AUSTRALIAN INSTITUTE OF HEALTH INNOVATION
Faculty of Medicine and Health Sciences

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Better patient care in a complex adaptive health system: evidence into practice

29 November 2018

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ACTA Summit 2018

Building a self-improving healthcare system

The University of Sydney Business School,
Abercrombie Building
29 - 30 November 2018

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So, how does a healthcare system really work?

System operating point

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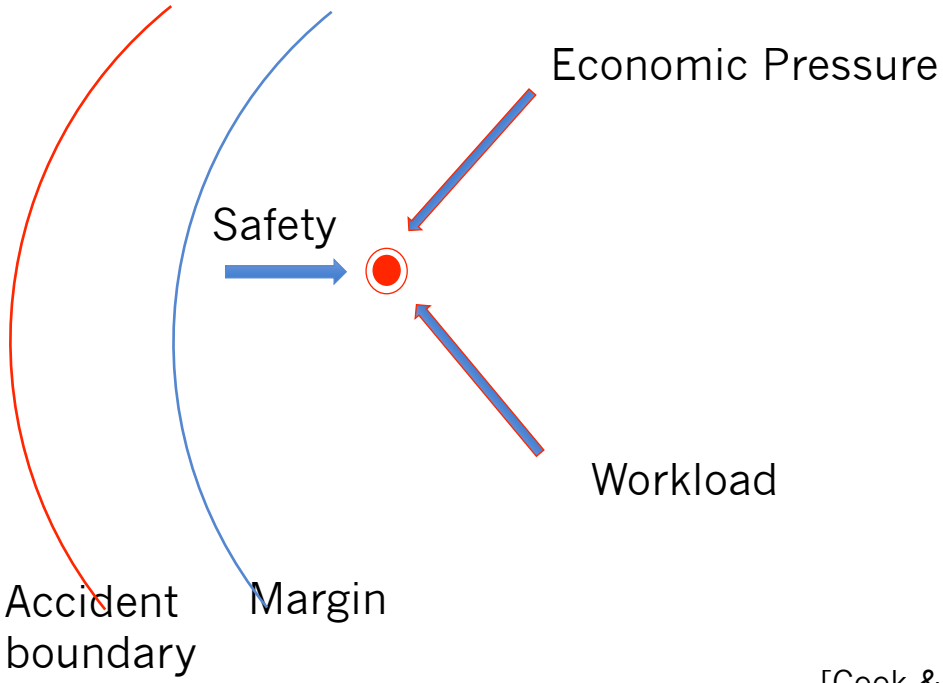

[Cook & Rasmussen, 2005]

Operating point in healthcare

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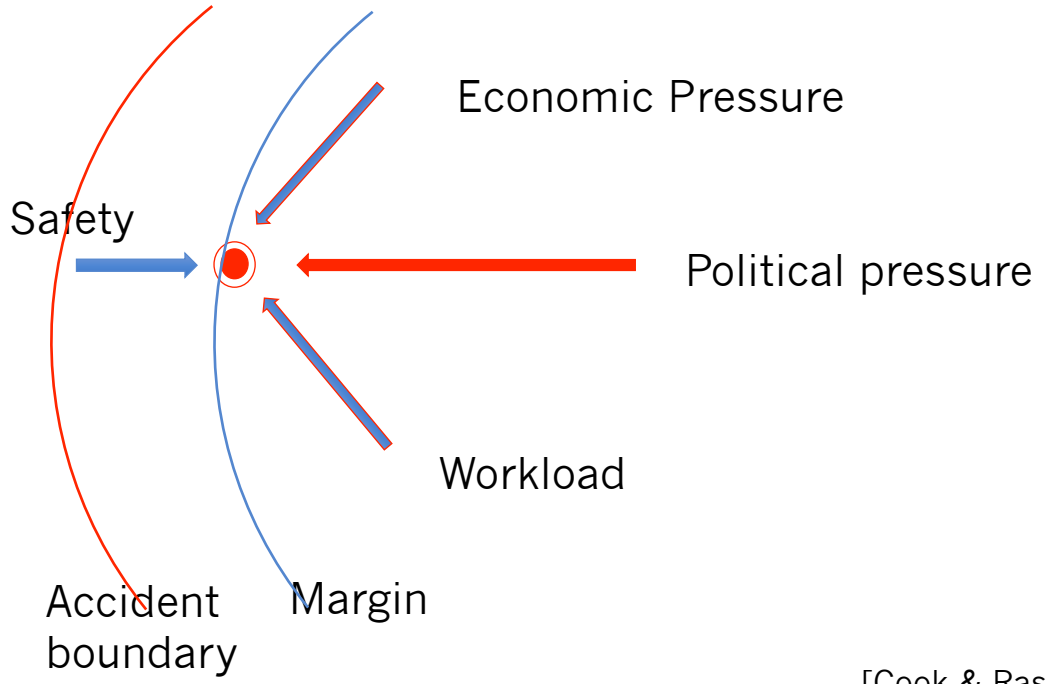

