

AUSTRALIAN INSTITUTE
OF HEALTH INNOVATION

Faculty of Medicine and
Health Sciences



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University

Building resilient systems for surgical improvement

August 14-15, 2019

BC Patient Safety & Quality Council, BC, Canada

Jeffrey Braithwaite, PhD,
FIML, FCHSM, FFPHRCP, FAcSS, Hon FRACMA, FAHMS
Professor and Director
Australian Institute of Health Innovation
Director
Centre for Healthcare Resilience and
Implementation Science
President Elect
International Society for Quality in Health
Care (ISQua)



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.

www.aihi.mq.edu.au



Australian Institute of Health Innovation

PIONEERING | STRATEGIC | IMPACT



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- **Professor Jeffrey Braithwaite**

Founding Director, AIHI; Director, Centre for Healthcare Resilience and Implementation Science

- **Professor Enrico Coiera**

Director, Centre for Health Informatics

- **Professor Johanna Westbrook**

Director, Centre for Health Systems and Safety Research



I would like to acknowledge the traditional custodians of the land on which we are gathered and pay my respects to their Elders both past and present. I would like to extend that respect to all Aboriginal and Torres Strait Islander peoples

Improving surgical care in Australia



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How do we improve surgical care?

Know what the problem is, e.g. via Audit and Incident Management

And learn from things going right as well as wrong ...

Improving surgical care in Australia



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Australia has a number of statutory expert committees, e.g.

1. SCIDUA (Special Committee Investigating Deaths Under Anaesthesia)
 - a. Audit of patients in NSW who died relating to an incident occurring during anaesthesia – deaths within 24 hours
2. CHASM (Collaborating Hospital's Audit of Surgical Mortality)
 - a. Audit of patients who died under the care of a surgeon – deaths within 30 days of operation
 - b. Managed by surgeons, for surgeons

SCIDUA: Example of findings



	NSW	National
1960	1:5,500 – 1:8,000	
1970	1:10,250	
1984-1990	1:20,000	
1991-1993	1:55,000	1:68,000
1997-1999	1:38,000	1:79,500
2006-2010	1:32,600	

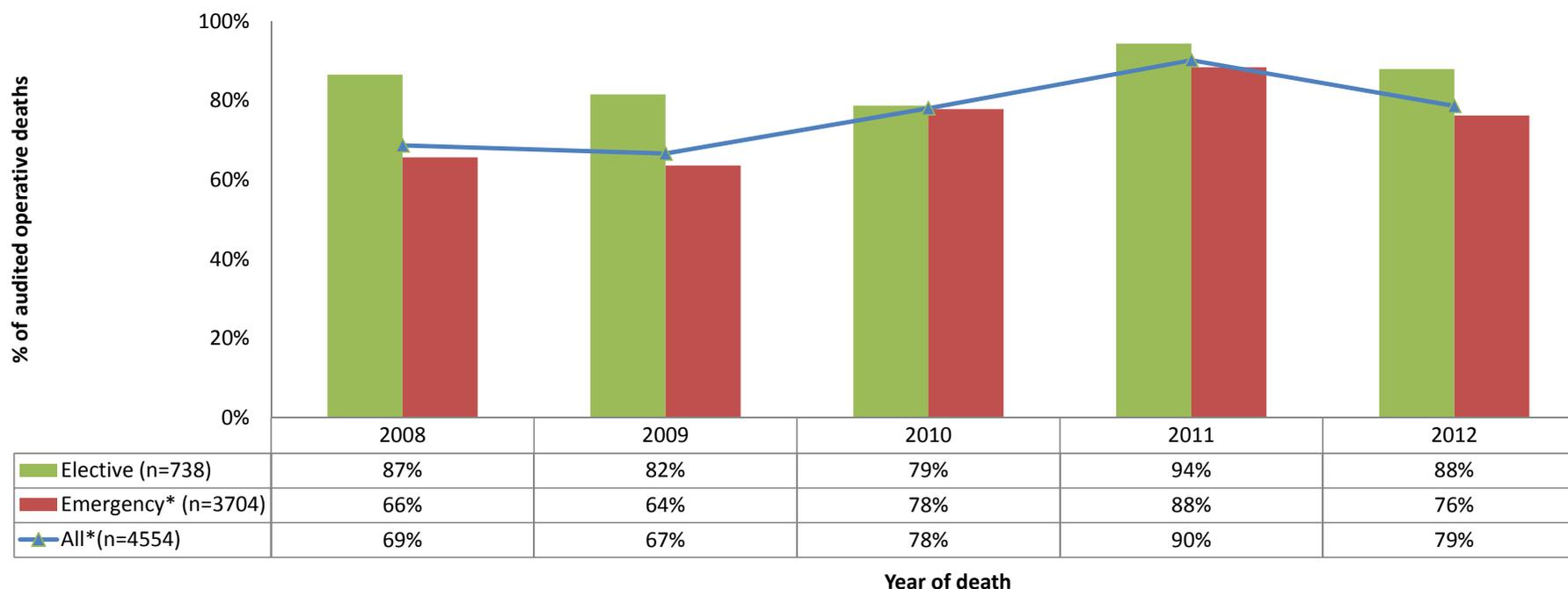
Estimated Anaesthetic mortality per administration

CHASM: Reported changes in surgical management of patients



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Proportion of audited deaths with consultant surgeon in theatre (operating, assisting or supervising)



Improving surgical care in the Province

Improving surgical care



“Our vision for surgical care in BC is to use evidence-based, data-driven programs, to decrease complications and infections, and provide better outcomes for the 200,000 British Columbians who undergo surgery each year.”

Improving surgical care



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- Surgical Quality Action Network (SQAN) – engage patients and track and evaluate patient outcomes through **the National Surgical Quality Improvement Program**
- Nearly **450 health care providers** have joined SQAN

Improving surgical care



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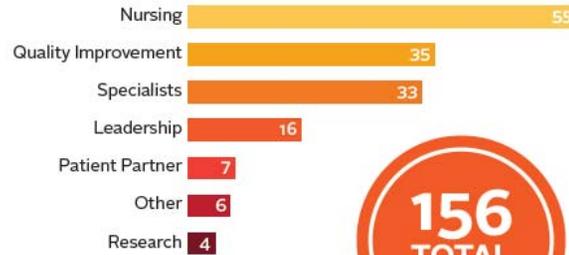
- Saved more than **12,000 bed days** over a 5 year period
- Coordinates and aligns with **Ministry of Health's Surgical Services Strategy, the Surgical Action Plan, and Measurement System for Physician Quality Improvement**



ADVANCING THE SURGICAL QUALITY AGENDA IN BC

How did we do?

Who came to the event:



156
TOTAL
ATTENDEES

What we heard:



21
SESSIONS

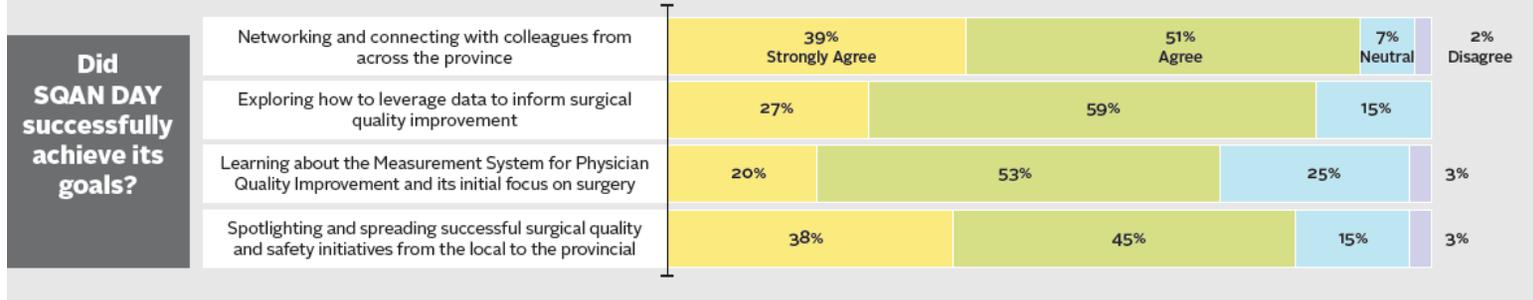
27
SPEAKERS

“My favourite part was the diversity of topics and ability to meet individuals from a variety of clinical backgrounds and locations/authorities.”

“The presenters made a strong effort to include all health providers perspectives and patient perspectives.”

“Next time, we need fewer content streams or more time! I was only able to attend 4/16 sessions. Over 2 days I could do 8/16.”

“From the start to finish, my first experience as a PVN participant went very smoothly. The support and information were invaluable and greatly appreciated.”

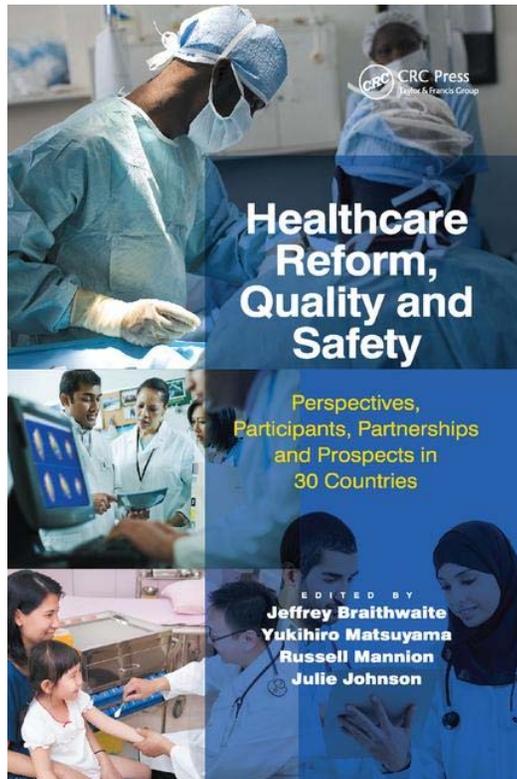


Lessons from around the world on improvement

A series on international health reform



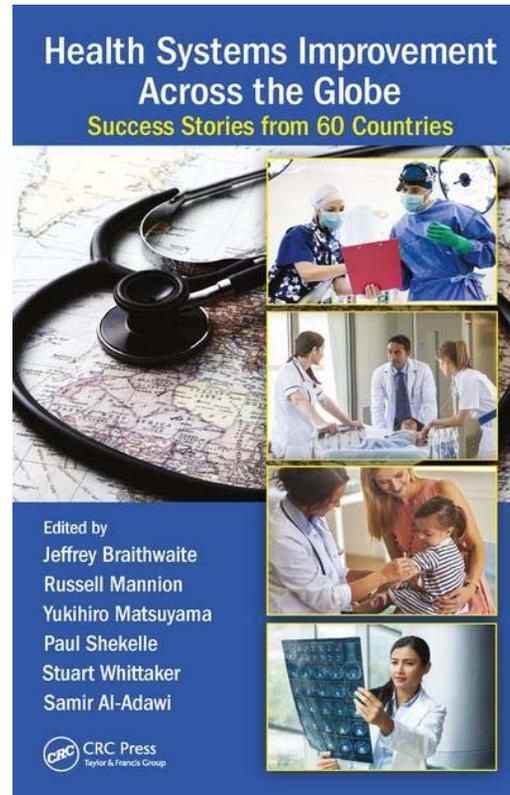
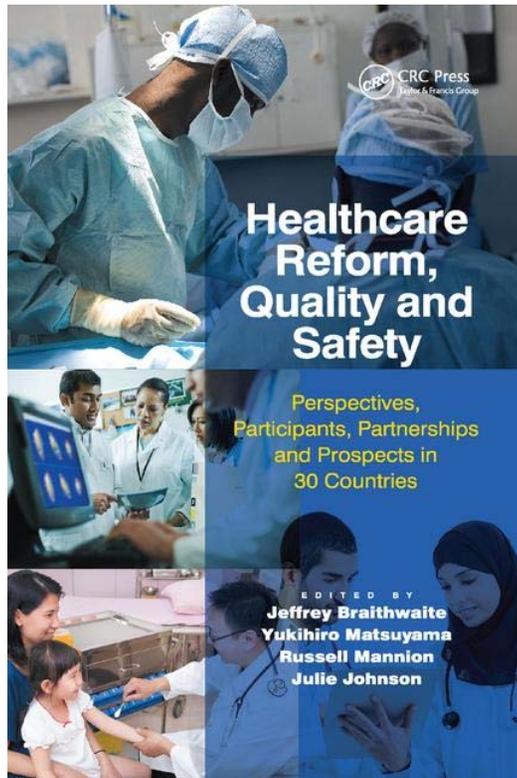
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A series on international health reform



