Impact of continuing education in health professions

Prof.dr. Michel Wensing
Topics

• How to measure impact of continuing education

• What do studies show on the impact of continuing education
Examples

- lectures and conferences
- small group meetings
- skills training
- online distant learning
- multidisciplinary teamwork training
- educational outreach visits
Quality program for general dentists

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High risk - baseline</strong></td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td><strong>High risk - follow up</strong></td>
<td>89%</td>
<td>98%</td>
</tr>
<tr>
<td><strong>Low risk - baseline</strong></td>
<td>21%</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Low risk - follow up</strong></td>
<td>29%</td>
<td>11% *</td>
</tr>
</tbody>
</table>

Adherence to ROE interval:  

Key messages

• Focus on professional performance in real clinical practice

• Impact of continuing education is related to wide range of factors
My profile

Roles

• Professor of health services research
• Head of M.Sc. Program HSR and implementation science
• Adjunct head of department of general practice
• Editor in Chief of journal Implementation Science

Themes

• Primary and ambulatory care
• Professional performance
• Organisation of healthcare
• Implementation science
Impact and how to measure it

**Concepts**
- Knowledge
- Skills
- Professional practice
- Health outcomes

**Measures**
- Knowledge test
- Tests in skills lab
- Direct observation, medical records, etc.
- Clinical measure, patient questionnaires, etc.
Lessons from research

• Performance in real practice is only moderately related to knowledge and skills tests

• Minimum numbers of observations are required for a reliable assessment
Professional practice

- Clinical decisions (e.g. drug prescribing)
- Technical practice (e.g. nursing, surgery)
- Counseling of patients
- Patient-centred communication
- Organization of practice
- Cost implications
- …
To conclude

- Measurement of impact requires careful planning

- Balancing validity, impact and feasibility
Impact of continuing education

How much is changed after a continuing education course?
Surgical team training

• One day with surgical team (operating room is closed), using lecture, group interaction, and videos

• Team training based on ‘crew resource management theory’ (from aviation), focused on communication routines, e.g.:
  — Challenge each other when safety risks are identified
  — Structured briefings and debriefings
  — Stepping back to reassess situations

Neily J. Association between implementation of a medical team training program and surgical mortality. JAMA 2010;304:1693-1700.
Effect of surgical team training on mortality (Neily 2010)

- Observational study in VA with 2 year follow up:
  - 74 facilities with training
  - 34 facilities without training

- Improvement, although not statistically significant:

<table>
<thead>
<tr>
<th>Risk-adjusted yearly mortality per 1000</th>
<th>Training</th>
<th>No training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Follow up</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

Neily J. Association between implementation of a medical team training program and surgical mortality. JAMA 2010;304:1693-1700.
# Cochrane reviews

<table>
<thead>
<tr>
<th></th>
<th>Number of studies</th>
<th>Effects on professional performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printen educational material</td>
<td>23</td>
<td>+ 4%</td>
</tr>
<tr>
<td>Educational meetings</td>
<td>56</td>
<td>+ 6%</td>
</tr>
<tr>
<td>Educational outreach visits</td>
<td>34</td>
<td>+ 5%</td>
</tr>
<tr>
<td>Audit and feedback</td>
<td>118</td>
<td>+ 5%</td>
</tr>
</tbody>
</table>
Why is it not more effective?

• Program missed crucial components
• Program was not sufficiently intensive
• Program did not reach the targeted group
• Contextual factors inhibited change (financial incentives, organisation of care, work force regulations)
• …
Another reason…

• Educational strategies are listed by delivery format (by Cochrane-EPOC)

• Perhaps we need a different or additional classification, for instance based on theory on behaviour change
Audit and feedback (Ivers 2012)

- Median effect: 4.3% improvement
- Lowest quartile: 0.5% improvement
- Highest quartile: 16.0% improvement
- No change in effect size since 1990 (with 16 trials)
Predictors of effect (Ivers 2012)

- Low baseline performance
- Feedback by supervisor or senior colleague
- Delivered written and oral
- Repeated feedback
- Inclusion of targets and action plan
Recommendations for evaluation

- Measure outcomes
- Compare with control condition
- Identify relevant program components
- Identify relevant context factors
- Collect participant experiences
- Use this information for feedback and program improvement
- Allow scientific research linked to evaluation
Feedback of residents to clinical teachers in three medical specialties

Canmeds

Key messages

• Focus on professional performance in real clinical practice

• Impact of continuing education is related to wide range of factors
Thank you!

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