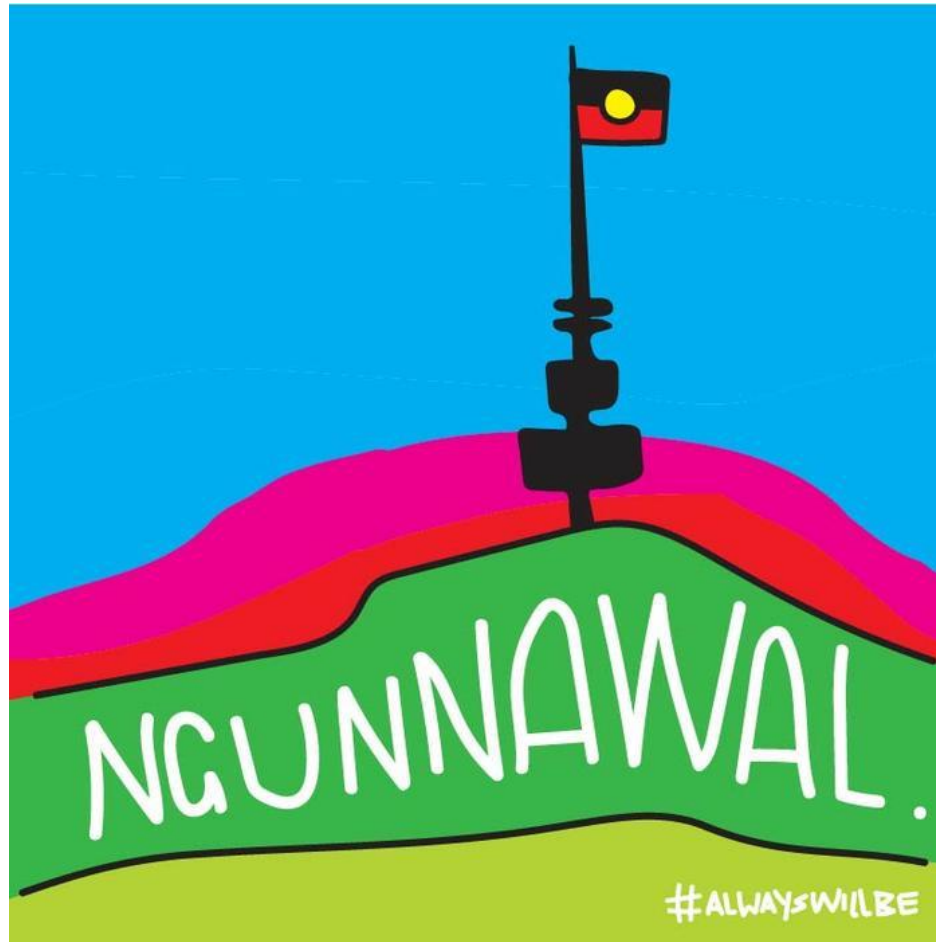# Systems thinking for prevention research

