Evidence Based Clinical Decision Making

COURSE 1
Medication Assessment and Collaboration (6 weeks)

COURSE 2
Patient Interviewing, Assessment and Documentation (8 weeks)

COURSE 3
Evidence-based Clinical Decision Making (6 weeks)

COURSE 4
Putting it all together: the ADAPT Certificate in Patient Care Skills (14 weeks)
Audio

• If you are unable to hear:
  – Ensure your speakers turned ON
  – Ensure your speakers are not muted / turned down low

• Still having difficulty?
  – Disconnect
  – Reconnect using the email URL you received, but this time select Use Telephone and follow the prompts in your email.
Zack Dumont
Where we’re going and how we’ll get there...

Learning Objectives

• Describe elements of EBM and evidence based clinical decision making
• Understand the impetus for pharmacists to practice EBM
• Understand where to find out more information about the course and decide if it’s right for you

Presentation Outline

• Review of EBM
• Preview of Evidence Based Clinical Decision Making (ADAPT Course 3)
• How to participate, and where the course fits into the overall ADAPT program
Figure 1: Total Health Expenditure, Canada, 1975 to 2014

Note
See Table A.1.

Source
National Health Expenditure Database, Canadian Institute for Health Information.
Canadian Drug Expenditures

• In 2012, prescription and non-prescription drugs (together) constituted 2nd-largest category of health expenditure
  – $33.3 billion (~16% of total; 2nd to hospitals ~30%)
• Forecasted to have increased by 1.1% in 2013, and 0.8% in 2014
• Prescribed drugs = 84.9% of total expenditure on drugs in 2012
Why do pharmacists need to practice EBM?

• The main role of the pharmacists is to take on responsibility for optimizing all of a patient’s drug therapy

• But no one said this was going to be easy... and lo and behold, it’s not
What are the challenges?

- Clinical practice and drug therapy are being bombarded with information (and misinformation)

*In addition to, and despite the above point,*

- Clinical practice and drug therapy are wrought with uncertainty
  - “A dynamic state in which there is a perception of being unable to assign probabilities for outcomes that prompts a discomforting, uneasy sensation that might be affected (reduced or escalated) through cognitive, emotive, or behavioural reactions, or by the passage of time and changes in the perception of circumstances” (Penrod, 2001)

  — The more we know, the more we realize we don’t know
Where do you look to resolve the uncertainty?

- Continuing education events
- Experts
- Journals
- Colleagues
- Manufacturer information
- Formulary
- Google/Wikipedia
- Guidelines
- Drug information resources
Where do you look to resolve the uncertainty?

- Each of these come with strengths
- Each of the come with weaknesses
- It’s not easy to tell which is which
  - We’ve all been duped, often when good intentions led the charge
Once exciting developments...

- Who remembers
  - Rofecoxib (Vioxx®)?
  - Rosiglitazone (Avandia®)?
  - Sibutramine (Meridia®)?
  - Calcitonin (Miacalcin®)?

- Some of these are now restricted, others are gone completely

- We thought we knew... but then we learned some more
Different Types of Evidence

• Observational Data
  – Retrospective
  – Prospective

• Controlled-trials
  – Randomized Controlled Trials (RCTs)

• Systematic Reviews

• Meta-analyses
What does the evidence tell us?

- **SAVOR-TIMI 53**
  - RCT
  - Over 16,000 patients with type 2 diabetes, history of or are risk for CV events
  - Half of the patients received saxagliptin 5 mg daily (or 2.5 mg if renal dysfunction)
  - The other half of the patients received placebo
  - Outcome of interest was a composite of CV death, myocardial infarction, or ischemic stroke
    - They determined that saxagliptin did not increase or decrease the rate of the primary endpoint
    - They ALSO determined that saxagliptin increased the rate of hospitalization for heart failure (3.5% vs 2.8%)
What does the evidence tell us?

• A Multicenter Observational Study of Incretin-based Drugs and Heart Failure
    – Analysis of observational data, pooling all incretin-based drugs, including saxagliptin
    – Over 1.5 million patients with type 2 diabetes
    – Case patients hospitalized with heart failure were matched to controls who were not
    – Outcome of interest was hospitalization for heart failure
  • They determined that incretin-based drugs (including saxagliptin) did not increase the rate of the primary endpoint
How do we reconcile this?

