

From Triage to the Big Picture: Developing a Comprehensive Information Literacy Program for a Medical Faculty

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Introduction and Context:

The Faculty of Medicine and Dentistry at the University of Alberta is large and diverse. Liaison librarians at the health sciences library are evaluating the information literacy (IL) instruction being delivered to the Faculty, in order to identify current strengths and gaps in instruction, realign teaching priorities, and develop effective asynchronous delivery mechanisms. The end-goal of this evaluation will be the development of a comprehensive IL program that meets the needs of all constituents within the Faculty. This program will be implemented and evaluated in stages over the next three years.

Development of information skills is recognized as an important learning objective in medical education (1). The majority of research has studied integration of IL instruction into undergraduate medical education curricula, residency programs and clinician education (2). Fewer studies have examined instruction for graduate students and faculty, but what does exist indicates that this population is more challenging to reach (3-4).

Very little research has been conducted which examines evaluating and redesigning a comprehensive information literacy program for an entire medical faculty, although two articles describe models and best practices for delivering broad programs (5-6).

Research Questions:

- 1. Who are we currently teaching?
- 2. Are we reaching everyone who could benefit from instruction?
- 3. Are our current programs effective?
- 4. How can we make sure that everyone who needs instruction receives it in a timely and appropriate way?

Methods:

Methods included surveying constituents of the Faculty, consulting with key stakeholders and collaborators, and analyzing relevant program documents.

Paper surveys were completed by 3rd year clinical students prior to an instruction session. Online surveys (Survey Monkey) were distributed to residents, graduate students and faculty over listservs. Instead of surveying pre-clinical students, we analyzed course evaluations and consulted medical education faculty.

Results:

Results are presented in the centre diagram. For multiple response questions (e.g. preferred resources, training modality), only the top answers out of all responses are reported. Many participants commented that preferred resources were chosen based on familiarity and ease of use

Graduate Students

Current IL activities:

Infrequent information sessions. One-on-one consultations.

What we know about this group: (n=37)

75% are not practicing clinicians.

Only 31% recall attending a library training session in the past two years.

Many reported that lack of journal access was a significant barrier.

Essential research resources: (n=29)

- 1. PubMed (96%)
- 2. Medline (56%)
- 3. Google or other search engines (54%)

Interested in instruction on: (n=24)

- 1. Advanced database search skills (58%)
- 2. Introduction to Refworks (58%)
- 3. Keeping up to date with the literature (46%)
- 4. How to do a systematic review search (46%)
- 5. Reference tracking (46%)

Preferred training modality: (n=28)

Current IL activities:

Dentistry.

- 1. Interactive web-based tutorial (68%)
- 2. Small group computer lab session (46%)

Undergraduates: Non-clinical

Librarians train teaching assistants to provide

Professors recommend using PubMed and

Many of basic sciences students end up in

undergraduate medicine or as graduate

students in the Faculty of Medicine and

information literacy instruction for 1st year and

U of A Science and Technology Library

coordinates IL training for this group.

2nd year Science undergraduates.

SciFinder as information resources.

What we know about this group:

Faculty

Current IL activities:

One-on-one consultations.

What we know about this group: (n=65)

55% are currently practicing in a clinical setting.

- Essential research resources: (n=54)
- 2. Medline (59%)

1. PubMed (85%)

Interested in instruction on: (n=55)

- 1. Advanced database search skills (73%)
- 2. How to do a systematic review search (56%)
- 3. Keeping up to date with the literature (38%)
- 4. Reference tracking (36%)

Preferred training modality: (n=56)

- 1. Small group computer lab session (57%)
- 2. Interactive web-based tutorial (46%)

Want students to learn: (n=55)

- 1. Basic database search skills (82%)
- 2. Advanced database search skills (64%)
- 3. How to do a systematic review search (60%)
- 4. Introduction to Refworks (50%)

Faculty of Medicine & Dentistry

- 7 divisions, 20 departments, 25 research
- centres and institutes, 12 research groups
- 826 full-time faculty and 1341 clinical faculty
- 159 postdoctoral fellows
- 1226 undergraduate students
 491 graduate students in 19 graduate programs
- 822 residents in 54 residency programs (7)

Residents

Current IL activities:

- Brief session during new resident orientation.
- Librarians provide additional sessions on request.
- One-on-one consultations.

What we know about this group: (n=57)

Essential clinical resources: (n=51)

- 1. UpToDate (72%)
- 2. Google or other search engine (67%)
- 3. PubMed (61%)
- 4. Medline (47%)
- 5. Textbooks (47%)

Their clinical preceptors recommend UpToDate or PubMed.

51% of respondents recall attending a library training session in the past two years.

Interested in instruction on: (n=45)

- 1. How to do a systematic review search (66%)
- Advanced database searching skills (62%)
 How to keep up with the literature (58%)
- 4. Point-of-care tools (56%)

Preferred training modality: (n=47)

- 1. Academic half-day session (57%)
- 2. Interactive web-based tutorials (51%)

Undergraduates: Clinical

Current IL activities:

Students in the 3rd year Pediatrics block attend a session designed to help them find research articles for their critically-appraised topics (CAT) assignment.

What we know about this group: (n=34)

Most commonly used resources:

- 1. UpToDate (88%)
- 2. Wikipedia (88%)
- 3. Statref (79%)
- 4. Mdconsult (79%)5. Google or other search engine (76%)
- 6. Textbooks (76%)

Their clinical preceptors recommend using UpToDate 5 times as often as any other source.

Have difficulty finding relevant information using databases

Generally happy with library instruction, but some found it repetitive.

There are notable similarities in responses across all groups that suggest future directions for instruction:

Discussion:

- Many resources in the library collection are underused. Although medical students do use a variety of synthesized resources, most other groups rely on UpToDate (to which the library does not subscribe) or PubMed/Medline, because of familiarity and ease of use. Other databases are used occasionally by faculty and graduate students, but many resources remain unused or unknown (especially among residents). Efforts should be made to promote the benefits of these less familiar resources.
- All groups remain interested in database searching skills and strategies for navigating the primary literature. Despite a proliferation of new tools, finding relevant and timely information remains a challenge.
- Many individuals still prefer in-person instruction sessions. In recent years, instruction sessions have been provided primarily at the request of instructors, but it may be worthwhile to provide independent workshops based on topics of interest.
- Interactive Web-based tutorials are preferred over other asynchronous delivery methods such as videos or print tutorials. These tutorials need to be developed for the substantial number of users who prefer to learn on their own or require assistance at point of need.
- Undergraduate medicine training should be revised be less repetitive, by focusing more on laddered instruction of database searching and critical evaluation of Web sources like Wikipedia. Future instruction will also be integrated into the students' virtual learning environment.

Conclusion:

The J.W. Scott Library is serving many constituents within the Faculty adequately, but much work remains to be done improving existing delivery and promoting our services to other groups. This data suggests some potential options for focusing librarian efforts in order to develop a unified training program that is centered on Faculty needs.

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Undergraduates: Pre-Clinical

Current IL activities:

- Highly integrated into the curriculum through problem-based learning and an EBM course.
- Students receive instruction from librarians twice in 1st year and once at the end of 2nd year. On each occasion, they complete an EBM assignment.

What we know about this group:

- Course feedback indicates that library instruction is useful but sometimes repetitive.
- Instructors indicate that students have little problem finding background information from synthesized sources, but struggle with foreground information and database searching.