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E-PROCEEDINGS

HEALTH SERVICES RESEARCH IN THE DIGITAL AGE

13th Health Services Research Conference | 4-6 Dec 2024

Proceedings of the 13th Health Services and Policy Research Conference 4 - 6 December 2024.

The abstracts in these proceedings have been peer reviewed through processes administered by the Conference Scientific Committee. The Organisers thank the Scientific Committee members and all the reviewers across Australia and New Zealand for their contribution to HSR 2024.

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Wednesday 4th December

Plenary Session 1:

International Keynote: Looking Back and Looking Forward: HSR in the Rapidly-Evolving Technology Ecosystem. Professor Julia Adler-Milstein, University of California, San Francisco

Concurrent Session 1

Symposium 01: Using consumer and community engagement to maximise the value, uptake and sustainability of research (while watching out for traps in the digital age!)	**Session 1B:** Acute Care	**Session 1C:** Ageing and Aged Care	**Session 1D:** Pharmacy and Prescribing	**Session 1E:** Healthcare Implementation

Concurrent Session 2

Symposium 02: There must be a better way; establishing and evaluating an emergency department avoidance service for older people in Southern Adelaide	**Session 2B:** Data in Aged Care	**Session 2C:** Indigenous Health	**Session 2D:** ED and Hospital Care	**Session 2E:** Consumer Engagement and Co design

Concurrent Session 3

Symposium 03: The impact of out of pocket costs on the day-to-day lives of people living with chronic health conditions in Australia: lived experience research informing health policy	**Session 3B:** Integrated Care	**Session 3C:** Mental Health	**Session 3D:** Capacity Building and Education	**Session 3E:** PROMs, PREMs and Preferences

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Professor Melissa Baysari, The University of Sydney

Invited Speaker: Mind the Gap! Digitally-Enabled Health Care to Improve Access, Equity and Quality: Lessons from Rural and Regional Health Systems Research
Professor Sarah Larkins, James Cook University

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HCF Foundation	Australian Teletrials Program	LIGHTNING TALKS	LIGHTNING TALKS

Concurrent Session 5

Symposium 06:	**Session 5B:**	**Session 5C:**	**Session 5D:**	**Session 5E:**	**Sustainability Mini Symposium**
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Professor Mike Drummond, University of York in the United Kingdom

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Poster Presentations

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Acute Care
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Ageing
Cancer
Chronic Disease
Community Based Care
Consumer Engagement and Co-Design
Cutting Edge Methods
Diagnostic Medicine
Emergency Care
Indigenous Health
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Pre-clinical Research
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Rural and Remote Health

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DAY ONE

WED 4 DEC 2024

HEALTH SERVICES RESEARCH IN THE

DIGITAL AGE

International Keynote: Professor Julia Adler-Milstein, University of California, San Francisco

Looking Back and Looking Forward: HSR in the Rapidly-Evolving Technology Ecosystem

Dr Julia Adler-Milstein

Summary

In this keynote, Dr. Adler-Milstein will describe the unique research and research perspectives that exist at the intersection of health services research and clinical informatics. She will discuss the different eras of research as clinical technologies have evolved – beginning with electronic health records and interoperability, followed by the rapid of expansion of telemedicine in response to the COVID-19 pandemic, and now the explosion of AI and in particular Generative AI tools.

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Symposium 01: Using consumer and community engagement to maximise the value, uptake and sustainability of research (while watching out for traps in the digital age!)

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Using consumer and community engagement to shape decision-making in a multisite, regional study of mental health care navigation

Assoc Prof Zephanie Tyack[1], Ms Kelly McGrath[2], Ms Ruth Tulleners[1], Dr Eloise Hummell[1], Professor Steven McPhail[1,3], Professor Gregory Aarons[4], Professor Sarah Larkins[5], Professor Adrian Barnett[1], Mr Andrew Baron[2], Dr Hannah Carter[1], Dr Bridget Abell[1]
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Introduction: Consumer and community involvement has been identified as an implementation strategy influencing successful implementation and sustainability. Cycles of feeding back information from consumers and communities to stakeholders and decision-makers can assist with tailoring implementation to local contexts, improving implementation strategies, decision-making and planning, and selecting outcomes.
In 2023 we commenced evaluation of the sustained access to and scaling up of a co-designed mental health care navigation service in Central Queensland to three new sites, termed The Bridging Study. This presentation will focus on how consumer and community engagement has shaped decision-making at multiple levels and across multiple sites of the study.

Method: The Bridging Study is a multi-site, hybrid implementation-effectiveness study that uses a community-engaged implementation approach to consumer and community engagement. Processes include engaging consumers and communities in study activities prior to and during implementation, guided by the Exploration Preparation Implementation Sustainment (EPIS) framework. Activities include workshops conducted at each site, interviews, community consultations, site working group meetings, and consumer advisory group input. Data collected is analysed and fed back to the research team and communities to assist decision-making (for example, site selection).

Findings: The Bridging Study is ongoing, with one new site implemented. A further two new sites will be implemented in 2024. To date, consumer and community involvement has influenced the study design including selection of the primary outcome, decisions regarding site locations, and the design and tailoring of implementation strategies. The study approaches to consumer and community engagement and feedback of data for decision-making will be briefly discussed in light of other approaches like participatory action research and measurement-based care of clients.

Implications/Key Message: Valuing the voice of consumers and communities in research like The Bridging Study is resource intensive but has the potential to influence multiple outcomes and implementation success in different contexts.

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The CALD Health Engagement Project: understanding the importance and benefits of peer researchers and reciprocal engagement with communities

Dr Bridget Abell[1], Mercy Moraa Nyanchoga[2], Vicky Jacobson[3], Grace Edward[2], Faysel Ahmed Selat[2], Donata Sackey[3]
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Introduction/Background

The CALD COVID Health Engagement Project (CCHEP) was established to amplify the voice of Queensland's culturally and linguistically diverse (CALD) communities during the COVID-19 pandemic. A cross-sector, partnership-driven initiative, CCHEP aimed to reciprocally engage and empower communities, service providers and government to facilitate a successful pandemic response. This included working with community leaders to identify needs - supporting access to appropriate services and tailored resources, and building health system capacity. The project also supported community-led initiatives through an innovative flexi-funding model.

Method

A mixed-methods implementation evaluation underpinned by the RE-AIM Framework was performed to the examine the process, outcomes, and sustainability of CCHEP. Data collection included project and reporting data, social media and website analytics, semi-structured interviews, surveys, and implementation diaries. An experienced evaluator worked in collaboration with peer-researchers and community leaders to perform interviews and data collection. Qualitative content analysis, descriptive statistics, and triangulation of data from multiple sources were used to inform findings.

Results/Findings

Using this collaborative research process, the perspectives of diverse community members (n=113), community leaders (n=31) and organisational level stakeholders (n=49) were captured. The findings demonstrated multi-layered benefits to CCHEP's approach. CCHEP improved the reach, appropriateness, trustworthiness, and effectiveness of health information within CALD communities and contributed to better COVID-19 testing and vaccination outcomes. It empowered, valued, and remunerated leaders while strengthening partnerships and improving ways of working across health, community, and government sectors. Importantly, stakeholders demonstrated a clear impetus to sustain and replicate this type of engagement approach in the future.

Implications/Key Message

The evaluation highlights the importance of involving CALD communities in both the development of public health messaging and the research process itself to achieve meaningful impact. Importantly, sustainable and ongoing social and organizational infrastructure is required to support such engagement and communication with diverse communities in the future.

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Navigating the challenges of imposter participants in online qualitative research: lessons learned from a paediatric health services study

Miss Pakhi Sharma[1], Professor Steven McPhail[1,2], Associate Professor Sanjeewa Kularatna[1,3], Dr Sameera Senanayake[1,3], Associate Professor Bridget Abell[1]
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Background/Introduction

The growth in online qualitative research provides several advantages for health service researchers and participants, including convenience and extended geographic reach. However, it can also present unexpected challenges, including instances of participant fraud. This study describes an incident of participant fraud identified during online focus groups and interviews for a health services research project on paediatric neurodevelopmental care.

Method

We aimed to recruit carers of Australian children with neurodevelopmental disorders. Potential participants were recruited via a publicly available social media advert offering $50 AUD compensation. Those who expressed interest via email were sent a pre-interview Qualtrics survey to complete. We identified imposters at an early stage via inconsistencies in their self-reported geographical location and that captured by the survey as well as recognition of suspicious actions before, during and after focus groups and interviews.

Results/Findings

Interest in participation was unexpectedly high (n=254). We determined that all potential participants were likely imposters, posing as multiple individuals and using different IP addresses across Nigeria, Australia, and the United States. We characterised several "red flags" for identifying imposter participants, particularly those posing as multiple individuals. These comprise a combination of factors including large volumes of emails, unlikely demographic characteristics, short or vague interviews, a preference for nonvisual participation, and fixation on monetary compensation. Additionally, we propose several strategies to combat this issue including examining email and consent form patterns and comparing demographic data with regional statistics.

Implications/Key Message

The emergent risk of imposter participants is an important consideration for researchers using online qualitative methods. Methodological design choices intended to improve equity and access for the target population may unintentionally allow fraudulent actors unless appropriate risk mitigation strategies are also employed. Lessons learned from this experience are likely to be valuable for novice health service researchers involved in online focus groups and interviews.

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Setting up and operationalising a Consumers in Research Workgroup in a health services research centre, to embed consumers early in research and shape policy

Assoc Prof Zephanie Tyack[1], Ms Kristy Thomas[2], Ms Tina Chen[2], Mr Dan Kent[2], Professor Adrian Barnett[1], Ms Jo Preston[1], Ms Megan Campbell[1], Consumers in Research Workgroup[1]
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Introduction

Embedding consumers early in research has been identified as a key strategy to improve the relevance and quality of research, improve translation into policy and practice in real world settings, and reduce research waste. However, often the involvement of consumers is limited to the implementation stage of research or to the involvement of consumers as research participants rather than leaders. Our research centre aimed to improve the involvement of consumers in the early stages of research, for example, in the conceptualisation and planning stages, and to facilitate critical thought regarding the engagement of consumers as leaders in research.

Method

A Consumers in Research Workgroup consisting of 10 inaugural members (three consumer representatives and seven researchers) was formed in late 2022 to operationalise the aim. This presentation will focus on the activities of the workgroup since 2022, the impact of the workgroup on consumer engagement, future plans, and networks arising from the workgroup.

Findings

Activities of the workgroup have included developing a Consumers in Research Guide for researchers and an internal Consumers in Research Grant scheme. A register of organisations that can assist in recruiting consumers has been developed. Three education and training sessions co-led by our consumer representatives, involving 40 researchers, have been run. The objective of these sessions was to train researchers regarding consumer engagement early in their research when conceptualizing studies and grants. Further training is planned to address ethical aspects regarding consumer involvement in research.

Implications/Key Message

Valuing the leadership and skills of consumers in shaping research within a research centre has the potential to impact on the relevance and quality of research, research funding within the centre, and research policy more broadly through networks of the workgroup.

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Improving emergency department efficiency with the help of Assistants in Medicine

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Introduction/Background
The assistant in medicine (AiM) program is a New South Wales (NSW) Health initiative targeting emergency department (ED) overcrowding and medical workforce shortages. AiMs are final year medical students who are paired with ED physicians, assisting with non-clinical tasks with the aim of improving ED efficiency.

Method
An economic evaluation of a cohort of AiMs at the Calvary Mater hospital in Newcastle, NSW was conducted. The analysis used emergency department wait time and attendance data from a ten-week trial period 2022. The evaluation estimated the additional cost of the AiM shifts from the perspective of the hospital. Cost-effectiveness analysis determined the cost per minute change in patient waiting time, and the cost per additional patient seen for day and evening shift types.

Results/Findings
During the 10-week study period, the AiMs worked a total of 240 hours over 30 shifts, costing $10,240 in 2022 AUD. AiMs were present at 291 consultations. The primary analysis included registrars with four years' experience. The cost per additional patient seen was $132 for the evening shift, and $386 for day shifts. The cost per minute reduction in wait time was $15.30 for the day shifts and $19.60 for evening shifts. Budget impact analysis revealed that it would cost between $241,245 and $252,667 to employ two AiMs over one year; with between 584 and 2,029 additional patients seen per year. In sensitivity analysis, including data from less experienced registrars led to a reduction in the cost per additional patient seen.

Implications/Key Message
Our findings indicate that the assistant in medicine program may improve ED physician productivity, particularly when paired with less experienced registrars. These findings contribute to the growing body of evidence supporting the use of medical scribes in EDs; highlighting the possible benefits of more widespread use of AiMs to improve ED efficiency.

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An analysis of healthcare use associated with medical emergency team (MET) calls in four acute hospitals in southeast Queensland

Assoc Prof Chi Law[1], Prof Clint Douglas[2], Dr Sergey Alexeev[1], Prof Sandy Middleton[3,4], A/Prof Patrick Kelly[5], Prof Elizabeth McInnes[3,4], Dr John Rihari-Thomas[6], Prof Carol Windsor[2], Prof Rachael L Morton[1]
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Introduction
Provision of rapid response for early signs of clinical deterioration in hospital is critical for patient safety. Australia was an early adopter of the medical emergency team (MET) concept however the optimal composition of the responding team and its cost-effectiveness are unclear. Based on empirical data collected in the ENCORE randomized trial, this analysis examined healthcare use and costs of MET calls in acute hospitals.

Method
Four Metro North hospitals were included, two in urban and two in regional areas of southeast Queensland. Healthcare resources of MET calls consisted of staff and non-staff consumable components. The personnel composition of MET calls and equipment involved were collected from participant interviews and hospital procedure guidelines during the study period from Mar 2019 to Oct 2019. The average length of MET call was extracted from Metro North Hospital and Health Service. The economic value of MET call was estimated in 2023/24 Australian dollars.

Results
A total of 2,070 MET calls were recorded during the study period. The personnel composition of MET calls in all hospitals included a medical registrar, an intensive care registrar and intensive care nurse as core members, while urban hospitals involved an additional 2 to 6 junior doctors and nurses. The weighted average duration of a MET call was longer in urban hospitals (24-26 minutes) than in regional hospitals (18-21 minutes). The staff cost per MET call varied from $89 to $215. After adding all consumable expenses of $406, the total cost per MET call ranged between $495 and $621.

Implications
MET calls in urban hospitals involved a larger team, for a longer period of time and were subsequently more expensive than for regional hospitals. Further research is needed to determine the impact of MET call composition on staff work burden, quality of care, patient safety and overall cost-effectiveness.

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Observing work-as-done: insights into institutional work and digital systems in healthcare

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Introduction/Background

The drive to computerise work, often with the misperception that computerisation in and of itself will deliver benefit, has resulted in many digital health initiatives that have changed, but not necessarily improved, the work environment. Healthcare organisations are highly institutionalised and rich in complex social dynamics. Observing 'work-as-done' provides insights into how and why things work (or may not) but is often omitted or underused as an analysis technique. We undertook non-participant observations (NPOs) as the first step in an experience-based codesign approach to identify and design new or adapted models of Emergency Department (ED) care.

Method

Immersive, emic understanding of the care interface using non-participant observations (NPOs) in three Emergency Departments. Observer notes were thematically analysed.

Results/Findings

Over 200 hours of NPOs across three EDs. EDs worked over-capacity every day, compelling staff to move from a goal- to a task-focus that was oriented around the ED information system. While the system provided a central and shared repository to view information about all patients in the department, work to manage overcapacity was organised around computer interfaces rather than patients, and the interface was sometimes slow. Patients sometimes misconstrued this alternate focus as staff not caring about them. For staff, there can be a problem if the available information is relied upon to provide an accurate representation of the situation, as this may not always be the case.

Implications/Key Message

Failure to observe the way work is undertaken and the values and principles of those caring for patients, as well as the external expectations and pressures acting upon them, was illustrated in the use of the ED information system. Using this example, this presentation will describe institutional work, and the competing logics that cause tension between structure and agency.

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Measuring What Matters: What makes hospital nutrition and food services great quality?

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Background: National safety and quality standards required that hospitals measure and improve the quality of their nutrition and food services; however there is no consensus on what quality indicators to use (a recent scoping review identified 800+ quality indicators) and current datasets are not informed by consumer perspectives. This study aimed to explore what makes hospital nutrition and food services great quality to a range of different stakeholders, with the purpose of informing the development of quality indicators.

Methods: Eight focus groups were held in February-April 2024 with previous inpatients and caregivers (n=19), dietitians (n=10), food services staff (n=3) and other multidisciplinary health workers (n=6) from Australian adult and paediatric hospitals. Nominal group technique was used to generate ideas in response to the question: “What makes hospital nutrition and food services great quality”, followed by clarification, prioritisation and rating ideas. National and international hospital and nutrition standards, practice guidelines and evidence syntheses were located, with relevant statements about quality or measurement extracted. Inductive content analysis was undertaken by a team of two dietitians and two consumer researchers.

Results: A total of 343 unique ideas were generated: 216 from focus groups with an additional 127 from standards/guidelines. These were synthesised to 76 potential quality indicators across 7 categories: meals and menus, meal ordering, mealtimes, nutrition care process, staff, service planning and improvement, outcomes. Overall, quality was conceptualised as person-centred care encompassing principles of flexibility and choice, consideration of individual preferences and needs without judgement or restriction, empowering patients to be active partners, continuity and consistency of care, constant improvement, and health care teams working together.

Implications: Quality of nutrition and food services is person-centred and multi-dimensional. Ongoing research is underway to determine and define a core set of quality indicators for future testing and implementation.

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How often are patients recording their medical appointments and why? A national online mixed-methods survey in Australia

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Aims:
Recording of medical appointments has demonstrated benefits for both patients and healthcare professionals, however medical recording frequency and behaviours are largely unknown in Australia. This study aimed to capture data regarding medical appointment recording practices, including covert recordings, reasons for making, using, and sharing recordings (including via social media), and perspectives regarding implementation of consultation recording as part of routine care in Australia.

Methods:
A mixed-methods online national survey was developed comprising 21 quantitative and qualitative (open text) items to explore project aims. Quantitative data were analysed descriptively, and qualitative data analysed using content analysis.

Results:
A total of 236 responses were included for analysis. Of these, 26% (n=61) reported having previously recorded a medical appointment with permission, and a further 22% (n=51) had or knew someone who had made a recording secretly. Importantly, participants reported novel reasons for recording medical appointment including: to improve understanding for consent for medical procedures or clinical trials, or to overcome access barriers associated with disability. Participants overwhelmingly were against sharing recordings on social media, stating this to be a breach of trust and privacy. The majority 63% (n=122) of participants would consider recording a future visit and 56% (n=128) wanted their clinic to facilitate this service. Notably, questions about recording and the law were common.

Conclusions:
The results of this survey highlighted the breadth and scope of current medical recording practice in Australia, while also emphasising increased patient demand for recording to become part of standard care. Results also demonstrated the potential for consultation recording to reduce inequity in care and reduce or remove existing access barriers. More research will be needed to support clinics to implement patient ability to record medical appointments as part of standard care.

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Electronic standard order set use across a multi-hospital system: Identifying behavioural determinants of continuous and sustained use.

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Background
Standard order sets enable the systematic ordering of specific treatment, testing and investigative protocols. These tools may facilitate reductions in unwarranted clinical variation and improve healthcare efficiency. While routinely implemented as a functionality within Electronic Medical Records (EMR); relatively little is understood regarding their application and uptake within clinical practice. This study aimed to i) describe patterns of use of standard order sets (Cerner PowerPlans) within a multi-hospital digital healthcare system; and ii) explore physicians' perceptions of use and map these findings to a behavioural model (COM-B).

Method
This mixed methods design included quantitative data on PowerPlan use from five hospitals, captured over five-month intervals for three years (2019, 2020, 2021). Semi-structured qualitative interviews (n=15) were conducted and analysed using a reflexive approach. Interview themes were mapped to a theory-informed model of behaviour change (COM-B) to identify determinants of use in routine clinical practice.

Results
The total count of electronic standard order set use across the health system in the 2019 observation period was 267 253, which increased to 293 950 and 335 066 in 2020 and 2021, respectively. There was an overall change in the patterns of use toward specialty order sets that had received upgrades in the study period. There were four emergent themes related to order set use derived from clinician interviews: i) Knowledge and Skills; ii) Perceptions; iii) Technical Dependencies; and iv) Unintended Consequences which were mapped to the COM-B model. Overall customisation in response to local context and evolving user experience appeared as a key contributing factor to electronic standard order set uptake by the clinicians.

Conclusions
Study findings suggest ongoing investment in specialty order set development and functionality has the potential to improve their usage. However, sustained and continuous uptake may require implementation strategies associated with capability, opportunity, and motivational influencers of behaviour.

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Improving the Health of Older Adults in the ED Setting within and across Organizations

Dr Julia Adler-Milstein

Introduction/Background
The emergency department (ED) is a key setting for interventions designed to address the specific needs of older adults. This population accounts for a large proportion of ED visits and often presents with more complications and greater diagnostic uncertainty, leading to longer ED length of stay and higher rates of hospital admission. In addition, older adults often visit multiple EDs, resulting in a need to share information to ensure coordinated care.

Method
Using national healthcare claims data from the US, we assessed whether interoperability of healthcare records was associated with lower levels of repeat imaging and hospital utilization among older adults visiting two EDs within 30 days. We then conducted a separate analysis of an ED-focused intervention using a comprehensive geriatrics assessment to reduce likelihood of hospital admission from the ED.

Results/Findings
Electronic health information exchange (sharing of records between EDs) was not associated with lower levels of repeat imaging or hospital utilization among older adults with multiple ED visits. However, the ED-specific geriatrics intervention was associated with 14.4% lower likelihood of hospital admission from the ED, without longer ED length-of-stay or increased likelihood of return ED visits.

Implications/Key Message
Large-scale health IT infrastructure that supports electronic record sharing does not seem to be translating into improved care for older adults in the ED. More targeted interventions, particularly those employing known geriatrics care models, appear more promising in reducing hospital utilization in this population.

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Mobile point of care testing (PoCT) service using i-Stat analysers to support Residential Aged Care Facilities (RACFs) in Metro-South Health, Brisbane: a case study

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Introduction/Background

Comprehensive Aged Residents Emergency Partners in Assessment Care and Treatment (CAREPACT) is a program that supports RACF residents by providing access to specialist emergency care outside of hospital. Based at Princess Alexandra Hospital, the program covers the southside of Brisbane (population >1.2 million) servicing 102 RACFs. It is run by emergency department (ED) consultants (24/7) and clinical nurses (CNs) that visit the RACFs (8AM–5PM) and use i-Stat analysers for pathology PoCT, carried in specially outfitted kits with temperature monitoring devices.

