



# 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





# 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



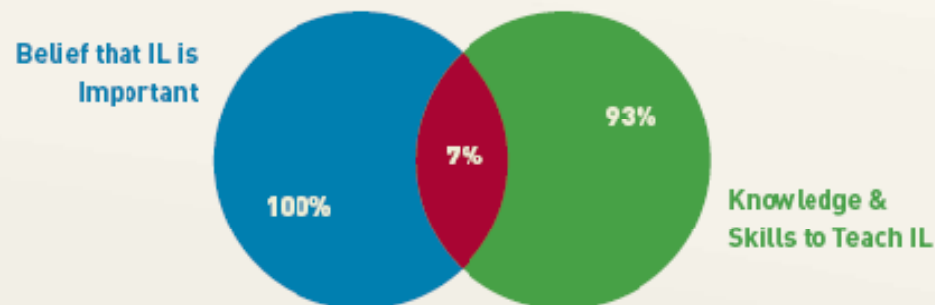
## AN ONLINE SURVEY OF E4C FACULTY

### Information Literacy is IMPORTANT in supporting lifelong learning

86%	Strongly Agree
14%	Agree
0%	Disagree
0%	Strongly Disagree

### Please rate your Information Literacy skills

29%	<b>Beginner:</b> I do not know what this means and do not know what skills are associated with Information Literacy.
64%	<b>Intermediate:</b> I consider myself to be Information Literate but do not have the knowledge and skills to teach others in this domain.
7%	<b>Advanced:</b> I can teach others and evaluate their competency.



*While all E4C faculty feel that IL is important, only a small minority of them feel they can effectively teach IL skills.*





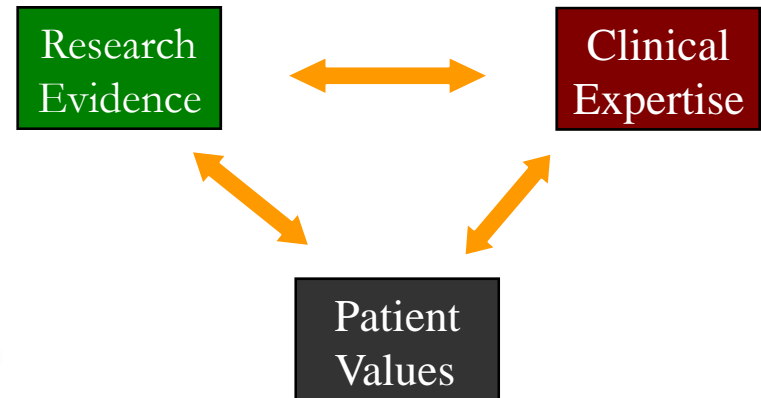
# What is Evidence-Based Practice?

- 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

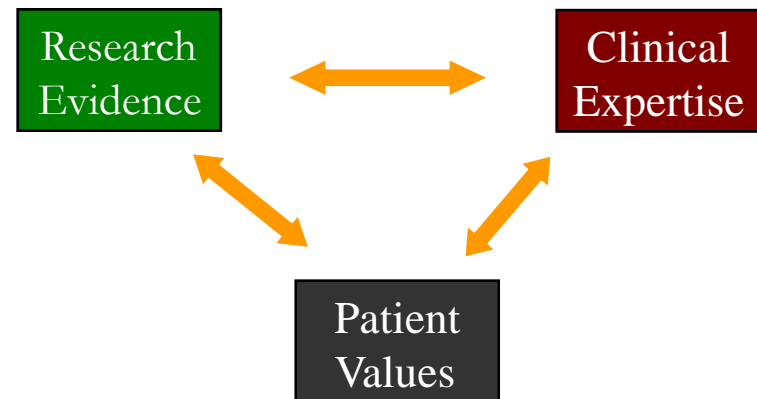


# Survey Responses: General

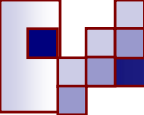
- “I liked the comment on starting with patients and then going on to disease, instead of the other way around.”
- “I enjoyed the activity and a focus on EBM is one of the reasons I chose Stanford!”
- “I found this session to be very useful. I’m also glad that finally someone address what EBP actually 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
- **Apply**: To patient care



Evidence-Based Practice
Ask
Acquire
Appraise
Apply

Information Literacy
Recognize need for information
Locate it
Evaluate it
Use it effectively





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....

<u>Element</u>	<u>Tips</u>	<u>Specific example</u>
<b>P</b> atient or Problem	Starting with your patient ask “How would I describe a group of patients similar to mine?”	“In a 58 year old female with CAD and hyperlipidemia . . .”
<b>I</b> ntervention (or exposure)	Ask “Which main intervention am I considering?” (treatment/prevention, diagnosis, prognosis)	“. . . Do HMG Co A Reductase Inhibitors . . .”
<b>C</b> omparison intervention	Ask “What is the main alternative to compare with the intervention?”	“. . . As compared to no treatment. . . “
<b>O</b> utcome	Ask “What can I hope to accomplish?” or “What could this exposure really affect?”	“. . . Decrease the risk of MI and/or death?”



# Why are PICO questions *good* questions?

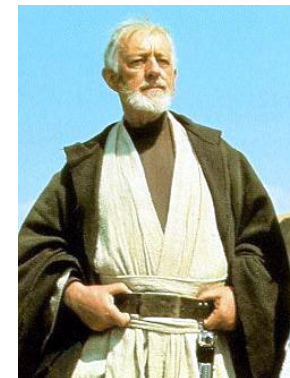
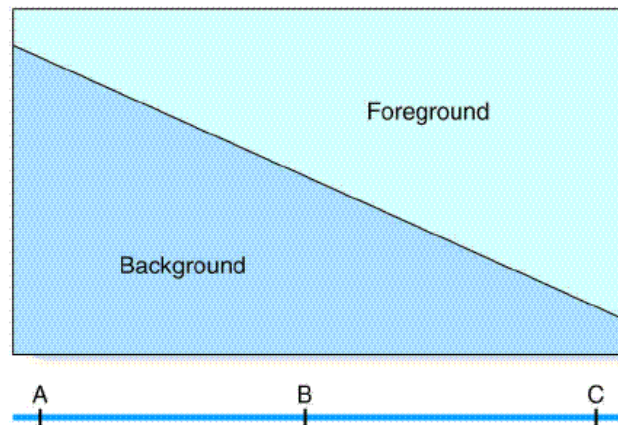
- PICO helps focus scarce learning time on evidence directly relevant to patient's needs and our particular knowledge needs
- PICO forces the learner to choose their own agenda
- PICO helps facilitate the literature search
- PICO questions are answerable, reinforcing the satisfaction of finding evidence 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