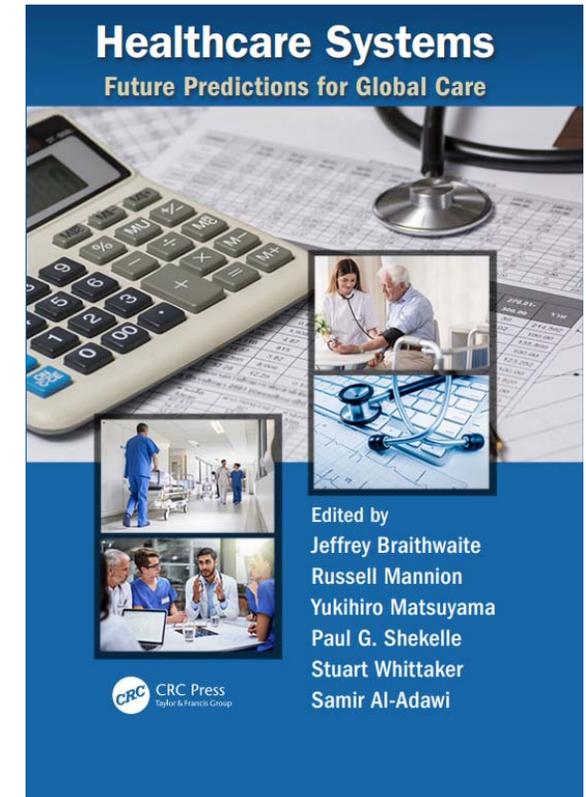
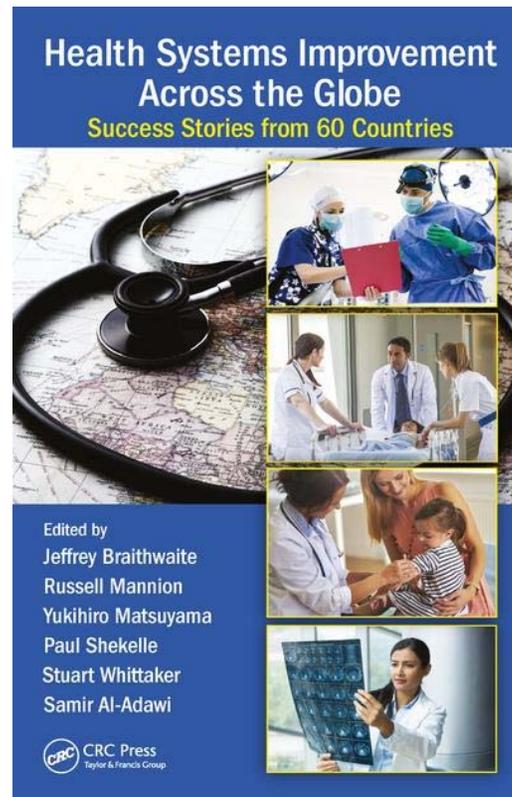
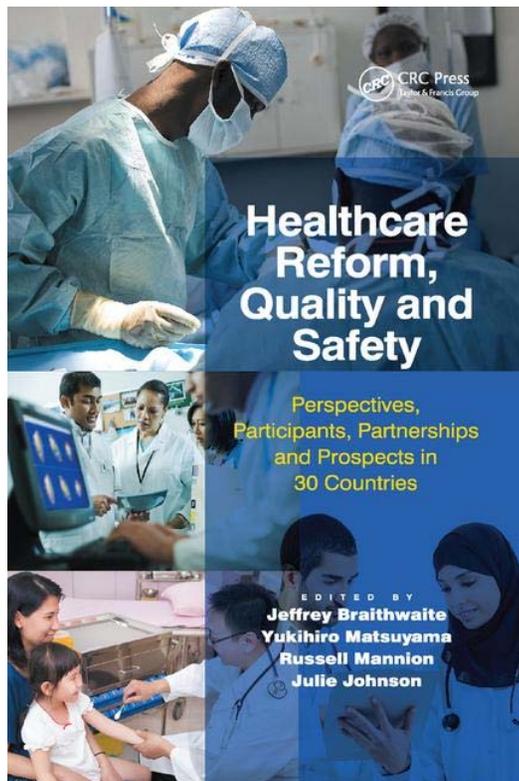
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A series on international health reform



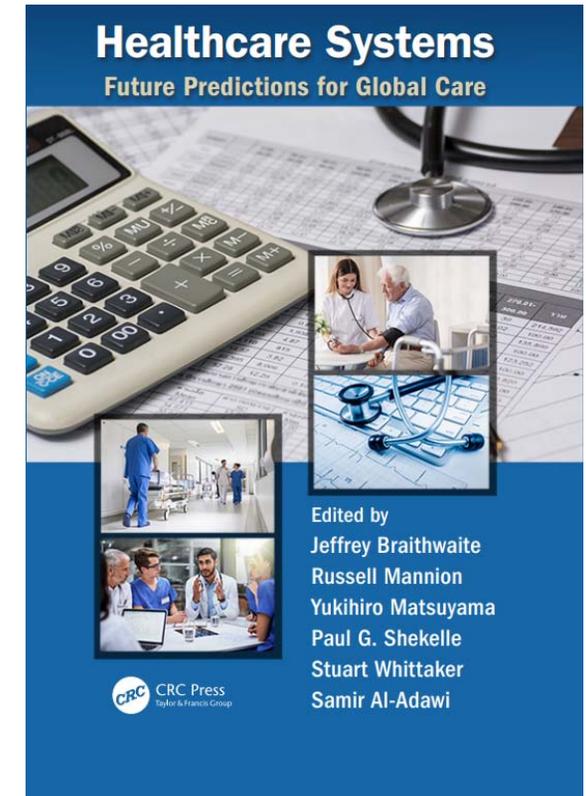
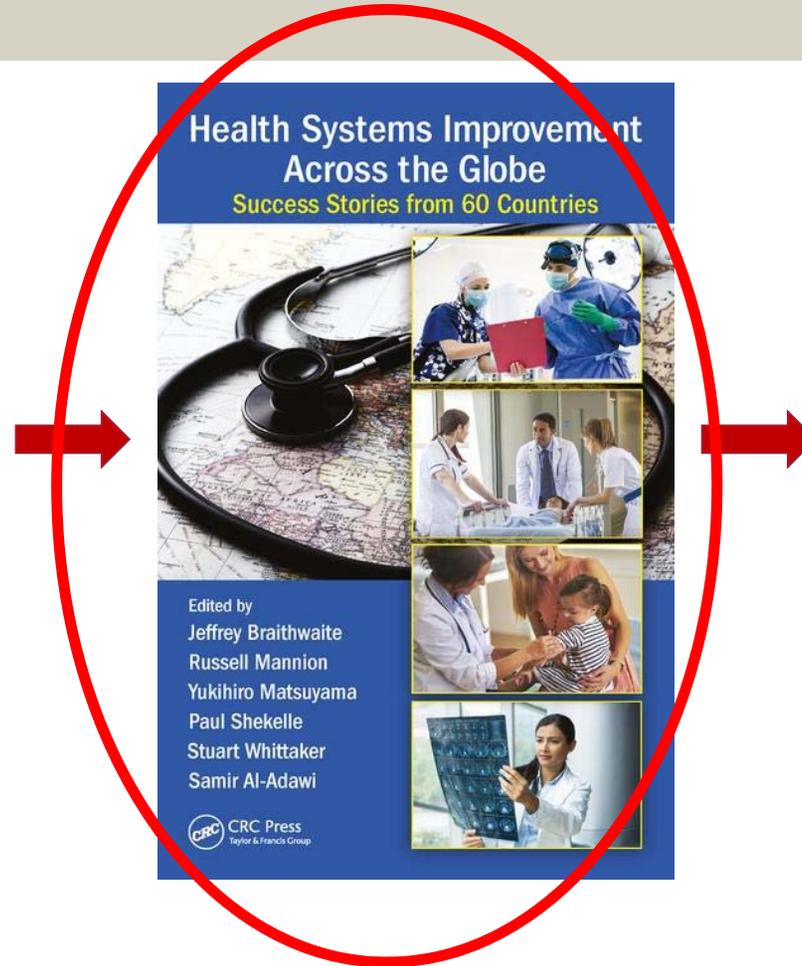
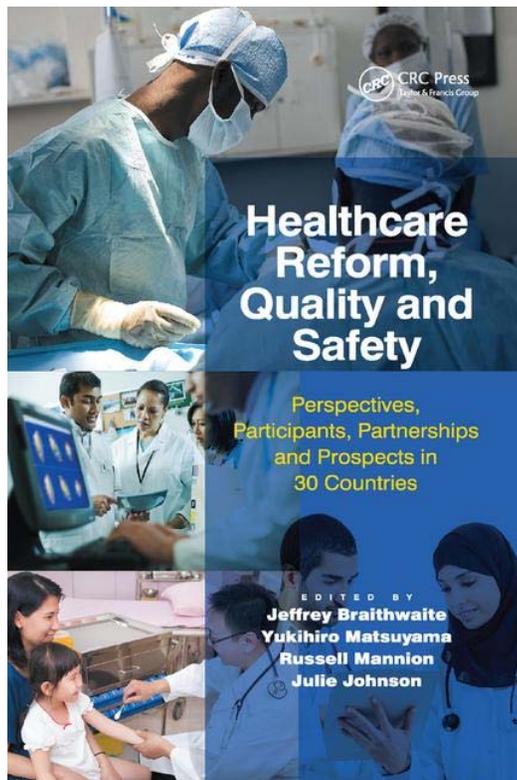
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A series on international health reform



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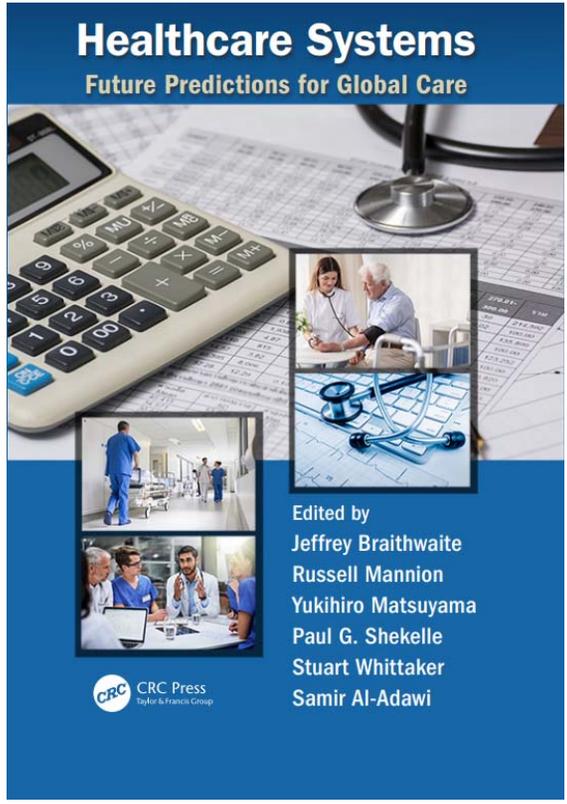
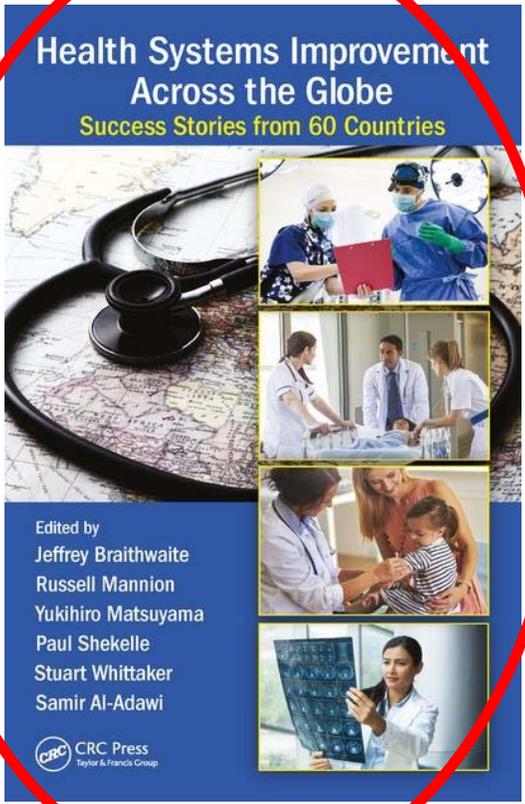
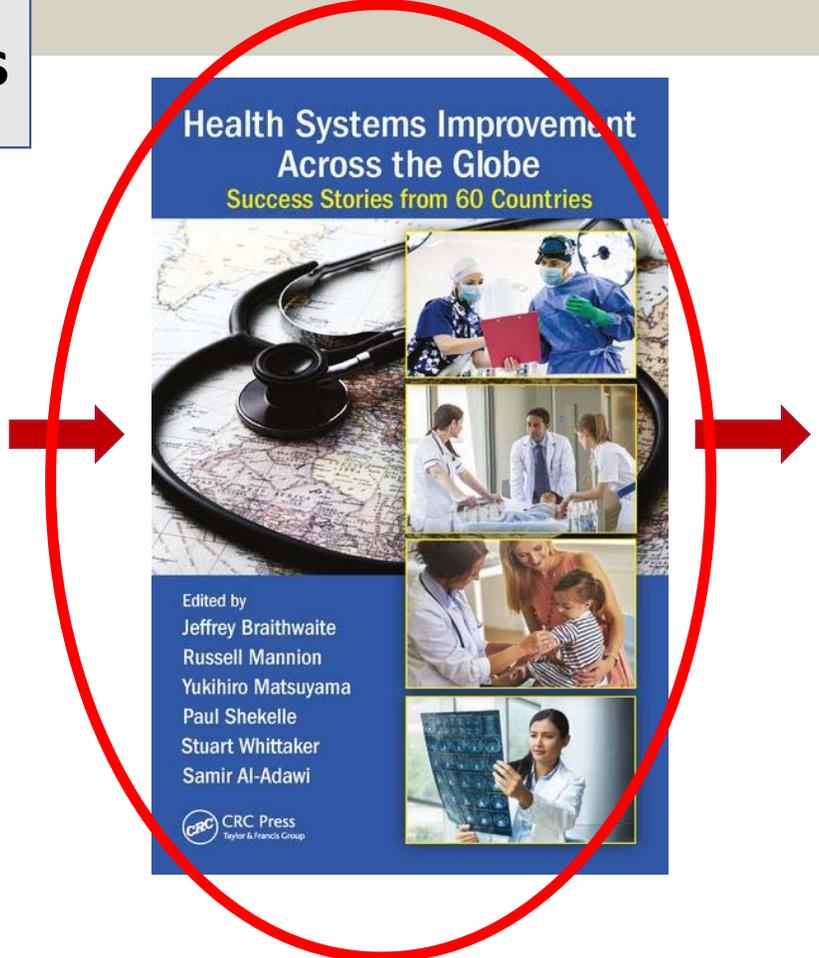
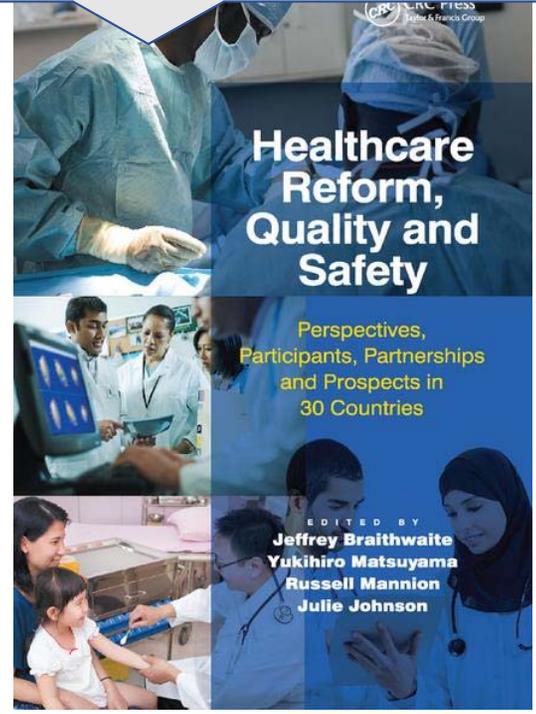