Method

ED consultants assess residents by phone and send CNs to the RACFs to reduce avoidable ED presentations. The most common calls are for falls or deterioration (dehydration/infection/palliative care). Pathology Queensland provide i-Stat analyser training and ongoing competency for the CNs, supplies (quality assured cartridges/consumables), and the connectivity to capture results/quality data in the laboratory information system and electronic medical records via the POCcelerator middleware system.

Results/Findings

On average, there are 260 RACFs visits by CNs per month and in 20% of cases residents require pathology testing via i-Stat analysers (electrolytes, gases, creatinine, urea, glucose, lactate, troponin and PT INR). If further testing is required, samples are collected and delivered to the closest laboratory in the district (within 30 minutes). This alone saves 260 ambulance trips per month to hospitals plus 260 trips in returning the residents to the RACFs. More than 90% of residents do not require hospitalisation within 7 days following the CNs RACFs visit. Any ongoing management is then passed to the residents' general practitioner.

Implications/Key Message

The CAREPACT service, with use of well supported pathology PoCT testing, is providing: prompt evidence-based decisions for best resident outcomes; reducing stress on residents by allowing them to stay in a familiar environment; and decreasing ED presentations, admissions, and ambulance transport requirements.

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Unlocking the potential of Social Connections within Aged Care: An Implementation Evaluation of the Social Connection Toolkit

Assoc Prof Lucio Naccarella[1]
[1]The University Of Melbourne, Melbourne, Australia

Introduction/Background

Social isolation in residential aged care (RAC) is a priority. To assist RAC frontline staff to better understand RAC residents' social connections, a *Social Connection Toolkit (Toolkit)* was developed collaboratively between RAC facilities (Uniting Care and Salvation Army) and Swinburne University's Social Innovation Research Institute. An independent implementation evaluation of the *Toolkit* was conducted at four RAC facilities, focussed on: To what extent has the *Toolkit* been implemented as intended? and What contextual factors have influenced the *Toolkit's* implementation?

Method

The evaluation was informed by implementation science approaches and received ethics approval. Qualitative research methods were used: 1) reflections from *Toolkit's* Governance Committee Member meetings; 2) semi-structured interview with RAC staff (Facility Managers and Lifestyle Coordinators) at three time points: Pre-, During and Post-*Toolkit's* Implementation; and 3) observations during the *Toolkit's* implementation of RAC frontline staff using the *Toolkit* questions with residents.

Results/Findings

Evaluation data was obtained from: 6 Governance Committee meetings; 22 semi-structured RAC staff interviews; and 8 staff-resident observations. Readiness to implement the *Toolkit* existed. However, the clinically focused aged care reforms, increasing staff workloads and duplication of *Toolkit* social connections questions with existing RAC Assessment Tools led to staff implementation resistance. Key implementation contextual factors existed, within RAC (e.g., management support and resourcing; *Toolki*t value-add and champions; resident diversity, staff capacity) and external to RAC (e.g., alignment between new 'Aged Care Quality Standards' and increasing staff workloads).

Implications/Key Message

The *Toolkit's* implementation has clear strengths at a strategic (existing partnerships) and operational (staff commitments) level. Implementation readiness and contextual factors findings resonate with known factors influencing organisational readiness and implementation of innovations in general and specifically in aged care. To guide future implementation of social connection initiatives in aged care settings, a Social Connections Implementation Planning Framework is proposed with key implementation purposes, principles and foci.

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Understanding determinants of risk of frailty management in general practice to inform implementation strategies

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Introduction

Frailty, linked with unnecessary hospital admissions and emergency department visits, is associated with substantial health care costs. Frailty often remains undetected in primary care and recommendations are to build frailty identification and management into primary care workflows to support those patients identified as pre-frail and frail. Our early research has found that incorporating screening into the 75+ health assessment is a feasible and acceptable method for identifying risk of frailty in primary care, yet barriers exist to patients accessing risk of frailty management options. This study aimed to understand 1) determinants, and 2) inform strategies to implement risk of frailty management in primary care.

Methods

Using the FRAIL Scale Tool practice staff screened eligible patients (≥75 yrs) for the five frailty indices (fatigue, resistance, ambulation, illness, weight loss), referred to the associated management options, and recorded patient barriers. Semi-structured qualitative interviews were conducted with practice staff and patients to understand determinants to implementing risk of frailty management in primary care. Interview transcripts were coded deductively guided by CFIR. The thematic analysis informed ERIC implementation strategies.

Results

The Tool was implemented by 33 general practices. Pre-frail (n=277) and frail (n=103) patients were predominantly referred for exercise interventions, medication reviews, and depression assessment. Qualitative interviews were conducted with 15 participants (n=13 practice staff, n=2 patient). Determinants of risk of frailty management implementation are related to knowledge and information about available resources, and partnerships and connection with allied health. Barriers to uptake by innovation recipients are health, cost, access, motivation, and acceptance of current state. Key implementation strategies identified are to access new funding, develop and distribute resource materials, and promote networking with local allied health.

Implications

Identification of determinants of risk of frailty management will inform implementation strategies for primary care to support patients to reverse or reduce frailty risk.

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In-home respite needs and preferences of people living with dementia and their carers

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Background

Dementia in-home respite is a way to support family carers to have a break in their caring role to sustain and support the caring relationship. Our study aimed to inform the implementation and delivery of the in-home respite service by integrating the perspectives, wishes, and experiences of consumers into the program.

Method

This interpretivist exploratory qualitative case study used focus groups, interviews and field notes with consumers; people living with dementia (PLWD) and their carers. Data collection involved three locations: Toowoomba, Gold Coast and Beaudesert in South-East Queensland. Analysis was informed by the Consolidated Framework for Implementation Research. Flexibility was in-built into the data collection process, with interviews being offered over the phone, on zoom and face to face in a place of their choosing, with or without audio recording.

Findings

11 family carers and 4 PLWD participated in the study. Four key themes emerged. 1. Give me a break. Family carers are tired, stressed and in desperate need of a break. 2. Enabling and hearing their voice. Consumers want to be heard, empowered, and have their autonomy and preferences supported and respected, including staff and times of services. 3. Family carers need safety, rapport, and trust. They wanted to be able to trust respite staff and the organisation. They wanted respite staff who displayed qualities of empathy, respect and could be matched with clients' interests and personality.4. Family carers want to understand administration and costs. They were concerned and frustrated about both the costs and inconsistent processes involved in accessing the service.

Key Message

PLWD and their carers are able and willing to be engaged in research, but researchers need to continually critically reflect and develop approaches that foster inclusion to enrich findings and guide design of health services with the voices of consumers/end-users' perspectives at the fore.

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Assessing quality of life and quality of care experience in Australian residential aged care: a retrospective cohort study

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Introduction/Background

In April 2023, quality of life (QOL) and quality of care experience (QCE) were introduced as mandatory indicators in Australian residential aged care facilities (RACFs) to measure wellbeing and consumer experience, respectively. In this study, we used data for the initial four months after their introduction to describe QOL and QCE scores, explore related factors and assess variations by completion mode and RACFs.

Method

A retrospective cohort study involving 1,772 residents across 22 Sydney-based RACFs was conducted. QOL was measured by the Quality of Life-Aged Care Consumer (QOL-ACC) scale, and QCE by the Quality of Care Experience-Aged Care Consumer (QCE-ACC) scale, both through three completion modes: self, interviewer-facilitated and proxy completion. We used propensity score matching to compare differences in QOL/QCE by completion mode; multilevel ordinal logistic regression to investigate related factors of QOL/QCE; and funnel plots to explore scores variation by facility.

Results/Findings

Of the 1,772 residents, 1706 completed the QOL-ACC survey and 1,686 completed the QCE-ACC. The median score was 21 (interquartile range 18–24) for QOL and 23 (interquartile range 20–24) for QCE, both indicating ‘excellent’ outcomes. The leisure activities component of QOL, and social relationships and complaint lodging of QCE, were rated relatively lower than other dimensions. The scores of both indicators were significantly higher for self-completion *versus* other completion modes. Significant variations in QOL and QCE scores by RACFs were also observed. Longer lengths of stay and fall history were associated with lower QOL, while visual impairment and fall history were associated with lower QCE.

Implications/Key Message

We found high QOL and QCE in the 22 Australian RACFs. Improving residents’ leisure activities and social relationships, as well as addressing needs of residents with longer lengths of stay, visual impairment and a history of falls, may enhance QOL and QCE.

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“Just make them easier”: stakeholders’ perceptions of medication management reviews in residential aged care

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Introduction

Poor medication management is a critical and intractable problem in residential aged care (RAC). Pharmacist-led medication reviews can reduce medication-related problems in RAC residents; however, their uptake is low despite the availability of a government-funded residential medication management review (RMMR) service. This study explored stakeholders' perceptions of RMMRs and the potential role of digital systems.

Method

We conducted three focus groups and 13 individual interviews with stakeholders (six consumers, three RAC staff, six pharmacists and five prescribers) involved in RMMRs. We explored current processes, perceived challenges and opportunities, and suggestions for a digital tool to support RMMR delivery. Verbatim transcripts from the focus groups and interviews were inductively coded and thematically analysed.

Results

All stakeholders valued medication reviews in RACs. Despite a strong desire for involvement, consumers reported lacking adequate knowledge and opportunities for effective engagement in the RMMR services. Healthcare providers identified several challenges in the current RMMRs: a fragmented process (resulting from siloed role perceptions among providers and a lack of interoperability between existing digital systems), ineffective collaboration between healthcare providers, and limited provider capacity (including lack of awareness and time constraints). The key enablers discussed were strengthening professional collaboration, particularly GP-pharmacist communication, integrating digital systems, educating GPs, training pharmacists in holistic RMMRs, and facilitating consumer engagement. For a digital tool aimed at facilitating RMMRs, stakeholders suggested features such as initiating referrals, managing consent, viewing progress, outcomes and reports, and integrating with RAC clinical and medication management systems for efficient information sharing.

Implications

RAC consumers and healthcare providers share positive beliefs about RMMR services. However, the fragmented state of digital systems and a range of socio-organizational environmental factors in RACs hinder the delivery of effective medication review services. An integrated digital tool, accessible to all stakeholders, could streamline the RMMR process and enhance outcomes for RAC residents.

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Session 1D: Pharmacy and Prescribing

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Extended pharmacist services: The service user viewpoint

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Introduction/Background: The role of pharmacists is moving from focusing on dispensing medicines to greater emphasis on using patient-interfacing clinical skills. In Aotearoa (New Zealand), this includes new services in community pharmacies (e.g., vaccinations) and 'practice pharmacists' working in or across general practices to offer patient-focused care (e.g., medicines management), as well as providing medicines information for other health professionals, and supporting quality prescribing. While extended pharmacist roles may be important for professional satisfaction and workforce retention, there has been little attention to service users' perceptions of these changes.

Method: Two projects were conducted into the delivery of extended pharmacist services in 1) community pharmacies and 2) general practices. Both projects included cases studies including interviews with service users to understand their experience of extended pharmacist services: 21 interviews with users of extended community pharmacy services and seven interviews with people who had undergone a consultation with a practice pharmacist. Interviews were audio-recorded, transcribed verbatim, coded and analysed thematically.

Results/Findings: Key themes were similar across both sets of data. 1) Service users' initial understanding of pharmacists' skills is often limited but grows with experience of their services. 2) Service users have mixed awareness of the extended services pharmacists offer. 3) Having a comfortable relationship and trust in a pharmacist is important for service users. 4) Service users appreciate convenience and choice of service location. 5) Charges for pharmacist services may be acceptable to some service users but a barrier to access for others.

Key Messages: Greater and more effective promotion of extended pharmacist services could facilitate service user uptake which is necessary for increasing access to health care and reducing inequity in health outcomes. Having a positive relationship with a pharmacist is important for service users. It is essential to consider the implications of service charges on equitable access to services.

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Sex differences in initiation and discontinuation of secondary prevention medications after stroke

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Introduction/Background

Women more frequently leave hospital following a stroke without recommended secondary prevention medications than men. It is unclear if these sex differences in medication dispensing persist in the community. We aimed to evaluate sex differences in medication initiation and discontinuation up to 2-years post-stroke.

Method

Cohort study design using person-level linked data from the Australian Stroke Clinical Registry (42 hospitals; Victoria and Queensland; 2012–2016). We included all adults with first-ever ischaemic stroke, intracerebral haemorrhage, or transient ischemic attack (TIA) who survived to 60 days post-discharge. Incident use of medications (antihypertensive, antithrombotic, and lipid-lowering) was determined from Pharmaceutical Benefits Scheme dispensing records within 60 days post-discharge. Medication discontinuation was defined as having a gap in supply for ≥60 days in the 2-year period post-discharge. Sex differences in medication initiation and discontinuation were investigated using multivariable models, adjusted for covariates (socio-demographics, clinical factors, and comorbidities). Where effect modification between age and sex was found ($P_{interaction} \leq 0.05$), age-specific estimates were generated using restricted cubic splines.

Results/Findings

Among 8,108 women (median age 74.3 years) and 10,344 men (median age 70.5 years) with first-ever stroke or TIA, women had a lesser odds of initiating antihypertensive (odds ratio [OR]: 0.76, 95% CI: 0.69–0.84) and antithrombotic (OR: 0.89, 95% CI: 0.82–0.96) medications. However, initiation of lipid-lowering medications was similar by sex. For medication discontinuation, there were age-specific sex differences in discontinuation ($P_{interaction} \leq 0.002$), whereby younger women (aged <40 years) and older women (aged 85+ years) were more likely to discontinue each medication than men of equivalent age.

Implications/Key Message

We found sex differences for initiation of antihypertensive and antithrombotic medications post-stroke, and patterns of medication discontinuation that were age and sex specific. Interventions targeted by age and sex may result in more equitable provision of secondary prevention medications post-stroke.

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Mandatory Biologic-Biosimilar Switching in British Columbia, Canada, Did Not Result in Unintended Increases in Other Types of Healthcare Resource Utilization

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Introduction/Background

Biosimilars, cheaper versions of highly effective but costly biologics, offer substantial cost-savings to payers, however uptake has been slow. In response, in 2019 British Columbia (BC) launched a mandatory switching policy for inflammatory skin (ISD), joint (IJD) and bowel (IBD) diseases. One major concern, however, was that switching might lead to increases in other healthcare resource utilization (HCRU), offsetting savings. We investigate changes in HCRU and costs (excluding biologic/biosimilar drug-acquisition costs) associated with this policy.

Method

We use a cohort of individuals with IBD, IJD and ISD from population-based, administrative databases (Population Data BC) 2015-2021, and included those using an originator version of adalimumab, etanercept, or infliximab biologics prior to the mandatory switch policy. Policy implementation dates were disease and drug specific. We use interrupted time series using segmented regression to assess the pre- and post-switch trend by treatment and cohort on total HCRU related costs.

Results/Findings

We identified 6972, 7060, and 2861 patients with IBD, IJD, and ISD, respectively. The largest component of non-biologic/biosimilar costs were hospitalizations and physician visits. There were no statistically significant changes from the underlying trend in utilization for physician visits, hospital admissions, or emergency visits following the policy switches, but small statistically significant changes in concomitant medication utilization which varied between diseases; level increases in IBD ($3.10, 95%CI: $1.00, $5.20) and IJD $0.63 (95%CI: $0.14, $1.11) but decreases in ISD (-$0.82 (95%CI: -$1.09, -$0.55), and monthly trends increases of $0.07-0.08 in IJD and ISD. There were no statistically significant changes in total non-biologic/biosimilar HCRU costs due to switching.

Implications/Key Message

Concerns about biosimilar switch policies creating increases in other HCRU were unfounded in IBD, IJD, and ISD patients in BC. Policy makers in other jurisdictions can be reassured that savings from mandatory switching polices will not be offset by increases in other HCRU.

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Use of potentially inappropriate psychotropic medicines among older adults in 23 residential aged care facilities in Australia: a retrospective cohort study

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Background:
Psychotropic medications are frequently utilised in residential aged care facilities (RACFs). This study aimed to determine the prevalence and predictors of potentially inappropriate psychotropic medicines (PIPMs) use, assess variation in PIPMs use by facility and measure the extent of exposure to PIPMs in RACFs.

Methods: We conducted a retrospective study using routinely collected electronic data (2020-2021) relating to permanent residents aged ≥65 years from 23 RACFs in Sydney. The prevalence of PIPMs use was estimated using Beers criteria 2023 and modelling was used to determine factors associated with PIPM use. Funnel plots visualised variation in PIPMs use across facilities. The extent of exposure to PIPMs was measured by PIPM-days and Proportion of Days Covered (PDC) by PIPMs.

Results: In total 40% (n=1224) residents used at least one PIPM and 10% (n= 302) used ≥ 2. The most frequently used PIPMs categories were benzodiazepines and Z-drugs (27.4%), followed by first and second-generation antipsychotics (17.2%). Certain diagnoses were associated with the increased use of PIPMs. For example, residents with dementia were 1.94 times more likely to use ≥ 2 PIPMs (OR 1.94; 95% CI 1.50-2.51). The prevalence of at least one PIPMs by residents in each facility ranged from 23.3% to 57.0% across facilities. The overall median PDC by at least one PIPM was 39.3% (IQR 2.6-86.6%).

Key Message: Residents in aged care facilities showed a high rate of PIPMs use with substantial variation across facilities. Quality improvement initiatives which target inappropriate psychotropic medication use are necessary, particularly considering the link between PIPM use and adverse events such as falls.

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Adapting implementation theory to support pragmatic co-design of informatics demand management processes in a large metropolitan health service

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Background

Health services are encountering rising demand for digital technologies, which requires them to establish processes on how to make contextually relevant and evidence-based selection of projects to pursue. This study presents how application of Experienced-Based Co-Design (EBCD) principles, integrated with the Non-adoption, Abandonment, Scale-up, Spread, Sustainability (NASSS) framework can enhance digital health demand management processes in a multi-hospital healthcare system. The study identified barriers and enablers within the existing demand management system, proposed interventions to address these challenges, and engaged in collaborative co-design with stakeholders.

Methods

A multi-method qualitative approach aligning with EBCD principles was employed. The NASSS framework was adapted to create a theoretically informed co-design process (with 10 key stakeholders) tailored to the pragmatic context of digital health and informatics. This framework analysis was used to examine barriers and enablers associated with baseline practices. Reflexive thematic mapping and process charts guided stakeholder priorities and the co-design process. Prototyping was iterative, incorporating continuous feedback for ongoing improvement and monitoring.

Results

Technological barriers included information fragmentation, while organizational barriers encompassed decentralized processes and service duplication. Opportunities for a clear governance policy was also identified. Stakeholders co-generated and prioritized solutions. The co-design and prototyping phase followed an iterative approach, resulting in two key interventions. A new workflow process was devised to centralize intake and management, and a single tool with a weighted scoring model was created to track projects across their lifecycle and improve project portfolio visibility.

Conclusions and implications

By adapting the NASSS framework to inform the EBCD approach, this study demonstrates how a theoretically grounded co-design process can be effectively applied in a pragmatic digital health context within a large health system. This integration underscores the value and flexibility of combining NASSS with EBCD to generate modular solutions, providing a robust comparison to analogous methods.

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Designing an acute hospital fall prevention program

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Introduction

Falls in hospitals continue to burden patients, staff and health systems. Prevention approaches are varied and have varied success at preventing falls. While multifactorial approaches and patient education have shown positive results in subacute settings, large trials of multifactorial interventions in acute settings have proven ineffective. We aimed to design an evidence-informed acute hospital fall prevention program which reflects the diverse needs and challenges in acute hospitals.

Method

Three projects informed the design of a fall prevention program: an Intervention Component Analysis (ICA) of 37 hospital fall prevention trials, a qualitative study with 50 hospital staff and patients, and a feasibility study with four acute hospital wards. The feasibility study involved fall prevention education and quality improvement (QI) coaching to groups of multidisciplinary ward staff. Ward staff were invited to complete pre- and post-implementation surveys and post-implementation interviews.

Results

ICA: Contextually tailored approaches and involving ward staff, patient and family in fall prevention emerged as features that may impact the effectiveness of fall prevention interventions.

Qualitative study: Three themes were identified as affecting the implementation of hospital fall prevention programs: 1) Fall prevention is a priority, but whose?, 2) Disempowered stakeholders, 3) Shared responsibility may be a solution.

Feasibility study: 97 surveys and 14 interviews revealed staff perceived barriers to implementing hospital fall prevention, including: competing demands on clinician time, poor staff confidence and understanding of effective fall prevention, and difficulty facilitating broad buy-in. Facilitators included: utilising local falls data, access to fall prevention resources and education, multidisciplinary approaches, and harnessing accountability.

Implications

These projects have informed the PROTECT Fall Prevention Program. PROTECT will provide wards with 16 weeks of supported implementation (via QI coaching) of tailored fall prevention interventions informed by local needs analyses. The program will be evaluated in a stepped wedge trial.

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A qualitative framework for understanding and prioritizing implementation principles in practice

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Introduction/Background

Implementing complex healthcare interventions such as computerized clinical decision support systems (CDSS) require careful planning and execution. Theory-informed strategies can optimize resources and outcomes, but these theories are often not clearly connected to implementation strategies. Informal theory also impacts practice but is often overlooked. Making both formal and informal theories explicit is crucial. Key implementation principles can guide practice, but little is known about what affects their prioritization and application. This study proposes and explores a set of implementation principles derived from prior research to guide the practice of implementing complex interventions such as CDSS in healthcare settings.

Method

This study used online discussion groups to explore implementing principles for complex healthcare interventions like CDSS. Groups of four to five experts in implementation science, health services research, and digital health discussed and prioritized principles derived from prior research, with ethical approval and informed consent. Transcripts were analyzed using a six-step framework analysis method.

Results/Findings

Three discussion groups were conducted with an average duration of 1 hour and 17 minutes involving eleven participants, including digital health researchers, implementation scientists, and health services researchers. There were five key principles identified through qualitative analysis: 1) co-creating and revisiting shared purpose, 2) engaging and embedding in and within context, 3) organizations must invest in long-term building of implementation capacity, 4) incorporating feedback and reflection throughout implementation and 5) building awareness of the impact of the wider system. Two case studies are presented from the discussion groups on the considerations required when prioritizing implementation principles in practice.

