

# **Evidence Based Library and Information Practice (EBLIP): Towards the excellence in librarianship**

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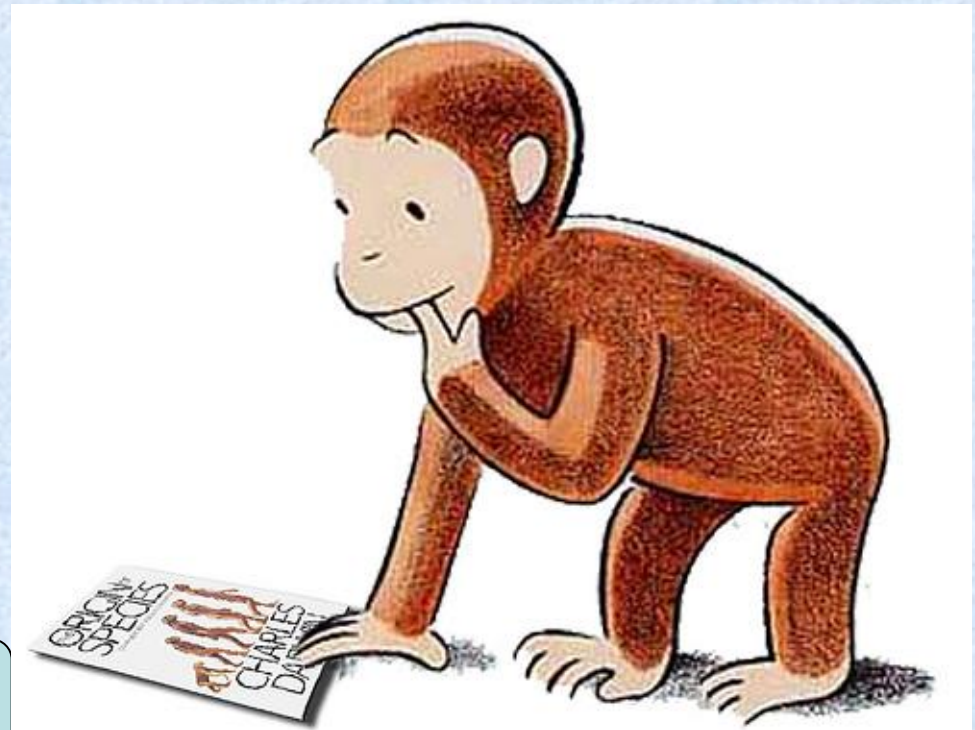
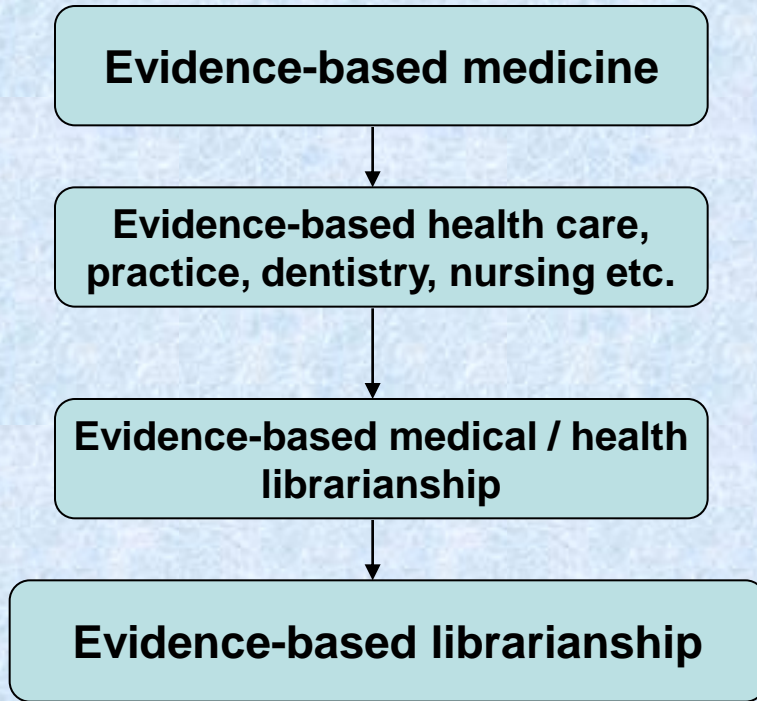
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# Outline

- Evidence based practice (**EBP**)
- Evidence based medicine (**EBM**)
- EBM Components & Process
- Evidence Based Library and Information Practice (**EBLIP**)
- EBLIP Components & Process
- Applications
- Example & Practice

# Evidence-based evolution



# History

- Evidence based practice (EBP) was introduced as Evidence based medicine (EBM) by **ACP Journal Club in 1991** and this editorial was the impetus for a series called the *Users' Guides to the Medical Literature* in order to help clinician decide how to incorporate these philosophies in to their daily practice.

