

Editor's key points

► To gain competencies in the CanMEDS–Family Medicine scholar role, it is important for family medicine residents to have opportunities during training to recognize knowledge gaps, generate focused questions, use preappraised resources, critically evaluate the literature, and integrate the evidence into practice decisions.

► The program presented here integrates a clinical librarian into team-based teaching and provides opportunities for residents to answer their own clinical questions. The program is unique because of its emphasis on the practical learn-by-doing approach. Rather than the clinical librarian conducting the searches and providing results, the librarian models the approach and facilitates discussion.

► The quality improvement survey results suggest the program helps residents use different and more evidence-based point-of-care resources and search more efficiently.

How to answer clinical questions at the point of care

Clinical librarian intervention for family medicine residents

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Abstract

Problem addressed Family medicine residency programs need to incorporate ongoing training in the CanMEDS–Family Medicine scholar role.

Objective of program To teach and reinforce evidence-based, point-of-care search skills in family medicine residents through involvement of a clinical librarian at morning report.

Program description A clinical librarian session is run weekly during morning report while residents rotate through a family medicine–run inpatient unit. An evidence-based model emphasizing preappraised sources for point-of-care searching of clinical questions is introduced, and residents have an opportunity to answer their own clinical questions. Feedback suggests most residents find the sessions affect their practices positively and increase their use of evidence-based, preappraised point-of-care resources.

Conclusion Incorporating a clinical librarian in evidence-based medicine sessions enhances family medicine residents' competencies in the CanMEDS–Family Medicine scholar role.

Comment répondre aux questions cliniques au point de service

Intervention d'une bibliothécaire clinicienne à l'intention des résidents en médecine familiale

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Résumé

Problème à l'étude Les programmes de résidence en médecine familiale doivent incorporer une formation continue dans le rôle d'érudit dans CanMEDS – Médecine familiale.

Objectif du programme Enseigner et perfectionner les compétences en matière de recherche fondée sur les données probantes au point de service chez les résidents en médecine familiale grâce à la participation d'une bibliothécaire clinicienne lors du rapport du matin.

Description du programme Une séance avec une bibliothécaire clinicienne est tenue chaque semaine durant le rapport du matin lorsque des résidents font un stage dans une unité hospitalière dirigée par des médecins de famille. Un modèle fondé sur des données probantes qui met l'accent sur des sources évaluées au préalable pour la recherche au point de service concernant des questions cliniques est présenté aux résidents, qui ont ensuite la possibilité de répondre à leurs propres questions cliniques. La rétroaction laisse entendre que la plupart des résidents trouvent que les séances ont des répercussions positives sur leurs pratiques et augmentent leur recours à des ressources fondées sur des données probantes et évaluées au préalable, au point de service.

Conclusion L'inclusion d'une bibliothécaire clinicienne dans les séances sur la médecine fondée sur des données probantes améliore les compétences des résidents en médecine familiale dans le rôle d'érudit dans CanMEDS – Médecine familiale.

Points de repère du rédacteur

► Pour acquérir des compétences d'érudit dans CanMEDS – Médecine familiale, il importe que les résidents en médecine familiale aient des occasions durant leur formation de reconnaître les lacunes dans leurs connaissances, de générer des questions ciblées, d'utiliser des ressources évaluées au préalable, d'évaluer d'un œil critique les ouvrages scientifiques et d'intégrer des données probantes dans les décisions relatives à la pratique.

► Le programme présenté ici fait appel à une bibliothécaire clinicienne dans le cadre de l'enseignement en équipe et offre des possibilités aux résidents de répondre à leurs propres questions cliniques. Ce programme est unique en ce qu'il met l'accent sur une approche pratique de l'apprentissage par l'action. Au lieu de laisser la bibliothécaire effectuer les recherches et donner les résultats, cette dernière modélise la démarche et facilite la discussion.

► Les résultats du sondage sur l'amélioration de la qualité donnent à penser que le programme aide les résidents à utiliser des ressources au point de service différentes et davantage fondées sur des données probantes, et à faire la recherche de manière plus efficace.