Implications/Key Message

Articulating implementation principles assists practitioners in designing effective strategies and allocating resources efficiently. Policymakers can use these findings to create supportive policies for coherent healthcare systems. This study lays the groundwork for further research on successful implementation determinants, allowing future research to refine and apply these principles in various contexts.

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Evaluating health service interventions to improve access to hospital care: searching for meaning and consistency

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Introduction/Background

Australian public hospitals are under increasing pressure. Patients are waiting longer to receive care in Emergency Departments (EDs) and to access inpatient care. Many new services have been implemented, the main foci being ED demand and access to inpatient beds. Evaluation is difficult because spillover effects are important, e.g., an intervention providing an alternative to EDs improves access for people who continue to present at EDs.

Method

A discrete event simulation (DES) model was developed to model counterfactual hospital activity and outcomes. To illustrate, the model represents the observed presentation of patients at an ED following the implementation of an intervention to reduce ED demand, and their subsequent discharge from the ED to home or to an inpatient bed. The order in which patients access inpatient beds as they become available is calibrated to the observed distribution of time waiting for an inpatient bed. The model is then re-analysed adding in patients whom the intervention is estimated to have provided an alternative to the ED. Estimated differences in time waiting for urgent care inform patient outcome and cost effects.

Results/Findings

A DES model representing ED presentations and discharges to home or an inpatient bed has been developed. The model has been analysed using observed hospital activity data. Data from the South Australian Virtual Care Service is being analysed to estimate the number and type of patients whom the intervention is estimated to have provided an alternative to the ED to inform the counterfactual analysis of the DES model.

Implications/Key Message

The generation of meaningful and comparable outcome effects for interventions to reduce ED demand and access block is a major challenge. A relatively simple simulation model facilitates the consistent representation of the counterfactual effects of such interventions, which should better inform service design and funding decisions.

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From theory to practice: navigating change management in hospital redevelopment projects

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Introduction/Background

Following the COVID-19 pandemic, the integration of virtual care as part of healthcare delivery in hospitals constituted a major component of health redevelopment projects nationally. However, despite the abundance of change management methodologies, evidence of their application in hospital redevelopment projects that involve virtual care is lacking, highlighting a key challenge in managing the implementation of technology alongside the people/processes side of change. To identify implementation challenges and areas for enhanced support, we sought to capture the experiences of change managers in various hospital redevelopment projects with a virtual care component across one Australian state.

Method

Qualitative semi-structured interviews were conducted online using Microsoft Teams to capture the views of 30 change managers and leads with varying levels of experience, project scope, and rurality. The framework method was used to synthesise findings where inductive themes were mapped into the redevelopment agency's Change Management Framework. Any additional categories that emerged from the data and were relevant to the study objectives were included in the reported results.

Results/Findings

Five key themes were developed from the data and were mapped into the selected framework: 1) Planning for change, 2) Doing the change, 3) Change management orientation and support, 4) Skills and expertise of successful change managers, and 5) Sustaining and reinforcing the change. These findings informed the development and co-design of a Change Scorecard to be used by leaders and stakeholders to facilitate change monitoring and identify areas for support.

Implications/Key Message

Misalignment between the change and project processes was a major challenge in effectively managing change in hospital redevelopment projects. Thus, a dedicated tool to facilitate change monitoring and identify areas for improved support throughout the change process was established as a key enabler to successfully manage both the technological aspects and the people/processes side of change in hospital redevelopment projects.

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Implementation of demand management interventions at scale: Statewide scale up of an intervention to improve timely access in community health services

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Introduction/Background

Making connections between evidence, policy and practice is challenging. Facing growing demand and ever-increasing waiting lists in community health services in Victoria, the Victorian Department commissioned a review of demand management policies resulting in the production the Victorian Department of Health Demand Management Toolkit for community health services. The toolkit drew largely on evidence derived from work by Harding and colleagues, who were subsequently commissioned to provide a program of support for implementation of the policy into practice. This project aims to evaluate the impact of the policy and associated implementation support strategies on timely access to Victoria’s 78 community health services.

Method

The implementation of the Demand Management Toolkit was supported by a series of workshops to train community health providers in evidence-based approaches to demand management, online resources including a web-based community of practice, a freely available handbook, and direct assistance to undertake waiting list audits. Participants who engaged in workshops were asked to provide data about their service waiting lists at baseline and after 6 months, with quantitative data supplemented by qualitative interviews in order to evaluate the impact of the implementation strategies. The evaluation is guided by the RE-AIM framework.

Results/Findings

This presentation will report on the reach of the program, and provide early insights into its effectiveness in reducing waiting lists, as well as describing experiences of implementation for the first services to engage in the training.

Implications/Key Message

This project provides a rare opportunity to evaluate the impact of research evidence at scale, when integrated into government policy with active implementation support. Early findings, delivered “hot off the press” at HSR2024, will provide insights into how interventions that reduce healthcare waiting times in trial settings translate to real-world environments.

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Symposium 02: There must be a better way; establishing and evaluating an emergency department avoidance service for older people in Southern Adelaide

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Establishing an emergency department avoidance service for older people in Adelaide, South Australia

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Background

Australia's emergency departments (ED) are under pressure. Older Australians disproportionately present to ED for non-emergency care needs compared with other age groups. To relieve pressures placed on ED, the Southern Adelaide Local Health Network together with SA Ambulance Service (SAAS) established the Complex and RestorativE (CARE) service to transform how non-emergency care is delivered to older people. This presentation will give background to the establishment of the CARE service and the initial evaluation of its reach and acceptability.

Method

CARE was established in September 2021. The CARE service has six treatment spaces, and an outreach service. Older people who called the SAAS for non-emergency help are offered access to this service as an alternative to an ED. The CARE evaluation took place between September 2021 and March 2023. Routinely collected clinical data were analyzed to explore the reach of the service. 17 patients and 15 relatives participated in semi-structured interviews to explore the acceptability of the service. Interview data analysis was performed using a six-step thematic analysis.

Results/Findings

A total of 2494 referrals were seen by the CARE service during the evaluation period. Most patients were discharged to their regular place of residence, with few requiring inpatient admissions. 7% of patients required transfer to ED. Patients accessed the CARE service for several reasons, the most common was falls (n=1068, 42.8%). All interviewed individuals preferred the CARE service over the traditional ED. Reasons for this were: quieter and safer environment, and specially trained geriatric staff who were less rushed than ED staff.

Implications

The CARE service is a feasible and safe alternative model of urgent care for older people. Our experiences of service set-up and evaluation can be used to inform the establishment of other urgent care services for this population group.

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“I want to be treated as a person”: Consumer consultation workshops about older people’s needs and preferences for urgent care services

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Background Older people are disproportionally represented in emergency departments (ED). Many of these presentations are for non-life-threatening ailments that could be attended to elsewhere. Urgent care services have been established to relief ED pressures. They could be better suited for older people in urgent, but non-life-threatening situations. Little is known about what older people want when accessing urgent care services. This study aimed to understand the needs and preferences of older people when accessing urgent care, and what an ideal journey through an urgent service would look like.

Methods We partnered with Council on the Ageing in South Australia and held three consumer workshops. The workshops consisted of ‘World Café’ style discussions and ‘voting’ to determine older people’s needs and preferences for urgent care. Primary analysis was completed using a framework analysis approach. Older people aged 65 and over or a family member or carer living in the Southern Adelaide catchment area were eligible to participate.

Results 39 individuals participated in this study. Most participants were female (n=24, 62%), born in Australia (n= 26, 67%) and only spoke English at home (n=36, 92%). Most of the participants had previous experience with ED (n=33, 85%). Four themes emerged from the workshops. These were 1) accessible and responsive, 2) age appropriate with expert care, 3) listen to me, my story and, 4) safe and well-planned discharge. The participants felt that more information is needed about what urgent care services outside of ED are available and how they operate.

Implications This study has laid the foundation for needs and preferences of older people when accessing urgent care services. The findings from this study can be used to inform larger scale studies to investigate if these priorities are identified across Australia, and used towards designing and planning urgent care services for this population group.

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Investigating older people's preferences for an urgent care service: a discrete choice experiment

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Introduction/Background

Older people are over-represented in Emergency Departments (ED). ED admission avoidance programs, such as urgent care services, offer potentially favourable alternatives for older people. Little is known about the needs and preferences of older people concerning these alternative models of urgent care. This study aimed to identify older people's preferences for key characteristics of an urgent care service as an alternative to ED presentation using discrete choice experiment (DCE) methods.

Method

Attributes and levels for the DCE were informed by consultation with older people with recent ED experience and medical professional interviews. Attributes included waiting time for ED admission, knowledge and training of medical professionals, the extent of holistic treatment provided, how the physical environment was designed to support older people, and the level of follow-up care received. The DCE was embedded within a larger survey to assess older people's views and preferences for alternative models of emergency and urgent care. Data were analysed using conditional and mixed logit regressions.

Results/Findings

A total of 995 older people fully completed the DCE. The strongest relative importance was attached to an urgent care service with reduced waiting times (within 2 hours of calling triple zero), followed by specialized medical professionals trained in caring for older people, holistic support and regular updates, physical environment to support older people, and a comprehensive discharge summary and follow-up. All these attribute levels were highly statistically significant ($p<0.001$) in influencing preferences for the total sample and by subgroups reflecting key socio-demographic characteristics and emergency care experience.

Implications/Key Message

We have identified older people's preferences for key characteristics of an urgent care service as an alternative to ED presentation. These findings can be used to inform policymakers and practitioners in the design and configuration of an optimal urgent care service model from the perspective of older people.

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Aboriginal perspectives on a “Better Way”: digitally enabled urgent care for older people in Southern Adelaide.

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Introduction/Background

In Sept 2021, Southern Adelaide Local Health Network (SALHN) introduced a ‘Better way’; a new model of urgent care for older people consisting of a suite of digitally enabled programs to address the root causes of ED congestion and the negative impact of such congestion on older people. This MRFF funded project aimed to evaluate the consumer understanding and acceptability of the new model of care, including a component specifically considering the perspectives of Aboriginal consumers and their families in Southern Adelaide.

Method

We conducted four Yarning Circles with older Aboriginal people, their carers and members of the wider community living in Southern Adelaide (n=41). Yarning circles were facilitated by Aboriginal researchers and held in community venues with lunch and beverages provided. Participants were recompensed for their time with $50 gift cards. This approach built on existing researcher-community relationships to explore individual experiences and collate family and community stories of urgent care in a rigorous and culturally appropriate way. Yarning circles were audio recorded, transcribed and underwent a staged analysis – first stage involved listening-in by researchers and second stage involved narrative analysis using NVivo – with the unit of analysis being a ‘storyline’.

Results/Findings

We identified three main storylines regarding digitally enabled urgent care – 1) Kinship as strength, 2) Agency and understanding choices, and 3) Healing and harmful journeys of care – reflecting the important role grandparents play in Aboriginal children’s lives, the need for older Aboriginal people to have home-based options for care and recognizing the importance of health professionals managing unique complexities of older Aboriginal people in culturally safe ways.

Key Message

Aboriginal families are open to digitally enabled care particularly for older Aboriginal people who have caring responsibilities for grandchildren, and when accessing emergency departments when accessing emergency departments that may not be culturally appropriate and create harms which are at odds
with the healing intent of health professionals.

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Evaluation of a new emergency department avoidance service for older people: staff and referrer experiences

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Introduction/Background

Older adults are frequent presenters at emergency departments, however traditional emergency departments are often not well suited to older adults' urgent care needs. The Complex And Restorative CentrE (CARE) is a new service established in metropolitan South Australia designed to reduce emergency department presentations of older adults. The current study was designed to explore staff and referrer experiences of the service and identify potential challenges to future sustainability and scale-up.

Method

Semi-structured interviews with staff of CARE and referrers to the service were conducted. Transcripts were analysed inductively using thematic analysis.

Results/Findings

Interviews were conducted with 13 staff and 5 referrers. Five key themes were identified related to the service: specialised, skilled, and passionate team; person centred; flexible integrated care; better environment; and challenges. Both staff and referrers held mostly positive views of the service, however the small size of the service and referral processes presented challenges that need to be addressed to enhance sustainability.

Implications/Key Message

There is a need for tailored, person-centred care, conducted in environments that are suited to older people's urgent care needs, and delivered by staff specialised in geriatric care. Our findings indicate that CARE is responding to and meeting this need, delivering a service that is acceptable to both staff and referrers, and highlighting the essential elements and challenges of providing urgent care to older adults in an emergency avoidance service. These insights will be useful in the design and sustainability of similar geriatric emergency avoidance services in the future.

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Early economic evaluation for the development and management of an intermediate Complex And RestorativE (CARE) service for older adults in South Australia.

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Introduction/Background

Health services are often configured and delivered through implicit decisions, potentially overlooking or displacing alternatives that may offer additional benefits. While retrospective evaluations are becoming more common *ex post*, proactive *ex ante* economic evaluations during service development are rare. We demonstrate an approach to economic evaluation of service interventions during the development phase, through a case study of an intermediate Complex And RestorativE (CARE) service for older adults in a South Australia.

Method

Several complimentary methods were employed: (1) logic modelling to conceptualize the value proposition; (2) descriptive analyses of routinely collected data to profile existing care; (3) a structured elicitation exercise to capture stakeholder expectations of intervention effects; (4) a decision-analytic model based on the outputs from (1), (2), and (3); and (5) Interrupted Time Series (ITS) analyses to observe the potential effects of the CARE service on recipients and the broader system.

Results/Findings

The logic model explicates the intervention rationale, while the existing care analyses provide a profile of patient volumes and service performance. Although the proposed CARE service is expected to be of value to the LHN, significant stakeholder uncertainties and disagreements affect early estimates of potential cost-effectiveness. ITS results suggest that CARE patients experience fewer total care days, updating the model on expected patient volumes and providing a counterfactual scenario had they not received the intervention. Stakeholders find the approach acceptable and informative, aligning with their internal business case processes.

Implications/Key Message

The presented study provides insights on the value of a novel service intervention and demonstrates the application of economic evaluation methods within a healthcare delivery context, to inform the development and management of service interventions based on their expected value. For sustainability and scalability, these methods should exist within a broader 'learning systems' or 'collaborative improvement' framework.

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Identification of dementia in older adults using linked data.: A longitudinal study

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Introduction/Background

Dementia is a leading cause of disease burden in Australia. Approximately, half a million people are living with dementia and mortality related-rates are steady increasing. Actual numbers and risk factors of Australians living with dementia remains unknown. This study uses a large Australian cohort dataset linked to routinely collected administration data to identify indicators on estimate age- and sex-specific dementia incidence and investigate survival since known diagnosis.

Method

Linked 45 and Up Study data, with multiple routinely-collected health datasets (PBS, AIHW aged care, NSW hospital and emergency data and NSW Mental Health Ambulatory Data Collections), for adults 45+ years between 2006-2018 (N=267,358) identified incident diagnosis of dementia by age- and sex-specific incidence cases per 1000 person-years. Time-to-event analysis were performed to assess survival by age and gender for incidence dementia cases.

Results/Findings

Of the 263,609 eligible study participants, approximately 6% were identified as incident dementia cases. Accuracy of incident diagnosis was attained using multiple datasets with over 60% of participants identified in more than one data source. Incident rates were higher in males compared to females except where females were aged 80-84 years and those 90+ years of age per 1,000 person years. Over 70% of participants with dementia survived beyond eight years from diagnosis in all age-groups except for those aged 75+ at time of diagnosis.

Implications/Key Message

Global rates of dementia remain unknown across many population sub-groups. Use of large complex data structures can provide knowledge on the degree of disease burden, providing evidence for healthcare professionals and policy-makers in understanding the infrastructure needed to support the dementia community.

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Health service use by people living with dementia in community and residential aged care: a propensity matched cohort study

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Introduction

People living with dementia require care that maintains health and reduces avoidable hospitalisations. There is limited data on non-admitted service use for people living in residential aged care due to complexities linking data.

Method

The study used linked mortality, admitted and non-admitted data from a regional area for people 65 or over hospitalised with dementia. Transition date from community to aged care (if applicable) was estimated using mode of separation, transfers and usual accommodation. Time in study was censored for deaths and time in hospital. Rate of non-admitted contacts and hospitalisations per 12 months was calculated for people in the community and in aged care. A propensity matched cohort (age, sex, admission characteristics and comorbidities) was used to compare rates of service use by setting for people with a similar demographic and clinical profiles but no history of dementia.

Results

The study cohort included 4,786 people, 56.6% female, 46.3% aged 85 or over, and 33.9% at high frailty risk. A total of 4,937 person-years were observed in the community and 3,734 in aged care facilities. There were 9.8 non-admitted contacts per year in the community compared to 2.1 in aged care (79% lower) and 0.85 hospitalisations pear year in the community, compared to 0.75 in residential aged care.

The matched cohort included 4,909 people, similar other than less delirium at index (6.9% vs 32.9%) and lower frailty risk. A total of 7,205 person-years were observed in the community and 3,251 in aged care. There were 10.8 non-admitted contacts per year in the community, but 5.4 contacts per year in aged care facilities (50% lower), and 1.02 hospitalisations per year in the community and 0.93 in aged care.

Implications

Non-admitted service use is lower for people with dementia than without dementia in residential aged care facilities, indicating potential missed need.

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Can electronic medication systems improve indication and duration documentation for antimicrobial prescriptions in residential aged care?

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Background
The rapid uptake of electronic medication systems in Australian residential aged care (RAC) has the potential to support antimicrobial stewardship. Ensuring comprehensive documentation of an indication and duration of treatment on antimicrobial prescriptions is crucial for successful implementation of antimicrobial stewardship programs. Our objectives were to examine antimicrobial indication and duration documentation in RAC homes, evaluate the effect of electronic medication system functionality on documentation completeness; and examine the free-text indications entered.

Method
Data on all antimicrobial prescriptions (antibiotics, antifungals, antivirals) ordered between 2018-2022 were extracted from an electronic medication system. We calculated the proportions of prescriptions with an indication and end date by years. Documentation completeness was compared for prescriptions entered with and without a mandatory indication or end date field using chi-squared tests. We examined indications entered for urinary tract infections (UTI), an infection of concern for RAC antimicrobial stewardship.

Results
There were 1,727,549 antimicrobial prescriptions in 575 RAC homes. The proportion of prescriptions with an indication increased from 13.2% in 2018 to 85.3% in 2022. Of the prescriptions entered using a system with a mandatory indication field, 99.8% had an indication entered, compared with 51.0% with an optional indication field ($p<0.0001$).

A prescription end date was entered for 50.6% (n=873,192) of all antimicrobial prescriptions and increased from 37.1% in 2018 to 65.8% in 2022. This was higher for prescriptions with a mandatory end date field in the system (100% vs 4.4%, $p<0.0001$).

Of the prescriptions with an indication (2018-2022), 19.4% (n=207,422) were for an UTI. The type of UTI (e.g. cystitis) was not entered in 78.2% of the indications.

Key Message
The inclusion of mandatory fields in electronic medication systems in RAC can improve antimicrobial prescription documentation. However, free-text indication may not contain information required for antimicrobial stewardship activities, highlighting a need for alternate solutions.

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Co-design of a digital dashboard with aged care consumers and healthcare providers

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Introduction

The relevance, extent and presentation of information displayed in residential aged care clinical dashboards to support timely, person-centred care, remains unclear, Therefore, to inform the design of a digital dashboard, sequential qualitative co-design studies were conducted to understand what and how information is needed to be presented from the perspective of 1) aged care consumers and 2) aged care healthcare providers.

Method

First, semi-structured interviews, exploring consumer information needs and how this information should be presented in a dashboard, were conducted with aged care consumers (n=26) and general practitioners (n=3). Interview findings informed the development of a dashboard prototype. Second, feedback was received for the dashboard prototypes in eight workshops (n=20 aged care healthcare providers). Interview and workshop transcripts were analysed using an inductive content or template analysis approach.

Results

Aged care consumers said information regarding medications, medical conditions and an overview of the resident were important to them. They stated this information should be presented on a dashboard using large text, colours, graphs, and with customisable functionalities. Aged care healthcare providers provided content, functionality and design feedback on the dashboard including presentation of resident medication data, benchmarking, filtering and drilling down functionalities, evidence-based decision support, and minimal alerts.

Implications

A predictive dashboard for falls and wellbeing in aged care was co-designed iteratively with consultation from aged care stakeholders. The dashboard contents and functionalities were based on the preferences of end-users. These preferences may be relevant and translated to the co-design of other digital platforms.

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Development of a predictive falls prevention dashboard with enhanced decision support for residential aged cares

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Background

Falls are a major health risk for older people living in residential aged care facilities (RACFs). Current fall prevention methods are ineffective because they lack access to up-to-date and ongoing data. To solve this, we have created 'MQ-Dash,' a dynamic predictive analytics dashboard that uses routinely collected data to identify residents at higher risk of falls in near real-time.

Method

This study was conducted in collaboration with a major aged care provider in NSW. We used data from resident profiles, medications, fall incidents, and risk assessments. MQ-Dash was co-designed through an iterative process that included data extraction, model schema development, and visualisation stages. A dynamic falls risk prediction and monitoring tool was developed using a landmarking approach. The dashboard is designed to adapt to changes in underlying data systems, aiming to enhance care by providing timely risk ratings and resident information while maintaining resilience to data system alterations.

Result

The system was developed using Power BI and R programming, connecting the above data silos to generate insights for informed decision-making. The dashboard includes both facility-level and resident-level reports, offering specific risk ratings and fall profiles for each individual resident. Resident reports provide dynamic fall predictions, daily risk changes, real-time monitoring of fall risk factors, and timely, evidence-based personalised recommendations to prevent falls. A separate panel with synthesised evidence-based recommendations was also included to enhance the falls prevention education of health care workers in RACFs.

Key Message

This study highlights the importance of integrating existing datasets and visualising the linked information to provide easy access to resident-level data, thereby supporting falls prevention efforts. It also describes the technical processes needed to develop a backend and front user interface of a predictive dashboard, highlighting the value of building a sustainable and transferable dashboard architecture for use in aged care.