International health



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26 chapters, 14 mentions of surgical procedures



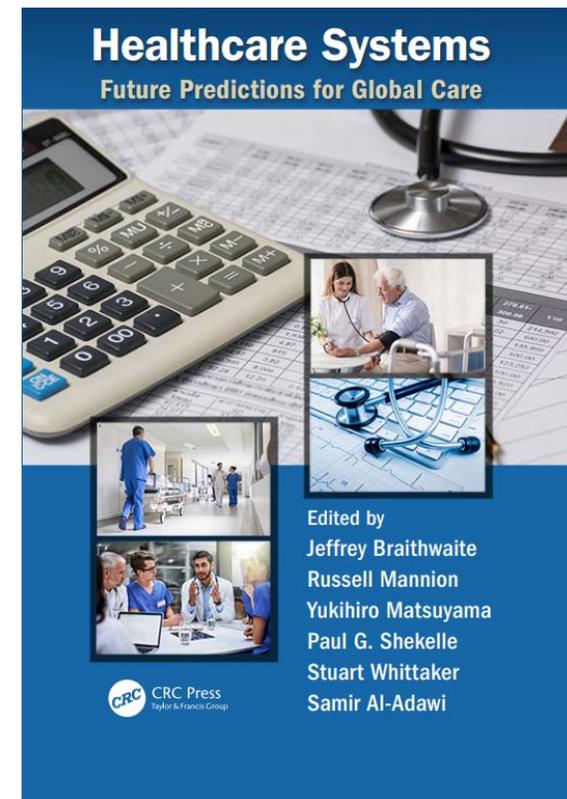
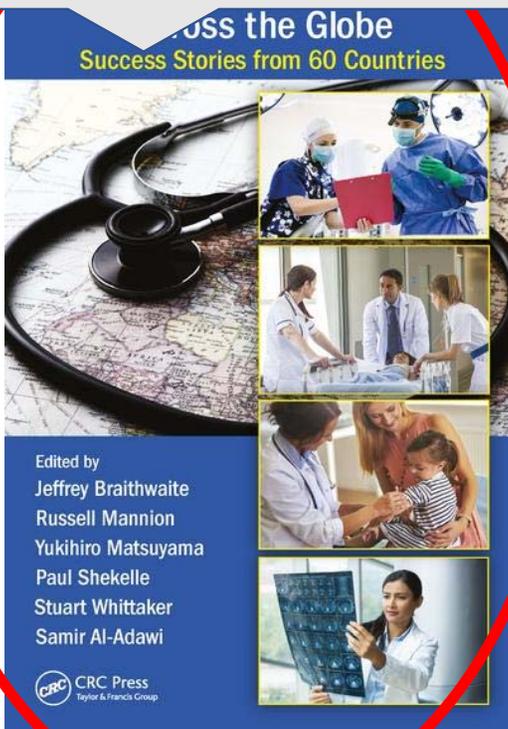
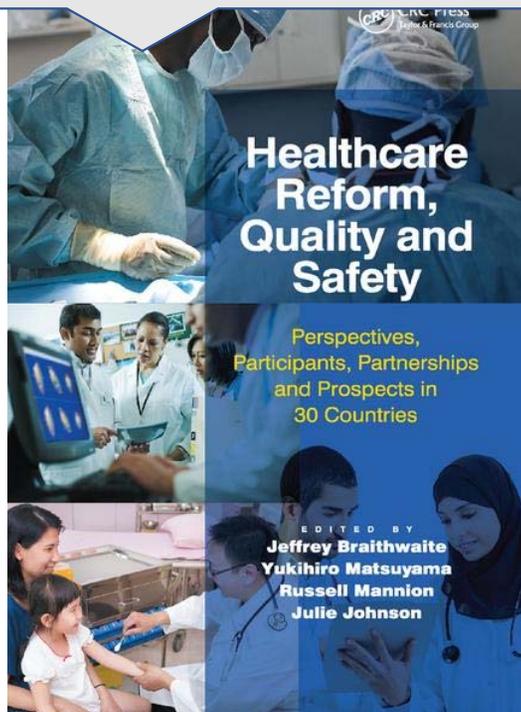
26 chapters, 14 mentions of surgical procedures

58 chapters, 17 mentions of surgical procedures

Health



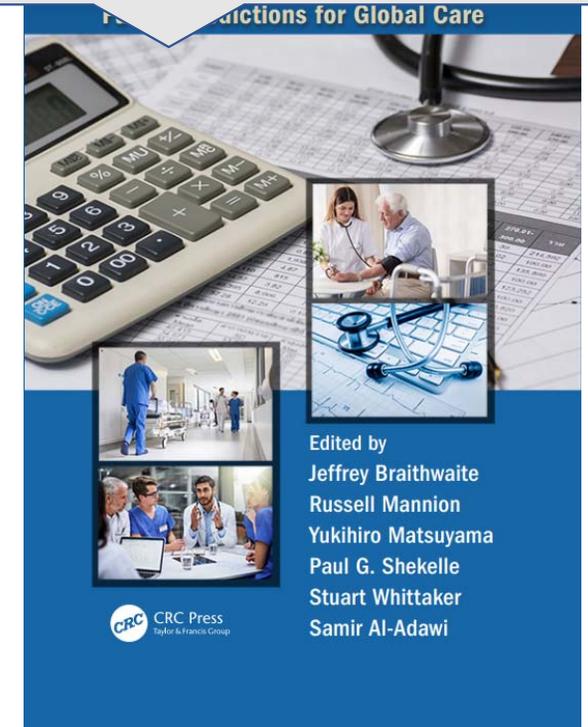
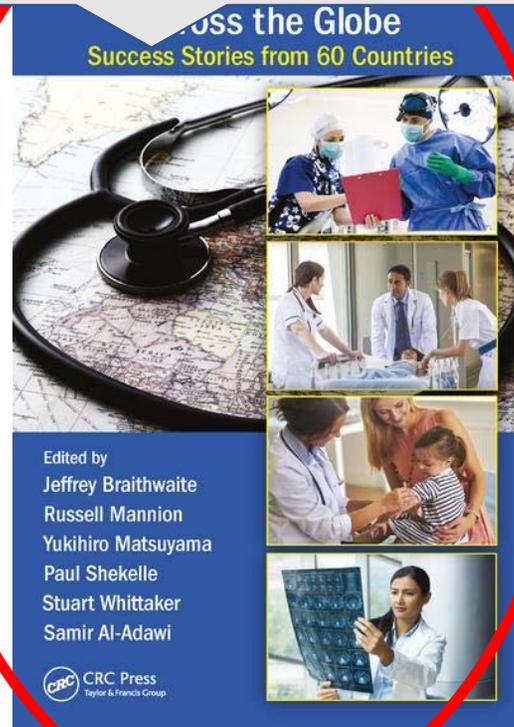
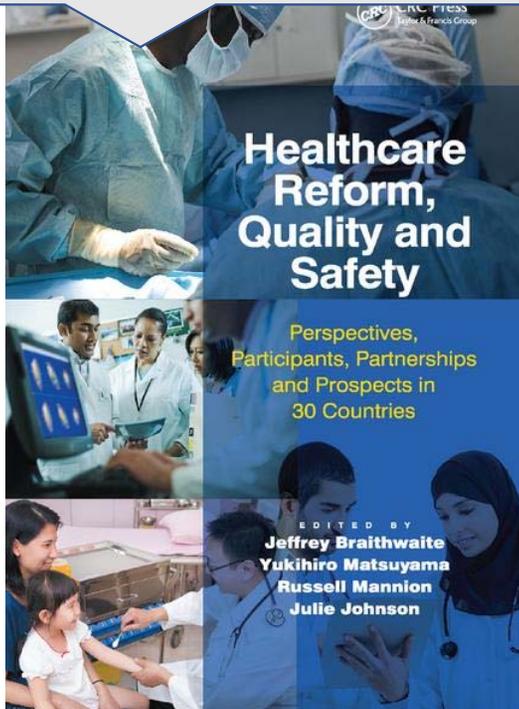
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26 chapters, 14 mentions of surgical procedures

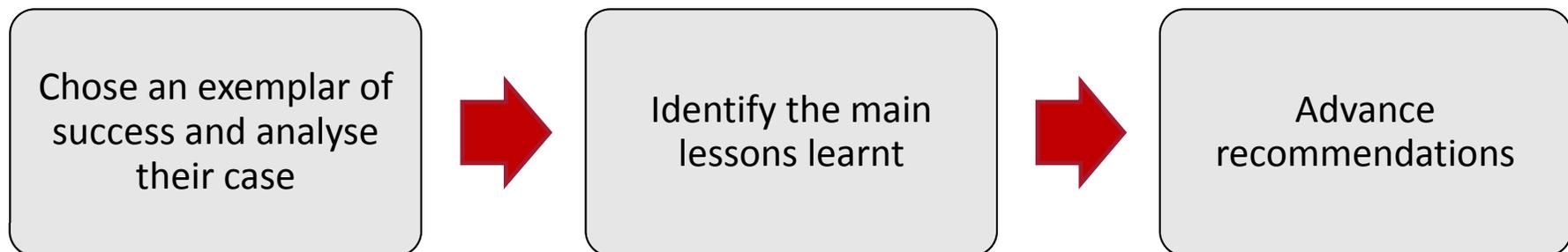
58 chapters, 17 mentions of surgical procedures

