

Evidence-based Graduate Project:

A Feather in Your Cap and NOT a Skeleton in Your Closet

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Objectives

At the conclusion of this session, participants will

- Identify a strategy to strengthen and refine student's understanding of evidence-based medicine (EBM) concepts and to make the graduate project meaningful to the student
- Describe the benefits of the use of a systematic review of literature as a graduate project
- Discuss ways that a systematic review of literature can be implemented into the curriculum

EBM's beginnings

- The term “evidence-based medicine” was first coined in 1990 by Gordon Guyatt
- It is an integration of



But using evidence to make clinical decisions has been around for centuries



- In the beginning, there was the authority
- During the 17th century,
 - personal journals and textbooks
- The 1900s
 - randomized-controlled trials and peer-reviewed journals
- In the 1970s,
 - online journals and large databases

EBM concepts continue to be incorporation into medical education

- In 1992, the EBM working group proclaimed that evidence-based medicine to be the new paradigm for medical education

ASK
ACQUIRE
APPRAISE
APPLY

Several EBM education strategies are available



- A course or seminar series
 - Good for teaching foundational EBM concepts
 - But retention is unlikely unless they practice these new skills

EBM education strategies continued

- Journal clubs or small group discussions
 - Good for refining critical appraisal skills and “keeping up” with the medical literature
 - But lacks individual patient decision making emphasis

- A combination is often best



Two sets of challenges and one possible solution

- Challenges related to EBM education
- Challenges related to the graduate project



Could a change in the graduate project overcome these concerns?

EBM education challenges

- How do we evaluate these skills?
 - Multiple choice tests
 - Free text review of a test journal article or essay assessment tool
- How do we capture the student's EBM-related behaviors?



Graduate project challenges



- How can the graduate project be meaningful to both the student and the PA program?
 - What is your experience?
 - Is it a “feather in your cap” or
 - Is it a “skeleton in your closet”?
 - What is the experience of the students in your program?

From these challenges, several goals emerge

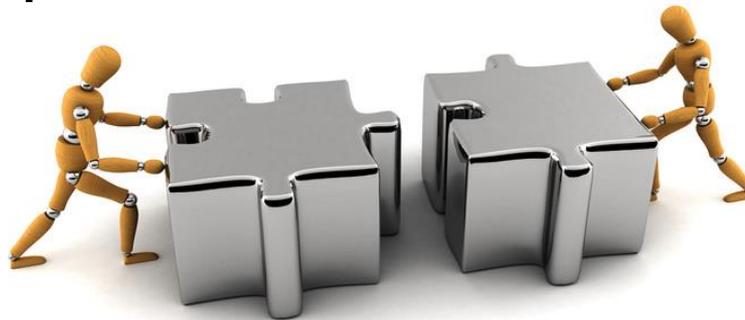
- To individually refine a student's EBM abilities
- To give students the opportunity to be confident in their EBM abilities and to have an advantage in the job market



Over the last 5 years, we have modified our EBM curriculum to meet these goals

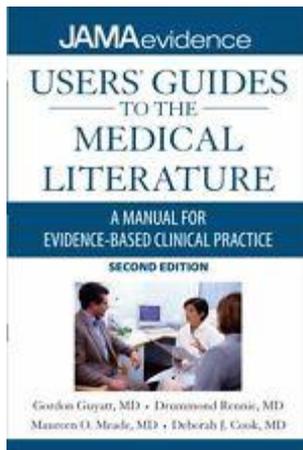
How Pacific University's School of PA Studies is addressing these challenges

- Overview of the EBM curriculum
 - Introduction to Evidence-Based Healthcare in the first semester
 - Journal clubs during the remaining didactic phase
 - A systematic review of literature during their graduate project clinical rotation
- A validated EBM assessment tool is used each of the three parts of the curriculum



Introduction to Evidence-Based Healthcare

- Taught during the first semester of the program
- Traditional course instruction using lecture and facilitated reading assignments
- “Walks” student through the critical appraisal process
- Assessed using the Fresno Test
 - A validated EBM assessment tool that is essay/short answer format



Journal clubs

- First, our School organizes the curriculum by using a modified-block structure based on organ systems
- For each module there is a journal club
- This equates to potentially 15 journal clubs over the course of 9-10 months
- At the end of the didactic year, each student is assessed with the Fresno Test again



