried out in the position. The job responsibilities and descriptions were carefully read through in detail, to identify instances where research data management was mentioned. Postings were included if they mentioned the phrase research data management specifically, or if they discussed elements of RDM, namely; the scholarly life cycle, data storage, data preservation, data security, or other responsibilities involving data management. For the

purposes of this paper, the emphasis was placed on examining the way that health science librarians are supporting RDM initiatives of the researchers and professionals that they collaborate with, and any mention of RDM as it related to a librarian’s *own* research was not considered in the analysis. Following this review, several key results emerged, which will be presented and discussed in the remainder of the paper.

Results

As mentioned, 32 postings from the search results were identified as meeting the inclusion criteria. The job titles for these positions ranged from clearly related to health librarianship (such as “health sciences librarian”) to those which were less clear (“research information specialist” for example). Twenty were full time permanent positions, 1 was a part time permanent position, and 12 were temporary or contract positions. The positions were located in various library settings, including college and university libraries, hospital libraries, associations, government institutions and not-for profits. Figure 1 displays the breakdown of various sectors in which these positions were found. Three of the positions were located in the United States, whereas the remaining 29 were located across Canada. The jobs also ranged from management positions requiring significant years of prior experience, to jobs appropriate for entry level applicants. Following a detailed review, the job responsibilities in these positions, of the 32 health science librarian postings which were included in the analysis, 24 did not include supporting research data management services, in any capacity, as part of the position description.

**Fig. 1** Health Science Librarian Positions Retrieved by Sector.



Of the 8 postings which did include some aspect of research data management, the scope and types of tasks varied in multiple and significant ways. Four of the postings included terms such as research management and scholarly communication in the titles, and through reading the job descriptions it was clear that job tasks relating to research data management comprised of the main responsibilities for the successful candidate. For these positions, some job tasks included:

- “Supporting campus scholars in sharing and preserving their publications, coordinating the deposit of scholarly output in appropriate repositories, and consulting on methods for meeting funder and/or publisher requirements”
- “Supports, enables, and contributes to the research process on campus through the development of library services, and the provision of expertise in research impact, scholarly publishing, and the research lifecycle”

In 2 of the 4 other cases, it was clear that research data management tasks seemed to be an expected part of the role, but were to be conducted in addition to job responsibilities in other areas. These duties included, for example:

- “Partner and collaborate in an array of arenas such as scholarly communication, open access, hosting/publishing institutional scholarly output”
- “Communicate the value of scholarly communication, digital initiatives, the development of new online tools, copyright, data management, affordability, and the integration of information literacy skills into the curriculum and the impact to the scientific community”.

In the final 2 postings which included research data management tasks, RDM was only mentioned as an area that librarians should be aware of and remain current with, not an area that would be critical to their everyday practice. Some examples of job tasks include:

- “Remain current with, and implement in practice, emerging concepts in scholarly communication, research data management, and instructional technology”
- “Foster an understanding of the research culture, data needs and publication trends of science and technology researchers”

## Discussion

Before continuing, it is important to acknowledge some limitations to this methodology. Firstly, the University of Toronto’s iSchool jobsite was chosen because it does not tend to remove postings, even after the deadlines for them have passed. Other popular Canadian library job sites, such as Partnership for example, remove postings shortly after the deadline for applications has closed. So that the wider landscape of RDM for health science librarians both currently and in the recent past could be investigated, a jobsite was chosen which includes both currently open and recently closed postings. However, it is acknowledged that the University of Toronto’s job board may include postings which are skewed towards Ontario workplaces, and it is not representative of all library jobs across Canada or North America. Secondly, utilizing job postings as a source of data can be a limitation. Other researchers have utilized job postings as a source of data, recognizing benefits such as that they explicitly outline specific qualification and job responsibilities, and are a snapshot of the attributes and duties of specific specialist librarians at various points in time ([6, 13] for example). However, there are also limitations to this approach, including that not every responsibility of the librarian is always listed on the posting. Further, additional responsibilities may arise there were not necessarily intended to be part of that librarian’s job during the time of posting. With these limitations in mind, there are still several key insights that emerged from the study, which will now be explored for the remainder of the paper.

To summarize the findings from this analysis, only 8 out of 32 positions related to health science librarianship posted in the iSchool jobsite in a 16-month period mentioned elements of research data management. Four of these are research data management jobs in themselves, with an emphasis on health sciences data. Out of the remaining 4, only 2 included information which indicates that there is an expectation for the successful candidate to actively engage with research data management initiatives. It is also significant to note that all 8 positions are located in academic libraries, and therefore there was no mention of research data management in any hospital, not-for profits, or other health institutions.

There is literature on the subject that may explain this lack of research data management responsibilities found in health science librarian positions. Firstly, it may be that the role of supporting research data

management in these institutions falls with a specialist RDM librarian, data librarian, or RDM department who supports and collaborates on RDM concerns across multiple disciplines, not limited to the health sciences alone. This is certainly a logical explanation, as particularly in academic libraries, positions for data librarians are becoming ever more prominent and popular [14]. Further, in many institutions, RDM services are not yet provided in a centralized manner, and members of the research team, such as research assistants or the principal investigator, conduct the RDM for their projects informally through their own processes. In a 2011 study by Peters et al., all 10 principal investigators that were interviewed indicated that they were mainly and solely responsible for the research data management on their projects [15].

Therefore, another explanation is that when hiring health science librarians, research data management is not prioritized as a major role or responsibility to be undertaken, despite an acknowledgement in the health science librarian field of the potential and important role of librarians in this area. Creamer et al. describe discussions with 20 health science librarians who performed tasks such as data interviews, assessment of researcher's data needs, and the development of data plans, but whose titles and job descriptions did not include data management at all [16]. Similarly, studies such as Crum and Cooper and Holst et al. demonstrated that librarians consider research data management to be a significant part of their jobs [7, 9]. However, as the jobsite analysis indicates, the responsibility of RDM is not being translated into the job positions that are currently available.

Potential reasons for this disconnect are highlighted when challenges of including research data management in health science librarian roles are examined. Firstly, health science librarians are already undertaking many significant roles in both academic and clinical settings, including support of clinical care, operations and management, education and teaching, customer service, and collections development [9]. Adding the significant and time-consuming task of supporting research data management should not be done without consideration of the impact that this initiative would have on the work load and work distribution for librarians. Additionally, health science librarians often struggle with how to be seen and respected not as support staff, but as collaborators and partners with health professionals. Research data management practices are sometimes seen as "administrative" tasks, and by giving the work to

librarians which researchers are not excited to do themselves, it may reinforce the stereotype of the librarian as simply, support [17].