57 chapters, 12 mentions of surgical procedures



Contributors

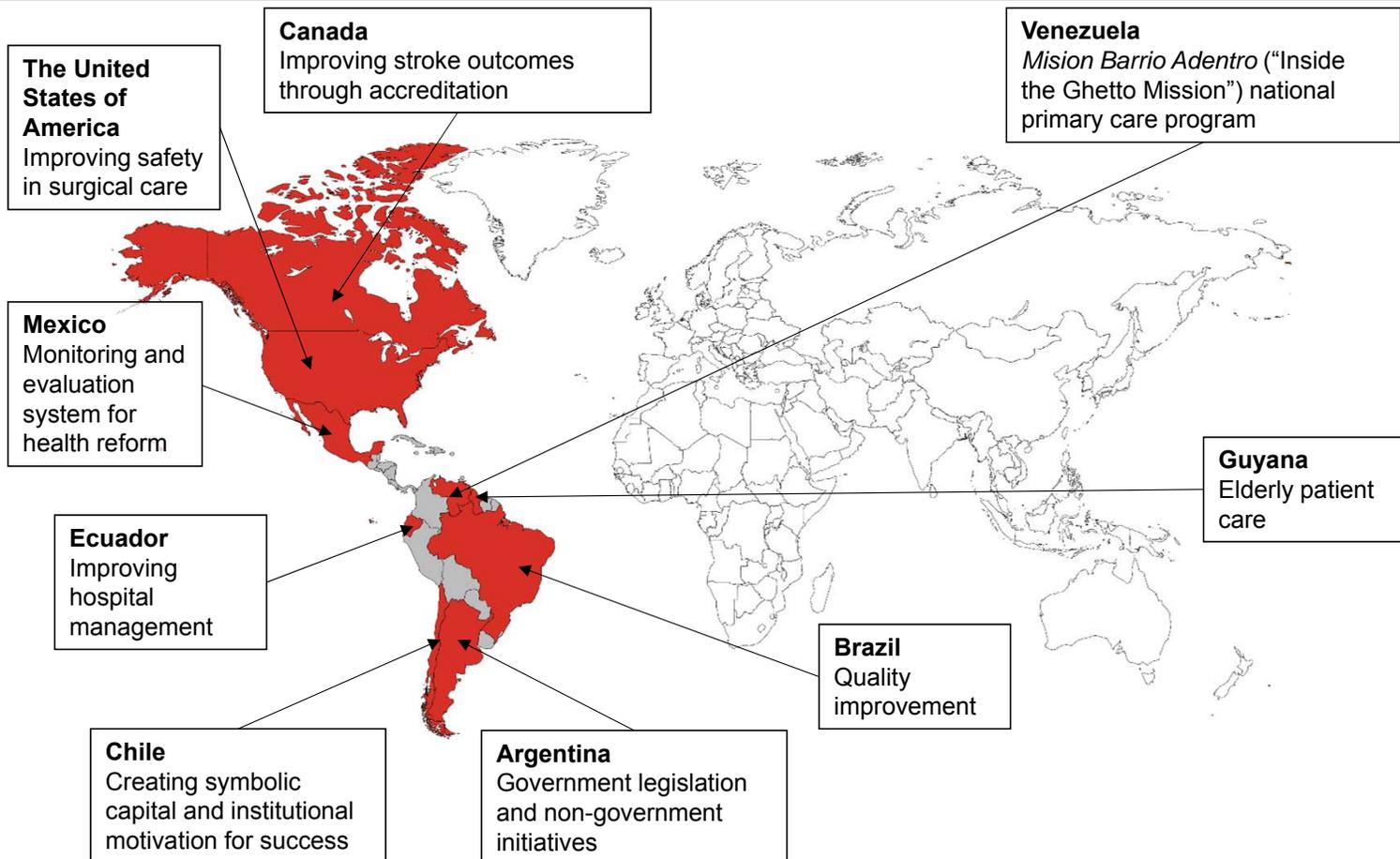
- 161 contributing authors from over 60 countries
- Five low-income, 22 middle-income, 35 high-income healthcare systems, covering two-thirds of the world's 7.4 billion people
- The authors' tasks were to:



The Americas



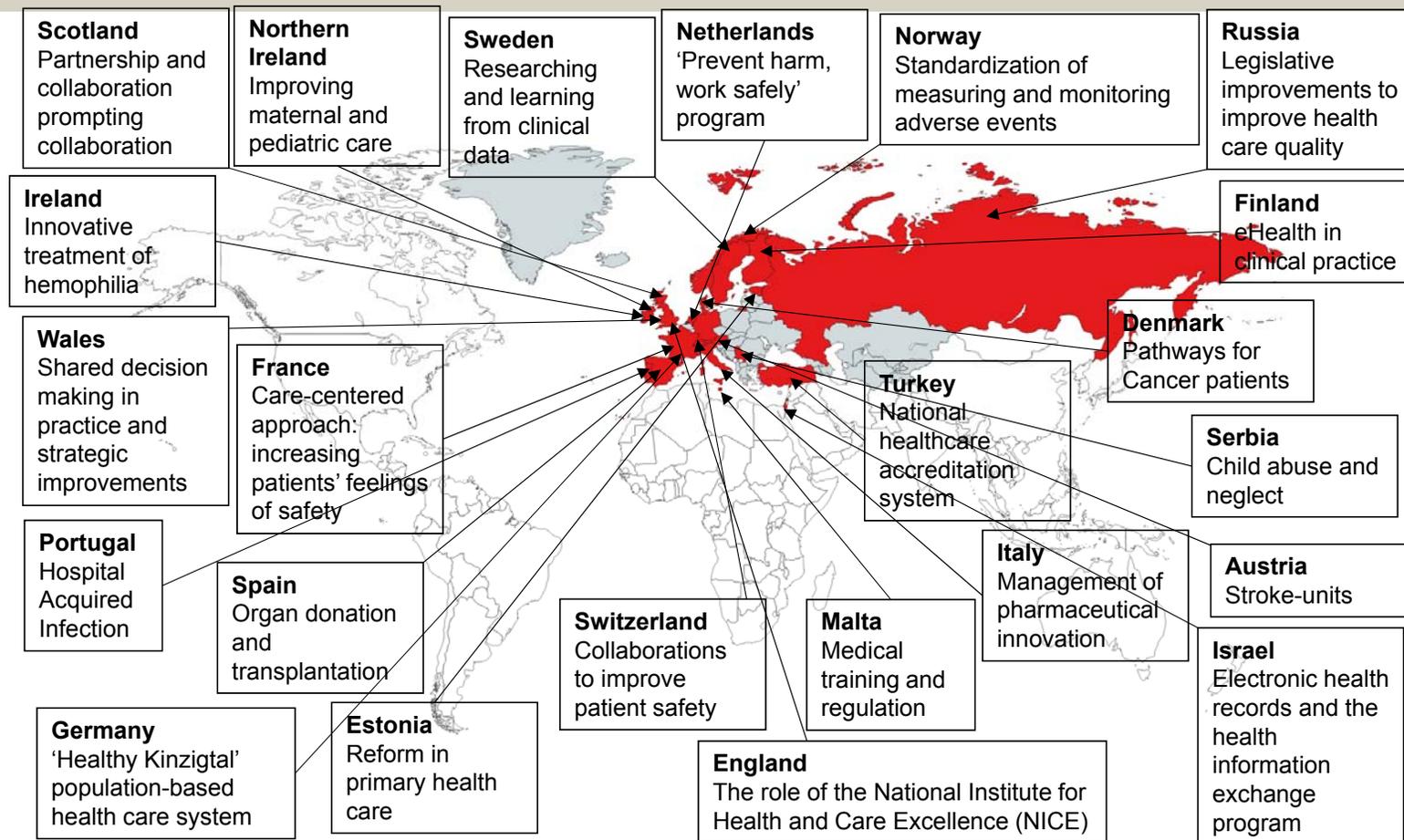
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Europe



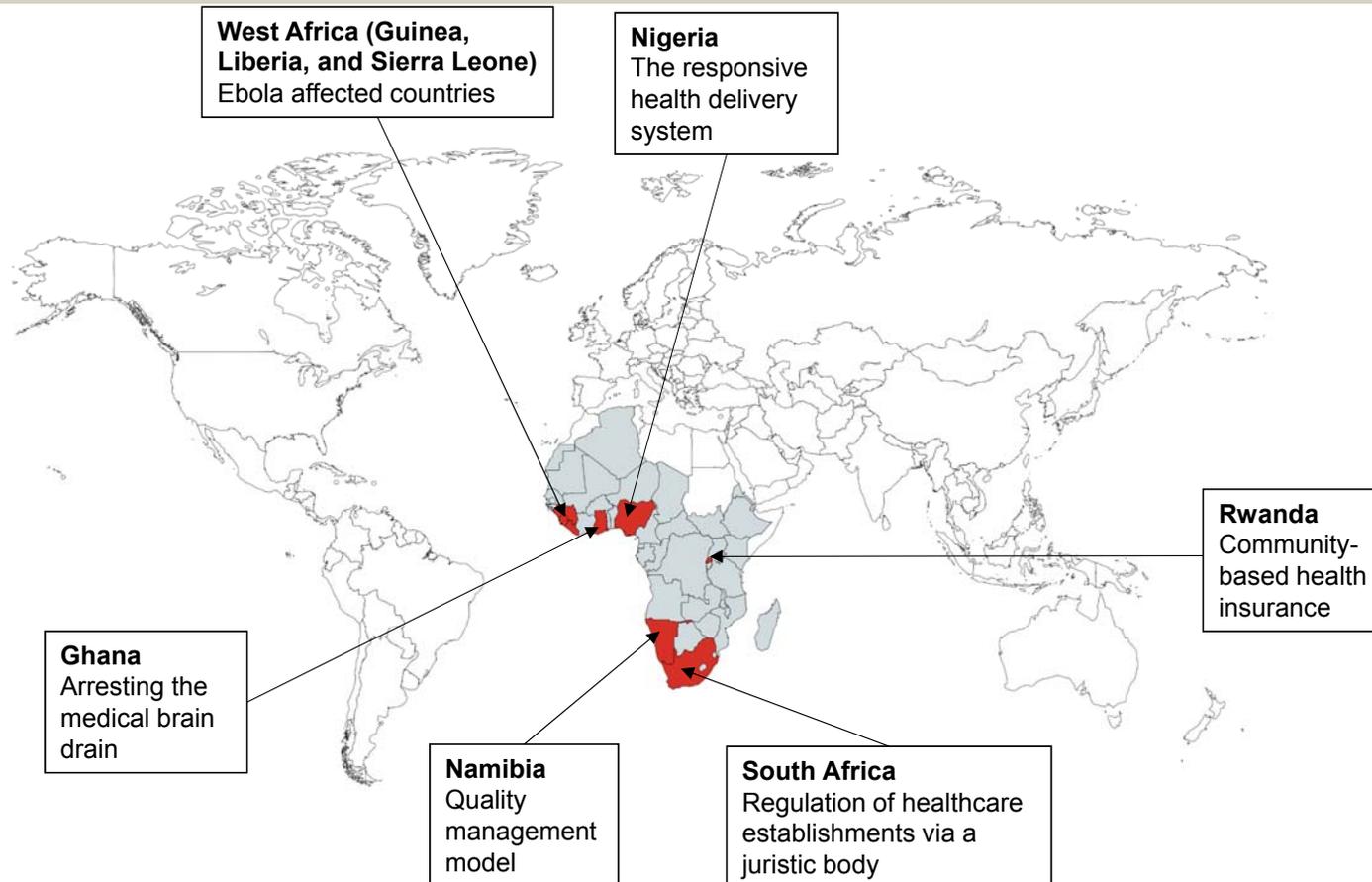
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Africa



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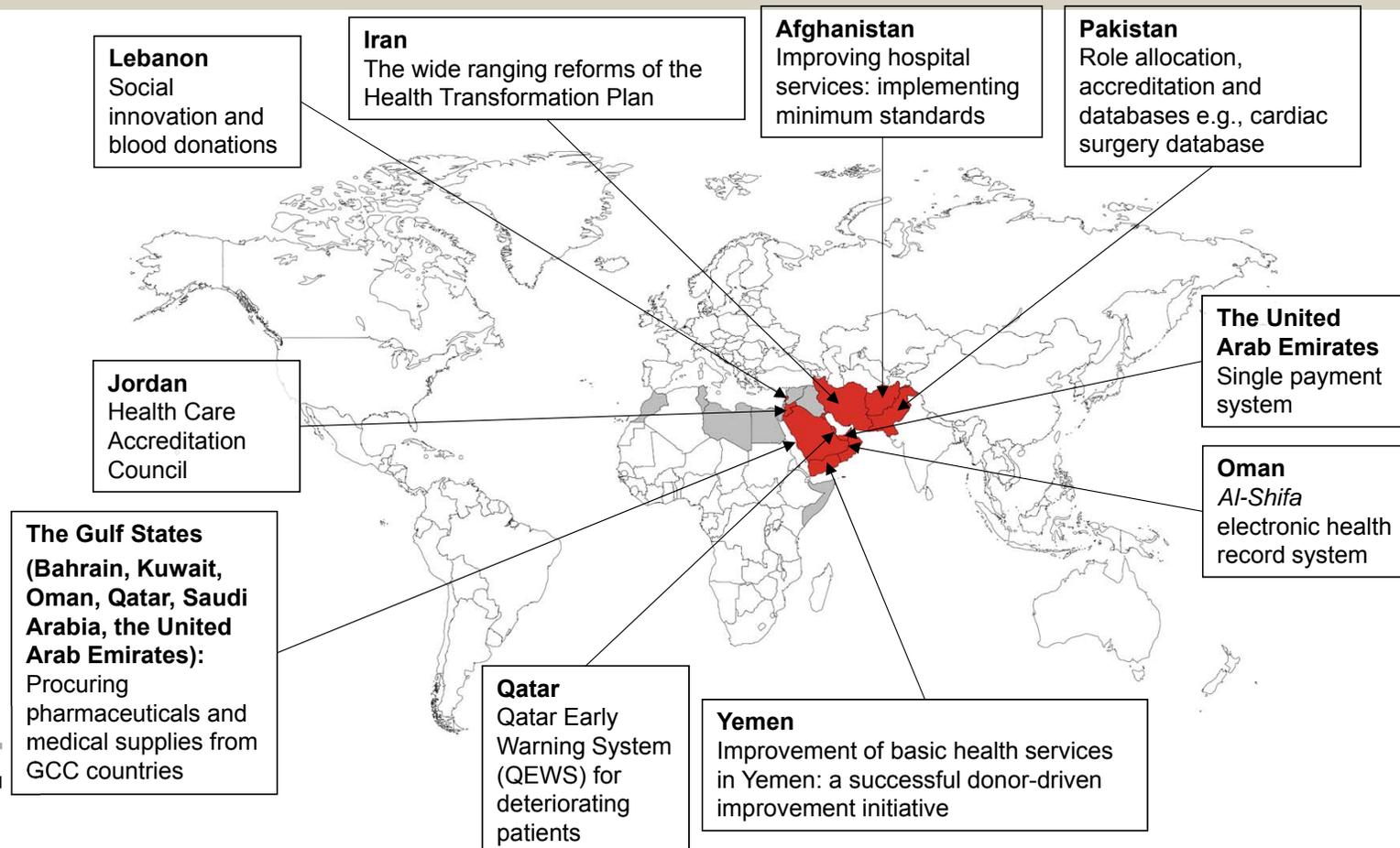
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Eastern Mediterranean