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Using medication administration data to explore trends in pharmacological management of gout in residential aged care facilities

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Introduction

Gout, a common form of inflammatory arthritis, is caused by excessive serum urate and characterised by painful gout attacks. In Australia, nearly one in five males over 70 have gout, with older patients presenting with more complicated cases. Prescribing recommendations for gout have changed in recent years. This study examined trends in medication use to explore pharmaceutical management of gout in residential aged care facilities.

Method

Data from 2018-2022 was extracted from an electronic medication management system used in residential aged care facilities in Australia. History of gout and gout medication use (prophylactic urate-lowering therapies (ULTs) to treat raised serum urate; and acute medications used during gout attacks for pain relief) were identified by searching diagnoses fields and medication administration records using Anatomical Therapeutic Chemical classification codes. Descriptive analyses were conducted to summarise medication use.

Results

For every year of the study, 12% of residents were identified as having gout. In 2018, 54% of residents with gout used prophylactic ULTs, with this increasing to 57% in 2019, and to 59% in 2021, with this rate being maintained in 2022. In 2018, gout attacks were managed using glucocorticoids (33%), colchicine (24%) and non-steroidal anti-inflammatory drugs (NSAIDs, 15%), with these rates all decreasing over time, with their lowest rates of use in 2022.

Implications

This study showed ULT use increasing over time in residential aged care, in line with guidelines recommending ULT use for the appropriate management of gout. The need for acute medications should reduce as gout becomes more effectively managed, reflected in this study. Therefore this study demonstrates that gout management in aged care may be becoming more concordant to guidelines over time. This study is an exemplar of using large routinely collected electronic datasets to monitor management of chronic diseases longitudinally.

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Are Transition Care Program clients becoming more complex over time? a review of aged care data from 2006-2023.

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Aim:
The Transition Care Program (TCP) is a short-term rehabilitation service intended to keep older adults at home after hospitalisation. This study aimed to assess client complexity by examining trends in TCP utilisation, expenditure, and client demographics, including functional status, over 17 years.

Methods:
We retrieved publicly available reports from the Australian Institute of Health and Welfare from 2006-2007 to 2022–2023 and examined: admissions/year, modified Barthel index (MBI; a measure of functional status) on entry, exit, and change in MBI, length of stay (LOS), allocated places, and total expenditure, for Australia and by each state/territory.

Results:
335,240 people accessed TCP during the study period. Admissions increased 2.5 times from 10,355 (2006-2007) to 25,113 (2016-2017), then declined to 16,616 in 2022-2023 despite increases in number of places (2000–4503; +125%) and expenditure (32.9–295.2 million; +797%) across Australia. There was minimal change in entry MBI (70.0-71.5) or exit MBI scores (80.0-82.5). Total LOS increased by 60%, from 48 to 77 days. Average cost/admission also increased 326%, from $4,836 to $20,586. State-based variations are also evident.

Conclusion:
Our data suggest that clients are spending longer in TCP, and require more services, resulting in higher overall expenditure. While this may indicate they are becoming increasingly complex, this is not reflected in entry MBI scores in this aggregated Australia-wide data. Future studies with more detailed patient-level data and outcomes are needed. The variability between jurisdictions and intricacies of the aged care sector that may impact our findings are also discussed.

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Session 2C: Indigenous Health

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Covid-19 and Pacific peoples living in Aotearoa New Zealand: “Ensuring equity for Pacific1 peoples – Learning from a pandemic” – Preliminary findings

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Introduction
To understand the impact of Covid-19 and Aotearoa New Zealand’s government response to Covid-19 for Pacific people.

Method
At the onset of the pandemic, existing evidence suggested that Covid-19 could exacerbate the persistent health and socioeconomic inequities experienced by Pacific peoples in Aotearoa, and that Pacific people were at heightened risk of experiencing Covid-19 complications. Pacific research on the effect of Covid-19 on families and what works to support them is essential for health equity and preparation for future pandemics.

We collected information through:

1. **Talanoa[1] with 15 Pacific families in Auckland and Wellington (2020-2022);**
2. Talanoa with key informants involved in the Covid-19 response;
3. Reviewing relevant published literature, policy documents, and media.

Findings
Early analysis shows a diversity and complexity of Pacific experience during the pandemic.

- How Pacific families coped with Covid-19 and Covid-19 policies changed over time and was dependent on place and context. There were differences between generations; Pacific ethnic groups; and various communities.
- Families, communities, and Pacific service providers found holistic and innovative ways to support each other, even during the strictest restrictions.
- Pacific leadership was seen in many forms - from households to high levels of Government.

We will present preliminary findings from our talanoa with Pacific families.

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[1] Talanoa is how Pacific people communicate and is key to maintaining respectful relationships. Talanoa is about open and respectful interactions. It includes the sharing of ideas and stories between people (Robinson, D, & Robinson, K. 2005). From the book: Pacific ways” of talk : hui and talanoa.

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Decolonizing Population Health Research: Indigenous Methodology and the Ethical Imperative of Investigating Opioid Use Among First Nations in Manitoba

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Introduction/Background

Examples of nation-based and use of Indigenous methodologies and decolonizing frameworks in epidemiology/population health research are scarce. In wake of the of the Truth and Reconciliation of Canada, an Anishinaabe framework was developed in 2021 by the presenting author as a guiding framework to navigate the intricate terrain of data sovereignty and sensitive research topics involving First Nations (FN) in Manitoba. A nation-based examination of opioid use amoung FN is one of these topics, that first must be situated in the context of colonization.

Method

Led by Indigenous researchers and guided by Advisory Circle, this retrospective cohort study linked the Manitoba FN research file with population-level data from the Manitoba Centre for Health Policy. Indigenous Methodologies, with an emphasis on the inclusion of Indigenous voices, knowledge, protocols, and contextually informed interpretation was utilized. Western statistical methods were employed to analyze the data. This approach ensured the utilization of robust statistical methods while centering community-driven questions, needs, and perspectives.

Results/Findings

Spanning the years from 2015 to 2019, the study included all Manitobans eligible for Manitoba Health Services. We observed downward trends in opioid-related use, dispensation, hospitalization, and mortality rates among both FN and all other Manitobans (AOM), and a notable disparity between FN and AOM across most indicators. Ethical research practices, grounded in Indigenous governance, ownership, engagement, collaboration, reciprocity, and respect for cultural and intellectual property, underscore the imperative of Indigenous self-determination and data sovereignty in conducting population level research.

Implications/Key Message

The transformative potential of Indigenous-led research, framed by use of decolonizing frameworks, emerges as a catalyst for community empowerment in addressing opioid use within FN communities. Upholding the rights of Indigenous peoples to govern their data and lead our own research initiatives is paramount in reclaiming research space amidst systemic inequities, oppression, and colonial practices inherent in academic research.

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Mental health service needs and access for urban Aboriginal and Torres Strait Islander people in Southeast Queensland

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Introduction

Australia's history of colonisation, intergenerational traumas, continuing social disadvantage, systemic racism, and lacking cultural capability within health services contribute to significant health disparities for Aboriginal and Torres Strait Islander peoples, including high mental health needs. In partnership with local Community Controlled Health Services, this research aimed to identify mental health needs and service gaps for Aboriginal and Torres Strait Islander people in Southeast Queensland, a large urban area. The aim was to inform innovative solutions to improving mental health care.

Method

Mental health needs were modelled from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), local area population characteristics, and the National Mental Health Service Planning Framework (NMHSPF), a needs-based planning model for mental health services. We analysed 2021 mental health services data from direct data requests to health services and the Person-Level Integrated Data Asset (PLIDA), a de-identified unit record linkage of Census, Medicare, and National Disability Insurance Scheme (NDIS) data. A systematic review collated barriers and facilitators to NDIS access for Aboriginal and Torres Strait Islander people with psychosocial disability.

Results

Estimated prevalence of mental health problems was 1.6-3.3 times higher for Indigenous versus non-Indigenous populations in Southeast Queensland. For the former, K5 high psychological distress rates varied from 21.6%-34.4% across SA3 subregions, correlating with area-level socioeconomic disadvantage. Mental health service use was substantially below NMHSPF targets, especially for primary mental health care, and service use was generally lower or equivalent to that of non-Indigenous populations despite higher mental health needs. Identified barriers to NDIS psychosocial disability support included challenges establishing eligibility, lack of information and support, and cultural inappropriateness of services.

Implications

Mental health service accessibility and suitability needs improvement, drawing on community-led solutions and partnerships. This research is helping to inform areas of greatest need to trial new integrated service models.

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Non-Indigenous working to advance Indigenous health equity: building the narrative of health research and clinician allies identified by Indigenous Elders and Knowledge Holders

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Introduction/Background

In Aotearoa New Zealand marked disparities in perinatal and other health outcomes exist between Māori (the Indigenous peoples of Aotearoa New Zealand) and Europeans. Research partnerships with iwi (tribal-kin groups) have formed to address the inequities affecting pregnant people. Non-Māori allies included in Kaupapa Māori (by, with, and for Māori) research, work collaboratively with Māori in these strengths-based approaches. Methodologies of this partnership work uphold the mana (status) of Māori during the research process, in reporting of findings, and in actions and advocacy that follow.

Growing relationships and alliances with Indigenous-led research groups and care centres in other high-resourced countries with a history of European colonisation, address similar disparities and the persisting privileges afforded to non-Indigenous populations. To support transformation of individual behaviours, and ultimately system changes, this study examines skills, roles, and factors relating to non-Indigenous allies connected through the alliances.

Method

This qualitative doctorate study reflects a Kaupapa Māori approach. Interviews are undertaken with non-Indigenous perinatal health clinicians and researchers identified by Indigenous Elders and Knowledge Holders in Aotearoa New Zealand, Canada, Australia, and the United States, and non-Māori high profile general allies identified by Kaumātua (Māori Elders/Knowledge Holders) in Aotearoa. Study participants are defined as those described to 'work successfully, in a way that's acceptable to Indigenous peoples.' Thematic analysis of the data informs recommendations and a tool to provide guidance for non-Indigenous ally clinicians/researchers working to advance health equity.

Results/Findings

Themes and findings from qualitative data collected through interviews with up to twenty participants relating to their experiences and factors will be reported.

Implications/Key Message

This strengths-based research aims to build narrative and provide insights that may be of relevance for clinicians and researchers working to support culturally safe care, and ultimately inform system changes that will address anti-Indigenous racism, and advance Indigenous health equity.

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‘Driving culturally safe care’ - Indigenous Primary Health Care staff perspectives on collecting patient feedback

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Introduction/Background

The VOICE project is developing Patient Reported Experience Measure (PREM) tools for client feedback for Indigenous primary health care (IPHC) services. As part of this process, we explored the views of service staff including how to 1) optimise feasibility of collection, analysis and interpretation of findings; and 2) resource implementation.

Method

Guided by an Aboriginal and Torres Strait Islander Advisory Group, our team of Indigenous and non-Indigenous researchers conducted focus groups and individual interviews with staff from eight partner IPHC services across four Australian States and Territories. Focus groups and interviews were recorded, transcribed and thematically analysed, with review by the Advisory Group.

Results/Findings

Sixty-three staff participated, of whom 44 attended in 13 focus groups, with the remainder participating in one-on-one interviews. The majority of participants were between 35 and 55 years old (52%), female (66%) and were working in a frontline role (56%). Equal numbers identified as Indigenous (50%), and non-Indigenous (50%). Many had worked in Aboriginal and Torres Strait Islander health and wellbeing for over 10 years (40%). ‘Accountability’ and ‘Culturally safe care’ were identified as cross-cutting themes and key reasons for gathering client feedback. Other issues to consider were ‘Relationships, ‘Trust and respect’, ‘Communication’, ‘Health service systems’, ‘Health Service and Staff Capacity’, ‘Staff skills’, ‘Timing of patient experience feedback’, and ‘Features of the PREM’, which need to be considered for successful design and implementation.

Implications/Key Message

The findings from this study will inform the co-design and validation of Indigenous-specific PREM tools to gain client feedback, that will be endorsed by the Royal Australian College of General Practitioners for PHC service accreditation. Critically, service and community input in the co-design process will ensure the PREM tools meet service needs for continuous quality improvement and reflect the priorities and values of Aboriginal and Torres Strait Islander peoples.

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Emergency healthcare delivery for detainees in short-term police custody in Queensland: A qualitative exploration

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Introduction/Background

The World Health Organization has recognised a need to understand how evidence-based health services can be provided for people in custody which includes prisons but also short-term detention settings of a few hours up to 2 weeks. People detained in short-term police custody (i.e., watch-houses, Queensland term) often have chronic and emergent health conditions that can necessitate emergency care. However there has been little exploration of health service delivery for this vulnerable and complex population in Australia. This exploratory study aimed to elucidate the strategies, decision-making processes, and costs associated with healthcare delivery in police watch-houses that may reduce the need for transfer to the Emergency Department (ED) or reduce the potential for deaths in custody.

Method

This qualitative descriptive study involved 37 semi-structured interviews with police watch-house staff, ED doctors and paramedics. Interviews were conducted onsite in six locations in metropolitan, regional and rural/remote regions of Queensland in 2021.

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Results/Findings

This study identified challenges, strategies, and opportunities for healthcare delivery from the perspective of each of the three stakeholder groups. Key opportunities to enhance care delivery for detainees included delivering education for ED staff regarding watch-house healthcare capabilities; enhancing communication between ED and watch-houses; and extending best-practice models of watch-house healthcare to minimise unnecessary ED transfers. Interviews with police watch-house staff also shed light on healthcare expenditure in watch-houses, and how police make emergency health-related decisions in the context of short-term custody.

Implications/Key Message

Findings will inform recommendations for enhanced and cost-effective healthcare for detainees in police watch-house settings. Effective service improvement will require sustained, coordinated inter-agency collaboration and investment. The exploratory, cross-agency approach of this study may also be a model for health services researchers seeking to understand little-researched health service contexts.

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FORECASTING EMERGENCY DEPARTMENT WAITING TIMES USING DEEP NEURAL NETWORKS

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Introduction/Background

With demand outpacing supply, many hospital emergency departments (ED) experience overcrowding and long waiting times to treatment, leading to patient dissatisfaction, suboptimal health outcomes, and the increasing violence towards ED staff. This project aims to reduce the impacts of long ED waiting times by delivering real-time, accurate ED waiting times forecasts using artificial-intelligence neural network models and evaluate the forecast performance of these novel models.

Method

An innovative PREDICT (Patient-Responsive ED Intelligence on Consult Waiting Times) digital health solution has been developed by adapting Deep Neural Network (DNN) models: convolutional neural networks (CONV) and long short-term memory networks (LSTM). DNN models were trained on the training dataset with an objective of minimising mean squared error (MSE). PREDICT performance was compared with the commonly used moving average (MA) method. PREDICT generated an aggregated ED waiting time forecasts in a time-series manner and provided a waiting time forecast with uncertainties to low acuity patients who arrived during a particular 30-minute time window. The comparison scenarios included one- and multiple-period-ahead forecasting. 2020 data from a large Australian tertiary hospital ED was used for analysis.

Results/Findings

Results: Across all comparison scenarios, the accuracy performance of DNN ED waiting time forecasts was significantly higher than MA-based forecasts. For the one period ahead forecasting, CONV outperformed the best MA model by over 35% with respect to MSE and reduced the number of patients with large underpredicted waiting times (. 30 minutes) by 77%. For the 12-period ahead direct-recursive

forecasts (6 hours ahead), LSTM model was superior and outperformed the MA by 53% with respect to MSE.

Implications/Key Message

Our results suggest that flexible data-driven DNN models delivers more accurate and actionable waiting time forecasts than MA across one- and multiple-period ahead forecasts. Multiple-period-ahead forecasts have important practical benefits in improving ED waiting time management and

responding to the ED demand more effectively.

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Exploring variation in average length of hospital stay across NSW public hospitals for four clinical conditions and surgical procedures

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Introduction/Background

The length of time patients spend in hospitals in NSW has remained above pre-pandemic levels.

Increased length of stay (LOS) can have considerable impacts on health system costs and resourcing. Efforts to support safe and successful returns home as soon as possible can also improve patients' experiences. We explored variation in average length of stay (ALOS) across NSW public hospitals for four medical and surgical conditions, focusing on minor complexities, to identify and engage the community in opportunities for shorter hospital LOS.

Method

Linked NSW Admitted Patient Data Collection between July 2018 – June 2023 was used. For each condition at a given hospital, risk adjusted ALOS was calculated as the ratio of the observed to the expected LOS, multiplied by the NSW ALOS. Same-day admissions were considered with LOS of half-day. The expected LOS was based on an average NSW hospital with the same case mix estimated using Generalized Linear Mixed Models with Gamma distribution, taking into account patient-level risk factors and clustering within the same hospitals. Hospitals with significantly higher or lower ALOS were identified using funnel plots with 95% control limits based on normal distribution.

Results/Findings

During July 2022 – June 2023, patients' ALOS was 2.9 days for cellulitis, 3.8 for knee replacement, 4.0 for heart failure, and 4.6 days for hip replacement. The majority of hospitals had risk adjusted ALOS lower or within the expected range across all selected conditions. The number of hospitals with higher-than-expected ALOS ranged from four for knee replacement to 10 for cellulitis. Public release of findings resulted in significant media coverage reflecting community interest in improvement opportunities.

Implications/Key Message

The risk adjusted ALOS is best used as a screening tool to indicate where further, locally driven, assessment might be needed regarding potential opportunities for reducing LOS, potentially involving tailored interventions or post-discharge care models such as virtual care.

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Using Electronic Medical Records in Improving Communication between Hospitalised Patients and Health Professionals across Transitions of Care

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Introduction/Background: Electronic medical records (EMRs), which contain definitive information about managing patient care, have been implemented in many Australian hospitals. However, little is known about how clinicians use EMRs to facilitate communication with patients. This project aimed to address challenges to achieve better communication in health care services, by investigating current and new engagement strategies to enhance communication with patients and families in using the EMR.
Method: A qualitative exploratory design included interviews with patients, families and clinicians (*n=114*); observations with clinicians (*102 hours*); and focus groups with digital health experts including chief information officers and IT leaders (*n=34*). Transcripts were analysed inductively using reflexive thematic analysis.
Results/Findings: Patients reported that clinicians often did not relay clinical information noted in EMRs back to them in hospitals, except when complex planning requiring patient input was involved, such as discharge planning. Most patients and families desired more transparency and consistency in sharing details in EMRs since it would help them manage their medications and communicate their conditions to general practitioners' post-discharge. Clinicians viewed EMRs primarily as tools for documenting clinical information and communicating between multidisciplinary teams within/across hospitals. They rarely shared their notes or screens with patients unless specifically requested, which was uncommon. Observations confirmed that most clinical notes were filled with medical jargon and acronyms, which were partially simplified during verbal interactions with patients and families. Digital health experts noted that clinicians' use of EMRs for communication still mimicked the paper-based system. Despite their potential to support communication with families and patients, patient portals had inconsistent design and adoption in Australian hospitals.
Implications/Key Message: Change management is needed to improve clinicians' use of EMRs for better communication with patients and families at the point of care. Patient-centric portal designs are also needed in supporting patient education and autonomy across care transitions.

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Establishing project governance utilizing consumer engagement and co-design in the Listen to Me project

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Background

Listen to Me is a 3-year consumer led project that aims to improve healthcare outcomes for people with intellectual disability by co-creating Patient Reported Experience Measures (PREMs). PREMs that are co-produced with and for people with intellectual disability are urgently required in Australia to address the lack of suitable measurement instruments and supports available. This project offers an innovative model of consumer led research where generated PREMs data collected through digital tools will inform change and address inequities in healthcare.

Method

Consumers are involved in leading and planning the project, including project governance activities. All governance documents and meeting minutes are available in Easy Read formats. The 3 established sub-groups (listed) all include lived experience consumers, and promote interaction between consumers, representatives from health organisations, academic and clinician researchers:

1. The Consumer Leadership Group (CLG) (8 members) informs all stages of project implementation, and co-production of PREMs suitable for people with intellectual disability.
2. The Project Group (31 members) works alongside and with the CLG, offering expert advice, knowledge sharing and human resource in patient experience, disability research, design of digital systems in health and in the epistemology and methods of co-design, co-production, and consumer participation to improve healthcare.
3. The Project Steering Group (10 members) provides oversight and project governance.

Results

We have established a framework that incorporates consumer leadership at all points in the Listen to Me project. We have learnt that accessible and interactive meeting and communication formats e.g. Easy Read offers enhanced inclusivity. Effective inclusive governance will be measured following the ‘components for success’ framework outlined by the NSW Council for Intellectual Disability.

Key Message

Consumers will be embedded in the ongoing conduct and dissemination of the research, with opportunities to inform and contribute to every stage and project element including project governance.

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Co-design of LOVE YOUR BRAIN: a digital platform for stroke prevention

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Background

Stroke is highly preventable through effective management of risk factors. Most Australians have at least one risk factor for stroke, but there are insufficient population-based strategies for preventing stroke. We aimed to co-design a novel multi-component digital health platform (Love Your Brain) for stroke prevention.

Method

Using snowballing methods, community members and stroke knowledge experts (health professionals/researchers) expressed interest, and were purposively selected to participate as separate cohorts. Seven online focus groups were undertaken with each cohort to explore perceptions related to the structure and content of the platform (what is stroke; stroke numbers and impact; risk factors and management). An eighth focus group was conducted to evaluate the final components of the platform. Focus groups were recorded with participant consent. Facilitated group discussions and surveys were analysed using an inductive thematic approach.

Results

Twelve community members and 10 experts participated in at least one of the eight focus groups for their cohort. While there was some diversity in opinions about the delivery and content, all participants emphasised the importance of using simple, easy to understand language and layout, using statistics, personal stories and expert information to “tell a story”. Demonstrating the impact of stroke was perceived as important, and being able to personalise the content (to age, sex, risk factors) and provide options for more information (via trusted links) was advantageous. Additionally, practical advice to enact behaviour change was also essential. Overall, the developed platform was described as very professional, comprehensive and easy to digest. Participants described feeling “heard” during the co-design process, can could clearly see how their input was incorporated.

Key Message

Co-design with two separate cohorts not only informed, but enriched, the development of the Love Your Brain digital health platform. The platform is currently being piloted in a feasibility trial prior to a RCT.

