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## EDITOR'S MESSAGE / MESSAGE DE LA RÉDACTION

As I write my first editor's message, I would be remiss if I did not take this opportunity to thank Cari Merkley, previous Editor-in-Chief, for her hard work and dedication to this journal over the last 3 years. Cari moved this journal forward in a number of ways and continues to be a great source of support and advice. I would also like to take this opportunity to thank the entire editorial board who have worked very hard to get this issue published. This is our third issue and the culmination of the first full volume to be published under our entirely volunteer model. I am looking forward to an exciting and informative year.

The Canadian Health Libraries Association/ Association des bibliothèques de la santé du Canada (CHLA/ABSC) presented a number of awards this year and I would like to recognize those winners. This year's Hospital Librarian of the Year went to Angela Osterreicher from the University of Manitoba; the Emerging Leader Award went to Janice Kung from the University of Alberta; the David Crawford Honourary Life Membership Award went to Miriam Ticoll, a retired member; and the Margaret R. Charlton Award of Outstanding Achievement went to Dean Giustini from the University of British Columbia. The winners of the Student Paper Prize were Lara Maestro and Daniel Chadwick. Congratulations to all of our winners.

We have a great issue for you this time; not only does it include the student prize winning article on libraries' responses to the Truth and Reconciliation Report, we also have an article from the Oral Health Interest Group on academic dental librarianship. In addition, look for our book reviews and product reviews as well as a column on CHLA/ABSC's response to the Truth and Reconciliation Report.

### **Alison Farrell**

*JCHLA/JABSC Editor-in-Chief*

Email: [editor@chla-absc.ca](mailto:editor@chla-absc.ca)

Au moment de rédiger mon premier message de la rédaction, il serait négligent de ma part de ne pas saisir l'occasion de remercier Cari Merkley, la rédactrice en chef qui m'a précédée, pour l'engagement et les efforts incessants dont elle a fait preuve au cours des trois dernières années. Cari a contribué à l'avancement du journal de diverses manières, et demeure toujours une source inestimable de soutien et de conseils. Je tiens aussi à profiter de l'occasion pour remercier tous les membres de l'équipe de rédaction qui ont travaillé d'arrache-pied pour réaliser la publication du présent numéro. C'est notre troisième numéro qui constitue l'apogée de notre tout premier volume à être entièrement publié selon le modèle de bénévolat. L'année qui vient s'annonce des plus emballantes et informatives.

L'Association des bibliothèques de la santé du Canada / The Canadian Health Libraries Association (ABSC / CHLA) a décerné plusieurs prix cette année et il convient de reconnaître ces lauréats. Le prix « Bibliothécaire de l'année en milieu hospitalier » a été décerné à Angela Osterreicher de l'Université du Manitoba ; le prix du « Flambeau de la relève » a été décerné à Janice Kung de l'Université de l'Alberta ; le prix « David Crawford - Membre honoraire à vie » a été décerné à Miriam Ticoll, membre à la retraite ; et le prix « Margaret Ridley Charlton pour réalisation exceptionnelle » a été décerné à Dean Giustini de l'Université de la Colombie Britannique. Les lauréats du prix « Exposé étudiant de l'ABSC / CHLA » sont Lara Maestro et Daniel Chadwick. Félicitations à tous nos gagnants !

Ce numéro se veut d'intérêt particulier. Non seulement y avons-nous incorporé l'article méritoire du prix Exposé étudiant de l'ABSC / CHLA portant sur les réactions des bibliothèques au rapport de la « Commission-vérité et réconciliation », mais nous y avons aussi inclus un article en provenance du groupe d'intérêt sur la santé buccale traitant de la bibliothéconomie liée à la formation universitaire en dentisterie. De plus, jetez un œil sur nos critiques de livres et nos évaluations de produits, ainsi que sur une chronique portant sur la réponse de l'ABSC / CHLA au rapport de la « Commission-vérité et réconciliation ».

### **Alison Farrell**

*Rédactrice en chef, JABSC / JCHLA*

Courriel: [editor@chla-absc.ca](mailto:editor@chla-absc.ca)

## ANNOUNCEMENT / NOUVELLE

### Mark your Calendars for CHLA/ABSC 2018 in St. John's, NL!

Our next conference will take place at the Sheraton Hotel in historic and beautiful St. John's, Newfoundland from June 15-18, 2018.

Inspired by the title of a Newfoundland folk song, we invite participants to “rant and roar” about innovation, emerging roles, research, collaborations, and more. Opportunities for sharing information are many, including concurrent sessions, poster sessions, and interactive sessions. Vendors will share their product information at exhibitor booths and through lightning talks. Achievements will be formally recognized at our awards banquet, and social events such as a pub crawl, the opening reception, and the after party will allow participants to enjoy Newfoundland culture.

The deadline for submissions is **December 15, 2017**. 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.

Check the website in the new year for registration details, and keep an eye on the CHLA listserv and social media (@chlaabsc18) for updates. As we say in Newfoundland, it's going to be a time!

**Lindsay Alcock and Alison Farrell**  
*2018 Conference Co-Chairs*

### Inscrivez la conférence 2018 de l'ABSC / CHLA à St. John's, Terre-Neuve à votre agenda !

Notre prochaine conférence aura lieu à l'Hôtel Sheraton de la merveilleuse ville historique de St. John's à Terre-Neuve, du 15 au 18 juin 2018.

Nous inspirant d'une chanson traditionnelle de Terre-Neuve, nous invitons les participants à « Tempêter et Rugir » au sujet de l'innovation, des nouveaux rôles, de la recherche, des collaborations, et de bien d'autres choses. Les occasions d'échange d'information seront nombreuses, entre autres : des séances, des présentations d'affiches et des exposés interactifs se déroulant concurremment. Les fournisseurs exhiberont leurs produits et vanteront leurs caractéristiques, tant à leur kiosque respectif que par le biais de présentations éclair. Les réalisations notables seront reconnues officiellement par la remise de prix lors du banquet, et des activités sociales telles que la tournée des bars, la réception d'ouverture et l'après-bal permettront aux participants de se familiariser avec la culture terre-neuvienne.

La date limite pour les soumissions est le **15 décembre 2017**. 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). Vous y trouverez tous les détails ainsi qu'un formulaire de soumission.

Les détails relatifs à l'inscription seront accessibles au début de la nouvelle année dans le site Internet. D'ici là, surveillez le Listserv de l'ABSC / CHLA et les médias sociaux (@chlaabsc18) pour les mises à jour. En langue vernaculaire terre-neuvienne : « It's going to be a time! » ou l'équivalent en saguenayen : « Ça va veiller tard ! ».

**Lindsay Alcock et Alison Farrell**  
*Co-présidentes du congrès*

## RESEARCH ARTICLE / ARTICLE DE RECHERCHE

## Canadian Health Libraries' Responses to the Truth and Reconciliation Commission's Calls to Action: A Literature Review and Content Analysis

Lara Maestro<sup>+</sup> and Daniel Chadwick

**Abstract: Introduction:** As part of the Truth and Reconciliation Commission of Canada's (TRC) final report on the history and legacy of residential schools in Canada, 94 calls to action were identified. Of those, 7 are health-specific. The objective of this research paper is to determine how Canadian health library websites are responding to these calls to action. **Methods:** The authors conducted an initial literature review to gain an understanding of the context of Indigenous health in Canada. A content analysis of Canadian health library websites was conducted to track mentions of the TRC and online responses to the need for Indigenous-focused resources. **Results:** The results of content analysis indicated few online responses to the TRC's calls to action from Canadian health libraries. Only 33 per cent of Canadian health libraries had content that was Indigenous-focused, and only about 15 per cent of health libraries had visible content related to the TRC's calls to action. Academic and consumer health libraries were more likely to have both TRC- and Indigenous-focused content. **Discussion:** Nuances related to the research question resulted in some challenges to research design. For example, website content analysis is an imperfect indicator of real-world action. Limitations in research design notwithstanding, visibility is an important part of conveying commitment to the TRC, and the information available indicates the Canadian medical community is not living up to that commitment. **Conclusion:** Canadian health libraries need to do more to show a visible commitment to the TRC's calls to action.

### Introduction

The Truth and Reconciliation Commission of Canada (TRC) was officially established on June 2, 2008 as a product of the Indian Residential Schools Settlement Agreement (IRSSA). The tasks of the TRC were to hear, read, and record the experiences of residential school survivors, to unmask the truth of the painful, traumatic, and deeply racist history of residential schools in Canada. The intention for this information- and memory-gathering was to lay the groundwork to true and lasting reconciliation. The TRC released its findings in a final report on December 15, 2015, which included 94 calls to action. There are 7 recommendations specifically related to the provision of healthcare (Calls to Action 18 through 24; see Table A1 in the Appendix), though there are

several other recommendations that are related to determinants of health (such as child welfare, education and employment, and sports and physical activity). Most of the 7 healthcare-specific calls to action are directed to government, but 3 (22 to 24) contain recommendations that the larger medical community can, and must, help realize. These 3 recommendations are as follows:

22. We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders were requested by Aboriginal patients.
23. We call upon all levels of government to:

Lara Maestro. School of Library, Archival and Information Studies, University of British Columbia, Vancouver BC

Daniel Chadwick. School of Library, Archival and Information Studies, University of British Columbia, Vancouver BC

<sup>+</sup>Corresponding author (email: [lara.maestro@gmail.com](mailto:lara.maestro@gmail.com))

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- i. Increase the number of Aboriginal professionals working in the health-care field.
  - ii. Ensure the retention of Aboriginal health-care providers in Aboriginal communities.
  - iii. Provide cultural competency training for all health-care professionals.
24. We call upon medical and nursing schools in Canada to require all students to take a course dealing with Aboriginal health issues, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, and Indigenous teachings and practices. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism [1].

It has been 2 years since the final report was made publicly available. In that time, have Canadian health libraries responded to these healthcare-related calls to action in an explicit way? If so, in what ways have they responded?

## Background

It is impossible to discuss Indigenous<sup>1</sup> health in Canada without linking current issues to Canada's history and legacy of colonization, as the TRC makes clear. According to oral traditions, prior to first contact the original inhabitants of the land that would become Canada enjoyed a high quality of health due to an active lifestyle and a diverse, balanced diet [2], which was maintained by their own thriving systems of healthcare, including holistic knowledge of medicines, and a variety of health practitioners and healers [3]. Interactions with European colonizers had an immediate impact on Indigenous health, beginning with the transmission of foreign diseases which quickly overwhelmed communities who were unfamiliar and underprepared to handle such

<sup>1</sup> When referring to the diversity of Indigenous groups in Canada this paper will use the terms "Indigenous" or "Aboriginal," which encompass the various first inhabitants of the land, including First Nations, Inuit and Métis people and both Status and Non-Status Indigenous people. Guidance on terminology found at: First Nations & Indigenous Studies Program. Terminology [Internet]. Indigenous Foundations. 2009 [cited 2017 Apr 4]. Available from: <http://indigenousfoundations.adm.arts.ubc.ca/terminology/>.

epidemics [2]. Subsequent colonial programs and institutions created by the state to forcibly dispossess Indigenous peoples of their land, rights, and culture, produced (and continue to maintain) the conditions that have caused the disparities between Indigenous and non-Indigenous health that we see today [4].