Guyatt GH. Evidence-based medicine (editorial). ACP Journal Club suppl 1991;2:A-16.

Guyatt GH. Users/ guides to the medical literature (editorial). JAMA 1993;270(17):2096-7.

# Evidence Based Library and Information Practice (EBLIP)

- Formerly known as “Evidence Based Librarianship” (Eldredge, 1997) Or “Evidence Based Information Practice” (Haines, 1995)
- EBL is based upon Evidence-Based Medicine
- Attempt at consensual all-embracing term that includes related fields and activities
- Need to remain allied with “Evidence Based Practice”

# Definition 1

***Evidence-based Librarianship** is a means to improve the profession of librarianship by asking questions as well as finding, critically appraising, and incorporating research evidence from library science (and other disciplines) into daily practice. It also involves encouraging librarians to conduct high quality qualitative and quantitative research.”*

(Crumley & Koufogiannakis 2002)

## Definition 2

*“Evidence-Based Library and Information Practice [EBLIP] seeks to improve library and information services and practice by bringing together the **best available evidence** and insights derived from **working experience**, moderated by **user needs and preferences**. It attempts to integrate **user-reported, practitioner-observed and research-derived evidence** as an explicit basis for **decision-making**”.*

(Booth 2006)

# Evidence Based Library and Information Practice

Includes

- Librarianship
- Information Systems
- Informatics
- Information Literacy
- etc



# Why EBLIP?

- *"The key to evidence-based information practice is the ongoing development and application of...information science research".*
- *"Individual...librarians must apply the results of research routinely to library and information service practice, to the development of information policy, and to other information issues important to [their] institutions".*
  - **Using Scientific Evidence to Improve Information Practice: The Research Policy Statement of the Medical Library Association**

# Why librarians?

- *“As a profession which has the ability to manage the literature of research, librarianship is uniquely placed to model the principles of evidence-based practice, not only as they apply to other disciplines which we serve, but also as they apply to our own professional practice”.*

(Ritchie, 1999)

# The Importance of EBLIP

- *“Research that can provide rigorous evidence of outcomes is needed **for managers to make decisions** that will maximise the impact of library and information services.....The Evidence Based Librarianship movement proposes new standards for research that can be applied to outcomes research and also to the extensive work being done on service quality and satisfaction”.*

(Cullen, 2001)

# EBL Components

EBP is about improving the quality of day-to-day decision-making by consciously and explicitly integrating:

- professional expertise
- informed consumer choice
- the best available research evidence



**What is evidence?**

**What is Evidence Based Medicine?**

# What is Evidence?

- **Evidence** is anything used to determine or demonstrate the truth of an assertion.
- **Scientific evidence** is evidence which serves to either support or counter a scientific theory or hypothesis.
- In scientific research **evidence** is accumulated through observations of phenomena occur in the natural world, or created as experiments in a laboratory

# What is 'level of evidence'?

- The extent to which one can be confident that an estimate of **effect** or **association** is **correct (unbiased)**.