The role of the scholar in the CanMEDS–Family Medicine (CanMEDS-FM) competency framework¹ (based on that role within the CanMEDS 2015 framework²) includes integrating the best available evidence into practice through recognizing knowledge gaps, generating focused questions, using preappraised resources, critically evaluating the literature, and integrating the evidence into practice decisions. Unfortunately, incorporating these skills at the point of care is challenging. Research shows that residents pursue only about 28% of their clinical questions and often use information resources that are not evidence based.³ The need therefore arises to improve residents' skills and practices in literature searching and evidence-based medicine, particularly at the point of care. A secondary problem is finding the best way to do this. These skills need to be taught and reinforced through clinical practice, rather than through stand-alone workshops.⁴ To this end, clinically integrated teaching of evidence-based medicine is more likely to change individual practice.⁵

One way to achieve this teaching is through the use of clinical librarians on the team. Aitken et al found that searching for information in real time or “near real time” is of critical importance.⁶ Results of their prospective controlled study demonstrated that the clinical librarian intervention led to “positive effects on provider attitudes, self-reported provider information-retrieval tendencies, and, notably, clinical decision making.”⁶ Grose and Hannigan found that including a librarian at morning report in a family medicine inpatient program prompted residents to ask more questions and had high educational value.⁷ Greco et al also found the involvement of a clinical librarian at rounds to be a valuable learning experience for attendees, leading to higher-quality evidence-based presentations from residents and having a perceived benefit to clinical care.⁸

Objective of program

To meet the challenges of incorporating the above-mentioned skills at the point of care, we designed an innovative educational program at Toronto Western Hospital in Ontario. We involved a clinical librarian at morning report during residency rotations to teach and reinforce evidence-based search skills in family medicine residents, and we present preliminary quality improvement data in this article.

Program description

The Family Inpatient Service is a general medical inpatient unit at Toronto Western Hospital, a teaching hospital, that provides clinical services to patients of the Toronto Western Hospital Family Health Team and other general medicine inpatients. The team is staffed by family medicine attending physicians, elective medical students, family medicine residents in postgraduate year (PGY) 1 and PGY-2, and enhanced skills residents in

PGY-3. Since June 2005 a clinical librarian has been participating in morning report on a weekly basis to provide guidance on searching the literature to find answers to clinical questions arising during the course of patient care. On “Library Tuesdays,” a clinical librarian has modeled the use of information resource pyramids developed by Haynes et al⁹⁻¹¹ as frameworks for searching for answers at the point of care. For ease of use, a modified version of the 5S pyramid¹¹ with hyperlinks to available resources in each category is provided for residents on the hospital library website (https://guides.hsic.library.utoronto.ca/ld.php?content_id=34334580).

Approximately 30 residents go through this program annually. In 2019 there were 32 residents: 12 in PGY-1 (4 male, 8 female), 15 in PGY-2 (8 male, 7 female), and 5 in PGY-3 (2 male, 3 female).

These residents are taught to search for answers to their questions starting near the top of the modified pyramid, with evidence-based summary resources such as BMJ Best Practice and UpToDate, before searching for synthesized evidence in the form of guidelines and systematic reviews. To best use the limited time available at the point of care, residents are taught which level of resources can be searched quickly and when to set aside time outside of the clinical encounter to search resources that will require more time and finesse, such as PubMed or similar databases.

To further develop residents' evidence-based practice skills and CanMEDS-FM scholar role competencies, the format was changed in 2017 such that residents were required to search for the evidence themselves rather than leave it to the librarian. On the first week of each rotation, the clinical librarian would teach and model searching using the EBHC (evidence-based health care) pyramid 5.0 as a framework.⁹ In subsequent weeks, residents would be required to give an informal presentation on using the same method to answer their own clinical questions related to the patients they had seen that week. This exercise would lead to discussion on the best search methods for the question, the best resources for answering the question, and whether an answer could be found at the point of care or required additional searching. A key aspect of the discussion, besides reviewing the search methods used, was about the decision the residents made regarding the treatment plan for the patient and whether the literature affected that decision. The librarian would also lead discussions on critical appraisal of the literature as needed.

With an eye to continuous quality improvement, we conducted a preliminary survey. In May 2019 we sent out a brief 4-question survey to every resident at the end of the rotation to obtain feedback on the impact of Library Tuesdays on their practices and to solicit suggestions for changes (Box 1). Data were collected for a 6-month period.