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Supporting Global Research Participation with Technology in the COM-IC project to develop core outcome measures for dementia care in Australia

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Introduction/Background: Realising high quality healthcare and outcomes is enabled by robust research, informed by a diversity of experiences and perspectives from the many stakeholder groups that comprise the health system. Opportunities to understand the needs of people diagnosed with neurodegenerative diseases causing dementia have been frustrated by beliefs about their capacity to inform other stakeholders. Coupled with the inherent challenges of collating multi-stakeholder input across disparate geographical areas, true co-design involving people with dementia is perceived as too difficult.

The COM-IC project challenges these beliefs through a series of co-designed, multi-stakeholder, consensus building exercises to identify outcomes of care that are relevant and important to people living with dementia and carers. The Stakeholder Reference Group (SRG) brings together an inclusive cohort of people living with dementia, formal and informal carers, aged care industry representatives, researchers, clinicians, non-clinical practitioners, and policy actors from various locations around Australia and internationally. Such collaboration and consensus building are possible through integrating a wide range of technological supports in a dynamic, adaptable, responsive system that supports inclusive approaches to meaningful stakeholder engagement.

Method: A combination of programs (Microsoft Teams, Outlook, Qualtrics, Loomio, Zoom, and Sharepoint) was used to develop a digital, multi-system framework enabling individual and group level collaboration, discussion, resource sharing, and decision-making in synchronous and asynchronous formats. Additionally, the framework provided for recording and analysis of generated data to inform dissemination of research findings.

Results/Findings: Synergistic employment of digital technologies created dynamic and robust communication pathways that supported co-designed research, and allowed for variations in collaboration preferences which met the needs of our diverse stakeholders, including people with neurodegenerative, located across large geographical distances.

Implications/Key Message: Combining multiple types of synchronous and asynchronous technological communication tools increases capability to involve multiple stakeholders with different abilities and expertise from disparate locations in research.

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Development of LOVE YOUR BRAIN: Lessons learnt to harness the power of co-design and the voices of those we aim to serve

Ms Catherine Burns[1], Professor Monique Kilkenny[1,2], Dr Tara Purvis[1], Professor Seana Gall[3], Christine Farmer[3], Dr Seamus Barker[3], Brenda Booth[4], Professor Janet Bray[5], Professor Dominique Cadilhac[1,2], Dr Jan Cameron[1], Dr Lachlan Dalli[1], Steph Ho[6], Dr Eleanor Horton[6], Professor Tim Kleinig[7], Dr Lisa Murphy[6], Professor Mark Nelson[3], Dr Muideen Olaiya[1], Andrea Sanders[6], Emeritus Professor Amanda Thrift[1], Dr Rosanne Freak-Poli[1,5]
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Background: Love Your Brain is a co-designed stroke prevention program that includes a Massive Open Online Course and individualised text messages to support modifying health behaviours to prevent stroke. We describe our experience in undertaking the iterative co-design process, including recruitment, participant engagement, and administrative time.
Method: Snowballing methods were used to identify potential participants from two target cohorts (community members, health knowledge experts), with purposive sampling of those interested. Sixteen online co-design focus groups were conducted (8/cohort) to receive input on program components. Engagement was measured by attendance and contributions (verbal or written "chat") at focus groups, and summarised with descriptive statistics. Open-text survey data were analysed thematically. Researcher time was recorded for a fortnight which included two focus groups with identical content.
Results: We received 51 expressions of interest; and 12 community members (including nine people with lived experience of stroke) and 10 health knowledge experts (clinicians/researchers) participated in focus groups. Majority of participants (86%) attended ≥5 focus groups. All attendees contributed during each focus group. Compared to community members, health knowledge experts used the chat more (55% chat vs. 45%, $p=0.001$) and wrote longer messages (median 82 vs. 35 characters, $p<0.001$). Community members spoke for a median duration of 35 seconds (IQR 23-52) each time, compared to health knowledge experts (30 seconds, IQR 19-47). Participants indicated that engagement was enhanced through 1) pre-reading material, including example videos; 2) continuity of participants and experienced facilitators; 3) live virtual whiteboard summaries; and 4) chat functionality. Conducting two identical focus groups required 29 hours of project manager/coordinator time, 8-11 hours for facilitators, and 6-8 hours for project-coordinating chief investigators.
Key Message: Overall, the iterative co-design process for Love Your Brain was successful across recruitment, attendance, and engagement via online modalities. Information on researcher time can help inform future codesign studies.

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Experiences of out-of-pocket costs among Australians with chronic conditions: a systematic review of the qualitative literature.

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Background: Despite Australia having a universal health insurance scheme, out-of-pocket costs (OOPC) for healthcare and medicines make up 15% of total health expenditure. Largely spent on out-of-hospital care, this creates access barriers at the frontlines of the health system. People with chronic conditions tend to spend a greater proportion of their incomes on healthcare than of those without a chronic condition. It is critical to understand the day-to-day impacts of these OOPC on individuals and families. We reviewed the Australian qualitative evidence examining experiences of OOPC among people living with chronic conditions to gain insight into these impacts.

Methods: Systematic review of the qualitative literature examining out-of-hospital healthcare OOPC for people with chronic conditions in Australia, searching Pubmed, CINAHL, Cochrane, PsycINFO and EconLit databases from 1999 to 11th July 2023.

Findings: Reduced employment for individuals with chronic conditions and their carers led to income loss, aggravating the affordability of OOPC. While many were able to access bulk-billing general practitioners (GPs), upfront- and co-payments incurred to consult with GPs, specialists and allied health professionals, and medications contributed to financial burden. Cost was the greatest barrier to accessing dental care. High costs of travel and parking to access healthcare were described by people in urban and rural areas. Trade-offs described reflected participants' prioritising medical treatments over necessities, such as food and activities facilitating social connectedness. People who did not qualify for the concessional threshold often experienced difficulties paying OOPC.

Implications: Australian health policies aimed at optimising access to healthcare and medicines through reducing OOPCs result in variable experiences among Australians living with chronic conditions. While reducing the financial burden, challenges remain for people with substantial OOPC relative to their income. Future research examining people with chronic conditions' preferences and priorities can inform policy to improve the equity of health financing in Australia.

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The impact of out-of-pocket costs on people living with chronic conditions; applying Maslow’s theory of the hierarchy of human needs.

Assoc Prof Jane Desborough[1], Dr Anne Parkinson[1], Dr Danielle Butler[1], Ms Kamania Butler[1], Ms Fiona Hodson[2], Dr Elisabeth Huynh[1], Ms Samar Ibrahim[1], Ms Jillian Kingsford Smith[1], Ms Hsei Di Law[1], Professor Cam Donaldson[1], Mr Charles Maskell-Knight[1], Dr Andini Pramono[1], Ms Julie Veitch[1], Dr Shelley Wang[1], Ms Leanne Watts[1]
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Background: On diagnosis of a chronic condition, people receive a treatment plan that includes various consultations, medications and other items. Many such items carry associated costs, some subsidised by Government. Individuals and families thus begin a process of calculating how they can afford to pay for these items and deciding which items they may deem as discretionary. This, itself, has the potential to adversely impact their health and other critical aspects of their lives.

Methods: We applied the lens of Maslow’s theory of the hierarchy of human needs to examine findings of a systematic review of the qualitative literature examining experiences of out-of-pocket costs (OOPCs) for healthcare and medicines among people with chronic conditions.

Findings: Impacts of the financial burden of OOPCs, plus reduced or lost employment for many, due to chronic conditions, were evident throughout Maslow’s hierarchy. Despite prioritising “physiological needs”, many trade-offs were made between medications and health consultations, food, housing and lifestyle. Reduced income, use of savings to pay OOPCs, and early retirement due to health impacted people’s current and future financial security and sense of “safety”. Forgone social activities reduced individuals’ and families’ social connectedness and “sense of belonging”. Several triggers, including financial stress, foregone opportunities in career, relationships and lifestyle induced by OOPCs, were reported to negatively impact on “self-esteem and self-worth”, as well as other dimensions of “self-actualisation”.

Implications: For many people living with chronic conditions in Australia, the OOPCs of healthcare and medicines present prohibitive barriers to enacting recommended treatment plans. At the same time, they also impact their capacity to meet basic physiological, safety and emotional needs, and higher aspirations. Application of Maslow’s hierarchy of human needs provides a valuable lens for policymakers that may inform improvements to more equitable and efficient health financing in Australia.

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Impact of income on people with chronic conditions’ use of strategies to manage the out-of-pocket costs of healthcare and medicines in Australia: a qualitative framework analysis study.

Assoc Prof Jane Desborough[1], Ms Jillian Kingsford Smith[1], Dr Anne Parkinson[1], Ms Danielle Butler[1], Ms Kamania Butler[1], Ms Hsei Di Law[1], Professor Cam Donaldson[1], Ms Fiona Hodson[2], Dr Elisabeth Huynh[1], Ms Samar Ibrahim[1], Mr Charles Maskell-Knight[1], Dr Andini Pramono[1], Ms Julie Veitch[1], Ms Shelley Wang[1], Ms Leanne Watts[1]
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Background: Australia’s universal healthcare scheme aims to optimise access to healthcare through reducing out-of-pocket costs (OOPC) for those who can least afford them. However, evidence indicates people with chronic conditions tend to have lower incomes, higher healthcare costs, and spend a greater proportion of their incomes on healthcare than people without chronic conditions. Understanding the strategies people living with chronic conditions use to manage OOPC, and how these differ between income groups in this population, helps paint an understanding of the true impact of these policies across socioeconomic tiers.

Methods: We conducted in-depth interviews with 52 people living with a broad range of chronic conditions in Australia who had at least one condition. We used framework analysis to compare their experiences based on self-reported annual household income, categorised into six income brackets: 1. $0-18,000, 2. $18,001-$45,000, 3. $45,001-$80,000, 4. $80,001-120,000, 5. $120,001-$180,000, and 6. >$180,000.

Findings: Reducing social activity was the most reported strategy across all income brackets, except for the highest, where most participants reported making no financial trade-offs due to OOPC. While most often reported by participants in the lowest two brackets, strategies impacting adherence to recommended treatments (including foregoing medications and treatments by specialist and allied health providers) and foregoing nutritious food choices and payment of utility bills, were also reported by participants in the third income bracket, and occasionally by people in the fourth income bracket.

Implications: Australian health policies aimed at reducing OOPCs go some way to support people with chronic conditions. However, our findings indicate that due to OOPCs people in the lowest income brackets, the priority group for these policies, are foregoing key aspects of care and some basic human necessities, such as food, housing security, and social connectedness. These findings highlight policy gaps in achieving equity of health financing in Australia.

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Dear Health Minister - Consumer suggestions for policy changes to reduce the burden of out-of-pocket costs of health care and medicines for people living with chronic conditions in Australia.

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Background: Australia's universal health insurance scheme, Medicare, aims to optimise access to healthcare through reducing out-of-pocket costs (OOPC), especially for those who can least afford them. Yet many people with chronic conditions describe making daily choices between paying for healthcare and medicines or for basic household requirements and activities that foster social connectedness. Understanding the lived experience of people living with chronic conditions is the most effective way to ensure that policy is relevant and responsive to their needs.

Methods: In collaboration with lived experience experts, we conducted in-depth interviews with 52 people living with at least one chronic condition across urban, regional and rural Australia. We explored their experiences of managing the OOPC of their health conditions, and in relation to this we asked: 1. What could make this easier? and 2. What changes would you make if you were Australia's health minister for the day? Our analysis was both deductive (of pre-defined themes) and inductive (identifying new themes as they emerged).

Findings: Participants were specific in their suggestions for policy changes that could address the needs of people living with chronic conditions. These included reconfiguring current policy approaches to: 1. Upfront and copayments for GP- and non-GP specialist, and allied health provider consultations; 2. Bulk-billing and medical rebates; 3. Access to mental health providers; 4. Access to medications, including off-label use for chronic conditions; 5. Workforce configuration, including care navigation, and 7. Overall models of health funding.

Implications: While Australian health policies are going some way to support people with chronic conditions in accessing healthcare and medicines, our findings pinpoint areas where improvements can be made. Drawing directly from the lived experience of people living with chronic conditions, they provide an excellent opportunity for innovative policy development to improve health financing equity in Australia.

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Implementation of an asynchronous general practitioner-to-specialist eConsult service (eConsultant) in Australia

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Introduction/Background

With rising demand for outpatient services and limited health resources across Australia, patients experience excessive delays for specialist input, linked with subsequent deterioration in health. eConsultant, is an outpatient substitution model, providing an asynchronous, digital, provider-to provider advice service. eConsultant gives general practitioners (GPs) remote access, using secure messaging, to specialist support for patient care within 3-business days. GPs send a Request-for Advice (RFA) to the specialist and advise patients to schedule a timely follow-up appointment to discuss the eConsultant advice. We studied the implementation of the eConsultant service to determine if it would improve access and be more efficient to deliver than a traditional outpatient service.

Method

The main outcomes were time to specialist input and incremental cost saving per patient from a health system perspective. The cost analysis used a decision-analytic-model. Qualitative interviews were conducted with GPs/stakeholders to understand determinants of implementation. Interview transcripts were coded deductively. Methods were guided by the Consolidated Framework of Implementation Research.

Results/Findings

RFAs have been generated for 459 patients (mean age 55 years) from 63 GPs in 158 general practices. The mean specialist response time was 1.7 (SD 1.9) days and patients mean time to specialist input (initial GP to GP follow-up appointment) was 14.8 (SD 17.6) days (well below average waiting times for hospital-based appointments). eConsultant is associated with an efficiency gain of $361.07 per patient. Qualitative interviews with 11 GPs/4 stakeholders identified implementation barriers related to digital infrastructure and reliance on existing referral options. Key facilitators identified were the positive patient response to the program, and relative advantage of eConsultant over other options.

Implications/Key Message

eConsultant provides timely specialist patient support and a more cost-efficient option than face-to face visits. This research supports broader implementation of the eConsultant model, which will provide a fundamental change to health care delivery in Australia.

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Simple versions of discharge summaries for patients generated via a large language model

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Introduction: Hospital discharge summaries support care transitions, but the lack of patient-centered instructions can lead to harm. This study evaluated the quality and safety of AI-generated patient discharge instructions including medications and actions such as appointments, simplified from discharge summaries.

Method: Candidate prompts were piloted with a GPT-3.5 language model to generate instructions based on discharge summaries from the Medical Information Mart for Intensive Care (MIMIC)-IV database. The best performing prompt from the pilot was applied to 100 discharge summaries. AI-generated responses were assessed for health literacy (grade reading level, language complexity, medication instructions in a format designed to be easy to understand) and accuracy (missing and additional medications and actions, whether they correctly matched the discharge summary), and safety issues attributable to the AI-generated response.

Results: Discharge summaries included a median of 9 medications (interquartile range [IQR] 5.8-12) and 5 action items (IQR 3-7). Average grade reading level in the discharge summaries was 10.7 (standard deviation [SD] 0.5) and 10.1 (SD 1.0) in the patient instructions ($p<0.001$, t:5.96). Language complexity was 40.3% (SD 3.9%) in the discharge summaries 31.2% (SD 4.4%) in the patient instructions, which was significantly lower ($p<0.001$, t:15.73). The median proportion correct was 100% (IQR 81%-100%) for medications, and 86% (IQR 67%-100%) for actions. New and incorrect medications were found in 3% of responses, and incorrectly added actions in 42% of responses. Potentially harmful safety issues attributable to the AI-generated text were identified in 18% of responses.

Key Message: Our results show that generative AI tools can be used to simplify discharge summaries for patients but sometimes translate or add information that could lead to harm. New models and prompt engineering approaches may help balance health literacy, accuracy, and safety constraints as this technology evolves.

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Complexities of health and social outcomes in evaluating intersectoral initiatives: value for whom, how, and why?

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Introduction/Background

Healthy Homes and Neighbourhoods (HHAN) has been a Sydney Local Health District (SLHD) led intersectoral initiative since 2015 that used geospatial mapping to identify priority areas for place-based initiatives in Sydney Local Health District. HHAN provides care coordination for families with complex health and social needs and requires multi-agency support to meet their complex needs to keep the families well. A research and evaluation improvement cycle underpins the initiative.

Method

Interdisciplinary research including realist synthesis, interviews, analysis of the linked data Integrated Care Outcomes Database (ICOD), the patient-reported measures, social network analysis, and triangulation of findings. Participatory workshops with stakeholders and formation of an Aboriginal and Torres Strait Islander research committee in 2023.

Results/Findings

591 families enrolled in HHAN until June 2024, and approximately 30% First Nation families. Standardized patient-reported measures were not appropriate for the HHAN cohort, and bespoke measures were piloted. ICOD showed decreased hospitalisations and ED presentations. The key mechanism for change/success was strong therapeutic relationships, though there was a risk for dependency on the service. Whilst flexibility and clinician autonomy facilitated trust and local innovation, there was a risk of role ambiguity and staff burnout, mitigated by accessibility and availability of trusted service networks. There has been strong interagency commitment, nevertheless, ongoing challenges persisted due to historical fragmentation, institutional racism, and limited resources.

Implications/Key Message

Optimising HHAN requires co-design of culturally safe implementation strategies, multi-methods including Indigenous methodologies, and data-driven mechanisms, e.g., linking to other sectors routinely collected data, to reflect health and social outcomes of value to families, providers, and policy makers.

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Unwanted variability in the handover process between hospital and temporary recovery care

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Introduction/Background

What makes that patients that are medically ready for discharge are waiting in the hospital for temporary recovery care (TRC, rehabilitation care) even if there are TRC-places available for them?

In healthcare operations literature, variability is seen as a major cause of underperformance in patient flow. Litvak and Long (2000) distinguish natural and artificial variability. Artificial variability is caused by self-imposed rules that unnecessarily lead to inefficiency. McManus et al. (2003) argue that artificial variability must be eliminated while natural variability can be managed. This study aims to identify sources of artificial variability and provides insight into measures to eliminate them.

Method

We have conducted a single case study in the setting of Treant hospital and two of their TRC locations in the Netherlands. We analysed documents and conducted 25 semi-structured interviews. Analysis has been conducted thematically, looking for patterns in different sources of artificial variability and measures to optimize the handover process.

Results/Findings

The handover process from hospital to TRC turned out to be much more complex than expected. A total of 26 sources of artificial variability were identified and measures were categorized in five types of practices to eliminate variability: (1) raise awareness, (2) integrate by sharing information and teaming up, (3) standardize procedures, (4) make policy choices that may limit autonomy, (5) centralize and redesign involved functions.

Implications/Key Message

This study contributes to a better understanding of artificial variability in the handover process between the hospital and TRC and provides rich descriptions of measures that go beyond information sharing and joint planning (Drupsteen et al., 2013).

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Local implementation of integrated care reforms: The interplay between regional context and state policy in the Collaborative Commissioning initiative.

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Introduction/Background

Most health systems necessarily entail a division of responsibility between central and local authorities, articulated through a combination of hierarchical, contractual and financial structures.

Collaborative Commissioning is an initiative of New South Wales, Australia with the vision to develop co-governed regional alliances between hospital and primary care. Each region is required to establish a case for entering the initiative, moving through formal phases of development, feasibility and implementation. We sought to determine how and why programs in each region converged and diverged in terms of focus, ways of working and underlying principles in implementing the initiative.

Method

Document review, key informant interviews and key stakeholder workshops with program designers, service providers and other stakeholders were undertaken to co-develop a localised theory-of-change (ToC) in each region. To compare and contrast, the core focus as well as underlying theoretical assumptions across each ToC were thematically and critically analysed.

Results/Findings

Local programs differ significantly in terms of ways of working and underlying theory; which we stratified into 4 groups. Group 1 focused on process – changing patient identification, flow and service provision. Group 2 focused on relationships (contractual, financial, professional) - between various service providers and identifying agents of change. Group 3 focused on problem clusters – formed due unique complex local circumstances. Group 4 focused on supply and demand – with service sustainability a key goal. Overall, elements of local context that determined focus and underlying principles ranged from population characteristics; payment models, contracting and availability of service providers; equity; geography; experience with other integrated care initiatives; and interprofessional relationships.

Implications/Key Message

Local implementation of central initiatives is highly dependent on a range of elements that stretches beyond local population need. Due to the complexity of factors, this impacts on the extent to which the underlying purpose of devolution can be fulfilled.

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Assessment of the limitations of economic evaluation of integrated care interventions for chronic diseases

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Introduction

Chronic diseases are a significant burden on healthcare systems worldwide. Integrated care models have been proposed as a potential solution to address the challenges of managing chronic conditions effectively and efficiently. However, economic evaluations of integrated care programs for chronic diseases face several limitations and challenges.

Method

An umbrella review of systematic reviews was conducted. Five databases (PubMed, Embase, Cochrane, EconLit, Web of Science) were searched from January 2016 to February 2024 for economic evaluations of integrated care programs targeting chronic diseases. Inclusion criteria followed the definition of integrated care by Goodwin (2016) and included full and partial economic evaluations. Two independent reviewers screened and extracted the data. Study quality was appraised using the Critical Appraisal Skills Program checklist. Results were synthesized and analyzed thematically.

Results

Out of 804 screened reviews, 20 met the inclusion criteria, primarily from high-income countries. Most focused-on type 2 diabetes, cardiovascular diseases, and asthma, with half using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses framework. Partial economic evaluations outnumbered full economic evaluations. Integrated care programs varied in components and settings with sectoral and people-centered integration being prevalent. Key limitations identified were definitional ambiguity of integrated care, lack of standardization in methodology, outcomes and comparator, poor quality of primary studies, limited economic data reporting including data sources, lack of uncertainty analyses, dominance of healthcare system perspective over societal perspective, and high risk of biases. While most evaluations suggested integrated care was cost-effective, findings were tempered by these limitations.

Key Messages

The review highlights several recurring limitations and challenges in economic evaluations of integrated care for chronic diseases, including substantial methodological limitations, reporting deficiencies and high risk of bias. Standardized definitions and methods, broader perspectives, and precise reporting guidelines are needed to enhance the quality and comparability of future economic evaluations for integrated care.

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Pilot study of the DoctorOnCall SIHAT telehealth program for the remote management of Type 2 diabetes in Malaysia

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Introduction/Background

The prevalence of diabetes in Malaysia rose from 13.4% in 2015 to 18.3% in 2018, driven by lifestyle factors like obesity, physical inactivity, smoking, and poor diet. Telemedicine has shown promise in improving outcomes for diabetes patients by reducing HbA1c. Building on this evidence, this mixed-methods study will evaluate a pilot telemedicine intervention for patients with diabetes in Malaysia.

