HSR Satellite Session

November 14, 2016

Dr. Julia E. Moore & Dr. Sharon Straus
Today’s Roadmap

- Activity 1: Learning goals
  - Presentation 1: What is knowledge translation?
    - Activity 2: Dissemination or implementation
  - Presentation 2: How do we bring research to practice?
    - Activity 3: What do you want to change?
  - Presentation 3: Identify barriers and facilitators to change
    - Activity 4: Why would people change (or not change)?
  - Presentation 4: Mapping barriers and facilitators
    - Activity 5: Mapping barriers and facilitators
  - Presentation 5: Implementation strategies
    - Activity 6: Select implementation strategies
Course Developers

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Sobia Khan, MPH

Sharon E. Straus, MD, MSc, FRCPC
Learning Objectives

Presentation 1: Introduction to KT
• Define knowledge translation (KT)
• Identify differences between dissemination and implementation

Presentation 2: Bringing research to practice
• Describe the knowledge-to-action model (KTA)
• Explain important aspects of designing an evidence-informed, theory-driven program (ETP)

Presentation 3: Identify barriers & facilitators to change
• Describe how to assess barriers & facilitators to change
• Identify barriers and facilitators related to the practice change

Presentation 4: Mapping barriers & facilitators
• Explain how to map barriers & facilitators to the Theoretical Domains Framework
• Describe COM-B

Presentation 5: Implementation strategies
• Define implementation strategies
• Systematically select implementation strategies
Activity #1: Setting Learning Goals

You have 15 minutes to:

1. Use the ‘Setting Learning Goals’ worksheet to identify some concrete learning goals for this workshop. (5 minutes)

2. Discuss learning goals in pairs/small groups. (5 minutes)

3. Discuss learning goals as a large group. (5 minutes)
Activity #1: Discussion

- What are some of your learning goals for this workshop?
Presentation 1: What is Knowledge Translation?
What is Knowledge Translation?

Knowledge translation:

- dynamic and iterative process includes synthesis, dissemination, exchange and ethically sound application of knowledge

- improves health services and products, and strengthen the health care system

- takes place within a complex system of interaction

CIHR definition (www.cihr-irsc.gc.ca/e/29418.html)
Why does KT matter?

Major gaps between evidence and practice

- Without KT
- With KT

17 Years

3 Years

Why does KT matter?

• It is estimated that approximately 85% of research resources are wasted
  o Low priority questions addressed
  o Important outcomes not assessed
  o For every 100 projects:
    ▪ 50 not published
    ▪ 25 not usable or replicable
    ▪ 12.5 have serious design flaws
  = 87.5% wasted

Chalmers & Glasziuo (2009) Avoidable waste in the production and reporting of research evidence.
Different Terms for KT

Knowledge Transfer
Research Utilization
Research Use
Knowledge Exchange
Implementation Science
Knowledge Translation
Knowledge Mobilization
Knowledge Uptake
Dissemination and Diffusion
The Knowledge to Action Model

Knowledge Creation Funnel

The **knowledge creation funnel** conveys the idea that knowledge needs to be increasingly distilled before it is ready for application.

- **Knowledge Inquiry:**
  First generation knowledge (e.g., broad base primary studies or information)

- **Knowledge Synthesis:** Methodologies for determining what is known in a given area or field and what the knowledge gaps are (e.g., systematic reviews)

- **Knowledge Tools/Products:**
  Refined knowledge for decision-making (e.g., guidelines, decision aids, algorithms)

The **action cycle** emphasizes the **dynamic action steps** needed to apply the knowledge created (in any sequence). It is intended to **deliberately** cause change.

The Knowledge to Action Model

Knowledge creation, distillation and dissemination are not sufficient to ensure behaviour change…

We need to effectively implement!
**Dissemination and Implementation Science**

- **Dissemination Science**
  The scientific study of processes and variables that determine and/or influence the spread/sharing of knowledge to various stakeholders. (NIH)

- **Dissemination Practice**
  Purposive distribution of information and intervention materials to a specific audience. The intent is to spread information. (NIH)

- **Implementation Science**
  The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)

- **Implementation Practice**
  The use of strategies to adopt and integrate evidence-based interventions and change practice within specific settings. (NIH)

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Activity #2: Dissemination or implementation?

You have 15 minutes to:

As a group, read the following examples of projects and determine whether they constitute dissemination practice, implementation practice, dissemination science, or implementation science.
1. Creating rapid heart failure clinics in hospitals that see patients within 48 hours after being discharged following a heart attack.

