

# Prioritisation and effects of alternative healthcare models for a sustainable health system

**Jason Wallis**, Liesl Grobler, Denise O'Connor

on behalf of wider team including Polina Putrik, Rebecca Jessup, Paul Glasziou,  
Jonathan Karnon, Rachelle Buchbinder

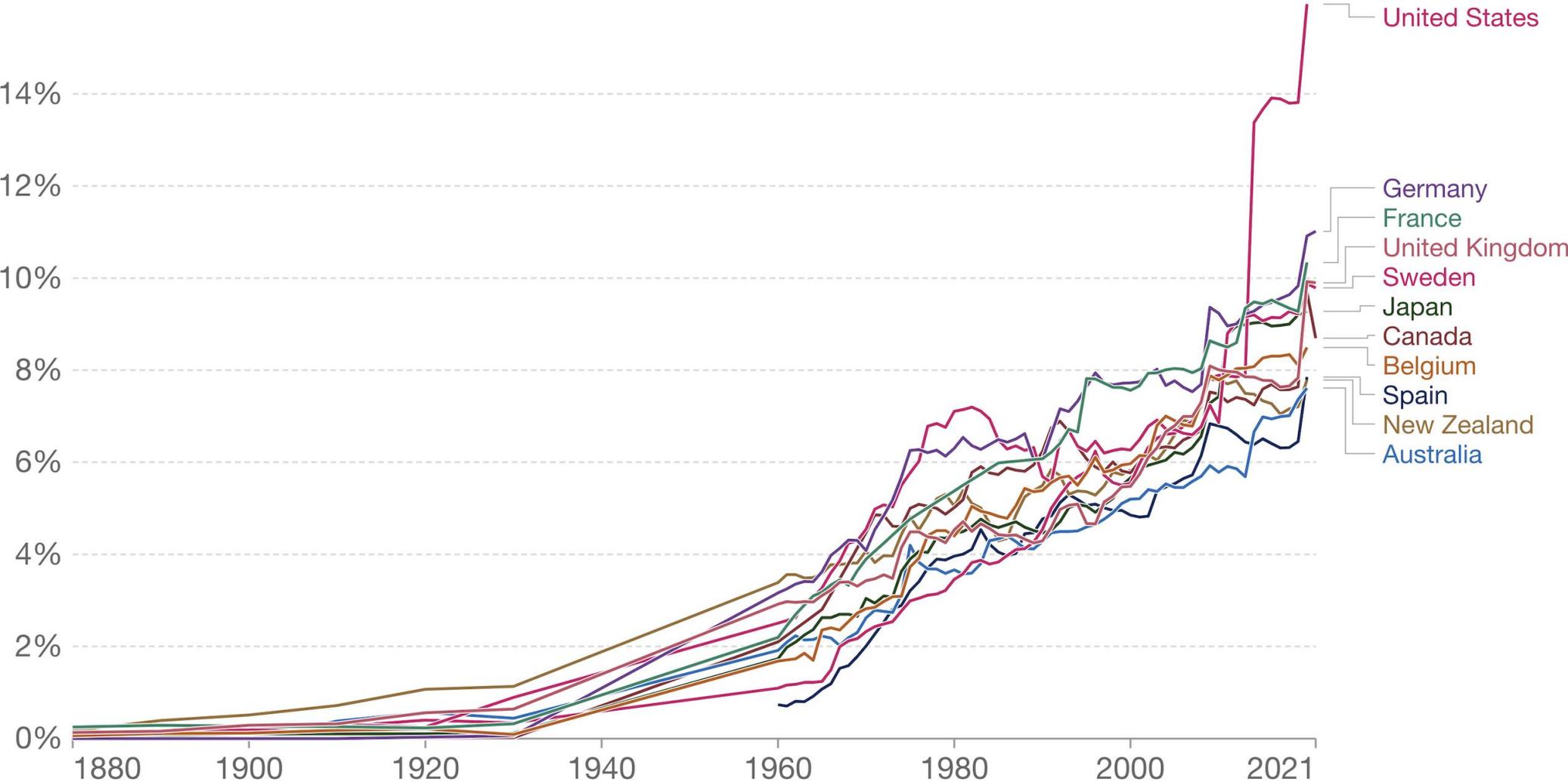
# Declarations of interest

## Sources of support

- School of Public Health & Preventive Medicine, Monash University , Australia
- NHMRC Partnership Centre for Health System Sustainability, Australia