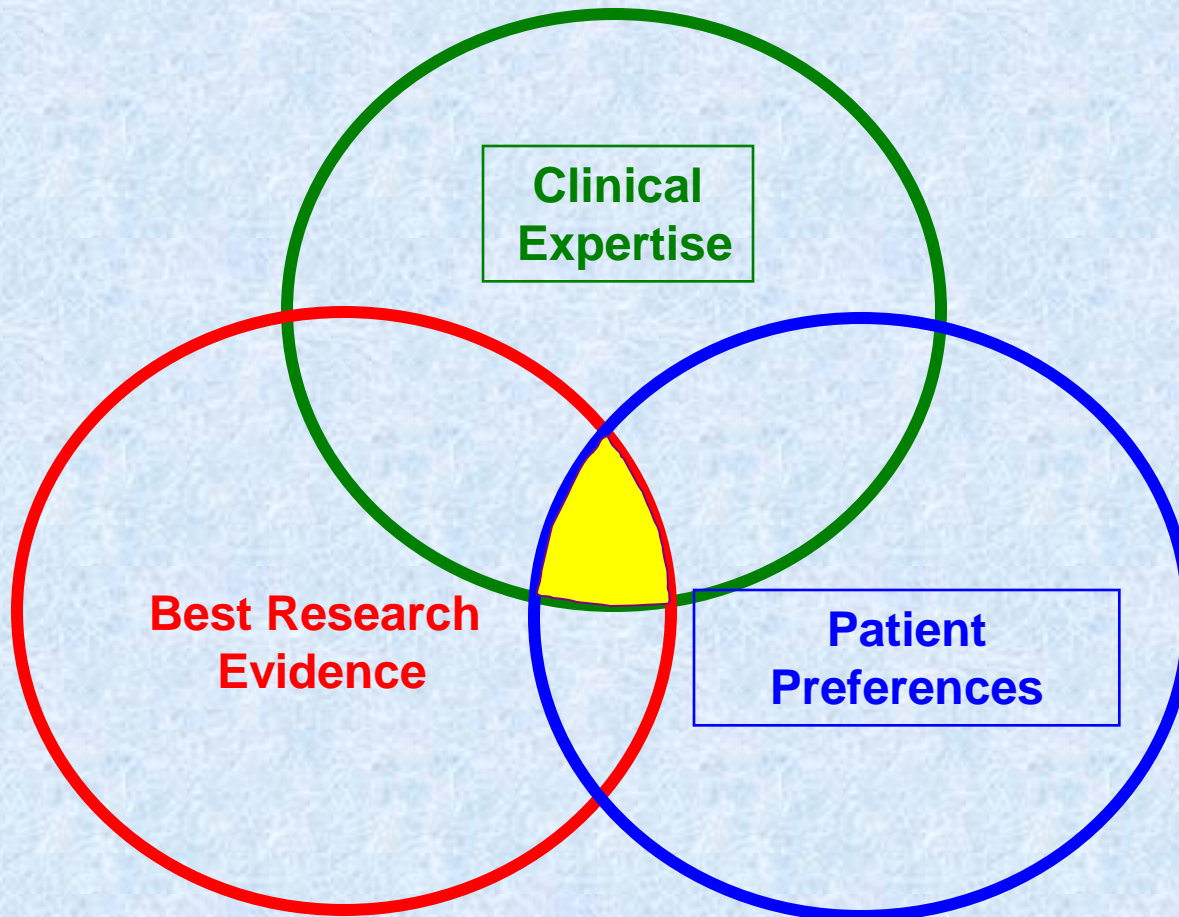
# What is Evidence-Based Medicine?

“Evidence-based medicine is the integration of **best research evidence** with **clinical expertise** and **patient values**”