An additional concern for health science librarians is that RDM is seen as a concentrated skill, requiring a specialized knowledge base that health science librarians may not feel like they have [2]. Despite predictions that research data management will become a major responsibility for librarians, studies such as Corral et al. indicate that librarians feel a "lack of confidence" and constrained in their knowledge of RDM practices [2, 14]. This disconnect needs to be addressed, so that the role of the health science librarians in research data management can be clearly defined and documented. Librarians should further have the opportunity and support to pursue continuing education initiatives to increase their understanding and awareness of research data management practices. Indeed, studies such as Creamer et al. indicated that health science librarians desire to develop their skills in research data management, yet lack the training and resources to do so [16].

In order to create the space in which health science librarians are educated and effectively supported, there must first be a recognition of the work that health science librarians are playing in RDM already, and the potential future opportunities for health science librarians in this role. Through the background examination of the literature, it was clear that health science librarians do play a significant role in research data management, and will likely continue to embrace these responsibilities in the future [1, 7, 16]. However, the jobsite analysis discussed above did not seem to paint health science librarianship as a field which considers RDM an important knowledge base in the clear majority of job postings.

## Conclusion

In this paper, the ways in which RDM initiatives are and are not being acknowledged as a role for health science librarians was discussed. Through a jobsite analysis which investigated job descriptions, a picture emerges where RDM is not consistently seen as a role or a required skill for health science librarians. However, the literature indicates that in many instances, research data management is already being done by health science librarians, and is a trend which is likely to continue in the future. As such, it is

important that research data management services start being acknowledged and reflected in education and job description opportunities for health science librarians.

## References

1. Read KB, Surkis A, Larson C, et al. Starting the data conversation: informing data services at an academic health sciences library. *J Med Libr Assoc.* 2015;103(3):131-5. doi: 10.3163/1536-5050.103.3.005.
2. Tenopir C, Sandusky RJ, Allard S, Birch B. Research data management services in academic research libraries and perceptions of librarians. *Library & Information Science Research.* 2014;36(2):84-90. doi: <https://doi.org/10.1016/j.lisr.2013.11.003>.
3. Cheek FM, Bradigan PS. Academic health sciences library research support. *Journal of the Medical Library Association : JMLA.* 2010;98(2):167-71. doi: 10.3163/1536-5050.98.2.011.
4. Research data management [Internet]. n.d. [cited 2018 March 31]. Available from: <http://www.carl-abrc.ca/advancing-research/research-data-management/>
5. Research data management [Internet]. 2015 [cited 2018 March 31]. Available from: [http://dictionary.casrai.org/Research\\_data\\_management](http://dictionary.casrai.org/Research_data_management)
6. Noh Y. A study comparing public and medical librarians' perceptions of the role and duties of health information-providing librarians. *Health Information & Libraries Journal.* 2015;32(4):300-21.
7. Cooper ID, Crum JA. New activities and changing roles of health sciences librarians: a systematic review, 1990–2012. *Journal of the Medical Library Association: JMLA.* 2013;101(4):268.
8. Tri-agency open access policy on publications [Internet]. 2016 [cited 2018 April 4]. Available from: [http://www.science.gc.ca/eic/site/063.nsf/eng/h\\_F6765465.html?OpenDocument](http://www.science.gc.ca/eic/site/063.nsf/eng/h_F6765465.html?OpenDocument).
9. Holst R, Funk CJ, Adams HS, et al. Vital pathways for hospital librarians: present and future roles. *Journal of the Medical Library Association: JMLA.* 2009;97(4):285.
10. Spencer AJ, Eldredge JD. Roles for librarians in systematic reviews: a scoping review. *Journal of the Medical Library Association: JMLA.* 2018;106(1):46.
11. Weightman AL, Williamson J. The value and impact of information provided through library services for patient care: a systematic review. *Health Information & Libraries Journal.* 2005;22(1):4-25.
12. Read K, LaPolla FWZ. A new hat for librarians: providing REDCap support to establish the library as a central data hub. *Journal of the Medical Library Association : JMLA.* 2018;106(1):120-6. doi: 10.5195/jmla.2018.327.
13. Choi S-H. An analysis on information technological factors in job qualifications of librarians. *Journal of Korean Library and Information Science Society.* 2008;39.
14. Corral S, Kennan MA, Afzal WJ. Bibliometrics and research data management services: Emerging trends in library support for research. 2013;61(3):636-74.
15. Peters C, Dryden AR. Assessing the Academic Library's Role in Campus-Wide Research Data Management: A First Step at the University of Houston. *Science & Technology Libraries.* 2011;30(4):387-403. doi: 10.1080/0194262X.2011.626340.
16. Creamer A, Morales ME, Crespo J, et al. An assessment of needed competencies to promote the data curation and management librarianship of health sciences and science and technology librarians in New England. 2012;1(1):4.

17. Awre C, Baxter J, Clifford B, et al. Research data management as a “wicked problem”. 2015;64(4/5):356-71.

## PROGRAM DESCRIPTION / DESCRIPTION DU PROGRAMME

# Transforming a Library Service within a Provincial Healthcare Organization: Forging a New Path

Morgan L. Truax<sup>1</sup>, Carol Connolly and Connie Winther

**Abstract: Introduction:** Prior to 2011, libraries within Alberta Health Services (AHS) operated using a variety of self-determining service models across 19 locations. Evaluation of library services demonstrated significant gaps in service delivery and access to resources, cost inefficiencies, and variation in library service standards across the province. National and international trends reflected ongoing library closures and challenges in demonstrating library contributions to organizational goals and improvements in health information literacy. **Description:** In January 2011, all AHS library services were aligned under the Knowledge Management Department to capitalize on the natural fit between libraries as conduits to evidence and knowledge management practices that support the use of evidence in practice. The mandate was to develop enterprise-wide library resources and services to support clinical decision-making and quality patient care under the umbrella of the Knowledge Resource Service (KRS). A Business Case for Library Services Optimization guided this initiative. **Outcome:** KRS is now a focal point for access to, and expertise in, healthcare information resources and services. Organization-wide evaluations conducted in 2011 and 2014 show increased user satisfaction, while utilization analytics reflect continued growth. **Discussion:** The KRS Optimization Initiative was a proactive, internally driven effort to extend library services and resources beyond the traditional library space, streamline 'back-office' functions, and allow staff to contribute to organizational initiatives. The path has been winding, yet lessons learned include the value of dedicated staff, teamwork and maintaining a focus on improving service for all AHS staff and clinicians.

## Introduction

Alberta Health Services (AHS) was created in 2009 with the vision of one fully integrated healthcare system providing equitable and high-quality services to all Albertans. This integration brought together 108,000 employees who work at 650 facilities across the province providing care to 4.2 million Albertans [1]. Library service<sup>1</sup>, offered in 19 locations, varied significantly across the province: in 1 region it was externally contracted, in some regions libraries were

operated by regional health authorities, and in yet other regions it was non-existent. Overall, existing libraries functioned independently with no standard service practices and limited resource sharing. Following the amalgamation of AHS as a single, provincial health organization, all healthcare libraries in Alberta were re-aligned under the newly established Knowledge Management (KM) department. This reorganization capitalized on the natural fit between libraries as conduits to information and the healthcare practitioner's need to improve healthcare performance and outcomes.

