Swiss TPH

System Thinking to Face Dual Global Threats

Acknowledging complexity

3 June 2021

The arguments

Just 3 points…

1. COVID19 and climate change are exposing systemic problems in our society that require a different approach or mindset to be tackled

2. Health challenges and climate change are both “wicked” problems

3. We need to change the paradigm by which we approach complex problems and systems thinking can help

"**We** cannot **solve** our **problems with the same thinking we** used when **we** created them." *Albert Einstein*

Climate change and health system challenges

Both are “wicked” or complex problems

“A class of social problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing”

Expert driven, single focus and top-down approaches are not very useful

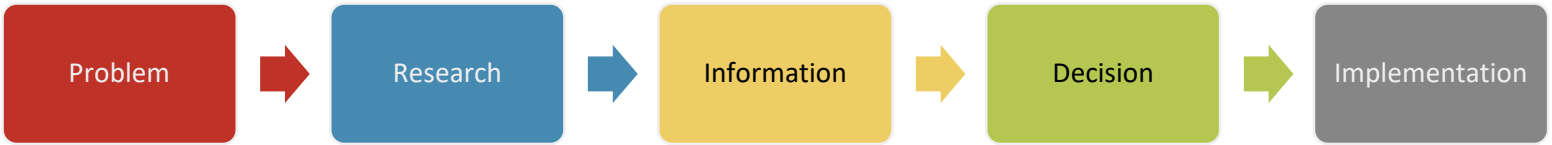
Buchanan et al. 1992

Climate change and health system challenges

Both are “wicked” or complex problems

1. Multiple stakeholders involved with divergent views, assumptions and values
2. Unintended consequences difficult to predict
3. Non linear causal relationships
4. Solutions dependent on mental models

We love to oversimplify…



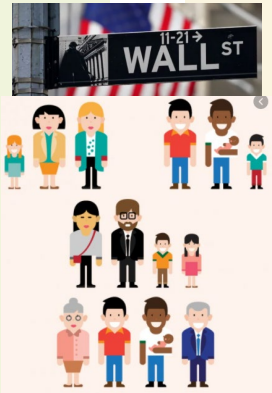
Multiple stakeholders

The importance of understanding mindsets

Climate change actors

Chevron
EXXON
Mobil

CONSERVATION INTERNATIONAL
PEW
EDF
Ecology Action Centre
FISH WISE
The Nature Conservancy
ISSF
Sustainable Fisheries Partnership
WWF
GREENPEACE
BirdLife INTERNATIONAL
Partnership for nature and people
Earthworm
Monterey Bay Aquarium



Health system actors

Johnson & Johnson
Roche
Pfizer
SANOFI
Bristol-Myers Squibb
NOVARTIS

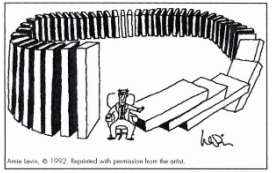
Multiple stakeholders

The importance of understanding mindsets

In order to lessen resistance to change we need to map out:

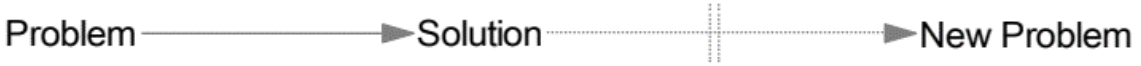
- Personal drivers
- Organisational or institutional drivers
- Political drivers