- *Sackett & Straus*



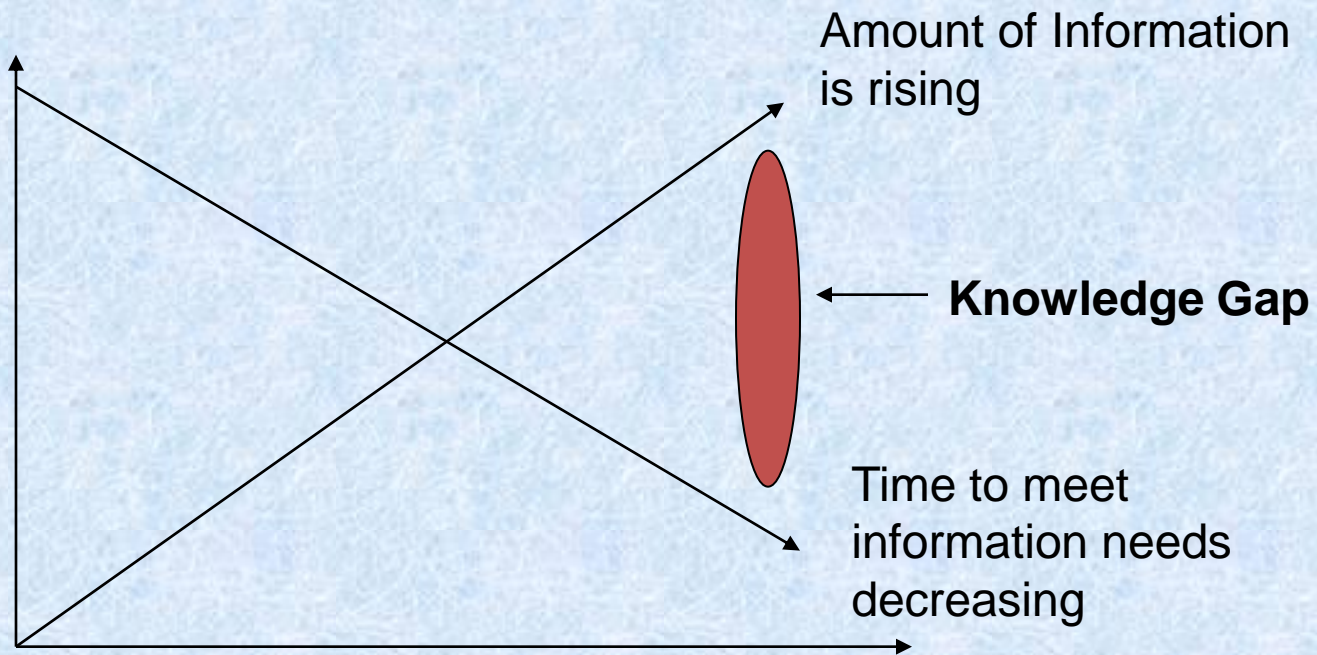
# EBM Components



# EBM History

- G. Guyatt from McMaster University in 90s
- Sackett in 1995 defined EBM
  - “Our clinical decision making should be based on the best scientific available evidence”

# Knowledge Gap



The Knowledge Gap

# Medical Publishing

## Annually:

- 20,000 journals
- 17,000 new books

## MEDLINE:

- +5,000 journals
- 17 Million references
- 400,000 new entries yearly

# Primary studies

- Experiments
- Clinical trials
- Surveys

# Secondary studies

- Reviews (Overviews)
  - Systematic reviews & Meta-analyses
  - Narrative reviews
- Guidelines
- Decision analyses
- Economic analyses

# Hierarchy of studies



# Clinical Question components : **PICO**

- What types of **P**articipants?
- What types of **I**nterventions?
- What types of **C**omparison?
- What types of **O**utcomes?



