Creating an “Evidence Based” Curriculum

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Objectives

• Evidence based health care (EBH)
  – Historical / evolutionary perspective
  – Current models

• EBH skills at NWHSU
  – Student survey
  – Faculty survey

• Barriers to implementing EBH
  – What do you think they are?
  – What are the solutions?
Evidence Based Medicine (EBM)

“…The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.”

“…integrating individual clinical expertise with the best available external clinical evidence from systematic research.”

Hierarchy of Evidence

Systematic Reviews Of RCTs

Randomized Clinical Trials (RCTs)

Observational Studies

Unsystematic Clinical Observation

The “Gold Standard”
Practice of EBM

- Required new skills from clinical practitioners
  1. Define the clinical problem/phrase clinical question
  2. Search the literature
  3. Appraise the literature
  4. Apply the results to the patient
Why EBM?

• Recognition that common resources informing medical decisions/medical education (experts, theories, physiologic research) had significant limitations

  – Moving from an inductive approach (it should work) to a deductive approach (demonstration that it does or doesn’t work)

Experience never errs; what alone may err is our judgment, which predicts effects that cannot be produced by our experiments."
- Leonardo da Vinci

"Sure it works in practice. But I wonder if it'll work in theory."
- Anonymous
Why EBM?

• Massive amount of clinical research information was being produced, but unused

“The current state of information management resembles the worst aspects of our old agricultural policy, which left grain rotting in thousands of storage silos while people were starving”

Al Gore
Realities

• Cumbersome for practitioners to apply
  – Time consuming to do it right
  – Incomplete literature
  – Applying results to individual patients
Misunderstandings

• RCT the gold standard for EVERYTHING
  – *Reality*: choice of study design depends on the question; RCTs are good for evaluating treatments, but other study designs are appropriate too.

• If there isn’t any research evidence a treatment shouldn’t be used
  – *Reality*: Absence of evidence ≠ evidence of absence

• Clinical decisions based SOLELY on research evidence
  – *Reality*: patient preferences were incorporated into the first model of EBM, but not clearly articulated; people make decisions, not evidence

• EBH is “cookbook” healthcare
  – *Reality*: clinical judgment required to interpret the evidence and apply it to the individual patient

• The EBH model was “complete”
  – *Reality*: the EBM model was/is a work in progress
It Was Meant to be a Good Thing!

“The term evidence-based medicine was developed to encourage practitioners and patients to pay due respect—no more, no less—to current best evidence in making decisions.

An alternative term that some may find more appealing is research enhanced health care.”

Evolution

• Evolution of EBH philosophy\(^1\)
  – Limitations of using research evidence alone
  – Increased emphasis on patients values and preferences
  – Recognition of the pivotal role of clinical expertise
• Increased interest by other health professions
• Defining role in health policy (internationally)
• Increasing number and popularity of summarized resources

\(^1\) G Guyatt, D Cook, B Haynes. Evidence based medicine has come a long way. BMJ 2004;329;990-991.
New Model of EBH

Clinical State and Circumstances

Clinical Expertise

Patient Preferences And Actions

Research Evidence

Hierarchy of Research Evidence for Treatment

The "Gold Standard"

Systematic Reviews of Randomized Clinical Trials (RCTs)

Systematic Reviews of Observational Studies

Observational Studies

Physiologic Studies

Unsystematic Clinical Observation

n=1 RCT

The Evidence House

“...with “rooms” for different types of information and purposes... has something for everyone.”

Clinical Jazz?

Clinical State and Circumstances

Clinical Expertise

Patient Preferences and Actions

Research Evidence

How Are Our Skills?

Clinical State and Circumstances

Skills:
- History, Examination, Clinical Interpretation

Clinical Expertise

Patient Preferences And Actions

Skills:
- Communication, assessment tools

Research Evidence

Skills:
- Efficiently, find, evaluate, interpret and apply
  =INFORMATION MASTERY
Faculty
Perceived Importance and Ability Level Of Research-Related Skills

Response Rate: 50%
Chiropractic Students’ Perceived Importance and Ability Level Of Research-Related Skills

- Locate research
- Critically evaluate research
- Understand research
- Integrate research into practice
- Understand basic statistics
- Participate in research

Chiropractic Students (T6-10)
n=167
Response Rate: 62%
Massage Students’ Perceived Importance and Ability Level Of Research-Related Skills

- Locate research
- Critically evaluate research
- Understand research
- Integrate research into practice
- Understand basic statistics
- Participate in research

Massage Students (T1-3)
n=42
Response Rate: 75%
MCAOM Students’
Perceived Importance and Ability Level
Of Research-Related Skills

- Locate research
- Critically evaluate research
- Understand research
- Integrate research into practice
- Understand basic statistics
- Participate in research

MCAOM Students (T2-9)
n=81
Response Rate: 85%
What Are the Barriers?

• ...to integrating new models of EBH into our curricula?
  – Improving research-related skills?
  – Improving skills to elicit/identify patient preferences/actions
  – Improving ability to put it all together (practice and teach “clinical jazz”? )
Potential Barriers

- Lack of integration with other health professions/ lack of understanding of the big picture of healthcare
- Lack of specific knowledge of what’s taught in courses within curricula (lack of integration within curricula)
- Time
  - Fitting into curriculum
  - Faculty: training/time to read
- Semantics—professional biases
- Lack of emphasis across programs re: information mastery
- Competencies/assessment: facts vs thinking
- Requirements of boards
- Lack of standardization within professions
- Lack of enthusiasm due to lack of understanding and appreciation
- Fear, apprehension—nobody likes change. If it ain’t broken, why fix it?
- Lack of research in relevant areas
Other Barriers

1. Getting faculty interested
2. Finding time to develop faculty skills
3. Getting students interested
4. Finding time to develop students skills
5. Where does this fit in regards to other institutional priorities
6. Overcoming resistance to change
7. $$$
8. Expertise—where is it going to come from?
9. Ensuring consistency throughout curricula
10. Lack of summarized sources for CAM literature