28 July 2020
Presented by Melanie Pescud

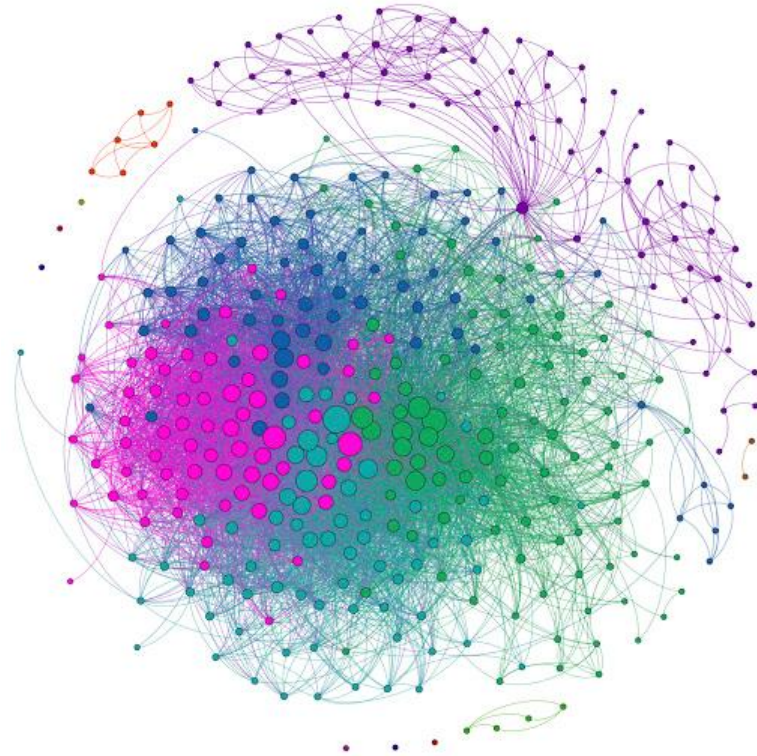# Acknowledgment of Country



Source: NITV

# Presentation outline

- What is systems thinking?

- Systems thinking in public health

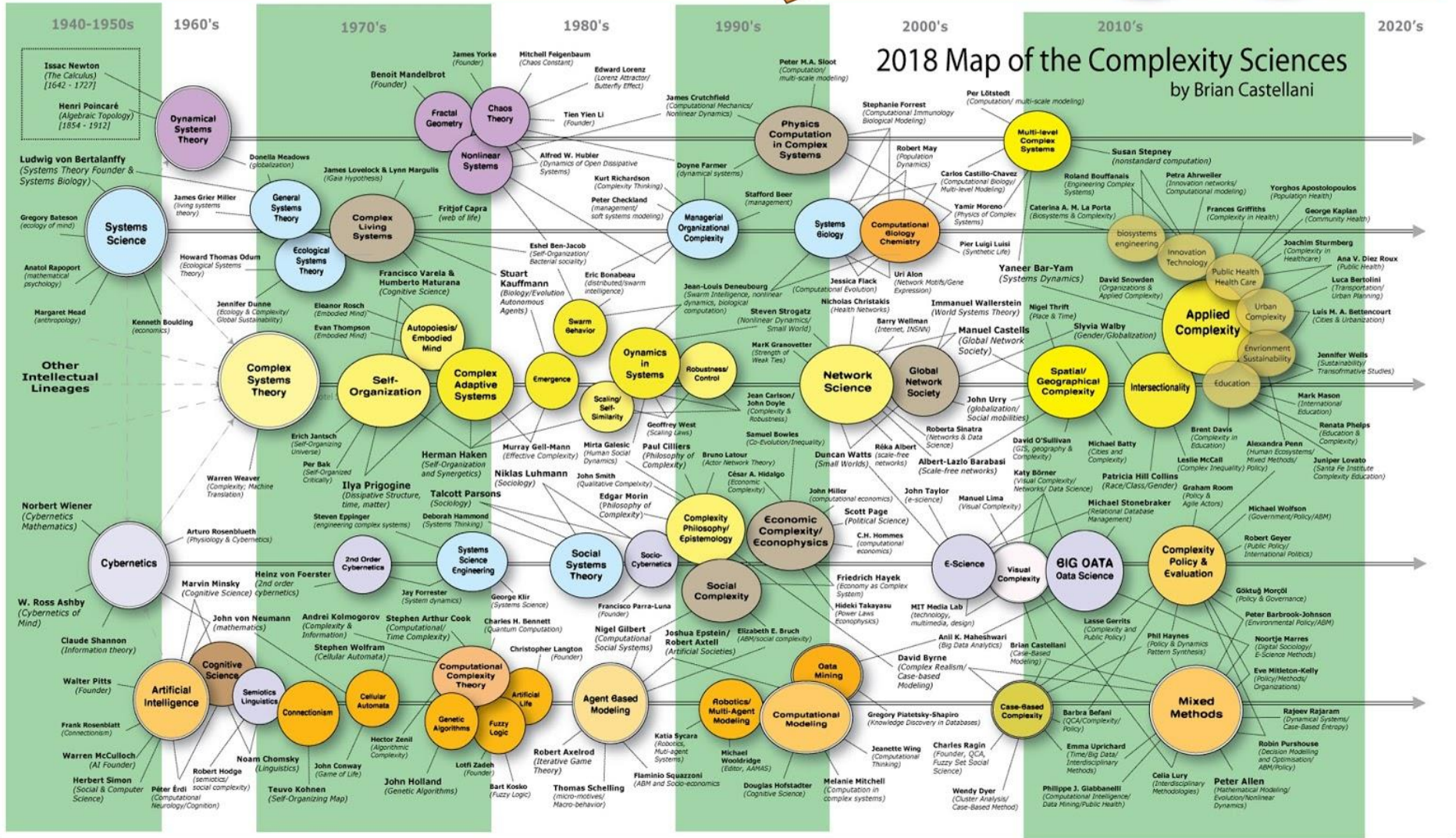- Addressing complex problems in prevention research
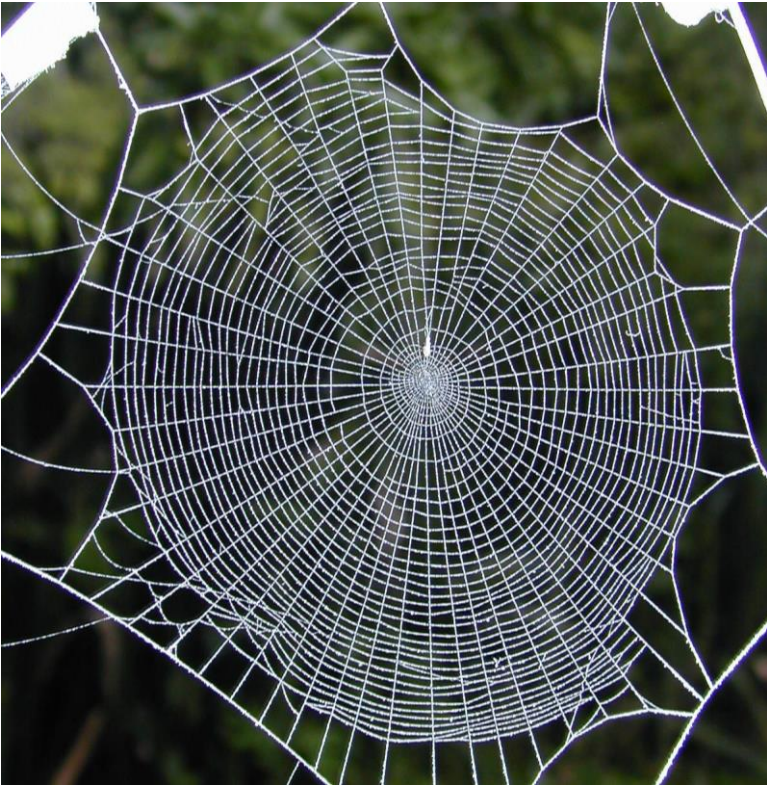
- Activity