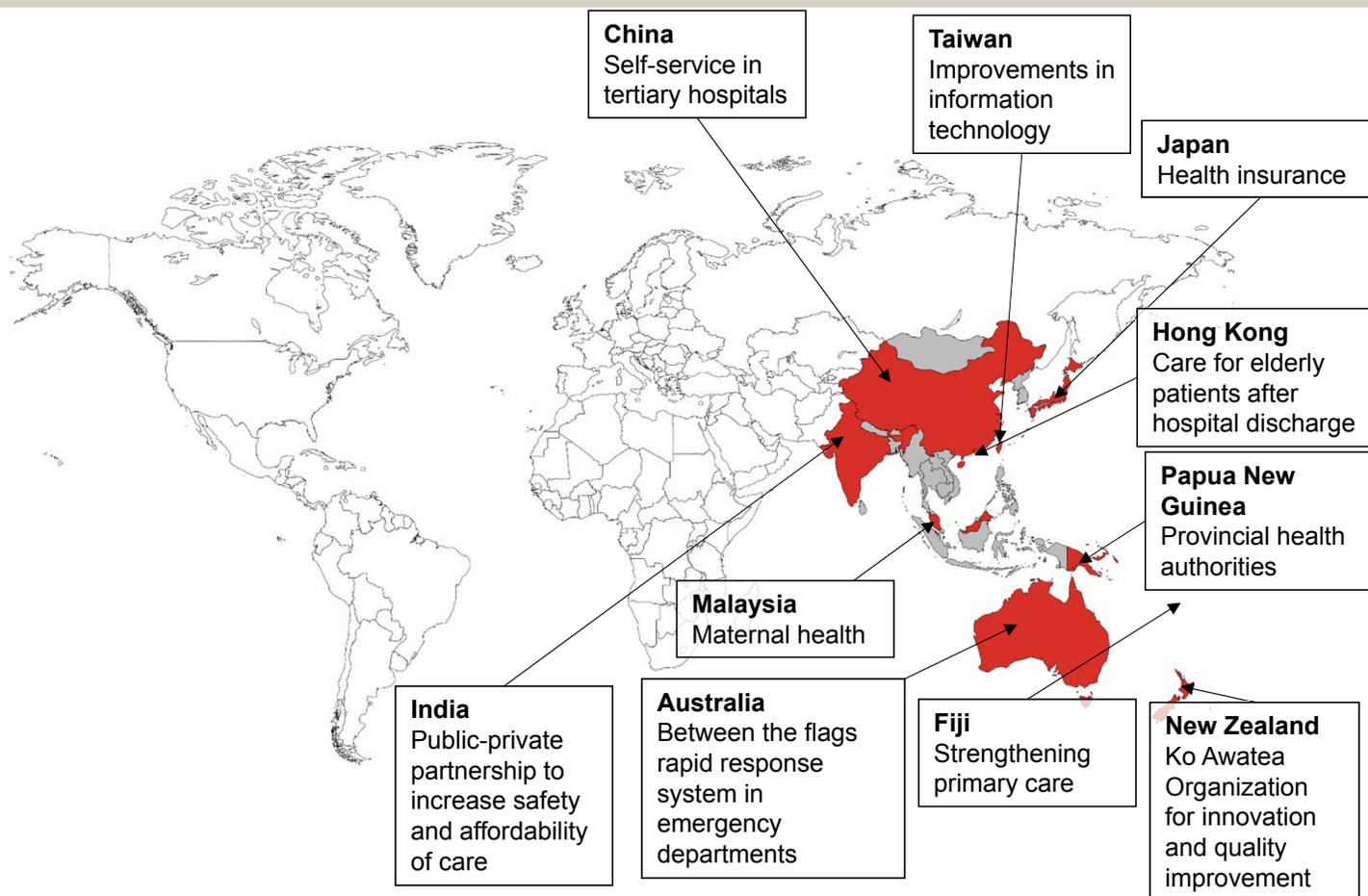
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South-East Asia and the Western Pacific



Key messages

- Positive deviance approach: what goes right is important to understand
- All health systems provided a success story, regardless of wealth, political structure, and available resources



Learning across boundaries and borders



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- **Learning across geographical borders:**
Close neighbours and other countries
- **Learning across professional roles:**
Many stakeholders
- **Learning across disciplines:**
Aged, acute, community care



Improvement takes place in complex adaptive systems

Properties of complexity



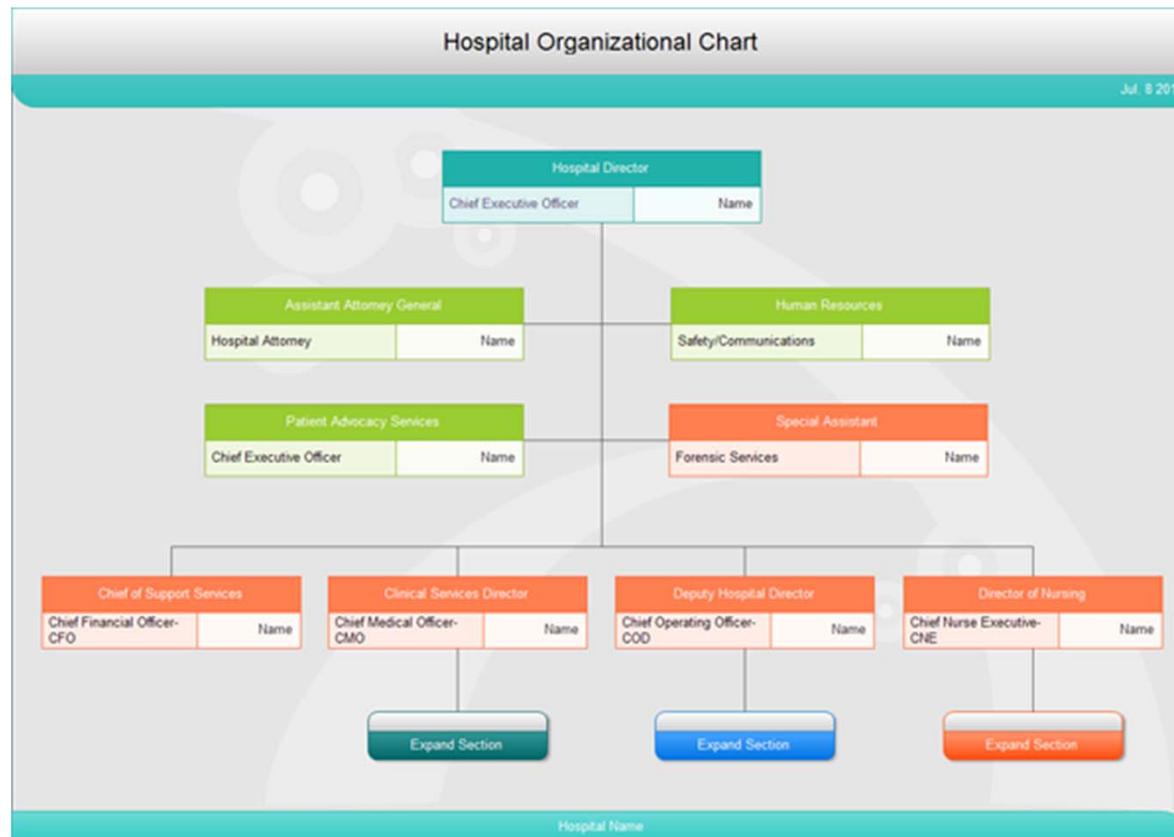
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1. Agents
2. Interacting
3. Self-organised
4. Collective
5. Networks
6. Rules
7. Emergence
8. Uncertainty
9. Adaptive
10. Dynamical
11. Bottom up
12. Transitional
13. Feedback
14. Path dependence

So, if your mental model is this ...



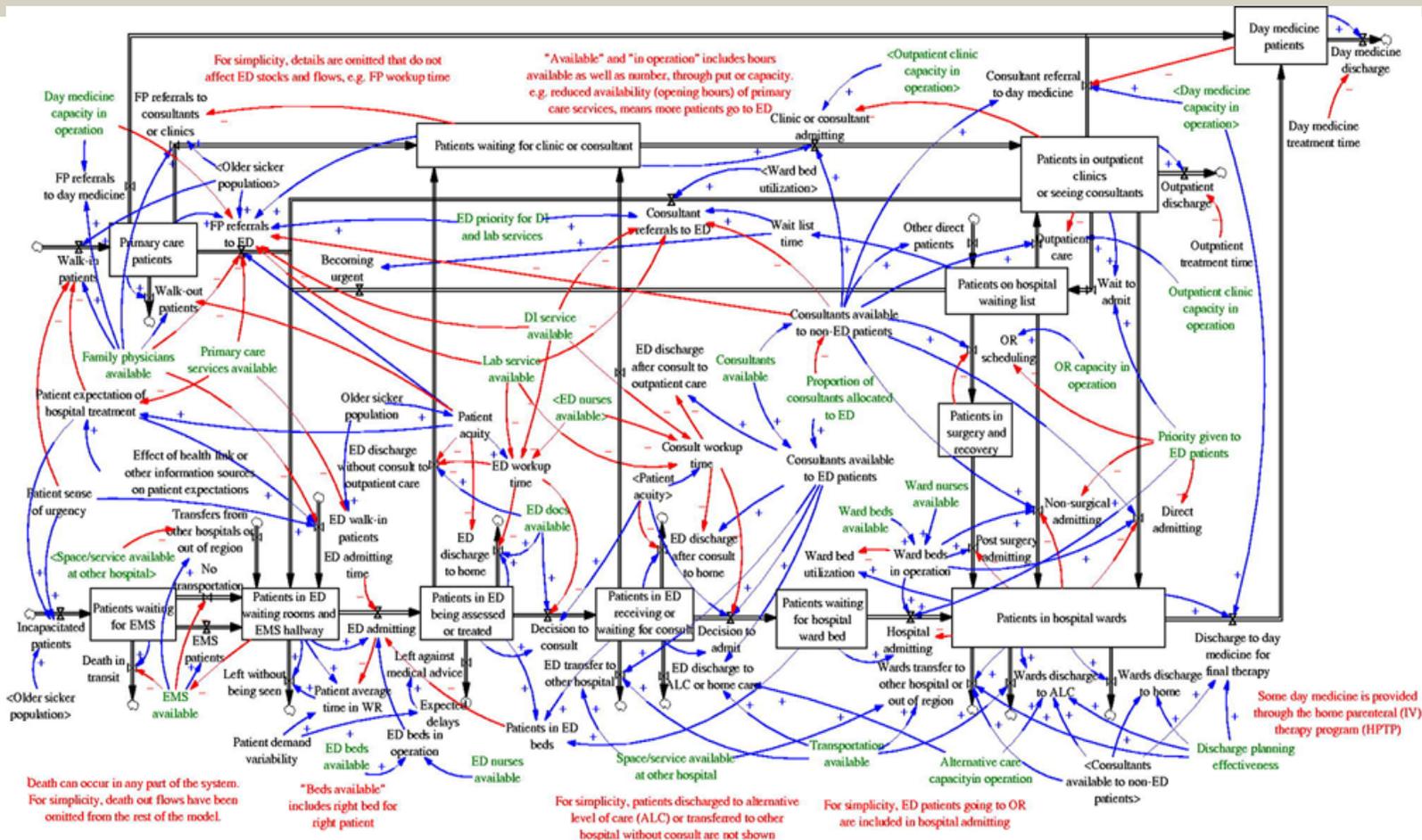
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But healthcare really looks like this ...