**Knowledge Translation**

**Dissemination**
- **Dissemination Practice**
  Purposive distribution of information and intervention materials to a specific audience. The intent is to spread information. (NIH)
- **Dissemination Science**
  The scientific study of processes and variables that determine and/or influence the spread/sharing of knowledge to various stakeholders.

**Implementation**
- **Implementation Practice**
  The use of strategies to adopt and integrate evidence-based interventions and change practice within specific settings. (NIH)
- **Implementation Science**
  The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)
2. Comparing two different website layouts to determine which format patients find more usable.

Knowledge Translation

Dissemination

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Implementation

- **Implementation Practice**
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- **Implementation Science**
  The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)
3. Developing and distributing policy briefs and research summaries to policy makers.

**Knowledge Translation**

<table>
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</table>
4. Health facilities were provided with a set of tools, training and support to decrease staff practices that were associated with hospital-acquired infections.

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- **Implementation Science**
  The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)
5. A professional association collaborated with provincial agencies to make sure health care professionals represented by the association had received copies of their new clinical guidelines.

Knowledge Translation

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**Dissemination Science**<br>The scientific study of processes and variables that determine and/or influence the spread/sharing of knowledge to various stakeholders.

**Implementation Science**<br>The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)
6. A group wants to evaluate whether knowledge brokers are effective at supporting behaviour change in community organizations.

Knowledge Translation

Dissemination

Practice

- **Dissemination Practice**
  Purposive distribution of information and intervention materials to a specific audience. The intent is to spread information. (NIH)

Science

- **Dissemination Science**
  The scientific study of processes and variables that determine and/or influence the spread/sharing of knowledge to various stakeholders.

Implementation

- **Implementation Practice**
  The use of strategies to adopt and integrate evidence-based interventions and change practice within specific settings. (NIH)

- **Implementation Science**
  The scientific study of the methods to promote the uptake of research findings in clinical, organizational, or policy contexts. (Implementation Science journal)
7. A trial was conducted to determine whether policymakers are more likely to look to guidelines, research summaries, or the media for evidence.
Presentation 2: How do we bring research to practice?
The Knowledge to Action Model

KT is the key to the black box of “what happened”
“ISLAGIATT” principle
Operationalizing the KTA: Developing an ETP

**LEGEND**

A. **Identify knowledge to action gaps**
   1. Describe your program’s long-term goal
   2. Identify and consult with key stakeholders for your program
   3. Define the practice change
   4. Define the gap

B. **Adapt knowledge to local context**
   5. Adapt the practice change

C. **Assess barriers and facilitators to knowledge use**
   6. Identify barriers and facilitators
   7. Organize barriers and facilitators to select individual barriers to the practice change
   8. Map barriers and facilitators to a behaviour change framework

D. **Select, tailor, implement interventions**
   9. Map barriers and facilitators to a behaviour change theory and implementation strategy
   10. Select implementation strategies
   11. Identify relevant barriers and facilitators for each implementation strategy
   12. Develop key messages/actions for each selected strategy considering the relevant barriers and facilitators
   13. Describe implementation strategy elements
   14. Operationalize each implementation strategy

E. **Bringing it all together**
   15. Develop a logic model
Consider the evidence for implementation strategies

How confident are we that this activity is a good use of our resources AND improves outcomes?

Bumbarger & Rhoades, 2012
Evidence-Based WHAT?

• Evidence-based programs  
  o Program comprised of an intervention and implementation strategies that have been systematically evaluated and proven to be effective at producing an outcome.

• Evidence-based guidelines  
  o Outlines recommended practice that is based on systematic review of evidence.

• Evidence-based implementation strategies/KT interventions  
  o Strategies that have been evaluated to implement evidence into practice
What if there is no evidence-based program?

Evidence-informed theory-driven program (ETP)

- Practice change must have high-quality research evidence of effectiveness that it can achieve desired outcomes
- Implementation strategies must be supported by implementation research evidence
- Implementation strategies must be linked to practice change through behaviour change theory
Examples
Example: Mobilization of Vulnerable Elders (MOVE)
## Part A – Define Your Goals

<table>
<thead>
<tr>
<th>Question</th>
<th>Example answer: MOVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the intended purpose/overall objective of the practice change (i.e., what impact do you hope to see as a result of the practice change)?</td>
<td>Improved functional status, ability to return home, decrease length of stay</td>
</tr>
</tbody>
</table>
### Part A – Define Your Goals

<table>
<thead>
<tr>
<th>Question</th>
<th>Example answer: MOVE</th>
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<tbody>
<tr>
<td>2. In which setting(s) is this practice change meant to take place?</td>
<td>Hospitals</td>
</tr>
</tbody>
</table>
### Part A – Define Your Goals