SAVOR-TIMI 53
- RCT
- Over 16,000 patients, T2DM, history of or are risk for CV events
- Half received saxagliptin 5 mg daily (or 2.5 mg if renal dysfunction)
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Observational study of incretin-based drugs
- Observational study
- Over 1.5 million patients with type 2 diabetes
- Case patients hospitalized with heart failure were matched to controls who were not
- Outcome of interest was hospitalization for heart failure
  - They determined that incretin-based drugs (including saxagliptin) did not increase the rate of the primary endpoint
And there’s another challenge...
Who do you trust more?

Dr Oz

MedlinePlus

Photo credit: Twitter

Photo credit: http://www.nih.gov/
And there’s another challenge...
Who do you trust more?

Dr Oz
• 3.81 million followers on Twitter
  – 5.91 million likes on Facebook

MedlinePlus
• 91.8 thousand followers on Twitter
  – Just over 2800 likes on Facebook
And there’s another challenge...

Who do you trust more?

Dr Oz

- 3.81 million followers on Twitter
  - 5.91 million likes on Facebook
- This isn’t a meant to be a joke (...well, not really)
- This is our challenge! This is what we are up against
  - “We” = the health-care community

Photo credit: Twitter
As a medical community,

What solutions have we come up with?

What solutions do we have?
Evidence-Based Medicine?
Evidence-Based Medicine
Often confused with...

Evidence
Some prefer Informed Evidence-Based Medicine
But still, often confused with...

Evidence
But was never meant to be only...

Evidence

- Evidence/Literature
- Patient Values & Preferences
- Experience
But was never meant to be only...

Evidence

Information

Evidence/Literature

Patient Values & Preferences

Experience
But was never meant to be only...

Evidence
But was never meant to be only... Evidence

Information

Evidence/Literature

Information

Patient Values & Preferences

Information

Experience
Should probably just be called...

Medicine

- Evidence/Literature
- Patient Values & Preferences
- Experience

Information
Evidence-Based Medicine (EBM)
Evidence Based Clinical Decision Making

ADAPT Course 3

• This course is designed to be taken by pharmacists who have an interest in this specific topic, AND/OR by pharmacists who are completing the adapt pathway to earn their ADAPT Certificate in Patient Care skills
ADAPT Course 3 Outline

• Understanding pharmacist responsibility
• Handling uncertainty
• Developing focused clinical questions and efficiently finding appropriate evidence to answer them
• Learning about evidence-based medicine and hierarchy of evidence
• Using analytical methods to appraise evidence
  – Tests for validity, “EBM Math” (eg, relative risk, number needed to treat, etc), tests for applicability
• Developing solution-focused recommendations based on evidence
Course Content: Cases

Recalling Betty Richards

In this course you will be revisiting the case of Betty Richards (from Course 1 and 2) in order to apply the principles and process of evidence-based practice to make a clinical decision about the scenario below. If you are unfamiliar with Betty Richards, we recommend you review the following resources:

- Video - Comprehensive Medication Assessment with Betty Richards (11:01 min)
- Betty Richards’ Medical Chart (PDF)

Betty Richards’ Current Case Scenario

For the purposes of this course, we will assume that Mrs. Richards had a stroke 3 months ago. Her blood pressure is now under control. Her most recent cholesterol panel indicates:

- Total cholesterol = 5.8
- HDL-C = 1.0, LDL-C = 3.9
- TG = 3.2
- TC:HDL ratio = 5.8
- She is currently taking pravastatin 20mg qhs.

Questions to Consider Before You Begin Course 3

- What is Mrs. Richards’ drug therapy problem?
- What is the evidence?
- What if a drug company representative told you that one of the ”newer” statins is better, based on a new randomized controlled trial, and a physician you work with wonders what your opinion is?
- How does evidence support you in making clinical decisions and taking responsibility for patient care?
Course Content: Videos
Course Content: Discussion Boards

**critique**
posted May 24, 2015 11:34 PM

- How can I apply the results to patient care? (this is the last section of the paper?)
- Were the study patients similar to my patient (Betty Richards)?
- These results can be applied to Betty because the patient population studied

**SPARCL and BR**
posted May 24, 2015 11:13 PM

As per table 1 of the SPARCL study, BR fits the patient profile studied: age > 60, ARB, 83% on aspirin, non-smoker, approx 3 months (87 days in the study) since stroke. Important outcomes were also discussed. There was no significant difference in outcomes between the groups.

