Understanding how things could change

Systems approaches in public health

Presented by
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Prevention Research Collaboration | |
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WEBSITE FOR PRESENTATION

https://sites.google.com/view/falls-safety
Please **engage** – questions, comments, contributions

www.slido.com
What is the current situation? How could things change, improve? What learning from stories of policy influence? Systems (and other) approaches to influencing policy.
OVERVIEW

- Why a *Systems* approach?
- **Mapping**>**Understanding**>**Action** (ASAPa example)
- What would/could a systems approach to Falls Prevention look like?
- Discussion
Why a systems approach to PA?

- Long-term problem
- Multiple actors and causes
- Competing interests or different views
- Numerous co-benefits

The Australian Prevention Partnership Centre – Systems thinking
A bicycle is a system made up of many separate parts
A bicycle is a system made up of many separate parts.

No single part operates the system alone.
A bicycle is a system made up of many separate parts

No single part operates the system alone

The bicycle can only be ridden when all parts work together

The function of the system is different from the sum of the parts
A feedback loop occurs when a change in something ultimately comes back to cause a further change in the same thing. If the further change is in the same direction it's a [positive] reinforcing loop [R], if in the opposite direction it’s a [negative] balancing loop [B].

Source: PHE, Whole systems approach to obesity, 2019
In ST, Causal Loop Diagrams (CLD) can be thought of as building sentences within a story.

We identify the key variables in a system (the “nouns”) and indicate the causal relationships between them via links (the “verbs”).

By linking together several loops, we can create a concise story about a particular problem or issue.

Figure 1. Causal loop diagram for bicycle commuting developed from stakeholder interviews and workshops, literature review, and data incorporation. Dotted lines denote loops identified by stakeholders and the literature, but where local data suggests they are currently inactive. Arrows with a positive sign (+) indicate that a change in the originating variable leads to a corresponding change in the variable at the arrowhead. Arrows with negative signs (−) indicate that a change in the originating variable leads to a change in the opposite direction for the arrowhead variable (R, reinforcing or positive feedback loop; B, balancing or negative feedback loop).
Whole Systems Approach
Implementation Process

Example: Obesity Prevention

Main Focus is IMPLEMENTATION ['Action']

Source: PHE, Whole systems approach to obesity, 2019
Purposes of systems mapping/modeling defined

- Prediction
- Forecasting
- Social learning

- Decision making under uncertainty
- Developing system understanding and experimentation

Continuum of systems mapping/modeling approaches
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Continuum of systems mapping/modeling approaches

**Preparation phase**
- Short term

- Interviews/data gathering

**Conceptualization (qualitative)**
- Short to medium term

- Cognitive mapping

Performance evaluation criteria for mapping/modeling

- Data acquisition
- Expert knowledge
- Completed functional model (validated)
- Further use of the products (legacy)
- Validation of the methods/findings

- Application of the model for intended purpose
- Improved understanding of the system
- Improved decision making
- Understanding of others' perspectives
- Capacity building, skills

*Unified Modelling Language*
Main Focus varies across the Continuum

- **Mapping**
- **Understanding**
- **Action**
- **Deeper understanding**
- **Refined Action**

**Continuum of systems mapping/modeling approaches**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Duration</th>
<th>Approach</th>
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**Purposes of systems mapping/modeling defined**

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<sup>a</sup> Unified Modelling Language
PA Systems Map

Australia – National Level
From mapping to evidence-based guidance

Potential opportunities identified from mapping

Healthcare, workplaces

Priority groups

Implementation, Evaluation, Governance

Getting Australia Active 3

Whole-of-systems approaches

Policy domains for action

Inactive groups and addressing inequity

Surveillance and monitoring
What would a systems approach to Falls Prevention look like?
Welcome to the website of the Australian and New Zealand Falls Prevention Society (ANZFPS). The ANZFPS was formed in 2006 to promote the multidisciplinary study and implementation of falls prevention in older people. The society achieves this purpose by:

- holding regular meetings to present and discuss the latest research and clinical findings relating to the falls risk factors and falls prevention strategies;
What would/could a systems approach to Falls Prevention look like?
What would/could a systems approach to Falls Prevention look like?

“Mapping the influences on injurious falls in older people”

(preliminary, draft, illustrative)
“Core influences”

- Individual physiology
- Individual psychology
- Individual demographic status
- Immediate Social Environment and Norms
- Individual Risk and Protective Factors
“Influences in…
Settings
Strategies
Services…”
“Knowledge, Advocacy influences”

“Governance influences”

- Commercial Environment
- Knowledge Mobilisation
- Knowledge Environment
- Quality Use of Medicines (QUM)
- Governance Transparency Accountability
- Political Environment
- Advocacy, Social Movements
There is significant value to be gained at relatively low cost from the application of basic system dynamics skills. Once you move past simpler applications, diminishing returns can quickly set in. As the complexity of the model increases, the amount of effort, skill, and time required to underwrite that complexity increases disproportionately relative to the amount of value derived!

Source: The Systems Thinker
Main Focus varies across the Continuum

'Mapping'           'Understanding'        'Action'       'Deeper understanding'   'Refined Action'

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*Unified Modelling Language*
DISCUSSION/ REFLECTION

- Does this initial conceptual map help us in any way?
- Can you provide suggestions to improve the concept map of system influences on injurious falls among older people?
- Is ANZ Falls Soc part of the system? Where? What function?
- How might you use a whole systems approach in your own work?
**Systems Map** - influences on injurious falls in older people, NSW Draft Concept Version 1.0

**PARTICIPATE!**

Help develop the next version of the Systems Map - thinking at the NSW and/or National level.

Send your suggestions to: william.bellew@sydney.edu.au
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