**Question**

3. List all key stakeholders who are expected to change as a result of the implementation.

<table>
<thead>
<tr>
<th>Example answer: MOVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Nurses</td>
</tr>
<tr>
<td>• Allied health professionals</td>
</tr>
<tr>
<td>• Physicians</td>
</tr>
<tr>
<td>• Patients</td>
</tr>
<tr>
<td>• Family members</td>
</tr>
<tr>
<td>• Volunteers</td>
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## Part A – Define Your Goals

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<tr>
<td>4. What specific behaviours/practices do each of the stakeholder groups need to make?</td>
<td>• Assess and document mobility</td>
</tr>
<tr>
<td></td>
<td>• Mobilize patients at least 3 times/day</td>
</tr>
<tr>
<td></td>
<td>• Tailor mobility to patient’s abilities</td>
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</table>
### Part A – Define Your Goals

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<tbody>
<tr>
<td>5. How often will these stakeholders engage in the changed practice?</td>
<td>Multiple times a day, so that everyone is moving at least 3 times a day</td>
</tr>
</tbody>
</table>
### Part A – Define Your Goals

**Question**

6. What is the evidence for this practice change?

**Example answer:** MOVE

Mobilizing patients can improve functional status, decrease length of stay and increase chances of returning home (in hospital settings).
**Part A – Define Your Goals**

<table>
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<tbody>
<tr>
<td>7. Who will be involved with implementing this change (i.e., making the change happen)?</td>
<td>Will create an implementation team on the unit, including nurses, OT/PT, physicians, management</td>
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</table>
# Part A – Define Your Goals

<table>
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| 3. List all key stakeholders who are expected to change as a result of the implementation. | • Nurses  
• Physiotherapists/ occupational therapists  
• Physicians  
• Patients  
• Family members  
• Volunteers |
| 4. What specific behaviours/practices do each of the stakeholder groups need to make? | • Assess and document mobility  
• Mobilize patients at least 3 times/day  
• Tailor mobility to patient’s abilities |
| 5. How often will these stakeholders engage in the changed practice? | Multiple times a day, so that everyone is moving at least 3 times a day |
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| 7. Who will be involved with implementing this change (i.e., making the change happen)? | Will create an implementation team on the unit, including nurses, OT/PT, physicians, management |
Program Example: MOVE

MOVE
(Mobilization of Vulnerable Elders)

Practice Change
- Assess and document mobility
- Mobilize patients at least 3 times/day
- Tailor mobility to patient’s abilities

Implementation Strategies
Activity #3: What do you want to change?

You have 45 minutes to:

1. Thinking of a project you are working on, or using the example project provided, complete the project outline worksheet. (20 minutes)

2. Exchange your project outline with a partner and provide feedback in the “peer feedback” section of the project outline table. (15 minutes)

3. Discuss as a large group. (10 minutes)
Activity #3: Discussion

• Did you experience any challenges when filling out the project outline?

• What is the specific behaviour/practice change each stakeholder needs to make?
Presentation 3: Identifying Barriers & Facilitators to Change
Operationalizing the KTA: Developing an ETP

LEGEND

A. Identify knowledge to action gaps
1. Describe your program’s long-term goal
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B. Adapt knowledge to local context
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13. Describe implementation strategy elements
14. Operationalize each implementation strategy

E. Bringing it all together
15. Develop a logic model
Change as Loss

• Think of change as a potential loss.
• What might someone lose (or think they are losing)?

Identify Barriers and Facilitators

- Surveys
- Observations
- Literature Reviews
- Interviews/focus groups
- Discussions with key stakeholders

Identify Barriers and Facilitators
Barriers and Facilitators: MOVE

• **Barrier:**
  “It’s not my job to move patients, that’s what physiotherapists are for.”

• **Barrier:**
  “I’m afraid patients will fall if we get them moving.”

• **Facilitator:**
  “Once I started encouraging patients to get up, many did it on their own. It was great to see changes happen so quickly.”
Levels of Assessment

Population/country/province | Organization | Provider | Patient/family
Barriers to Practice Change vs. Barriers to Implementation

MOVE (Mobilization of Vulnerable Elders)

Practice Change
- Assess mobility within 24 hours of admission
- Each patient mobilized at least 3 times a day
- Mobility is tailored to patient’s abilities

Implementation Strategies
Facilitators

Remember to assess facilitators as well as barriers.
Activity #4: Why would people change (or not change)?

