



ALTERNATIVE SERVICE MODELS TO ACHIEVE LOWER COST DELIVERY OF HEALTHCARE

Rebecca Jessup and Polina Putrik

Research Fellows

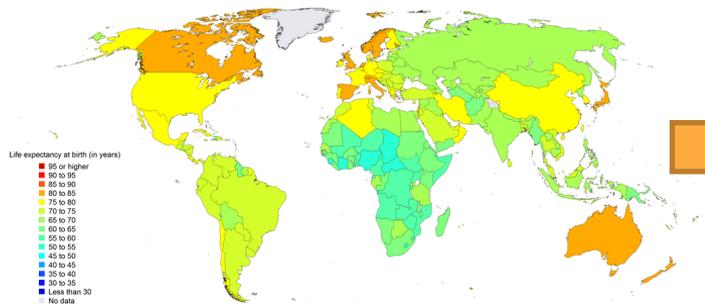
Monash Dept Clinical Epidemiology, Cabrini Institute

Identifying alternative delivery arrangements to increase value and sustainability in healthcare: a scoping review of systematic reviews

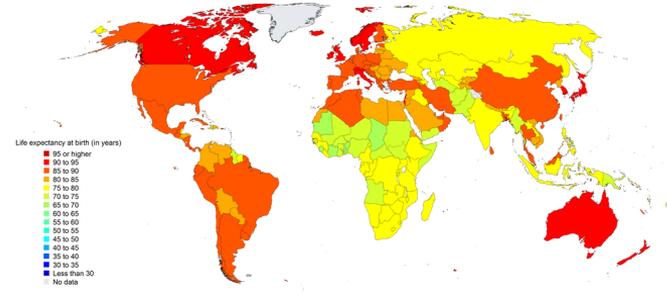
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Life expectancy at birth, males, medium projection, 2015-2020



Life expectancy at birth, males, medium projection, 2090-2095



Can we get the same (or better) care at lower cost?

IOM report
>\$750B in
unnecessary
health
spending

Approximately \$8.5
billion per year in
Australia

Health Care (2009)		Estimate of Excess Costs
	Levels	\$210 billion
		\$130 billion
	Markets	\$190 billion
	Requirements	\$105 billion
	Competitive benchmarks	\$55 billion
Missed Prevention Opportunities	<ul style="list-style-type: none">Primary preventionSecondary preventionTertiary prevention	\$75 billion
Fraud	<ul style="list-style-type: none">All sources—payers, clinicians, patients	\$75 billion

SOURCE: Adapted with permission from IOM, 2010.

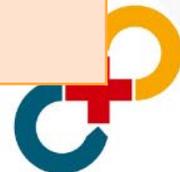
NHMRC Partnership Centre for Health System Sustainability, 2017-21

Scoping review of systematic reviews to determine what is known about alternative delivery models of health care in high income countries

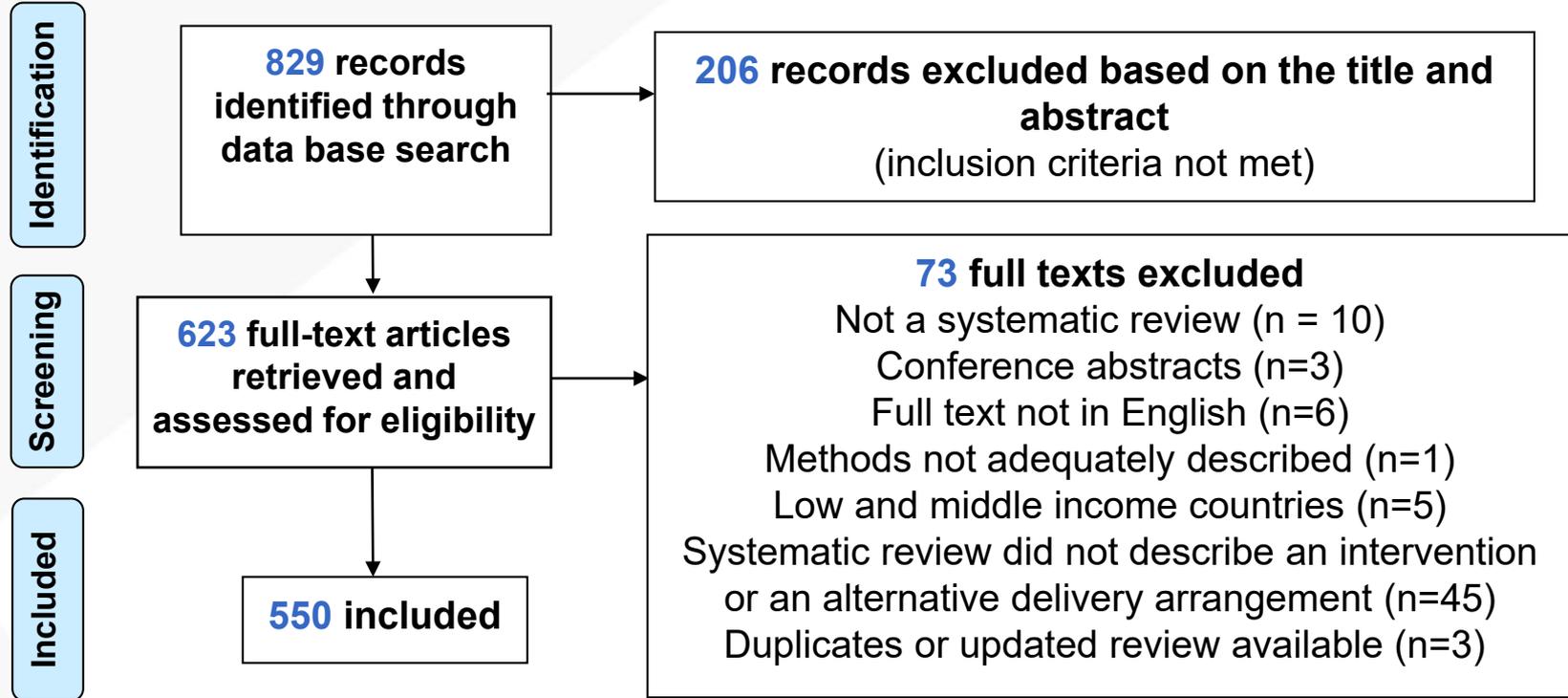


Methods

Type of synthesis	Scoping review of systematic reviews of trials
Type of intervention	Alternative delivery arrangement (compared to usual care) relevant to high income countries
Type of question	Effectiveness and economic outcomes
Publication range	Last 5 years (1 st March 2012 to 20 th September 2017)
Database searched	PDQ (“pretty darn quick”) database: provides evidence for decisions about health systems derived from the Epistemonikos database of systematic reviews
Screening and data extraction	Two independent people, review characteristics, target population, setting and outcomes extracted