**SPARCL APPLICATION TO PATIENT CARE**
posted May 24, 2015 4:14 AM

I am confident we can apply the results of this study to BR (and subsequent trials). The results were clinically significant for her, so I would be recommending Aspirin to prevent secondary stroke.

**Critiquing the Evidence..will this RCT SPARCL?**
posted May 24, 2015 2:50 AM

- How can I apply the results to patient care?
- As seen in practice already, many if not all patients with stroke or TIA are started on a statin. This study reinforces the position for long-term therapy.
Course Content: Tools

Formulating the Focused Clinical Question

→ **Patient or Problem** being addressed
  - Description of patient/disorder

→ **Intervention** being considered
  - E.g., exposure, diagnostic test, therapy

→ **Comparison intervention**
  - Placebo, no treatment, gold standard

→ **Outcome(s)** of interest
Course Content: More tools and worksheets

Focused Clinical Question Worksheet

Betty Richards’ Case

Mrs. Betty Richards (BR) had a stroke three months ago. Her blood pressure is now under control. The most recent cholesterol panel indicates:
- Total Cholesterol = 5.8
- HDL-C = 1.0
- LDL-C = 3.9
- TG = 3.2
- TC:HDL ratio = 5.8

She is currently taking pravastatin 20mg qhs.

What is / are the Drug Therapy Problems?

Develop a focused clinical question for Betty Richards’ Case:

Question:
Course Content: Resources

JAMAevidence

- Users’ Guides
- Rational Clinical Exam
- Core Topics
- Education Guides
- Learning Tools
- Podcasts
Course Content: Processes

1. Patient
2. Focused Clinical Question
3. Search for Evidence
4. Critique Evidence
5. Answer Clinical Question

Diagram: A cyclical process starting with a patient, leading to a focused clinical question, then searching for evidence, critiquing the evidence, answering clinical questions, and then back to the patient.
And of course...

- Opportunities to bring it all back to your workplace

- That’s the ADAPT way!
Entire ADAPT Program

• Comprehensive CE program to perfect pharmacists’ patient care and medication management skills
• 4 separate, but related, courses
• Each course lasts 4 - 8 weeks
• Online collaborative program that connects you with pharmacists across the country
• Practical, authentic...not just theory
Who should take it?

• Any pharmacist who provides direct patient care!
  – Community
  – Family Health Team
  – Hospital
  – Ambulatory Care
  – Other
How many hours of MY time a week?

• Average of 5-6 hours of time investment a week*:
  – Watching lectures and case scenarios
  – Creating written documentation
  – Time spent with patients in practice trialing new processes
  – Self assessment and reflection
  – Discussing results, performance and processes on discussion boards

*Weeks start on Wed and end on Tues!
What’s that about discussion boards?

• Much of learning done using discussion boards
• Learn from others: 
  – different provinces 
  – different practices 
  – different levels of expertise
• Guided by a moderator
• Class moves forward together
Do I have to be online at the same time as everyone else?

No. But...

• You must meet your weekly discussion board posting deadlines
• You miss out, class misses out on your contributions
• Some activities depend on the participation of your fellow learners
How do I manage my time?

We provide tools, resources, and support:

- Schedule of tasks, tips, and tricks
- Checklist
- Moderators

Be consistent: Look ahead, plan what you need, check in 2-3 X per week; EACH WEEK

Time investment also determined by your interest and need!
Does it prepare you for expanded scope?

