Partnering for Change in a Complex World: Implications for Linking Research, Policy, and Practice

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in collaboration with

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Overview

• Who are we?
• How are complex systems different?
• What models are there for linking research, policy and practice?
• Are there simple rules for moving from knowledge to action?
  – Examples from Canada
• What are next steps?
Old London Bridge, circa 1600s
Propel is a university-based, NGO and government supported research centre.

We exist to prevent cancers, other chronic diseases and their behavioural and environmental causes.

Propel works with policy, practice and research sectors to solve complex health problems.

Propel has programs in Tobacco Control, Healthy Living, and Capacity Development.
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What is Systems Thinking?

“a discipline for seeing wholes, … a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static snapshots” (Senge, 1990)

- Sees systems as organic, dynamic, non-linear
- The whole is greater than the sum, reductionist thinking and command and control practice won’t work
- Demands continuous learning and adaptation

How does this fit with the way we think about knowledge integration?
## Complicated vs. Complex Systems

<table>
<thead>
<tr>
<th>Complicated</th>
<th>Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command and control</td>
<td>Facilitation and empowerment</td>
</tr>
<tr>
<td>Make it happen</td>
<td>Let it happen</td>
</tr>
<tr>
<td>Well-defined roles</td>
<td>Agent-based participatory action</td>
</tr>
<tr>
<td>Organized structures</td>
<td>Self-organizing patterns</td>
</tr>
<tr>
<td>Discrete evaluations</td>
<td>Continuous evaluation</td>
</tr>
<tr>
<td>Siloed action</td>
<td>Coalition alignment</td>
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**Generation 1: Linear Models (1960s-mid 90s)**

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<thead>
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<th>LANGUAGE</th>
<th>KEY ASSUMPTIONS</th>
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<tr>
<td>Dissemination</td>
<td>Knowledge is a product</td>
</tr>
<tr>
<td>Diffusion</td>
<td>Key process is a handoff from research producers to research users</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>Knowledge is generalizable across contexts</td>
</tr>
<tr>
<td>Knowledge uptake</td>
<td>Knowledge is generalizable across contexts</td>
</tr>
<tr>
<td></td>
<td>is a function of effective packaging</td>
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Generation 2: Relationship Models

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<tr>
<td>Knowledge exchange</td>
<td>• Knowledge from multiple sources research, theory, and practice</td>
</tr>
<tr>
<td></td>
<td>• Key process is interpersonal, involving social relationships</td>
</tr>
<tr>
<td></td>
<td>• Networks of research producers and research consumers</td>
</tr>
<tr>
<td></td>
<td>• Collaborate thru production-synthesis-integration cycle</td>
</tr>
<tr>
<td></td>
<td>• Knowledge is context-linked, and must be adapted to local setting</td>
</tr>
<tr>
<td></td>
<td>• Degree of use is a function of effective relationships and processes</td>
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## Generation 3: Systems Models

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<td>Knowledge integration</td>
<td>• Knowledge cycle is tightly woven within priorities, culture, and context</td>
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<td>• Explicit and tacit knowledge need to be integrated to inform decision making and policy</td>
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<td>Knowledge translation</td>
<td>• Relationships mediate throughout the cycle, and must be understood from a systems perspective, in the context of the organization and its strategic processes</td>
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<td>Knowledge mobilization</td>
<td>• Degree of use is a function of effective integration with the organization(s) and its systems</td>
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<td>Knowledge exchange and uptake</td>
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Public Health Agency of Canada ~ Knowledge Cycle

Lessons About Models

• We need systems thinking
• We need to know more about system dynamics and KTA
• Collaborative relationships start with shared mental models, a common language and logic
• No silver bullet – models must be tailored to specific contexts
• We need analytic tools to test models ~ what works where/when and why
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Canadian Partnership Against Cancer

Coalition Linking Action and Science for Prevention (CLASP)

• Goal to integrate cancer prevention
  • With other chronic disease strategies
  • Linking science, practice and policy
  • Through cross-province/territorial partnerships
• Pre-meeting concept mapping
• Three 2-day national meetings: social/behavioural, clinical, and environmental
  • 500 participants overall
• CLASP funded coalitions and knowledge exchange meetings
The Planning Group Defines the Issue To Be Addressed

Develop a focus

“Specific actions we can take together in Canada that will increase the prevention of cancer and other major chronic diseases should include...”
Elicit Knowledge and Opinion

Develop a focus

Identify the participants

Generate Ideas

A few extracted statements:

9 - harmonizing primary, secondary and tertiary prevention program messages and policies across jurisdictions.

52 - mandate long term record keeping of workplace exposures using valid exposure assessment strategies.

64 - determining the distributions in Canada of occupational and environmental exposures known to cause cancer and other major chronic diseases.

83 - regulate advertising of food to children.