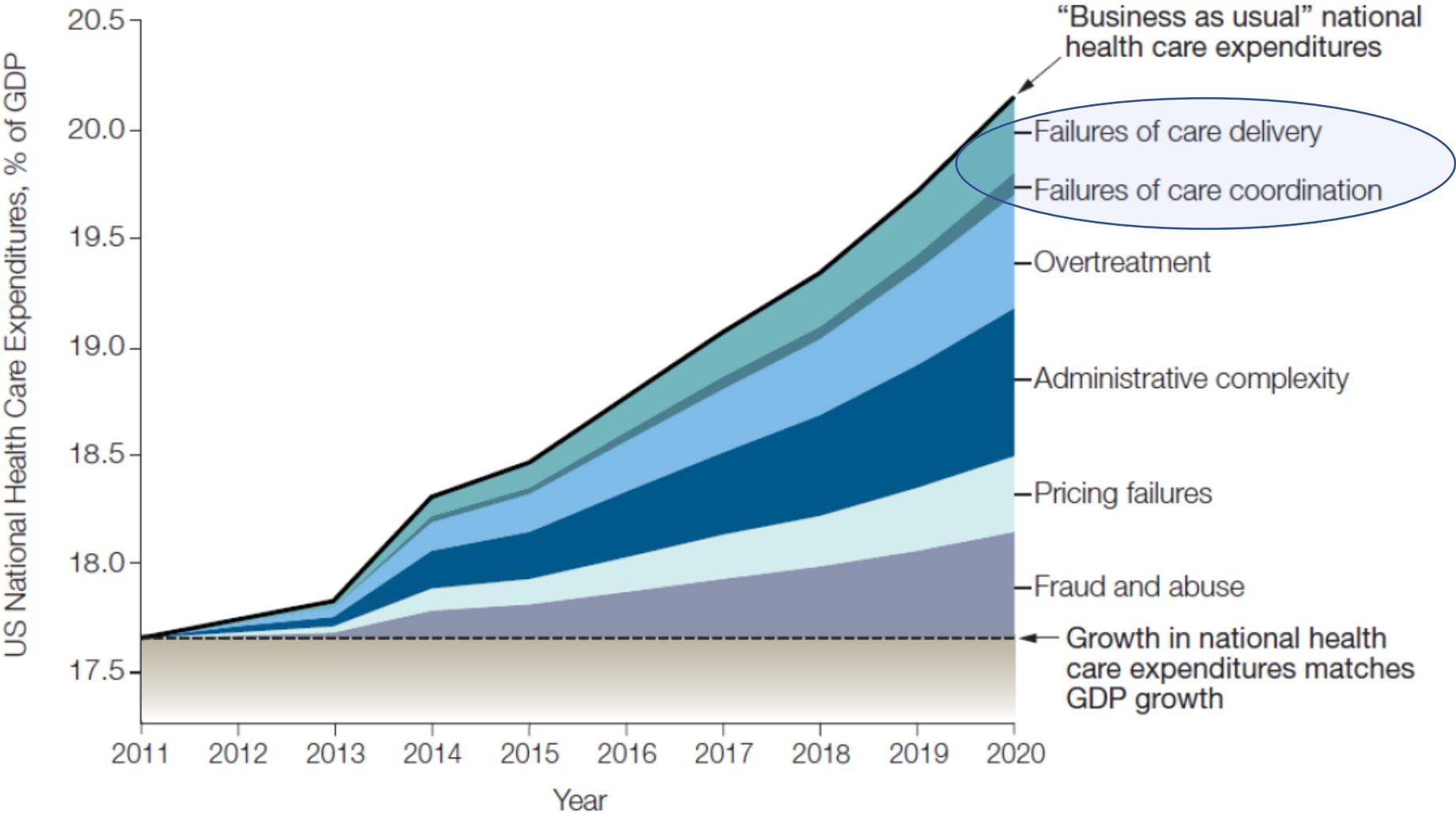
# Government health expenditure as a share of GDP, 1880 to 2021

This metric captures spending on government funded health care systems and social health insurance, as well as compulsory health insurance.