These conditions of social, economic, cultural and political inequity, often referred to as determinants of health [3, 5], are at the root of the "disproportionate burden of ill health and social suffering" experienced by Aboriginal populations across Canada [4]. A report published by the National Collaborating Centre for Aboriginal Health (NCCAHA)/Centre de collaboration nationale de la santé autochtone (CCNSA) describes a poor overall picture of health among Aboriginal peoples in comparison to the non-Aboriginal population, especially in the following areas: "maternal, dental and infant health; child health; certain communicable and non-communicable diseases; mental health and wellness; violence, abuse and injury; and environmental health" [5]. Though data collection on the state of Indigenous health in Canada is far from comprehensive (due to the lack of information gathering initiatives on Non-Status, non-registered, off-reserve, or urban Indigenous people, and the inconsistencies of "ethnic identifiers" in data collected from different Aboriginal groups [3, 6]), the widely-accepted medical consensus is that "Aboriginal people continue to experience a consistently lower level of health than do non-Aboriginal peoples" [5].

Indigenous peoples experience health inequity, not only due to systemic inaccessibility to underlying determinants of health (such as clean drinking water) and barriers to accessing healthcare services and medical resources [7, 8], but also due to the lack of culturally appropriate care [5]. This disparity lies at the crux of Calls to Action 22 to 24: valuing Indigenous healing knowledge as a medical resource, integrating cultural healing traditions and community practices into care plans for Aboriginal patients, and providing non-Aboriginal medical professionals with the necessary information, education and training to develop their cultural competency, are all elements that would contribute to the increase in availability of culturally appropriate care for Indigenous peoples. These areas all require the commitment and active participation of Canadian health libraries and librarians to accomplish.

## Literature Review

To inform the context of the research question the authors conducted a literature review through biomedical and library and information science databases (MEDLINE, Library & Information Science Source (LISS), and Library and Information Science Abstracts (LISA)) for articles related to Indigenous health in Canada, with a focus on actions of health libraries. To limit articles to those initiatives originating as a response to the TRC's calls to action, the searches included keywords related to the Commission, or were limited to articles published in the last 3 years. The latter strategy was more effective at increasing recall than the first; though neither approach yielded many results in any of the searched databases. There have been a few scholarly articles published on the impact of the TRC on Canadian archival practices, especially with the establishment of the National Centre for Truth and Reconciliation at the University of Manitoba [9–11], which archived the materials of the TRC, but very few sources show up for articles about the TRC relating to Canadian libraries, and health/medical library-specific sources are virtually non-existent. From this, the authors gathered that it might be too soon to expect many indexed articles assessing the impact of the TRC on health libraries in Canada.

While the Canadian Federation of Library Associations/Fédération Canadienne des associations de bibliothèques states as a goal the promotion of “initiatives in all types of libraries by advancing and implementing meaningful reconciliation as addressed by the Truth and Reconciliation Commission report and in the Calls to Action” [emphasis added] [12], most of the initiatives found through library and information science databases have taken place in the public library sphere. For example: the Saskatoon Public Library was the first public library to create a permanent space dedicated to truth and reconciliation [13], Edmonton Public Library has engaged its first Elder in Residence [14], and the Vancouver Public Library has initiated a number of actions (subject heading reviews, the creation of a number of resource guides, and the establishment of an online intranet “gathering space” for staff to explore reconciliation together) [15].

On the medical side, there is quite a bit of grey literature outlining the responses of medical schools and medical associations to the TRC's calls to action. Since the TRC report was published, some medical

schools have built on pre-existing initiatives, such as those meant to support Indigenous students, or incorporate Indigenous knowledge and education on cultural safety into curricula [16–18]. Other institutions have created new goals and actions to address the TRC's calls to actions [19]. Medical associations such as the Indigenous Physicians Association of Canada (IPAC)/Association des médecins autochtones du Canada (AMAC) and the Association of Faculties of Medicine of Canada (AFMC) have also been leaders in supporting medical schools' progress in training Indigenous health professionals and developing curricula which “understand the healing power of Indigenous culture and history” [20]. While significant steps have been made on the part of Canadian medical schools, progress is uneven among different schools and there is an acknowledgement among academics and educators that existing goals remain inadequate to appropriately address disparities in Indigenous health and Indigenous medical education, and that more can, and must, be done [21, 22].

From this literature review it is apparent that, while some libraries and medical schools in Canada have attempted to address the TRC's calls to action, there is little initial evidence that health libraries, which exist at the intersection of both the library and health fields, have taken action towards the realization of those objectives. The lack of indexed search results specifically related to the TRC and health libraries in a Canadian context led the authors to conclude that a content analysis of websites of Canadian health libraries would be a more direct approach to assessing visible responses to the TRC.

## Scope and Rationale

The authors decided to focus on visible online commitment to the TRC calls to action for a variety of reasons: 1) a website is often the first public face of an entity that people encounter; 2) online content often increases accessibility, meaning that the information available on a website is usually consulted by a wider audience;<sup>2</sup> and 3) while visibility does not always equal action, online public statements often carry weight because websites serve as digital representations of the entity to the wider world. The

<sup>2</sup> This is not to discount the profound digital information access gaps that exist in Canada, including those within Indigenous communities.

authors view such statements as acknowledgement and recognition of the TRC recommendations, which is vitally important because it is an affirmation of the authority of the TRC as well as the legitimacy of the TRC's concerns. Statements of support should coincide with real action, and both should be used to reinforce each other and hold the institution accountable.

This paper takes a broad definition of 'health library' to encompass the wide range of information services that "meet the information needs of physicians, nurses, pharmacists, allied health professionals, students, patients, consumers and researchers" [23]. By including academic libraries that cater to medical and (or) health science education and training programs, hospital and health institution libraries and resource centres, libraries of professional associations for allied health professionals, and consumer health libraries, the authors hope to capture a wider picture of the responses to the TRC's calls to action thus far, as well as account for those health libraries that may belong to multiple categories. This approach does, however, pose limitations to content analysis (which will be discussed further in the "Challenges" section).

## Methods

The authors used the list of Canadian health libraries and consumer health libraries provided through HLWIKI International, and the Health Science Information Consortium of Toronto's member directory to compile an initial list of relevant websites [23–25]. This list was then cross-referenced and supplemented with health library information from the Internet and the *Libraries Canada/Bibliothèques Canada* print directory [26].

The content analysis took into account the sources and statements originating within these various organizations, similar to the "internal assessment" portion of an environmental scan [27]. For this particular paper, only those libraries which had a discrete online presence (for example, a specific library page within a larger institutional website) were analysed. While most health libraries are housed within larger entities that might be implementing TRC-related or Indigenous initiatives, to focus our analysis solely on health libraries, only those actions that were specifically library-related were counted. The content analysis was intended to discover how

websites made visible their commitment to the TRC, by asking the following questions: Does the health library website have specific mentions of the TRC? Do they mention Indigenous information initiatives that are in the spirit of the TRC recommendations, in particular, Call to Action 22? The authors analysed these websites for references to the TRC or to Indigenous initiatives that contain the "spirit" of the TRC calls to action.

Due to the broad definition of health libraries that was utilised, methods of analysis differed slightly depending on subcategory of health library, and website design. Websites were browsed for any library-led initiatives relating to either the TRC or specifically to Indigenous health. If there was a search option given on a health library website that allowed searching of the website itself and not the library catalogue, it was used to look for pre-determined search terms. This involved using a variety of search terms, including "TRC," "Truth and Reconciliation," "Indigenous," "Aboriginal," "First Nations" (for a full list of search terms see Table A2). If French-language websites had serviceable English facsimiles the English-language site was used for browsing. French-language websites that did not have that option, or that only had basic English versions available, were translated using the Chrome browser Google translate function. If given the option to search the site, French translations of the same terms used to search the English sites were used (see Table A2). These translations were sourced from the French-language version of the executive summary of the TRC findings, *Honorer la vérité réconcilier pour l'avenir: Sommaire du rapport final de la Commission de vérité et réconciliation du Canada*, or from online translation tools [26].

## Results

The authors compiled a list of 539 Canadian health libraries. Of those, 177 had no discrete online presence, leaving the authors with 362 health library websites with which to conduct content analysis for mentions of TRC-related initiatives, or library initiatives with an Indigenous focus. Of those 362 websites, 119 health libraries (around 33%) had visible Indigenous-focused initiatives, mostly in the form of subject guides on topics such as "Indigenous Health," or "Aboriginal Studies." Sometimes Indigenous content was nested under categories such as "Spiritual

Health” or “Public Health.” Only 56 (around 15%) made specific mention of the Truth and Reconciliation Commission. This was a far lower number than anticipated. Of those libraries that mentioned the TRC, the types of libraries that were most likely to have TRC-related content were academic libraries (n=27) and consumer health libraries (n=18). Libraries that had Indigenous content were highly represented in academic libraries (n=39), consumer health libraries (n=26), and hospital libraries (n=17).<sup>3</sup>

## Discussion

Though the content analysis for health libraries returned fewer findings of support for the TRC and Indigenous-focused resources than expected, some libraries had particularly promising approaches contributing to Call to Action 22. While most of the health library websites that contained Indigenous-focused resources did so in the form of subject guides, some libraries went beyond simply offering a single “Indigenous Studies” toolkit to encompass the totality of Indigenous issues, or including the TRC report within those Indigenous subject guides. For example, the University of Saskatchewan has a “ReconciliAction Resources” Libguide to encourage the enacting of reconciliation [29]; Dalhousie University has a subject guide dedicated to “TRC Calls to Action - Library Resources and Best Practices Subject Guide” [30], and the University of PEI has a TRC guide currently under development [31]. The Northern Ontario School of Medicine Libraries are notable for committing to using TRC-approved terminology relating to Indigenous peoples [32], and have numerous Indigenous-focused subject guides, including resources for cultural competency.

As noted in the “Results” section, academic libraries were most highly-represented among health libraries with visible TRC content. Since the most common way to incorporate TRC-related content into a health library website was through subject guides, perhaps it is not surprising that academic institutions (which usually have a significant emphasis on research resources) would include more of these types of guides than other health libraries. Consumer health libraries, which have a public- or patient-oriented focus, also have a lot of content that would be relevant to Indigenous users and health professionals supporting

Indigenous patients. Health libraries that were underrepresented in terms of visible TRC content were resource centres (especially those in hospitals dedicated to specific health concerns) and health science libraries that primarily cater to staff. The purpose and intended audience for each health library was an important factor for whether or not that library had content relating to the TRC or Indigenous issues. In general, public-facing or academic research-oriented health libraries were more likely to exhibit a visible relationship to the TRC. This may have to do with a number of factors that are unrelated to commitment to the TRC’s calls to actions, such as the capacity of the library to maintain a detailed online presence.