[Cook & Rasmussen, 2005]

Operating point in healthcare

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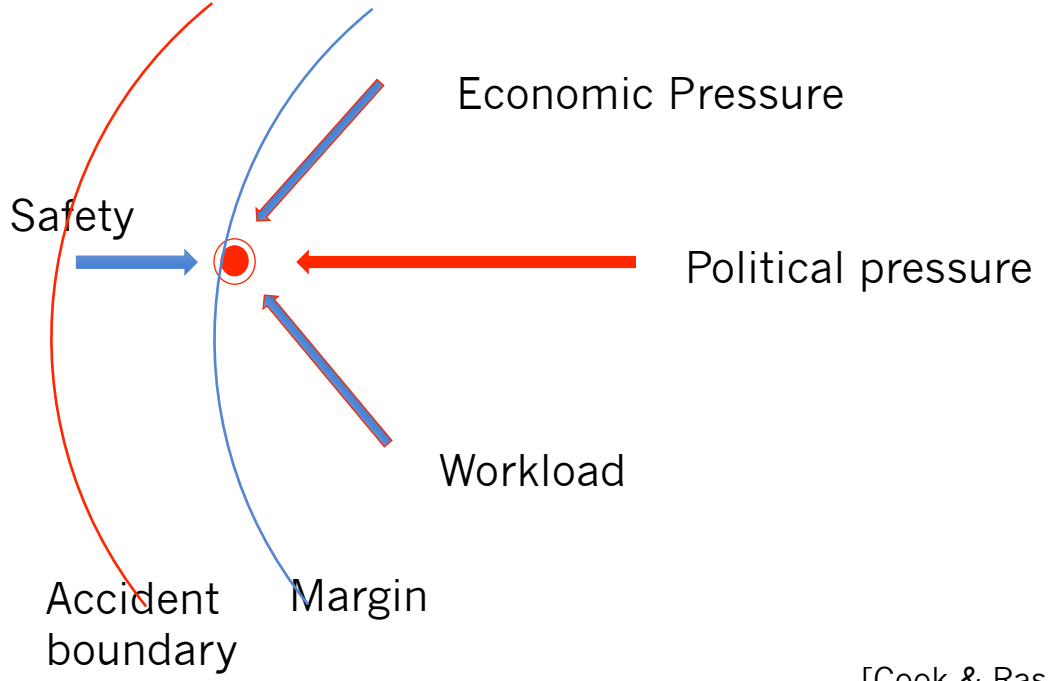
Weak signals: Δvariation/time, near misses, staffing issues, ??