- Q&A

# What is systems thinking?

# Mapping the complexity sciences

# Systems thinking is…



- …about taking a **vantage point from where you can see the whole, a web of relationships**, rather than focusing on the detail of any one particular piece of the whole. This means that events are understood in the larger context of a pattern that is **unfolding over time** (https://www.iseesystems.com/)
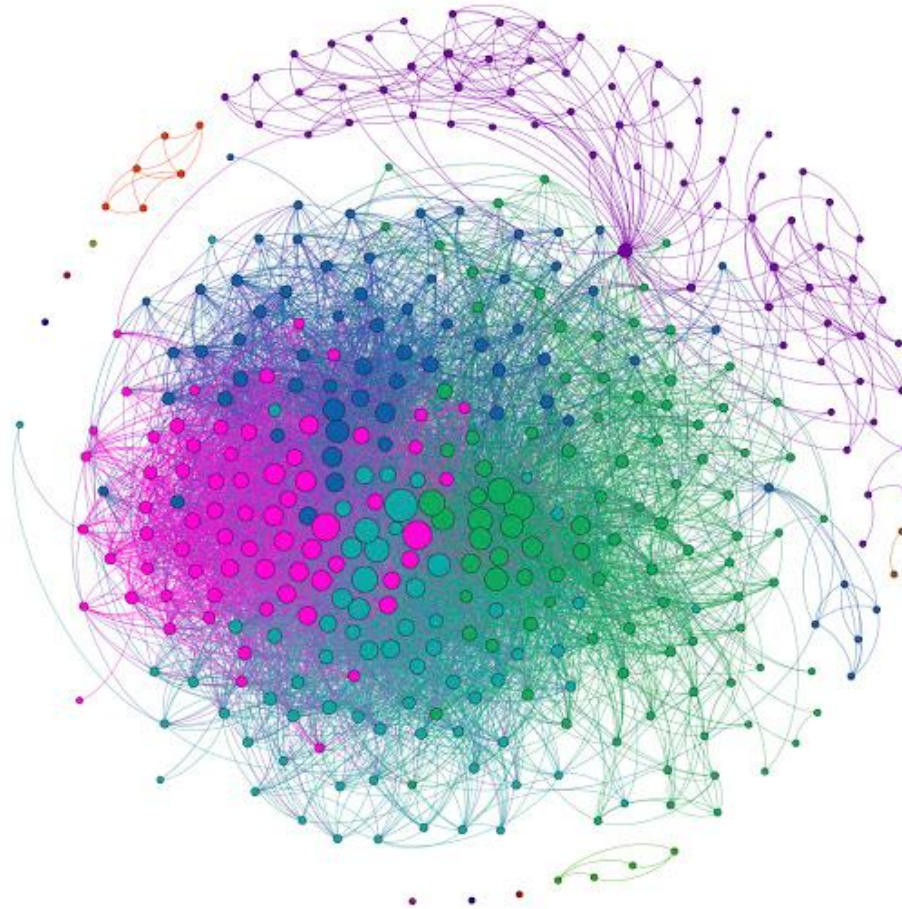
# Systems thinking is also…