Following broad stakeholder consultation and a review of the literature, *Business Case: Library Service Optimization* (2012) was developed [3]. All library-related systems within AHS (including

<sup>1</sup> Library service refers to all services outlined in Standard 4 of the Standards for Library and Information Services in Canadian Healthcare Facilities [2] as well as reference and consultation.

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contracted service agreements, partnerships, and business processes related to licensing) were included within the scope of the AHS Library Optimization Initiative (“The Optimization Initiative”). A single, unified library service was envisioned as a focal point for access to expert healthcare information services and resources.

The Optimization Initiative identified 5 principles that would guide decision-making and direction:

- Create equitable access to resources and services across AHS and affiliated organizations
- Provide seamless, efficient operations with a focus on value-added services
- Enable lifelong learning for AHS staff through evidence literacy capability building and skill development
- Support evidence-informed decisions at the policy and patient care level
- Support patient and family access to high quality evidence where appropriate

The Optimization Initiative was developed to address AHS needs and to build a highly valued, future-oriented library service. It imagined a library service that is financially sustainable yet adaptable to the changing knowledge needs of a geographically dispersed healthcare workforce. A literature review undertaken in 2011 [4] (and updated in 2015 and 2017) highlighted common issues and themes in the special library environment including: the imperative for libraries to demonstrate value to the organization [5-7]; challenges in access for rural/remote users [8, 9]; integration with knowledge management departments to turn knowledge into action [10-12]; and utilizing technology to access evidence [6, 8, 13, 14]. *Knowledge for Healthcare: A Development Framework* (National Health Service) clearly articulates the role libraries can play in fostering lifelong learning, research, and evidence-informed practice [15]. Embracing technology is emphasized as a key solution to address information needs and positively impact patient care [16]. The literature mirrored the concerns and desires felt within AHS libraries while emphasizing that successful transformation could be achieved when library professionals develop the next iteration of their service rather than wait to have a solution imposed [5]. Guided by the literature and stakeholder input, The Optimization Initiative reinvented library services to become a core support and driver for the success of the newly established AHS organization.

## Description

### Phase I (2012 – 2014)

The Optimization Initiative was planned and implemented in 3 distinct phases.

The first phase leveraged the service model developed by an externally contracted library service, adapting processes and structures to fit the larger AHS context. All library staff (including contracted staff) participated in work streams that informed and directed operational decisions.

#### Name change

One of the first and most important changes was the introduction of Knowledge Resource Service (KRS) as the new name for AHS Library Services and its contracted service providers. The choice of name was intended to communicate a single, unified service, and to better reflect the work that we do as part of the KM department. It also signaled a deliberate decision to move away from a traditional concept of “library” as being tied to a physical space, which was important within our geographically dispersed organization and set the stage for introducing the online virtual library [5].

#### Website and single point of access

To better meet our users’ needs, a single KRS website was developed to replace the separate regional AHS library and contracted services’ websites. With the launch of the KRS website came the introduction of a centralized request intake system for all KRS services [17, 18] using Springshare’s LibAnswers platform. This system allowed KRS staff to provide library services (literature searching, document delivery, book/AV holds and reference and consultation) anywhere in the province, which also led to the development of service standards and evaluation processes to support a provincial and centralized model. The website also brought all licensed and open access e-resources together, facilitating easier and more equitable access for our users.

#### E-resource consolidation

Leading up to the development of the website as a single access point, it was critical to consolidate the various existing regional electronic licenses into a core collection of clinical reference resources for AHS. Consolidation produced a cost savings due to reduced duplication, which was then reinvested in new resources. This was a huge undertaking given that in the past libraries operated with their own collections budget and principles. Once an inventory was collected, we worked with individual vendors and as members of a licensing consortium to negotiate new

licenses based on the guiding principle of equitable access for all AHS staff.

### **Phase II (2015)**

With the single access point for library services and resources completed, Phase II focused on the consolidation of business processes to create efficiencies and address the increase in service requests from healthcare providers across AHS.

#### **Centralized collection management**

In Phase II, KRS moved to a centralized enterprise-wide collection management model, which entailed a shift in thinking from localized print collections to one provincial library collection distributed amongst various sites. This required reconfiguration of print acquisition, decision-making and maintenance processes, with dedicated Collections staff providing oversight to all aspects of collection management. This change achieved 2 goals: coordinating collection management and freeing librarian time for direct service.

#### **Contracted library services brought in-house**

As services and resources came together under the provincial model, the business decision was made to move all contracted service library sites in-house under AHS management, including human resource agreements, budgets, service philosophy and all aspects of library operations. This transition was complex, and involved developing a new KRS website within AHS, migrating catalogue records, and transitioning staff from one organization to another with as little disruption as possible. Staff transitions proved to be quite challenging during a time of financial restraint and hiring freezes across the public sector in Alberta.

#### **Library closures and consolidation**

Coinciding with organizational budget mitigation activities, and aligning with the goals of The Optimization Initiative, KRS permanently closed 2 libraries in Calgary and 1 in Grande Prairie, mainly because provincial staffing levels did not allow continued operation of the current complement of sites while still maintaining quality service. Two of these libraries were staffed by a single person; 1 library was determined to have lower usage statistics, required extensive renovation and was required for clinical purposes by the facility. Books and journals from these libraries were weeded and(or) redistributed amongst remaining libraries, and the library space was repurposed by the hospital facility for identified clinical needs.

### **Introduction of online learning modules**

While the closure of libraries and reorganization of services posed many challenges, we also achieved exciting milestones in service provision; during this period we created Evidence at Your Fingertips, an online series of pre-scheduled, synchronous evidence literacy courses. This series of classes are taught virtually over Skype for Business software and are available on a regular basis with 3 semesters throughout the year. As our users are located mostly outside of facilities with library staff, and as users in general expect and require training to be more easily accessible online at their point of need [19-21], this was a critical aspect of creating a sustainable model for evidence literacy capacity-building within the organization.

### **Phase III (2016)**

The final phase of The Optimization Initiative was informed by the success of earlier phases. Centralized access to resources and services meant increased requests for service and new roles for library staff, including chat or virtual desk responsibilities, virtual document delivery, and expansion of online teaching sessions. Decisions therefore focused on finding efficiencies to support library staff in direct service delivery.