Search results



Cochrane Effective Practice and Organisation of Care (EPOC) Taxonomy



How and when care is provided



Where care is delivered



Who provides care



Coordination of care

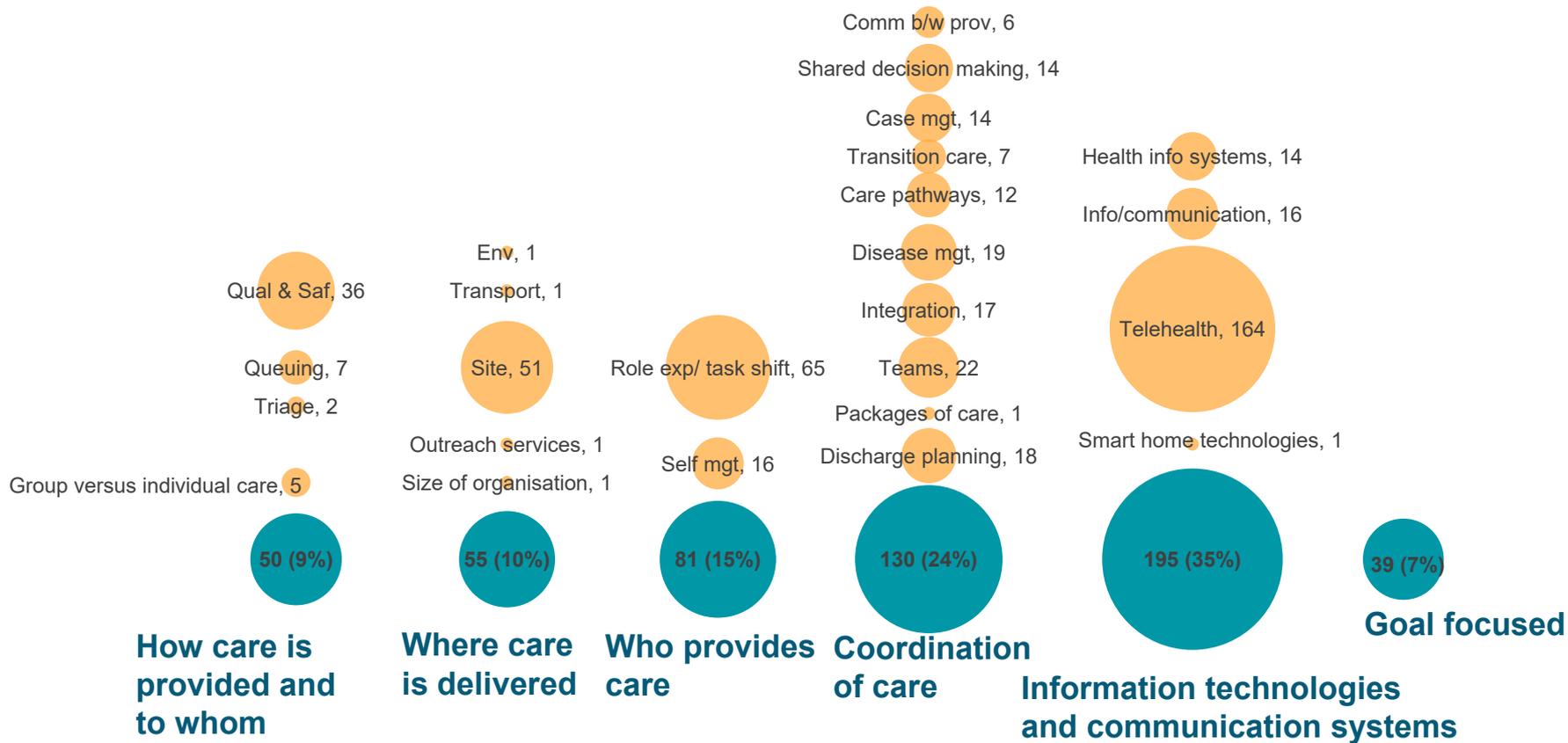


Information technology and communication systems

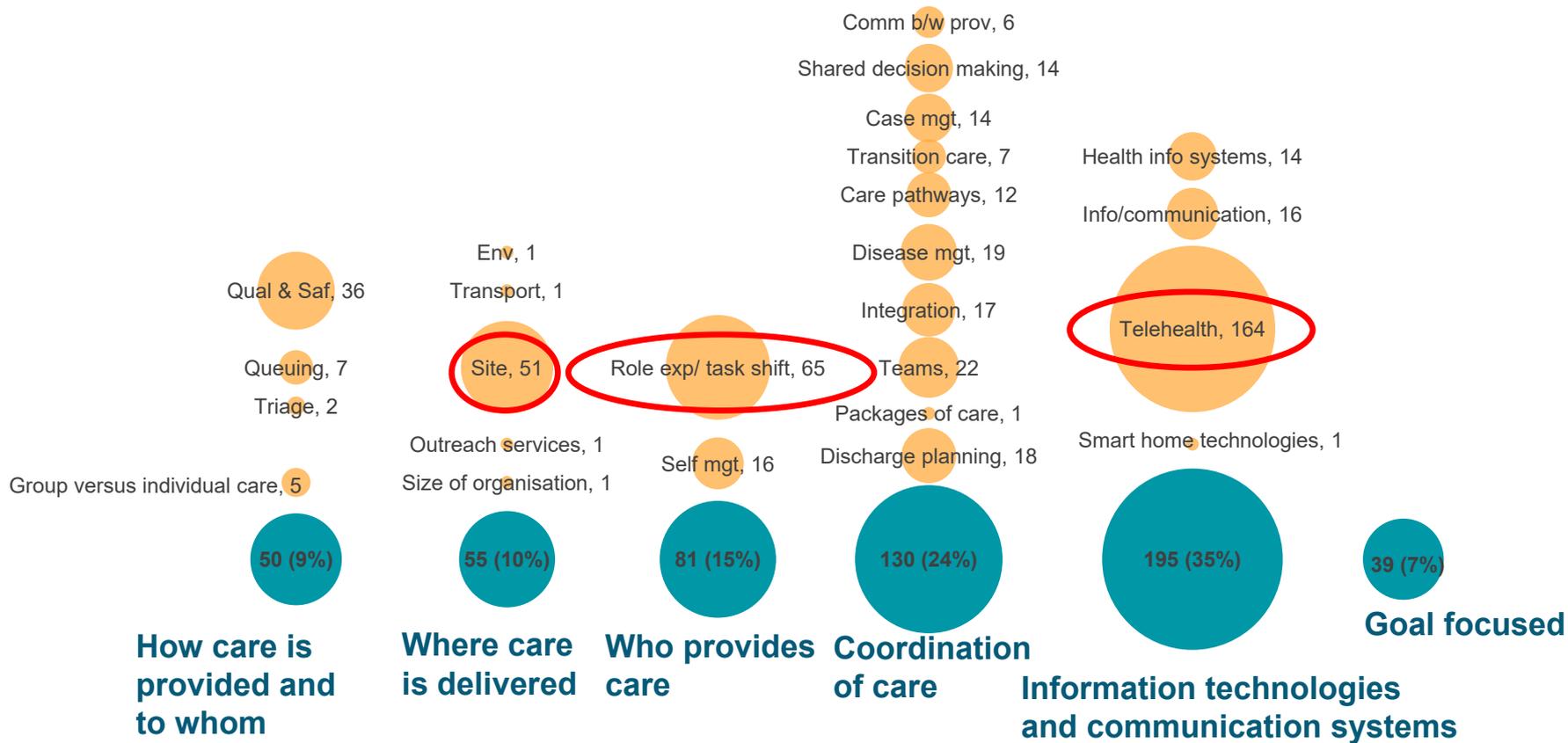


Goal focused

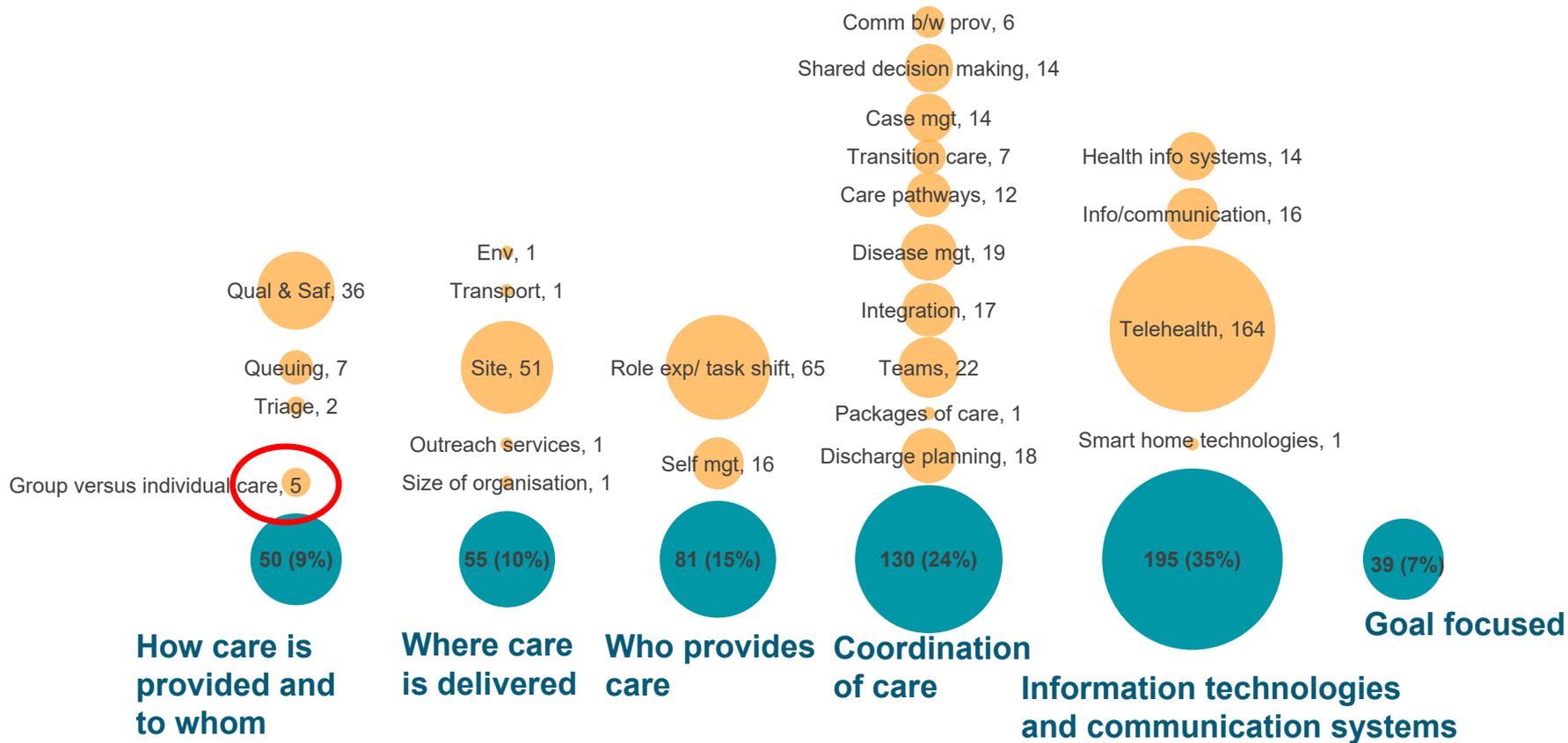
Results



Results

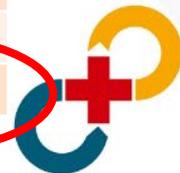


Results

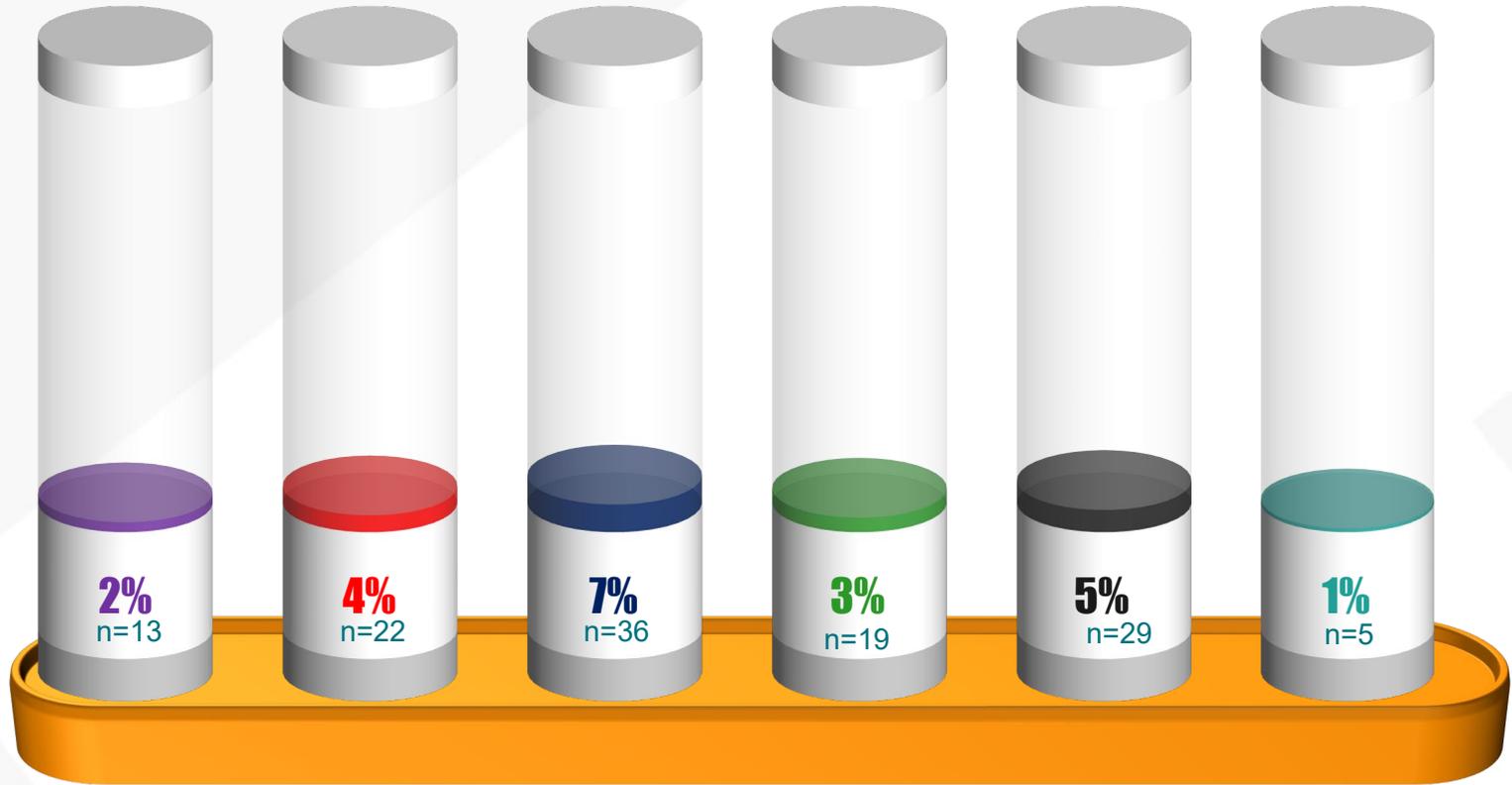


Most reviews were interested in benefits to patients

Outcome	Number of systematic reviews (%)
Patient outcomes (health and health behaviours e.g., mortality, cure rates)	508 (92%)
Quality of care (systems or processes for improving quality of care or adherence to recommended practice e.g., timeout before surgery)	70 (13%)
Resource use (e.g., energy or other assets)	165 (30%)
Impacts on equity	30 (5%)
Social outcomes (e.g., poverty, unemployment)	16 (3%)
Access, utilisation (e.g., readmission rates, length of stay)	181 (33%)
Healthcare provider outcomes (e.g., overall wellbeing)	74 (13%)
Adverse effects	98 (18%)
Economic analysis	177 (32%)