Methods

100 participants with Type 2 diabetes in Kuala Lumpur received a tablet with the DoctorOnCall app, a smart glucometer and blood pressure (BP) monitor. Participants could optionally track meals and receive guidance from a dietician. They were asked to record their blood glucose 5 times per day for at least 6 days in the 2 weeks before their quarterly telehealth appointment with their doctor. HbA1c, body mass index (BMI), and BP were measured at baseline and after 12 months. Self-rated health status, diabetes-related distress, and diabetes self-care activities were measured by survey at baseline and after 9 months. Semi-structured participant interviews were conducted with 4 doctors and 9 people with diabetes to explore their experiences with the program after 6 months.

Results/Findings

71 patients have completed 12 months of the program. Among these participants, HbA1c has decreased from a mean of 8.73 at baseline to 6.81 at follow-up ($p<0.001$). A total of 87 patients have completed 9 months of the 18-month program. Among these participants, the frequencies of diabetes self-care activities have improved, however, their self-rated health status has decreased from a mean of 2.56 (out of 5) at baseline to 1.79 at follow-up ($p<0.001$). Interviewed participants felt more empowered in managing their diabetes but had mixed feelings about virtual consultations. Doctors appreciated improved data access.

Implications/Key Message

Preliminary findings suggest the program may enhance diabetes management, though increased awareness may lower perceived health despite clinical improvements.

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Proactive Rehabilitation Screening – preliminary results

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Intro & background

A novel, proactive screening process[1] was first developed at St Vincent's Hospital Sydney, aimed at case finding of rehabilitation candidates early in the acute care journey. Using this screening process, it has been demonstrated that suitable rehabilitation candidates can be identified early, and that provision of early in-reach rehabilitation can double the rate of discharge home from acute care and reduce the need for subsequent subacute inpatient rehabilitation[2].

Method

Screening of electronic medical records using the custom rehabilitation screening tool will be conducted by a rehabilitation physician at two hospital sites. Screening is done on day-5 after admission to an acute ward and/or day-3 after transfer to an acute ward from intensive care. After screening medical records, the screener was asked to decide on binary outcomes: (1) 'ruled-in', as appropriate and likely to need a rehabilitation programme; (2) 'ruled-out', as inappropriate and/ or unlikely to need a rehabilitation programme.

Results

To date, n=1600 cases in two additional hospitals have been screened and analysed. Patients with functional dependency who required high levels of allied health interventions were generally "ruled-in" by screening. In this cohort, 272 received rehabilitation programs (n=36 in-reach, n=203 subacute inpatient, n=33 both in-reach and subacute inpatient). 204 patients requiring rehabilitation (75.0%) were identified by screening earlier than tradition method of referral (the remaining n=68 patients were referred for rehabilitation prior to the time of screening). Screening demonstrated high sensitivity and specificity for identifying cases requiring in-reach and/or inpatient rehabilitation (see Tables 1 and 2); with values exceeding those traditionally considered as "acceptable" (60-80%) or "good" (>80%) for screening tools.

Implications

Based on preliminary analyses, proactive rehabilitation screening appears feasible to perform and returns favourable prognostic accuracy in two hospitalised cohorts.

References

1. Wu J et al. BMJ Open Quality 2021;10:e001267. doi: 10.1136/bmjoq-2020-001267
2. Wu J et al. Aust Health Review 2023;47:619-625.

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Tables

Table 1 Comparing screening outcomes in two hospital sites

	True positive (a)	False positive (b)	False negative (c)	True negative (d)
Definition	“Ruled-in” and received a rehabilitation program	“Ruled-in” but did not receive a rehabilitation program	“Ruled-out” but received a rehabilitation program	“Ruled-out” and did not receive a rehabilitation program
St Vincent’s Hospital Sydney n=4000	n=444 (11.1%)	n=276 (6.9%)	n=72 (1.8%)	n=3208 (80.2%)
Royal Prince Alfred Hospital & Prince of Wales Hospital n=1600	n=239 (14.9%)	n=111 (6.9%)	n=33 (2.1%)	n=1217 (76.1%)

Table 2 Accuracy of screening

	St Vincent’s Hospital Sydney n=4000	Royal Prince Alfred Hospital & Prince of Wales Hospital n=1600
Sensitivity a/a+c	86.0%	87.9%
Specificity d/b+d	92.1%	91.6%
Positive predictive value a/a+b	61.7%	68.3%
Negative predictive value d/c+d	97.8%	97.4%

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The HealthPathways Community - Enabling learning health systems to get evidence and policy into practice

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Introduction/Background

The HealthPathways Community is a global network of nearly 60 local health systems, collectively responsible for the care of over 30 million people. The community collaborates to develop localised care pathways that get evidence and policy into practice at scale. HealthPathways enables learning health systems to continuously improve towards the quintuple aim. We recently developed the first economic model of the value of implementing HealthPathways.

Method

We collated observational evidence from the community of improved quality and efficiency of care including reduction in low value diagnostics, improved prioritisation of outpatient consultations, and reduced acute demand. We used a cost-minimisation analysis in a model population of 5 million people to estimate the potential economic value of effectively implementing HealthPathways.

Results/Findings

Our model estimates that effectively implementing HealthPathways can deliver potential cost-savings of $9.76 per $1 invested.

Implications/Key Message

Care pathways can act as the memory of a learning health system, enabling continuous quality improvement and improved efficiency of care.

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Session 3C: Mental Health

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Factors associated with Medicare mental health services access and uti-lisation by Aboriginal and Torres Strait Islander peoples in southeast Queensland

Dr Xiaoyun Zhou[1,2], Ms Claudia Pagliaro[1,2], Mr Manuel Wailan[1,2], Prof Roxanne Bainbridge[3], A/Prof Xiang-Yu Hou[3], Dr Sandra Diminic[1,2]
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Background

This study explored inequities in mental health services access between Indigenous and non-Indigenous Australians and identified sociodemographic and service factors associated with service access and utilisation in an urban Indigenous population.

Method

We analysed linked 2021 Census, 2021 Medicare Benefits Schedule (MBS), and composite Indigenous identifier data from the ABS Person-Level Integrated Data Asset (PLIDA) for southeast Queensland (SEQ) residents. MBS-subsidised community-based mental health services delivered by GPs/medical practitioners, psychiatrists, and psychologists/allied health providers were examined. Multivariate regression analyses assessed factors associated with MBS-sbsidised mental health service access (whether used any mental health item) and utilisation (number of mental health items used in 2021).

Results

SEQ Indigenous populations had higher rates of access to MBS-subsidised mental health services compared with non-Indigenous populations. They utilised fewer total mental health sessions on average, and had significantly fewer psychotherapy sessions, a higher percentage of bulk-billed sessions, and incurred lower average gap payments. After adjusting for sociodemographic factors, Indigenous individuals still exhibited slightly but significantly higher rates of access to MBS-subsidised mental health services. Lower rates of access among Indigenous people were significantly associated with being male, aged 55 years or older, having less residence moves, living in one family household, and having no history of mental illness. Higher utilisation was significantly associated with having a higher degree, being not in the labor force, having a history of mental illness, receiving psychotherapy treatment sessions, and a lower percentage of bulk-billed sessions.

Implications

While overall access rates were slightly higher for Indigenous populations, lower utilisation of psychotherapies and overall services suggest ongoing inequities in access to sufficient care. Subgroups such as men, older adults and those with lower education levels may require more targeted interventions to ensure equitable access to mental health supports.

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Deriving consumer and carer preference weights for outcomes and items to inform evaluation and priority-setting in mental healthcare.

Dr Rachel O'Loughlin[1,2], Prof Kim Dalziel[1,3], Prof Harriet Hiscock[3,4], Prof Nancy Devlin[1]
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Introduction/Background

We aimed to quantitively describe the priorities of consumers and carers for outcomes and aspects of mental healthcare to inform evaluations, priority-setting and decision-making in mental healthcare.

Method

Participants were *n*=526 people with lived experience of mental health challenges (‘consumers’ and/or ‘carers’) aged 15+ years, who completed a 20 minute online survey. Best-worst scaling methods were used to design and analyse a series of choice tasks. Our previous work, in collaboration with lived experience advisors, determined the set of 21 items to include. Participants were randomised to one of three blocks of 7 choice tasks, and chose the 'most' and 'least' important item in each. We calculated the average individual best-worst score; the aggregate best-worst score; and used a conditional logit model to determine the probability of each item being chosen as best and worst. Results were examined for the total sample and subgroups of consumers versus carers; and age groups (15-24; 25-64; 65+ yrs).

Results/Findings

In preliminary results, the overall ranking of each item was largely consistent across individual B-W, aggregate B-W and conditional logit models. The top 5 most important items for the total sample were: (1) that consumers feel heard and listened to; (2) having access to the treating doctor; (3) psychological safety; (4) physical and sexual safety; and (5) an environment of respect and dignity. Items rated amongst the least important were: convenience of the service; consumers’ ability to complete daily tasks; and consumers’ physical health. Final results, including subgroup analyses, will be available at the conference.

Implications/Key Message

This project was a partnership between The University of Melbourne and Safer Care Victoria (SCV). It is intended that the results of this study are used to inform future evaluations and priority setting in the improvement work undertaken by the Mental Health Improvement Program within SCV.

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30 years of public mental health data and policy in Australia

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Introduction/Background

In this information age, health services in Australia routinely collect and maintain a range of electronic data about service use, funding, and patients as a matter of business. These are used to deliver care services, provide accountability for funding, track and monitor staffing and resources against service need, and for quality improvement opportunities.

Method

All 8 state and territory health departments, and some other organisations, regularly supply their mental health data to the Australian Institute of Health and Welfare (AIHW) for the purposes of data sharing and development, national data pooling and reporting. The AIHW has more than 35 years of experience working with health and welfare data and receives more than 170 data submissions every year for analysis and reporting on mental health collections alone.

Results/Findings

This presentation will describe key points in the recent history of mental health policy and data development that has led to the current high availability of data on mental health services. The presentation will also note key data sources that form this evidence base on mental health service use in Australia today.

Implications/Key Message

30 years of substantial investment, collaboration, development, and governance has evolved the large amount of data available on public mental health services in Australia to an extent not typically seen in other health areas. This presentation will describe key historical points in policy and data development and provide an overview of current availability of mental health services data. As we embark on new and expanded national data priorities under the newest National Mental Health and Suicide Prevention Agreement, the presentation will also consider likely future directions to impact and shape the availability of mental health related data.

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Development of a forensic mental health service planning model in Australia

Charlotte Comben[1,2], Dr Zoe Rutherford[1,2], Dr Carla Meurk[1,2], Dr Sandra Diminic[1,2]
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Introduction/Background
Forensic mental health services provide care to individuals who are or at risk of contact with criminal justice systems, a globally increasing population. In Australia, a national epidemiological planning model is needed to standardise national benchmarks to improve care and enable comparison across jurisdictions, which have varying service models. This presentation will describe steps taken to generate information for a forensic mental health service planning model.

Method
A three-stage mixed methods approach was used, including a Delphi process (n=88 clinicians, academics, lived experience advocates, and justice system representatives) and focus groups (n=20 forensic service directors, managers, peer workers and lived experience advocates). A systematic literature review of the prevalence of mental illness in Australian forensic mental health settings was also conducted.

Results/Findings
Nine discrete populations requiring forensic mental health services were identified through focus groups. These included indicated prevention, mild, moderate and severe and complex mental illness in prisons; people with severe and complex mental illness who require bed-based care, non-acute rehabilitation or community-based care; people who require community outreach services; and people who require court liaison services.

A systematic review is underway to quantify those populations. Results will be presented.

Nine core service types needed to provide forensic mental health care were defined through the Delphi, including forensic bed-based (acute; sub-acute; non-acute; non-acute community), forensic community, prison, outreach and court liaison services.

Implications/Key Message
Results are informing nationally consistent forensic mental health service planning in Australia. Inputs could be customised to create similar models internationally.

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Mental health in people with macular disease – Associations with loneliness and social isolation

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Introduction/Background

People with visual impairments are at risk of poor mental health and often do not seek mental health support. This study investigated the prevalence of mental health conditions and associations in people with macular disease, particularly age-related macular degeneration (AMD), which is the leading cause of vision loss among older people.

Method

A cross-sectional survey was conducted among people with macular disease recruited from Macular Disease Foundation Australia and social media advertisements. The survey included standard mental health (MH) scales: Geriatric Depression Scale-15, Generalized Anxiety Disorder scale-7, UCLA-Loneliness scale and the Lubben Social Network Scale–6. Associations between depressive symptoms and anxiety and predictor clinical and demographic variables were explored in multivariable logistic regression analyses.

Results/Findings

A total of 1969 participants (68% female; 75% aged >74years) completed the survey. 16% had depressive symptoms, 21% had anxiety symptoms, 21% were lonely and 22% socially isolated. Of those screening positive for depression and anxiety, 56% and 50% were not receiving any mental health support. Fair/worse self-rated vision [adjusted OR:4.19 (95% CI:2.28-7.70)], loneliness [3.42 (2.03-5.76)], social isolation [3.44 (2.0-5.91)], concerns about falling [2.92 (1.57-3.34)], poor sleep quality [2.42 (1.45-4.04)] and anxiety [8.48 (4.97-14.48)] were associated with increased odds of depressive symptoms. Age <75 years [adjusted OR: 2.62 (95% CI:1.68-4.09)], loneliness [3.76 (2.33-6.07)], concerns about falling [1.59(1.17-2.15)], poor sleep quality [2.28 (1.48-3.50] and depression [7.39 (4.36-12.54)] were associated with increased odds of anxiety symptoms. Counterintuitively fair/worse vision [0.55 (0.34-0.88)] was protective against anxiety.

Implications/Key Message

Depressive symptoms are four times more prevalent in people with macular disease when vision is impaired. Symptoms of depression and anxiety often co-occur. Many experiencing these symptoms were not receiving MH care, indicating the need for increasing awareness and support. The study calls for action by urging eyecare practitioners to incorporate routine mental health screening and referrals for individuals at risk.

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Understanding and optimising pathways for individuals in distress in the construction industry: a data linkage study

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Introduction/Background

There is increasing recognition of the importance of identifying and responding to distress in the community, both in the context of enhancing suicide prevention and in providing caring responses to alleviate suffering. Workers in the construction industry have been identified as a group at heightened risk of suicide. This presentation overviews findings of a data linkage study undertaken in Queensland, with respect to health service utilisation and health characteristics of construction workers before and after a 'distress related contact' with a construction industry organisation.

Method

Findings are derived from a linked data study built around a cohort of construction industry workers who had a 'distress related' contact with one of four major organisations over the three-year period 2018-2020. Data were linked to Queensland Health administrative datasets for the period 2017-2021.

Results/Findings

10,548 individuals were identified as meeting the criteria of having a distress related contact over the three-year period 2018-2020. This was in excess of 9 persons per day. Findings highlighted an association between workplace injuries and distress, mental health and suicidality. There was notable asymmetry in health service presentations, including those relating to injuries and intentional self-harm, pre and post an index distress contact, suggesting that the distress related contact may serve as either an inflection or resolution point for different individuals.

Implications/Key Message

Data linkage provided a unique perspective with which to examine the trajectory of distress among construction workers. Implications for enhancing caring responses will be discussed.

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Understanding use of civilian health services by veterans who experience suicide crisis: findings from a linked data study

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Introduction/Background

Suicidality is a source of suffering and risk factor for suicide death. Delivery of timely, targeted, and caring responses is necessary for individuals experiencing suicidality, but the evidence base about suicidality among veterans in Australia has been limited. It has been difficult to build a comprehensive profile of health services use for veterans, given both the complexity of Australia's health system and difficulties in reliably identifying veterans.

Method

This study reports findings on civilian health service use from a de-identified linked dataset of administrative health data based in Queensland. The cohort is based on individuals who were the subject of a suicide-related call to police or paramedics in Queensland over a three-year period 2014–2017, linked to state-based and Commonwealth health records that span 2013 –2018. Veteran was defined as "a person who is serving or has served at least one day in the ADF since 1 January 1985". Veteran status was ascertained through linkage with Department of Defence personnel records.

Results/Findings

1625 veterans were identified as having a suicide related contact with police or paramedics over the three-year period we examined. High rates of public health services utilisation was evident, with the majority of veterans having contact within 24 hours after police or paramedic contact. Use of Medicare funded services did not vary in the year pre or post a suicide related contact. High rates of both public and private mental health services use were evident.

Implications/Key Message

Findings highlight the extent, nature and timing of civilian health service contact by veterans.

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Building capacity for knowledge translation in the health workforce: Impact of the Allied Health Translating Research into Practice program

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Background: Knowledge translation (KT) in healthcare is a complex process. Building the KT capacity of the workforce is fundamental to closing the recognised gaps between research and practice; however there has been limited evaluation of KT programs beyond learning outcomes. This evaluation aimed to describe the longer-term impacts of the Allied Health Translating Research into Practice (AH-TRIP) program on participating allied health professionals, as well as downstream effects on health services and systems.

Methods: Semi-structured interviews were conducted with a sample of 20 AH-TRIP participants, selected via an expression-of-interest process and purposively sampled to represent diverse disciplines and geographical areas. Interviews were undertaken by a researcher not involved in program delivery, using an interview guide underpinned by the Framework to Assess the Impact from Translational health research (FAIT). Deductive content analysis was used to categorise impact according to FAIT, with the coding matrix refined as new domains were identified. Barriers and enablers to impact were mapped to the i-PARIHS framework.

Results: Impact was identified across six domains: clinical practice change, individual capacity building, workforce capacity building, network development, economic benefits, and community/patient benefits. Enablers of impact were program design (flexible and accessible expertise and support, mentoring, funding opportunities), local context supportive of research (manager support, access to KT and research expertise) and previous exposure to KT in practice/ training. Consistent barriers to program impact included lack of clinician time for KT, high turnover of staff (particularly in regional/rural areas), limited organisational research culture and short-term nature of projects/funding.

Implications: The AH-TRIP initiative has positive impact for the individual participants, as well as the workforce, health services and community. Achieving optimal impact from the program requires local and state-level efforts to fully support the workforce to participate and undertake KT projects, with specific strategies needed to support the regional/rural workforce.

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HIRAID™ improves the quality of emergency nursing in rural Australia

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Introduction/Background

The quality of emergency nursing assessment is crucial, particularly with current extended wait times for medical review. HIRAID™ is a clinical safety system for emergency nurse use with any patient presentation and known to reduce adverse patient events. The impact of HIRAID™ on clinical practice, handover and patient experience is unknown. Aim was to determine the impact of HIRAID™ on perceived quality of nursing practice, handover and patient experience.

Method

In 2021/2 HIRAID™ was implemented in 23 Emergency Departments with 550+ nursing staff in rural Australia using a multimodal, behaviour change informed implementation strategy that included eMR modification and documentation template, scaffolded training, executive sponsorship, audit and feedback. Permanently employed nursing staff participated in a pre-post survey assessing clinical practice. Patient experience was captured via telephone interview using Australian Hospital Patient Experience Question Set and Schmidt's Perceptions of Nursing Care Survey. Appropriate tests were conducted to determine any changes before and after HIRAID™ implementation using SPSS v26.0.

Results/Findings

There were 519 (300 pre, 219 post) nurse and 1283 (626 pre 657 post) patient responses. Nurses reported significant overall improvement in quality of nursing assessment ($p=0.004$), handover ($p=0.002$), recognition ($p=0.023$) and escalation ($p=0.007$) of patient deterioration. Overall reported patient experience significantly improved, particularly in pain management ($p<0.0001$) and communication ($p<0.0001$).

Implications/Key Message

HIRAID™ resulted in improved clinical handover and patient experience. A larger study is underway to evaluate medical staff perceptions, sustainability, and health service outcomes. HIRAID™ is the only validated tool for emergency nursing initial assessment and could be used in any ED.

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The effectiveness and cost-consequences of a multi-component hospital avoidance program in 11 residential aged care homes: results from a stepped-wedge cluster randomised trial

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Introduction/Background

Older adults living in residential aged care (RAC) can experience rapid deterioration in health, prompting emergency hospital transfer. Research suggests that some hospital transfers are avoidable if deterioration is identified early and managed within the RAC home. The EDDIE+ trial aimed to evaluate the effectiveness and cost-consequences of a multi-component hospital avoidance program in eleven RAC homes.

Method

The EDDIE+ intervention focussed on upskilling RAC staff to identify and manage signs of resident deterioration. It was tested using a stepped wedge cluster randomised trial conducted between March 2021 and May 2022 in 11 RAC homes across Queensland. The primary outcome measure was the number of hospital bed days used by residents, with secondary outcomes assessing emergency department transfer rates, hospital admission rates, length of stay and costs.

Results/Findings

A total of 1,137 hospital transfers for 727 individual residents were included in the final analysis. A non-statistically significant increase in weekly hospital bed days was observed following intervention exposure (relative difference: 1.13; 95% CI: 0.82 to 1.56). Conversely, there was an 18% relative reduction in ED transfers during the intervention period (95% CI: -34.23 to 2.06). There were no meaningful or significant differences observed in the rate of overall hospital admissions. The mean cost of delivering the EDDIE+ intervention was $32,459 per site, with variation in training costs observed across sites.

Implications/Key Message

The findings suggest that an intervention focussed on upskilling RAC staff may not be sufficient to change hospital transfer practices in this setting. The lack of program effectiveness may have been impacted by variability in implementation fidelity between sites, as well as staffing shortages that occurred during the COVID-19 vaccination roll-out period.

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Avoiding hospital transfers: Insights and lessons learned from the EDDIE+ study

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Introduction

A large number of hospital transfers from residential aged care (RAC) homes are potentially avoidable. Early Detection of Deterioration in Elderly Residents (EDDIE+) is a multi-modal intervention focused on proactive identification and management of resident deterioration. A stepped-wedge randomized controlled trial of the EDDIE+ intervention with an embedded process evaluation was conducted in 11 RAC homes across Queensland.

Methods

A mixed methods process evaluation, informed by the integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS) framework, was conducted to study implementation outcomes including the fidelity and acceptability, and barriers and enablers of implementation. Data were collected from documentation completed as part of the study, plus self-efficacy surveys and interviews with RAC staff in participating homes. Additionally, interviews were conducted with family members of residents and the project team staff involved in delivering and supporting the intervention.