Unintended consequences

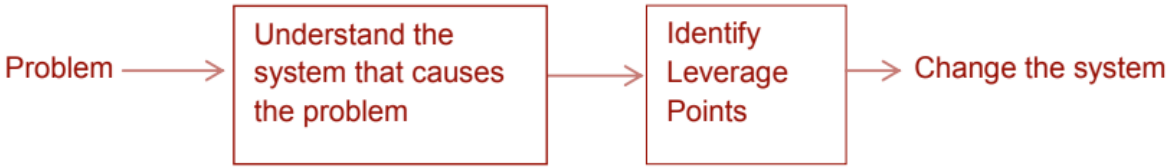


Problem framing versus problem solving

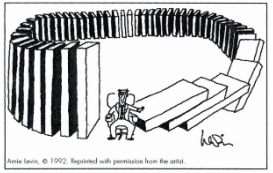
Usual approach



Systems thinking approach



Unintended consequences



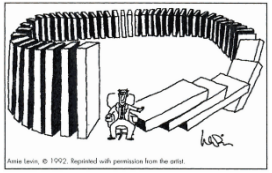
Problem framing versus problem solving

Missed opportunities in responding to violence against women and girls

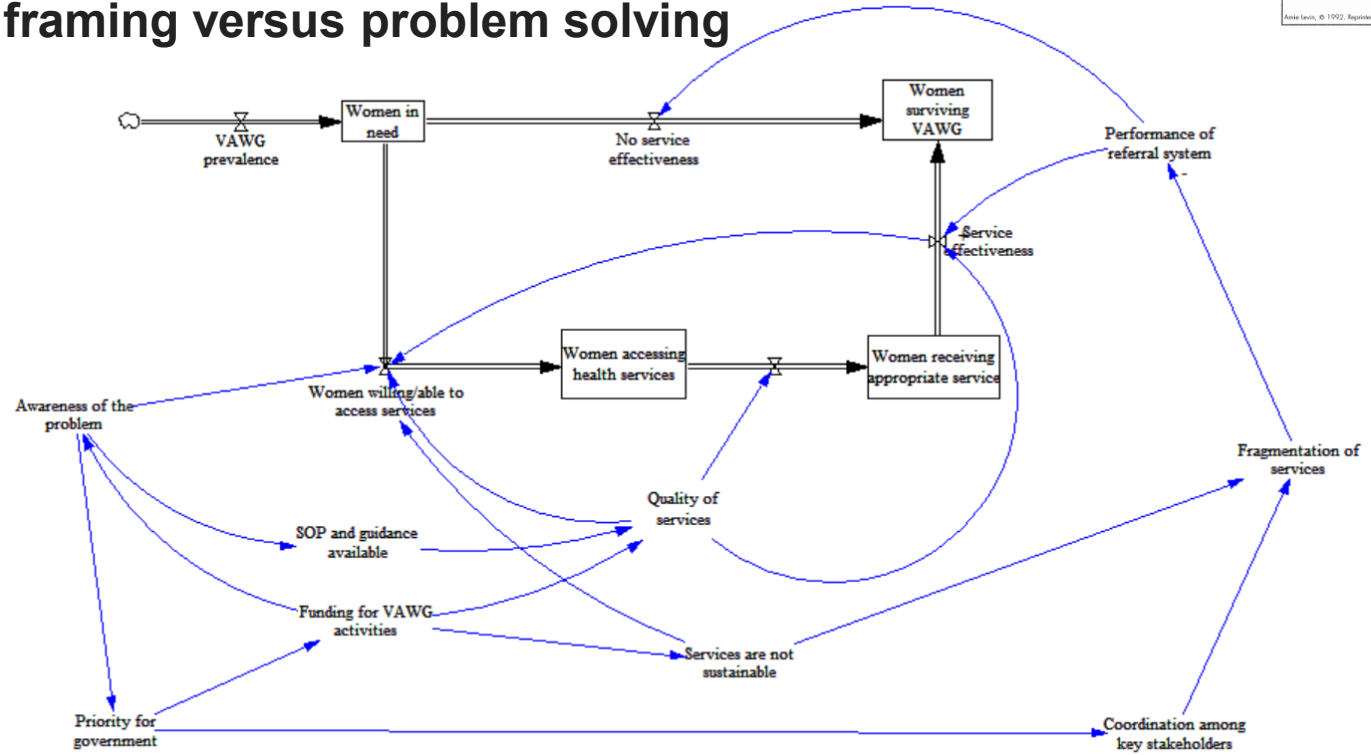
Women experiancing violence are not detected in the health care system