# Sustainability by waste containment

Figure 11: Areas of Waste in US Health Care (Berwick and Hackbarth 2012)



<https://healthsystemsustainability.com.au/>

# Health System Sustainability

NHMRC Partnership Centre



**Aims to explore critical issues impacting the sustainability of the Australian healthcare system and investigate solutions to improve sustainability**



**How and when care is provided**



**Where care is delivered**



**Who provides care**



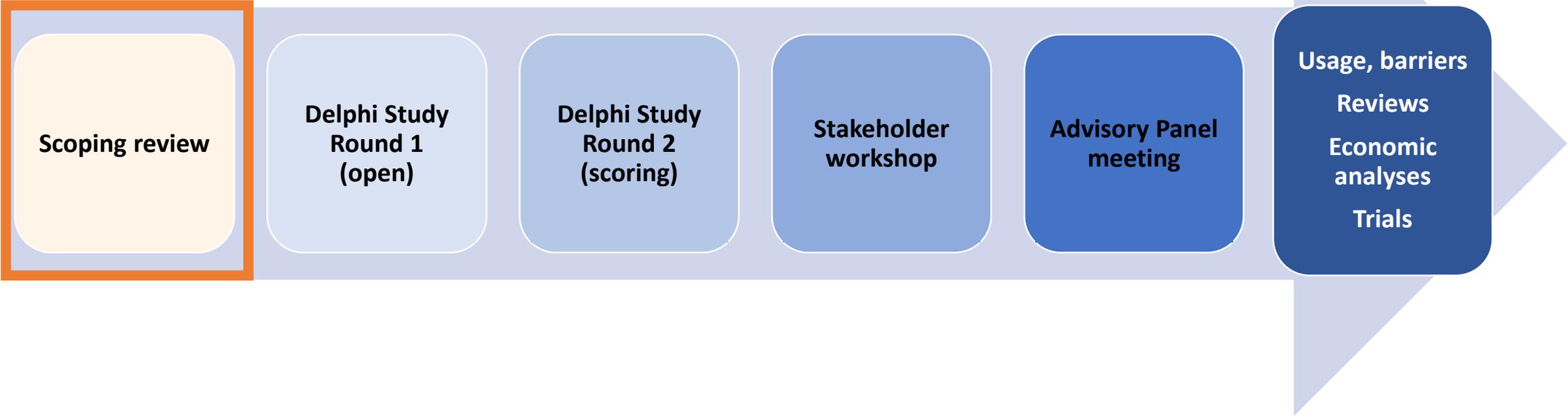
**Coordination of care**



**Information technology and communication systems**

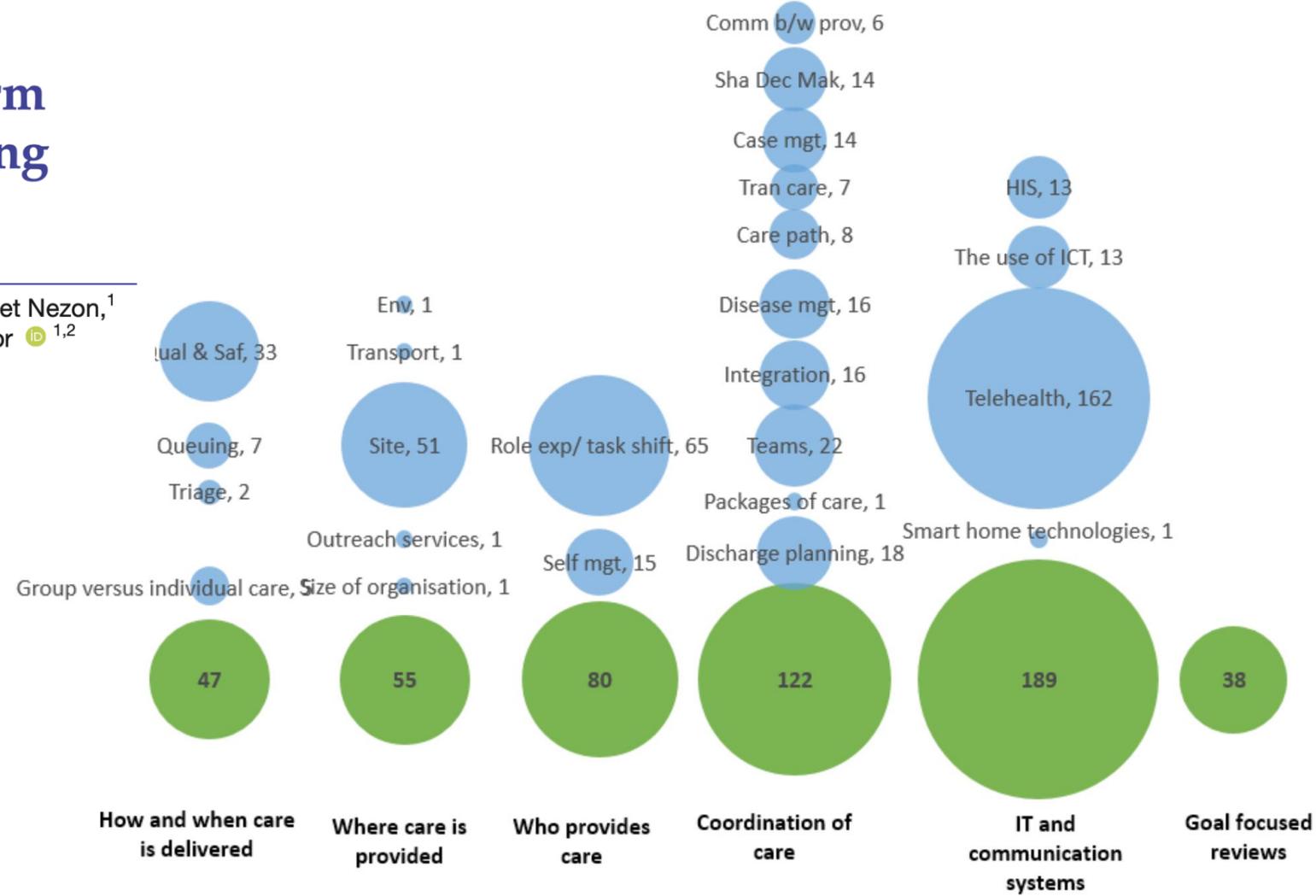
# Prioritisation process

Identifying alternative models → Prioritising alternative models → Further exploration →



# Identifying alternative models of healthcare service delivery to inform health system improvement: scoping review of systematic reviews

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## Prioritising models of healthcare service delivery for a more sustainable health system: a Delphi study of Australian health policy, clinical practice and management, academic and consumer stakeholders

