Integrating Evidence-Informed Decision Making in the School of Nursing, McMaster University

Bergen, Norway
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School of Nursing

- Within the Faculty of Health Sciences
- Undergraduate and graduate programs
- Undergraduate program
  - Collaborative program across three different sites
  - ~ 1300 students
  - Three streams (BScN, Accelerated, RPN-BScN)
- Graduate program
  - MSc in nursing; course-based, thesis, and nurse practitioner
  - PhD in nursing
Evidence-Informed Decision Making (EIDM)

(McKibbon et al., 2010)

EIDM

Evidence-Informed Practice (EIP)
Evidence-Based Health Care (EIHC)

EBP, EBHC

Evidence-Based Practice (EBP)
Evidence-Based Health Care (EHBC)

EBM, EBN

Evidence-Based Medicine (EBM),
Evidence-Based Nursing (EBN)
What we teach

Framework for EIDM

(DiCenso, Guyatt, & Ciliska, 2005)
Steps to EIDM

Evaluating the effectiveness of implementation strategies

Define the question or problem efficiently

Search for research evidence

Critically & efficiently appraise research sources

Interpret/form practice recommendations informed by the evidence

Adapt the information to a local context

Implement the adapted evidence into practice

Adapt the information to a local context

Evaluate the effectiveness of implementation strategies

Define the question or problem

Search for research evidence

Appraise research sources

Interpret/form practice recommendations informed by the evidence
How did we teach EIDM?

- Some EIDM taught in Year 1
- Required course
  - 3C04: Introduction to Research Methods and Critical Appraisal
  - Taken in the 3rd year (or stream equivalent)
Year 1 & EIDM

- **Year 1, 1\(^{st}\) term**
  - Library orientation
  - Information literacy [evaluation component]
    - Developing learning questions (background, foreground/clinical)
    - Evaluation of resources

- **Year 1, 2\(^{nd}\) term**
  - Foreground/clinical questions [in-class]
    - Quantitative (PICO)
    - Qualitative (PS)
  - Information Literacy [evaluation component]
    - Evaluation of resources
# Year 3, Required Course & EIDM

<table>
<thead>
<tr>
<th>Topic</th>
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<tbody>
<tr>
<td><strong>Unit I</strong> – <em>Introduction to the Research Process, Evidence-Based Practice, and the EIDM Model, research questions, 6S pyramid</em></td>
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| **Unit II** – *Developing Research Questions and Searching for the Evidence, Introduction to quantitative designs*  
Note: This is a 2 hr class. Students are to schedule and attend a additional Advanced Literature Searching Session *outside* of regular class time |
| **Unit III** – *Quantitative Research Designs, Measurement, Bias* |
| **Unit IV** – *Critical Appraisal of Intervention Studies (Part A)* |
| **Unit V** – *Critical Appraisal of Intervention Studies (Part B)*  
*Due – Short paper* |
| **Unit VI** – *Critical Appraisal of Causation/Harm Studies* |
| **Reading Week (no classes)** |
| **Unit VII** – *In-Class Assignment (3 hours) - Critical Appraisal of an Intervention Study* |
| **Unit VIII** – *Qualitative Research Designs* |
| **Unit IX** – *Critical Appraisal of Qualitative Research Studies* |
| **Unit X** – *In-Class Assignment (3 hours) – Critical Appraisal of a Qualitative Study* |
| **Unit XI** – *Critical Appraisal of Systematic Reviews* |
| **Unit XII** – *Critical Appraisal of Practice Guidelines* |
| **Unit XIII** – *Knowledge Translation, Using Research Evidence to Change Clinical Practice in an Organization*  
*Final review, course evaluations* |
| **Final Exam (3 hours)** |
EIDM Integration

- EIDM is now integrated through all levels of the curriculum

- i.e. traditional 4 year student
EIDM Integration - Why?

- Opportunity for change
  - BScN curriculum was being revised
- Resources
  - Development of teaching-learning strategies
- Student feedback
  - “Why didn’t we learn about EBP sooner”
- Expected competency
  - Regulatory body (College of Nurses of Ontario)
  - Clinical agencies
EIDM Integration – How?