## Challenges

There were some inherent challenges to researching our topic. One challenge related to our literature review searching was the use of controlled vocabularies and indexed terms related to Indigenous peoples: offensive legacy vocabulary notwithstanding, unfortunately even current terminology used to refer to Indigenous peoples within databases lags behind the evolution of culturally appropriate vocabularies in contemporary discourse [33].

From our content analysis of health libraries a few difficulties emerged. Firstly, many health libraries do not have an online presence outside of the larger institution they fall under, or they may not have an online presence at all, which makes it difficult to discover if they are responding to the TRC; they may be, but it is not immediately visible online. Secondly, there was difficulty in parsing whether initiatives from health libraries were in response to the TRC or whether they were pre-existing; although we determined that the important thing to acknowledge is that these initiatives exist, regardless of the catalyst for their implementation, recognition of the TRC as a significant national undertaking is still important, and is not being addressed to the level it should be. Thirdly, since a broad approach to the definition of health libraries was used, some health library websites intended purely for staff or intra-organization use were not accessible to public searching. Lastly, for health libraries whose services are primarily offered in French, the authors’ linguistic limitations posed barriers to thoroughly analysing French-Canadian health libraries.

<sup>3</sup> These results are current as of July 31, 2017.



## Next Steps

The authors recommend that future research be done to build on the findings of this content analysis. Possible avenues of inquiry include researchers fluent in French analysing French-Canadian medical school and health library websites, research into how subcategories of health libraries have responded differently to the calls to action, and further research into concrete TRC-related actions by Canadian health libraries that are not visible online.

## Conclusion

It has been 2 years since the TRC released its final report and calls to action. In that time, not many Canadian health libraries have made progress in addressing the TRC's health-related recommendations. While this research paper acknowledges its limitations in assessing just how much Canadian health librarianship has responded to the TRC, given the challenges detailed above, the final assessment is that it is not clear how Canadian health libraries are engaged as visible, active participants in the processes of truth and reconciliation. Achievement of the TRC's goals requires the work of all Canadians, in every sector, but it is of vital importance in the provision of health care, which concerns matters of life and death. An article in the September issue of the *Health Information & Libraries Journal* has identified improving Indigenous health and library services as a key goal for health sciences libraries in Canada, following the release of the TRC report [34]. In that spirit, we encourage more Canadian health libraries to publicly declare their support for the TRC calls to action, and to commit to initiatives that directly respond to the recommendations.

## Acknowledgements

The authors would like to acknowledge the support of Dean Giustini, without whose encouragement and feedback this paper would not have been published. The authors would also like to express their gratitude to the Musqueam people, on whose traditional, ancestral, and unceded territory the University of British Columbia Point Grey Campus is located.

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## Appendix

Table A1. TRC Healthcare-specific calls to action

#	Call to Action
18	We call upon the federal, provincial, territorial, and Aboriginal governments to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties.
19	We call upon the federal government, in consultation with Aboriginal peoples, to establish measurable goals to identify and close the gaps in health outcomes between Aboriginal and non-Aboriginal communities, and to publish annual progress reports and assess long-term trends. Such efforts would focus on indicators such as: infant mortality, maternal health, suicide, mental health, addictions, life expectancy, birth rates, infant and child health issues, chronic diseases, illness and injury incidence, and the availability of appropriate health services.
20	In order to address the jurisdictional disputes concerning Aboriginal people who do not reside on reserves, we call upon the federal government to recognize, respect, and address the distinct health needs of the Métis, Inuit, and off-reserve Aboriginal peoples.
21	We call upon the federal government to provide sustainable funding for existing and new Aboriginal healing centres to address the physical, mental, emotional, and spiritual harms caused by residential schools, and to ensure that the funding of healing centres in Nunavut and the Northwest Territories is a priority.
22	We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders where requested by Aboriginal patients.
23	We call upon all levels of government to: <ul style="list-style-type: none"> <li data-bbox="337 1392 1308 1423">i. Increase the number of Aboriginal professionals working in the health-care field.</li> <li data-bbox="337 1430 1354 1461">ii. Ensure the retention of Aboriginal health-care providers in Aboriginal communities.</li> <li data-bbox="337 1467 1195 1499">iii. Provide cultural competency training for all health-care professionals.</li> </ul>
24	We call upon medical and nursing schools in Canada to require all students to take a course dealing with Aboriginal health issues, including the history and legacy of residential schools, the <i>United Nations Declaration on the Rights of Indigenous Peoples</i> , Treaties and Aboriginal rights, and Indigenous teachings and practices. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism.

**Table A2. Search Terms Used for Content Analysis**

<b>English</b>	<b>French</b>
Truth and Reconciliation Commission	Commission de vérité et réconciliation du Canada
TRC	CVR
truth and reconciliation	vérité et réconciliation
Indigenous	Indigène
Aboriginal	Autochtone
First Nations	Premières Nations
Métis	Métis
Inuit	Inuit
Library	Bibliothèque

## REVIEW ARTICLE / VUE D'ENSEMBLE

## Academic Dental Librarianship in Canada: Taking Stock, Planning the Future

Natalie Clairoux<sup>1</sup>, Martin Morris, and Helen L. Brown

**Abstract:** The Oral Health Interest Group/Groupe d'intérêt en santé buccale of CHLA/ABSC, established in 2016, aims to act as a source of networking for dental librarians in Canada, conduct research, and advocate for the specialty. In the present article, the first produced by OHIG, the authors describe the current landscape of academic dental librarianship in Canada using data resulting from an informal consultation of all OHIG members. Examples of distinctive practice are highlighted through a series of vignettes, and the overview is set in context through a literature review of dental librarianship, focussing on Canadian contributions to the speciality. The article concludes with the authors' reflections into possible directions the specialty may take over the next few years, noting the importance of increased embedded collaboration with faculty and the need to develop new skills, for example, to support research data management and new trends in scholarly communications.

### Introduction

When Inez Bowler published her *Elementary Manual of Dental Library Practice* in 1934 [1], she was seeking to shape a nascent field in which there were “librarians at dental schools who have no professional training, and who stand in need of elementary instruction...”, and to demonstrate the value of professional librarians to the field of dentistry and oral health.


In 2016, over 80 years after Bowler's work, dental librarians across Canada came together to form the Oral Health Interest Group/Groupe d'intérêt en santé buccale (OHIG) of the Canadian Health Libraries Association / Association des bibliothèques de la santé du Canada (CHLA/ABSC). In this paper, OHIG members have collaborated to provide a Canadian-oriented overview of our field by conducting interviews and subsequent follow-ups with academic dental librarians at every dental school in Canada, and by supporting these findings with a comprehensive


literature review. We aim to fill the gap in recent literature on dental librarianship, particularly in Canada, demonstrate how Canadian academic dental librarians have integrated themselves into dental education and research, and highlight examples of their innovative approaches.

For the literature review we searched five bibliographic databases (PubMed, CINAHL, Embase, LISA and LISTA), in French and English, using a combination of subject headings and keywords to represent the concepts of 1) dentistry, oral health, dental students, evidence-based dentistry, or dental schools, and 2) libraries or librarians, and limiting results to the last 10 years. We also hand searched the meeting proceedings of the Medical Library Association (MLA) and CHLA/ABSC, from 2012 to 2016, using the terms dental, dentistry or oral.

Data for this paper were gathered through a series of semi-structured interviews with every academic dental librarian in Canada. Interviews were conducted between January and August 2017, with follow-up

**Natalie Clairoux.** Librarian, Bibliothèque de la santé, Université de Montréal, Montréal QC  <https://orcid.org/0000-0002-6720-7415>

**Martin Morris.** Liaison Librarian, Schulich Library of Physical Sciences, Life Sciences and Engineering, McGill University, Montréal QC  <https://orcid.org/0000-0002-5659-2995>

**Helen L. Brown.** Reference Librarian, Woodward Library, University of British Columbia, Vancouver BC  <https://orcid.org/0000-0002-8437-9702>

<sup>1</sup>Corresponding author (email: [natalie.clairoux@umontreal.ca](mailto:natalie.clairoux@umontreal.ca))

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 Clairoux, Morris, and Brown.

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email or phone conversations to gather further information where this was considered necessary. The response rate was 100%.

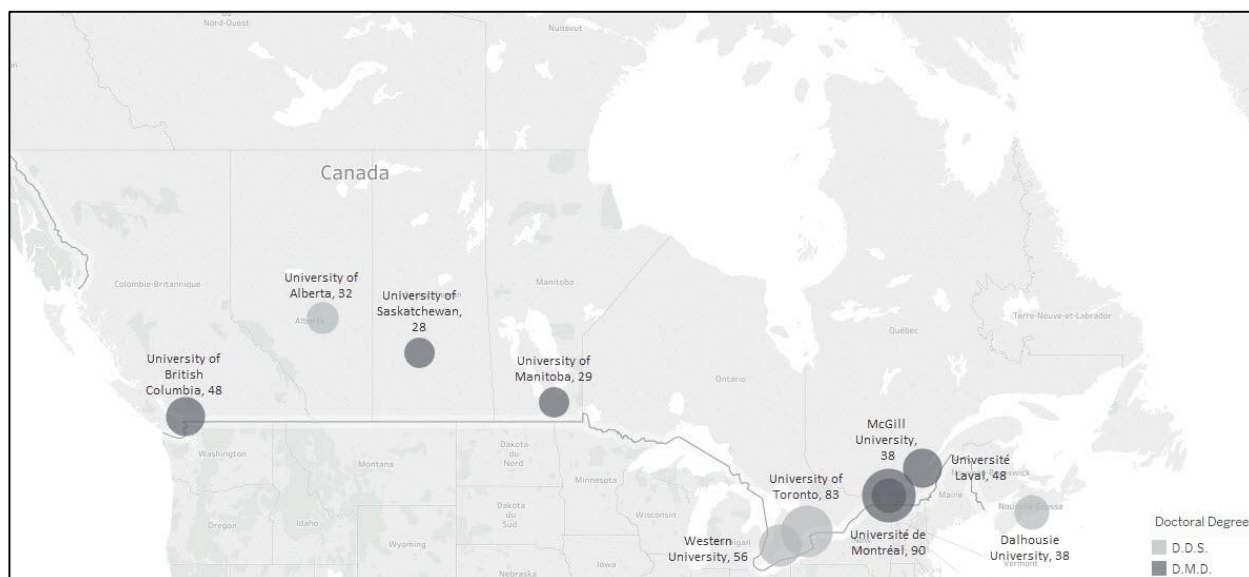
It is the hope of OHIG members that this paper will contribute to the ongoing scholarly communication on librarian integration in academic health sciences education and provide useful examples of practice, which may be adopted by our colleagues.