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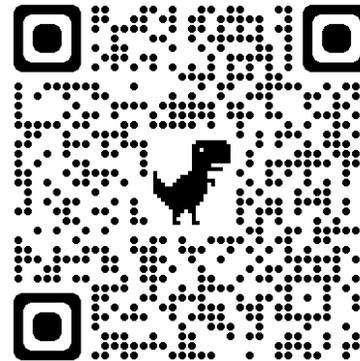
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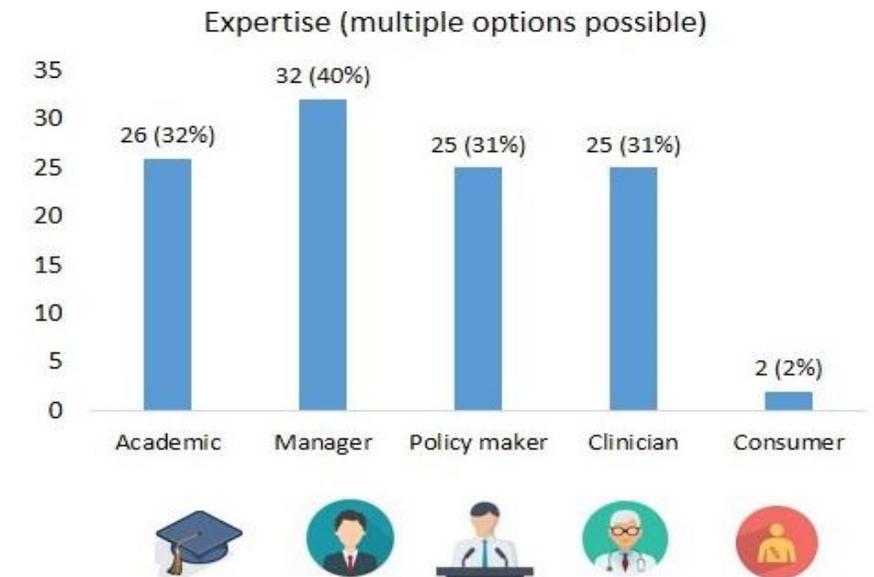
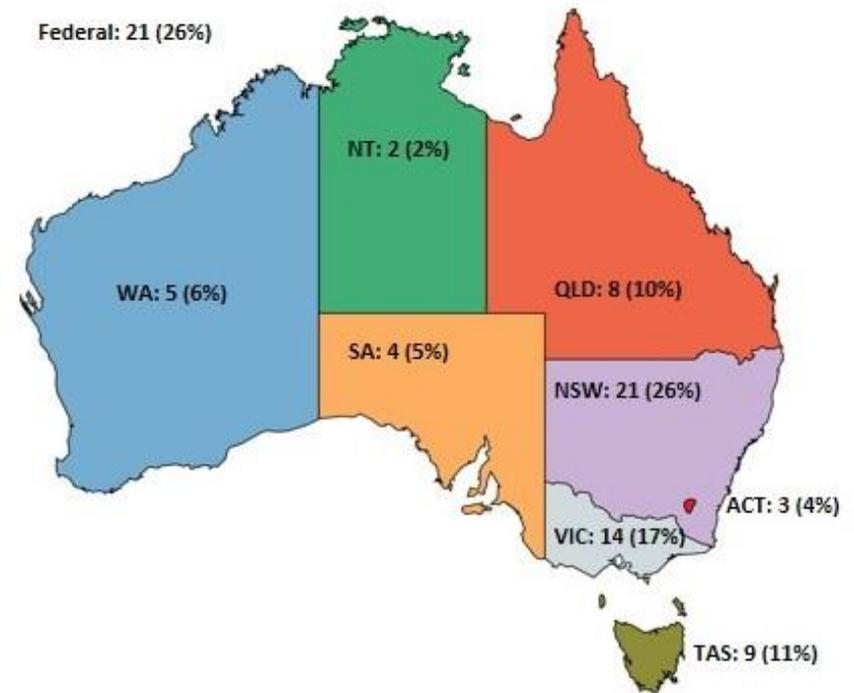
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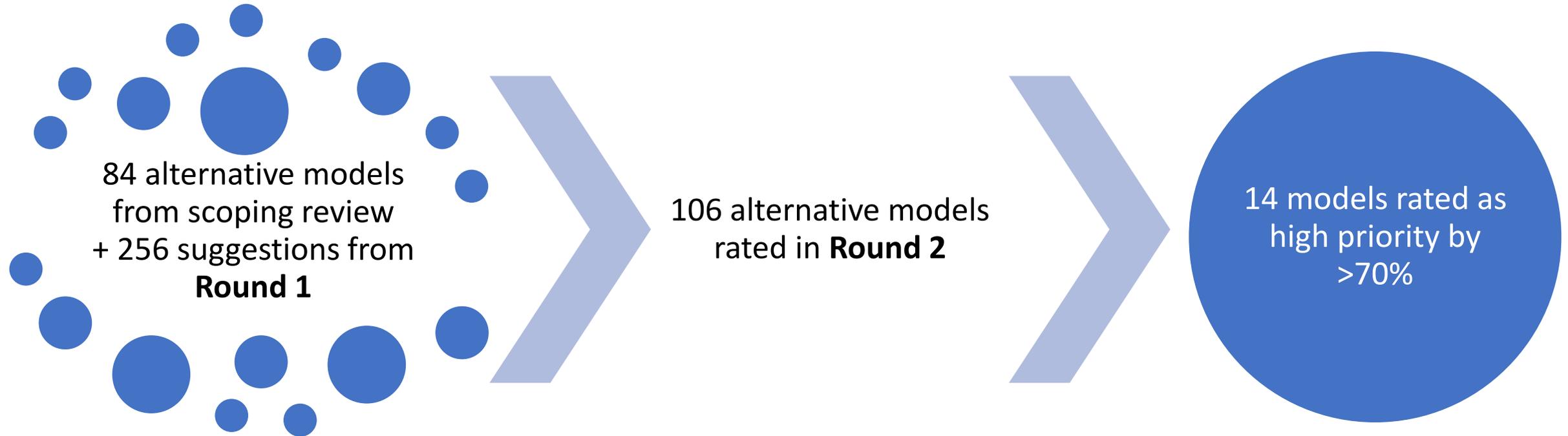
*Denise A. O'Connor*<sup>1,2</sup> PhD, Associate Professor, Implementation science and health services researcher