Results

Findings highlighted a high level of acceptability of the EDDIE+ intervention. Whilst quantitative data from the self-efficacy surveys did not demonstrate a significant difference before and after the implementation of EDDIE+, qualitative findings indicated that staff felt that they had increased their knowledge, skills, confidence, competence, and communication in relation to managing clinical deterioration. However, implementation was challenged by significant contextual barriers, notably the pandemic, floods, and underlying workforce issues across the sector, which placed significant pressures on staffing. In turn, this influenced the ability of homes to maintain fidelity of implementation, in relation to planned delivery of education, enactment of the clinical facilitator role, and use of the additional equipment that was provided as part of EDDIE+.

Implications

Whilst some improvements can be made by empowering personal care workers and nursing staff with training, resources and equipment, hospital avoidance interventions using local facilitation as a key implementation strategy may find workforce issues particularly challenging.

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Implementation and evaluation of training in a systems thinking methodology for health services

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Introduction/Background

Systems thinking (ST) is an approach to problem-solving that considers ‘problems’ as part of an overall system, rather than as an isolated problem. The World Health Organisation advocates ST as an important approach for ‘strengthening health systems’. However, a systems approach to addressing complex problems has not been routinely used within health services. Group Model Building (GMB) is a technique developed to support ST and to develop a shared understanding of the relationships within a system. This study sought to evaluate and explore how training in ST may influence consumer engagement, capability, and confidence of rural regional health service personnel to utilise ST thinking methodologies, such as GMB, within their organisation.

Method

A two-day ST training program, was conducted with staff from rural and regional health services. Participants completed two online questionnaires (pre- and post- training), along with a follow up interview exploring their perceptions of the training and its impact. The questionnaire was developed using the Kirkpatrick model of training evaluation and highlighted potential areas for improvement, overall training effectiveness, and its impact upon participants confidence with implementing GMB within their organisation.

Results/Findings

There were 24 health service staff that participated in the training. Preliminary coding of interview data revealed a positive reaction to the training, with participants expressing a desire to implement GMB in practice. However, they emphasized the importance of gaining further practical experience. Limited capacity and resources were highlighted as key constraints to implementation.

Implications/Key Message

This study addresses several gaps in evidence relating to the potential feasibility and effectiveness of ST in health services. Training in ST was found to have improved the confidence, engagement and capability of rural and regional health service staff. It also highlighted the importance of providing opportunities for the practical application of learned skills, in order to maximize the effectiveness of the training.

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Australian Hospital EMR Data Transformation to OMOP Common Data Model: Enabling Multi-Institutional Research

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Introduction

Hospital EMR data holds potential for advancing research to improve care practices and patient outcomes. However, the multiple EMR formats and structure of this data pose challenges for direct application and interpretation. Our initiative aimed to transform exemplar hospitals EMR data to the OMOP Common Data Model (CDM) - an international standard adopted the US, UK, Europe, and South Korea.

Method

We leveraged standardised structures, terminologies, and vocabularies utilised in the OMOP CDM. Insights and toolsets from prior conversions of a NSW Cerner EMR enabled extraction and transformation of multiple Cerner-based EMR data repositories in Queensland and Victoria to the CDM. Beyond data transformation, we ensured open availability of tools, mappings, and expertise derived from this project. We fostered an active community of practice, making insights and methods reusable.

Results/Findings

2 Victorian public hospitals and a large general practice data set, together with Queensland Health, are transforming EMR data, with over 2 million Victorian and 1 million NSW patients represented in secure data repositories.

Implications/Key Messages

The work demonstrates a systematic approach to transforming hospital and GP EMR data into a standardised OMOP CDM to facilitate multi-institutional research. It highlights the importance of open tools, collaboration and building a community around data standardisation efforts.

The Future

Our long-term vision includes a roadmap for implementations of the CDM in Australian health services. It requires an educational and promotional capability at scale for Health Service Data managers, data scientists and researchers, together with a funding model to create a sharable workforce and sustainable support model.

National implementation of OMOP CDM practices into healthcare institutions' standard data frameworks would enable secure researcher access to aggregated clinical outcomes data and conduct cross-institutional studies.

Investigate the capacity of the CDM to support extracts from Clinical Quality Registries and reporting of National Standards.

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Development of a Health Services Research Impact Assessment Tool

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Introduction/Background

Health Services Research (HSR) plays a crucial role in advancing healthcare by understanding and enhancing its effectiveness and quality. However, traditional assessments of HSR impact often focus on easily quantifiable outputs such as academic papers, rather than direct benefits to healthcare systems and patients, which may be more significant to policy makers and the public. While conceptual frameworks exist to theorise the impact of HSR, there remains a need to develop appropriate, standardised tools for collecting data to measure this impact. This study aimed to a) investigate and validate applicable domains for assessing HSR impact using a pre-existing framework (the Payback framework), b) determine measurable indicators for each domain, and c) develop a standardised HSR Impact Tool.

Method

Focus groups were conducted with key stakeholders located in a specialist cancer hospital including health services researchers, consumers, and research administrators to discuss proposed Tool domains and identify potential indicators for domain measurement. Participants were given the Payback framework, and example indicators for each domain (knowledge; benefits to future research and research use; benefits from informing policy; health and health sector benefits; and economic benefits were reviewed and confirmed). Indicators were selected through consensus. The format, medium and target user of the tool was also determined. Data were analysed using qualitative content analysis.

Results/Findings

Domains were confirmed, and key indicators selected. The tool is researcher-completed, and indicators emphasise the need for early assessment of potential domains of impact as well as means to evidencing and recording impact activities.

Implications/Key Message

The HSR Impact Tool enables standardised and robust measurement of HSR research impact both within and across health services. Data from tool use can be used to highlight gains and gaps in HSR impact, which can inform the planning of effective HSR projects and highlight the benefits of funding HSR projects.

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Speaking out for safe, comprehensive primary health care: First Nation’s designed PREM

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Introduction/Background

The VOICE Project is working with First Nations communities to co-design and validate a Patient Reported Experience Measure (PREM) for use in Indigenous primary health care (IPHC) services. This initial phase aims to identify elements of quality care most valued by Aboriginal and Torres Strait Islander peoples by eliciting stories of their experiences.

Method

Guided by an Aboriginal and Torres Strait Islander Advisory Group, our team of Indigenous and non-Indigenous researchers conducted yarning circles and individual interviews with clients of eight IPHC services. Yarning circles were led by an Aboriginal researcher, and recorded, transcribed and analysed using grounded theory. The Advisory Group participated in the analysis and interpretation.

Results/Findings

20 yarning circles and two one-on-one interviews with 160 community members (96% Indigenous, women/men, aged 18 to 91 years) were undertaken. We identified an overarching concept that Aboriginal and Torres Strait Islander peoples value a health service that embodies cultural spirit and integrity. Four other core concepts were identified: **‘Accessing quality care’** - locally available/affordable choices of care, culturally appropriate amenities, timely appointments, supportive health service systems, and staff qualities and competencies; **‘Owning the space - connection, and sense of belonging’** - community and cultural connections, inclusivity, social engagement, on Country access to healthcare; **‘Knowing’** - creating awareness and promoting the service so consumers are empowered to advocate, navigate, and manage their health care; and **‘Working with people as partners in health care’**- personalized and consistent care, care for the whole person with dignity and compassion, patient-service provider relationships, integrated care coordination, and engagement with providers as important for good consumer experience.

Implications/Key Message

Inputs from community and health services in the co-design and validation process will ensure the PREM tools meet service needs for continuous quality improvement and reflect the priorities and values of Aboriginal and Torres Strait Islander peoples.

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Feasibility of routine collection of patient reported outcome measures using a co-designed collection system

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Introduction

A digital PROM collection system has been co-designed with consumers and clinicians at Peninsula Health. This study aimed to test the feasibility of the digital collection system amongst consumers of the health service.

Method

This feasibility study was conducted on one acute medical ward and one sub-acute/rehabilitation ward over a 6-week period. Participants aged ≥60 years were administered the EQ-5D-5L at discharge via iPad, and short message service (SMS) or telephone at home if missed in hospital. EQ-5D-5L was re-administered 3-6 months following discharge via SMS or telephone. Mode of administration, administration time, and assistance required to complete EQ-5D-5L were measured. Participant acceptability of EQ-5D-5L was measured using a Likert scale. A systems usability scale measured participant acceptability of the digital collection system.

Results

The overall completion rate across the two wards was 84% (n=110/131) at discharge from hospital and 72% (n=90/125) at follow up, excluding six who died. Most participants completed PROMs at discharge on the iPad (n=63, 57%), followed by phone (n=38, 57%), and SMS (n=9, 8%). The average time to administer PROMs at discharge was greater for iPad (17.9 minutes) compared to phone (8.8 minutes); and least for SMS (1.3 minutes). Of those who completed PROMs on the iPad (n=63), 42 (67%) required assistance. Participants agreed that completing the EQ-5D-5L improved communication with their therapist (n=100, 91%) and made them feel more in control of their care (n=100, 91%). Participant acceptability of the digital system was lower for the iPad (61%) compared to SMS (discharge=100%; follow-up= 93%).

Implications

Using multiple modes of administration met the needs of consumers. Given that many people required assistance to use the iPad, digital collection of PROMs on busy hospital wards may not be feasible without dedicated collection staff. SMS and telephone collection soon after discharge may be a viable alternative.

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Cocreating digital PREMS suitable for people with intellectual disability in the Listen to Me project.

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Introduction/Background

Patient Reported Experience Measures (PREMS) co-designed with and for people with intellectual disability are required in Australia to enable collection of data to address significant inequities in health care access and outcomes. PREMS are increasingly used to collect feedback about care to inform health service planning and improvement, yet the standard routinely used PREMS often inadvertently exclude people with intellectual disability. Listen to Me is a 3-year consumer led project that aims to improve healthcare outcomes for people with an intellectual disability by cocreating and implementing an accessible digital Patient Reported Experience Measure. The first phase of Listen to Me is the codesign of a digital PREM suitable for people with intellectual disability.

Method

We are using a citizen science approach using codesign methodology, which incorporates inclusive arts-based research methods. The codesign group includes 8 consumers with lived experience, 3 researchers, including digital design specialists, and members of the Listen to Me project group invited for input as needed. We conducted 4 codesign workshop meetings, with flexible engagement between workshops, to develop a digital PREM prototype. The prototype PREM will be piloted with 20 consumers with intellectual disability to determine accessibility and feasibility.

Results/Findings

In this session we will report the inclusive codesign approach used to develop a digital prototype PREM for people aged 6 and above, with intellectual disability. We will provide reflections for health services researchers engaging in inclusive codesign with people with intellectual disability and present the resulting tool.

Implications/Key Message

Engaging people with lived experience in design and evaluation is essential to produce a PREM suited to people with intellectual disability.
When creating a PREMS to inform change, it is important to facilitate input from all stakeholders throughout the process, from consumers to policy makers, to ensure the suitability and usability of data collected.

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Investigating women's preferences for maternity service delivery in a future pandemic: a discrete choice experiment

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Introduction/Background

The COVID-19 pandemic forced maternity care services to adapt infrastructure and service delivery according to public health policy and guidelines. As a result, women's autonomy and the holistic approach to respectful maternity care was reduced leading to many unintended consequences. This novel study aims to identify, compare and contrast the choice preferences of women for maternity care service delivery in the event of a future pandemic.

Method

A discrete choice experiment was developed to elicit women's preferences. A partial-profile, Bayesian d-efficient experimental design was developed in Ngene and consisted of 60 choice tasks, with 8 attributes and 2 alternatives. Attributes described a hypothetical maternity service in Australia. The survey was shared on Qualtrics, and eligible participants completed 10 hypothetical choice tasks each. STATA18 was used to conduct a mixed logit regression and latent class analysis.

Results/Findings

In total, 913 Australian women of childbearing age completed the survey. Almost all attribute level means were statistically significant suggesting they were considerably important to women when evaluating maternity services. In scenario 1 (first pregnancy) women considered antenatal care delivered via face-to-face or hybrid and extended length of stay in health facility as most influential in making choices between maternity services. Interestingly, in scenario 2 (subsequent pregnancy), these attributes had a negative influence on women's choices. The latent class analysis also determined three different classes that women could have membership to.

Implications/Key Message

Nulliparous and multiparous women placed different levels of relative importance for the attributes described in this hypothetical scenario. Women's preferences for care are heterogeneous, and a blanket rule approach to public policy and practice during a pandemic does not provide adequate support for childbearing women. Future pandemic preparedness plans for maternity care should include the input from key stakeholders to acknowledge the diverse needs of women.

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Health-related quality of life and utility of maternity health states amongst post-partum Australians

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Introduction/Background

Measuring health-related quality of life is critical to improving maternity service value. However, only one maternity service in Australia has embedded this measurement into everyday business. In this study we aimed to measure patient-reported health-related quality of life amongst post-partum women in Queensland, Australia using the EQ-5D-5L.

Method

Patient-reported health-related quality of life data was prospectively collected from 134 post-partum women at weekly intervals over the first six weeks post-birth using the EQ-5D-5L. Data across the five health domains of the EQ-5D-5L was converted to a single health utility value to represent overall health status. Linear mixed model and regression analyses were used to examine changes in utility over the first six weeks post-birth and determine associations between utility and clinical and demographic characteristics of post-partum women.

Results/Findings

Gestation at birth and weeks post-partum were significantly associated with utility values when considered in a multivariate linear mixed model. Mean utility values increased by 0.01 for every week increase in gestation at birth, and utility values were 0.70 at one week postpartum and increased to 0.85 at six weeks postpartum. The largest increase in utility values across the first six weeks post-partum occurred between one- and two-weeks post-birth. When controlling for variables that were found to predict utility values across the first six weeks postpartum significantly, no single state of health predicted utility values at one week postpartum.

Implications/Key Message

Measuring health-related quality of life enables people who give birth to give feedback to maternity services, and future consumers to use the data to make informed decisions. Maternity services can benchmark against our results, and researchers and maternity services can partner to also conduct cost-effectiveness analysis using our more relevant utility values than what is currently available. Time since birth and gestational age of the woman's baby should be considered when selecting post-partum health state utility values for maternity services cost-effectiveness analyses.

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SWIFT Insights: Exploring clinicians' perspectives on the use of patient-reported outcomes measures (PROMs) for symptom monitoring in nephrology

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Background: The Symptom monitoring WIth Feedback Trial (SWIFT) is a national randomised-control trial aimed to assess the clinical outcomes and cost-effectiveness of using the Integrated Palliative care Outcome Scale (IPOS)-Renal measure for symptom monitoring in adults on haemodialysis. Despite growing evidence supporting the use of patient-reported outcome measures (PROMs) in nephrology, effective implementation in routine practice is still a challenge. This study aimed to explore clinicians’ perspectives on the use of electronic PROMs (ePROMs) in a haemodialysis setting before and after implementing ePROMs as part of SWIFT.

Method: Semi-structured interviews with clinicians across 12 sites (public or private) were conducted to explore the acceptability and feasibility of collecting, interpreting, and acting on ePROMs, including quality of life and symptom burden. Interviews were conducted either before or after the implementation of SWIFT, and thematically analysed.

Findings: Nurses(n=6), nephrologists(n=12), renal supportive care staff(n=3) and site trial managers(n=1) participated in a semi-structured interview (additional interviews ongoing). The preliminary findings include: 1) Lack of PROM data access led to nephrologists relying on informal symptom monitoring and biomedical evaluations to assess symptom burden; 2) PROMs, for some clinics who had not previously used ePROMs, helped reorient clinical care toward patient priorities; 3) Low adoption of ePROMs, in some private health clinics, was attributed to limited referral options for non-nephrology symptoms; and 4) Clinicians saw the value of ePROMs in providing longitudinal data, but some were unclear about how to access this data and then use it to inform care.

Implications: Insights from SWIFT and our qualitative evaluation can guide the implementation of ePROMs in other settings, by offering insights into barriers and enablers to collecting, interpreting, and actioning ePROM data in nephrology clinical settings and registries. This can inform how multidisciplinary care teams refer and manage symptoms that matter most to patients.

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HEALTH
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DAY TWO

THUR 5 DEC 2024

HEALTH SERVICES RESEARCH IN THE

DIGITAL AGE

Invited Speaker: Professor Melissa Baysari, The University of Sydney

Evidence as a driver for clinical decision support selection

Prof Melissa Baysari, Assoc Prof Ling Li, Ric Day, Johanna Westbrook, Bethany Van Dort, Wu Yi Zheng, Maria Moran, Renee Quirk, Kristian Stanceski, Andrew Hargraves, Peter Kennedy, Karma Mekhail, Paula Doherty, James Grant, Nanda Aryal, Janna Baker, Sarah Hilmer

Introduction/Background
Clinical decision support (CDS) alerts are frequently implemented in electronic medical record (EMR) systems to reduce the occurrence of errors and patient harms, however, limited evaluations of alerts have been conducted. In this presentation, I outline a program of work which aimed to understand the role evidence plays in selection and implementation of CDS, and to generate evidence on the effectiveness of drug-drug interaction (DDI) alerts, a common form of CDS.

Method
The study was conducted across 5 hospitals in NSW and QLD and used two main methods: 1) qualitative interviews with senior hospital staff, and 2) a controlled pre-post design, with retrospective chart review. For Part 2, over 2500 patient charts were reviewed 6 months before and 6 months after implementation of the EMR to identify potential DDIs, clinically relevant DDIs, and patient harms associated with the DDIs.

Results/Findings
Interviews revealed that decisions to implement CDS are rarely evidence-based. Instead, CDS selection is guided by the expectation that benefits will be achieved, bolstered by vendor assurances, and a perception that implementation of technology is unavoidable. The controlled study showed that over 70% of patients experienced a potential DDI during their hospital admission, but only ¼ of these were clinically relevant. Only 200 (0.5%) of the 37,229 potential DDIs identified resulted in patient harm. Importantly, the introduction of DDI alerts had no impact on rates of clinically relevant DDIs or on patient harms.

Implications/Key Message
Evidence is rarely a driver for CDS selection, but it should be. Our large study showed that DDI alerts, in their current form are not effective in preventing clinically relevant DDIs or patient harms. Adopting a more evidence-based approach to CDS selection is likely to lead to more effective and less disruptive CDS, increasing safety benefits.

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Invited Speaker: Professor Sarah Larkins, James Cook University

Mind the Gap! Digitally-enabled health care to improve access, equity and quality: lessons from rural and regional health systems research

Dr Sarah Larkins

Introduction/Background

Considerable inequities in access to health care and health outcomes exist across rural and remote Australia. In response to need, northern Australia has been a relatively early adopter of digital health interventions, largely aimed at improving access to health care, and increasing efficiency. This growth occurred long before the COVID-19 pandemic accelerated the adoption of digital health (especially telehealth) more widely. Over recent years, there has been increased recognition that these digital health innovations are much more likely to be sustainable when consumers and other end-users are closely involved in their co-design and implementation.

Method

This presentation will discuss the participatory approaches used and findings of several funded research and health service improvement projects in northern Australia. Using geographic visualization of existing knowledge, services and unmet need with participatory place-based planning and prioritization, co-design of solutions and implementation and evaluation of outcomes our teams have built understanding of how best to incorporate community and consumer voices into health services research.

Results/Findings

Genuine placed-based involvement of community members, local health care providers and their regional referral partners is critical to embedding sustainable digital health care solutions and can deliver high quality care more efficiently and closer to home. We share findings through publicly available resources such as the North Queensland Health Atlas, the Northern Australian Regional Digital Health Collaborative website and socials, academic dissemination and policy briefs.

Implications/Key Message

Health services research involving the design and implementation of digital health interventions needs to focus on digital health as a means to an end, rather than an end in itself and must be designed and implemented in partnership with local communities. Access, equity and quality and safety (including cultural acceptability) are all important as we seek to move towards a digitally-enabled learning health system that improves health for all.

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A patient decision support tool for total knee replacement – results from a randomised control tria

Assoc Prof Chris Schilling[1], Yushy Zhou[1], Lauren Patten[1], Tim Spelman[1], Michelle Dowsey[1], Peter Choong[1]
[1]University of Melbourne, , Australia

Introduction/Background

“But will this surgery help me?” People with osteoarthritis reasonably ask this question when considering a total knee replacement (TKR), yet the answer is often based on averages. On average, across a population, TKR improves patient outcomes in a cost-effective manner. Of course, there is no such thing as an average patient, and for up to one in five recipients, TKR doesn’t help.

Method

A pilot decision-support tool (SMART-Choice) was developed to allow people to assess their likelihood of benefiting from surgery, based on their own attributes, health-related quality of life and pain and function symptoms. The tool was developed using data from the St Vincent’s Melbourne Arthroplasty (SMART) registry, which has captured outcomes for over 5,000 TKRs over the last decade. A randomised control trial was then conducted to test if using the tool altered peoples’ willingness and preferences for surgery. Over 200 people were offered either the tool (treatment arm) or standard care (control arm) and followed up over six months to see if using the tool helped to better select patients into surgery. An economic evaluation and qualitative study was also conducted.

Results/Findings

The results found some evidence that using the SMART Choice led people to reconsider their preference for surgical treatment for osteoarthritis at 6 months (odds ratio for preference for non-surgical treatment: 2.16, $p = 0.06$). The qualitative study found that small improvements to the wording of the results could further improve the effectiveness of the tool. The economic evaluation found the tool to be cost-effective under most scenarios.

Implications/Key Message

Providing personalized information to people to help them decide on their treatment journey has the potential to improve patient selection for large volume, high-cost surgeries like TKR. Further work is required to improve decision support tools like SMART-Choice and integrate them into practice.

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Back@Home: a virtual hospital for back pain in the Sydney Local Health District

Dr Gustavo Machado[1], Chathurani Sigera[1], Alla Melman[1], Crystian Oliveira[1], Min Jiat Teng[2], Danielle M Coombs[1], Chris G Maher[1]
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Introduction

Hospital admission for low back pain (LBP) places a significant burden on the healthcare system. In 2022-23, over 145,000 patients with LBP presented to emergency departments (ED), with one-third of these were admitted to hospital. These admissions last an average of nine days and cost $15,000 per episode. This study aims to determine the effectiveness of a virtual hospital model of care for LBP (Back@Home).