You have 45 minutes to:

1. Brainstorm 10 barriers/facilitators for your project. Write these ETP Mapping Worksheet #1. (15 minutes)

2. Discuss your barriers/facilitators with a partner/in small group. (15 minutes)

3. Discuss as a large group. (15 minutes)
Activity #4: Discussion

- What are some barriers and facilitators you identified?
- Are they all about the practice change (i.e., do any relate to implementation)?
Presentation 4: Mapping Barriers & Facilitators
Operationalizing the KTA: Developing an ETP

LEGEND

A. Identify knowledge to action gaps
   1. Describe your program’s long-term goal
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E. Bringing it all together
   15. Develop a logic model
Question

• Are you familiar with the Theoretical Domains Framework?
Map Barriers and Facilitators to Framework – Theoretical Domains Framework (TDF)

What do frameworks do?
• Help us understand and/or explain influences on implementation and outcomes

Why use a behaviour change framework?
• To understand barriers and facilitators
• To create surveys or interview guides

- Knowledge
- Skills
- Social/Professional Role and Identity
- Beliefs about Capabilities
- Optimism
- Beliefs about Consequences
- Reinforcement
- Intentions
- Goals
- Memory, Attention and Decision Processes
- Environmental Context and Resources
- Social Influences
- Emotion
- Behavioural Regulation

Mapping Barriers and Facilitators to TDF - MOVEs

**Barrier:**
“I’m afraid patients will fall if we get them moving.”

- **Knowledge**
- **Skills**
- **Beliefs about Capabilities**
- **Social/Professional Role and Identity**
- **Optimism**
- **Beliefs about Consequences**
- **Reinforcement**
- **Intentions**
- **Goals**
- **Memory, Attention and Decision Processes**
- **Environmental Context and Resources**
- **Social Influences**
- **Emotion**
- **Behavioural Regulation**
**Barrier:**

“It’s not my job to move patients, that’s what physiotherapists are for.”

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Social/Professional Role and Identity</th>
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</tr>
<tr>
<td>Emotion</td>
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<td></td>
<td></td>
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Facilitator:
“Once I made the decision to change and put a little effort in, I immediately saw benefits. Patients were getting up on their own most of the time, it was amazing!”
### Mapping Barriers and Facilitators to TDF – CTFPHC

**Barrier:**
“I normally follow the recommendations my colleagues use, but some use national and some use provincial guidelines, so then what do I do?”

<table>
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<td></td>
<td>Emotion</td>
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Barrier:
“I’m afraid of missing a diagnosis.”

Mapping Barriers and Facilitators to TDF – CTFPHC

Facilitator:
“Knowing that well-known experts in the field use CTFPHC guidelines gives me more confidence that I should use them too.”

# ETP Mapping Worksheet #1: MOVE Example

<table>
<thead>
<tr>
<th>Barrier/facilitator</th>
<th>TDF Domain</th>
<th>COM-B Construct</th>
</tr>
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<tbody>
<tr>
<td>1.  “I’m afraid patients will fall if we get them moving.”</td>
<td>Beliefs about consequences; emotion</td>
<td></td>
</tr>
<tr>
<td>2.  “It’s not my job to move patients, that’s what physiotherapists are for.”</td>
<td>Social/Professional role and identity</td>
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<td>3.  “Once I made the decision to change and put a little effort in, I immediately saw benefits. Patients were getting up on their own most of the time, it was amazing!”</td>
<td>Reinforcement</td>
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Behaviour Change Theory
Question

• Are you familiar with any behaviour change theories?
How do we change our thinking?
Behaviour Change Theory (COM-B)

What do theories do?
- Predict and understand causal mechanisms

Why use a behaviour change theory?
- To understand how people will change

Capabilities - Example

• MOVE:
  - Knowing how to use hoyer
Opportunities - Example

• **MOVE:**
  - Working in an organization/environment that encourages elderly patients to be moved/move
Motivation - Example

• MOVE:
  o Belief that mobilization is their role
# COM-B and TDF

<table>
<thead>
<tr>
<th>COM-B</th>
<th>TDF</th>
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<tbody>
<tr>
<td>Capability (Psychological)</td>
<td>Knowledge</td>
</tr>
<tr>
<td></td>
<td>Skills</td>
</tr>
<tr>
<td></td>
<td>Memory/Decision processes</td>
</tr>
<tr>
<td></td>
<td>Behavioural regulation</td>
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<tr>
<td>Capability (Physical)</td>
<td>Skills</td>
</tr>
<tr>
<td>Opportunity (Physical)</td>
<td>Environmental context/resources</td>
</tr>
<tr>
<td>Opportunity (Social)</td>
<td>Social influences</td>
</tr>
<tr>
<td>Motivation (Reflective)</td>
<td>Beliefs about capabilities</td>
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<td>Motivation (Automatic)</td>
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Alternative Behaviour Change Theories