## Context

More than 500 students graduated from one of Canada's 10 accredited dental schools in 2016-2017 [2],

earning either a Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD) degree; school locations are shown in Figure 1 [3]. Each of these schools is supported by at least one dedicated dental librarian. Almost half of the accredited dental schools also offer accredited programs in dental hygiene which, while sharing the same focus on evidence-based practice, information literacy, and critical appraisal of the evidence, also have unique collections and instructional needs. Since not all of the dental schools offer these programs, many of our comparisons will focus solely on DDS or DMD degrees.

**Figure 1. Location, Doctoral Degree and Targeted Entering Class Size of Doctoral Dental Programs in Canada**



Interactive view: <https://tinyurl.com/CanDentSchools>

Librarian integration into academic dental education is supported by the Commission on Dental Accreditation (CDAC) [4], and Competency 4 of the Association of Canadian Faculties of Dentistry's Conceptual Education Framework (ACFD) [5]. The CDAC requires that, to obtain accreditation for a DDS/DMD program, dental schools must provide an accessible, professionally administered library, which is responsive to and supports the teaching and research activities of the program, and provides access to electronic and other multimedia sources.

The ACFD Framework includes two components, "Employ information technology appropriately for patient care" and "Apply the principles of evidence-based decision making into practice," which require knowledge, skills, and abilities that may be acquired

via library instruction, such as searching and evaluating the scientific literature, as well as critical appraisal of the retrieved evidence.

Fifteen librarians currently provide liaison services to dentistry and dental hygiene programs in Canadian universities. Six schools rely on a single person, while at other universities liaison responsibility is shared among a number of librarians. For example, at the University of Alberta liaison responsibilities are shared among three sessional librarians who have cross-appointments with other research organizations. Other medical departments may also be included in a dental librarian's portfolio; at McGill University for instance, the dental liaison also serves eight other medical departments.

## Vignettes in Context: Showcasing Academic Dental Librarianship in Canada

Academic liaison work has traditionally been defined as a blend of collection development, reference, and information literacy (IL) instruction [6], although in many areas of practice this has since extended to include advanced support for research, such as knowledge syntheses, and scholarly communications. Dental librarians have made and continue to make significant contributions to all of these areas.

### Traditional Information Literacy Instruction

It is now well established that librarian involvement in health sciences education improves search skills and facilitates the integration of research evidence into clinical decision-making [7]. Brown and Malenfant noted that “collaborative academic programs and services involving the library enhance student learning” in their assessment of library services [8].

#### Liaison Vignette #1

##### Librarian Support for a Dental Hygiene Debate Assignment at the University of Manitoba

The University of Manitoba offers the province’s only dental hygiene program. In the mandatory HYG2362: “Community Health II” second-year course, students in small groups of 3-4 debate a subject taken from a list of controversial topics, such as dental tourism. They must use a variety of information sources to support their point of view, including journal articles and books, but mainly Internet resources, especially patient information websites. In 2009, the professor requested the assistance of the dental hygiene librarian to improve the quality of assignments. Building from a first-year evidence-based practice course, the librarian focuses on grey literature searching and critical appraisal skills. For instance, citation tracking measurements are useful in discussing whether usage rates are indications of the significance of the information. The one-hour session then translates into “just-in-time” learning as students come to the librarian’s office to discuss the sources they have found and receive a second opinion on the value of the information provided.

Dentistry undergraduates are often first introduced to searching the library catalog during orientation sessions offered at the beginning of the academic year, and librarians are using creative ways to make these encounters meaningful to students. Library orientations favouring a user-centered approach that includes active learning appear to be the most engaging and effective, as reported for an undergraduate dental curriculum [9] and for a postgraduate dental residency [10]. At the University of Toronto, Zahradnik and Buda prepared a voluntary orientation that included a library tour, a series of 14 online instructional videos, a quiz, and an “Amazing Race” scavenger hunt [11]. Matsoukas et al. tested a novel marketing approach by providing USB flash drives pre-loaded with library promotional materials to incoming medical and dental students [12]. Similarly, as a University of Minnesota dental hygiene masters curriculum moved online, students were introduced to their librarian using a head-shot video [13].

#### Liaison Vignette #2

##### Library Research Orientations for Foreign Dentists at Dalhousie University

Dalhousie University offers a 2-year Doctor of Dental Surgery (DDS) Qualifying Program for individuals with a dentistry degree issued outside the Canadian educational system who wish to practice in Canada, the United States, or Australia. The dental librarian meets the students twice during their first summer attending the program. First, a general library orientation is provided in a 1-hour session that addresses library card registration, simple searching in the library catalog, description of library services, and other library locations. A 2-hour “Finding the Evidence” session then introduces students to the concept of Evidence-Based Dentistry and to the pyramid of evidence sources, with a focus on Registered Controlled Trials and finding current and (or) valid research. The librarian points out that students may be using their own expertise to evaluate the quality of research studies. The session then covers PubMed searching (use of MeSH, advanced search functions, NCBI account and (or) saving searches, Boolean operators, and how to use them). If time permits, there is an introduction to Dentistry and Oral Science Source (DOSS via EBSCO), as well as Cochrane systematic reviews.



Cobban and Seale reported on the instruction of information literacy skills to dental hygiene students at the University of Alberta. Their hands-on computer laboratory session “stressed the importance of analysing a problem, formulating a soundly constructed question from which relevant concepts and keywords can be selected, searching in appropriate sources, and evaluating the results of the search” [14]. Librarians introduced students to a variety of search engines and information sources, including the PubMed database. Such “one-shot sessions” may include a graded assignment to improve student attention, as described at Université de Montréal [15]. Other modes of information literacy instruction reported in dental libraries include regular drop-in sessions set in an informal environment and tailored to the participant’s needs [16]. A range of hybrid models may also be used, such as the flipped instruction techniques reported by Clifton and Jo, where periodontics residents reviewed online content prior to a series of six 1-hour face-to-face sessions [17].

Assessment of IL programs is also a common task for dental librarians. Guo et al. were able to demonstrate, using pre- and post-test measures, that dental hygiene students’ knowledge and skills in health information literacy improved significantly after an initial session of library instruction [18]. Similarly, Lawrence and Levy used a self-administered combination pre-test and post-test listing 18 skills and concepts taught in a MEDLINE class; more than 90% of participants admitted that they had learned more about using MeSH subject headings in a search and how to combine sets of results [19]. Using a different angle, Storie and Campbell investigated the actual outreach of their IL program at University of Alberta’s Faculty of Medicine and Dentistry. They discovered that the program was not reaching everyone who could benefit from instruction, and that some users would

prefer interactive web-based tutorials as the main mode of delivery [20].

Currently across Canadian universities, core librarian support includes instructional activities that range from one-on-one consultations to co-teaching courses with dentistry faculty, and from orientations for incoming first year students to collaboration on faculty-led research. Table 1 summarizes the instructional activities and supports provided at each of the ten Canadian universities with accredited dental schools.

In many of the libraries a dedicated librarian specializing in that field handles support and instruction on topics such as scholarly communications or copyright, while other services, such as drop-in sessions on database searching, are geared towards audiences from multiple faculties. Many dental librarians may teach topics such as using bibliographic management tools upon request in a dentistry class, in addition to general bibliographic management classes offered through another library department. For example, the UBC Library Research Commons offers frequent workshops as well as one-on-one consultations on RefWorks, Zotero, and Mendeley, but the liaison librarians also provide demonstrations in class and one-on-one support by appointment. Every dental librarian provides individual or small group consultations and a number of librarians also provide office hours to support students.

Most dentistry and dental hygiene librarians provide either guest lectures or “one-off” sessions to some classes while collaborating with dentistry and dental hygiene instructors in a more integrated way for other classes. For our purposes, we counted collaborative teaching as classes in which the librarian is considered a co-instructor and is more integrated into establishing and delivering course content and (or) grading assignments, as opposed to visiting the class to provide a guest lecture.

**Table 1. Library Instructional Activities in Canadian Dental Faculties**

<b>Instructional Activities</b>	<b>Dalhousie</b>	<b>Laval</b>	<b>McGill</b>	<b>Montréal</b>	<b>Toronto</b>	<b>Western</b>	<b>Manitoba</b>	<b>Saskatchewan</b>	<b>Alberta</b>	<b>British Columbia</b>
Orientation sessions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Instruction on database searching	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Instruction on evidence-based dentistry	✓	-	✓	✓	✓	-	✓	✓	✓	✓
Instruction on knowledge synthesis	✓	✓	✓	✓	-	-	✓	-	✓	✓*†
Instruction on scholarly publishing and research impact	-	-	✓	✓	✓	-	✓†	✓	✓*†	✓
Instruction on bibliographic management	-	✓	✓	✓	✓†	✓	✓	✓	✓*†	✓
Instruction on copyright	✓†	-	-	✓	✓†	-	✓	-	✓†	✓†
Drop-in seminars	✓	-	✓	✓	✓	-	✓†	✓†	✓	✓†
Instruction or professional development for Faculty	-	-	✓*†	-	✓†	✓	✓	✓*	✓	✓*†
Collaborative teaching with dentistry Faculty	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Library research skills included in graded assignments	-	-	✓	✓	✓	✓	✓	✓	✓	✓
One-on-one or small group consultations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Office hours	-	✓	✓	-	✓	-	✓	-	✓*	-

\* By request

† Provided by other librarians or library departments

### Liaison Vignette #3

#### Embedded Dental Librarian Instruction at McGill University

For approximately the first 14 months of their undergraduate degrees, dental and medical students at McGill follow the same courses in a block of modules called Fundamentals of Medicine and Dentistry. In 2014, the Faculty of Dentistry modified this, and dental students now take separate courses in research through a series of four modules, one taken each year. The motivation for this change was to provide training in research and evidence-based dentistry which more closely aligns with the future clinical needs of dental graduates.

These modules take students through the entire research process, from providing a basic understanding of research in their first year, to completion of a small research project in their fourth and final year. The creation of these modules has provided an excellent opportunity for the library to not only increase its embedded instruction but also to widen the range of content offered. In addition to concepts such as the pyramid of evidence, the librarian introduces the following distinct concepts:

- DENT 125 – students first hear about qualitative and quantitative research, receive an overview of the history of medical research, and learn about the roles of inductive and deductive thinking in research;
- DENT 225 – use of the patient-centred care model (Mead, 2000) to derive research ideas;
- DENT 425 – students receive instruction through 3 workshop or lectures in the appraisal of randomized controlled trials and systematic reviews, and must complete a graded assignment in which they critically appraise a systematic review for quality and clinical applicability.