**RESULTS**

Changes in personal practice activities after ADAPT

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<thead>
<tr>
<th>Service</th>
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<td>Provide medication reviews and/or assessments</td>
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<td>Develop and monitor “Comprehensive Annual Care Plans”</td>
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<td>62.5</td>
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<td>9.3</td>
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<tr>
<td>Provide therapeutic recommendations</td>
<td>1.8</td>
<td>7.1</td>
<td>37.5</td>
<td>50.0</td>
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<td>10.9</td>
<td>12.7</td>
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<tr>
<td>Renew/extend prescriptions</td>
<td>3.6</td>
<td>12.5</td>
<td>21.4</td>
<td>41.1</td>
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<td>35.2</td>
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<tr>
<td>Refuse to fill a prescription</td>
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<td>19.6</td>
<td>32.1</td>
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<td>19.6</td>
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<td>16.7</td>
<td>27.8</td>
<td>29.6</td>
<td>22.2</td>
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<tr>
<td>Change drug dosages/formulations</td>
<td>3.6</td>
<td>14.3</td>
<td>23.2</td>
<td>48.2</td>
<td>10.7</td>
<td>12.7</td>
<td>9.1</td>
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<td>Make therapeutic substitutions</td>
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<td>Prescribe for minor ailments</td>
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<td>44.6</td>
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<td>Initiate prescription therapy</td>
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<td>25.9</td>
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<tr>
<td>Order and interpret lab tests</td>
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<td>14.3</td>
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<td>21.4</td>
<td>42.9</td>
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<td>20.4</td>
<td>18.5</td>
<td>48.1</td>
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<tr>
<td>Administer drugs by injection</td>
<td>8.9</td>
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<td>48.1</td>
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ADAPT participants from 2011-2014 responding to practice change survey carried out in 2014 (n=241) report on their performance of expanded scope activities and medication management services.
What do I get when I’m done?

<table>
<thead>
<tr>
<th>Course</th>
<th>Credential</th>
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<tbody>
<tr>
<td>Course 1</td>
<td>CE Certificate in <strong>Medication Assessment &amp; Collaboration</strong> plus 30 CEUs</td>
</tr>
<tr>
<td>Course 2</td>
<td>CE Certificate in <strong>Patient Interviewing, Assessment and Documentation</strong> plus 40 CEUs</td>
</tr>
<tr>
<td>Course 3</td>
<td>CE Certificate in <strong>Evidence Based Clinical Decision Making</strong> plus 30 CEUs</td>
</tr>
<tr>
<td>Course 4 (including passing the final assessment):</td>
<td><strong>The ADAPT Certificate in Patient Care Skills and Medication Management</strong> (plus 20 CEUs)</td>
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## How much does it cost?

<table>
<thead>
<tr>
<th>Course</th>
<th>Full Price</th>
<th>Member Price*</th>
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<tbody>
<tr>
<td>1 (6 wks)</td>
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<td>$449</td>
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<tr>
<td>2 (8 weeks)</td>
<td>$499</td>
<td>$449</td>
</tr>
<tr>
<td>3 (6 weeks)</td>
<td>$399</td>
<td>$349</td>
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<tr>
<td>4 (4 weeks including final assessment)</td>
<td>$149</td>
<td>$149</td>
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*Also includes members of the CSHP*
How can I pay for it?

- **College of Pharmacists of BC** supports program; provides $1000 back to BC pharmacists who complete the program

- Eligible for **Allied Health Professional Fund in Ontario**; pharmacists may receive up to $1500 in CE reimbursement

- Employers have subsidized registration fees directly or through group rates
What do I need to get started?

ADAPT Patient Care Skills Development

Elevate your practice to the next level of patient care

ADAPT works. Now it works with you.

Same award-winning content, now easier to fit your schedule and your budget.

Courses are shorter and offered more often. Complete all four to challenge for the ADAPT Certificate in Patient Care Skills, or choose how many you want to complete and pay as you go.

Course 1: Medication Assessment and Collaboration
Course 2: Patient Interviewing, Assessment and Documentation
Course 3: Evidence-based Clinical Decision Making
Course 4: Putting It All Together: The ADAPT Certificate in Patient Care Skills

Consult the ADAPT schedule, take the self assessment

ADAPT gives you the foundational patient care and medication management skills you need to fully leverage expanded scopes of practice. It changes how you practise, while you practise.

www.pharmacists.ca/ADAPT
Other information to make an informed choice:

• Review the Prospectus
• Watch videos & testimonials
• Read the other FAQs
• Speak to our moderators
• Review our published research
• See who had earned the Certificate

www.pharmacists.ca/ADAPT
Other Questions?

Type your questions in the “Questions” box in the right hand panel on your screen.
Thank you!

Visit www.pharmacists.ca/adapt
Contact adapt@pharmacists.ca
Call: 1-800-917-9489: speak to customer service or directly to ADAPT personnel