- Theory of Planned Behaviour
- Diffusion of Innovation Theory
- The Social Cognitive Theory
- Transtheoretical Model (Stages of Change)
- Social Norms Theory
KT Requires a Shift in Thinking

Letting it happen → Helping it happen → Making it happen

Activity 5: Mapping Barriers & Facilitators

You have 40 minutes to:

1. Map your previously identified barriers and facilitators to the appropriate TDF domains. (20 minutes)

2. Then fill-in the appropriate COM-B categories that your barriers and facilitators map to. (10 minutes)

3. Discuss COM-B and TDF mapping as a large group. (10 minutes)
## COM-B and TDF

<table>
<thead>
<tr>
<th>COM-B</th>
<th>TDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability (Psychological)</td>
<td>Knowledge</td>
</tr>
<tr>
<td></td>
<td>Skills</td>
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<tr>
<td></td>
<td>Memory/Decision processes</td>
</tr>
<tr>
<td></td>
<td>Behavioural regulation</td>
</tr>
<tr>
<td>Capability (Physical)</td>
<td>Skills</td>
</tr>
<tr>
<td>Opportunity (Physical)</td>
<td>Environmental context/resources</td>
</tr>
<tr>
<td>Opportunity (Social)</td>
<td>Social influences</td>
</tr>
<tr>
<td>Motivation (Reflective)</td>
<td>Beliefs about capabilities</td>
</tr>
<tr>
<td></td>
<td>Beliefs about consequences</td>
</tr>
<tr>
<td></td>
<td>Social/Professional role/identity</td>
</tr>
<tr>
<td></td>
<td>Optimism</td>
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<td></td>
<td>Intentions</td>
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<td></td>
<td>Goals</td>
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<tr>
<td>Motivation (Automatic)</td>
<td>Emotion</td>
</tr>
<tr>
<td></td>
<td>Reinforcement</td>
</tr>
</tbody>
</table>
Activity #5: Discussion

- Did mapping your barriers & facilitators change your thinking about your project?
- Did you face any challenges when mapping barriers & facilitators?
- Were you surprised by any of the TDF constructs that your barriers and facilitators mapped to?
- Which of the constructs (capability, opportunity, or motivation) did most of your barriers/facilitators map to?
Presentation 5: Implementation strategies
Implementation strategies

• Methods or techniques used to enhance the adoption of a clinical practice change.

Proctor et al., (2013) Implementation strategies: recommendations for specifying and reporting
Examples of Implementation Strategies

- Audit & feedback
  - Needs an actionable message to be effective

- Reminders
  - Reminder fatigue
  - Effects disappear when reminder is removed

- Education materials
  - Cheap, easy, small behaviour change
Types of implementation strategies

**Discrete strategy**: consists of 1 component
  - Example: reminders

**Multi-faceted strategies**: combining a number of strategies
  - Example: educational meeting, educational materials, audit and feedback,

Proctor et al., (2013) Implementation strategies: recommendations for specifying and reporting
Types of Implementation Strategies

• Controlling vs. facilitating

• Voluntary vs. non-voluntary

• Target audience(s):
  - Health professionals
  - Organizations
  - Consumers/patients/public
  - Policymakers

Reference: Grol 2005; Proctor 2009; EPOC; Neilsen at GIC
Implementation strategies: Challenges

Names:
- Multiple meanings for the same term
- Different terms with the same or similar meanings

Definitions:
- Poorly described/conceptually defined
- Lack operational definitions and manuals to guide their use

Proctor et al., (2013) Implementation strategies: recommendations for specifying and reporting
Implementation Strategy Sources

• EPOC (2015)
• Powell (2015)
• Rx for Change (up to 2013)
• Dunton (2010)
• Abraham (2008)
• Leeman (2007)
• Maibach (2007)
• EPOC (2002)

• Perdue (2005)
• Psi (2004)
• Walter (2003)
• Choen (2000)
• Vlek (2000)
• Goel (1996)
• Geller (1990)
Common Implementation Strategies

- Audit and feedback
- Educational materials
- Educational meetings (patient and clinician)
- Local opinion leaders
- Reminders

Effective Practice and Organisation of Care (EPOC). EPOC Taxonomy; 2015. Available at: https://epoc.cochrane.org/epoc-taxonomy
Effectiveness of Implementation Strategies

