Evidence Informed Decision Making

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Objective

To understand the process of evidence-informed decision making.
Evidence-Based Practice
a brief history….

1991 -a group at McMaster University coined the phrase "evidence-based medicine" to describe medical diagnoses and treatment based on the best research and clinical evidence available.

(Sackett, Haynes, Guyatt)
Evidence-Based Practice

“…the integration of best research evidence with clinical expertise and patient values to facilitate decision making”

Sackett et al, 2000
Evidence-Based Practice
a brief history....

2007: BMJ

- one of the 15 greatest medical breakthroughs since the journal's launch in 1840
- along with the development of anaesthesia, antibiotics, medical imaging, vaccines and the Pill
The Scientific Method
Here are the facts. What conclusions can we draw from them?

The Creationist Method
Here's the conclusion. What facts can we find to support it?
Evidence based

- Ask question
- Find evidence
- Make decision

Opinion based

- Ask question
- Make decision
- Find evidence
Evidence-Informed Practice

• Backlash to EBP
Evidence-Based Decision Making

- Clinical state, setting, and circumstances
- Patient preferences and actions
- Research evidence
- Health care resources
- Clinical Expertise
Evidence of Gap in Acute and Primary Care

- 30-40% patients do not get treatments of proven effectiveness
- 20-25% patients get care that is not needed or potentially harmful

Schuster, McGlynn, Brook (1998). *Milbank Memorial Quarterly*
Grol R (2001). *Med Care*
“Off hand, I'd say you're suffering from an arrow through your head, but just to play it safe, I'm ordering a bunch of tests.”
Evidence Transfer Gap

Evidence from research

Health-care decisions
Why?
Stages in the process of Evidence-Informed Practice

- Define
- Evaluate
- Implement
- Appraise
- Synthesize
- Search

National Collaborating Centre for Methods and Tools
Centre de collaboration nationale des méthodes et outils
Step ‘0’
Reflecting

• Examine practice critically.
• Acknowledge uncertainty in your practice.

(Johnston & Fineout-Overholt, 2005; Witmer & Cullum, 1999)
Stages in the process of Evidence-Informed Practice
Any current questions about what you are doing in practice?
Questions

P opulation
I ntervention
C omparison
O utcome
Scenario

AN EXAMPLE!

• H1N1
• What interventions help to prevent or reduce the transmission of respiratory viruses?
Define the question

**P** hospital staff

**I** handwashing, sanitizers, masks

**C** usual routine

**O** respiratory illness
Stages in the process of Evidence-Informed Practice

- Efficiently search for research evidence
Evidence Pyramid

Types of Resources

- Computerized decision support systems
- Evidence-based textbooks
- Clinical practice guidelines
- DARE, healthevidence.ca
- Systematic reviews
- Evidence-based journal abstracts
- Original published articles in journals

Start here with a clinical question:

(prevent*) AND (respiratory) AND (virus OR viral)

- National Guidelines Clearinghouse (NGC)
  http://guideline.gov
  142

- Health Evidence (summary statements)
  www.health-evidence.ca (pdf icon)
  2

- Health Evidence
  www.health-evidence.ca
  Public Health+
  10

- PubMed Clinical Queries

- Public Health +
  PubMed (public interface for MEDLINE)
  www.pubmed.gov
  25 SR, 3097

Google Scholar 322,000
Google 17,300,000

(DeCenso et al., 2009; Haynes et al. 2005; Robeson et al., 2010)
Nursing +

1150 articles / week

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Centre de collaboration des méthodes et outils
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Obesity +

• http://plus.mcmaster.ca/np/Default.aspx

• Sign up to be a rater:
• more@mcmaster.ca
• MOREebn@mcmaster.ca
Stages in the process of Evidence-Informed Practice

Critically and efficiently appraise the research sources
An Introduction to Evidence-Informed Public Health and

A Compendium of Critical Appraisal Tools for Public Health Practice

Donna Ciliska • Helen Thomas • Cathy Buffett

February 2008
Stages in the process of Evidence-Informed Practice

- Synthesize
- Interpret/ form recommendations for practice or policy based on the literature found
How do you decide which research evidence you consider?
Which studies do you believe?

• Best quality
• Most recent (especially if it is review)
• Most applicable to your population/patients
• Intervention for which you have resources
Stages in the process of Evidence-Informed Practice

Adapt the information to a local context
Applicability and Transferability tool

• Is it applicable to your patient population?
• Do the staff have the skills to do this intervention?
• Do we have enough staff to do this intervention?
• Do you have the resources for training?
  • www.nccmt.ca
Evidence-Informed Decision Making

Clinical state, setting, and circumstances

Patient preferences and actions

Research evidence

Health care resources

Clinical Expertise
“Eat less and exercise more? That’s the most ridiculous fad diet I’ve heard of yet!”
Stages in the process of Evidence-Informed Practice

Decide whether to implement the adapted evidence into practice or policy
Identify Strategies to Disseminate Information

- Policy change
- Education
- Academic detailing/outreach visits
- Audit and feedback
- Opinion leaders
- Knowledge broker
- Champions
- Reminders: prompts; patient reminds staff
- Interactive educational meetings/workshops
- Multiple interventions
Implementation

- What is the message?
- To whom (audience)?
- By whom (messenger)?
- How (transfer method)?
- With what expected impact (evaluation)?

(Institute of Work & Health with J. Lavis, 2006. www.iwh.on.ca)
Implementation Toolkit


Stages in the process of Evidence-Informed Practice

Evaluate the effectiveness of implementation efforts
Evaluation

- How will you know if people are using the evidence?
  - Have they changed their practice?
  - Does it make any difference to patients?
- Decide on indicators (structure, process, outcome)
- Gather baseline data
Stages in the process of Evidence-Informed Practice

- Define
- Search
- Appraise
- Synthesize
- Adapt
- Implement
- Evaluate
Objective

To understand the process of evidence-informed practice.