The Australian Prevention Partnership Centre
Systems and solutions for better health

Systems thinking

Complex is not the same as complicated

Consider three different problems: baking a cake, sending a rocket to the moon, and raising a child.

Problem	Cake 	Rocket 	Child 
	Simple	**Complicated**	**Complex**
Problem definition	Clear	Some uncertainty	Lots of uncertainty
Rules	Same apply every time	Continuously improved until repeatable	No direct transference from context to context
Expertise	Not really required	Requires high levels in specific areas	Need to shift from "experts" to those with deep knowledge of contextual dynamics
Success	Follow protocol	Experiment to develop protocol	Adaptation and continuous learning

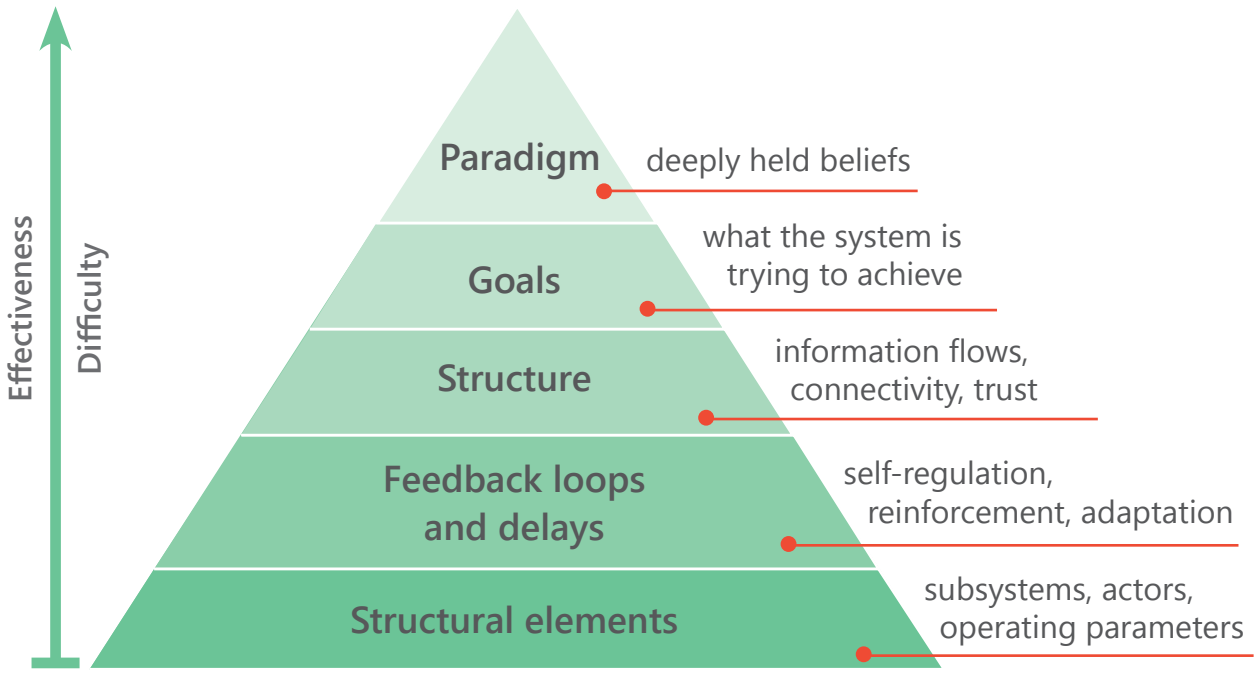
Given these differences we need to start thinking differently about our approach to complex problems.

	Reductionist	**Systems thinking**
Problem exploration	Isolate parts	Focus on interconnections; explore emergent nature of the whole
Goal	Solve a problem	Develop shared understanding of problem, approach, progress
Nature of problem	Understood objectively	Multiple causes, no single solution, perspective and context matter
Responsible to take action	Others	Everyone

This handout was compiled by Professor Diane Finegood of Simon Fraser University, Vancouver, Canada. It accompanied her Systems Thinking Breakfast on 13 June 2019. If you would like to find out more, contact Professor Finegood on Twitter @DTFinegood

Frameworks for system thinking

Intervention level framework



Source: Johnston, Matteson, Finegood. Am J Public Health 104: 1270–8, 2014.

GUIDEing Principles for a systems approach[1]

- Develop a common understanding of the challenge and a shared vision for change through participatory and co-production approaches.
- Build authentic trust to reduce the complexity of working together.
- Attend to intervention levels (e.g. deeply held beliefs, contextual dynamics) of the system.
- Influence emergence by enabling networks to become communities of practice and systems of influence.
- Focus on improving, rather than proving, effectiveness (adaptation rather than attribution).
- Create shared measurement systems and consider outcomes of interest to diverse stakeholders.
- Value different types of evidence (scientific, practice, contextual).

1. GUIDEing principles: Guiding, Useful, Inspiring, Developmental, and Evaluable (Michael Quinn Patton's Principles-Focused Evaluation).

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