Reviews reporting results of economic analyses



How care is provided

Where care is provided

Who provides care

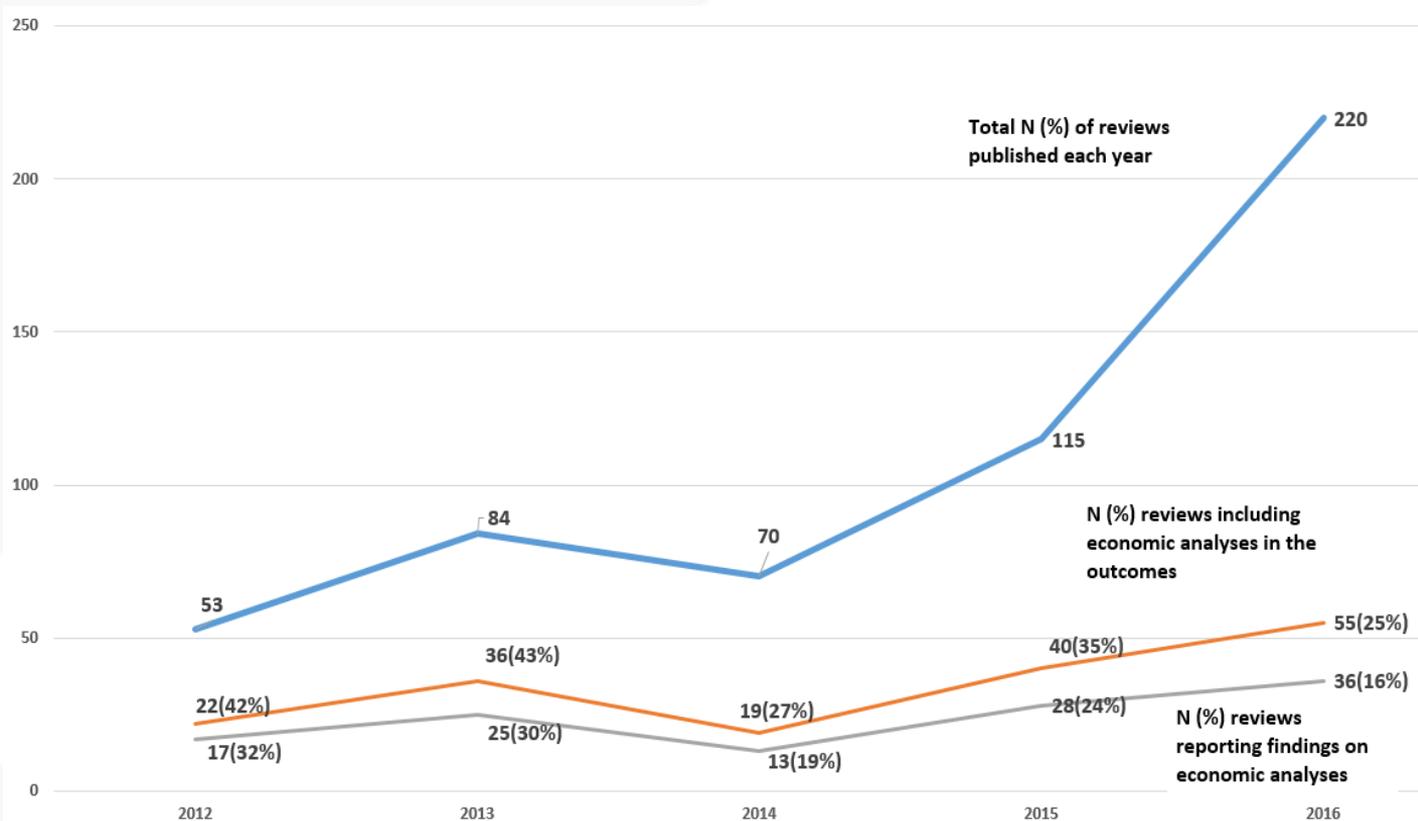
Coordination of care

Information technology and communication

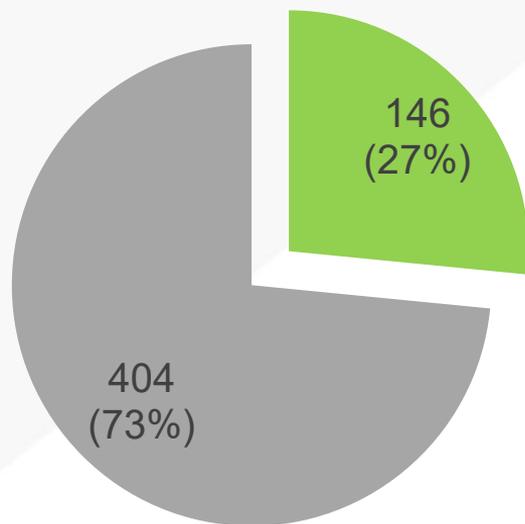
Goal focused



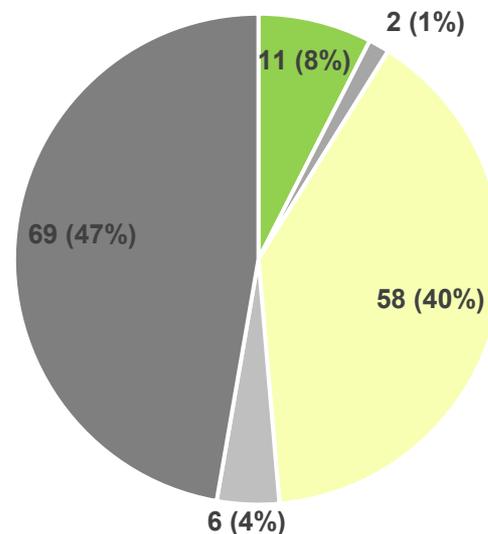
More research ... fewer economic analyses



Quality of reviews, findings of high quality reviews



■ High quality (Cochrane or quality assessed)



- Equally or more effective, potentially resource saving
- Equally or more effective, with the same or higher costs
- Equally or more effective, with unclear effects on costs
- Inconclusive (empty review)
- Inconclusive (low quality or insufficient evidence)



Group antenatal care versus conventional care for pregnant women



- Build friendships and support networks
- Share knowledge, ideas and experiences
- High attendance rates
- No difference in outcomes for preterm birth risk, low-birthweight, small-for-gestational age, perinatal mortality

Probably reduces costs but has not been measured

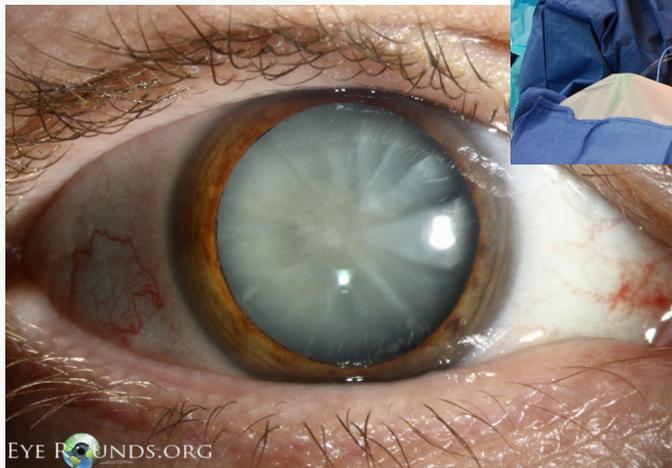
Current funding models in Australia do not support this approach



Little to no uptake in practice

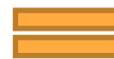


Day care versus in-patient surgery for age-related cataract



- Patients prefer to recuperate at home are more comfortable in familiar surroundings and enjoy the family support that they receive at home