This instruction continues to evolve. Beginning in 2018, the librarian will be working with the Faculty of Dentistry on a new project in which the whole class will learn about systematic reviews by helping to produce a real, publishable review during their second and third years.

### Liaison Vignette #4

#### Library Instruction for Dentistry Residents in Remote Health at Université Laval

Université Laval's Multidisciplinary Dentistry Residency program includes a mandatory 4-week internship in a remote area; when available, the location may be an indigenous community in Northern Quebec. The program lasts 1 year and maximum enrolment is 6 students. Residents participate in a 3-hour face-to-face library instruction session that introduces library services and resources, including mobile point-of-care resources, as well as searching for articles in PubMed using keywords or controlled vocabulary. In addition, the dental librarian presents specific resources from the National Library of Medicine's Arctic Health website (<http://arctichealth.nlm.nih.gov/home>) such as the Arctic Health Publications Database and the Circumpolar Health Bibliographic Database, as well as the Aboriginal Health Search Filter page on HLWiki ([http://hlwiki.slais.ubc.ca/index.php/Aboriginal\\_health\\_search\\_filter](http://hlwiki.slais.ubc.ca/index.php/Aboriginal_health_search_filter)).

### Liaison Vignette #5

#### On-Demand Lunch Hour Seminars at the University of Alberta

A few times a year, an administrative assistant at the School of Dentistry requests lunch hour seminars from the library to add to the professional knowledge of interested faculty members and graduate students, especially when some needs are not met by the central library system's regular workshop schedule. One-hour seminar topics range from library orientation to RefWorks and literature searching basics, are tailored to include dentistry content and typically attract 10 to 15 participants. This on-demand model requires that the dental liaison occasionally receive training to teach specialized topics, such as research data management. An interesting outcome of this training is that in turn, health sciences librarians were solicited to teach research data management in a Masters of Library and Information Science course.

### Evidence-Based Dentistry Instruction

The rise of evidence-based dentistry (EBD) instruction has transformed dental librarianship. The introduction of EBD content into the dental curriculum has led to dramatically increased librarian involvement in instruction; in fact it is such a common part of contemporary dentistry librarianship that a survey of institutions offering the DDS or DMD degree in Canada and the United States found that three-quarters of responding librarians taught aspects of EBD [21]. The most common role included teaching EBD literature searching skills to students, often in collaboration with dental faculty.

Similarly, as in other health and non-health related fields there is increasing interest in understanding and performing systematic reviews, which provides opportunities for librarians to support students, faculty, and research teams through collaborative teaching, general workshops, consultations, and dedicated services. The split between formal and informal instruction (consultations) is often determined by the level of the research, with graduate students and faculty receiving far more consultations and undergraduates receiving classes and general reference desk support.

Swanberg et al.'s systematic review of health librarianship literature found that the most popular methods used to teach evidence-based practice were formal presentations or seminars, small group discussions, and (or) one-on-one instruction [22]. Dental librarians' perspectives on EBD instruction methods primarily focus on two angles. Firstly, there are practical approaches such as the one described by Stellrecht which incorporate EBD instruction within an embedded clinical librarianship service. It provides "point-of-need reference assistance to clinical faculty in resolving patient treatment questions and enriches dental education by developing students' EBD skills" [23]. Secondly, dental librarians are contributing to the design and evaluation of virtual instructional evidence-based practice modules, designed either with an interprofessional scope [24, 25] or aimed at future dentists. Notably, MacEachern et al. describe how "a didactic evidence-based dentistry (EBD) course was reconstituted as a set of twelve online modules that were embedded into the school's intranet site, opening up the EBD content to all clinically active faculty and students, regardless of their enrolment status in the course" [26].

Yet, several authors point out that the actual information-seeking behavior of practising dentists does not reflect the searching strategies they were taught and denounce the lack of integration of EBD across the whole curriculum [27, 28]. Accordingly, the roles of dental librarians in teaching EBD may be further expanded. Lubker and Pellefrini suggest that dental librarians and faculty could build stronger relationships and reinforce their collaboration by attending EBD training together [29].

#### Liaison Vignette #6

##### Dental Public Health Evidence Based Dentistry Modules at the University of Toronto

Librarians at the University of Toronto provide a library instruction session that is integrated into the DEN207 undergraduate course and counts for 5% of the students' final grade in the class. DEN207 is based on an evidence-based care module developed by the Course Director, Dr. Amir Azarpazhooch and colleagues, and outlined by the series of JADA articles on "A Practical Approach to Evidence Based Dentistry." The modules aim to help students develop and apply skills in evidence-based dental practice by developing critical appraisal skills and communicating results. There are 5 tutorials in the first part of this course, covering appraisal of primary studies: Harm, Diagnosis, Therapy, and Research Synthesis. The last tutorial "Finding evidence-based dental literature in a clinical setting" is conducted by the librarians.

The tutorial is 3 hours long and follows the following format: "Finding evidence-based dental literature in a clinical setting" lecture (40 minutes); hands-on session on PubMed and point-of-care resources (35 minutes); break (15 minutes); in-class group assignment (1 hour); and reporting back from groups on how they completed one question of the assignment (30 minutes). During the hands-on session, 6 science librarians provide support. Assignments are submitted at the end of class and graded by the 2 dental librarians. The lecture and assignment for tutorial 5 can be found here: <http://guides.library.utoronto.ca/dentalpublichealth>.

The final deliverable of the course is a critical appraisal of a study. The students use the 5 tutorials to learn how to find literature, critically appraise studies, and communicate their findings.

### Liaison Vignette #7

#### Application of Dental Research to Clinical Decision Making at the University of Saskatchewan

The first year of the DMD program focuses heavily on integrating library research into practice. Students begin with a 1-hour orientation and continue with 5 sessions in March and April as part of the full year DENT 210: “Application of Dental Research to Clinical Decision Making” course.

The 5 course-integrated library instruction sessions cover the following topics:

- 1) The Scholarly Publication Cycle, Defining your Research Question, Keyword Databases;
- 2) Keyword Databases (cont.), Controlled Vocabulary Databases;
- 3) MEDLINE and Embase, Citation Search;
- 4) Searching the Grey Literature, Citation Managers;
- 5) Class assignment, which is worth 20% of the final mark.

### Collection Development and Maintenance

In the late 19th century, dentistry developed from a trade to a profession and dental schools were gradually established across the country. The dental literature bloomed during this period and libraries were called in to collect, organize and disseminate this new knowledge [1]. Collection development in today’s dental libraries is naturally very similar to that in other health fields, but a number of dental librarians also use more targeted approaches to ensuring collections are complete and up-to-date, and have made useful contributions to this area of our practice.

Two prominent examples from the literature stand out here. Buda and He at the University of Toronto have developed a toolkit to clean up and improve catalogue records, and increase retrieval and collection usage [30], while members from the Dental Section of MLA have worked to update a reference list of required dental texts, a useful tool both for new dental academic liaisons and faculty [31].

### Liaison Vignette #8

#### Collection Updates at Université de Montréal

A former dental liaison at Université de Montréal designed Syllabo, an in-house EndNote database listing all required texts for DMD course syllabi. At the end of each semester, library technicians systematically look for new editions required in upcoming courses, then make purchasing recommendations. They also email professors to inform them when changes occur to the course reserve, and provide a hyperlinked reference to the book’s record in the catalog, which may be easily included in course syllabi.

Dental collection management has advanced as new tools have become available. Cox has leveraged the potential of citation analysis to orient collection development (an approach later taken up by Gao [33]) to identify any gaps between the library collection and the literature cited in dental theses produced at her institution [32]. A heavy reliance on journal materials was observed, often dating as far back as 25 years, suggesting that “libraries supporting advanced dental education programs should be prepared to provide access to a longer backrun of journal resources.”

### Liaison Vignette #9

#### Collection Development Informed by Citation Analysis at Université de Montréal

Does the library’s journal collection reflect the actual needs of our dental researchers? This question was answered using citation analysis of recent publications. A literature search performed in February 2017 identified 108 journal articles published in 2015 or 2016 by authors affiliated with UdeM’s Faculty of Dentistry. Next, 4520 citations were extracted from 94 of these papers to constitute the reference dataset. Citations were then classified as journal articles (94% of all documents cited); conference abstracts (2%); or books, monographs and other resources (4%).

Cited articles were published in 1202 different journals, and more than half of cited journals were mentioned only once. The analysis then focused on the set of journals cited 5 times or more, which comprised 186 titles representing 63% of all article citations. It was found that 95% of those highly-cited journals were either included in UdeM Libraries’ collections or freely available online, suggesting adequate serials support to the Faculty of Dentistry’s research needs. Nevertheless, the dataset included an unavailable journal that was cited 48 times. As a result, a survey was sent to faculty members to propose a new subscription and to determine candidates for a concurrent cancellation.

## Reference

In his pioneering 1934 article *Reference Problems of the Dental Librarian*, Denton stated: “The primary function of the reference librarian should be educational—to teach the applicant how to use bibliographical tools, and under some preliminary supervision, to make his own bibliography” [34]. Dental librarians still devote a significant portion of their time to one-on-one consultations, but reference services now include other less traditional formats. McClellan first described the implementation of integrated virtual reference in an academic library system serving a dental school [35].

Excitingly, technology now allows librarians to provide reference “on the fly” at the point of need with iPads and other supporting technology, allowing the librarian to serve their public outside the walls of the library. Stellrecht reported that liaison librarians were able to answer questions in dental clinics and faculty offices using this approach [36]. Such “embedded librarians” have been introduced with success in other academic settings as well, where “dental students felt that assistance from librarians improved their literature searching skills and projects and increased their confidence in completing research” [37]. Specialized reference services increasingly include knowledge syntheses support, which is thoroughly detailed below.

### **Newer Roles for Academic Dental Librarians: Scholarly Communications and Research Collaboration**

In addition to the traditional trio of liaison activities, new roles are expected from information professionals as libraries redefine their services around a user-centered model [38]. Academic liaisons should be able to “effectively support teaching, learning, and research; identify opportunities for further development of tools and services; and connect students, staff, and faculty to deeper expertise when needed” [6]. Additional core competencies are required to fulfill these tasks, such as a strong foundational knowledge of scholarly communication models, collaboration skills, leadership and management abilities, as well as knowledge and capability in information technologies [39, 40].

Of course, dental libraries supporting scholarly communications and research activities is not new. The Wilson Dental Library at the University of Southern California has for over 45 years provided a current awareness service that allows users to keep up with

recent research and share relevant articles with students or colleagues [41]. Nevertheless, competencies and services related to publishing and research appear to be increasing in importance. To begin with, some librarians actively promote the advantages of open access publishing to their dental faculty [42, 43]. Many Canadian universities host open access repositories, and Dalhousie University, McGill University, Université de Montréal, University of Toronto and Western University currently highlight separate collections of publications from dental faculty. Another interesting project in this area of expertise is a collaboration between the dental liaison and the College of Dentistry at the University of Manitoba to build a restricted-access repository of dental clinic images [44]. Also, copyright is another facet of publication that has an implications for dental libraries: according to research conducted by Doubleday and Gobin, 88% of surveyed U.S. dental schools would benefit from additional copyright training from their institution [45].

