Tell us what works for you; medical students respond to an information use survey

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Background: Objectives and Participants

The University of Queensland (UQ) Library Strategic Plan has a priority to “enhance the student experience”

To achieve its overall mission to enrich world-class scholarship at UQ

Knowledge of how students work with information and how they use Library resources and services guides our efforts

Research undertaken with UQ medical students in 2008
Background: Objectives and Participants

Medical students were chosen as the subject of this study, to investigate the impact of significant changes within the School of Medicine on their use of information and the Library.

- Shift from a traditional 6 year school leaver to 4 year graduate entry Bachelor of Medicine/Surgery (MBBS) program
- Emphasis on problem based learning, evidence based medicine and online delivery
- Increased student numbers – largest medical school in Australia
- Creation of ten geographically dispersed clinical schools. Sites throughout Queensland. Including a Rural Clinical School and two overseas-based schools in Brunei and New Orleans, USA
Background: Objectives and Participants

At the same time, the availability and delivery of information has been revolutionised by information and communication technology developments.

Studying information use patterns and preferences of medical students is not new. The literature describes reports on the amount of time and the types of resources students use in their studies, and their use of library services.

An opportunity to improve our understanding of their use of information to improve our services and to enhance the students’ experience.
Methods

Ethical clearance through the UQ Behavioural and Social Science Ethical Review Committee

Mixed methods approach – online survey and focus groups; quantitative and qualitative data

Survey design – twenty seven questions based on previous research and areas of interest; pilot; main survey undertaken in July 2008

Areas of interest - student demographics; information technology; use of required and recommended textbooks; use of libraries; bibliographic reference software; the document delivery service; use of electronic and print resources; library training; literature searching skills and preferred methods of communication.

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Methods

Participants – all UQ MBBS Program students invited to participate; ethical guidelines followed; consent obtained; prizes offered

Data analysis – used SPSS for Windows to analyse survey responses; areas for further investigation identified and questions developed for exploration in focus groups

Focus groups – two held in October 2008; medical students’ association (UQMS) assisted with the recruitment to ensure representation across all years; MBBS year academic coordinators attended one group; facilitated by librarians; notes taken, analysed and compared to survey findings
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Results

Participation by Year

- Year One: 46
- Year Two: 21
- Year Three: 16
- Year Four: 19
Results - ICT and Communication

Information technology access and communication

- High ownership of computers, mainly laptops or tablet PCs
- Limited access to personal mobile devices (e.g., Personal Digital Assistants/smart phones)
- More than 86% had broadband Internet at home

Communication with the Library

- Email preferred method for students to receive information about Library resources and services and by which to provide feedback to the Library
- SMS received only 4% of the total responses
Results - Resource Preferences

Electronic verses print resources

- Print over electronic textbooks were preferred by 59% of the respondents across all years

Print – select list – how useful are these resources for your study?

- General medical textbooks
- Pocket versions of the same
- Books that form part of a series (e.g. At a glance, Crash course)
- Exam preparation books (e.g. Self-assessment in clinical medicine)
Results

Print

• Exam preparation books are the least used, across all years
• General medical text books – most used by 1st, 2nd and 4th years
• Series books – preferred by 3rd year respondents

• Preferred books that form part of a series, across all years:
  1. At a glance
  2. Crash course
  3. Lecture notes
Results

Electronic – select list – how useful are these resources for your study?

• Bibliographic databases
• Drug information sources
• Evidence based medicine resources
• Integrated full text databases
• Internet search engines
• Point of care resources
• Journal articles
Results

Electronic

Evidence based medicine – Cochrane Library, then PubMed’s Clinical Queries search are the databases of choice

Point of care – most used by 3rd and 4th year students; as expected given their clinical focus; UpToDate preferred by both groups; First Consult second source of choice for 3rd years; while Murtagh’s general practice series for 4th year students

Journal articles – majority agreed that they were useful for their studies (yet low use of document delivery service)
## Results