[Cook & Rasmussen, 2005]

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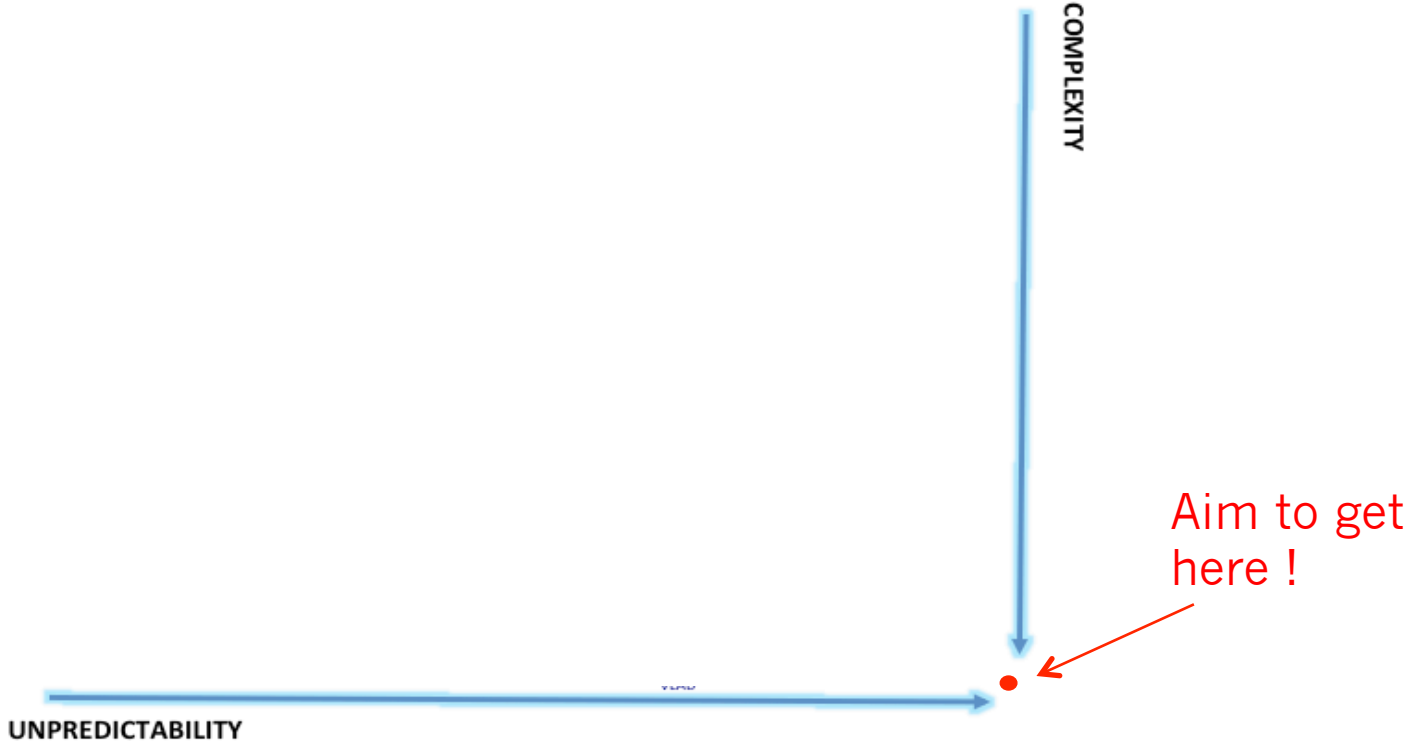
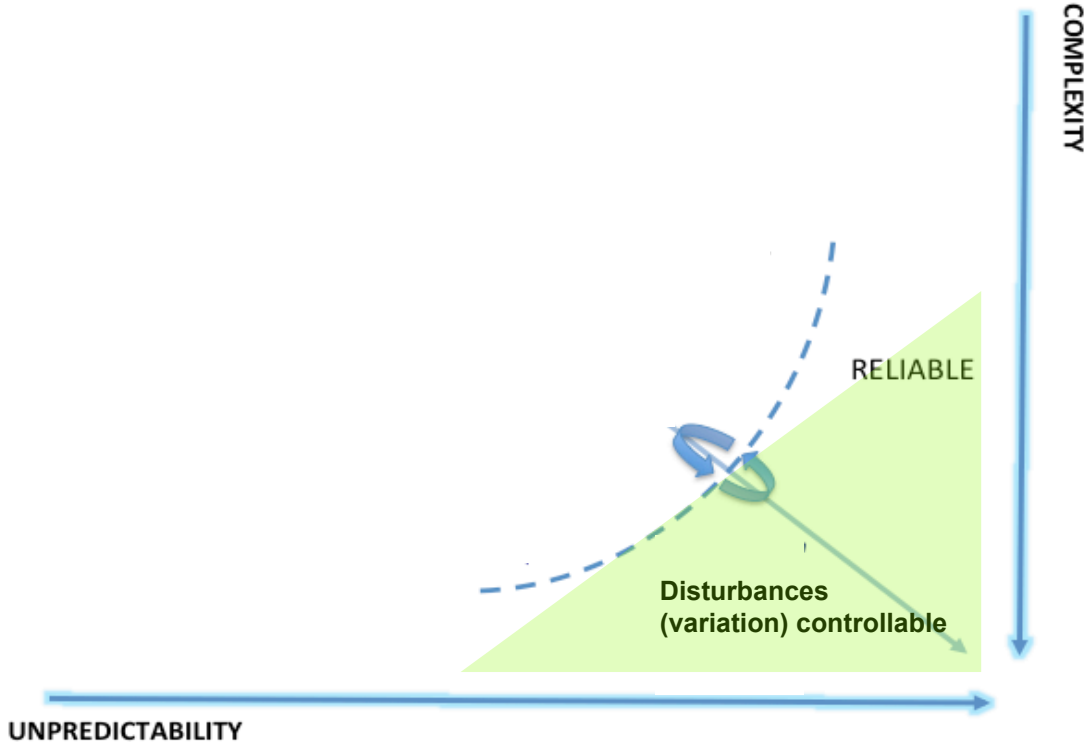
And how can we get evidence into practice?