#### **Development of service directions**

To aid decision-making and to ensure ongoing success after the close of The Optimization Initiative, the KRS Strategic Service Directions were developed. The 4 Strategic Service Directions were:

- Enable Easy Discovery and Access
- Enhance Evidence-informed Decision Making
- Create “Just-in-Time” Learning Environments
- Build Centres of Excellence to Enrich Learning and Collaboration

In 2017, an additional Strategic Service Direction was added, Incorporate a Client-Centred Focus [22].

#### **Library consolidations in Edmonton and South Zones**

Aligned with the strategic service direction of “building centres of excellence to enrich learning and collaboration,” a review of remaining library locations was initiated. The goal was to create hubs of library staff in fewer physical library spaces, thus supporting collegial collaboration and support in service delivery. To ensure that decisions were evidence-based and fair, a variety of criteria and methods for review were employed, including:

- Library gate count

- Circulation statistics
- Interviews with KRS staff, other Canadian health library leaders and facility administrators
- A literature review
- Facility profiles (including a collection description, special user base served, professional specialties on site, accessibility, and special activities or offerings of the library)

Other factors considered were library aesthetics, ease of staff management and the presence of, or potential for, an optimal library “footprint” (i.e. computer access, study and print collection space, workstations for KRS staff and the potential for training space.)

Upon review, 4 sites were closed (2 in rural and 2 in urban locations), and staff and collections were consolidated at remaining libraries. An existing library was simultaneously upgraded by adding an enhanced print collection aligned to clinical services within that facility.

## Outcomes

Evaluation during and after completion of The Optimization Initiative demonstrates positive changes to access, service delivery and user capacity. Unfortunately, a direct before-and-after comparison of service and access statistics is not possible due to inconsistent data collection between different library systems. Results from a 2011 review of AHS Library Services, a 2013/2014 user survey, and current statistics from Springshare LibAnswers and our integrated library system form the basis of the following outcomes:

- The streamlined website has increased ease of access for users. In 2011, 17% of respondents (46 out of 271 respondents) felt that information on the library’s website(s) was too difficult to access, in comparison to only 4% (8 out of 210 respondents) by 2014 [23].
- Demonstrable gains in the number of mediated literature searches can be seen between 2011 and today, though staffing levels have not increased: 408 literature searches completed from Nov 2010 – Feb 2011 versus 781 literature searches in the same period, 2016-2017. [4, Springshare LibAnswers RefAnalytics statistics]. This increase is likely due to greater ease of making online requests,

back-end efficiencies resulting from the centralized request intake system, and increased staff time for direct service provision as a result of site consolidations.

- Online chat has been well received by users as a valuable service. In 2017, 95% of chat users who rated their chat session (194 of 209 users) rated their experience as good or great, and user comments confirm those ratings: “Support I received had my question answered in less than 2 minutes. Excellent service for AHS staff!” (Springshare LibAnswers chat transcript.)
- Evidence literacy training was provided primarily in-person in 2011 which made it difficult to reach users located outside of urban centres [4]. By 2017, KRS staff responded to 304 requests for training and reached 1,625 session attendees, which would not have been possible without a robust online education curriculae and the ability to provide as-needed training using Skype for Business.
- With greater access to services and resources, users have shown that they are finding the right information to guide their clinical and strategic decision-making. In 2014, 96% of survey respondents (n=518 respondents) said the information they received from KRS was relevant and accurate and 94% said the information provided new knowledge. Additional measures highlight the value of KRS in supporting clinical decision-making and policy development, as reported elsewhere [24].

## Discussion

Equitable access to high quality evidence for health care providers across Alberta, seamless operations, and evidence literacy capacity-building were the guiding principles on which we built a single provincial library service. The KRS website revolutionized and streamlined operations and increased our reach significantly, especially to rural users. Equitable access to a core suite of resources and services is now available to all AHS healthcare practitioners. Restructuring collections management created efficiencies as it freed up time of other KRS staff to focus on core business and user services. From a management, technology, and user perspective, moving to a unified system has been very successful,

allowing KRS to nimbly respond to emerging organizational priorities.

## Lessons learned

The lessons learned relate to the overarching initiative and its success within a large, complex organization, rather than the specific deliverables and tasks of transforming a library system. Support from leadership and partners (academic institutions and consortia) was critical for the success of the initiative, especially strong advocates within the organization who believed in the vision for AHS. These leaders knew that access to and use of evidence is essential to success in the knowledge intensive healthcare industry. Resource sharing with external partners and licensing consortiums enabled fiscal efficiencies by offering a broader collection at limited cost. Internally, KM colleagues, AHS-supported change management practices and the Employee and Family Assistance Program provided support during times of change fatigue.

The value of change management cannot be overemphasized when undertaking a radical transformation in library services. The Optimization Initiative called upon strong leadership skills to be sensitive to staff needs and feelings. At each phase staff struggled with change fatigue; site closures in particular required compassionate communication.

Clear and frequent communication is another key factor for success. Often we faced the question of “why change?” Communications had to be understandable, transparent and inspirational to reinforce direction and curb the flow of misinformation.

Being part of a large organization means that external factors can impact the best laid plans. During the time of this initiative, AHS (and Alberta in general) was significantly impacted by an economic downturn, a devastating wildfire and changes in organizational stability. It was important to be empathetic regarding external factors which impacted staff resiliency and ability to cope with change. Planning and implementation needed to be flexible and responsive and reinforce overarching goals.

## Future directions

Current work in KRS is focused on further enhancing services to provide even more value to the organization and our users. This includes the

refinement of the service delivery model along with the continued articulation of our strategic service directions. In collaboration with our KM colleagues, we are actively involved in organization-wide initiatives such as the implementation of a provincial electronic health record, leadership development programs, and clinical research opportunities. KRS is also working with other departments to facilitate and encourage use of mobile devices and online healthcare applications to find information at the point of care. Our focus remains on providing a world-class information service to clinicians in support of providing the best care to Albertans.

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## Statement of Competing Interests

No competing interests declared.

## References

1. Alberta Health Services (AHS): About AHS [Internet]. 2018 [cited 2018 April 24] Available from <https://www.albertahealthservices.ca/about/about.aspx>
2. Canadian Health Libraries Association: Standards for Library and Information Services in Canadian Healthcare Facilities 2006 [Internet]. 2006 [cited 2018 October 4] Available from <https://journals.library.ualberta.ca/jchla/index.php/jchla/article/view/22664/16891>
3. Alberta Health Services (AHS), Knowledge Management Department. Business Case: Library Service Optimization. 2012. 38p. Located at: Alberta Health Services, Knowledge Management Department. Alberta, Canada.
4. Alberta Health Services (AHS), Knowledge Management Department. AHS library services environmental scan. 2011. 66 p. Located at: Alberta Health Services, Knowledge Management Department. Alberta, Canada.