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The Cynefin Framework



Simple



Complicated



Complex



Chaotic

Examples in healthcare



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Simple



Complicated



Complex



Chaotic



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Participants: what are your experiences of complexity?

Complexity Science in Health Care: *A WHITE PAPER*



Everyone struggles with complexity: Lynch Syndrome



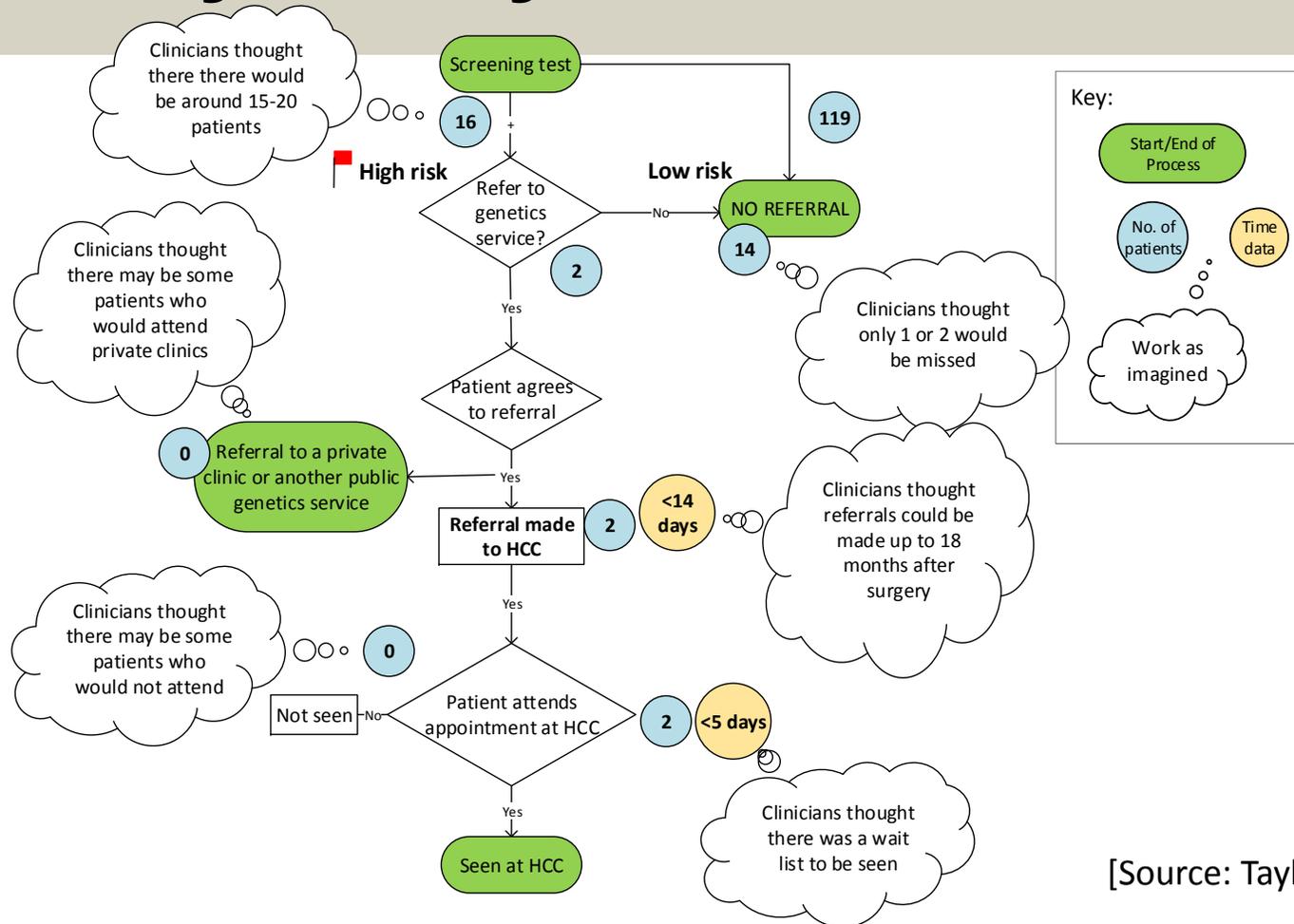
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Work-as-
imagined:



[Source: Taylor et al 2016]

Example: Lynch Syndrome



[Source: Taylor et al 2016]

What works? EPOC evidence



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- **Audit and feedback** (which can lead to small but potentially important changes in provider behaviour)
- **Local opinion leaders** (the best way to make use of local opinion leaders is unclear)
- **On-screen point of care reminders** (which can lead to small to modest improvements in provider behaviour)

What works? EPOC evidence



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- **Interventions to promote safe and effective use of medicines by consumers** (no single beneficial strategy can be identified)
- **Educational outreach** (AKA academic detailing) (consistent, small and potentially important impacts on prescriber behaviour)
- **Tailored intervention strategies to change health practitioner performance** (small to moderate impacts, but the effect is variable)

[Sources: EPOC; Flodgren et al 2011; Balas et al. 2000]

Cultures of care and teamwork

What's culture?



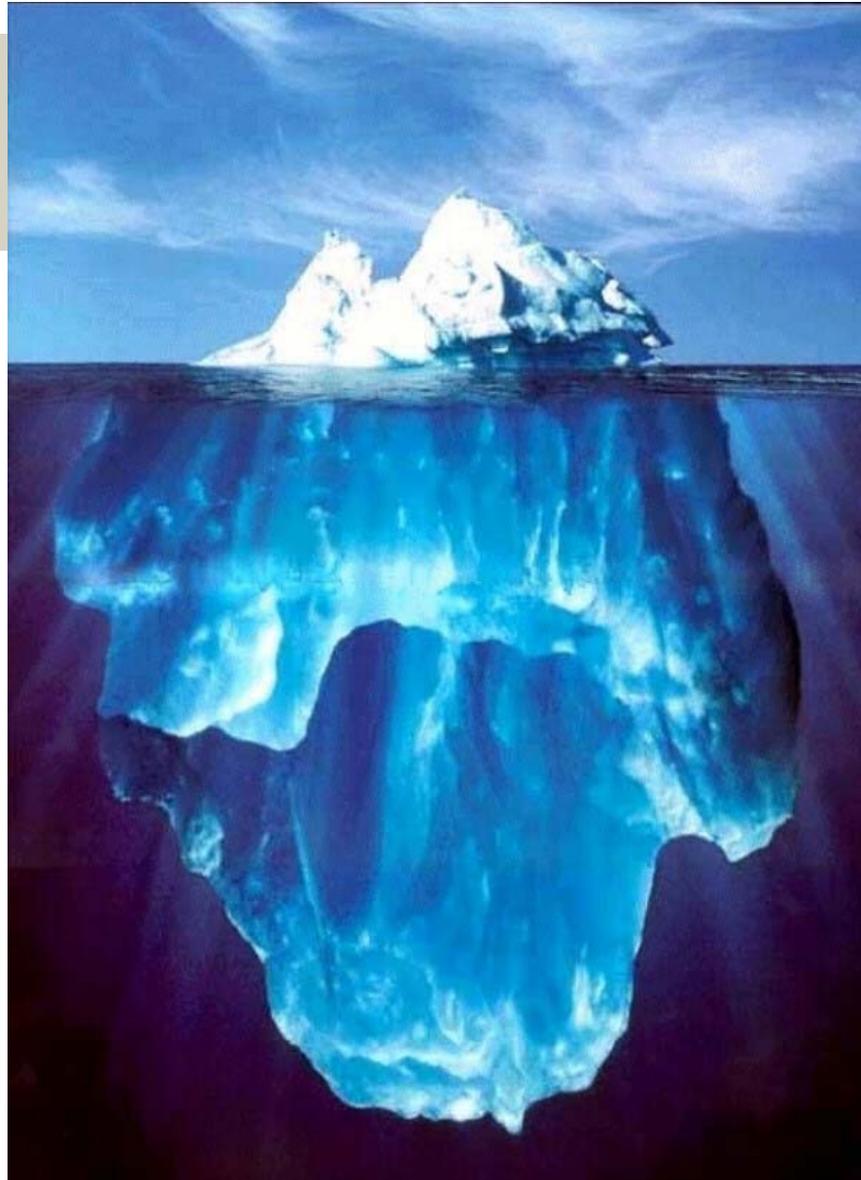
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- Culture: sets of beliefs, ideas, practices and behaviours
- “The way we think around here”
- “The way we do things around here”
- Our: worldview, assumptions, outlook, norms, values
- The collective things we agree on, taking these things for granted

Culture – a model



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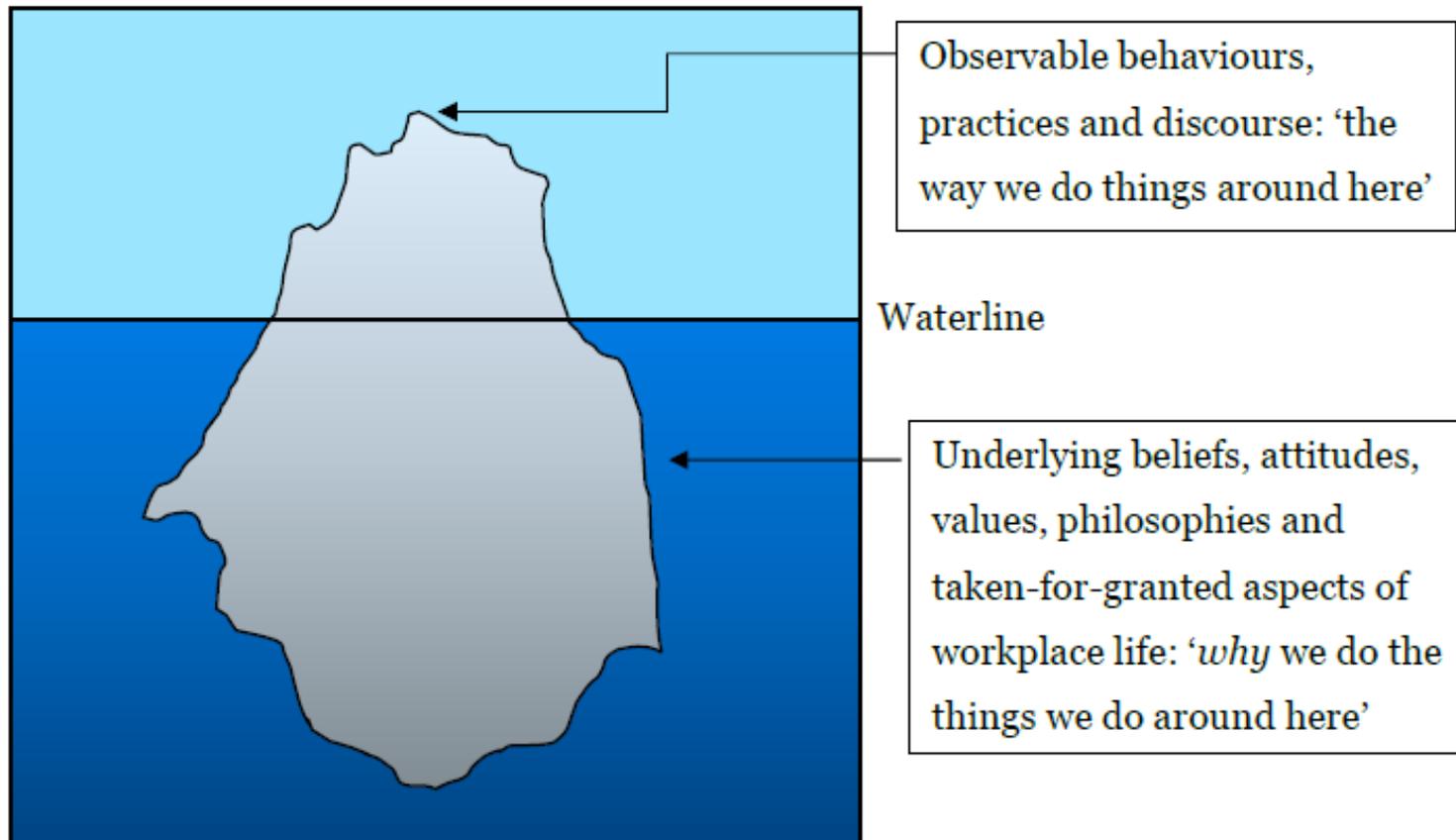


[Braithwaite, 2011]

Culture in complex systems: The tip of the iceberg



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[Source: based on a conceptualisation by Sackmann, 1991]

And there's books on this



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- The characteristics of surgeons, doctors, nurses and allied health professionals
- Despite MDT, they are tribal!

Culture and Climate in Health Care Organizations

Edited by Jeffrey Braithwaite,
Paula Hyde and Catherine Pope



Culture – an update



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- Is there a relationship between organisational culture and patient outcomes? Who believes ...

