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AUSTRALIAN INSTITUTE
OF HEALTH INNOVATION

The Future of Healthcare to 2030: Lessons for Norway...and other places

AUSTRALIAN INSTITUTE OF HEALTH INNOVATION

Our goal is to co-create high-impact health services and systems research that drives positive change in policy, practice and behaviour for the benefit of all.

Australian Institute of Health Innovation

Professor **Jeffrey Braithwaite**

Founding Director, AIHI

Director, Centre for Healthcare Resilience and Implementation Science

Professor **Johanna Westbrook**

Director, Centre for Health Systems and Safety Research

Professor **Enrico Coiera**

Director, Centre for Health Informatics

Professor **Henry Cutler**

Director, Macquarie University Centre for the Health Economy

NHMRC Partnership Centre for Health System Sustainability

NHMRC Centre of Research Excellence in Implementation Science in Oncology

NHMRC Centre of Research Excellence in Digital Health

Agenda

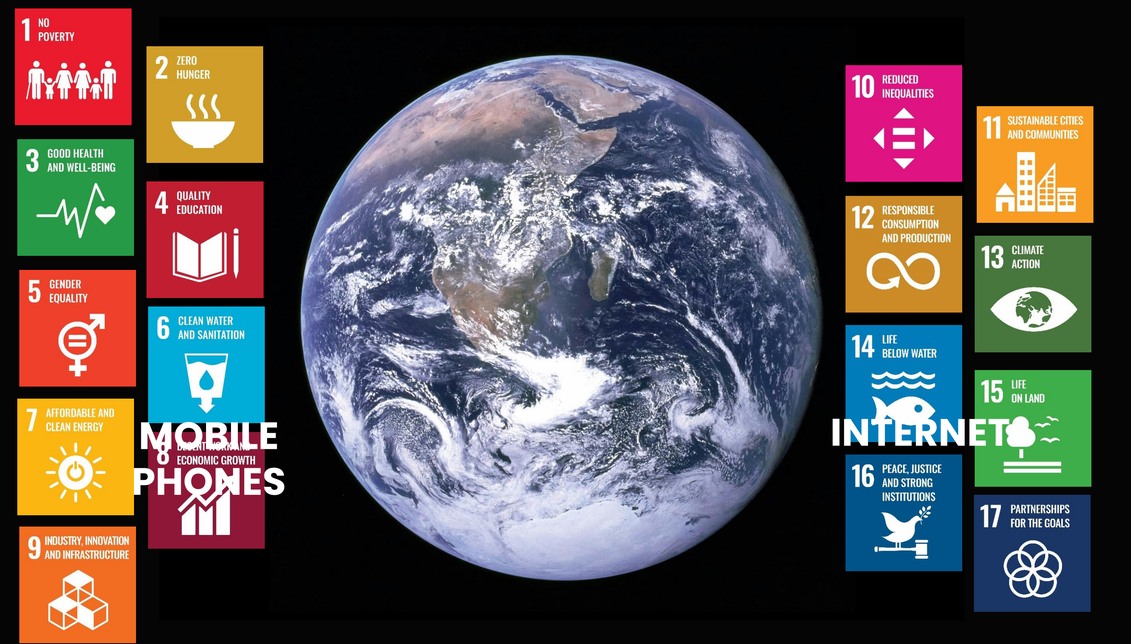
Prologue 1: Are we on track for 2030?
Prologue 2: About your presenter

Getting to 2030

Part 1: Climate change
Part 2: A roadmap to the future
Part 3: Five things for you to do
Part 4: Conclusion: a way forward

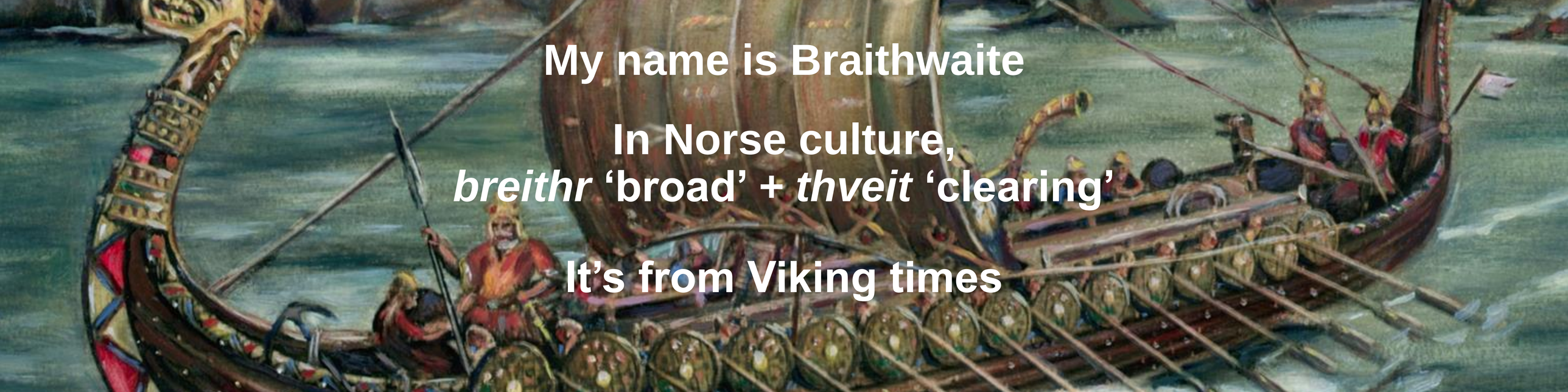
Prologue one:
Are we on track for 2030?

