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

Health system actors
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

Problem → Solution → New Problem

Systems thinking approach

Problem → Understand the system that causes the problem → Identify Leverage Points → Change the system
Unintended consequences

Problem framing versus problem solving

Missed opportunities in responding to violence against women and girls

Women experiencing 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
Non-linear relationships

Feedback loops

It is crucial to understand the relationships in a system

Non-linear relationships

Feedback loops

Non-linear relationships

Agile and strategic planning
Solution dependent on mental models

The iceberg model…

- Weak leverage points
- Problem or events (symptoms)

**Actions**
Resolution is a knee-jerk reaction

Hassan et al. 2020
Solution dependent on mental models

The iceberg model...

Overwhelmed health services with unprecedented high mortality rates (both Covid-19 related & unrelated)

Uncontrollable spread of Covid-19

Poor adherence of the public to preventative policies (social distancing, personal hygiene, wearing masks etc.), Poor healthcare facilities adherence to infection control measures (no strict triaging, no PPEs, no washbasins/soap, no isolation units, poor training or monitoring of staff etc.), Poor virus diagnostic facilities, Poor staffing (loss of or “frightened” staff etc.), Population socioeconomic needs (long curfew untenable), Poor population immunity (undernutrition, comorbidities etc.)

Poor population health literacy, sociocultural values and pressures (family ties, religious beliefs, political affiliations etc.), Poor clinician-patient trust and respect

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*
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!