- No difference in visual acuity at four weeks most post op

Average 20% less costs than inpatient (overnight stay)



Scale up and widespread adoption



Nurse vs. Physician led care for asthma

- No **difference** in quality of life
- No **difference** in asthma exacerbations or asthma severity



One study found outpatient visits were less but uncertain if overall cost savings.

Impact on health system costs still unknown

Kueth, M. C et al Nurse versus physician-led care for the management of asthma. *Cochrane Database Syst Rev*, 2013 2(2).



Early supported discharge

Stroke

Same mortality and readmission rates

Probably reduces risk of living in an institution at 6 months

Probably shortens hospital stay by ~7 days

Chronic obstructive pulmonary disease (COPD)

- Unknown effect on mortality, might reduce readmission rates



Impact on health system costs
unknown

Gonçalves-Bradley DC, et al. Early discharge hospital at home. *Cochrane Database Syst Rev* 2015; 6: CD000356.

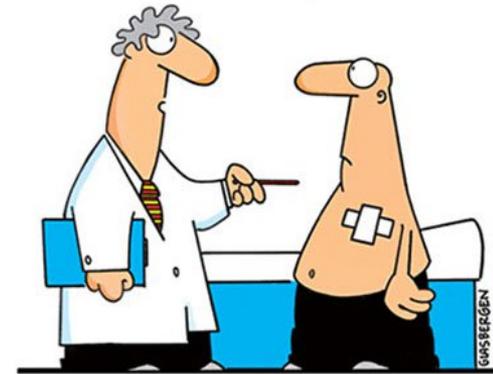


Telephone support and home telemonitoring for patients with heart failure

Reduces rates of death and heart failure-related hospitalisation

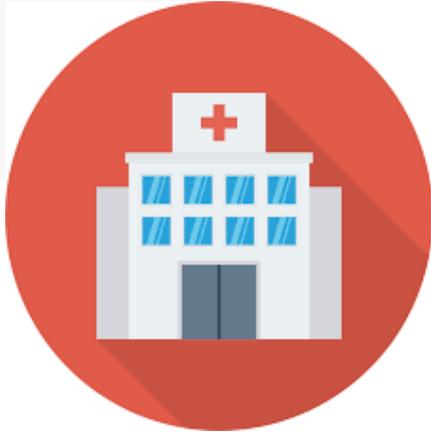
Improves quality of life, knowledge about heart failure and self care

Impact on health system costs unknown



"It's a pacemaker for your heart.
Plus, you can download apps for your liver,
kidneys, lungs, and pancreas!"