Your observations about the world


1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
MOBILE PHONES
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
INTERNET
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

Prologue two: About me

Observations about your presenter …



My name is Braithwaite

In Norse culture,
breithr ‘broad’ + *thveit* ‘clearing’

It’s from Viking times

Born: Newcastle-upon-Tyne, UK citizen

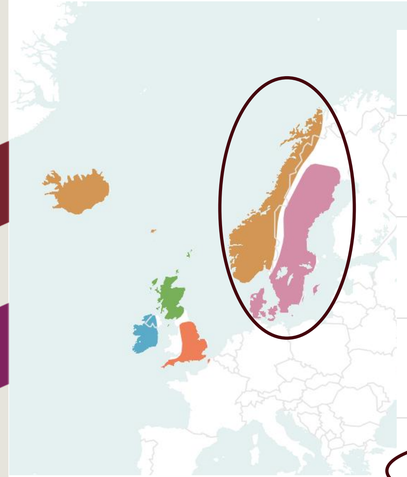
Now: Australian citizen, too

Me …

Norwegian values: Openness, equality, and equal rights

University appointments: SHARE, Stavanger + University of Southern Denmark

Here is my genetic make-up



Scotland	59%
Ireland	21%
England & Northwestern Europe	14%
Sweden & Denmark	4%
Norway	2%

Historically

Genetically

Sociologically

Temperamentally

So …

In my DNA

From a values perspective

In my outlook

I am a Norwegian Viking

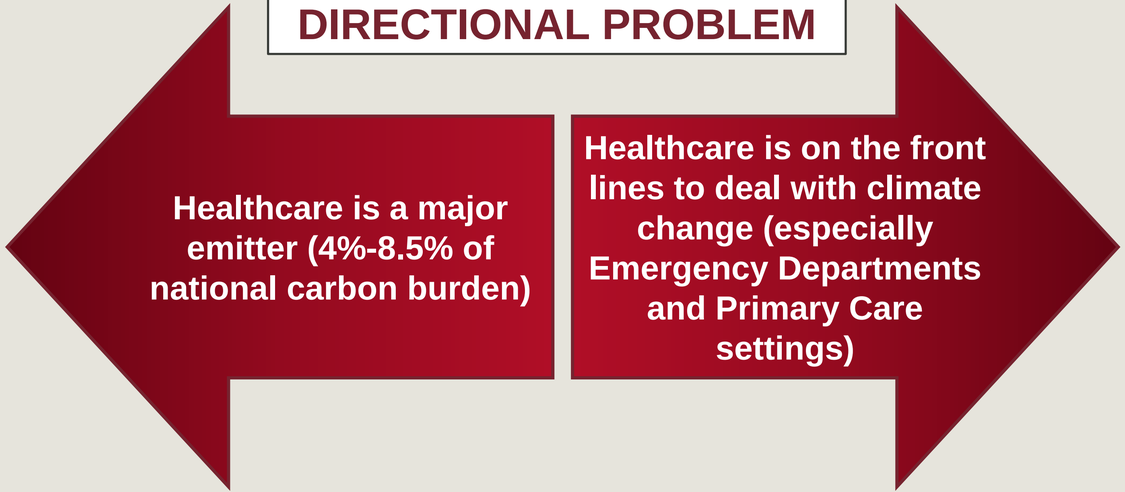
And in my heart

So
Will you welcome me home,
please
My Viking family

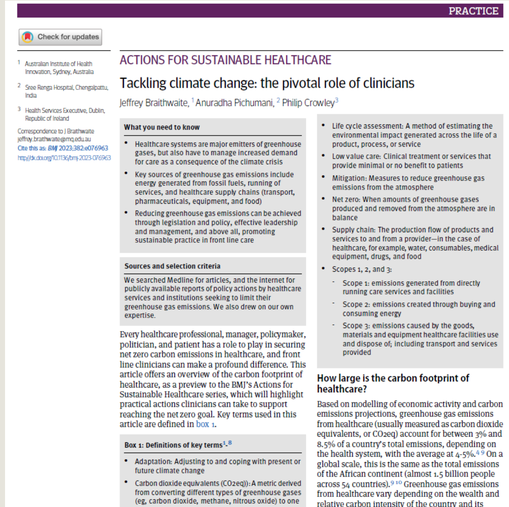
Part 1: Dealing with the future:

Climate change

HEALTHCARE'S BI-DIRECTIONAL PROBLEM



Tackling climate change: the pivotal role of clinicians; BMJ



PRACTICE

Check for updates

1 Australian Institute of Health Innovation, Sydney, Australia

2 Sree Ramya Hospital, Chengalpattu, India

3 Health Services Executive, Dublin, Republic of Ireland

Correspondence to J Braithwaite jeffrey.braithwaite@mq.edu.au

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http://dx.doi.org/10.1136/bmj-2023-076963

ACTIONS FOR SUSTAINABLE HEALTHCARE

Tackling climate change: the pivotal role of clinicians

Jeffrey Braithwaite,[1] Anuradha Pichumani,[2] Philip Crowley[3]

What you need to know

- Healthcare systems are major emitters of greenhouse gases, but also have to manage increased demand for care as a consequence of the climate crisis
- Key sources of greenhouse gas emissions include energy generated from fossil fuels, running of services, and healthcare supply chains (transport, pharmaceuticals, equipment, and food)
- Reducing greenhouse gas emissions can be achieved through legislation and policy, effective leadership and management, and above all, promoting sustainable practice in front line care

Sources and selection criteria

We searched Medline for articles, and the internet for publicly available reports of policy actions by healthcare services and institutions seeking to limit their greenhouse gas emissions. We also drew on our own expertise.

Every healthcare professional, manager, policymaker, politician, and patient has a role to play in securing net zero carbon emissions in healthcare, and front line clinicians can make a profound difference. This article offers an overview of the carbon footprint of healthcare, as a preview to the BMJ's Actions for Sustainable Healthcare series, which will highlight practical actions clinicians can take to support reaching the net zero goal. Key terms used in this article are defined in box 1.

Box 1: Definitions of key terms[1,8]

- Adaptation: Adjusting to and coping with present or future climate change
- Carbon dioxide equivalents (CO_2eq): A metric derived from converting different types of greenhouse gases (eg, carbon dioxide, methane, nitrous oxide) to one
- Life cycle assessment: A method of estimating the environmental impact generated across the life of a product, process, or service
- Low value care: Clinical treatment or services that provide minimal or no benefit to patients
- Mitigation: Measures to reduce greenhouse gas emissions from the atmosphere
- Net zero: When amounts of greenhouse gases produced and removed from the atmosphere are in balance
- Supply chain: The production flow of products and services to and from a provider—in the case of healthcare, for example, water, consumables, medical equipment, drugs, and food
- Scopes 1, 2, and 3:
  - Scope 1: emissions generated from directly running care services and facilities
  - Scope 2: emissions created through buying and consuming energy
  - Scope 3: emissions caused by the goods, materials and equipment healthcare facilities use and dispose of, including transport and services provided

How large is the carbon footprint of healthcare?

Based on modelling of economic activity and carbon emissions projections, greenhouse gas emissions from healthcare (usually measured as carbon dioxide equivalents, or CO_2eq) account for between 3% and 8.5% of a country's total emissions, depending on the health system, with the average at 4-5%.[2 3] On a global scale, this is the same as the total emissions of the African continent (almost 1.5 billion people across 54 countries).[3 10] Greenhouse gas emissions from healthcare vary depending on the wealth and relative carbon intensity of the economy and its

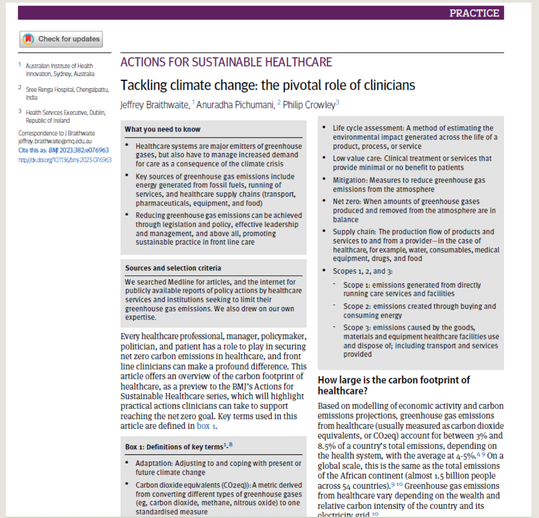
Key sources of emissions:

- energy generated from fossil fuels
- running of services
- healthcare supply chains (i.e. transport, pharmaceuticals, equipment and food)

Tackling climate change: the pivotal role of clinicians

Best targeted reductions via:

- legislation and policy
- effective leadership and management
- promoting sustainable practice on the front lines of care
- address the supply chains