The Better Care Framework



[Johnson, Clay-Williams, Lane, 2017]

Reliable space



[Johnson, Clay-Williams, Lane, 2017]

In the reliable space …

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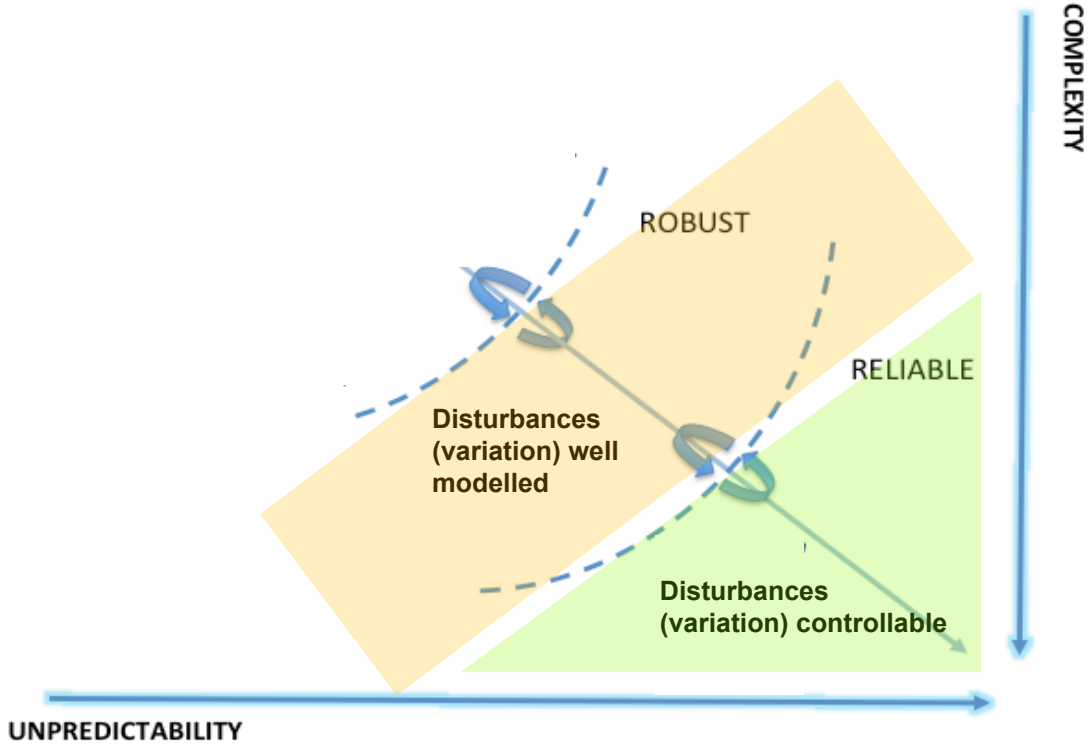
We can use methods or interventions based on **linear systems thinking:**