Next, disciplinary needs assessments as well as cultivating relationships with research teams are essential elements of building successful research data management (RDM) services in academic libraries [46]. RDM can be broadly defined as “best practices for organizing data storage and curation.” In this regard, Buda and Pecoskie started a conversation on RDM at the University of Toronto’s Faculty of Dentistry. Interviews with six administrative or laboratory managers allowed the gathering of qualitative information on data management practices, such as an openness to “receiving assistance for archiving and preserving data” and the “need to maintain some control over the data, or else be guaranteed of [its] safety” [47].

Finally, dental liaisons at the University of Alberta collaborated with a faculty member on a funding request from the Network for Canadian Oral Health Research to host a week-long Summer Research Institute-Systematic Review Workshop and participated as part of the teaching team [48]. McGowan and Williams also provide an example of a dental librarian’s collaboration on a research grant application; in this case to fund a research study on the effectiveness of EBD curricula [49].

## Liaison Vignette #10

### Supporting Dental Hygiene Community Fieldwork at the University of British Columbia

Students in the Bachelor's Degree in Dental Science program collaborate with a local organization and elementary school, under the supervision of their course instructor, Prof. Diana Lin, to develop and deliver culturally appropriate oral health promotion. The library instruction session and research guides for this class enable the students to gather information about the organization and the community using statistical resources such as the BC Community Health Data Profiles and Statistics Canada Census Profiles, which they use to complete a situational analysis. Students also explore resources such as the Canadian Language Benchmarks and Middle Years Development Instrument to support the development of appropriate health education programs, and use PubMed to find research on program delivery.

In third year, students build on previous library instruction with a class on copyright, types of literature, and using images, music, and other media to support their debate arguments, knowledge translation, and community oral health promotional projects. Unlike general library and EBD classes in Dental Hygiene and Dentistry programs, these classes support students in developing and producing programs, handouts, and posters based on research and knowledge of the community, effectively bridging the gap from being consumers of knowledge to being knowledge producers.

### Knowledge Synthesis

In terms of supporting research, a wealth of literature exists to demonstrate the value of librarian

contributions to knowledge syntheses such as systematic reviews, whether as expert searchers [50], methodologists [51], information managers [52], or co-authors. Knowledge syntheses have been a core focus for health librarians since the early days of the evidence-based medicine movement and one of the principal ways in which we have been able to demonstrate the continued relevance of health sciences librarianship. Two significant, recent contributions co-authored by Canadian dental librarians in this field aim to establish and formalize the role of the librarian in scoping reviews [53], and provide evidence that librarians improve reporting in systematic reviews [54].

A recent survey of dental libraries in the U.S. and Canada found that 86% of librarians surveyed actively participate in systematic reviews by creating and conducting searches, while 45% feature an official systematic review support program, system, or service at the library [55]. Dental librarians in Canada offer a variety of different kinds of support for knowledge syntheses, and these are summarized in Table 2. Usually, support levels are formalized in agreement between all health sciences librarians at an institution.

Dalhousie University and McGill University libraries have implemented the most structured and formalized models for knowledge syntheses support across the country. Dalhousie University (<https://libraries.dal.ca/research/literature-search-services.html>) offers both paid and unpaid support models. Funded systematic reviews are subject to the paid service, which includes search development, translation, and implementation (including services such as deduping of articles). For unfunded reviews, the library requests authorship (or at least an acknowledgement); such reviews are also subject to a longer wait time. If authorship or an acknowledgement is not available, the library will offer a consult for the initial search, and review final strategies.

**Table 2. Knowledge Syntheses Support in Canadian Dental Libraries**

Support	Dalhousie	Laval	McGill	Montréal	Toronto	Western	Manitoba	Saskatchewan	Alberta	British Columbia
Systematic Review Searches	✓	-	✓	✓	✓	-	✓	✓	✓	✓
Formal Knowledge Syntheses Service	✓	-	✓	-	In process	-	In process	-	✓	-
Join Grant Applications	-	-	✓	-	-	-	✓	✓	✓	✓
Co-Authorship on Papers	✓	-	✓	✓	-	-	✓	✓	✓	✓
Beyond Systematic Reviews - Scoping, HTA, etc. Searches	✓	-	✓	✓	-	-	✓	✓	✓	✓

McGill University (<http://libraryguides.mcgill.ca/sysrevservice>) offers a formalized systematic review service with different levels of support for faculty and students. For faculty-led systematic reviews the library offers to support the entire process, including production of all search strategies, advice on methodology, and writing parts of the final manuscript; for this level of support the librarian should be granted authorship. Student-led projects attract a more limited service (up to 5 hours support) which usually extends to working together on the initial search strategy, which they then translate, and advising on the methodology.

Several libraries, such as at University of Toronto and Université de Montréal, offer unofficial assistance with creation and review of search strategies for systematic or other reviews for Dentistry faculty members. Requests are supported with one-on-one consultations and do not have official service guidelines. There currently is an initiative at the Gerstein Science Information Centre at the University of Toronto to provide a formal service for peer-review of search strategies, and the Dentistry Library is involved in its development.

At Western University, being part of a systematic review team is considered an academic activity for librarians. Individuals may choose to participate on a

team in order to provide librarian expertise to the project. Otherwise, support is mainly consultative in nature.

The library at University of British Columbia does not offer a formal systematic review service, but does provide educational support and guidance on knowledge synthesis research. Librarians participate as team members and authors on systematic reviews if time and interest permit. The library also offers frequent workshops outlining the process and additional workshops on advanced searching.

## Discussion and Conclusion

What might the next few years have in store for academic dental librarianship in Canada? This article has so far provided an overview of the current landscape of Canadian academic dental librarianship; it therefore seems appropriate to now consider how the specialty might develop in the near to medium term future. It is of course impossible to be sure what the near future may bring for the specialty, nevertheless the overview provided above, along with the literature covering the broader profession [56], highlights various influences which are likely to be significant. These influences fall into three broad categories: 1)



extending our existing contributions, 2) developing new areas of expertise, and 3) formalising the work of dental librarians.

### **Extending Our Existing Contributions**

Embedded librarianship is here to stay. For health librarians, this manifests itself largely through our participation in dental education and by our membership on research teams undertaking knowledge synthesis projects such as systematic reviews and, increasingly, scoping reviews. Both of these areas of work offer opportunities for dental librarians to further embed ourselves, as well as to broaden our contribution and branch out into new areas.

We believe it is both desirable and likely that dental librarians will continue to offer progressively more complex and advanced content in our teaching. As both the Canadian and U.S. Commissions on Dental Accreditation prepare the next updates to their requirements [57], we expect to see an increased focus on integration of evidence-based dentistry into the dental curriculum, and believe this will be a major driver for more complex and advanced instruction from dental librarians. In our view, the aspects of EBD that are particularly suited to librarian involvement are critical appraisal of studies, and the fostering of a deeper understanding of research methodologies such as systematic reviews. An interesting example is McGill University's plan to teach the latter through the production of a publishable systematic review involving the entire student cohort. Considering that the literature contains evidence that practicing dentists do not seek information using the methods taught to them at University [27, 28], we believe there are also opportunities for dental librarians to embed themselves within the continuing dental education offerings at their respective institutions.

Dental librarian contributions to knowledge synthesis work vary significantly by institution across Canada, and we believe a degree of harmonization of offered services is likely to take place over the next few years. As Dalhousie, Alberta, and McGill Universities have discovered, when faculty and students become aware of how librarians can contribute decisively to knowledge syntheses projects, the demand for that assistance grows quickly and ultimately requires management with a formalized policy. In addition to our practical work on knowledge syntheses projects, we hope to also see more theoretical contributions to knowledge syntheses methodology from dental librarians, such as through

empirical research into the impact of librarian participation in these projects.

### **Developing New Areas of Knowledge and Expertise**

The Canadian vision for research data management is slowly coming to fruition, as different provincial collaborations mature (the most prominent being in British Columbia and Ontario), partnered by the national Federated Research Data Repository (FRDR), which will soon enter production [58]. While data librarians have so far necessarily dominated this work, there are now clear opportunities for partnerships and collaborations with liaison librarians, such as dental librarians. The immediate opportunities we see are in targeted outreach and promotion work to dental faculty, participation in data reference interviews at the beginning of research projects, and using our specialized knowledge to assist with data description during the curation process both as data is ingested and when planning for use and reuse of the data. Gaining familiarity with RDM platforms such as Dataverse and FRDR will also become more important. The Medical Library Association has sponsored a systematic review to research aspects of this rapidly developing role, demonstrating its importance to medical librarianship.

The other significant new area that emerges from the literature and from observation of our own practice is involvement in scholarly communication. The promotion of open access publishing among faculty has much in common with the promotion of open access to research data, in particular work linked to promotion and education. As our literature review and personal experience show, knowledge among our faculty and students of factors such as the Tri-Council Policy on Open Access and the avoidance of publishing in predatory journals is low and the role for librarians in combatting this lack of knowledge is obvious.

### **Formalization of Our Role**

The Association of College & Research Libraries Information Literacy Competency Standards for Nursing, published in 2013, aim to “guide librarians and nursing faculty in creating learning activities that will support the growth of information literacy skills over the course of a program of nursing education and for lifelong learning,” and to “provide a framework for faculty and students of nursing at the associate, baccalaureate, master’s, and doctoral levels in the development of information literacy skills for evidence-based nursing practice” [59]. OHIG members believe that there would be significant

benefits in the development of a similar set of guidelines for dental education in collaboration with our colleagues in the United States, as this would both provide a customized framework for the specialty while also formalising and crystallising our role in dental education and providing a roadmap for future contributions.

In this paper, the first scholarly contribution of the Oral Health Interest Group/Groupe d'intérêt en santé buccale of CHLA/ABSC since the group was founded last year, we have sought to describe the current landscape of Canadian dental librarianship, and to predict both how the specialty might naturally develop over the next few years, and how dental librarians might work to shape the specialty's future to benefit both dental librarians and the oral health professions. As dental librarianship is, of course, a subspecialty of health librarianship, we hope that this paper might serve as a useful source of ideas and inspiration to our colleagues across health librarianship, and look forward to seeing how the profession progresses over the next few years.

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### Statement of Competing Interests

No competing interests declared.

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## COLUMN / CHRONIQUE

# As Canadian Health Librarians We Must Now Move Ahead on the Truth and Reconciliation (TRC) Calls to Action

Dean Giustini<sup>1</sup>

For many years, the most-pressing information issues associated with the delivery of Aboriginal, Inuit and Metis health care in Canada have occupied CHLA/ABSC at our conferences and in our research. However, the publication of JCHLA/JABSC's Aboriginal health information issue in 2014 was an important turning point [1]. In the past three years, we have worked to understand Aboriginal health information by developing collection tools and frameworks [2], subject guides [3-5], and Aboriginal search filters [6]. Behind the scenes, health librarians have worked with clinicians to address the challenge of improving Aboriginal health across the country.