PRACTICE

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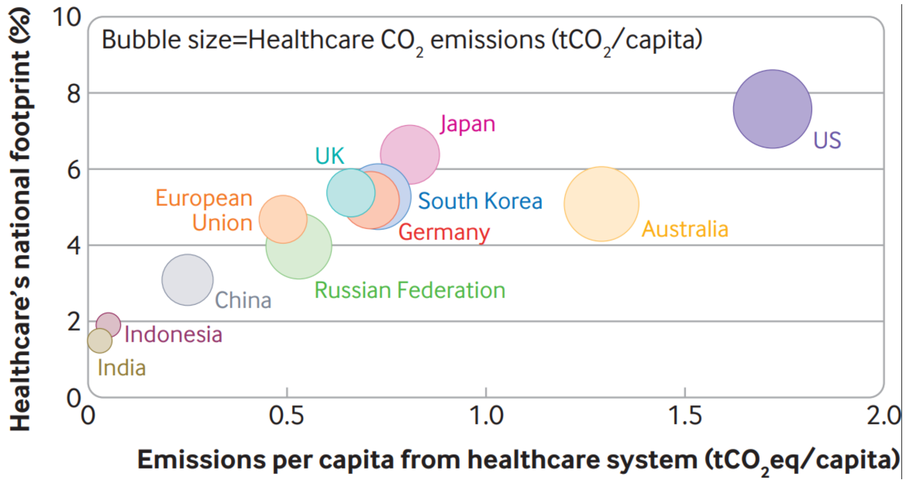
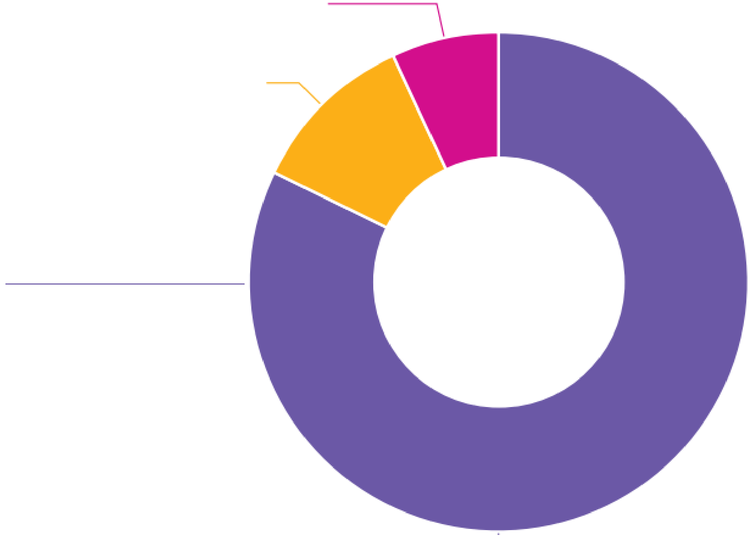


[Braithwaite et al., BMJ, 2023. Tackling climate change: the pivotal role of clinicians]

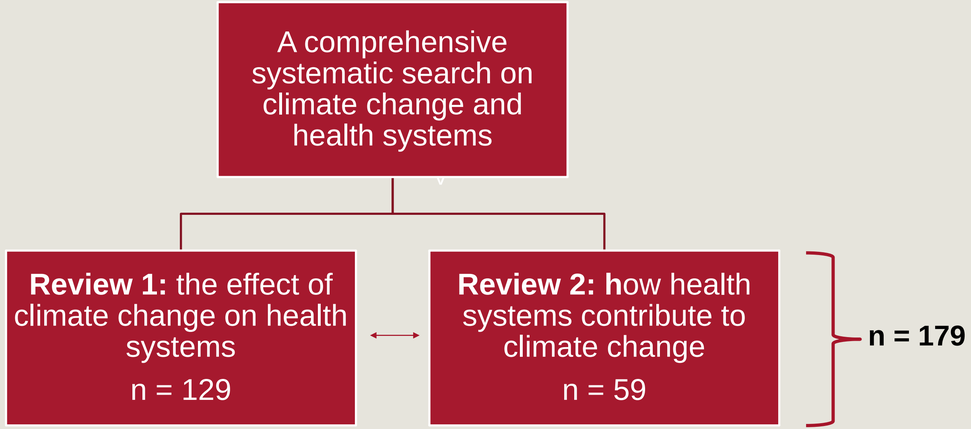
The Scopes framework



[Braithwaite et al., BMJ, 2023. Tackling climate change: the pivotal role of clinicians]