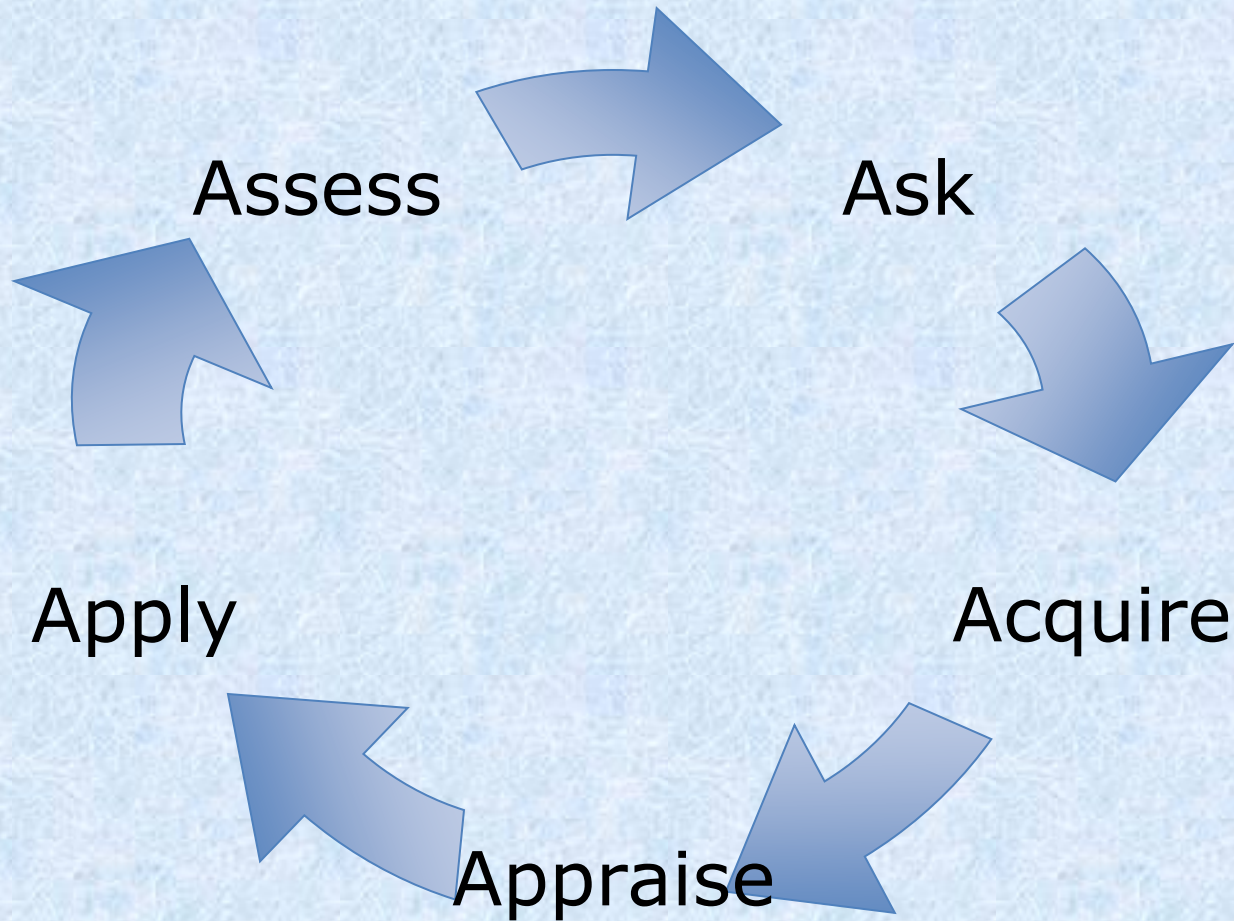
# Selected Electronic Health Information Resources

<b>Resource</b>	<b>Internet Address</b>
ACP Journal Club	<a href="http://www.acpjc.org">www.acpjc.org</a>
Cochrane Library	<a href="http://www.update-software.com">www.update-software.com</a>
UpToDate	<a href="http://www.uptodate.com">www.uptodate.com</a>
PubMed	<a href="http://www.pubmed.com">www.pubmed.com</a>
eMedicine	<a href="http://www.emedicine.com">www.emedicine.com</a>
Clinical practice guidelines	<a href="http://www.guidelines.gov">www.guidelines.gov</a>
MD Consult	<a href="http://www.mdconsult.com">www.mdconsult.com</a>
EBMR Reviews (OVID)	<a href="http://www.ovid.com/site/catalog">www.ovid.com/site/catalog</a>

# EBLIP Steps



# EBP Process/Cycle



# EBLIP Process

1. Formulate a clearly defined, answerable question that addresses an important issue in librarianship.
2. Search the published and unpublished literature, plus any other authoritative resources for the best-available evidence with relevance to the posed question.
3. Evaluate the validity (closeness to the truth) and relevance of the evidence.
4. Assess the relative value of expected benefits and costs of any decided upon action plan.
5. Evaluate the effectiveness of the action plan.

Jonathan Eldredge, 2000

# SPICE

<b>S</b>	<b>S</b> etting – Where? In what context?
<b>P</b>	<b>P</b> erspective – For who?
<b>I</b>	<b>I</b> ntervention – What?
<b>C</b>	<b>C</b> omparison – What else?
<b>E</b>	<b>E</b> valuation – How well? What result?

# Moving on to further questions

Refurbishment proposal has defined new question:

- *“What facilities and services would students like to see included in refurbished library?”*
- Stakeholder feedback is being gathered using online survey and focus groups.

# 1. Formulate a question

- Taking the time to formulate a question that is precise, answerable, and that includes all the necessary information helps focus your thinking before proceeding to search for evidence.
- Two common mnemonics for question formulation are **PICO** and **SPICE**

## 2. Find the evidence

- One of the barriers to the practice of EBLIP is the **lack of a strong evidence base** in our field. So, when searching for evidence:
  - Consider both quantitative *and* qualitative research
  - Think outside the LIS box



# 3. Appraise the evidence

*Critical appraisal* is the process of assessing and interpreting evidence by systematically considering its

- relevance
- validity
- reliability



# **Different Types of Studies in Librarianship**

- **Comparative study:** a study that uses a systematic effort to find similarities and differences between two or more observed phenomena. An example could include comparing and contrasting OVID MEDLINE and Pubmed.
- **Program evaluation:** a method that assesses the operation or outcomes of a program. This can be very valuable in evaluating a program or policy at different levels in their development or implementation.