Most interventions have modest effects on outcomes

10%

Overall absolute change in performance of 10%

## Effects of Implementation Strategies

<table>
<thead>
<tr>
<th>Implementation strategy</th>
<th>Magnitude of effect (median absolute improvement of care)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed educational material (n=45)</td>
<td>2.0% (IQR 0% to +11.0%)</td>
<td>Gigure et al. 2012</td>
</tr>
<tr>
<td>Educational meetings (n=81)</td>
<td>6.0% (IQR +1.8% to +15.3%)</td>
<td>Forsetlund et al. 2009</td>
</tr>
<tr>
<td>Education outreach (n=69)</td>
<td>5.6% (IQR +3.0% to +9.0%)</td>
<td>O’Brien et al. 2007</td>
</tr>
<tr>
<td>Local opinion leaders (n=18)</td>
<td>12.0% (IQR +6.0% to +14.5%)</td>
<td>Flodgren et al. 2011</td>
</tr>
<tr>
<td>Audit and feedback (n=82)</td>
<td>4.3% (IQR +0.5% to +16%)</td>
<td>Ivers et al. 2012</td>
</tr>
<tr>
<td>Reminders (n=32)</td>
<td>11.2% (IQR +6.5% to +19.6%)</td>
<td>Arditi et al. 2012</td>
</tr>
</tbody>
</table>
## Implementation Strategies
### Cochrane EPOC on CADTH’s Rx for Change

**RX for Change** is a searchable database containing current research evidence about interventions used to alter behaviors. [https://www.cadth.ca/rx-change](https://www.cadth.ca/rx-change)

<table>
<thead>
<tr>
<th>Implementation strategy</th>
<th>Definition</th>
<th>Effectiveness</th>
<th>TDF domains</th>
</tr>
</thead>
</table>
| Audit & feedback              | Any summary of clinical performance of health care over a specified period of time. May also include recommendations for clinical action.                                                               | 45 reviews (8 high quality); effective for improving appropriate care and prescribing outcomes when used alone or combined with other implementation strategies.                                             | • Behavioural regulation  
  • Intentions  
  • Beliefs about consequences  
  • Reinforcement  
  • Emotion |
| Distribution of educational materials | Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications.                                      | 60 reviews (13 high quality); effective for improving appropriate care outcomes.                                                                                                                        | • Knowledge  
  • Skills  
  • Behavioural regulation  
  • Beliefs about capabilities  
  • Intentions  
  • Goals  
  • Beliefs about consequences |
| Reminders                     | Patient- or encounter-specific information, provided verbally, on paper or on a computer screen, which is designed or intended to prompt a health professional to recall information. Computer -aided decision support is included. | 71 reviews (14 high quality); effective for improving appropriate care and prescribing outcomes                                                                                                           | • Memory, attention and decision processes  
  • Behavioural regulation  
  • Reinforcement |

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Practice Change or Implementation Strategies?

• An organization wants to use audit and feedback to decrease physician prescribing of antipsychotics in long-term care.
• An organization uses reminder to encourage health care workers to get the flu vaccine.
• A community of practice is set up to support stroke best practices across the province.
• An organization aims to use educational materials to help doctors talk to patients about prostate cancer screening harms and benefits.
Operationalizing the KTA

LEGEND

A Identify knowledge to action gaps
   1. Describe your program’s long-term goal
   2. Identify and consult with key stakeholders for your program
   3. Define the practice change
   4. Define the gap

B Adapt knowledge to local context
   5. Adapt the practice change

C Assess barriers and facilitators to knowledge use
   6. Identify barriers and facilitators
   7. Organize barriers and facilitators to select individual barriers to the practice change
   8. Map barriers and facilitators to a behaviour change framework

D Select, tailor, implement interventions
   9. Map barriers and facilitators to a behaviour change theory and implementation strategy
   10. Select implementation strategies
   11. Identify relevant barriers and facilitators for each implementation strategy
   12. Develop key messages/actions for each selected strategy considering the relevant barriers and facilitators
   13. Describe implementation strategy elements
   14. Operationalize each implementation strategy

E Bringing it all together
   15. Develop a logic model
Select Implementation Strategies Using APRAISE

- REFER TO APRAISE Handout

A - Appropriateness
P - Practicability/Feasibility
R - Risks
A - Affordability
I - Impartiality
S - Sustainability
E - Effectiveness and cost-effectiveness

Adapted from:
ETP Mapping Worksheet #2

<table>
<thead>
<tr>
<th>Implementation Strategy</th>
<th>TDF Domain</th>
<th>A</th>
<th>P</th>
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<th>Strategy Selected? (Y/N)</th>
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<tbody>
<tr>
<td>Beliefs about capabilities</td>
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</table>
ETP Mapping Worksheet #2: MOVE