From one systematic review to two

2022

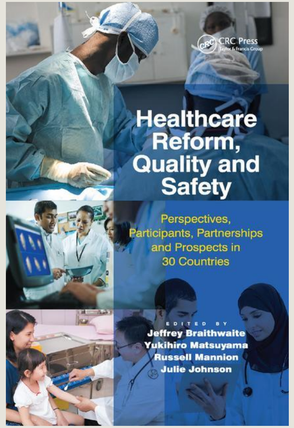


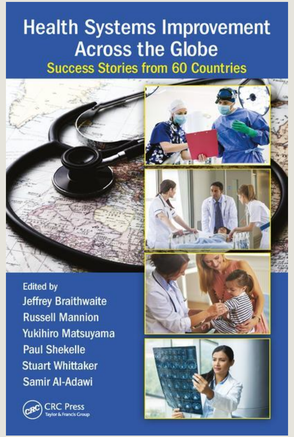
Heal | Learn | Discover

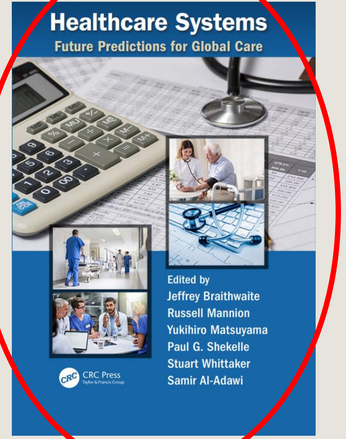
Part 2: It’s not just climate change we have to fix to get to 2030

A roadmap to the future

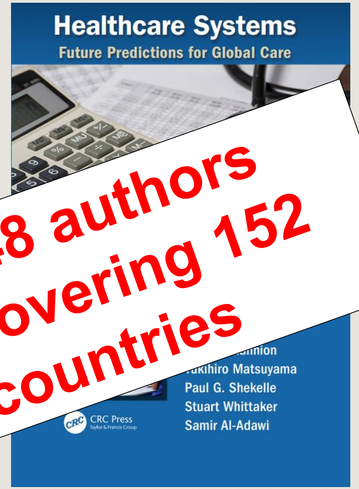
A series on international health reform







Healthcare Systems: Future Predictions for Global Care



148 authors covering 152 countries

International Journal for Quality in Health Care, 2018, 30(10), 823–831
doi: 10.1093/intqhc/mzy242
Advance Access Publication Date: 20 December 2018
Perspectives on Quality

ISQua

OXFORD

Perspectives on Quality

The future of health systems to 2030: a roadmap for global progress and sustainability

JEFFREY BRAITHWAITE[1,2,3,4], RUSSELL MANNION[1,2], YUKIHIRO MATSUYAMA[1,3,5], PAUL G. SHEKELLE[6], STUART WHITTAKER[7], SAMIR AL-ADAWI[1,8], KRISTIANA LUDLOW[1], WENDY JAMES[1], HSUEN P. TING[1], JESSICA HERKES[1], ELISE MCPHERSON[1], KATE CHURRUCA[1], GINA LAMPRELL[1], LOUISE A. ELLIS[1], CLAIRE BOYLING[1], MEAGAN WARWICK[1], CHIARA POMARE[1], WENDY NICKLIN[4], and CLIFFORD F. HUGHES[1,4]

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Tel: +61 2 9850 2401; Fax: +61-298-502-499; E-mail: jeffrey.braithwaite@mq.edu.au

Editorial Decision 16 October 2018; Accepted 6 December 2018

Abstract

Most research on health systems examines contemporary problems within one, or at most a few, countries. Breaking with this tradition, we present a series of case studies in a book written by key policy-