Open Access

Protocol

BMJ Open Association between organisational and workplace cultures, and patient outcomes: systematic review protocol

J Braithwaite, J Herkes, K Ludlow, G Lamprell, L Testa

To cite: Braithwaite J, Herkes J, Ludlow K, *et al.* Association between organisational and workplace cultures, and patient

ABSTRACT

Introduction: Despite widespread interest in the topic, no current synthesis of research is available analysing the linkages between organisational or workplace

Strengths and limitations of this study

- We lack adequate understanding of how cultural characteristics in healthcare organisations and

Culture – an update



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- Is there a relationship between organisational culture and patient outcomes? Who believes ...
- **The answer is yes: across 62 studies**

Open Access

Protocol

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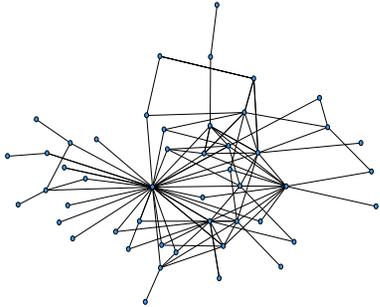
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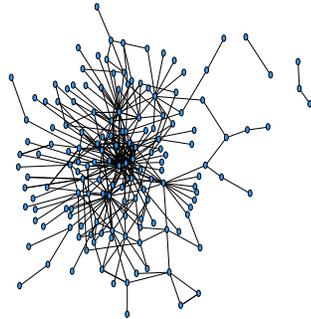
- We lack adequate understanding of how cultural characteristics in healthcare organisations and

TCRN – Eastern Sydney

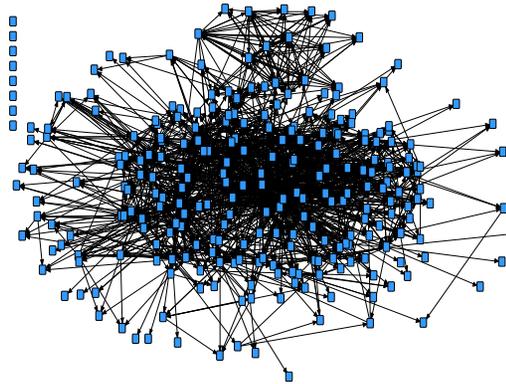
2012



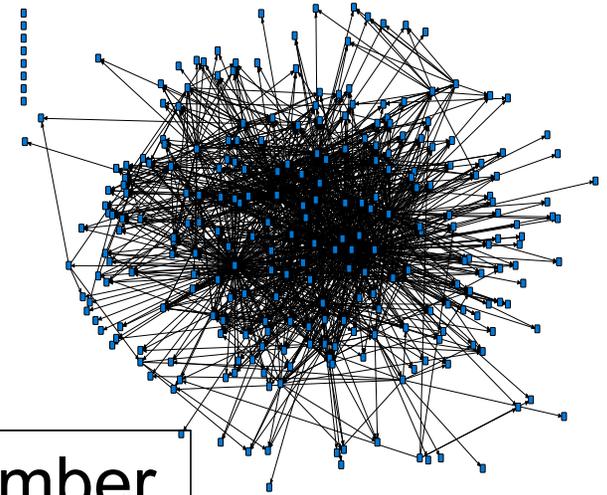
2014



2015

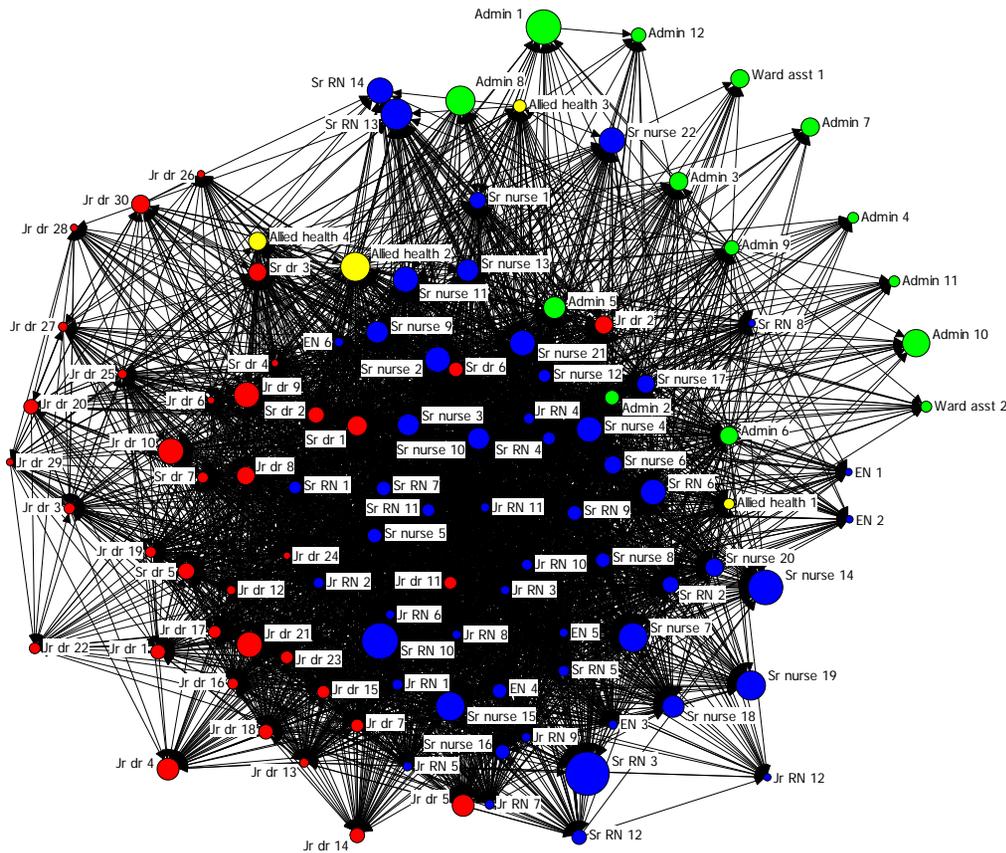


2017



Each dot represents a TCRN member,
each line a collaborative tie

But ...

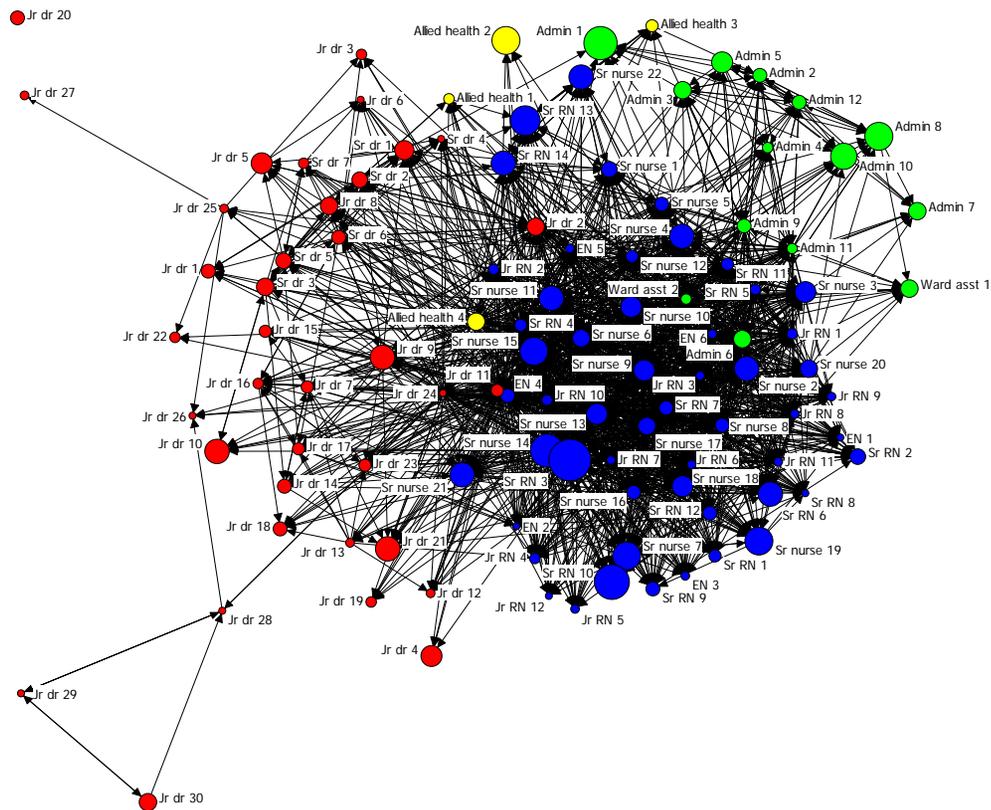


- Medication advice-seeking networks in an ED

Nurses ●
Doctors ●
Allied health ●
Admin and support ●

[Creswick, Westbrook and Braithwaite, 2009]

But ...



- Socialising networks in an ED

Nurses ●
Doctors ●
Allied health ●
Admin and support ●

[Creswick, Westbrook and Braithwaite, 2009]



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**These studies signal
better
teamwork, trust and
collaboration**

Culture – game plan



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- You want individuals or groups to have a better culture?
- Or improve their capacity to recognise their own cultural characteristics?

Culture – game plan



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- Or make your current culture work better?
- Consider this ...

Culture – game plan



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- Use a change model [that fits your purpose?]
- Take some baseline measures of your culture [Anecdotal? Survey? Observational? External review?]
- Enroll colleagues
- Create a critical mass of support

Culture – game plan



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- Develop a vision and game plan
- Vision: what will your new culture look like?
- Who will help you shape it?
- Who will hinder your efforts?
- By when will you hope to achieve it?
- What steps will you take?

Leadership behaviours



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Leadership

*What does this
equation mean?*

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$$L(H) \neq \Sigma (m^1, m^2 \dots m^n)$$

Resolving the equation



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- $L(H) \neq \Sigma (m^1, m^2 \dots m^n)$ means: the leadership in the health sector $[L(H)]$ is not the same $[\neq]$ as the sum of $[\Sigma]$ all the management activities $[(m^1, m^2 \dots m^n)]$ that take place
- But in the health systems we know there is too much *short term management* and not enough *longer term leadership*



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**So,
leadership is more
than the sum of
its management parts**

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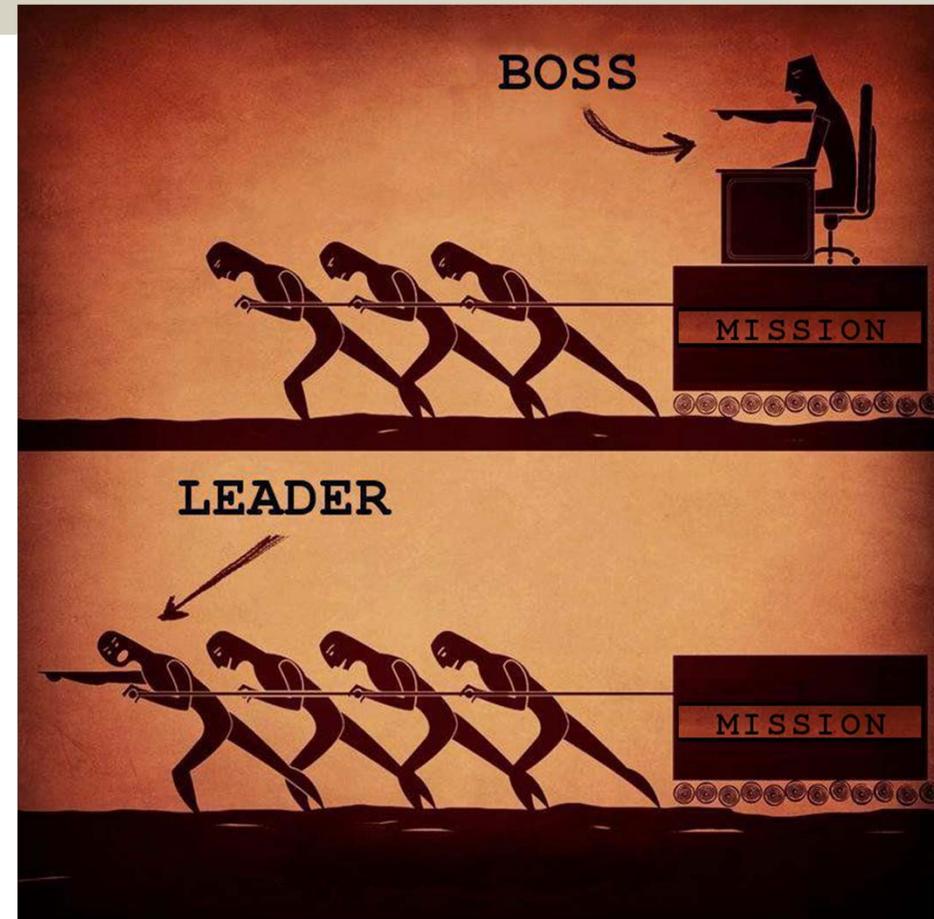
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In surgery: qualities of a good leader