<table>
<thead>
<tr>
<th>Implementation Strategy</th>
<th>TDF Domain</th>
<th>A</th>
<th>P</th>
<th>R</th>
<th>A</th>
<th>I</th>
<th>S</th>
<th>E</th>
<th>Strategy Selected (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beliefs about capabilities</td>
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<td>✓</td>
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<td>Yes</td>
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<tr>
<td>Beliefs about consequences</td>
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<td>Behavioural regulation</td>
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<td>Intentions</td>
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<td>Memory, attention and decision processes</td>
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<td>Optimism</td>
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<tr>
<td>Reinforcement</td>
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Barriers to Practice Change vs. Barriers to Implementation

MOVE (Mobilization of Vulnerable Elders)

Practice Change
- Assess mobility within 24 hours of admission
- Each patient mobilized at least 3 times a day
- Mobility is tailored to patient’s abilities

Implementation Strategies
- Educational meetings
- Educational materials
- Local opinion leaders
- Reminders
Activity 6: Select Implementation Strategies

You have 40 minutes to:

1. Use ETP Mapping Worksheet #2, highlight all the domains you identified in ETP Mapping Worksheet #1 that relate to your barriers/facilitators. (5 minutes)

2. Choose 3 implementation strategies and assess these using the APRAISE criteria. (20 minutes)

3. Discuss selecting implementation strategies as a large group. (15 minutes)
Activity 6: Discussion

• Did you experience any challenges when APRAISE-ing and selecting implementation strategies?

• Did assessing your identified implementation strategies change your thinking about implementation? If so, how?
The Three Stages of Expertise

Source: Simon Wardley
# ETP Mapping Worksheet #2

<table>
<thead>
<tr>
<th>Selected strategy; target audience</th>
<th>TDF domains</th>
<th>Barriers/facilitators</th>
<th>Key messages/ action items</th>
<th>Support components*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>Tools</td>
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<td></td>
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<td>Training</td>
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<td></td>
<td>Technical assistance</td>
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<td></td>
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<td></td>
<td></td>
<td>Quality assurance/ improvement</td>
</tr>
</tbody>
</table>

*Support components include tools, training, technical assistance, and quality assurance/improvement.
## ETP Mapping Worksheet #2: MOVE

<table>
<thead>
<tr>
<th>Selected strategy; target audience</th>
<th>TDF domains specific to the identified domains</th>
<th>Barriers/facilitators specific to the target audience</th>
<th>Key messages/ action items</th>
<th>Support components* specific to the selected strategy and target audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom/ e-module education (educational meetings); hospital unit staff</td>
<td>- Knowledge - Skills - Social/professional role and identity - Beliefs about capabilities - Beliefs about consequences</td>
<td>- Attitudes and beliefs about mobilization - Lack of knowledge about mobilization - Lack of knowledge about patient's mobility status - Fear of patient mobilization - Perceived lack of skills - Lack of clarity regarding roles and responsibilities - Lack of accountability</td>
<td>i) Definition of the importance of early mobilization for seniors admitted to hospitals ii) Provide interprofessional strategies on how to mobilize patients in the hospital iii) Reinforce and discuss safety measures of mobilization practices/activities (i.e resources-algorithm) iv) Clarify and provide evidence (i.e., articles, portal, etc.)</td>
<td>Tools Training Technical assistance Quality assurance/ improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-MOVE Resource Manual -PowerPoint slides -Handouts</td>
<td>- Education Coordinator - Physical space -IT logistics (if applicable) -MOVEs Portal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Implementation documentation (i.e., content, reach, engagement)</td>
</tr>
</tbody>
</table>
KEY ASSUMPTIONS:

- Activities target key barriers to early mobilization practices: knowledge, skills, social influences, decision making processes, intentions, goals, beliefs about capabilities, beliefs about consequences.
- Activities provide participants with capability, opportunity and motivation to change behaviour.
- Activities are appropriate to context.

**Inputs**
- Funding Resources
- Coordination Resources
- Administrative Resources

**Activities**
- Delivering staff classroom/electronic - Based education
- Delivering patient/family education
  - Posters
  - Pamphlets/handouts
  - Fairs/social activities
  - Volunteers
- Providing additional mobility support activities to staff
  - Mobility champions
  - Meetings/rounds
  - Reminders
  - Audit & documentation

**Outputs**
- Staff attend education sessions
- Patient/families engage in mobility education
- Staff use of / participation in additional support activities

**Outcomes (short-term)**
- Increase in staff/patient knowledge and positive attitudes about early mobilization practices
- Increase in staff/patient self-efficacy about early mobilization
- Improvement of staff early mobilization skills