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SUSTAINABILITY

DEMOGRAPHICS

GENOMICS

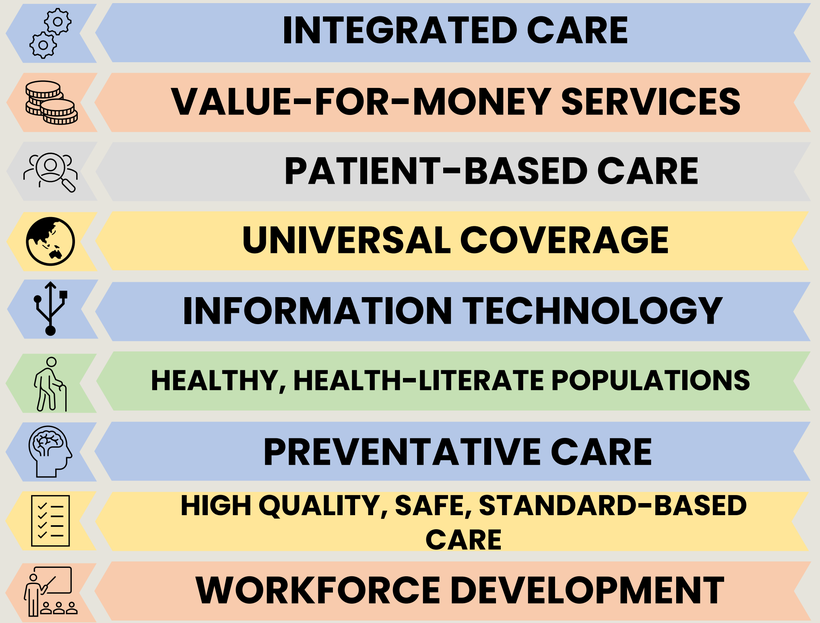
ARTIFICIAL INTELLIGENCE

MODELS OF CARE

v

2030

2030



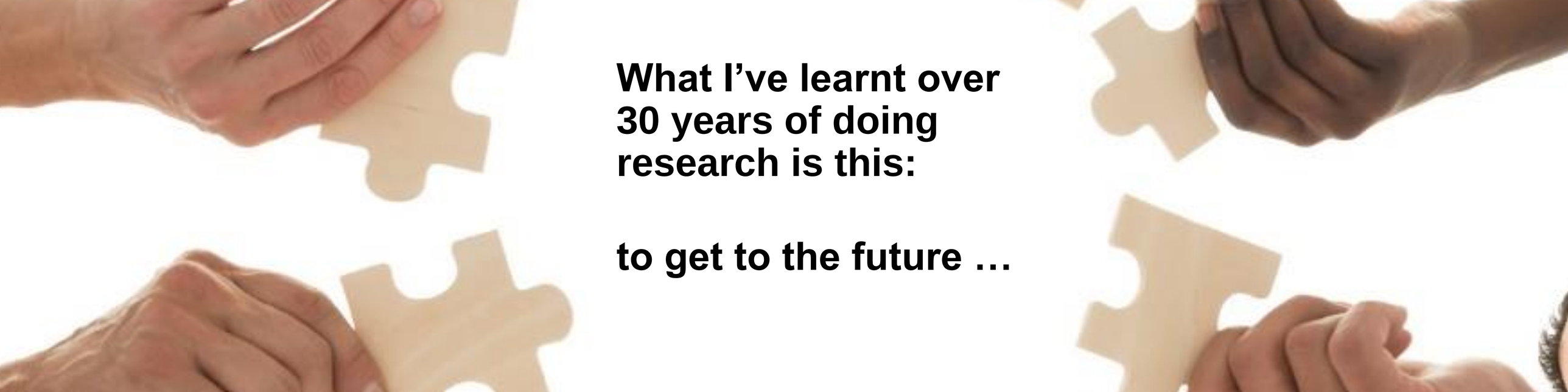
[Braithwaite et al 2018]

The system as we know it	THE ROAD TO 2030	The ideal healthcare system of the future
Fragmented and siloed	1 INTEGRATED CARE	Cohesive, joined up
Volume-based care	2 VALUE-FOR-MONEY SERVICES	Value-based care
Provider-oriented	3 PATIENT-BASED CARE	Person-centred
Barriers to access and affordability	4 UNIVERSAL COVERAGE	Wide access without financial hardship
Static, legacy-based systems; not data driven	5 INFORMATION TECHNOLOGY	Machine learning and AI enabled: Data-driven clinical decision making
Unhealthiness amongst the population: Poor health literacy	6 HEALTHY, HEALTH-LITERATE POPULATIONS	Well-being, healthy ageing and health aware
Focus on acute care	7 PREVENTATIVE CARE	Shift to primary-orientated, health promoting, preventative care
Entrenched levels of poor quality, unsafe care	8 HIGH-QUALITY, SAFE, STANDARD-BASED CARE	Less harmful, more effective services
Uneven workforce, training, knowledge and development	9 WORKFORCE DEVELOPMENT	A fit-for-purpose, highly trained and sustainable workforce

What do I hope for the future?

More humane healthcare

In a sustainable world



What I've learnt over 30 years of doing research is this:

to get to the future …

We need all of us
and no one of us
is as smart as all
of us together

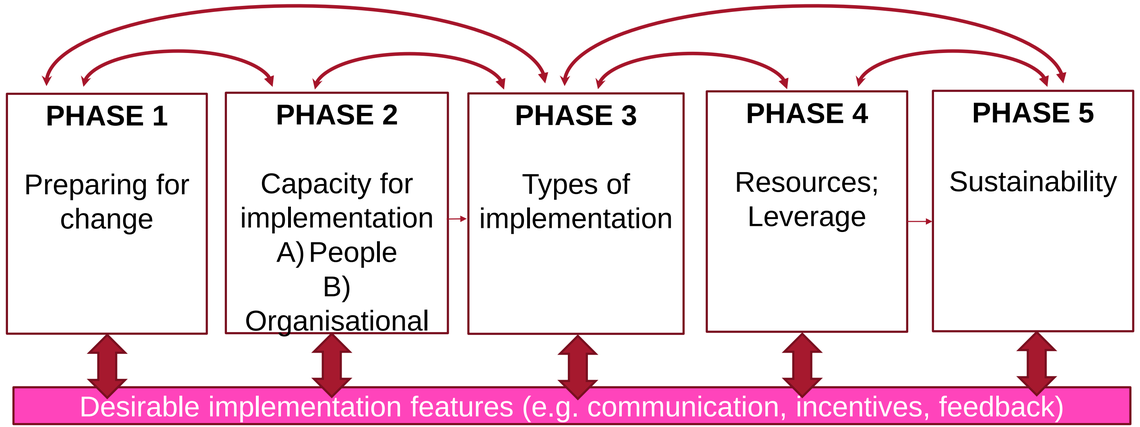
Part 3:
My take on getting to the future