5. Australian Library and Information Association: Future of the library and information science profession: special libraries [Internet]. 2014 [cited 2018 April 24]. Available from [https://www.alia.org.au/sites/default/files/ALIA-Future-of-the-LIS-Profession-06-Special\\_0.pdf](https://www.alia.org.au/sites/default/files/ALIA-Future-of-the-LIS-Profession-06-Special_0.pdf)
6. Beck C, Mason J. Aller en avant! Moving forward! Results of the CHLA/ABSC 2013 membership survey. JCHLA/JABSC. 2014 Dec;35(3):133-146.
7. Cuddy TM. Value of hospital libraries: the Fuld Campus study. J Med Libr Assoc. 2005 Oct;93(4):446-449.
8. Neilson CJ. Have computers, will travel: providing on-site library instruction in rural health facilities using a portable computer lab. Med Ref Serv Q. 2010 Jan;29(1):1-9.
9. Stieda V, Colvin B. Descriptive analysis of the inequalities of health information resources between Alberta's Rural and Urban health regions. Healthc Q. 2009;12(3):66-70.
10. Holst R, Funk CJ, Adams HS, Bandy M, Boss CM, Hill B, Joseph CB, Lett RK. Vital pathways for hospital librarians: present and future roles. J Med Libr Assoc. 2009 Oct;97(4):285-92.
11. Keeling C, Lambert S. Knowledge management in the NHS: positioning the healthcare librarian at the knowledge intersection. Health Libr Rev. 2000 Sep;17(3):136-43.
12. Porumbeanu, OL. Strategic model for implementing knowledge management in libraries and information services. Libr Inf Sci Res. 2009;13(1):89-105.
13. Curtis JA. Electronic health records, platforms, libraries and evidence: report on the association of academic health sciences libraries symposium's keynote presentation by Kenneth Mandi. J Med Libr Assoc. 2010 Jul;98(3):206-209.
14. Flake D. No password required: A case study of integrating the library's electronic resources into the hospital's electronic medical record. J Hosp Librariansh. 2010 Nov;10(4):402-409.
15. National Health Service (NHS): Knowledge for healthcare: a development framework for NHS library and knowledge services in England 2015 – 2020 [Internet]. 2014 [cited 2018 April 24] Available from [http://kfh.libraryservices.nhs.uk/wp-content/uploads/2018/03/Knowledge\\_for\\_healthcare\\_a\\_development\\_framework\\_2014.pdf](http://kfh.libraryservices.nhs.uk/wp-content/uploads/2018/03/Knowledge_for_healthcare_a_development_framework_2014.pdf)
16. Lessick S. Enhancing library impact through technology. J Med Libr Assoc. 2015 Oct;103(4):222-33.
17. Vaska M, Aitken E, Varney J, Stevens S. Developing a provincial centralized intake process for a knowledge resource service part 1: literature search requests. JCHLA/JABSC. 2014;35(3):124-7.
18. Turner M, Vaska M. Developing a provincial centralized intake process for a Knowledge Resource Service part 2: Article requests. JCHLA/JABSC. 2015;36(1):24-6.
19. Booth A, Carroll C, Papaioannou D, Sutton A, Wong R. Applying findings from a systematic review of workplace - based e - learning: implications for health information professionals. Health Info Libr J. 2009 Mar;26(1):4-21.
20. Lacey Bryant S, Bingham H, Carlyle R, Day A, Ferguson L, Stewart D. Forward view: advancing health library and knowledge services in England. Health Info Libr J. 2018 Mar;35(1):70-77.
21. Alberta Health Services (AHS), Knowledge Resource Service. KRS Education Needs Assessment 2013. 2013. 19 p. Located at: Alberta Health Services, Knowledge Resource Service.
22. Alberta Health Services (AHS), Knowledge Resource Service. Knowledge resource service – service model (internal). 2016. 5 p. Located at: Alberta Health Services, Knowledge Resource Service.
23. Hurrell C, Powelson SE, Jensen-Ross C. Tracking the impact of changes to a provincial library service model: the results of two satisfaction surveys. JCHLA/JABSC. 2015;36(2):39-44.
24. Alberta Health Services (AHS), Knowledge Resource Service. 2013-14 biennial survey final report: knowledge resource service. 2014. 43 p. Located at: Alberta Health Services, Knowledge Resource Services

## PRODUCT REVIEW / ÉVALUATION DE PRODUIT

**Product:** TRIP Database

**URL:** <https://www.tripdatabase.com>

**Cost:** Free

### Purpose & Product Description

Based in the United Kingdom, TRIP (Turning Research Into Practice) is a clinical research database that allows users to search across multiple sources of information and publication types using a single interface. TRIP includes a simple search box, a PICO form for search term entry, and a latest and greatest list based on topic. TRIP Pro also includes advanced search and recent search windows. TRIP has also begun to offer auto-synthesis, though as of July 2018 they are still working to perfect this feature [1].

### Cost

TRIP's basic search platform is free to use. For an additional fee, users can upgrade to TRIP Pro, which adds features such as advanced searching, recent search history, hundreds of thousands of systematic reviews, a large database of medical images, a million full text articles, clinical videos, and more. TRIP Pro is also available as a special institutional version, which provides all the features of TRIP Pro along with institutional usage statistics, the option to link out to your library's holdings, and the ability to bypass the login page [2].

TRIP Pro is available to individual users for \$55 USD/year [2], while the institutional version is priced according to TRIP's criteria for size and type of institution [3].

### Special Features

One of TRIP's selling points is its comprehensive collection of guidelines, and although at the time of writing (July 2018), TRIP's major source of U.S. guidelines, the National Guideline Clearinghouse, had

just closed, TRIP dealt with this by gathering American guidelines themselves and including guidelines from additional publishers. TRIP is also planning to release a separate guideline site [4].

As previously noted, TRIP recently released their auto-synthesis feature. This tool allows you to search for a condition and view a synthesis of the interventions for that condition (within TRIP's collection of evidence). Data are presented as a table as well as a user-friendly graph that you can adjust using different filters (such as displaying the interventions with the highest or lowest risk of bias). TRIP notes on their website that this feature is in the proof of concept stage and results should be treated with skepticism [5], so it will be interesting to see how it continues to develop and if it lives up to the hype.

### Compatibility

Multiple reference managers are compatible with TRIP, as it allows .csv and RIS file exports, as well as direct email export options. TRIP is compatible with the standard internet browsers such as Internet Explorer, Firefox and Google Chrome, and is also optimized for viewing on iOS and Android devices. TRIP allows you log in with your email address, Facebook, Twitter or Google Plus accounts.

### Platform

Search options are clearly displayed from TRIP's homepage, and users can easily access supplementary information such as the site tour and TRIP's blog. However, in this reviewer's opinion the platform is distracting, and its appearance could lead new users to question TRIP's legitimacy.

### Usability

TRIP's platform is designed to give quick access to results, so there is no controlled vocabulary. Boolean operators are not required if you are combining terms with AND, but must be used if you are combining

terms with OR. TRIP also allows the use of parentheses to add more complex syntax. Other functions include asterisk, phrase, and proximity searching, and title and publication year limits [6].