107 - support primary care practitioners with tools that summarize the prevention and screening interventions that they can use in practice.
A Macro View

B. Evidence Based Primary Care

A. Surveillance and Data Systems

K. Workplace Issues

C. Knowledge to Action Partnerships

D. Innovative Initiatives

E. Alignment through Partnerships

F. Government Role

G. Healthy Public Policy

L. Awareness for Health

I. Food and Fitness

J. Product Safety

H. Built Environment Issues
EXAMPLE 2
Saskatchewan “Large System Transformation”

- CIHR pilot in expedited knowledge synthesis
- Provincial Ministry taking on transformative change
  - Surgical wait lists
  - Patient and family centred care
- Key principles for culture change
  - Interorganizational collaboration
  - Multilevel innovation strategy
  - Systems integration
  - Evaluation
- Role of government prime interest

Best et al. Large system transformation in health care: A realist review and evaluation of its usefulness in a policy context. *Milbank Quarterly* 2012;90(3):421–456
Integrating Research, Theory and Practice Knowledge

Steering Committee

Synthesis Team and Expert Panel

Consensus Network

Learning Forum

Large System Transformation ~ Evidence Statements

• Top down-bottom up “transformative” leadership

• Feedback and reporting

• Historical context

• Engagement and power

• Person-centred
EXAMPLE 3
Role of Culture: Research Questions

• How can we sustain cultural transformations in health systems?
• How can we assess organizational culture in health systems?
EXAMPLE 4
International Initiatives with a Systems Lens

**Goal**: to identify *practical strategies* for systems approaches to KTA

**Methods**
- Advisory team: B. Riley, A. Best, D. Finegood, K. Robinson
- Nine diverse cases selected – all focused on KTA informed by systems thinking
- Data collection using document review and telephone interview
- Inductive analysis within and across cases
International Initiatives with a Systems Lens ~ Results

Five simple rules for implementing systems approaches to KTA:

• **Establish and nurture relationships**
• **Co-produce and curate knowledge**
• **Create feedback loops**
• **Systems interventions are not projects**
• **Different kinds of supports are needed at different times in different contexts**
EXAMPLE 5
Measuring Network Performance

• Inter-organizational networks bring together different organizations with a range of skills, resources, missions and perspectives.

• Despite their popularity, we know very little about what outcomes networks contribute to, how to measure these outcomes, or how to use this information to improve the way networks operate.

• This study aims to identify and explore what outcomes those working in interorganizational networks believe are important to measure, and is the first step toward better understanding and improving the work of interorganizational networks.
Measuring Network Performance (method)

• Concept Mapping (Concept Systems Global Max).

• Virtual participation from 32 participants from various chronic disease prevention networks across Canada

• Focus prompt, ‘A meaningful measure of network outcomes is....’

• Generated 82 unique statements, which were sorted by 11 participants into piles of similar statements and rated each on a five point scale, based on their importance and feasibility.

• Generated clusters of 9 statements that best reflect the sorting of all participants.
Measuring Network Performance

Cluster Legend
Layer  Value
1      3.64 to 3.75
2      3.75 to 3.86
3      3.86 to 3.97
4      3.97 to 4.09
5      4.09 to 4.20

- Improved practice and policy planning
- Improved population health outcomes
- Improved intersectoral engagement
- Improved system outcomes
- Network cohesion
- Improved collaborative action
- Improved use of resources
- Enhanced or increased relationships
- Enhanced learning
EXAMPLE 6
Scaling up Complex Interventions for Population Health Impact

• CIHR funded realist review and synthesis

• Purpose: increase understanding of the effective scale up of complex interventions aiming to improve population health outcomes and their lifestyle and environmental causes

• Examines pathways for scaling up complex interventions: relationships between context, underlying mechanisms and scaling up outcomes

• Guided by an international expert panel and user panel
Scaling up Complex Interventions for Population Health Impact

- **Review of Scaling up literature**
  - 2000-2014
  - Iterative, guided by panels

- **Program theory development and refinement**
  - Tested and refined using case examples

- **Interpretation of review findings**
  - In person meeting of panels
  - Research, practice and policy implications
**Generation 3: Systems Models**

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Two Paths Through Complexity

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<th>SELF-ORGANIZING</th>
<th>DYNAMIC INTEGRATION</th>
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<tr>
<td>✤ Legitimization</td>
<td>✤ Model</td>
</tr>
<tr>
<td>✤ Time and opportunity</td>
<td>✤ Multilevel</td>
</tr>
<tr>
<td>✤ Feedback loops</td>
<td>✤ Distributed leadership</td>
</tr>
<tr>
<td>✤ Resources and platform for learning network</td>
<td>✤ Orchestrated</td>
</tr>
<tr>
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<td>✤ Transparency and accountability</td>
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... let’s explore
Emerging Wisdom??

• Enhance network integration ~ governance?

• Rethink learning/accountability balance and indicators not an either/or

• Get serious about power

• Frame 10 year MOU
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UK Workshop, May 28-29, 2015 ~ Knowledge to Action: Addressing complex problems in health systems

- Hosted by the Health Foundation
- 45 policy makers, practitioners, researchers and funders
- Green paper to frame, publication to synthesize
- Strong action focus
## Australian Context

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<th>AUSTRALIA</th>
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<td>- Strong collaboration culture</td>
<td>- National coordination strategy</td>
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<td>- Lip service to complexity, need for transformation</td>
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<tr>
<td>- Advanced KTA thinking</td>
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<tr>
<td>- Weak Federal/provincial collaboration</td>
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<td>- Dysfunctional MD fee-for-service model</td>
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Call to Action

• What are good indicators for KTA and partnership performance? System transformation?
• Might international collaboration to develop measures add value?
• Would prospective comparative case studies be feasible?