Five suggestions

1. The inside and outside world—everyone is in their own box

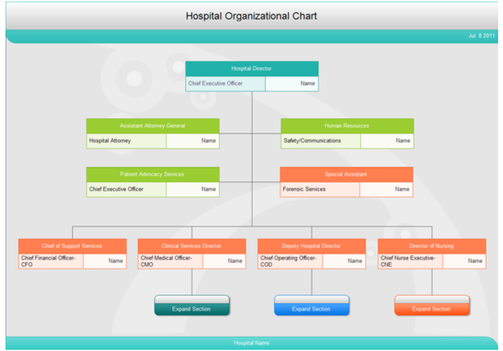
So get out of your box, embrace the complexity, and lead your bit of the needed transformation

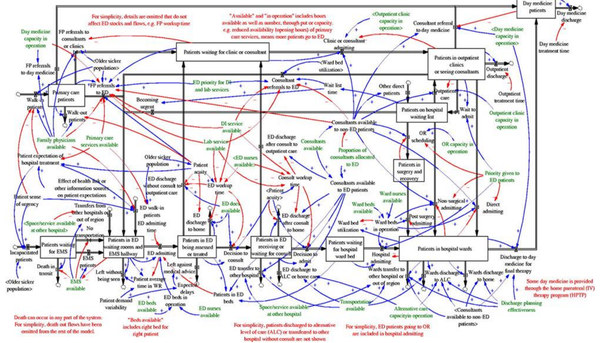
2. Have a plan based on implementation science



[Braithwaite J, Marks D, and Taylor N. (2014) Harnessing implementation science to improve care quality and patient safety: a systematic review of targeted literature. *International Journal for Quality in Health Care*, 26:3]

3. Know that you have two jobs: do your job and improve things

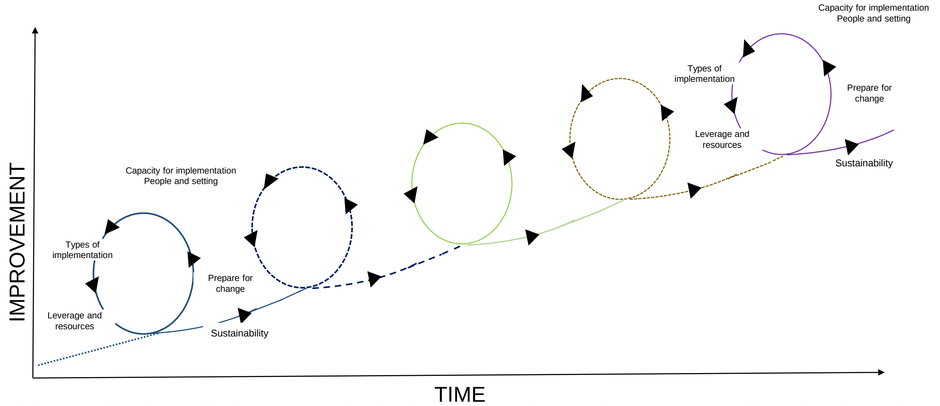




“Do your job”

“Improve things”

4. It’s a journey, not a destination



[Adapted from Braithwaite et al. 2014. Harnessing implementation science to improve care quality and patient safety: a systematic review of targeted literature. *Int J Qual Health Car*; Braithwaite et al. 2007. An action research protocol to strengthen system-wide inter-professional learning and practice. *BMC Health Serv Res*]