- A **conceptual lens or worldview** from which to think and act on complex problems emerging from **complex adaptive systems**

- A **mental framework** that helps us to become better problem solvers by paying attention to **relationships, boundaries, and perspectives** in a system (TAPPC)

- A framework for seeing **interrelationships** rather than things, **for seeing patterns** rather then static snapshots (Peter Senge, The Fifth Discipline)

- …enables you to grasp and manage situations of **complexity** and **uncertainty** in which there are no simple answers.  It's a way of learning your way to effective action by looking at **connected wholes** rather than **separate parts** (Open University)
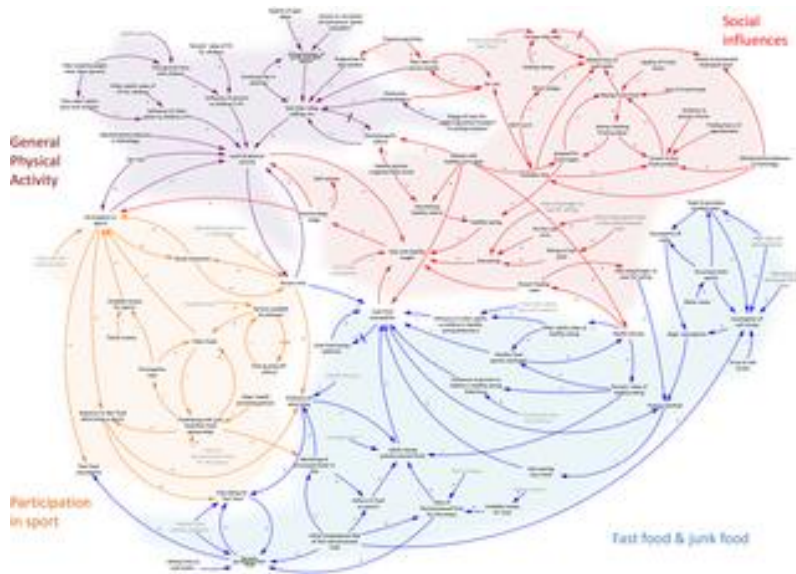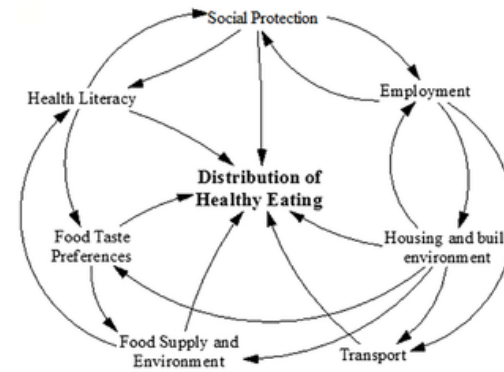
# Systems thinking in public health