Develop a protocol for health professionals

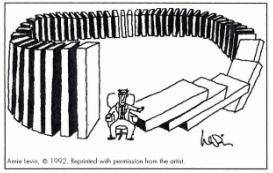
Unintended consequences



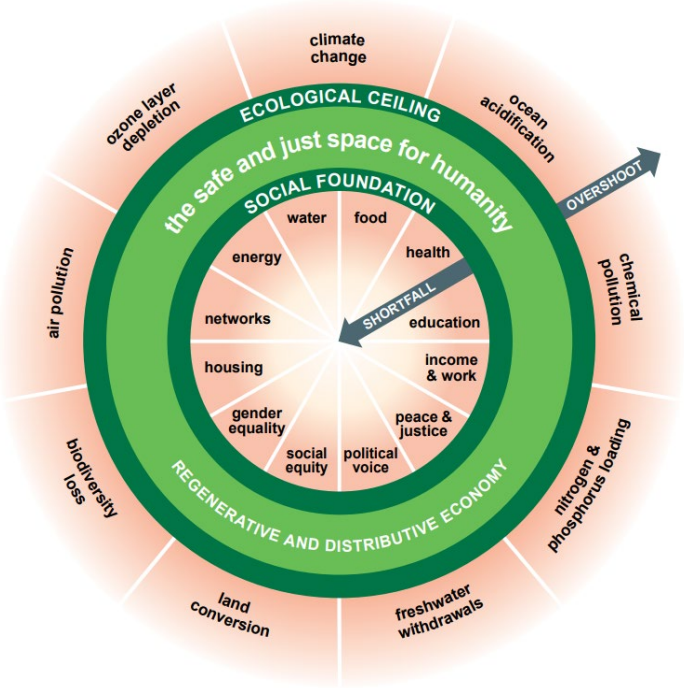
Problem framing versus problem solving

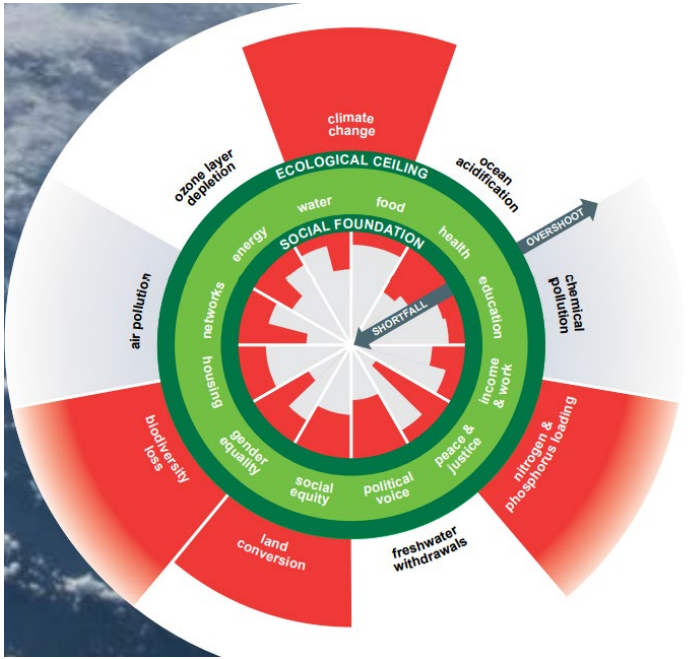


Unintended consequences