5. Share your inspiring initiatives – the world is looking to Norway

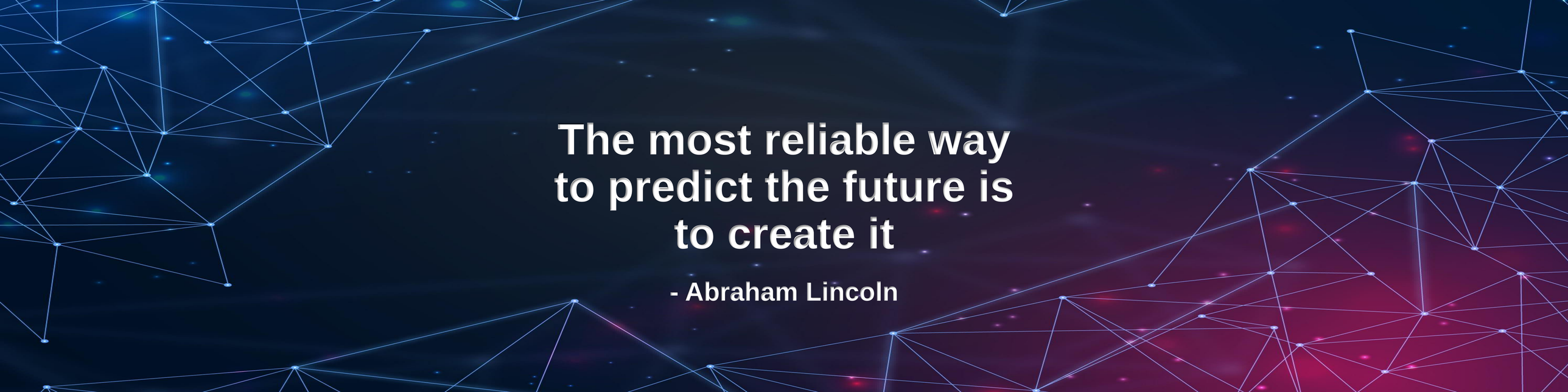
Having an independent investigations board providing solutions to improve quality and safety in healthcare.

In a safe space.

Ukom

Part 4:
Conclusion

Final observations…


The most reliable way
to predict the future is
to create it
- Abraham Lincoln

So fellow Norwegians:
Let’s work together to
Create the future

Takk for at dere hørte på

Og ønsker meg velkommen tilbake i familien!

Discussion: comments, questions, observations?

Acknowledgements

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Dr Natalie Roberts
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Dr Samantha Spanos
Dr Emma Falkland
Dr Dan Luo
Dr Lisa Pagano
Maree Saba

Current Research Candidates
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Faran Naru
Sagda Osman
Maryam Vizheh
Darran Foo
Mia Bierbaum

Partnership Centre for Health System Sustainability
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Dr Trent Yeend
Dr K-lynn Smith
Isabelle Meulenbroeks
Genevieve Dammery
Dr Karen Hutchinson
Putu Novi Arfirsta Dharmayani
Dr Ann Carrigan
Nehal Singh
Shalini Wijekulasuriya

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Dr Collen Cheek
Dr Luke Testa
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Dr Nema Heyba
Lieke Richardson
Dr Jen Evans

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Health Outcomes
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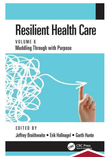
Dr Reidar Lystad
Dr Tolesa Okuba
Dr Seigo Mitsutake
Sandy Sa
Shalini Wijekulasuriya
Nicole Halim

NHMRC CRE Implementation Science in Oncology
Dr Gaston Arnolda
Dr Bróna Nic Giolla Easpaig
Dr Klay Lamprell
Dr Syeda Somyyah Owais
Romika Patel
Dr Dan Luo
Mia Bierbaum
Dr Samantha Spanos

MD Program Coordination
Prof Frances Rapport

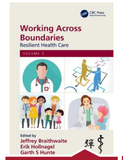
Recently published books

2022 – Transforming Healthcare with Qualitative Research

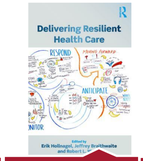


2021 – Muddling Through With Purpose

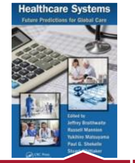
2020 – Transforming Healthcare with Qualitative Research



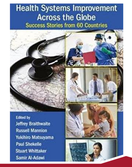
2019 – Working Across Boundaries



2018 – Delivering Resilient Health Care



2018 – Healthcare Systems: Future Predictions for Global Care



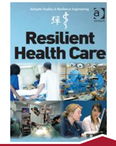
2017 – Health Systems Improvement Across the Globe: Success Stories from 60 Countries

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

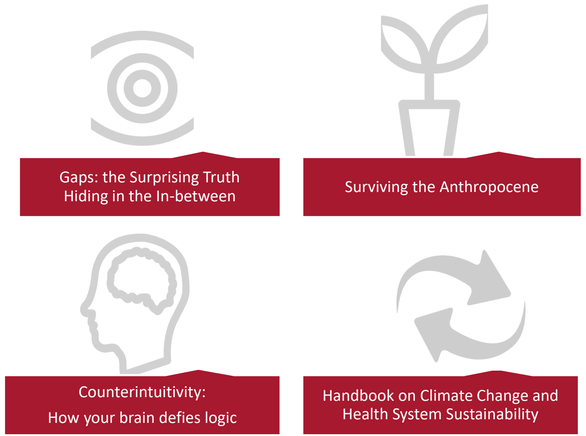
2015 – The Resilience of Everyday Clinical Work



2013 – Resilient Health Care

2010 – Culture and Climate in Health Care Organizations

Forthcoming books



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