**Delphi panel - 149 experts invited**  
**82 (55%) completed round 1,**  
**72 (48%) completed round 2**



# Delphi survey: process and findings



# Top-rated alternative delivery models (>70% panel)

- Co-location and coordination of primary care and hospital services for older adults in residential aged care facilities (#1, #2)
- Hospital discharge planning tailored to individual patients (#4)
- Telehealth for direct patient care (#5)
- Hospital at Home (#6)
- Alternative models for preventing unplanned 30-day hospital readmissions (#7)
- Anti-cancer therapy at home (#8)
- Home support programs for carers of older people discharged from hospital (#11)
- Liaison coordinator models (#12)
- Stepped care model for mental health care (#13)
- Multidisciplinary care, coordinated care, integrated care models (#3,9,10,14)

# Stakeholder advisory panel – agreed guiding principles for further prioritising alternatives

Has evidence of equal or better effects vs. usual care

Addresses area of high system burden (prevalent, disability)

Has potential for measurable cost savings

Is feasible/ready to implement

Is scalable



**Models for delivery and co-ordination of primary or secondary health care (or both) to older adults living in aged care facilities (Protocol)**



**Delivery of intravenous anti-cancer therapy at home versus in hospital or community settings for adults with cancer (Protocol)**



**Factors influencing the implementation of early discharge hospital at home and admission avoidance hospital at home: a qualitative evidence synthesis (Protocol)**

# Factors influencing the implementation of early discharge hospital at home and admission avoidance hospital at home: a qualitative evidence synthesis (Protocol)



## Why is this important?

- Continues to be more demand for hospital beds than there are beds!
- The evidence
  - Releases hospital beds (moderate certainty)
  - Similar patient outcomes and safety (moderate certainty)
  - Patient satisfaction (low certainty)
  - Less expensive (low certainty)

### Admission avoidance hospital at home (Review)

Shepperd S, Iliffe S, Doll HA, Clarke MJ, Kalra L, Wilson AD, Gonçalves-Bra

### Early discharge hospital at home (Review)

Gonçalves-Bradley DC, Iliffe S, Doll HA, Broad J, Gladman J, Langhorne P,

- **However, these reviews did not address how to implement and sustain Hospital at Home**



## What is Hospital at Home (HaH)?

- Hospital care at home (or where they usually live) for people who would otherwise be inpatients in hospital.
- Admission Avoidance and Early Discharge HaH models
- In Australia, HaH admissions comprised 3.7% of hospital admissions in last decade (Montalto 2020)

# Factors influencing the implementation of early discharge hospital at home and admission avoidance hospital at home: a qualitative evidence synthesis (Protocol)



## What did we do?

- Searched for and synthesised qualitative research that explored all stakeholder perspectives and experiences about Hospital at Home

## What did we find?

- 52 qualitative studies conducted in 13 countries (Australia, Europe, UK, Ireland, USA Singapore, Brazil)
- Over 2000 study participants (patients, caregivers, health care professionals, managers, policy makers) from the 52 studies