Problem framing versus problem solving



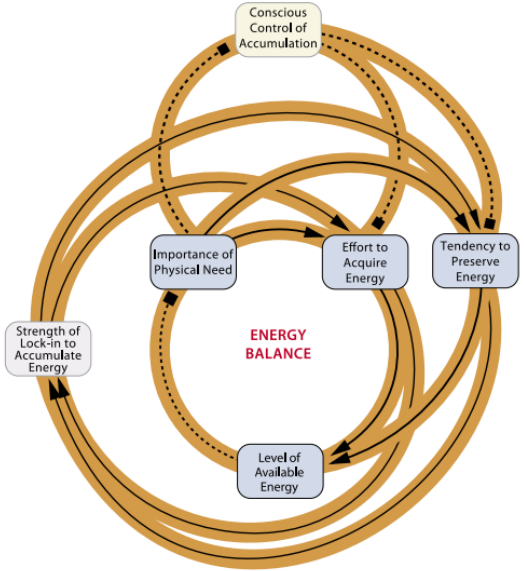


The Amsterdam City Doughnut

Non-linear relationships

Feedback loops

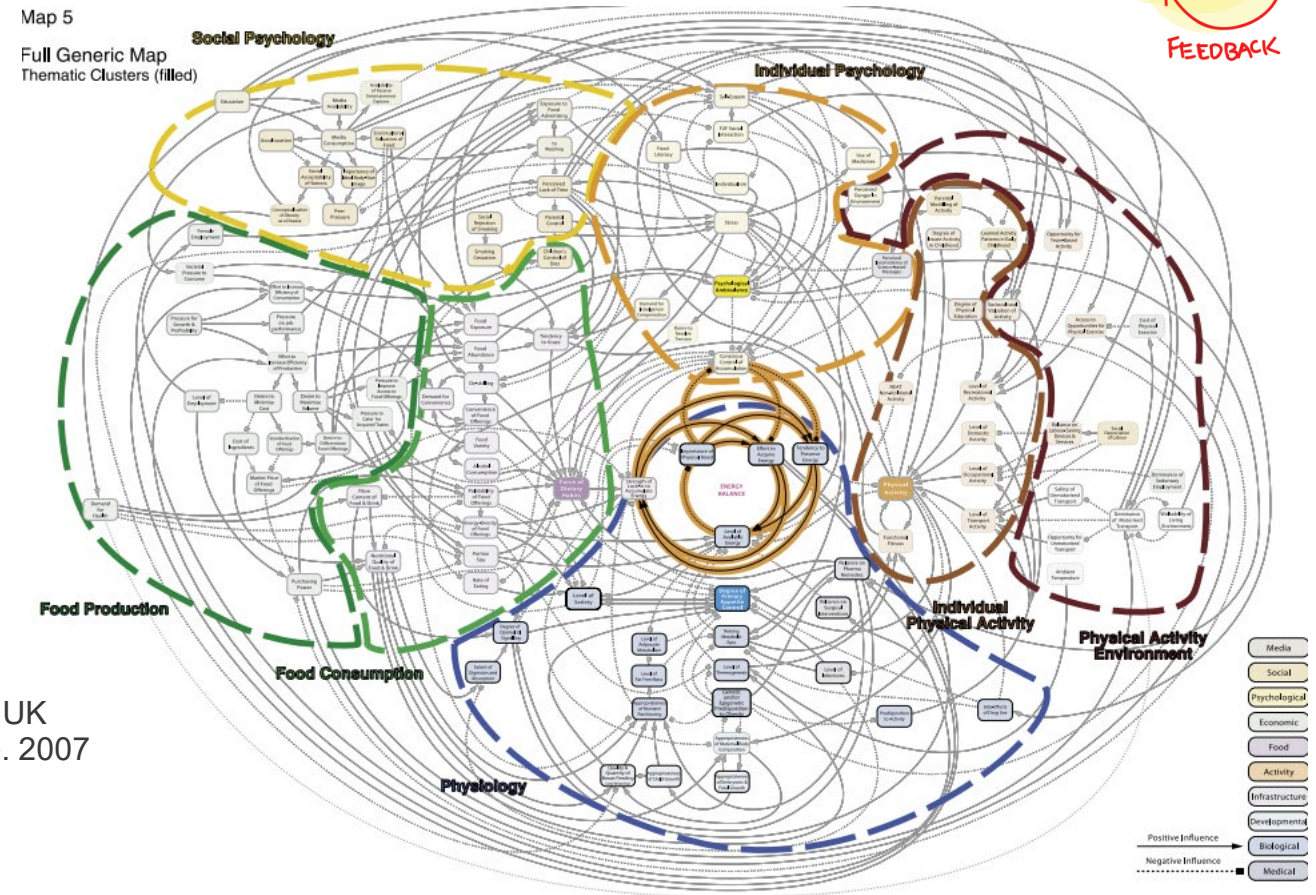
It is crucial to understand the relationships in a system