* variables can be **controlled**
* results can be **generalised**
* local problems can be addressed independently of the larger system
* methods might include: **RCTs and other experimental methods**, etc
* tools might include**: standardisation, checklists, RCAs, FMEA, Six sigma**, etc

Robust space



[Johnson, Clay-Williams, Lane, 2017]

In the robust space …

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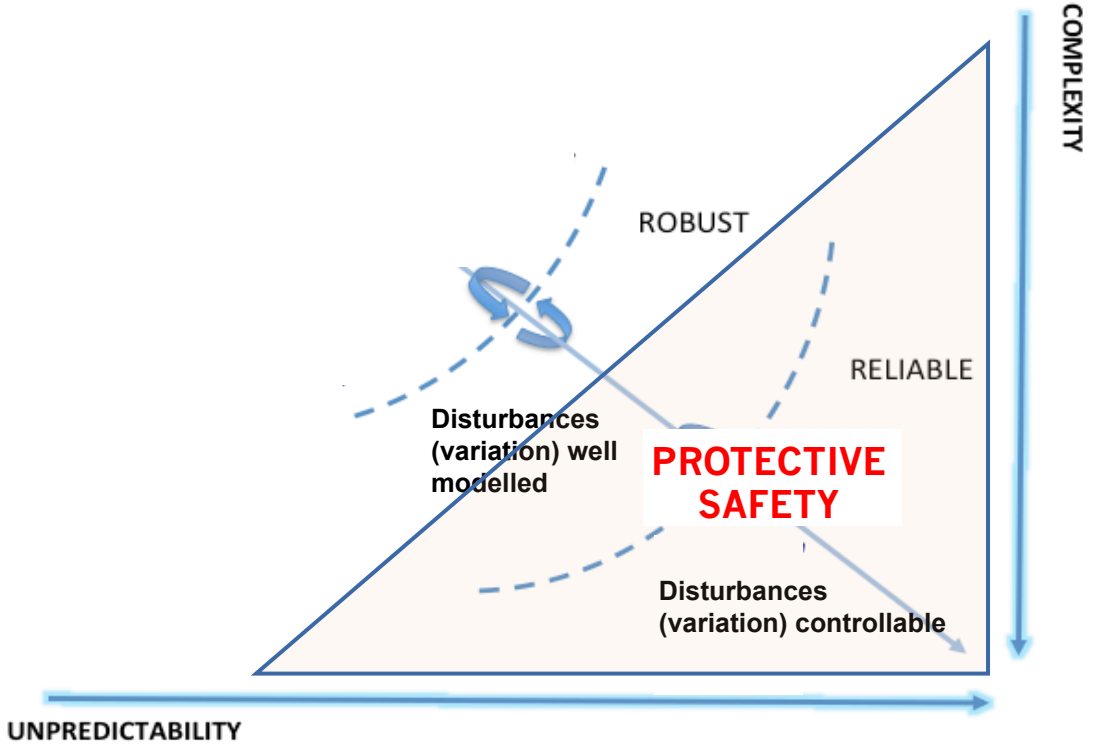
We can still use methods or interventions based on **linear systems thinking, BUT:**

* variables may be **difficult to control**
* results may **not be generalisable**
* there is likely to be **interaction** between local context and the larger system
* methods might include: **quasi-experimental methods, qualitative and mixed methods,** etc
* tools might include: **Lean, M&Ms, simulation, teamwork/ CRM tools,** etc