# 12 findings emerged – Summary of findings



Pre-implementation (2 findings)	Processes and skills required for safe, effective care (7 findings)		Perceived benefits, impacts and sustainability (3 findings)	
1. Early stakeholder engagement and overcoming regularity barriers (11 studies, high certainty)	3. Safety (20 studies, high certainty)	7. Staff training and expansion of roles (22 studies, high certainty)	10. An appropriate alternative to hospital inpatient care (33 studies, high certainty)	12. Sustainability (14 studies, high certainty)
2. Integrating activity data and service costs (6 studies, low certainty)	4. Eligibility criteria (12 studies, high certainty)	8. Effective communication (38 studies, high certainty)	11. Caregivers were impacted positively and negatively (26 studies, high certainty)	
	5. Leadership (11 studies, moderate certainty)	9. Providing patient centred care (34 studies, high certainty)		
	6. Skilled workforce (24 studies, high certainty)			



# Pre-implementation

## Barriers

- Regulatory environment
- **Difficulties measuring financial impact and costs**

## Enablers that support implementation

- Early stakeholder engagement

“The hospital financial folks are hesitant to approve this because they're not sure how to fully calculate and measure financial impact of a program like this”  
(Healthcare leader, Gorbenko 2023).

# Processes and skills required for safe, effective care



## Barriers

- Identifying suitable patients
- Poor communication, assessments and documentation duplicated

## Enablers that support implementation

- Staff training/skilled workforce/teamwork
- Leadership, clinical champion
- Patient-centred care
- **Shared, electronic medical record**

“Having that information at hand contributes to patient safety both directly and indirectly” ... “because doctors can base decisions on the most up-to-date information, such as updated medical records” (Physician, Cegarra-Navarro 2010).



# Perceived benefits, impacts and sustainability

## Barriers

- Multiple concerns – safety, privacy, not 24hr supervision, financial
- **Negative impacts on caregivers**

## Enablers

- Positive beliefs - positive impacts on caregivers and patients
- Maintaining routines (esp. frail & confused patients better in familiar environment)
- Expanding referral routes
- Staff recruitment

'It is a new experience since I am not medically trained. So, there will be a situation where I don't know what to do. So, I don't want to judge the situation wrongly. A bit of stress for me.' (Caregiver, Ko 2022)

# Implications for health service leaders



## **Early Stakeholder Engagement**

What strategies will address uncertainty for referrers regarding patient eligibility and referral processes?

Do you have data on benefits and cost savings to convince health system funders in your setting?

## **Leadership**

Do you need to assign medical responsibility to avoid confusion between medical staff?

## **Training**

What staff training has been implemented, including advanced training (e.g., IV therapy)?

## **Workforce**

Have you considered using rehab assistants delivering rehabilitation care in people's homes rather than health professionals who could take an overview role to guide the rehabilitation?

## **Caregiver negative impacts**

Has the caregiver's role been defined, recognised and discussed?

## **Sustainability**

Are patients being referred and are a substitute for hospital admission?

## Models for delivery and co-ordination of primary or secondary health care (or both) to older adults living in aged care facilities (Protocol)

Putrik P, Grobler L, Lalor A, Karnon J, Parker D, Morgan M, Buchbinder R, O'Connor D



- Systematic review of 40 randomised trials (21,787 participants) from 15 countries

### Summary of findings

- May reduce unplanned hospital admissions without increased adverse events (low certainty)
- May make no difference to emergency department visits and quality of life (low certainty)
- Uncertain if cost savings (very low certainty)

## Delivery of intravenous anti-cancer therapy at home versus in hospital or community settings for adults with cancer (Protocol)

Grobler L, O'Connor D, Rischin D, Putrik P, Karnon J, Rischin KJ, McKenzie BJ, Buchbinder R

- Systematic review of 7 randomised trials (272 participants)
- Studies conducted in 4 countries UK (2) Australia (2) Spain (1) Denmark (1) France (1)

### Summary of findings

- Participants may prefer future cancer treatments at home (low certainty)
- Costs of delivery at home may be similar to outpatient clinics (low certainty)
- Uncertain if more adverse events (very low certainty)



# Implications from program of work

- To improve efficiency and sustainability of health care, consider alternative models of care delivery
- Before implementing new models of care, draw on evidence of:
  - Safety, effectiveness, costs, acceptability
- Avoid adding waste by implementing all new models of care
- Evaluate the service if evidence gaps

# Acknowledgements and thanks for listening

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