Source: The Foresight Report. UK Government Office for Science. 2007

Non-linear relationships

Feedback loops



Source: The Foresight Report. UK Government Office for Science. 2007

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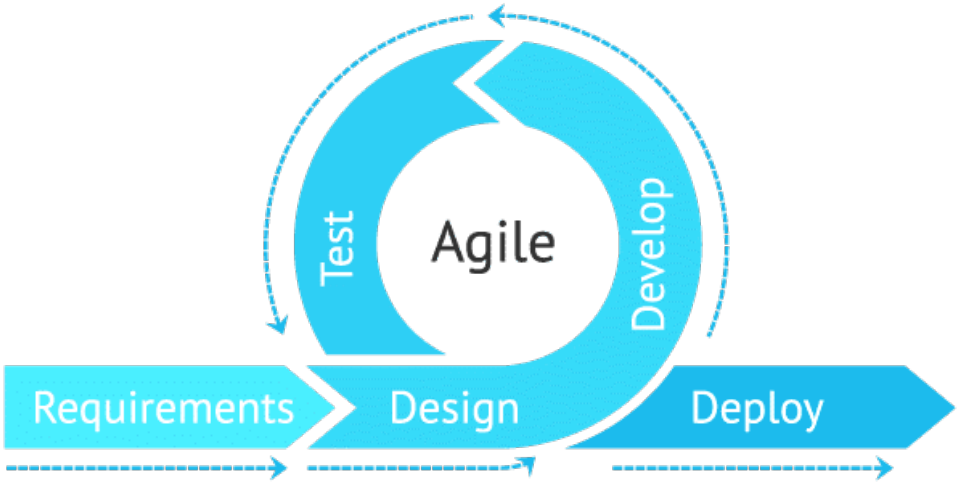
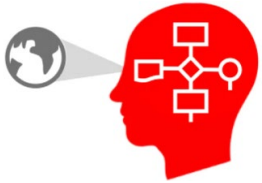
Non-linear relationships