‘Protective’ safety



[Johnson, Clay-Williams, Lane, 2017]

But the system is also dynamic

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It changes over time:

* solving a problem does **not** mean it is solved for good
* the intervention might be effective, but we **won't** necessarily see results (almost) immediately
* multiple interventions **cannot** be applied simultaneously, yet assessed individually
* once we have planned an intervention, we **cannot** necessarily apply the intervention exactly as planned
* consider **dynamic methods**, such as system modelling

We need systems thinking[1]

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Static thinking
Focusing on single events

Dynamic thinking
Focusing on behavior patterns

System-as-effect thinking
System behaviour driven by external forces

System-as-cause thinking
System behaviour driven by internal actors

Tree-by-tree thinking
Focus on the details

Forest thinking
Focus on the big picture, context

Factors thinking
Listing factors that correlate with a result

Operational thinking
Understanding how behavior is generated

Straight line thinking
Causality single directional

Loop thinking
Causality multi-directional, feedback loop

1. Adam T, de Savigny D. Systems thinking for strengthening health systems in LMICs: need for a paradigm shift. Health Policy and Planning. 2012;27(suppl_4):iv1-iv3.

Resilient space

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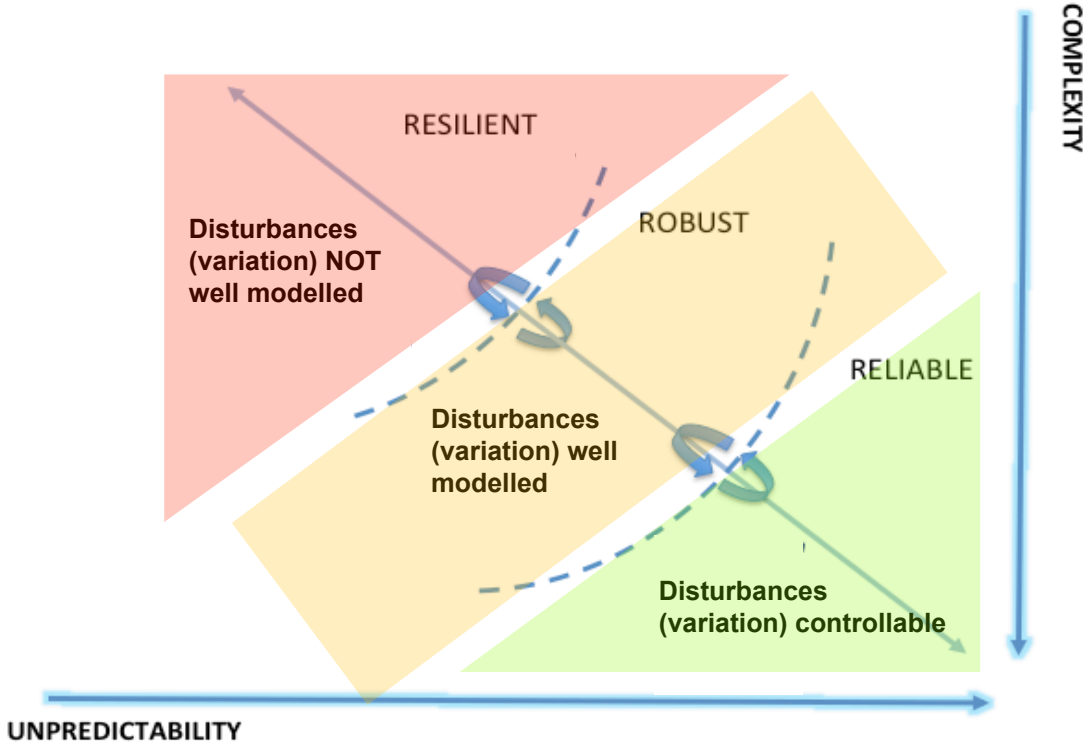
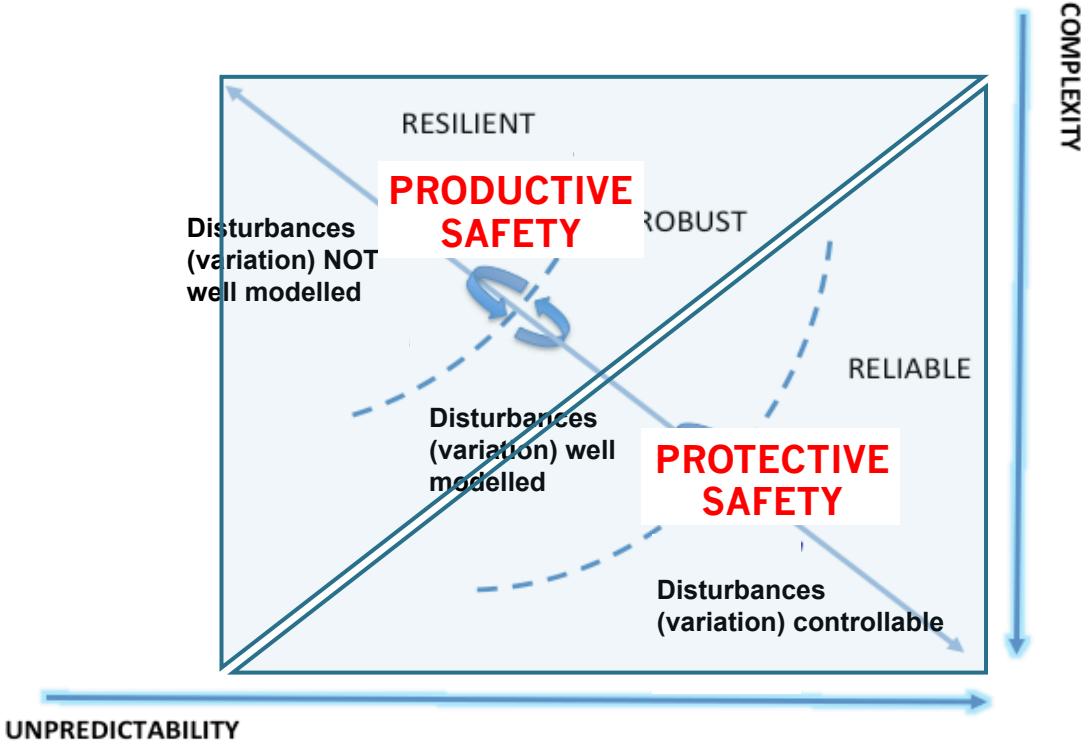


