TRANSLATING RESEARCH INTO PRACTICE

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OUTLINE
Translating Research Into Practice

- What does it mean?
- What is happening currently?
- What do we want in the future?
- How can we get there?

What is happening currently?

What do we want in the future?

Translating research into practice: What does it mean?

- To express in simple & less technical language
- To restate from one language into another

Expertise and skills acquired by a person through experience or education

- Awareness or familiarity gained by experience of a fact or situation

Translating research into practice: What does it mean?

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Know

Do

The Know-Do Gap

Ask

Answer

Know

Do
Translating research into practice: What does it mean?

- Applied health research
- Diffusion
- Dissemination
- Implementation
- Knowledge cycle
- Knowledge exchange
- Knowledge management
- Knowledge translation
- Knowledge to action

Knowledge mobilization
Knowledge transfer
Linkage and exchange
Participatory research
Research into practice
Research transfer
Research translation
Transmission
Utilization

Translating knowledge to practice
What is happening currently?

- Ranking of importance of factors influencing current practice:
  - Experience
  - Continuing education (practical)
  - Colleague influence
  - Continuing education (theory)
  - Professional literature *secondary sources
  - Entry level training

Stevenson et al (2005)

Translating knowledge to practice
What is happening currently?

- Challenges:
  - Time
  - Not enough evidence
  - Too much evidence
  - Acquiring evidence
  - Appraising evidence
  - Synthesizing evidence
  - Applying evidence

Mikhail et al, 2005

Translating knowledge to practice
What is happening currently?

- Too much evidence
  - PT: 1, 400 articles published per year
  - To keep up need to read 4 articles per day
  - If read 1 per day, after 1 year, 3 years behind

Paul Stratford, 2003

Translating knowledge to practice
What is happening currently?

- The evidence
  - Accessibility, presentation, applicability
- The individual
  - Individual skills for EBP
- The profession
  - Incentives
Translating knowledge to practice
What is happening currently?

- The partners
  - Pre-licensure training, healthcare organization structure & resources

- The patients
  - Greater access & desire

What is happening currently?

- Seeker
  - Evidence > experience

- Receptive
  - Evidence-oriented but relies on judgement of respected others

- Traditionalist
  - Clinical experience and authority most important

- Pragmatist
  - Focuses on day to day demands
  - Primary concern is efficiency

Green et al (2002). J of Family Practice 51(11)

PTs

- 14% seekers
- 68% pragmatists

Korner-Bitsensky et al, 2007

We need to address how we provide evidence so that pragmatists can have their type of practice style needs met!
Translating knowledge to practice

What do we want in the future?

- Selection of best questions & tests to use for assessment / diagnosis
  - Reliability
  - "Diagnostic accuracy"

Carpal Tunnel

Clinical Questions for Diagnosis

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>+LR</th>
<th>-LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbness disappears if shakes hand</td>
<td>90</td>
<td>30</td>
<td>1.29</td>
<td>.23</td>
</tr>
<tr>
<td>Night pain</td>
<td>96</td>
<td>59</td>
<td>2.34</td>
<td>.07</td>
</tr>
</tbody>
</table>

Sensitivity = detect those who actually DO have the condition
Specificity = detect those who actually DO NOT have the condition

Likelihood ratio = combine sensitivity & specificity; shift in probability

- +LR > 10 = -LR < 0.1 = quite conclusive
- +LR 5-10 = -LR < 0.1-0.2 = moderately conclusive
- +LR 1-2 = -LR 0.5-1 = small & rarely important

Carpal Tunnel

Clinical Tests for Diagnosis

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</thead>
<tbody>
<tr>
<td>Phalen sign</td>
<td>.68</td>
<td>.90</td>
<td>6.80</td>
<td>.36</td>
</tr>
<tr>
<td>Tinel sign</td>
<td>.68</td>
<td>.91</td>
<td>1.15</td>
<td>.78</td>
</tr>
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Translating knowledge to practice

What is happening currently?

I had considerable freedom of clinical choice of therapy: my trouble was that I did not know which to use and when. I would gladly have sacrificed my freedom for a little knowledge.

Sir Archie Cochrane

SYNTHESIZING INFORMATION

Synthesis of RCTs
LEVELS OF EVIDENCE

Meta-analysis
Systematic review
Randomized controlled trials

META-ANALYSIS FORREST PLOT

Favors treatment
Favors control

EFFECTIVENESS OF INTERVENTIONS ON KNEE OA PAIN

Translating knowledge to practice
What do we want in the future?

- Selection of best evaluation of effectiveness
  - What outcome measures should be used?
  - When should they be used?
  - How should they be used?

Use of Outcome Measures WHEN

It is important to measure at more than 2 time points
Use of Outcome Measures

**WHAT**

- Use of standardized outcome measures will help:
  - Program evaluation
  - Individual patient care: creation of "recovery curves" so that we can identify who requires more or less

**Selection of best OM for the population**

- **TUG**
- **Elderly Mobility Scale**

  - Reliability
  - Validity
  - Ceiling effect
  - Floor effect
  - Easy to undertake, score & interpret


**How much change is meaningful?**

- **MID for 6MWD in COPD: 25 meters**

- **MICD for gait speed post hip fracture: 0.10 m/s**

- **MDC for LEFS: 9 points**
  - LEFS: Scale development, measurement properties and clinical application. *Brykczynski et al, 2000*

- **MCID for Oswestry: 5.4 points**
  - Outcomes Measurement for Patients with Low Back Pain. *Reivich & Underwood, 1995*

**Translating knowledge to practice**

**What do we want in the future?**

- **Evidence-based practice**
  - The consciousness, explicit, and judicious use of current best evidence in making decisions about the care of individual patients (1996)

- The integration of best research evidence with clinical expertise and patient values (2000)

- **Evidence-informed practice**
Translating knowledge to practice
How can we get there?

Help:
- Professional Association: PABC
  - Library resources
    - Librarian
    - Tutorials
    - Resources: eg. getting articles from 22 top journals
  - The University
    - Faculty – academic & clinical
      - Community Engagement initiative
- The Health Care Organization: VCH, PHC
  - Library resources
  - Professional Practice Leaders, clinical specialists, education leaders, research leaders
  - Clinician Scientist positions
  - Research bodies: VCHRI, PHCRI

Little to no effect (Median effect size 8.1%)
- Educational materials
- Didactic sessions

Sometimes effective (Median effect size 7.0%)
- Audit & feedback
- Local opinion leaders
- Local consensus project
- Patient mediated interventions

Consistently effective (Median effect size 14.1%)
- Reminders
- Interactive education (with discussion of practice)
- Social marketing

Other ideas:
- Article alerts * PABC, self
- Journal clubs *PABC May 6th!
- Research updates *UBC
- Special interest groups
- Hot topic alerts/debates
e.g. midportion tendinopathy – a cardiovascular disease?
Translating knowledge to practice
How can we get there?

Canadian Agency for Drugs and Technologies in Health (CADTH)

www.cadth.ca

Translating knowledge to practice
How can we get there?

THANK YOU

Physio Canada 61(4)

1. Clarity & simplicity of the message
2. Readiness for change
3. Engagement
4. Leadership
5. Consistency
6. Local context
7. Effective relationships

1. We are all important pieces of the puzzle
2. Each piece is equally important
3. The puzzle is not complete if a piece is missing

THANK YOU

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BC RSRNnet

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