**Outcomes (long-term)**
- Increase in mobilization
- Increase discharge rates to home
- Improve functional status
- Decrease length of stay

**Impact**
- Reduced rates of older patient morbidity

**INDICATORS**

**Output indicators:**
- # of staff at education sessions; # of education sessions; # of posters on unit; # of pamphlets/handouts distributed to patients; # of volunteers delivering key messages to patients; # of fairs/social activities; # of patients attending fairs/social activities; # of champions delivering key messages to staff; # of meetings /rounds key messages were discussed at; # of reminders distributed to staff; # of audits performed

**Outcome indicators (short-term):**
- % change in knowledge; % change in self-efficacy; % change in positive attitudes; % change in early mobilization skills: ABC’s of mobility

**Outcome indicators (long-term):**
- % change in patient mobilization rate; % change in discharge destination (to home); % change in ADL/ IADL; % change in length of stay
Behaviour change wheel

Consolidated Framework for Implementation Research (CFIR)

Inner Setting
- Structural characteristics
- Networks and communications
- Culture
- Implementation climate
- Readiness for implementation

Outer Setting
- Patient needs/resources
- Cosmopolitanism
- Peer pressure
- External policies/incentives

Individual Characteristics
- Knowledge & beliefs
- Self-efficacy
- Stage of change
- Identification with organization
- Personal attributes

Process
- Planning
- Engaging
- Executing
- Evaluating

Intervention Characteristics
- Intervention source
- Evidence strength & quality
- Relative advantage
- Adaptability
- Trialability
- Complexity
- Design quality & packaging
- Cost

Rogers’ theory of diffusion of innovations

Figure 1

Everett Rogers’s Diffusion of Innovation Model

- Innovators: 2.5%
- Early Adopters: 13.5%
- Early Majority: 34%
- Late Majority: 34%
- Laggards: 16%
Implementation Planning Framework

**WHO**
- Create implementation teams (9)
- Obtain stakeholder buy-in and foster a supportive climate (5)
- Technical assistance/coaching (11)

**WHERE**
- Assess needs and resources (1)
- Assess readiness and capacity (3)
- Build organizational capacity (6)

**HOW**
- Assess fit (2)
- Proactive tailoring (4)
- Recruit staff (7)
- Train staff (8)

KT newsletters and resources

- **Cochrane EPOC group**: Information about systematic reviews of educational, behavioural, financial, regulatory and organisational interventions designed to improve health professional practice.
  - [http://epoc.cochrane.org/](http://epoc.cochrane.org/)

- **KT +**: Information about current KT research
  - [https://plus.mcmaster.ca/KT/Default.aspx](https://plus.mcmaster.ca/KT/Default.aspx)

- **KT Canada newsletter**: Information on upcoming KT events, resources, and research projects
  - [http://ktclearinghouse.ca/ktcanada](http://ktclearinghouse.ca/ktcanada)

- **KTE CoP**: Information on KTE practices and experience, building KTE capacity, KTE events, job opportunities and other related activities
  - [http://www.ktecop.ca/](http://www.ktecop.ca/)

- **National Collaborating Centre for Methods and Tools (NCCMT)**: Information on KT methods and tools, networking opportunities, helpful links and resources
  - [http://www.nccmt.ca/](http://www.nccmt.ca/)

- **Rx for Change**: a searchable database containing current research evidence about intervention strategies used to alter behaviours of health technology prescribing, practice, and use.
  - [https://www.cadth.ca/rx-change](https://www.cadth.ca/rx-change)
Learning Objectives Recap

Presentation 1: Introduction to KT
- Define knowledge translation (KT)
- Identify differences between dissemination and implementation

Presentation 2: Bringing research to practice
- Describe the knowledge-to-action model (KTA)
- Explain important aspects of designing an evidence-informed, theory-driven program (ETP)

Presentation 3: Identify barriers & facilitators to change
- Describe how to assess barriers & facilitators to change
- Identify barriers and facilitators related to the practice change

Presentation 4: Mapping barriers & facilitators
- Explain how to map barriers & facilitators to the Theoretical Domains Framework
- Describe COM-B

Presentation 5: Implementation strategies
- Define implementation strategies
- Systematically select implementation strategies
Questions and comments
Activity #7: Learning Goals Reflections

You have 10 minutes to:

1. Review your ‘Setting Learning Goals’ worksheet. (5 minutes)

2. Discuss as a large group. (5 minutes)
Workshop Evaluation and Feedback

Please take a moment to complete the participant feedback form.
Your feedback is important to us and will be used to inform improvements for future workshops.
Thank you!
Contact Information

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mooreju@smh.ca

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courvoisierm@smh.ca