Step 1:
- Faculty members with expertise in EIDM met to discuss the “leveling” of the integration of EIDM throughout the curriculum
## Leveling of EIDM Outcomes

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>• EIDM Framework</td>
<td>• Searching</td>
<td>• Appraisal: Intervention Studies</td>
<td>• Reinforcement of Appraisal Skills</td>
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<td>• EIDM Steps</td>
<td>• Research designs</td>
<td>• Appraisal: Systematic Reviews</td>
<td>• Knowledge Translation</td>
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<tr>
<td>• Clinical Questions (PICO/PECO/PS)</td>
<td>• Appraisal: Intervention Studies</td>
<td>• Appraisal: Studies about Prognosis &amp; Causation/Harm</td>
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<td>• Quantitative vs Qualitative paradigms</td>
<td>• Appraisal: Qualitative Studies</td>
<td>• Appraisal: Studies about Prognosis &amp; Causation/Harm</td>
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<td>• 6S Pyramid/Searching</td>
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EIDM Integration – How?

Step 2:
- Faculty member appointed to oversee the integration of EIDM.

Step 3:
- Faculty member then requests current course materials
EIDM Integration – How?

Step 4:
- Faculty member reviews the current PBL/PBL course material to identify recommendations for how to integrate EIDM into the course materials.
- This includes:
  - Revision of existing course activities and/or evaluation measures
  - “New” course activities and/or evaluation measures
EIDM Integration – How?

Step 5:

- Faculty member meets with the faculty responsible for the courses
- Recommendations for integration of EIDM are made
- Discussion occurs, and decisions are made based on consensus about how to integrate EIDM into the courses.
EIDM Integration – How?

Step 6:
- Faculty member either revises and/or creates “new” course activities and/or evaluation measures.
  - Including “Tutor Guides” for faculty

Step 7:
- The revised and/or “new” course activities and/or evaluation measures are implemented into the courses.
Course Activities

Various activities used throughout all levels:

- Required textbook
- Library sessions (multiple)
- Online learning modules
- Embedded exercises
- Worksheets
Welcome to the Health Sciences Library’s Guide to Nursing Resources. McMaster’s Faculty of Health Sciences places a strong focus on Problem-Based Learning (PBL) and Evidence-Informed Decision Making (EIDM), both of which require students to have a strong understanding of the information resources available through the library.

When seeking health information, it is always best to take a systematic approach. It is a process that involves identifying information needs in the form...
Online Learning Modules

Leveling of Outcomes for Evidence-Informed Decision Making

Basic Stream  Basic-Accelerated Stream  RPN-BScN Stream

This course houses resources modules in Evidence-Informed Decision Making. Students are encouraged to use these modules to enhance learning of EIDM that occurs in PBL/PBL and Professional Practice courses throughout the curriculum.

Go to Module: Introduction to Evidence-Informed Decision Making
Note: directed towards Level 1 students Nursing and Health I (N1F03) and RPN-BScN students taking (N2A04) in the Fall Term
Go to self-assessment for Module: Introduction to Evidence-Informed Decision Making
This module is primarily based on Chapters 1 through 5 in the Cullum et al. "Evidence-based Nursing: An introduction" textbook.

Go to Module: Research Designs
Note: directed towards Level II students in Nursing Concepts in Health and Illness I (N2M04) and RPN-BScN students in Transition to Baccalaureate Nursing I (N2A04) in the Fall Term
Go to self-assessment for Module: Research Designs
This module is primarily based on Chapters 5 and 6 in the Cullum et al. "Evidence-based Nursing: An introduction" textbook.

Go to Module: Appraisal of Qualitative Studies
Note: directed towards Level II students in Nursing Concepts in Health and Illness II (N2N03) and RPN-BScN students in Transition to Transition to Baccalaureate Nursing II (N2AA4) in the Winter term.
See Part 6. Practice: Comparison of Different Research Designs for Self-Assessment material at this time.
Evaluation Measures

Various methods throughout the curriculum:

- Assignments
- Short papers
- Scholarly papers
- Exam
  - Now 2 quizzes
EIDM Integration – How?

Step 8:

- Prior to implementation, faculty member conducted ½ to full day faculty development workshops before the next term began
  - provided exposure to the EIDM content and teaching strategies for the faculty
EIDM Integration – How?

Step 9:
- Faculty member meets with the faculty responsible for the courses on an ongoing basis to review formal and anecdotal feedback from students and faculty on the integration of EIDM and, as necessary, further revisions are implemented.
Successes

- Significant improvement in Exam marks with integrated curriculum vs stand-alone course
  - Mean difference 8.53, 95% CI (7.52, 9.54), $P < 0.001$, $N = 2255$

- Informal and formal feedback that the redesign is “working”
  - Students
  - Faculty
Keys to Success

- Faculty buy-in
- Responsibility of one faculty member
- Resources
- Staggered implementation
- Faculty development sessions
- Library support
Challenges

- Faculty development
  - EIDM knowledge
  - Knowledge and skills for teaching EIDM

- Time

- Lack of student preparation

- Change in class size

- Continued resources for teaching-learning activities
Questions
For Further Information

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References