More recently, in 2017, a harsh spotlight was placed on local, provincial and federal governments and how each has responded (or not) to the needs of Aboriginal peoples; many got failing grades [7]. The Canadian government's redress of the painful residential schools legacy has gained national attention and so has the all-important 2015 *Truth and Reconciliation Commission's (TRC) Calls to Action* [8]. The progress made or not around the ninety-four (94) calls to action is a wake-up call for all Canadians; but health, hospital and medical librarians have a key role to play in ensuring the implementation of the calls within their own spheres of influence. Too little progress has been made in too few areas represented by the Calls to Action – and we, as Canadian health librarians and as an Association, can do more.

It was within this context that two SLAIS students from UBC, Lara Maestro and Daniel Chadwick, approached me in 2017 during a health libraries course I teach [9]. Their final project was to evaluate the responses of medical faculties to the TRC's 94 Calls to Action by examining how they are documenting their progress via their websites. Their paper, which has since been expanded, is entitled *Canadian Health*

*Libraries' Responses to the Truth and Reconciliation Commission's Calls to Action: A Literature Review and Content Analysis*. As the winner of the 2017 CHLA/ABSC Annual Student Paper Prize, I believe theirs is the first study in the literature to examine libraries' response to the Calls to Action. Let it serve as an important touchstone in our understanding, and a way to further deepen dialogue.

In their paper, Maestro and Chadwick point out that the TRC lists a mere seven (7) health-related calls to action but all 94 items should occupy our thinking. Further, *how can we, as CHLA ABSC members and health librarians, engage fully with Indigenous peoples and what can we do as health librarians to answer the calls to action in a meaningful way, and move reconciliation forward?* This is the real question arising from the reading of their paper.

One of the original shortcomings of the Maestro-Chadwick paper is that most organizations cannot fully respond to the TRC's Call to Action via their websites. Organizations are not always forthcoming about progress on such important matters via their public websites. Still, two years after the TRC calls to action were released much progress should have been made. If no progress has been made, key issues should be flagged by organizations for discussion in annual reviews and strategic planning, and a timeline for progress outlined.

My involvement in Aboriginal health-related issues goes back a decade to when I created wiki pages [10] and began to help users perform Aboriginal health database and grey literature searching. One of the problems in Aboriginal health is how widely-disseminated the literature is but search filters can help [11]. In 2016, my interest in international issues led me to attend my first IFLA Conference in Columbus Ohio where I met librarians from around the world

Dean Giustini. UBC Biomedical Branch Librarian, University of British Columbia, Vancouver BC

<sup>1</sup>Corresponding author (email: [dean.giustini@ubc.ca](mailto:dean.giustini@ubc.ca))

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concerned about *Indigenous Matters* in their own countries, and upholding the United Nations Declaration on the Rights of Indigenous Peoples [12]. Since then, Camille Callison, an Indigenous academic librarian at the University of Manitoba, has chaired an important committee on Indigenous matters for the Canadian Federation of Library Associations (CFLA-FCAB). In 2017, her committee outlined a positive path forward for respecting Indigenous cultures and increasing access to traditional Indigenous knowledge in Canada (including health). The resulting report [13] makes ten recommendations to enhance opportunities for Indigenous researchers through the process of decolonization of libraries and our information practices.

My colleague Martin Morris, health librarian at McGill University, and I have been invited to sit on a new iteration of Callison's committee. This invitation coincides with the CHLA/ABSC Board's unanimous approval at their fall board meeting to participate as full members of the CFLA-FCAB, which formalizes our Association's relationship to the larger federation of library associations and the *Indigenous Matters* committee. Our appreciation goes to Elena Springall, President, for moving this issue forward. Martin and I will be sure to report back to members about our work and invite anyone interested to engage us in conversation about what we can do to strategize around the issues mentioned in Maestro and Chadwick's paper and this editorial.

### Statement of Competing Interests

No competing interests declared.

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## BOOK REVIEW / CRITIQUE DE LIVRE

Blakiston, R. **Writing effectively in print and on the web: a practical guide for librarians**. Lanham: Rowman & Littlefield; 2017. Paperback: 978-1-4422-7885-1. Price USD\$65.00. Available from: <https://rowman.com/ISBN/9781442278851/Writing-Effectively-in-Print-and-on-the-Web-A-Practical-Guide-for-Librarians>

Are you looking for a practical guide to enhance your writing skills as a librarian? As a library graduate student, I felt my degree was very practical but we never had a textbook on all the forms of writing we do as librarians. In my work as a public services librarian, I edit policies, signage, oversee our website and ensure effective communication through our written points of service including email, instant message and SMS. My other responsibilities often call for creating information literacy presentations which can range from 10 minutes to more than 3 hours, developing LibGuides, writing emails to colleagues, developing staff training materials and more. When I volunteered to write this book review, I was in the midst of writing both a book chapter as an author and book proposal as an editor. At the time I was questioning just how up to par my writing skills were and figured that this would be a great opportunity to get my hands on a guide written by someone in the same field—something not easy to come by!

*Writing Effectively in Print and on the Web: A Practical Guide for Librarians* did not disappoint. Author, Rebecca Blakiston, is a user-experience librarian at the University of Arizona Libraries. She is the lead of a web team designated to improving user experience through better content, design and architecture. Previously she was responsible for management and strategic planning as website product manager. She is a knowledge expert in usability having created a certificate program for Library Juice and previously authoring *Usability Testing: A Practical Guide for Librarians* (2014). In 2016 she was recognized as a mover and shaker by *Library Journal*. Blakiston's expertise and experience are evident throughout the book.

The book is broken down into fourteen chapters. Each begins with a bulleted list of what will be covered in the chapter and ends with a brief summary of key points. Those skimming the text for reference purposes will find these features and overall chapter layouts very useful for getting at what you want to know. As a practicing librarian, I rarely read a guide from cover to cover; however, for the purposes of this review I did. The content flows very well from one chapter to the next and would make a great textbook for library students with weekly readings.

Early in the text, Blakiston discusses the importance of good writing and how it has the power to shape our personal and library brands. This leads nicely into Chapter 2: Knowing Your Readers, which looks at being mindful of who you're writing for including their goals, challenges and motivations. If you're new to the topic of writing for the library user, Blakiston provides a great practical exercise for creating reader personas. Having been through this process before I quite liked the inclusion of current versus prospective audiences libraries want to reach. The author includes somewhat secondary users such as potential donors and campus administrators as potential audiences. However, I think this could also include those you're having trouble reaching, such as students not using Facebook or off campus faculty.

Chapters 3: Defining Your Message and Purpose through Chapter 7: Using Lists and Titles, address practical written skills that would be applicable under any circumstance you may find yourself writing. The author provides clear examples on how to simplify phrases and words, take passive writing and give it an active voice and how to best use bullets. Blakiston argues that when it comes to organizing writing that authors should consider how their audience would prefer they organize content, a great way of further exploring the personas activity from Chapter 2.

In Chapters 8 to 11 Blakiston provides advice on writing for specific tasks. This includes writing information and instructions, forms, for the web and for email and other messaging systems. It is within these chapters that it is evident that this text is meant for those working within libraries. Not only librarians

but also library technicians, coordinators, assistants etc. with responsibilities related to user education, staff training, policy writing and website editing would benefit from reading what Blakiston has to offer. She addresses how to utilize and enhance skills already being applied within everyday library work to better write for our users and colleagues.

In Chapter 10: Writing for the Web, Blakiston builds on fundamental guides such as Janice Redish's (2012) *Letting Go of the Words: Writing Web Content That Works*. While Redish's text is well rounded and robust, as a librarian the content is not always applicable to how and why we write for the web. Blakiston has tailored the content to the library so those in the field looking for a focused reference guide will find it here. One form of writing applicable to librarians that Blakiston did not fully address however is writing presentation slides. While Chapter 8: Writing Information and Instructions does include some transferable information, a chapter devoted to

presentation writing would have made this text complete.

Overall, Blakiston takes her own advice and has written a great guide. Her tone is friendly and accessible while providing clear insights into what makes for effective writing. For the advanced writer, you'll likely find some of the content old hat. However, there is something here for every librarian. A decade into my career, I still found many great ideas not only applicable to my work but also projects staff are completing in my lead area. We are currently undertaking a signage audit and Blakiston's recommendations surrounding purposeful positive signage fits right into what we're hoping to achieve. I had offered to review this book to help me write a chapter and beef up my editorial skills but found so much more. *Writing Effectively in Print and on the Web: A Practical Guide for Librarians* is a staple for any librarian's personal collection.

### Statement of Competing Interests

No competing interests declared.

#### **Alanna Campbell**

*Public Services Librarian*

*Northern Ontario School of Medicine*

*Sudbury ON*

*Email: [alanna.campbell@nosm.ca](mailto:alanna.campbell@nosm.ca)*

### References

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## CRITIQUE DE LIVRE / BOOK REVIEW

Galaup, Xavier. **Informatiser la gestion de sa bibliothèque**. Paris: Association des bibliothécaires de France; 2016. Version PDF: 170 p. ISBN: 978-2900177433. Disponible à: <http://abf.asso.fr/boutique/mediathemes/37-informatiser-la-gestion-de-sa-bibliotheque-version-pdf.html>

Pour être bibliothécaire aujourd'hui, il est devenu incontournable de connaître les bases de l'informatique et parfois encore plus. De la gestion des collections, en passant par le catalogue en ligne, la veille informationnelle ou devant la multiplication des bases de données, la maîtrise des outils informatiques est désormais essentiel à la gestion des bibliothèques. L'ouvrage *Informatiser la gestion de sa bibliothèque* s'adresse justement à ceux et à celles qui travaillent à gérer et développer ces outils, principalement le Système intégré de gestion de bibliothèque (SIGB).

L'ouvrage est sous la direction de Xavier Galaup, directeur de la médiathèque départementale du Haut-Rhin. Une vingtaine d'auteurs, œuvrant dans différentes bibliothèques françaises y ont contribué. L'information est organisée en six sections: le projet, s'informatiser, se ré-informatiser, le catalogue, les logiciels et personnels, compétences et financement. Dans chacune des sections, les différents auteurs traitent individuellement d'un sujet précis.

Dans la première section, deux chapitres traitent de la gestion du projet d'informatisation, plus spécifiquement de la rédaction du cahier des charges qui permet de fixer les bases du projet et ses besoins, puis en second lieu de l'architecture du catalogue et des différents formats de métadonnées disponibles.