The graduate project

- Each student conducts a systematic review of literature on a topic of their choosing

ASK
ACQUIRE
APPRAISE/ASSESS
SUMMARIZE
INTERPRET/APPLY

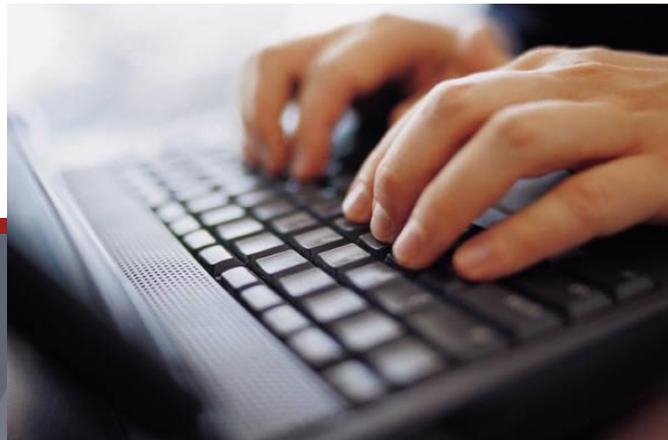
- At the end of the rotation, the student completes the Fresno Test for the last time

A systematic review requires the student to demonstrate their EBM abilities

- Within a systematic review, a student...
 - Clarifies the strengths and weaknesses of the literature
 - Summarizes a large amount of literature
 - Resolves literature conflicts
 - Evaluates the need for a large clinical trial
 - Reveals the possibility of redundant and unnecessary trials
 - Increases the statistical power of smaller studies
 - Improves the generalizability of treatment outcomes

What the 6-week graduate project looks like...

- The first week (on campus)
 - The focus is the clinical question and an effective search strategy
- Weeks 2-6 (distance learning)
 - Completes weekly assignments
 - Works on 1st draft with the writing consultant
 - Works on 2nd draft with faculty
 - Submits a final draft and poster



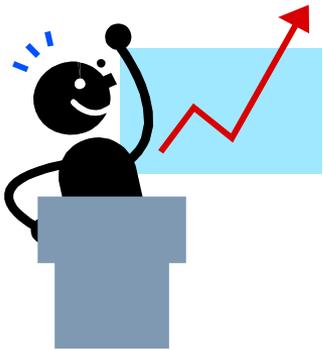
The Fresno Test

- Assesses the following EBM skills:
 - Clinical question types
 - PICO
 - Information resources
 - Search strategies
 - Study designs
 - Validity measures
 - Significance measures
 - Relevance measures
 - Calculations



Results of The Fresno Test

- Implementation of The Fresno Test at three times during the curriculum began this year
- Previously was only used at the end of the introductory course and didactic phase
 - On average scores improved from 64% to 77%
 - Interpretation: the journal clubs refined EBM skills
 - We postulate that scores will continue to show improvement when the test is administered after the graduate project



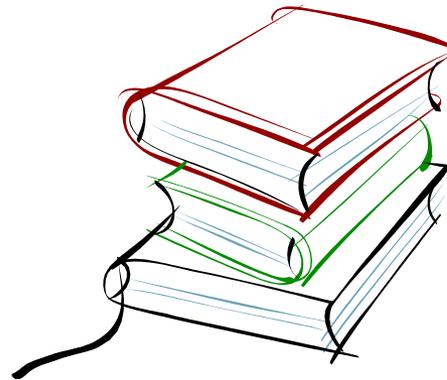
How do I know that the graduate project is meaningful...

- To the Program? Profession?
 - Take a look: <http://commons.pacificu.edu/pa/>
 - Our library runs reports on which graduate project papers are viewed the most
 - Some of our students' work is among the most viewed for the entire University
- To the student?



There are many ways that a systematic review of literature can be implemented into a curriculum

- Administrative benefits that allow flexibility and adaptability
- Related faculty workload
 - Students need help in conceptualizing a clinical question and processing it into a search strategy
 - Students should work with a writing center or writing consultant





Summary of Key Points



- EBM education is an integral part of medical education
- It is difficult to evaluate a student's EBM ability and utilization
- The graduate project may not be meaningful to most students
- A systematic review of literature can add meaning to the graduate project and be used to evaluate a student's EBM ability
- A systematic review can be implemented into any curriculum

Questions?

What is the evidence
for evidence-based
medicine?