- **Data-mining/ biblio-mining:** a method that involves the discovery of meaningful patterns from data retrieved from automated methods. Bibliomining uses the combination of data mining with bibliometrics, statistics, and reporting tools look at patterns in library systems.
- **Descriptive survey:** a survey that describes the respondent perspectives or experiences on the questions that were asked in a predefined manner. Citation analysis represents a variation of the descriptive survey method.

- **Focus Group:** a method that generate data or information from a meeting of individuals. This is also sometimes used to add to information gathered from other research methods such as questionnaires.
- **Gap analysis:** a method involves surveys to identify discrepancies or gaps between individual expectations.

- **Narrative review (review article):** a review or overview of a subject that has been created from the results of an expert literature search. These can provide concise introductions to subjects.
- **Randomized controlled trial (RCT):** a type of primary research that tests control and treatment groups, where the group participants have been randomly assigned. These trials can use individuals or groups. For example, a study could randomize different libraries to receive an intervention (such as access to certain resource).

- **Systematic review (Meta-analysis):** a review that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyze and pool the results of the included studies. Systematic reviews (also known as systematic overviews, evidence summaries and integrative reviews) use recently developed scientific methods to summarize results from multiple research studies.

# 3. Appraise the evidence

## tools and checklists

- Lindsay Glynn's Critical Appraisal Checklist
- CriSTAL checklist

...and several more available at:

<http://www.newcastle.edu.au/service/library/gosford/ebl/toolkit/appraise.html>



# 4. Apply the evidence

- Applicability: "whether a study is generalizable or relevant to your situation" (Koufogainnakis and Crumley, "Applying Evidence to your Everyday Practice." in Booth and Brice, 2004 book. 120)
- The evidence will usually be one of three things:
  1. directly applicable
  2. needs to be locally validated
  3. improves your understanding of the situation

# 5. Evaluate the results:

Are we done yet?

It's important to evaluate the success of your use of the evidence on two levels:

- **Practitioner** - were all the steps of EBL followed successfully?
- **Practice implications** - was the decision you made after consulting the research a good one?

# Disseminating your results

- Crumley and Koufogiannakis state that "perhaps the largest obstacle in finding library research is that librarians **generally do not publish their research**"
- Consider sharing the results of your EBL research through publication or less formal means. The work you've completed could be quite valuable to your colleagues.

# Evidence from research

- Research conducted in US indicates that students' requests for extended library opening hours are perennial and vary from requests to open until 2.00 am during exam periods to demands to open 24-7 most days of year (Steele and Walters; Curry; Engel, Womack and Ellis).



# Evidence based decision-making

- Detailed costing prepared for four different scenarios ranging from longer opening hours for duration of semester to short period of 24-hour opening leading up to exam period.
- Evidence appraised and summarised in report recommending further increase in opening hours in weeks leading up to exam period.
- Longer term recommendation was to incorporate 24-hour study facility when and if Library is refurbished.
- Based on CAUL survey, facility should provide individual and group study spaces, computers, wireless access, laptop ports, photocopier and printing equipment, vending machines, lounges and appropriate security arrangements.

# Acting on the evidence

- Report discussed with Student Council and senior University executive. Recommendation for long term accepted but short term proposal not adopted!
- Through process, all stakeholders gained good understanding of issues and agreed with decision made.
- Refurbishment has progressed
- University has invited proposals from architects to develop a project brief.
- Evidence gathered to resolve opening hours question has led to better understanding of Library's role in providing learning environment in addition to traditional role as repository of books/provider of electronic resources.
- Has helped convince senior executive that refurbishment necessary to meet student needs.

# Health librarians new roles

Health librarians can play active roles in the health care team

- They can accompany health professionals on their bedside rounds
- They can provide health professionals with patient-centred research
- They can teach health professionals the most efficient and thorough methods of searching the medical literature

**Any Question?**