La seconde section présente un projet d'informatisation intégral, c'est-à-dire l'expérience de bibliothèques sans SIGB qui ont décidé de faire le grand saut. C'est un des chapitres les plus complets de l'ouvrage. Tous les aspects y sont présentés et plusieurs encadrés présentent des exemples concrets d'application.

La troisième section se concentre sur divers volets d'un projet d'informatisation. En bref, elle s'adresse surtout aux lecteurs qui sont déjà en processus de

réalisation d'un projet similaire dans leur bibliothèque. Des études de cas et les opérations plus spécifiques y sont étudiées: état de situation, analyse des besoins, mise en œuvre, partage des responsabilités, migration et uniformisation des données, etc.

Ensuite, quatre articles s'attardent aux éléments à considérer dans le choix et le développement du catalogue: l'organisation de la base de données bibliographiques, les notices, l'OPAC (interface en ligne) et la production des statistiques. C'est, à mon avis, le chapitre le moins bien équilibré. L'information qui s'y trouve est beaucoup trop générale.

Il y a bien sûr un chapitre sur les logiciels, c'est-à-dire sur ce qui est disponible sur le marché, les avantages et les désavantages de chacun. Par exemple, faut-il choisir un logiciel propriétaire ou libre? Quoiqu'un peu court, ce chapitre trace les grandes lignes nécessaires à ce choix.

Le livre fait le tour du sujet en terminant avec un article très intéressant sur la gestion du personnel durant la mise en œuvre du projet d'informatisation de la bibliothèque. Il est rare de voir souligner d'aussi bonne manière l'importance d'impliquer et de former l'équipe aux nouvelles compétences requises. Le tableau élaboré par l'auteur pour présenter son propos vaut le détour.

Le dernier chapitre traite du financement du projet. Mais si vous n'êtes pas gestionnaire d'une bibliothèque française, il ne s'appliquera pas à votre projet. À part quelques adaptations minimales au vocabulaire français dans le reste de l'ouvrage, c'est à peu près le seul chapitre qui laisse le lecteur « hors France » sur son appétit.

L'avantage de ce livre est qu'il est possible de lire uniquement certains chapitres et d'avoir une vue complète sur cet aspect de l'informatisation de la bibliothèque. Chaque section est plutôt complète par rapport au sujet dont elle traite. Toutefois, c'est aussi un désavantage. Plusieurs éléments semblables se répètent d'un chapitre à l'autre, et il manque de liens entre les chapitres et les articles qui les composent. Certains passages auraient gagné à être développés par certains auteurs et abandonnés par d'autres, ce qui aurait permis plus de profondeur.

Pour un professionnel qui envisage un projet d'informatisation de sa bibliothèque, l'ouvrage est tout indiqué, mais pour celui qui est en cours de réalisation

de son projet ou qui a déjà acquis une certaine connaissance du processus, l'information spécifique y est trop rare.

### **Statement of Competing Interests**

No competing interests declared.

### **Nancy Gadoury**

*Bibliothécaire et archiviste*

*Centre intégré de santé et de services sociaux de Lanaudière*

*Joliette QC*

*Email: [nancy.gadoury@ssss.gouv.qc.ca](mailto:nancy.gadoury@ssss.gouv.qc.ca)*

## PRODUCT REVIEW / ÉVALUATION DE PRODUIT

**Product:** Yale MeSH Analyzer

**Purpose:** Using PMID numbers, the Analyzer creates table of key MEDLINE metadata for visual comparison and analysis.

**URL:** <http://mesh.med.yale.edu/>

**Intended audience:** MEDLINE searchers of any experience level.

**Cost:** Free

**Bottom line:** The Yale MeSH Analyzer helps users to visually compare MEDLINE indexing information to enhance their search strategies.

### Purpose

Appraising results of a literature search can be challenging; unexpected results can leave a searcher sifting through a strategy line by line to determine which term caused hundreds of irrelevant citations to appear in their results. Similarly, elusive relevant articles will hover just outside set criteria. Without carefully analyzing indexing and abstract terms, searchers can't be confident in understanding and manipulating their strategies to best balance sensitivity and specificity.

The Yale MeSH Analyzer extracts indexing information from MEDLINE articles to allow users to visually scan and compare key metadata. This allows users to identify and add subject headings and keywords that retrieve relevant results, and which terms are not relevant to their search topic. It can also help users to identify reasons specific articles do or do not appear in a result set.

### Product Description

Created in the Cushing/Whitney Medical Library at Yale University, the Yale MeSH Analyzer uses PubMed Identifiers (PMIDs) to create an alphabetical grid of medical subject headings (MeSH) and

subheadings, with optional addition of titles, abstracts and author-identified keywords [1]. Users can paste up to 20 PMIDs and select preferred fields to display.

### Intended Audience

Both seasoned and new searchers can use this tool. It can serve experienced searchers by providing a quick way to analyze a set of results and enhance a strategy. For novice searchers, it provides a way to visually compare search results, and demonstrates the role pearl growing can play in the search process.

In particular, the tool can be helpful in supporting systematic searches. From the perspective of a librarian conducting searches for scoping reviews and systematic reviews, the Yale MeSH Analyzer has helped to draw links between articles selected by research teams to determine how a search could be best adjusted to reflect their defined topic. Having clear summaries available to explain why errant results were retrieved, and why seemingly on-topic articles were not has been incredibly helpful for communicating with research teams and helping them to better define their research questions.

### Special Features

In addition to a web interface, the Yale MeSH Analyzer has a browser plugin called "Analyze MeSH!" that can be used to select citations directly from PubMed search results to analyze.

### Compatibility Issues

This web tool has identical functionality in both Internet Explorer and Google Chrome. No additional web browsers were tested.

### Usability

The Yale MeSH Analyzer is a simple tool to use. The main search page is clear, and the help file

contains a clear video demonstrating how to use the analyzer. Because the search field will identify PMIDs within other text, it is forgiving with regards to the text users type or paste into it.

### Strengths

- (1) Creates comparison tables in minutes when manual creation could take hours
- (2) Flexible in appearance of certain elements depending on goals; can include/exclude subheadings, titles, journal, abstracts, author keywords and major topics
- (3) Output to HTML table or Excel for further manipulation
- (4) Browser plugin allows immediate analysis from PubMed results
- (5) Flexible input; will scan free text for anything that looks like a PMID and recognizes special characters
- (6) Useful if search topic is best suited to MEDLINE or PubMed
- (7) Remembers preferred output settings

### Weaknesses

- (1) Depending on how initial articles were identified, you may be limiting yourself; if your initial search was 1 or 2 subject headings, the scope of your sample articles may not cover indexing terms outside of what is already known
- (2) Only uses content with PMIDs, so not all articles will be discoverable
- (3) Analyzes up to 20 PMIDs at once; larger sets would have to be manually assembled in Excel
- (4) Help video is over 7 minutes long—may deter users from watching
- (5) Not useful if search topic is best suited to content outside of MEDLINE or PubMed

### Comparison with Similar Products

PubMed PubReminer is comparable to the Yale MeSH Analyzer. PubReminer can analyze indexing information using PMIDs [2]. PubReminer's output is different from the Yale MeSH Analyzer; it populates a ranking of the most common MeSH headings, subheadings and keywords. PubReminer is helpful for creating a count, looking at more than 20 references at

once, identifying key journals for a specific topic and demonstrating how adjusting a strategy impacts the outcomes of a search.

The MeSH Analyzer is valuable for providing a more visual comparison, is more capable of extracting PMIDs from text, and has more useful output options. Both tools could be used to enhance a MEDLINE search strategy.

### Currency

Developed in 2015; no age-related issues detected.

### Cost/ Value

Free.

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### Statement of Competing Interests

No competing interests declared.

### Robyn Hocking

*Reference Librarian*

*Health Library, Health Canada*

*Email: [robyn.hocking@canada.ca](mailto:robyn.hocking@canada.ca)*

## PRODUCT REVIEW / ÉVALUATION DE PRODUIT

### Yale MeSH Analyzer: A Personal Reflection

I am a creature of habit. There is no other explanation as to why I have not tried the Yale MeSH Analyzer sooner. At the MLA and CHLA joint conference in May 2016 I attended a session about the analyzer. While I was intrigued, when I went back to my library I didn't use it, and instead continued to operate as I always had. When the opportunity to review the analyzer presented itself I felt like I had been given a second chance. I knew that writing this review would finally give me the motivation to try the analyzer. And I am glad I did, because I am impressed with it.

The analyzer was created by two Yale University librarians, Lei Wang and Holly Grossetta Nardini. It automates a time consuming manual process of creating grids of medical subject headings (MeSH) from articles relevant to a search.

I decided to try the Analyzer on a search I was struggling with. The topic, how hospitals can protect healthcare workers from the psychological stresses of their job, was very broad and I was trying to determine the appropriate search concepts. Specifically, I wondered if the MeSH term "job satisfaction" was too general to include. I took the PubMed Identifiers (PMIDs) from three relevant articles, and inputted them into the text box of the analyzer. Instantly a chart with all of their MeSH terms appeared. The terms were listed alphabetically, with each letter in a new row. This configuration allowed me to quickly determine that each of the articles was indexed with job satisfaction, and indeed it was the only common MeSH term they shared. It was settled; "job satisfaction" should be included in the search.

Over the course of the next few weeks I continued to experiment with the MeSH Analyzer. Even though it is extremely intuitive and easy to use I explored the Help section, which has both video and text support. I found the text provided me with everything I needed; however, the video might be useful if you are completely new to the analyzer and want more extensive information on how it can be used. It was in the help section that I discovered how to drag the

"Analyze MeSH" button to my browser's favourites' toolbar. Now when I am in the PubMed results page I can check the articles I want, click on the "Analyze MeSH" button, and the selected articles are transported into the Analyzers MeSH grid. It is amazing that such effortless action can produce something so useful.

For me the strength of the analyzer is having the visual comparison of MeSH terms on one page. This ability to quickly scan and compare terms disappears if you try to add too many articles, extending the page past the normal screen view and necessitating scrolling. Some people may be comfortable scrolling several pages, however personally I found that I did not want to compare more than 8 articles, and enjoyed using the Analyzer most when there were no more than 4 articles.

Since writing this review I have incorporated the MeSH Analyzer into my daily work. Sometimes I use it at the beginning of a search to assist in initially identifying search terms, and sometimes I use it near the end to confirm that I have exhausted all possible MeSH terms. Occasionally I have also used the Analyzer for training purposes, showing patrons how a term they did not think should be in their strategy is used to index several of their relevant articles. Thank you Yale University, and Lei and Holly, for producing such a useful, and free, tool.

### Statement of Competing Interests

No competing interests declared.

### Daphne Horn

*Information Specialist*

*Mount Sinai Hospital*

*Toronto ON*

*Email: [daphne.horn@sinaihealthsystem.ca](mailto:daphne.horn@sinaihealthsystem.ca)*

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