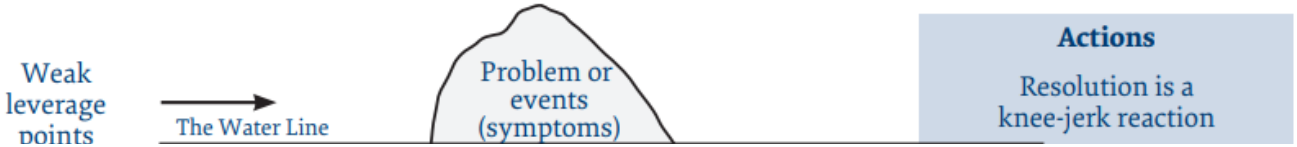
Agile and strategic planning



Solution dependent on mental models



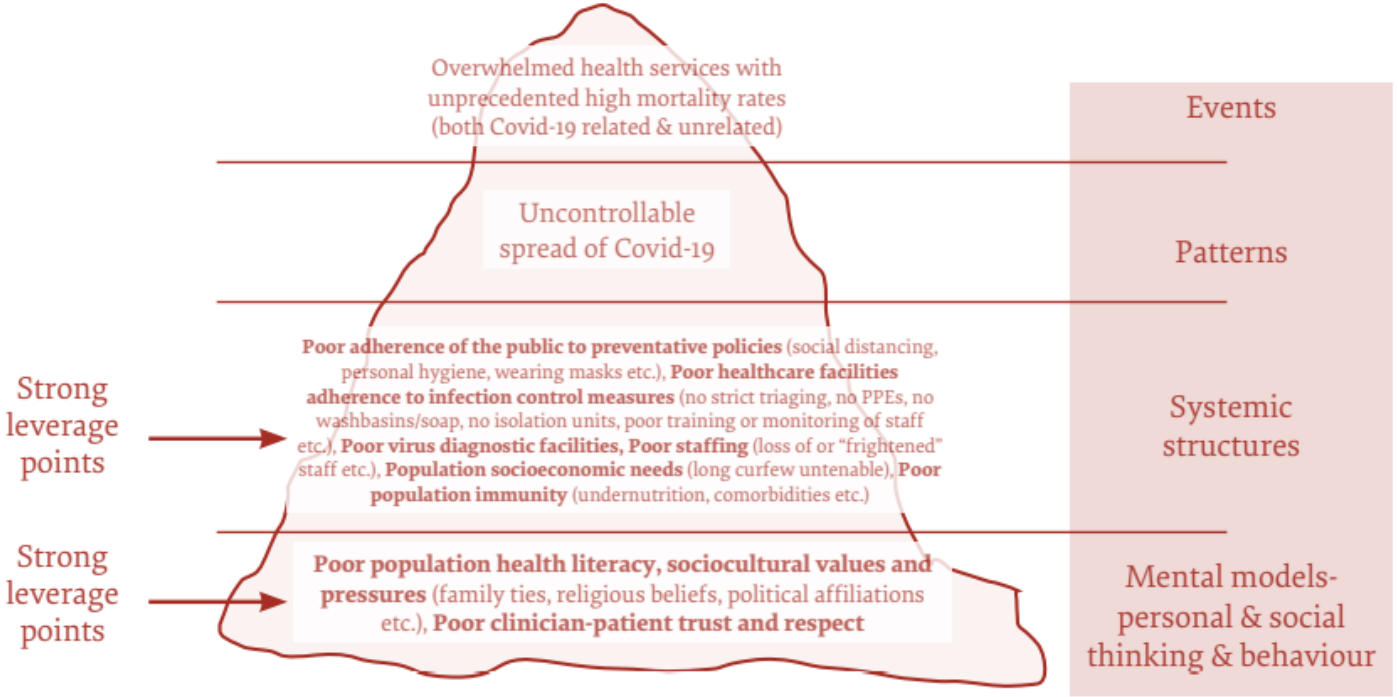
The iceberg model…



Hassan et al. 2020

Solution dependent on mental models

The iceberg model…



Hassan et al. 2020

Lessons learned

Learnings from how WE have responded to the pandemic showed

- ✓ Need to consider the early scientific calls for action even if these measures appear counter intuitive or punitive;
- ✓ There are thresholds that once crossed are irreversible;
- ✓ Crisis and mitigation strategies affect disproportionally population groups with inequalities leading to worse outcomes;
- ✓ Countries, sectors and citizens must respond in a coordinated, cooperative and systemic fashion;
- ✓ Less costly to prevent than to cure

Manzanedo et al. 2020
Klenert et al. 2020

Lessons learned

We need a paradigm shift to create more cohesive, inclusive and equal societies

- ✓ Working together
- ✓ Understanding root causes and limiting unintended consequences – not enough to reduce complex problems to single figures in mathematical models
- ✓ Agile and strategic decision making

Lessons learned

Systems thinking can…

- ✓ Provide a broader perspective on situations and problems
- ✓ Allows you to see “below the tip of the iceberg”
- ✓ Predict unintended consequences and understand underlying patterns and mental models

It is a discipline to be “less wrong”

Thanks!