Enhancing the Uptake of Guidelines: Development of a Guideline Implementability Tool

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Inspired Care. Inspiring Science.
Clinical practice guidelines are intended to bridge research knowledge & practice
What is the problem with guidelines?

Extrinsic

Intrinsic
Guideline Implementability

The perceived characteristics of guidelines that predict the relative ease of their implementation.

-Shiffman et al. 2005
Evidence to Practice

• Requires behaviour change
• Evidence is informed by medicine
• Behaviour change can be informed by psychology, social science, human factors, business, and design
How can we improve guidelines themselves, based on the best science from medicine and beyond?
What characteristics of guidelines affect implementability?

Psychology

Business

Medicine

Human Factors
Realist Review

• A realist review is a type of literature review which asks what works, for whom and under what circumstances.
Systematic Review Approach

Intervention → Outcome
Realist Review Approach

Context

Intervention → Mechanism → Outcome

Context

Intervention → Mechanism → Outcome

Context

Intervention → Mechanism → Outcome
Methods: Realist Review

• Systematic and iterative literature search (hybrid approach) (extracted >1500 attributes from ~350 articles)
• Data extraction in duplicate
• Data extraction more complex because it included contextual information
• Data analysis conducted by two groups independently
Building and Piloting an Implementability Tool

• For guideline developers
• Based on results from realist review
• Focuses on intrinsic elements of *content creation* and *content communication*
• Piloted with the Canadian Pediatrics Society and the Canadian Diabetes Association
# Guide-IT Prototype

<table>
<thead>
<tr>
<th>LANGUAGE factors</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>The wording of the Table includes one or more cases of <strong>semantic ambiguity</strong>? (i.e., a term can be interpreted in more than one way)</td>
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<tr>
<td>The wording of the Table includes one or more cases of <strong>syntactic ambiguity</strong>? (i.e., ambiguity related to the structure of the syntax as when no punctuation or the Boolean connectors leave its meaning unclear)</td>
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<tr>
<td>The wording of the Table includes one or more cases of <strong>deliberate ambiguity</strong>? (i.e., intentional ambiguity reflecting uncertainties, limited supporting evidence or lack of consensus among authors)</td>
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<tr>
<td>Simplicity</td>
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<tr>
<td>There are one or more cases where the information in the Table is complex (i.e., multiple steps, elements or actions that could lead to information overload)</td>
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<tr>
<td>Specificity</td>
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<tr>
<td>The content of the Table includes one or more cases of <strong>Passive voice</strong>?</td>
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<tr>
<td>The content of the Table includes one or more cases of <strong>Vague terms</strong>? (i.e., words that are open to broad interpretations: “Adequate”, “Moderate”, “Severe”, “Frequently”, “Probable”, “Few”)</td>
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</tr>
<tr>
<td>The content of the Table includes one or more cases of <strong>Under-specification</strong>? (i.e., a form of vagueness that occurs when terms are used with insufficient detail for definitive interpretation)</td>
<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Actionability</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Relevant sections of the Table indicate <strong>WHAT</strong> action(s) to perform?</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>Relevant sections of the Table provide the appropriate term(s) to convey the <strong>LEVEL OF OBLIGATION</strong> to perform the action (i.e., MUST/SHOULD/MAY)</td>
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<tr>
<td>Relevant sections of the Table indicate <strong>WHEN</strong> to perform the action? (i.e., precisely under what conditions to do the action)</td>
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<tr>
<td>Relevant sections of the Table indicate <strong>WHY</strong> to perform the action? (i.e., the reasons the action should be performed)</td>
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<tr>
<td>Relevant sections of the Table indicate for <strong>WHOM</strong> the action applies to?</td>
<td>1</td>
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</tr>
</tbody>
</table>
Examples using Guide-IT
Hypertension in older adults

- Most guidelines ignore tradeoffs
- Evidence: Patients >70 with falls risk and on HTN medication: absolute 5-yr risk of stroke decreased from 26 to 18 %, but serious fall/injury risk increased 18 to 24% (Tinetti 2008)
- Patient values: 1/2 opted for avoiding stroke but 1/2 opted for avoiding falls/fractures
Evidence: No single diagnosis threshold predicts clinically relevant perinatal outcomes

Lower threshold may have clinical benefit, but also mislabels more

Value: Are we more concerned about overdiagnosing or underdiagnosing?

Providers not in agreement regarding acceptable level of risk or threshold

Screening for Gestational DM – CDA guideline
### HbA1c Target and Population

<table>
<thead>
<tr>
<th>HbA1c Target</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5%</td>
<td>Newly diagnosed, healthy</td>
</tr>
<tr>
<td>7%</td>
<td>Average</td>
</tr>
<tr>
<td>8%</td>
<td>Older, complications</td>
</tr>
</tbody>
</table>

**Specific, Actionable**

6.5% to 8% reflects the strength of evidence.

**Individualize treatment**

**Evidence:** HbA1C target should depend upon the patient’s health, age and values.

**Clarity:** describing 3 specific populations with 3 specific targets is clearer to understand and use in practice.
Choose A1C targets based on patient characteristics

- **Maximizing benefit**
  - Consider if:
    - New onset
    - Young age
    - No co-morbid conditions

- **Most patients**
  - with type 1 and type 2 diabetes
  - **7.0%**

- **Minimizing harm**
  - Consider if:
    - Limited life expectancy
    - High level of functional dependency
    - Multiple co-morbidities (extensive vascular diseases)
    - Recurrent severe hypoglycemia
    - Longstanding diabetes resistant to intensive treatment

**Evidence:** Some benefit for alternate A1C target for specific populations

**Presentation:** Use words and images together to explain complex concepts
A target A1C ≤ 6.5% may be considered in some patients with type 2 diabetes to further lower the risk of nephropathy and retinopathy.

Most patients with type 1 and type 2 diabetes

Consider if:
- Limited life expectancy
- High level of functional dependency
- Extensive vascular disease
- Multiple co-morbidities
- Recurrent severe hypoglycemia
- Hypoglycemia unawareness
- Long standing diabetes for whom it is difficult to achieve A1C ≤ 7.0% despite effective doses of multiple antihyperglycemic agents including intensified basal-bolus insulin therapy.
Conclusions

GUIDE-IT

Bringing together the best scientific evidence with innovations from knowledge integration and behaviour change to build better guidelines.
Questions? Comments?

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References