Resilient health care: forging new directions

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Australian Institute of Health Innovation’s mission

Our mission is to enhance local, institutional and international health system decision-making through evidence: and use systems sciences and translational approaches to provide innovative, evidence-based solutions to specified health care delivery problems.

http://www.med.unsw.edu.au/medweb.nsf/page/ihi

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Background - the Centre

The Centre for Clinical Governance Research undertakes **strategic research, evaluations and research-based projects** of national and international standing with a core interest to **investigate health sector issues of policy, culture, systems, governance and leadership.**


Safety in Patient Care

"After decades of improving the health care system, patients still receive care that is highly variable, frequently inappropriate, and too often, unsafe."1


Previous speakers today ...

*An organised, planned, purposeful approach*

*Resilience for you! Capacity to bounce back*
How do organisations work?

If your mental model is this …

Then this is how you will deal with error …
But healthcare really looks like this …

And this …

- Problem solving networks in an ED
  - Nurses
  - Doctors
  - Allied health
  - Admin and support

[Creswick, Westbrook and Braithwaite, 2009]
And this …

- Medication advice-seeking networks in an ED
  - Nurses
  - Doctors
  - Allied health
  - Admin and support

[Creswick, Westbrook and Braithwaite, 2009]

And this …

- Socialising networks in an ED
  - Nurses
  - Doctors
  - Allied health
  - Admin and support

[Creswick, Westbrook and Braithwaite, 2009]

And … it’s very hard to make large-scale change
Example #1: harm per 1000 patients in 10 N. Carolina Hospitals

Measures of adverse events using the global trigger tool

Example #2: UK Safer Patients Initiative

Rates of cases of C difficile per 1000 bed days in control and SPI2 hospitals.

SPI phase 2 study, 20 hospitals

Example #2: UK Safer Patients Initiative

Rates of cases of MRSA per 100 000 bed days in control and SPI2 hospitals.

SPI phase 2 study, 20 hospitals
So we need new ways of thinking

Beyond linear reductionism

**Health care as a complex adaptive system**

- Agents
- Inter-relating
- Rich relationships
- Non-linearity
- Self-organising
- Hierarchical
- Path-dependent

- Emergent behaviours
- Feedback occurs
- Fractal, nested
- Heterarchical
- Individuals may only know local elements

[Braithwaite et al. 2014]
Safety I and Safety II thinking

Safety I
- The (relative) absence of adverse events
- Reactive
- Assumes safety can be achieved by finding, and eliminating the causes of adverse events

Safety II
- The ability to succeed under varying conditions
- Proactive
- Focuses on what goes right, so that the number of intended and acceptable outcomes is as high as possible every day

Safety Perspectives in RHC

Safety I
- The (relative) absence of adverse events
- Reactive

Safety II
- The ability to succeed under varying conditions
- Proactive

Typical understanding of Safety

The ‘find and fix’ principle

Let’s tackle things that go wrong

A focus on what goes right receives little encouragement

There is little demand from authorities and regulators to look at what works well, and if someone should, there is little help to be found
A Swedish example

Why did the Vasa sink on 10 August 1628?

The Vasa is so huge it can be viewed from seven floors in the museum.

[http://www.vasamuseet.se/en/The-Ship/The-sinking/]

A Swedish example

WHY DID VASA SINK?

“The news of the sinking reached the Swedish king, who was in Prussia, after two weeks. The disaster had to be the result of "foolishness and incompetence," and the guilty must be punished, he wrote to the Royal Council in Stockholm.”