When you need an overview of a medical condition, what is the first information source you tend to use (excluding human resources)?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Medicine</td>
<td>21%</td>
<td>7%</td>
<td>13%</td>
<td>2%</td>
</tr>
<tr>
<td>eMedicine</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>13%</td>
</tr>
<tr>
<td>Harrison’s/ Oxford handbook of clinical medicine</td>
<td>5%</td>
<td>6%</td>
<td>27%</td>
<td>9%</td>
</tr>
<tr>
<td>Internet</td>
<td>17%</td>
<td>8%</td>
<td>3%</td>
<td>16%</td>
</tr>
<tr>
<td>Library/ MBBS websites</td>
<td>3%</td>
<td>28%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>MD Consult</td>
<td>16%</td>
<td>9%</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>Recommended textbooks</td>
<td>28%</td>
<td>32%</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>UpToDate</td>
<td>0%</td>
<td>0%</td>
<td>8%</td>
<td>16%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
<td>8%</td>
<td>16%</td>
<td>9%</td>
</tr>
</tbody>
</table>

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### Success of one-stop-shop website for medical information resources

“very useful”, “easy access to a wealth of information”, “my first port of call for PBL focus questions”, “its tops!”

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Results – Library Training

Results indicated that 64% of respondents in year one and between 55% and 59% in years two to four respectively, had attended a training session.

Motivation for attending: Year 1 – 44% as it was required; 25% did not attend because they felt there was no need.

Training options – Database searching and Endnote were the most selected.

An overwhelming number of respondents from across all years used ‘other’ to request information about the range of relevant resources available to them and how those resources can aid their study.
Results

Majority of MBBS students prefer training that is delivered multi-modally, combining face-to-face with an online version that can be completed flexibly at home or in a Library computer training room, when time and circumstances permit.

Preferred method of training delivery by year

<table>
<thead>
<tr>
<th>Delivery method</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to face integrated into course</td>
<td>26%</td>
<td>25%</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td>Face to face external to course</td>
<td>20%</td>
<td>6%</td>
<td>24%</td>
<td>21%</td>
</tr>
<tr>
<td>Online tutorials</td>
<td>57%</td>
<td>49%</td>
<td>43%</td>
<td>39%</td>
</tr>
<tr>
<td>One to one at point of need</td>
<td>36%</td>
<td>49%</td>
<td>43%</td>
<td>52%</td>
</tr>
</tbody>
</table>

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Results

Literature searching and reference management

Use of advanced search features

>74% combined terms and phrases using Boolean operators

>60% used a database’s subject index to focus their search strategy

>40% restricted their search using the databases’ limits feature

Recalling and combining searches with the history feature and saving search results for future use were not heavily used

Endnote – use made by the respondents ranged from 40% in year one; 18% in year and, 35% and 30% respectively for years three and four
Results – compare and contrast

2008 findings compared to 2000 and 2001 UQ Library studies of medical students’ use of information – continuity and change

Not surprisingly, the survey revealed that the use of computers and related technology was widespread among medical students.

The fact that mobile devices such as Personal Digital Assistants (PDAs) or smart phones were not widely used is supported by other Australian research.
Results – compare and contrast

Their preference for print was revealed, consistent with earlier research undertaken by the Library\textsuperscript{5,6} but in contrast to others\textsuperscript{7,8,9}.

Very few students used the Internet as their first source for an overview of a medical condition, the vast majority turned to classic sources, either in print or electronic databases. In contrast, Giustini\textsuperscript{10} and Pender\textsuperscript{11} highlighted students' use of the Internet.

Students’ interest in listening to overviews and hearing about the value of the available resources to their studies, suggests an inherent lack of awareness of what resources are available. This was reflected in earlier research undertaken by Rivero\textsuperscript{12}.
Our Response

• Review of Library resources and services
• Additional print copies of core texts purchased; increased access to electronic versions is being investigated
• Committee of MBBS librarians, academics and students to review textbook list
• Ways of raising students’ awareness of the value of the available resources
• Simple clear messages in text and pod/vodcasts on the Core MBBS Information Resources Website
• Continue to work on raising the profile of the Liaison Librarians
• More use and development of online tutorials, in addition to face to face, one on one where possible
Questions