The tipping point: trying to budge the 10% rate of harm frozen in time … and the unexpected places we can find the answers

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

• 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
Disclosure of interest

There are no potential conflicts to declare in relation to this presentation.

I would like to thank the CareTrack teams in relation to this presentation and my research teams at AIHI.

My acknowledgements …

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
Dr Renuka Chittajallu
Prologue

A look at the last and next few years in medicine....

What do you think will be the most significant advancement to 2030?

... why are we frozen on the 10% figure?

One possibility ...
Healthcare Systems: Future Predictions for Global Care

What will health systems look like in 5-15 years?

Regions: Americas, Africa, Europe, Eastern Mediterranean, South-East Asia and the Western Pacific.

Synthesises perspectives from 152 systems and territories around the world.

Contributors

• 148 contributing authors covering 152 systems and territories.

• 28 low-income, 40 lower-middle-income, 33 upper-middle-income, 46 high-income and five currently unclassified systems and territories.

• The authors’ task were to:
  
  Provide a case study, issue, challenge or problem in their health system
  
  Identify the main changes needed to secure lasting improvements
  
  Derive possible solutions to big health system challenges to 2030
What lessons can be taken from this global outlook on the future?

The health system of the future: features

• Inclusive and equitable
• More integrated
• Patient focused
• More evidence-based
• Applies technology wisely (AI, genomics, etc)
• Cost-effective
The health system of the future: features

- A learning system
- Improvement is in the DNA of reformers
- Less waste
- Less harm
- Universal care
- Has a roadmap for change

Five main trends

- The trends shaping health systems of the future:
  - Sustainable health systems
  - The genomics revolution
  - Emerging technologies
  - Global demographic dynamics
  - New models of care
So many things to think about

• Have we lost sight of some important things?

• Such as diagnostic error?

• Gordy and Lisa might answer that next?

Part 1: Safe Patient Care
“After decades of improving the health care system, patients still receive care that is highly variable, frequently inappropriate, and too often, unsafe.”


There is some reassurance, however: We have been successful e.g. …
Safety in Patient Care

Heart bypasses on eighty year olds, key hole surgery, treatment for HIV/AIDS

But the rates of harm haven't reduced far enough
They seem to have flatlined at 10%

So we needed new ideas and innovations in thinking about patient safety
Part 2: New innovations in patient safety
Safety-I and Safety-II

Safety-I and Safety-II

Resilient Health Care
The Resilience of Everyday Clinical Work

Resilient Health Care
Reconciling Work-as-Expected and Work-as-Be

Delivering Resilient Health Care
Safety-I and Safety-II

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*

Few people have ever looked at *why things go right so often*
So, we asked:

Can we shift the emphasis to a more positive approach?

To make sure things will go right more often?

Part 3: Resilience

WAI/WAD
What will you do to change this and improve this system?

**Work-as-imagined**  **Work-as-done**

WAI and WAD

The sharp end: *work-as-done*

The blunt end: *work-as-imagined*
Are you on this list?

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.
On the front lines of care

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

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

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

WAD—fragmentation

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

[Westbrook et al. 2010. Qual Saf Health Care]
Doctors in EDs in a study:

- 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

[Westbrook et al, 2010, Qual Saf Health Care]

And therefore the only real solution is to try and reconcile work-as-imagined (WAI) and work-as-done (WAD)
So some work-as-imagined folks often have some sort of linear, mechanistic view of the system.

Instead, health care is a complex adaptive system delivered by people on the front line who flex and adjust to the circumstances.
And don’t deliver care in the way blunt end prescriptivists want them to.

Part 4: Bringing it all together
Claim 1: Work-as-imagined

“After 25 years of evidence based medicine, care is evidence based.”

Large scale appropriateness studies

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UCI</td>
<td>60</td>
<td>63.2</td>
<td>55.5</td>
<td>62</td>
<td>48.5</td>
</tr>
<tr>
<td>LCI</td>
<td>54</td>
<td>61.5</td>
<td>54.3</td>
<td>57.5</td>
<td>44.5</td>
</tr>
<tr>
<td>Mean</td>
<td>57</td>
<td>62.3</td>
<td>54.9</td>
<td>59.8</td>
<td>46.5</td>
</tr>
</tbody>
</table>

Average ~ 60%
CareTrack Adults

[Source: Runciman et al. (2012) MJA]

CareTrack Kids

[Source: Braithwaite et al. (2018) JAMA]
Claim 2: Work-as-imagined

“We are a high performing hospital.”

High performing hospitals

[Source: Taylor, Clay-Williams, Hogden, Braithwaite, Groene (2015) BMC Health Serv Res.]
High performing hospitals

• Positive organization culture
• Receptive and responsive senior management
• Performance monitoring
• Building workforce

[Taylor, Clay-Williams, Hogden, Braithwaite, Groene (2015) *BMC Health Serv Res*]

High performing hospitals

• Expertise driven practice
• Inter-disciplinary teamwork
• Effective distributed leadership

[Taylor, Clay-Williams, Hogden, Braithwaite, Groene (2015) *BMC Health Serv Res*]
Claim 3: Work-as-imagined

“Once we get a diagnosis we’ll know just what to do.”

It’s just not that easy – as Gordy and Lisa will show
Part 5: Finally …

A message to blunt end people—learn how work actually works
A message to sharp end people—work more closely with WAI people

The bottom line?
Encourage resilience

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. Look at frequent events, not just severe ones
4. Be proactive about safety - try to anticipate developments and events
5. Be thorough, as well as efficient (the ETTO principle)

Discussion: comments, questions, observations?
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

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

Gaps: the Surprising Truth Hiding in the In-between
Surviving the Anthropocene
Working Across Boundaries RHC Vol 5
Counterintuitivity: How your brain defies logic
Defining diagnostic error

Schiff and colleagues (2009, p. 1882) defined diagnostic error as

“any mistake or failure in the diagnostic process leading to a misdiagnosis, a missed diagnosis, or a delayed diagnosis.”

[Source: https://www.ncbi.nlm.nih.gov/books/NBK338594/]
Schiff and colleagues (2005) divide the diagnostic process into seven stages:

1. access and presentation
2. history taking/collection
3. the physical exam
4. testing
5. assessment
6. referral, and
7. follow-up.

[Source: https://www.ncbi.nlm.nih.gov/books/NBK338594/]

How the media see diagnostic error

[Image of cartoon showing a patient and a doctor discussing medical errors]

https://buzzbinpadillaco.com/tag/medical-error/
How the media see diagnostic error

“We medical practitioners do our very best, Mr. Nyman. Nothing is more sacred to us than the doctor-patient relationship.”


https://www.slideshare.net/emomsb/diagnostic-error