Why measure economic benefits for alternative delivery arrangements



‘Shuffling the deck chairs on the titanic’





MONASH University
Medicine, Nursing and Health Sciences



Cabrini
Institute

Education
and Research

Prioritising promising alternative care delivery models for a more sustainable health care system:

a modified Delphi study

Polina Putrik

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Health System Sustainability
NHMRC Partnership Centre

Background

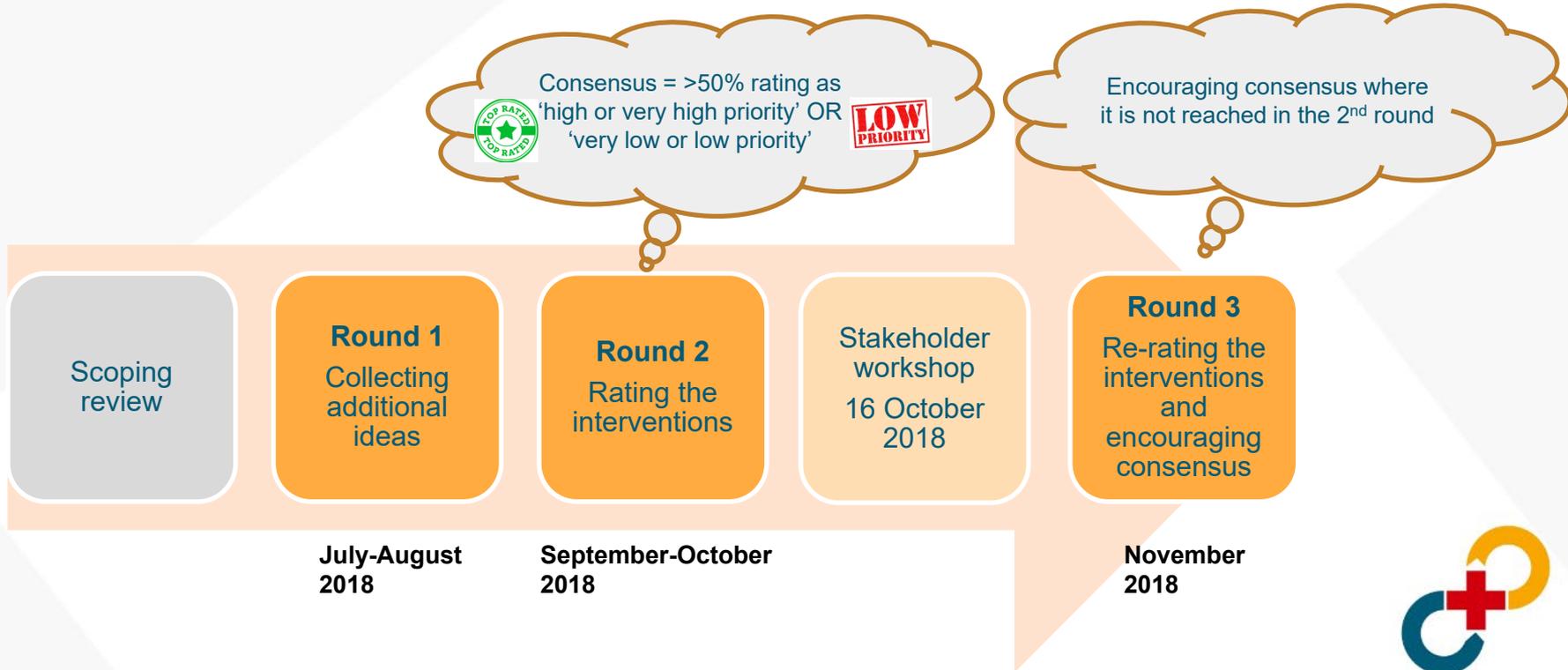
Scoping review of alternative care delivery models by Jessup et al.

84 models reported by 146 Cochrane reviews served as a basis for the Delphi process to answer the question:

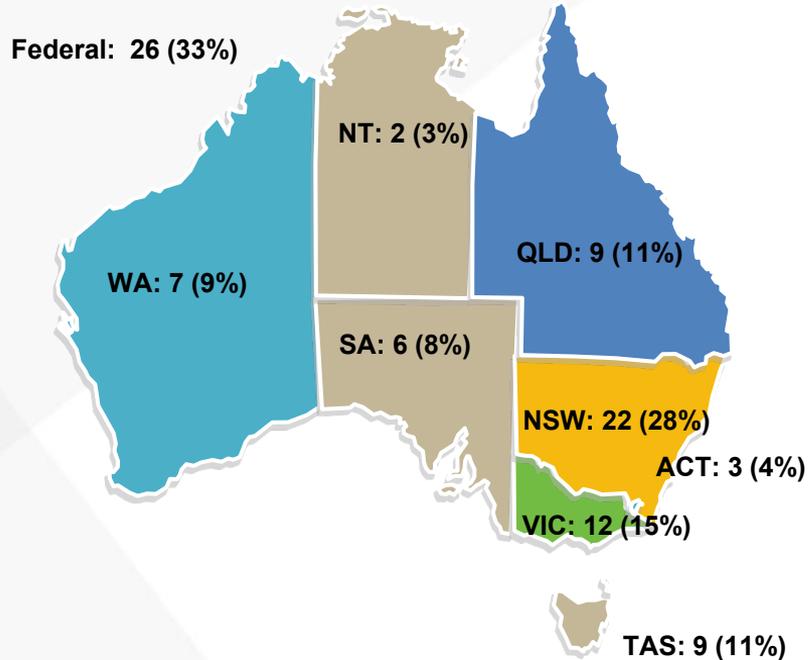
Which alternative delivery models should we consider for further research and implementation?