Within TRIP's platform you cannot see your search history unless you are logged into your personal account. The search history page lacks the content that users normally expect to see in a database's search history (such as search builder fields), and this makes it confusing to use. Past searches are not numbered, and the user must count the number of lines and manually enter the line numbers to combine them (e.g., #1 AND #2). According to TRIP's blog, if you are looking for the ability to combine strings into more complex searches with ease, you will want to subscribe to TRIP Pro [6].

### Strengths and Weaknesses

TRIP's main strengths are found in its organization of search results and its impressive collection of guidelines. The "evidence type" filter provides the user with quick access to the documents they want (with subcategories to refine even further), and the search results page allows you to sort by quality, date, relevance and popularity. The TRIP team also appears to be working to stay ahead in their industry and the auto-synthesis feature is evidence of this.

TRIP's major weaknesses include its confusing search history, along with the company's choice to charge users for helpful features like the advanced search function. While it is understandable that features like the video and image collections would be restricted to subscribers, an advanced option gives the user greater control over their search and likely improves their experience with TRIP.

### Comparison and Currency

In comparison to other free products such as PubMed, TRIP excels in its display of filters whereas PubMed keeps many of these aspects hidden. PubMed is superior in its search functionality, and allows expert searchers to manipulate their searches, while TRIP is simplistic and better for quick searches. The results produced by the 2 databases seem to be equally current, and as previously noted TRIP continues to offer features that will be interesting to watch as they develop.

### Conclusion

The TRIP Database is a strong competitor in the information market; it offers a lot of free content that is useful to a wide demographic. TRIP will be one to watch as the company continues to evolve and introduce new features, but for now it can serve as a useful tool in your searching and teaching.

### References

1. TRIP Database Blog-Liberating the Literature. [Internet]. [place unknown]. Automated reviews-very positive progress; 30 September 2017 [cited 2018 July 20]. Available from: <https://blog.tripdatabase.com/2017/09/30/automated-reviews-very-positive-progress/>
2. TRIP Database. United Kingdom. You're one step away from becoming a Pro user [Internet]. 2017 [cited 2018 July 15]. Available from <https://www.tripdatabase.com/upgrade>
3. TRIP Database. United Kingdom. Institutional subscription [Internet]. 2017 [cited 2018 July 16]. Available from: <https://www.tripdatabase.com/institutional-subscription>
4. TRIP Database Blog-Liberating the Literature. [Internet]. [place unknown]. Guidelines on TRIP-moving forward after the demise of NGC; 04 April 2018 [cited 2018 July 16]. Available from: <https://blog.tripdatabase.com/2018/04/04/guidelines-on-trip-moving-forward-after-the-demise-of-ngc/>
5. TRIP Database. United Kingdom. Autosynthesis-search [Internet]. 2017 [cited 2018 July 17]. Available from: <https://www.tripdatabase.com/autosynthesis/search>
6. TRIP Database Blog-Liberating the Literature. [Internet]. [place unknown]. Boolean, truncation and other such things; 13 October 2017 [cited 2018 July 14]. Available from <https://blog.tripdatabase.com/2017/10/13/boolean-truncation-and-other-such-things/>

### **Statement of Competing Interests**

No competing interests declared.

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## PRODUCT REVIEW / ÉVALUATION DE PRODUIT

**Product:** Epistemonikos

**Purpose:** The Epistemonikos Database introduces efficiency to the task of answering the question: what systematic reviews exist on a given topic, and which primary studies do they include?

**URL:** <https://www.epistemonikos.org/>

**Cost:** free

### Product Description

A simple search box is the entry point to Epistemonikos. You should approach the tool with at least one element of your PICO question, such as the patient condition, or the intervention of interest, in mind. The instructions tell us to “perform simple searches, like the ones you use in Google. A single term for a condition and another for an intervention may suffice.” Natural language processing is supported for entry terms in 9 languages, so you don’t need to worry about whether to ask for “cancer” or “neoplasms.” Just give the commonly-used name of the intervention or condition, and add terms as required to narrow your results.

Search results are arranged by breadth, starting with the broadest Matrix of Evidence (if present) on the top tier, followed by descending categories: Broad Syntheses, Systematic Reviews, Structured Summaries and Primary Studies. The default option is to “display all,” and the results are colour coded, which makes it easy to navigate. If your result is a primary study, it has a pink button, and the study record will map that study to Systematic Reviews that have addressed it, and to other Primary Studies that are related to it. Systematic Review records are blue and connect to the primary studies below them in the hierarchy (primary studies that they include) and the Structured Summaries and Broad Syntheses above them in the hierarchy (that include them). Each record has a URL, and links out to a DOI or PubMed Record. To export records, sign up for a free account. Records are exported as text files in RIS format. If you find a well-