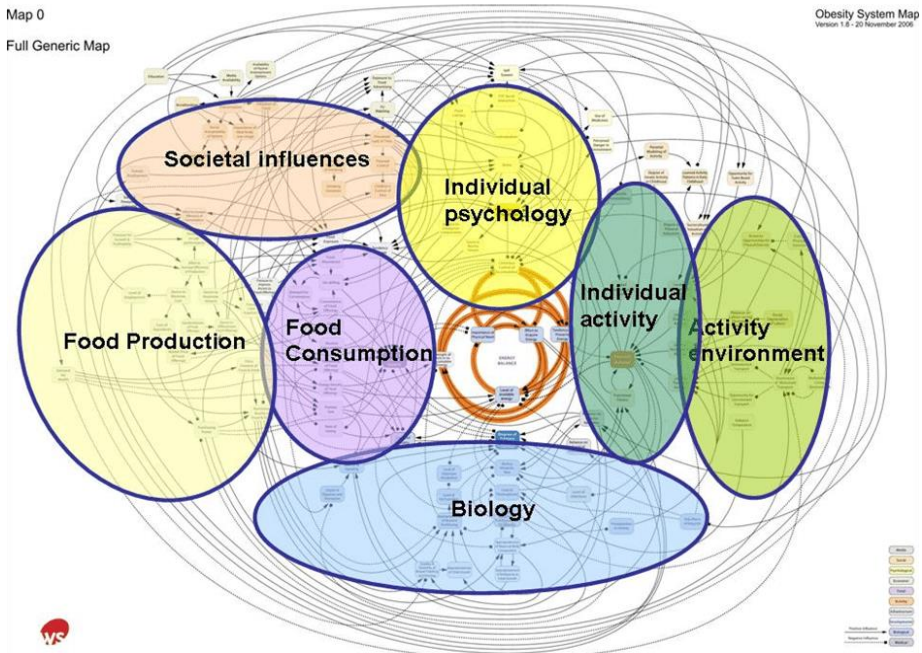# Why systems thinking is useful in chronic disease prevention

- [Video](#)

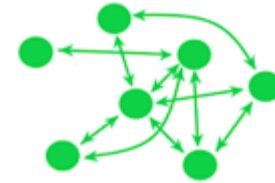# Visualising complexity in prevention research

# Reductionist thinking

# Systems thinking

| | Reductionist thinking | Systems thinking |
|---|---|---|
| For addressing | **Simple** or **complicated** problems | **Complex** problems |
| Also known as | **Systematic**, linear, conventional, traditional thinking | **Systemic** thinking |
| Process | **Clear steps** from start to finish; **linear** process | **Numerous entry points**; **non-linear** process focused on learning and iterating |
| Key question | Does the intervention **fix a problem**? | How does the intervention contribute to **reshaping a system**? |
| Creating change | Improve **parts** to improve whole | Improve whole through improving **relationships between parts** |

Does <u>systemic</u> thinking + <u>systematic</u> thinking = <u>systems</u> thinking?
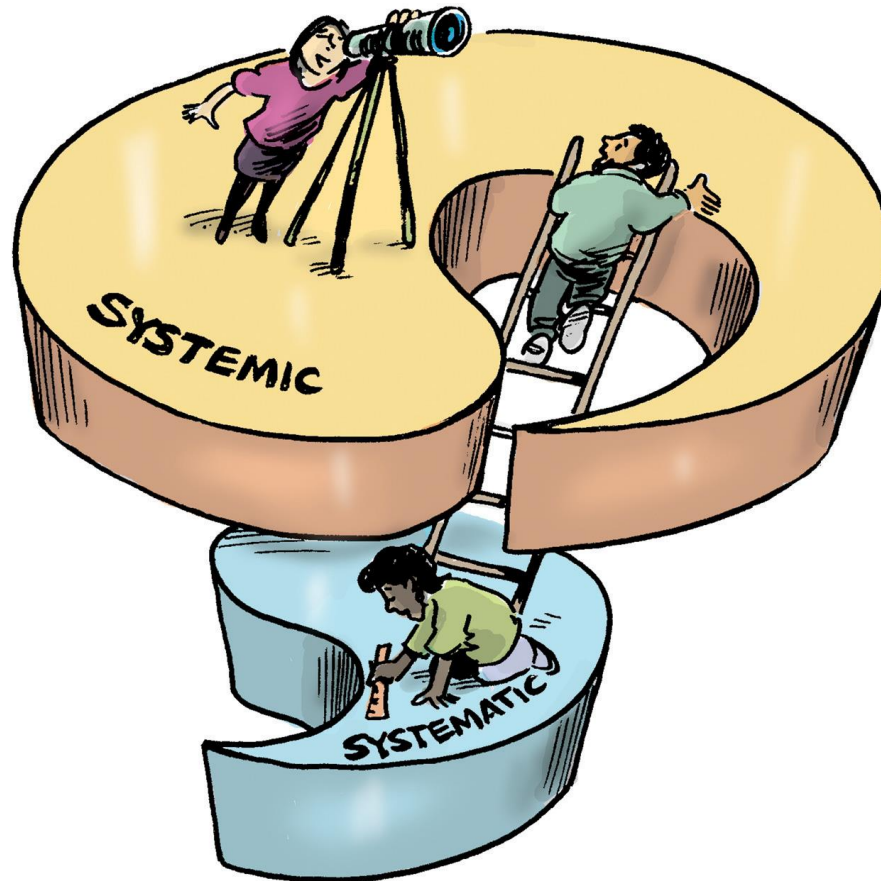