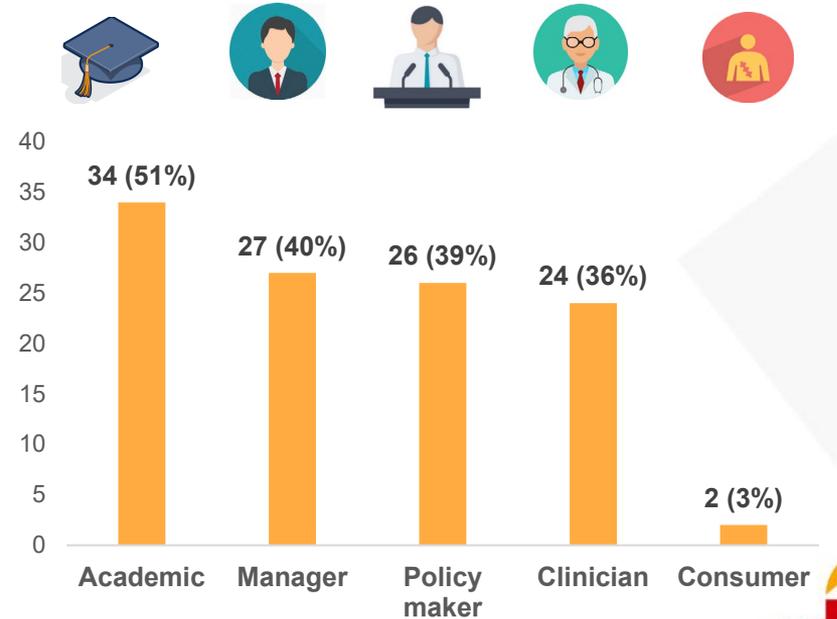
Structure of the Delphi study



Jurisdiction and expertise of Delphi panel (N = 82)



73 (89%) indicated senior level expertise



Round 1 results

256 suggestions → 106 Delphi items

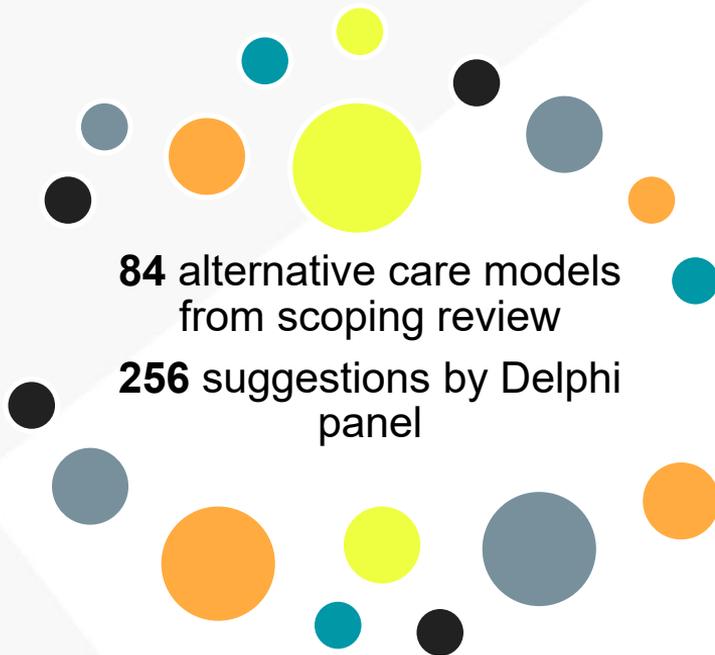
Original suggestion	Standard wording ('intervention' vs 'comparator' for 'population')	Check for evidence (SR or trial data available?)	Delphi item
Having the option to Birth on Country for Aboriginal & Torres Strait Islander women (Partic18)	Birth in the community vs inpatient for Aboriginal women	Trials ongoing	Birth in the community vs inpatient for aboriginal women
Maternity care in rural communities (Partic42)	Home and low volume vs regular hospitals for maternity care in rural communities	No SR or trials available	Birth in the community vs inpatient in rural communities

Final Delphi item:

Birth in the community vs inpatient for Aboriginal women and in rural communities



Round 2



84 alternative care models
from scoping review

256 suggestions by Delphi
panel



106 items to
be rated in
Round 2



Round 2 – layout

Please rate the priority of each option in terms of its potential to improve healthcare sustainability in Australia, e.g. rate as 'high priority' if you perceive this intervention to have the great potential when implemented

	Not a priority	Low	Medium	High	Highest priority	Don't know	Please provide a reason for your choice that will help inform other participants (optional)	I know examples of this intervention being implemented and agree to be contacted for details
1. Group care vs individual care for pregnant women, low intensity mental health services, chronic conditions management	<input type="radio"/>		<input type="radio"/>					
2. Centralised liaison coordinator vs usual practice to streamline access and flow to the correct pathway of care to reduce waiting times for in-patient, ED and out-patient services	<input type="radio"/>		<input type="radio"/>					
3. Patient initiated (self-booking) secondary care clinics vs pre-scheduled visits for patients with chronic or recurrent conditions	<input type="radio"/>		<input type="radio"/>					
4. Diverting appropriate allied health referrals from the tertiary to community setting vs usual care to improve access to community based allied health services	<input type="radio"/>		<input type="radio"/>					
5. 24/7 free telephone based nurse triage and advice services vs ED visits	<input type="radio"/>		<input type="radio"/>					
6. Electronic screening and triage vs usual care for management of pain, pre-surgical patients etc.	<input type="radio"/>		<input type="radio"/>					
7. Recall intervals (e.g., six month follow up) vs no recommended interval for tuberculosis appointments, dental visits, diabetes in pregnancy, consumer prompts for vaccination and STI screening	<input type="radio"/>		<input type="radio"/>					



Round 2 - ongoing

Current response 58 / 82 (71%)



Preliminary results



>80% of the panel rated as high or very high priority

Effective practice and organisation of care (EPOC) group	Alternative care delivery model
Where care is provided	Primary care (allied health and GPs) and hospital services (nurses and specialists) providing services or co-located in residential care facilities vs hospital (in- or out-patient) for elderly (e.g. IV antibiotics)
Coordination of care	Multidisciplinary care* (including allied health professionals) [single point access] vs usual care for depression, low back pain management, osteoarthritis, neonatal care, severe mental illness, children with asthma, other chronic conditions and patients with complex needs
Coordination of care	Collaboration between GP, hospital and nursing home vs usual care for the frail elderly residents of aged care facilities (to reduce ED presentations)
IT and communication	Telehealth* vs. usual care for direct patient care delivered by clinicians (e.g. physicians, OTs, speech pathologists) through online videoconferencing or telephone to support management of acute stroke, geriatric care, paediatric care, emergency and ICU support for rural and remote areas and for the delivery of oncology, dermatology, asthma, heart failure, maternity care, smoking cessation support, and contraception use counselling to all areas