Box 1. Survey questions

The following survey was sent to every resident at the end of the rotation to obtain feedback on the impact of “Library Tuesdays” on their practices and to solicit suggestions for changes.

- What tools or resources did you use to answer clinical questions before participating in Library Tuesdays in the FIS?
- What tools or resources do you use to answer clinical questions now?
- Has the Library Tuesdays program impacted your practice?
- Please provide any additional feedback on how we can improve Library Tuesdays.

FIS—Family Inpatient Service at Toronto Western Hospital.

Results

To date, 16 responses have been received, a response rate of 100%. Overall, 94% indicated that Library Tuesdays had impacted their practices. Before the clinical librarian intervention, residents mostly used 1 or 2 resources to answer clinical questions, primarily the online resource UpToDate. Other resources that residents used included Google and eMedicine, the latter a free online textbook that accepts third-party advertising. Residents reported that after experiencing Library Tuesdays, they used a greater number of resources and included resources other than UpToDate, such as BMJ Best Practice and clinical practice guidelines. One resident remarked that while they did not change the resources they consulted, they were now more aware of other tools.

We conducted an inductive thematic analysis of the free-form comments received.¹² Four themes emerged: awareness of other resources, more efficient searching at the point of care, more confidence in searching, and more critical evaluation of the literature. Increased exposure to additional tools to search at the point of care was the most prevalent theme, being remarked on by 10 of the 16 respondents. As 1 person responded: “Learned about lots of resources that exist that I didn’t know about.” Four respondents believed that greater efficiency in searching was a benefit of the experience: “I have a better approach to answering clinical questions.” More confidence and more critical evaluation were also mentioned by a couple of respondents. One respondent stated, “It was helpful to have to demonstrate a recent search; [it] kept me engaged.”

Discussion

While programs exist with clinical librarians providing search support and instruction at morning report or rounds,⁶⁻⁸ this program is unique because of its emphasis on the practical learn-by-doing approach. Rather than the clinical librarian conducting the searches and providing results, the librarian models the approach and facilitates

discussion. It is the residents themselves who must conduct the searches for their own clinical questions and demonstrate and present their searches to the group. This approach provides an opportunity for active learning on the part of residents. Residents also learn how to better articulate their clinical questions. Because they are searching for answers to questions of relevance to immediate patient care, the learning is also more pertinent.

This program emphasizes the use of synthesized point-of-care resources through modeling the 5S pyramid approach.¹¹ Rather than focusing on searching for individual studies that require a lot of work from the individual to process, appraise, and synthesize, this approach is clinically based and quick. Residents who are already using resources such as UpToDate might not be familiar with other sources of synthesized evidence or with the importance of appraising the information they find. By being exposed to other resource options available to them, residents are able to look at the various resources with a critical eye. The discussion around the evidence—or, in some cases, the lack of evidence—allows residents to learn to integrate the available information with their clinical judgment.

Limitations

We plan to conduct a more formal program evaluation. One of the limitations is our reliance on self-reporting from the residents rather than on an objective measure of searching skills. This limitation is something we plan to tackle in our program evaluation. Another limitation is that data are limited to a small number of residents owing to the number of residents who rotate through our program. A future direction will be the use of focus groups or interviews. Although our program runs during a family medicine inpatient rotation, we believe it could be incorporated into other training opportunities in academic centres with inpatient services beyond family medicine. During the COVID-19 pandemic, we successfully transitioned our program to online video-conferencing, opening the possibility for sites not near an academic centre to participate virtually.

Based on the feedback we have received, we plan to improve the program by including more opportunities for guideline appraisal.

Conclusion

This educational approach supports competency development in the CanMEDS-FM scholar role in family medicine residents by incorporating a clinical librarian in morning report and providing residents with an active learning environment. The quality improvement survey results suggest the program helps residents use different and more evidence-based point-of-care resources and search more efficiently. Our program can be easily incorporated into other academic family medicine training sites for continued support of family medicine residents’

scholar competencies, as well as in diverse residency training contexts. 

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Contributors

Both authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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