Ison, R., & Straw, E. (2020). *The Hidden Power of Systems Thinking: Governance in a Climate Emergency*. Routledge.

Addressing complex problems in prevention research

# There are so many ways to address complex problems in prevention research

- Systems thinking

- Systems thinking practices
  - e.g, reflection, question assumptions, engage diverse perspectives, deep listening

- Theory
  - Systems theory
  - Implementation theory, organisational change theory, behavioural change theory

- Systems science methods
  - e.g., social network analysis, group model building, agent based modelling, dynamic simulation modelling

- Traditional methods
  - e.g., interviews, rating and benchmarking, randomised controlled trials

# Understanding vs addressing complexity in prevention research

- **Understanding complexity:** Are you describing a problem?

- **Addressing complexity:** Are you creating change in a system?
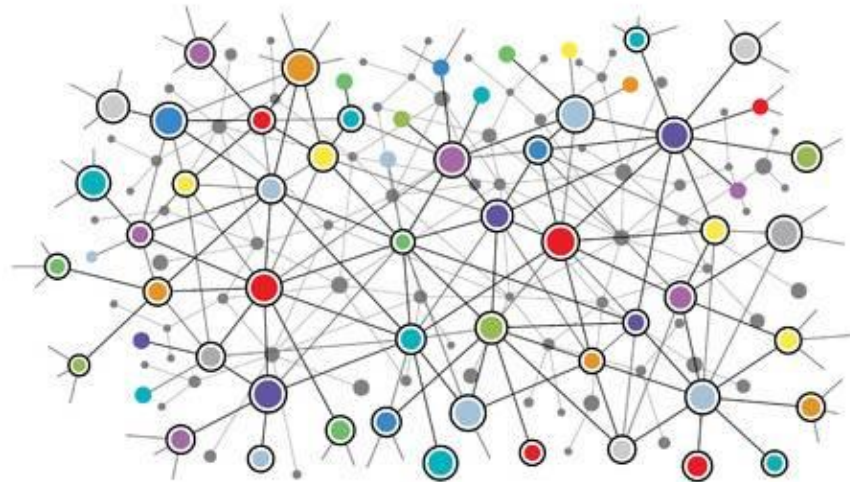
# Fostering change in a system: what would a systems thinker do?

- Create shared intent

- Engage with multiple perspectives

- Understand the interrelationships between systems components

- Get clear about the boundaries of the system in which you're working

- Identify root causes

- Identify levers for change

# Activity

menti.com

# Pausing to reflect

- Is your work predominantly about **describing** a system or **creating change** in a system?

- In what ways do you currently work to **foster change** in your work?
  - Creating shared intent
  - Engaging with multiple perspectives
  - Understanding the interrelationships between systems components
  - Getting clear about the boundaries of the system in which you're working
  - Identifying root causes
  - Identifying levers for change

Q&A

# Our partners

Our funding partners



Hosted by

# Thank you

melanie.pescud@anu.edu.au
@thewispywarrior

## Systems case studies project

https://preventioncentre.org.au/our-work/research-projects/systems-approaches-in-action/