[Johnson, Clay-Williams, Lane, 2017]

‘Productive’ safety



[Johnson, Clay-Williams, Lane, 2017]

In the resilient space …

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We **can no longer** use methods or interventions based on linear systems thinking:

* they won't work
* they will further increase system complexity

We need to find ways to deal with the unexpected:

* embrace **diversity**
* understand **work-as-done**
* learn from **what goes right**
* methods need to include **qualitative** components
* tools might include: **Functional Resonance Analysis Method (FRAM), Resilience Assessment Grid (RAG),** etc

Lessons

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New rules for an old problem

1. Don’t ever think getting evidence into practice is easy
2. Progress will always be hard work
3. Linear will only get you so far—often, nowhere fast
4. Work with the natural characteristics of the CAS
5. Always look out for unintended consequences

[Braithwaite, 2010; Braithwaite, 2015 Gaps in systems]

Lessons

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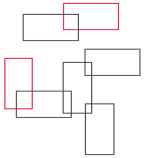
New rules for an old problem

6. Don’t do it alone … it’s a system of systems
7. Harness others—mavens, cosmopolites, bridges, brokers, opinion leaders
8. You’ll need institutional support, too
9. Look at what goes right, and think why
10. Do more of things going right

[Braithwaite, 2010; Braithwaite, 2015 Gaps in systems]



THANK YOU

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