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- Empathy
- Consistency
- Honesty
- Direction
- Communication
- Flexibility
- Conviction





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**Think about
how you
influence the
culture as a leader**

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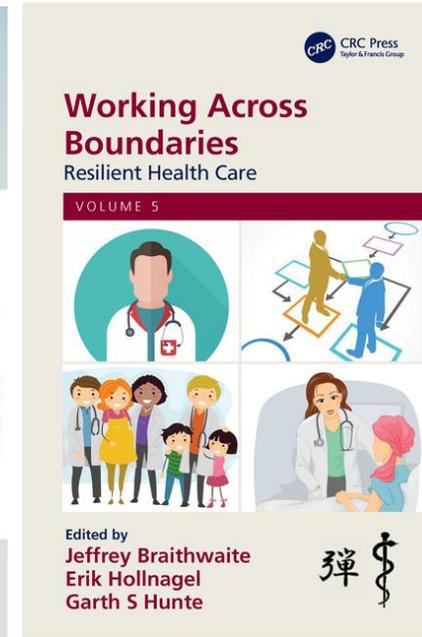
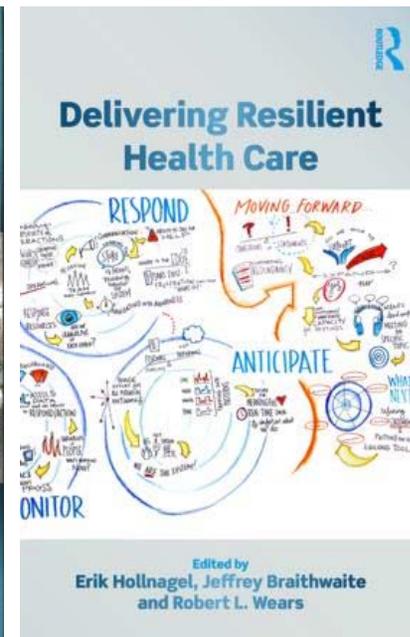
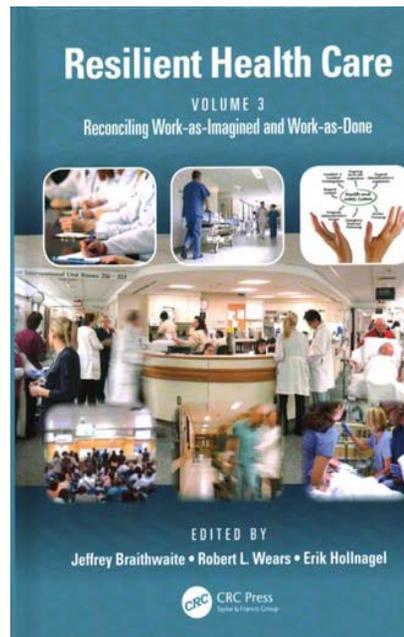
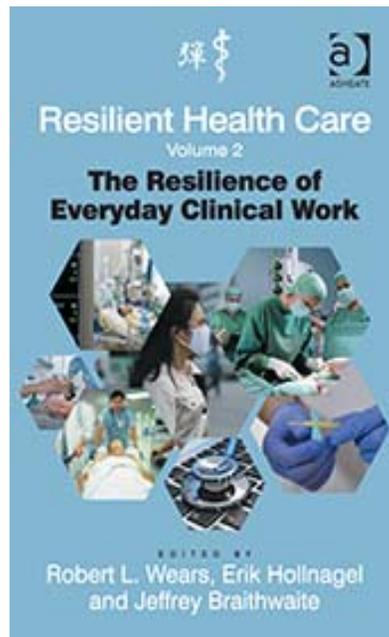
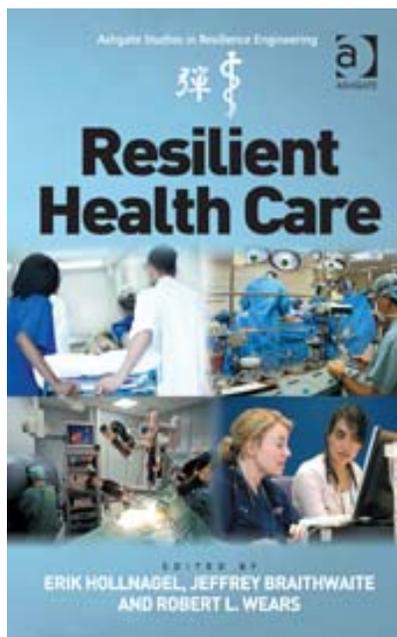


Finally ... resilient health care

Safety-I and Safety-II



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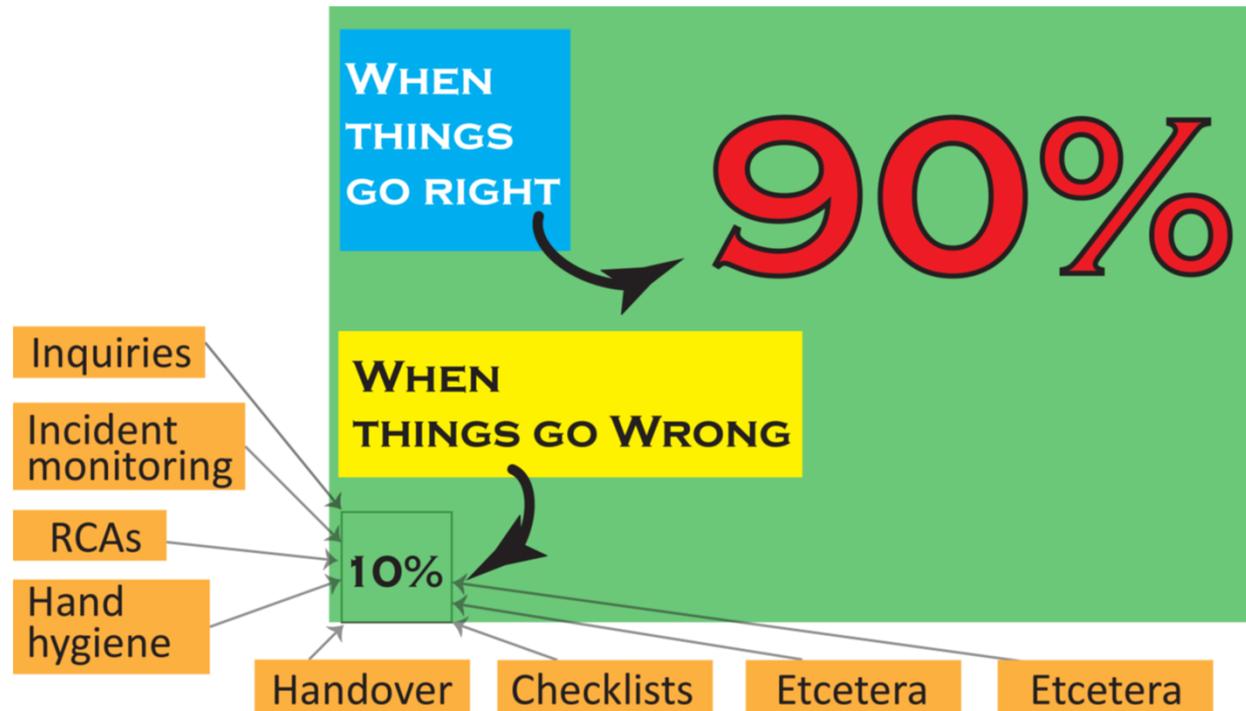


Safety-I and Safety-II



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The amazing thing about health care isn't that it produces adverse events in 10% of all cases, but that it produces safe care in 90% of cases





**Safety-I – where the number of
adverse outcomes is as low as
possible**

***Trying to make sure things
don't go wrong***



**Safety-II – where the number of
acceptable outcomes is as
high as possible**

***Trying to make sure things go
right***



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**Few people have ever looked
at *why things go right so often***

So:



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**Can we shift the emphasis to a
more positive approach?**

**To make sure things will go right
more often?**



**Policy-makers, executives,
managers, legislators,
governments, boards of
directors, software designers,
safety regulation agencies,
teachers, researchers ...**

Are you on
this list?



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**Policy-makers, executives,
managers, legislators,
governments, boards of
directors, software designers,
safety regulation agencies,
teachers, researchers ...**



**The blunt end
tries to ...**

**shape, influence,
nudge behaviour**





**What they do
seems perfectly
logical, obvious
and feasible**





In health care, those doing WAI have designed, mandated or encouraged a bewildering range of tools, techniques and methods, to reduce harm to patients.

E.g., root cause analysis, hand hygiene campaigns, failure modes effects analysis ...



And there are lots of others ...



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**Meanwhile work
is getting done,
often *despite* all
the policies, rules
and mandates**



WAD—workarounds

Glove placed over a smoke alarm, as it kept going off due to nebulisers in patients' rooms



A leg strap holding an IV to a pole, as the holding clasp had broken

Plastic bags placed over shoes to workaround the problem a of gumboot (welly) shortage



WAD—fragmentation



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Doctors in Emergency Departments in a study:

- Were interrupted 6.6 times per hour
- Were interrupted in 11% of all tasks
- Multitasked for 12.8% of the time

Doctors in EDs in a study:



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- Spent on average 1:26 minutes on any one task
- When interrupted, spent more time on tasks
- And ... failed to return to approximately 18.5% of interrupted tasks

Encourage resilience



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1. Look at what goes right, not just what goes wrong
2. When something goes wrong begin by understanding how it (otherwise) usually goes right
3. Be proactive about safety - try to anticipate developments and events
4. Be thorough, as well as efficient (the ETTO principle)

Discussion: comments, questions, observations?

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Acknowledgements



Complexity Science/ Genomics

Dr Kate Churruca
Dr Louise Ellis
Dr Janet Long
Dr Stephanie Best
Dr Hanna Augustsson

Human Factors and Resilience

Dr Robyn Clay-Williams
Dr Elizabeth Austin
Dr Brette Blakely
Teresa Winata
Dr Amanda Selwood

Health Outcomes

A/Prof Rebecca Mitchell
Dr Reidar Lystad
Dr Virginia Mumford

NHMRC Partnership Centre for Health System Sustainability

Joanna Holt
Prof Yvonne Zurynski
Dr Trent Yeend
Dr K-lynn Smith

Implementation Science

Prof Frances Rapport
Dr Patti Shih
Mia Bierbaum
Dr Emilie Auton
Dr Mona Faris
Dr Andrea Smith
Dr Jim Smith

CareTrack Aged/ Patient Safety

A/Prof Peter Hibbert
Dr Louise Wiles
Ms Charlie Molloy
Pei Ting

NHMRC CRE Implementation Science in Oncology

Dr Gaston Arnolda
Dr Yvonne Tran
Dr Bróna Nic Giolla Easpaig
Dr Klay Lamprell

Admin and project support

Sue Christian-Hayes
Jackie Mullins
Chrissy Clay
Caroline Proctor

Research support

Meagan Warwick
Dr Wendy James
Gina Lamprell
Jess Herkes

Research Candidates

Chiara Pomare
Elise McPherson
Hossai Gul
Kristiana Ludlow
Zeyad Mahmoud
Sheila Pham
Katie Adriaans
Luke Testa
Renuka Chittajallu

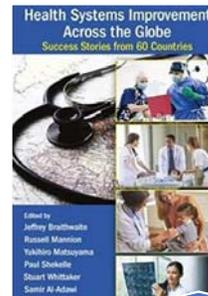
Recently published books



2019 – Delivering Resilient Health Care



2018 - Healthcare Systems: Future Predictions for Global Care



2017 - Health Systems Improvement Across the Globe: Success Stories from 60 Countries



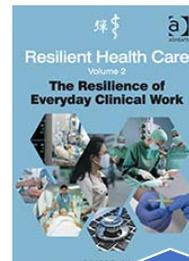
2017 - Reconciling Work-as-imagined and work-as-done



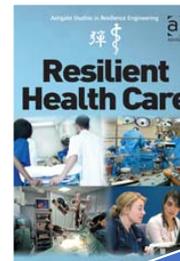
2016 - The Sociology of Healthcare Safety and Quality



2015 - Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries



2015 - The Resilience of Everyday Clinical Work



2013 - Resilient Health Care



2010 - Culture and Climate in Health Care Organizations

Forthcoming books



MACQUARIE
University



Gaps: the Surprising Truth
Hiding in the In-between



Surviving the Anthropocene



Working Across Boundaries
RHC Vol 5



Counterintuitivity: How your
brain defies logic

Contact Details

JEFFREY BRAITHWAITE PhD



Founding Director

Australian Institute of Health Innovation

Director

Centre for Healthcare Resilience and Implementation Science

Professor

Faculty of Medicine and Health Sciences, Macquarie University

Sydney, Australia

President Elect

International Society for Quality in Health Care (ISQua)



	Email:	jeffrey.braithwaite@mq.edu.au
	AIHI website:	http://aihi.mq.edu.au
	Web:	http://www.jeffreybraithwaite.com/
	Wikipedia:	http://en.wikipedia.org/wiki/Jeffrey_Braithwaite