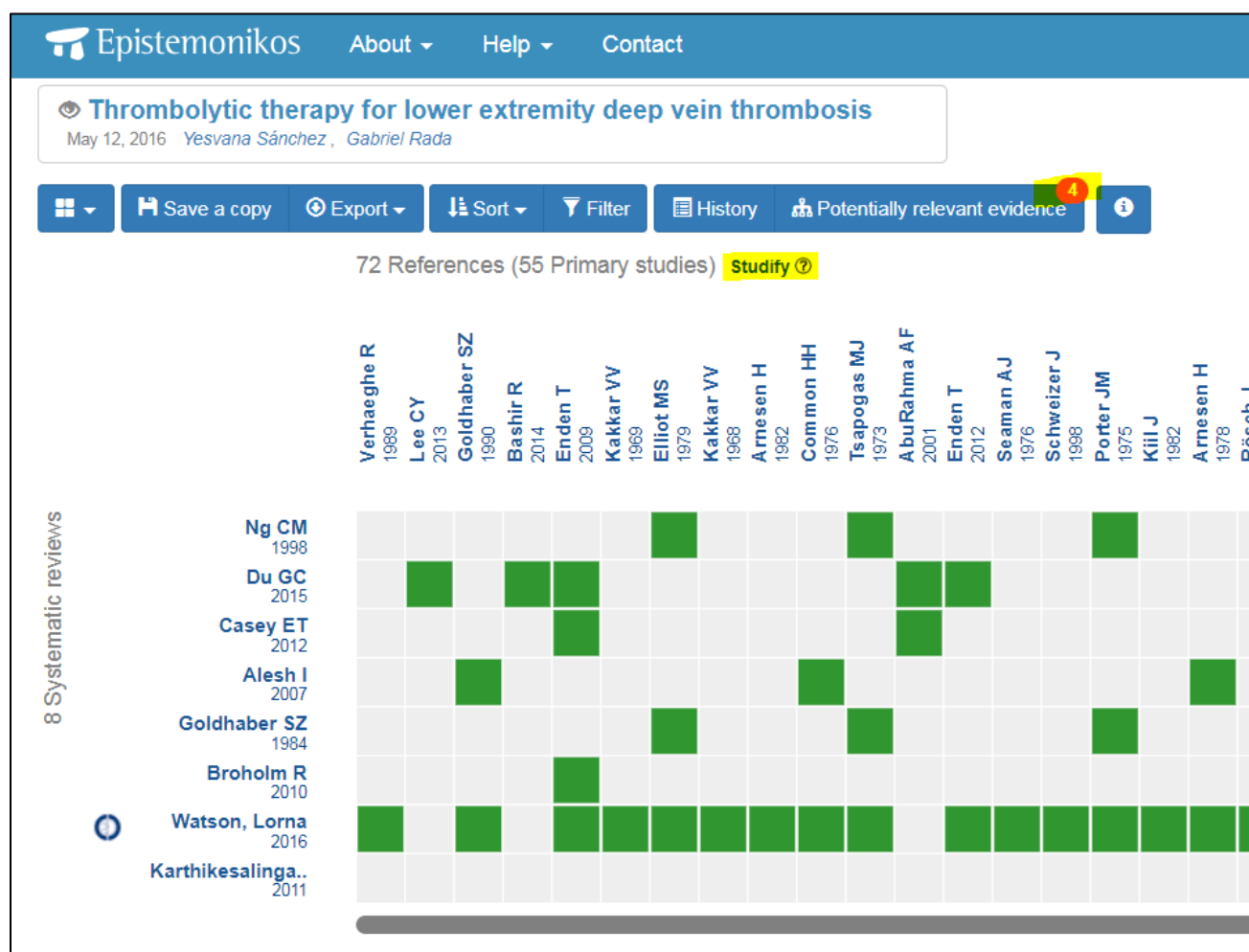
populated topic, you can export the entire set of results at once! This might allow you to search for and deliver a fairly comprehensive set of RCTs on a given topic in seconds. This facility makes Epistemonikos the best resource for one-stop-shopping for RCT citations. Epistemonikos does not thereby supersede the work of the Cochrane Collaboration, because its results are organized only by topic, and not critically summarized. It’s just faster. Another reason I use Epistemonikos is to look for Systematic Reviews, so that I can review their search strategies. The efficiency of navigating directly to the information I need is remarkable.

At the top of the breadth hierarchy, the Matrix of Evidence is a network that connects systematic reviews and their included studies. “A matrix of evidence is a table displaying all the systematic reviews answering a question, and all of the studies included in these reviews. In other words, it is the way of visualising all the information in Epistemonikos for a given question.”([https://www.epistemonikos.org/en/about\\_us/how\\_to\\_use#matrix](https://www.epistemonikos.org/en/about_us/how_to_use#matrix)). The Matrix can be displayed as a list or as a table, and in the table view, all of the systematic reviews addressing a question are displayed as rows, and all of the studies included in these reviews as columns. The resulting checkerboard of green and grey squares reveals at a glance where reviews overlap. Anyone who has ever attempted to construct a similar table from the reference lists of a set of reviews will appreciate this labour-saving magic. When I show it to reviewers, their eyes light up like children on Christmas morning, and they do not need me to explain it to them!

### Intended Audience

The Epistemonikos Database is part of the work of the Epistemonikos Foundation, whose purpose is to speed up access to the best evidence, accelerate evidence synthesis, and simplify research so that it reaches end users (quoted from [www.epistemonikos.cl](http://www.epistemonikos.cl)).

Fig. 1



So, while the intended audience is literally universal, in my experience the audience divides pretty neatly among those who can see right away how powerful and useful the tool is, and those who are not interested, perhaps because they are looking for resources that are more immediately applicable at the point of care.

### Special Features

The How-To-Use guide is charming and engaging, and a transparent description of how the database is constructed has been recently added in the About Our Methods page. Choosing to “Studify” results allows one to see the publications related to a single primary study. For example, a large clinical study might have a study protocol, preliminary results, final analysis and secondary analysis spread over half a dozen publications in

several journals. With the “studify” option, you can see them all.

### Compatibility Issues, Platform, Usability, Currency and Cost/Value

The database is freely available online in a user-friendly platform. Tech support has been very responsive to my enquiries.

### Strengths and Weaknesses

Epistemonikos fulfils its purpose to be the largest and most reliable systematic review database in the world. Nearly 1 000 000 records have been screened through their periodic scan of 10 databases (including EMBASE, PubMed, JBI, PsycInfo, CDSR, etc.) for systematic review content. The great strength of Epistemonikos is as a labour-saving tool,

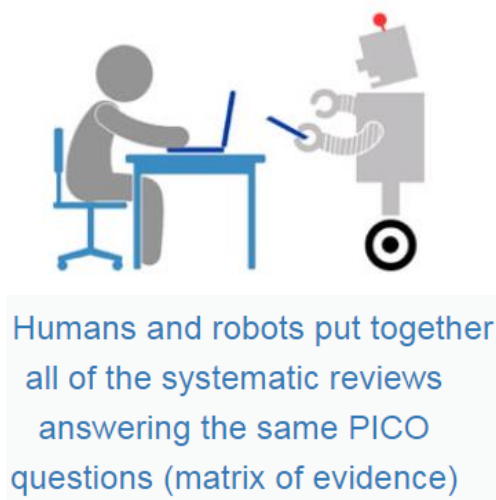
Couban

supported by a philanthropic foundation that declares: “We love technology and we love what people can do. Working with the Epistemonikos database, you can feel the love!”

Unfortunately, not all topics have a Matrix, and for those that do, the quality varies. Some are well curated, and some are automatically generated and have not yet been assessed by humans. Some have a mixture of curated and newly automatically added records. You can save a Matrix and work on it yourself to improve it. In Figure 1 above, the red number 4 over the heading “potentially relevant evidence” shows that 4 new studies on this topic have been identified by the robot and added to the Matrix, since it was last curated by the humans. Not all Systematic Reviews have their included studies entered into the database. But the consistent direction is towards improvement, based on my experience using it since 2015.

**Fig. 2**

[https://www.epistemonikos.org/en/about\\_us/methods](https://www.epistemonikos.org/en/about_us/methods)



## Statement of Competing Interests

No competing interests declared.

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## Comparison with Similar Products

Unlike McMasterPLUS or other point of care resources, Epistemonikos does not appraise evidence for quality. Unlike the TRIP database, Epistemonikos evidence does not map directly to guidelines or recommendations.