Preliminary results



70-80% of the panel rated as high or very high priority

EPOC group	Intervention
Where care is provided	Early supported discharge and rehabilitation at home* vs in-patient stay
	Home vs in-patient chemotherapy for cancer patients
Coordination of care	Discharge planning* tailored to the individual patient
	Co-location of GP and community health centres and other health and social care providers (dentists, pharmacists) in one hub (eg. HealthOne) vs usual care
	Integrated care models* vs usual care
	Comprehensive geriatric assessment* / pre-surgical screening for frailty and post-operative delirium risk
	Continuity of care* (shared care and interdisciplinary teams)
	Care coordination* (e.g. in primary care for chronic disease, in acute care for people with complex needs, post-acute / long-term care coordination for patients in rehabilitation, between residential care facilities, GPs and hospitals, maternity care, children with chronic and complex problems)
Goal focused	Home support programs for carers of older people discharged from acute medical units to reduce carer's burden
	Preventing 30-day hospital readmissions* (e.g. telephone follow-up after discharge, specialised pharmacotherapeutic counselling, self-management focused education programs)
	Culturally competent care for chronic disease management* (diabetes, heart failure, COPD) for Aboriginal Australians and other ethnic minorities



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Preliminary results



50-70% of the panel rated as high or very high priority

Another 36 interventions were rated as high or very high priority by more than half of participants (=consensus)

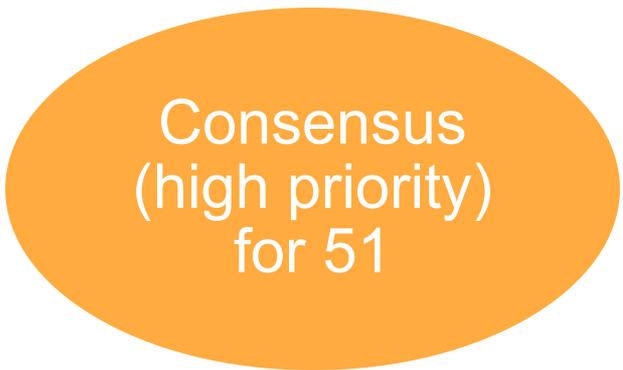
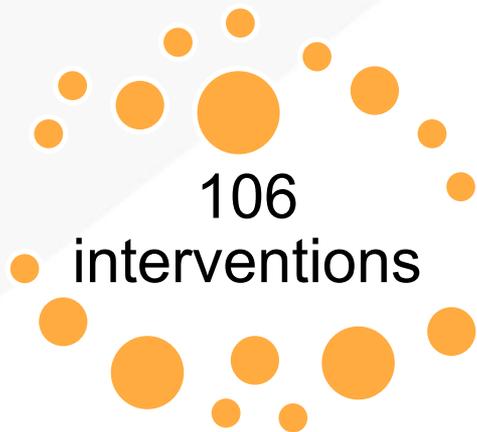


None of 106 had consensus to be of low priority



Preliminary results

>50% of the panel rated as high or very high priority



Summary of preliminary results Round 2

Strongest consensus around:

- Co-located primary health (GP/ allied health) care in residential facilities
- Multidisciplinary single point of access care
- Telehealth applications



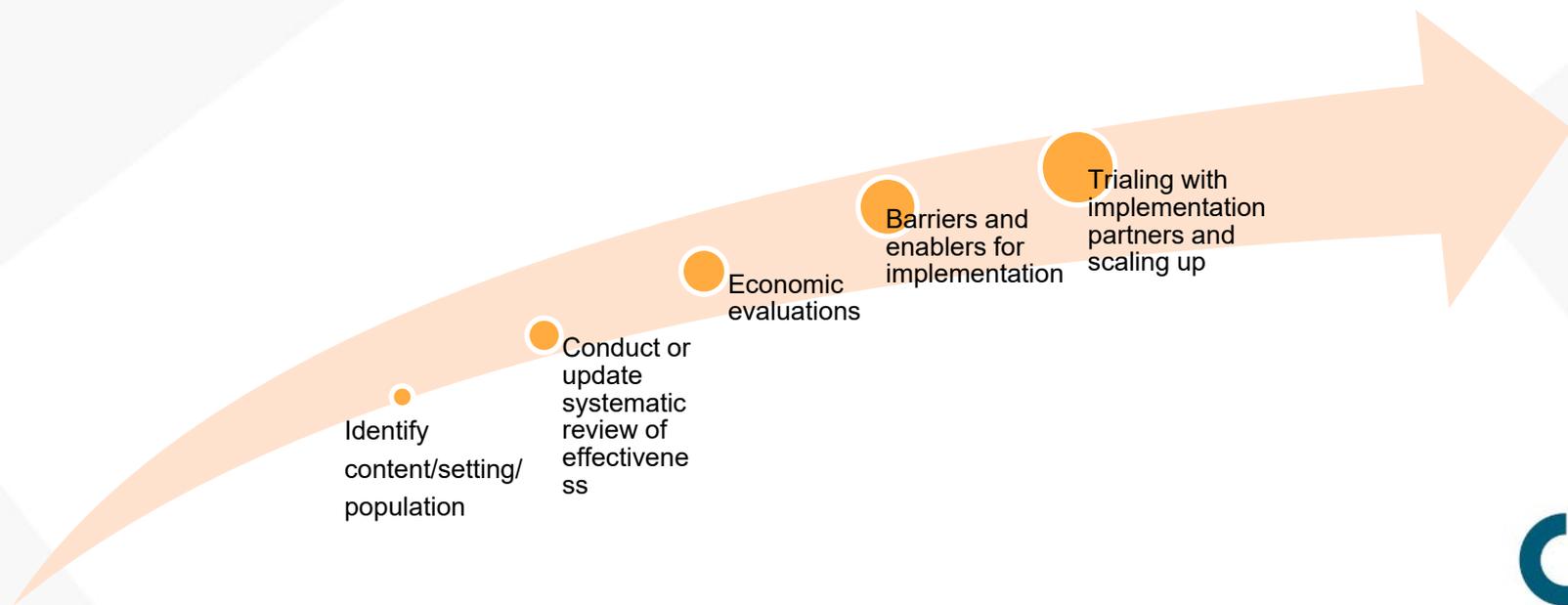
Summary of preliminary results Round 2

High priority for:

- Care at home (early supported discharge, chemotherapy, elderly patients)
- Geriatric screening
- Preventing hospitalisations
- Culturally competent care



Potential strategies for final set of delivery arrangements identified as highest priority (Years 2-5 of NHMRC partnership grant)



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