Formulating Clinical Questions

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Goals & Objectives

At the end of this session you will be able to:

- Facilitate the upcoming PBL clinical question exercise
- Formulate an “answerable” clinical question
- Use Lane’s online interface for the PBL session
- Discuss Information Literacy
Agenda

- Review and expand Information Literacy
- Sharing your information needs
- Overview of student session and feedback
- Introduction of student our real information needs
Characteristics of an Information Literate Clinician
Information Literacy as defined by E4C

- "Humbly and flexibly recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information in teaching, learning and patient care."

  - Recognize when need for information
  - Locate it
  - Evaluate it
  - Use it effectively
### AN ONLINE SURVEY OF E4C FACULTY

**Information Literacy is IMPORTANT in supporting lifelong learning**

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Strongly Agree</td>
<td>86%</td>
</tr>
<tr>
<td>Agree</td>
<td>14%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>0%</td>
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**Please rate your Information Literacy skills**

<table>
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<tr>
<th></th>
<th>Percentage</th>
<th>Description</th>
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<tbody>
<tr>
<td>Beginner:</td>
<td>29%</td>
<td>I do not know what this means and do not know what skills are associated with Information Literacy.</td>
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<tr>
<td>Intermediate:</td>
<td>64%</td>
<td>I consider myself to be Information Literate but do not have the knowledge and skills to teach others in this domain.</td>
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<tr>
<td>Advanced:</td>
<td>7%</td>
<td>I can teach others and evaluate their competency.</td>
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**Belief that IL is Important**

- Belief that IL is Important: 100%
- Knowledge & Skills to Teach IL: 93%
- 7%

*While all E4C faculty feel that IL is important, only a small minority of them feel they can effectively teach IL skills.*
What is Evidence-Based Practice?

- EBP is the integration of best research evidence with clinical expertise and patient values to guide medical decision-making.
- EBP employs a process that provides a framework for both good patient care and effective medical education.
- EBP promotes lifelong learning.
EBP is a Process

Remember the 4 A’s

- **Ask**: A focused clinical question
- **Acquire**: The best evidence you can find
- **Appraise**: Appraise that evidence
- **Apply**: To patient care
### Evidence-Based Practice

- **Ask**
- **Acquire**
- **Appraise**
- **Apply**

### Information Literacy

- Recognize need for information
- Locate it
- Evaluate it
- Use it effectively
Student Session

- Introduced EBP
  - Addressed EBP’s: importance, major steps, relationship to IL and strong link to clinical practice.
- Clinical Question Exercise
  - Challenged students to create questions with and without PICO
- Survey: Clearest / Muddiest
Survey Responses: Clearest

- “If you know how to ask the question, you can find the appropriate answer...so learn how to ask the right question.”
- “the importance of EBM to preclinical students as we begin to think about our future rotations and patient management.”
- “PICO and the need to ask background questions at this stage of our career – very simple good advice.”
Survey Responses: Muddiest

- How to ask relevant PICO questions taking into account patient wishes
- The application of EBM to clinical care
- How to translate a question into PubMed
Survey Responses: General

- “I liked the comment on starting with patients and then going on to disease, instead of the other way around.”
- “I enjoyed the activity and a focus on EBM is one of the reasons I chose Stanford!”
- “I found this session to be very useful. I’m also glad that finally someone address what EBP actually is since usually it is a term thrown around to intimidate first years.”
EBP is a Process

- **Ask**: A focused clinical question
- **Acquire**: The best evidence you can find
- **Appraise**: Appraise that evidence
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<th>Evidence-Based Practice</th>
<th>Information Literacy</th>
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<td><strong>Ask</strong></td>
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Good questions are the backbone of practicing EBM. It takes practice to ask the well-formulated question.
Ask Questions Strategically

Background Questions

☐ Ask for general knowledge about a disorder
☐ Has two essential components
  1. A question root (what, who, why, where, etc.) with a verb
  2. A disorder or aspect of a disorder

☐ Examples:
  - How do you work up shortness of breath?
  - What kind of lung damage can be caused by cigarette smoking?
Foreground Questions

- Asks for specific knowledge
- Usually refer to patients
- Three (or four) components
  1. The patient (or problem) of interest
  2. The main intervention – “an exposure”
  3. A comparison intervention (if relevant)
  4. The clinical outcome of interest
Foreground Questions

- Asks for specific knowledge
- Usually refer to patients
- Three (or four) components
  - P  The patient (or problem) of interest
  - I  The main intervention – “an exposure”
  - C  A comparison intervention (if relevant)
  - O  The clinical outcome of interest
## ASK....

<table>
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<tr>
<th>Element</th>
<th>Tips</th>
<th>Specific example</th>
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<td><strong>Patient or Problem</strong></td>
<td>Starting with your patient ask “How would I describe a group of patients similar to mine?”</td>
<td>“In a 58 year old female with CAD and hyperlipidemia . . .”</td>
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<tr>
<td><strong>Intervention</strong></td>
<td>Ask “Which main intervention am I considering?” (treatment/prevention, diagnosis, prognosis)</td>
<td>“. . . Do HMG Co A Reductase Inhibitors . . .”</td>
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<tr>
<td><strong>Comparison intervention</strong></td>
<td>Ask “What is the main alternative to compare with the intervention?”</td>
<td>“. . . As compared to no treatment. . . “</td>
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<tr>
<td><strong>Outcome</strong></td>
<td>Ask “What can I hope to accomplish?” or “What could this exposure really affect?”</td>
<td>“. . . Decrease the risk of MI and/or death?”</td>
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Why are PICO questions good questions?

- PICO helps focus scarce learning time on evidence directly relevant to patient’s needs and our particular knowledge needs
- PICO forces the learner to choose their own agenda
- PICO helps facilitate the literature search
- PICO questions are answerable, reinforcing the satisfaction of finding evidence that makes us better, more effective clinicians
Foreground Questions

- Examples:
  - For former smokers, how long do they remain at risk for lung cancer compared to never smokers?
  - In a patient with a history of smoking and shortness of breath, how good is a chest x-ray in comparison to a CT scan in detecting lung cancer?
  - How about prolonging survival from lung cancer?
  - For a patient with COPD, what is the impact on symptoms and mortality of combination long-acting beta-agonist and inhaled corticosteroids vs. the inhaled corticosteroid alone?
Remember “P-I-C-O”

P – Patient
I – Intervention
C – Comparison
O – Outcome
Summary

EBP is a set of meta-skills that foster effective patterns of life-long learning and patient-centered medical decision-making

- **Ask**: A focused clinical question
- **Acquire**: The best evidence you can find
- **Appraise**: The evidence for validity and impact
- **Apply**: To patient care