## BOOK REVIEW / CRITIQUE DE LIVRE

Hough, B. **Crash course in time management for library staff**. Santa Barbara, CA: Libraries Unlimited; 2018. Softcover: 99 p. ISBN 978-1-4408-5067-7. Price: \$45 USD. Available from: <https://www.abc-clio.com/ABC-CLIOCorporate/product.aspx?pc=A5200P>

“... it’s a terrible thing, I think, in life to wait until you’re ready. I have this feeling now that actually no one is ever ready to do anything. There’s almost no such thing as ready. There’s only now. And you may as well do it now.”

<https://www.timeout.com/newyork/music/hugh-laurie-sings-the-blues>

Brenda Hough is a librarian with over 20 years of experience working in and with libraries. She has taught courses and given numerous presentations on time management at workshops and conferences. Hough defines time management as being “about planning and organizing how you spend your time.” In her book, she thoughtfully introduces the concept of time management and some of the tools that library staff can use to set and achieve goals.

This book is part of the Libraries Unlimited *Crash Course* series and is composed of 10 chapters. In the first chapter, Hough discusses time management as a method of not only organizing your time, but also of managing your energy, so that you focus on what’s really important to you. I found this to be a refreshingly holistic approach to looking at this concept, because how you manage your time impacts both your professional and personal life.

However, in order to manage your time, you must be open to change. For example, some of the strategies that Hough recommends may not reconcile with how you were raised to view time. Every culture has a different perception of time orientation; to some, it is linear and must be used wisely (monochronic); to others, it is fluid and can easily be postponed in favour of other things (polychronic).

In the second and third chapters, the author encourages readers to track how they spend their time. This exercise is meant to help you identify what you

actually accomplish throughout the day. It also helps you to recognize when your energy is at its best so that you can work on important tasks when your focus is greater. Hough also provides an overview of setting goals for both your personal and professional life and breaks them up into “well-being categories.” In so doing, Hough cleverly demonstrates why time management and goal setting go hand in hand. One cannot operate without the other.

In the remaining chapters, Hough reviews helpful strategies and tools to manage time and overcome barriers to productivity. For instance, we are all familiar with the “to-do list,” a list of things that we hope to get done. She introduces the “not to-do list”, a list of things that we can stop doing to become more efficient. For example, if you automatically check your email when you hear the notifications, you can turn them off so that you check your email only at dedicated times. If you have difficulty getting started on a project, you can set a timer and dedicate 15 minutes to work on it. If the timer goes off and you want to keep working, you can keep going. As I was reading this book, I recognized many of the techniques that Hough presented, but for which I had never known the term. The latter strategy is a variation of timeboxing, in which you set aside time to work on a task in time blocks.

Generally, I found this to be a carefully written book. It provides a good overview of time management principles and basic strategies. As a time management enthusiast, I found that the book consolidated many of the tactics that I had learned from past workshops and courses into a single resource. I appreciated Hough’s efforts to make her work more relevant to library staff by interspersing the content with real world examples of strategies she has used in her work with libraries, such as planning for the common distractions and interruptions that tend to occur in library environments.

I also learned some new tips and insights, such as overcoming my desire for perfection and the things I do to procrastinate.

A valuable feature of the book is the “Key Takeaways” section; at the end of every chapter, main

points are summarized. This element is common to the titles in the *Crash Course* series. The book also contains worksheets that facilitate the completion of the tasks that Hough discusses.

Throughout the book, Hough introduces readers to traditional and digital tools to track time, create lists and work collaboratively. Some of the online tools that the author discusses may not work in a hospital setting as they require downloads or must be purchased, and so their use may not be permitted by hospital IT departments. That said, some of the tools can be used for personal purposes.

One weakness of the book is that there was no summary of all the tools that were covered. After my initial reading, I found myself going through the book to create this list.

On the whole, I found this to be an informative resource on time management for library staff. The examples given provide a meaningful context for readers working in libraries, including specialized health libraries. And while many of the ideas that Hough presents may not be new to readers already familiar with the concept, the book provides a great overview of time management ideas and tools.

### **Statement of Competing Interests**

No competing interests declared.

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## BOOK REVIEW / CRITIQUE DE LIVRE

Joseph, CB. **The Medical Library Association Guide to Developing Consumer Health Collections.**

Lanham, MD: Rowman & Littlefield; 2018. Softcover: 151 p. Price: USD\$35. ISBN# 978-1-4422-8170-7.

Available from:

<https://rowman.com/ISBN/9781442281691>

Changes in health care delivery and the increasing availability of consumer health information in recent decades have made it more challenging for patients to navigate their health care experiences. Patients have a more active role in their health care, which means they need to be sufficiently informed in order to engage in decision making with their health care providers. Additionally, patients have access to a plethora of consumer health information online and from the media, which they may not have the skills to effectively search or assess for reliability. These changes have made it a priority for libraries to develop consumer health collections and services in order to meet the health information needs of patients. In my own hospital library, these needs are apparent when patients seek out the library without knowing the resources or services we offer.

The *Medical Library Association Guide to Developing Consumer Health Collections* provides an overview of developing, maintaining and marketing consumer health collections and services in academic, health sciences and public libraries. The author, Claire B. Joseph, director of the Medical Library for the South Nassau Communities Hospital in New York State, draws from her nearly 3 decades of work experience in health sciences libraries for this book. She shares some of her own experience with outreach activities in the final chapter 'Consumer Health Information Outreach for Every Library.'

It is comprised of 11 chapters and includes figures, tables and sample forms (e.g. New York Public Library Privacy Policy). It starts off with a chapter on the 'main ingredients' for building a consumer health collection, which the author identifies as conducting a needs assessment, establishing relationships with community stakeholders, writing a strategic plan, space planning and budgeting. The following chapters

cover topics such as customer service, privacy and confidentiality, health literacy, multicultural/inclusive resources and outreach.

Joseph writes primarily for the novice, as she covers all of the basics of building a consumer health collection. She also includes resources such as policies, frameworks, sources for consumer health materials, and examples of outreach programs from different libraries, which will be useful to those already working in this area.

The target audience for the book is staff working in academic, health sciences and public libraries who have an interest in consumer health resources and services. Joseph does a good job of writing for and providing examples from all three types of libraries. These types of libraries are quite different from each other, but as consumer health libraries vary significantly themselves, the differences in setting are less important. Joseph quotes Jean Shipman and Erica Lake who observe, "if you've seen one consumer health library, you have seen one consumer health library."

The writing style is to the point and the quality of writing is good. I noted just a couple of typographical errors that were missed during the editing process. Some of the sample forms are quite long and I found their inclusion in the middle of some chapters disruptive. I would have preferred that shorter excerpts be included in the chapters and that the sample forms themselves be placed at the end of the chapters. I found that these disruptions to the flow of reading made it hard to connect with the book.

I recommend this book to those interested in beginning work on or improving on consumer health information resources and services in their library. I took note of some of the outreach program ideas and sources for consumer health resources to make improvements in my own library.

### **Statement of Competing Interests**

No competing interests declared.

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