[http://www.vasamuseet.se/en/The-Ship/The-sinking/]

Reactive Safety Management

[Figure 3.3 Reactive Safety Management Cycle (WHO)]

Hollnagel et al, Resilient Health Care, 201
Critical Analysis of Safety I
Highly technocratic and largely retrospective model of learning
Reactive, not proactive, forms of foresight and problem-solving
Focuses on the ~10% of breaches vs the ~90% of instances that maintain day to day safety
Poor understanding of everyday work including organisational culture and politics

A Different Perspective – Safety II
A different way of looking at safety
A different way of applying many familiar methods and techniques
Asks us to identify things that go right and analyse why they work well
Requires proactive management of performance variability, not just constraints and avoidance

Safety II: When Things Go Right
What if we changed the definition of safety from ‘avoiding something that goes wrong’ to ‘ensuring that everything goes right’?
More precisely ‘ensuring that the number of intended and acceptable outcomes is as high as possible’
This requires a deep understanding of everyday activities
What on earth were we thinking

- We know a lot about when things go wrong
- But have made little progress
- We know little about when things go right
- And this everyday clinical behaviour, relying on expertise and tacit knowledge, creates safe effective care
- We call this Resilient Health Care

So … we need to develop more system resilience
Resilience is...

- Bouncing back faster after stress, enduring greater stressors, and being disturbed less by a given amount of stress...
- Maintaining system function intact in the event of a disturbance...
- Inability to withstand, recover from, and reorganize in response to crises...

For an individual, For a System, For an Adaptive System


Resilient Health Care
Another way of thinking about resilience:

“resilience is the intrinsic ability of a system to adjust its functioning prior to, during or following changes/disturbances in order to sustain required operations under expected or unexpected conditions”

Here are some ideas from RHC thinking...

[Hollnagel et al, Resilient Health Care, 2013]

work as imagined vs. work as enacted
We tend to figure out solutions and ‘fix’ work as imagined rather than work as enacted.

First story, second story

First story: linear thinking
Things have gone wrong
Find out what happened
Attribute actions to people
Uncover the root causes
Fix the systems so this doesn’t happen again

But healthcare really looks like this …

Second story: complexity thinking

- It's more complex than the first story
- It's not linear at all
- Multiple interacting variables
- Uncover how come we did this many times previously and things went right
- Strengthen the systems so we do more things well

Productive Insights into Safety

Productive insights are generated from the ‘second story’ that lies behind the ‘first story’ of incidents and accidents

First stories are accounts of the ‘celebrated’ accidents which categorise them as both catastrophes and blunders

Second stories tell how, ‘multiple interacting factors in complex systems can combine to produce systemic vulnerabilities to failure … the system usually … manages risk but sometimes fails.’

[Cook, Woods and Miller, 1998:2-3]
Resilience and the Second Story

Resilience:
– is a property of systems
– confers on systems the ability to remain intact and functional despite the presence of threats to their integrity and function
– is the opposite of brittleness and aspires to be a theory of systemic function

Implications of these alternative ways of thinking

Natural properties of complex systems

<table>
<thead>
<tr>
<th>Properties of complex systems</th>
<th>Health care manifestations</th>
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<tbody>
<tr>
<td>Natural networks</td>
<td>Groups of clinicians who interact professionally to share information, support, consult, refer, and jointly manage patients</td>
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<td>Natural hub and scale-free behaviour</td>
<td>Opinion leaders in networks who disproportionately influence policies, events or practices</td>
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<td>Natural pathways, connectivity and small-worlds</td>
<td>Communication channels facilitating the rapid dissemination of information via &quot;grapevines&quot; and &quot;communities of practice&quot;</td>
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<td>Natural appeal and stickiness</td>
<td>Messages and communications that are convincing, and are absorbed amongst clinical cohorts</td>
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<td>Natural propagation and tipping points</td>
<td>The point at which a message, idea or practice whose time has come is readily adopted by a critical mass of clinicians</td>
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<td>Natural categories and natural mapping</td>
<td>The identification of clinically relevant problems grouped as accessible data, to facilitate decision-making and solutions to health care problems</td>
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<td>Natural interest and self-selection</td>
<td>Clinicians with common concerns and complementary expertise voluntarily grouped together to collectively resolve face clinical problems</td>
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Discussion: comments, questions, observations?

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