Method

This study was conducted in Sydney Local Health District. Back@Home was co-designed with clinicians and implemented through educational meetings, local opinion leaders, and local consensus discussions. Eligible patients included those with non-serious LBP presenting to EDs requiring admission or likely to re-present and inpatients. Video calls and mobile applications were used for providing virtual care. Heat wraps were delivered to patient's home and home visits were available as needed. Outcomes were compared before and after implementation of Back@Home. Health service outcomes included admission rates, length of hospital stay, and ED re-presentations. Patient-reported outcomes included pain intensity, physical function and satisfaction with care. Pre-/post-cluster-level linear or logistic regression analyses were performed to obtain effects on health service outcomes.

Results

Data analysis will be completed by end of November 2024 and the complete results including the effects on health service outcomes will be presented at the conference. Patient-reported outcome data from 305 patients have shown that pain intensity (4.2 [2.5] vs 5.6 [2.6]), physical function (20.5 [6.6] vs 14.6 [8.9]) and satisfaction (7.8 [2.3] vs 7.6 [2.6]) were better in the virtually admitted patients compared to the traditionally admitted cohort.

Implications

The Back@Home model of care has shown promising evidence it provides equivalent or better patient outcomes compared to inpatients. This research will support the evaluation of a novel model of care, generating detailed data to inform healthcare service planning, guidelines, and quality improvement.

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Using research to inform the implementation of short-stay joint replacement models of care

Prof Ilana Ackerman

Introduction/Background

Forecast growth in joint replacement rates will place ongoing strain on the Australian health system and safe, efficient models of care are needed to meet expected demand. Short-stay joint replacement programs (also known as ‘fast track’ or ‘rapid recovery’ programs) have been introduced in many countries but are uncommon in Australia and implementation challenges require exploration.

Method

The research program comprised three components:

1. A systematic review of contemporary evidence for short-stay joint replacement programs, focusing on optimal patient selection, safety considerations, and barriers to implementation and sustainability;

2. A national stakeholder survey of the acceptability and feasibility of short-stay joint replacement programs, current practices, and barriers and enablers to implementation and sustainability; and

3. A budget impact analysis of potential cost savings and other impacts from implementing short stay joint replacement models of care across Australia

Results/Findings

There was low-certainty evidence of similar outcomes for short-stay programs, compared to usual care, and a lack of evidence to guide optimal patient selection. For health professionals, the most frequently perceived barriers were limited appropriateness of short-stay programs and inadequate patient supports at home. Short-stay programs were moderately appealing to patients and of little appeal to carers. Top barriers for patients were not having daily access to physiotherapy and concerns about mobility, pain and managing daily activities. The budget impact analysis estimated overall savings of $641 million for 2023-2030 and 336,000 acute bed days saved. The model would remain cost saving if only 10% of public patients or 2% of private patients were moved into a short-stay pathway.

Implications/Key Message

National implementation of short-stay programs offers significant potential for savings and increased surgical throughput, with low-certainty evidence of similar safety outcomes compared to usual care. Importantly, this research has highlighted opportunities for addressing key challenges to facilitate broader national implementation.

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Successes and challenges implementing a blended digital mental health intervention (myNewWay) for depression and anxiety

Prof Jill Newby

Introduction/Background

Digital interventions for depression and anxiety (e.g., smartphone apps; online programs) can improve access to mental health care, but low uptake and poor adherence to these programs are found in routine care. To address this, we co-designed the myNewWay™ blended care system, with mental health professionals and people with lived experience. It combines a smartphone app, with brief, engaging CBT-based modules that can be personalized to individual client needs/goals/symptoms, with a health professional portal for clinicians to track client progress.

Method

This implementation trial aimed to evaluate the acceptability, effectiveness, and factors associated with successful implementation of myNewWay™ when used by Australian Psychologists (*n*= 43; 74.4% females) with their clients (1-8 clients/psychologist, n=66 clients). Client (e.g., DASS-21, WSAS, eTAP) and psychologist outcomes (e.g., NoMAD, eTAP-T) were assessed at baseline, 3 (post) and 6 months (3-month follow-up). Qualitative feedback was collected on the system's acceptability, user engagement (clients), feasibility and training (psychologists).

Results/Findings

Client uptake was 85.9% (*n*=55). Client and psychologist feedback suggests that myNewWay™ was highly acceptable. Significant reductions in depression, anxiety and stress, and improved quality of life were found between baseline and post-intervention, and these improvements were maintained at the 3-month follow-up. Key facilitators (training, research support, practitioner confidence, ease of use/positive attitudes toward the system) and barriers (time, lack of new and suitable clients) of implementation were identified.

Implications/Key Message

Blended care is an exciting new model of care that promises to increase efficiency and effectiveness of depression and anxiety treatment in Australia. The first formal evaluation of myNewWay™ has provided initial evidence that the blended care system is acceptable, and can be successfully integrated into routine care for depression and anxiety. Future work will focus on using feedback to refine the functionality of myNewWay™ and training/implementation model before further evaluation and roll-out.

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ATP Symposium 05: Australian Teletrials Program

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Introduction session

Ms Kaye Hewson

Teletrial session overall abstract:

Patients in regional, rural, and remote (RRR) Australia face significant barriers to accessing advanced healthcare due to vast geographical distances and cultural differences. The Australian Teletrial Program (ATP) has been working to bridge this gap by facilitating access to clinical trials under the supervision of experienced primary trial sites located in larger, well-established centres. Our Regional Clinical Trial Coordinating Centres have been established across all six jurisdictional partners, deploying mobile clinical trial staff to support the workforce at RRR sites, ensuring seamless operation and integration of clinical trials in these areas. This discussion explores the experiences and provides examples of how the program and teletrials have added to Clinical Trial sites' capability and capacity building in RRR locations.

Evidence-Based Communication

Miss Lorelle Silveira

Teletrial session overall abstract:

Patients in regional, rural, and remote (RRR) Australia face significant barriers to accessing advanced healthcare due to vast geographical distances and cultural differences. The Australian Teletrial Program (ATP) has been working to bridge this gap by facilitating access to clinical trials under the supervision of experienced primary trial sites located in larger, well-established centres. Our Regional Clinical Trial Coordinating Centres have been established across all six jurisdictional partners, deploying mobile clinical trial staff to support the workforce at RRR sites, ensuring seamless operation and integration of clinical trials in these areas. This discussion explores the experiences and provides examples of how the program and teletrials have added to Clinical Trial sites' capability and capacity building in RRR locations.

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Digital uplift of a country health system

Narelle Mullan

Abstract

The WA Country Health Service is revolutionising the delivery of clinical trials by embracing digital innovation to improve equity of healthcare for our diverse communities throughout Western Australia. This presentation will outline how investment into digital solutions is supporting public health services in WA and laying the foundation for trialling digital health interventions. Insights from clinicians who have been early adopters of the Teletrial model will also be shared.

Train a Trainer Teletrial

Alison Kennedy

Teletrial session overall abstract:

Patients in regional, rural, and remote (RRR) Australia face significant barriers to accessing advanced healthcare due to vast geographical distances and cultural differences. The Australian Teletrial Program (ATP) has been working to bridge this gap by facilitating access to clinical trials under the supervision of experienced primary trial sites located in larger, well-established centres. Our Regional Clinical Trial Coordinating Centres have been established across all six jurisdictional partners, deploying mobile clinical trial staff to support the workforce at RRR sites, ensuring seamless operation and integration of clinical trials in these areas. This discussion explores the experiences and provides examples of how the program and teletrials have added to Clinical Trial sites' capability and capacity building in RRR locations.

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Session 4E: LIGHTNING TALKS

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Minimising alert fatigue in digital healthcare: Think rankings, not thresholds

Dr Robin Blythe[1]
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Introduction/Background

In acute care settings, it is common to hear beeps, buzzers, and alerts no matter where you are. As we begin to see a dramatic rise in the use of predictive analytics to diagnose and triage patients, the number of alerts is likely to increase, contributing to clinicians feeling overwhelmed with or even ignoring alerts. While recent research has focused on deriving better thresholds that minimize fatigue, it may instead be more productive to rank patients by predicted risks, saving alerts for urgent situations.

Method

I used two years of vital signs data from 5 digital hospitals in Queensland, Australia to predict the risk of deterioration, or the transition of patients to worse clinical states that increase their chances of suffering adverse events. I developed both a Cox regression and a logistic regression model to demonstrate how the predictions from different modelling paradigms for the risk of in-hospital mortality can differ. Model performance was assessed using cross-validated discrimination and calibration. I then visually illustrated how this ranking process may look in clinical practice without the need for alerting processes.

Results/Findings

Using data from over 520,000 patient days, two models were developed to predict in-hospital mortality. The Cox regression had a cross-validated c-statistic of 0.97 and slight risk overestimation, while the logistic regression model had a cross-validated AUC of 0.95 with poorly calibrated risks. Applying the Cox regression to a ranking approach demonstrated how the model could adjust predicted risks over time for each patient based on acuity, leading to a ranked list of patients based on how urgently they should be evaluated.

Implications/Key Message

By applying a highly discriminatory model that can rank patients by how urgently they should be seen, alerts can be saved for critically urgent events.

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Counting the cost of hospitalised injury from administrative data: three considerations

Dr Clifford Afoakwah[1,2], Jacelle Warren[2,1], Dr Victoria McCreanor[3], Dr Shahera Banu[2], Professor Michael Schuetz[2,1], Professor Steven McPhail[1], Professor Kirsten Vallmuur[1,2]
[1]Queesnland University of Technology, Kelvin Grove, Australia, [2]Jamieson Trauma Institute, Herston, Australia, [3]Hunter Medical Research Institute , New Lambton Heights , Australia

Objectives: To examine the relative differences in cost estimates from hospital administrative data when using 1) hospital reimbursement based on National Efficient Price (NEP) versus local hospital costings methods, 2) inflation factors based on Consumer Price Index (CPI) versus health group index, and 3) different healthcare funder's perspectives.

Design*:* Retrospective population-based cohort study of linked Queensland Hospital Admitted Patient Data Collection (QHAPDC) dataset and National Hospital Cost Data Collection (NHCDC) data.

Setting: All admitted injury-related care episodes occurring within a major trauma hospital in Queensland during 1 January 2012 to 31 December 2017.

Outcome measure: In-patient hospitalisation cost comprising both direct and overhead cost associated with each episode of care.

Results: Injury without catastrophic/severe complications or comorbidities was the most frequently occurring AR-DRG over the 6-year period, while Rehabilitation with catastrophic complications or comorbidities was the most expensive ($38,461, 95%CI: $36,569 - $40,353). Among the top ten AR-DRGs, seven had NEP-based cost estimates substantially higher than the hospital-reported costs, with differences varying between 6.8% and 44.9%. CPI-inflated costs were significantly lower than health group index-inflated estimates, with observed differences between 6.9% (95%CI: 6.1% - 7.8%) and 11.8% (95%CI: 10.7% - 12.9%) for the same AR-DRG. Finally, cost estimates were significantly higher for care funded by private health insurers compared to care funded by either the public insurer or compulsory third-party injury insurers, with differences varying significantly between 8.1% (95%CI: 2.6% - 13.1%) and 10.6% (95%CI: 7.8% - 13.3%) for the same AR-DRG. Care funded by compulsory third-party injury insurers, however, incurred the highest cost for the most expensive AR-DRGs.

Conclusion: There were considerable discrepancies in cost estimates for common injury-related hospitalisations depending on type of costing method used, inflation metrics applied, and healthcare funder's perspective. These factors must be considered when evaluating Australia's health system using hospital administrative data.

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Developing the Local Consensus for Implementation Model

Dr Lisa Pagano[1], Dr Janet C. Long[1], Dr Emilie Francis-Auton[1], Dr Gaston Arnolda[1], Professor Jeffrey Braithwaite[1], Associate Professor Andrew Hirschhorn[2], Dr Mitchell N. Sarkies[1,3]
[1]Australian Institute of Health Innovation, Faculty of Medicine, Health and Human Sciences, Macquarie University, Macquarie Park, Australia, [2]MQ Health, Faculty of Medicine, Health and Human Sciences, Macquarie University , Macquarie Park, Australia, [3]Sydney School of Health Sciences, Faculty of Medicine and Health, University of Sydney, Camperdown, Australia

Introduction/Background

Perioperative pathways that standardise surgical care can improve patient outcomes and promote consistent quality of care. However, substantial variation in surgical care delivery persists globally. A key challenge is fostering agreement between autonomous clinicians. Consensus discussions hold potential as a strategy to facilitate agreement, yet the processes used to reach agreement are poorly understood. This study examined how clinicians build consensus and how these discussions influence the implementation of standardised perioperative pathways.

Method

A qualitative, modified grounded theory study was conducted in one private hospital in metropolitan Sydney. Thirty-one participants from clinical disciplines and hospital management/leadership were recruited using convenience sampling. Data were collected from nine semi-structured interviews and 15 participant observations of consensus development or implementation meetings. Data collection and analysis occurred concurrently until theoretical saturation was achieved. Interviews and field notes were recorded and transcribed verbatim. Data were analysed in NVivo.

Results/Findings

Analysis revealed several determinants crucial for building consensus which were integrated into a model. Mechanisms for reaching agreement were also identified. Seeking evidence to support decision-making emerged as the primary driver of consensus discussions. Strong evidence in support of a practice facilitated swift decision-making. Where there was ambiguous evidence for a pathway component, clinicians based their decisions on a desire for professional autonomy, consideration of how their peers practice, patient preferences, external requirements, or feasibility of implementing the pathway component. Multidisciplinary engagement, streamlining workflows, highlighting the value of standardising pathways and using targeted behaviour change methods were found to promote adoption and successful implementation.

Implications/Key Message

Perioperative pathways can be successfully developed using consensus discussions and understanding how clinicians reach consensus is essential to maximise implementation efforts. This model provides a valuable blueprint for healthcare organisations seeking to optimise the informal consensus process for developing and implementing perioperative pathways.

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Navigating Mobility: Understanding organisational factors shaping adult patient mobility in acute care settings

Ms Joanne Nolan[1,2], Dr Claire Hutchinson[1], Professor Alison Mudge[3,4], Ms Amy Ross[2], Dr Nicky Baker[1], Professor Tiffany Conroy[1]
[1]Flinders University College of Nursing and Health Sciences, Caring Futures Institute, Adelaide, Australia, [2]Southern Adelaide Local Health Network, Adelaide, Australia, [3]Royal Brisbane and Women's Hospital, Brisbane, Australia, [4]University of Queensland, Brisbane, Australia

Introduction/Background

Mobility levels remain low in hospital inpatients, especially for older people. Serious impacts affect patients (increased disability and mortality) and health services (prolonged length of stay, higher healthcare utilisation and requirement for post-acute care). Barriers to promoting inpatient mobility have been identified primarily by health care professionals and patients. This scoping review identifies the extent, type and source of evidence relating to organisational level barriers and enablers of adult in-hospital mobility in acute settings**.**

Method

Using JBI Scoping Review methodology, ten databases were searched for research studies and reviews published in English from 2013 to 2023 which met inclusion criteria (adult in-hospital mobility, identified organisational barriers or enablers). Publications focusing on single wards, disease specific cohorts, adolescents, or in intensive care, sub-acute care or rehabilitation settings were excluded. Two researchers independently undertook title/abstract and full-text screening and data extraction. The Consolidated Framework for Implementation Research (CFIR) was used to map organisational barriers and enablers of hospital mobility (inner setting) and the community, state, health system and country (outer setting).

Results/Findings

The search identified 7,632 studies and n=59 studies were included. Studies came from 16 countries, with a rapid increase in studies in the past 4 years from 2020 to 2023. Forty-nine percent (29/59) of studies were qualitative, and 64% (38/59) focused on older adults. More than 4,200 participants identified organisational mobility barriers and enablers, which will be reported using CFIR. Informants of barriers were mostly patients (31%) or nursing staff (38%), while the views of managers or executives were rarely explored (2%).

Implications/Key Message

There is burgeoning international interest in understanding the barriers and enablers of in-hospital mobility. Better understanding of organisational barriers and enablers will support more scalable and sustainable implementation of evidence-based mobility interventions in acute hospital care.

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Morbidity and Mortality meetings – are they meeting the needs of clinicians and health services?

Dr Emily Steel[1], Kylie Sellwood[1], Prof Monika Janda[2], Liz Rossmuller[1]
[1]Metro South Health, Brisbane, Australia, [2]The University of Queensland, Brisbane, Brisbane

Introduction

Morbidity and Mortality (M&M) conferences or meetings analyse complications and patient outcomes with the objectives of training clinicians and improving the safety and quality of healthcare. Research has identified significant variation in the objectives, structures and processes of M&M meetings, and that more formal or standardised approaches improve their effectiveness. This study explored the experiences and opinions of people participating in M&M meetings through interviews and focus groups.

Method

Semi-structured interviews and focus groups were conducted with 13 participants from five hospitals in a large public health service in Queensland. Discussions explored the experiences and opinions of committee chairs and M&M meeting members. Thematic analysis was used to identify key themes from transcripts.

Findings

Five themes were identified: (1) purpose; (2) attendance; (3) formality; (4) case selection and review, and; (5) leadership and culture. Clear differences in experiences and opinions emerged between chairs and members and between individual participants. The observed variation between participants may be associated with the nature and extent of their individual involvement in M&M meetings, and with the maturity of their organisation's approach and local leadership of M&M meetings.

Implications

A high level of maturity is required for M&M meetings to meet the diverse and competing needs of clinicians and health services.

- Structural elements such as a meeting agenda, dedicated chair, and action register may assist junior staff and or staff who do not attend regularly to embrace the purpose of the meeting.
- Leadership that models reflective and respectful communication can foster the psychological safety that members require to contribute to meetings.
- Organisational support that enables dedicated time to prepare for and attend meetings, encourages communication across departments and hospitals, and integrates learnings from M&Ms into clinical governance systems may encourage M&M meeting members to collaborate in organisational, as well as individual learning.

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You follow your baby everywhere: How personality traits influence healthcare utilisation in the Australian healthcare system

John Paul Kuwornu[1], Clifford Afoakwah[1,3], Isaac Koomson[4], Zephanie Tyack[1], Qing Xia[1], David Brain[1], Sundresan Naicker[1], Steven M McPhail[1,2]
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Introduction

Understanding why some individuals use healthcare services more than others is crucial for improving equity and efficiency in care delivery. The present study investigated the effects of personality traits on healthcare utilisation within the Australian health system.

Methods

Data were extracted from three waves (i.e., Waves 13, 17, and 21) of the Household, Income, and Labor Dynamics in Australia (HILDA) survey and a representative cohort of adults (20+ years) was followed. Healthcare utilisation was measured by annual 1) hospital length of stay (LoS), 2) hospital admissions, and 3) general practitioner (GP) visits. The predictors were personality traits, measured by the Five-Factor Model (extraversion, emotional stability, agreeableness, openness to experience, and conscientiousness). Generalized linear mixed models were used to explore the relationship between personality traits and healthcare utilisation, while controlling for chronic diseases and sociodemographic factors.

Results

The study cohort comprised 13,746 individuals (53.5% female, mean (SD) age=50.7 (17.0) years in 2013 who were followed to 2021 (total n=34,489 observations). All five personality traits showed significant association with hospital LoS: extraversion (P<0.001), emotional stability (P<0.001), openness to experience (P=0.006), agreeableness (P<0.001), and conscientiousness (P=0.035). Similarly, extraversion and emotional stability were significantly associated with the likelihood of hospital admission and frequency of GP visits. Effect sizes were large enough to be considered meaningful. For example, predicted hospital LoS for an individual who scored 2 vs 6 on the emotional stability scale was 4 nights vs 2 nights.

Implications

Personality traits impacted both preventative/primary and acute healthcare utilisation. Exploration of intervention approaches that consider personality traits as mediators when supporting patients to equitably navigate to optimal use of healthcare resources (right services at right time) are warranted.

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Exploring challenges in leveraging implementation science principles for evaluating digital health interventions

Dr Sundresan Naicker[1], A/Prof Amina Tariq[1], Prof Steven McPhail[1,2]
[1]Australian Centre For Health Services Innovation , School of Public Health and Social Work, QUT, Kelvin Grove, Brisbane, Australia, [2]Digital Health and Informatics Directorate, Metro South Health, Woolloongabba, Brisbane, Australia

Background
As healthcare systems increasingly adopt digital technologies to enhance patient care, the continuous evaluation of these interventions becomes critical to ensure efficacy, safety, and scalability. Effective implementation strategies include integrating evaluation frameworks into the hospital's routine operations, leveraging cross-disciplinary teams, and utilizing data-driven decision-making processes. However, challenges such as resistance to change, interoperability issues, data privacy concerns, and limited financial resources often impede the sustainable evaluation of digital health interventions. This presentation will use two real-world case studies as examples to develop practical insights into overcoming these barriers. By doing so we offer recommendations for healthcare services to foster a culture of continuous improvement in digital healthcare delivery.

Method and results
The discussion will be informed by findings generated from two studies including qualitative design: 1) Understanding the implementation of and use of a radiology artificial intelligence decision support solution in a hospital radiology department; 2) Evaluation of the implementation of a new patient deterioration detection decision support system in two hospitals. Assessing key determinants and tailoring strategies to evaluate the implementation effectiveness of these digital interventions required regular meetings with stakeholders (n=5-8 per use case), face to face interviews with end users (n=20 per use case) and facilitated co-creation and training workshops. We map findings to key implementation phases (baseline assessment, peri, and post implementation) and explore effective versus non-effective strategies and related determinants to support the effective evaluation of digital health interventions within large metropolitan hospital systems.

Conclusions
This presentation will explore fundamental and ongoing methodological challenges related to conducting implementation research in “real world” settings, where pragmatism must meet scientific rigour. In doing so it aims to confer a nuanced and pragmatic understanding of the translational factors and underlying challenges involved in evaluating complex interventions (digital health) in complex systems (health services).

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Implementing technology-supported home-based care for older Australians

Assoc Prof Frances Batchelor[1,2], Ms Sue Williams[1], Mr Baldwin Kwan[3], Mr Kerry Hwang[1], Dr Marissa Dickins[3], Ms Kate Fulford[3], Mr Tony Walsh[1], Ms Helena Jakupovic[3], Ms Kayla Lock[1], Dr Tanya Davison[3]
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Introduction/Background

New technologies can be used to improve and extend service delivery, drive efficiencies and achieve better outcomes in health and aged care. However, identifying and managing enablers and barriers in the implementation of technology is needed and a detailed implementation plan is required for successful uptake and embedding of technology into practice. While general guidelines are available to assist organisations in implementing technologies, the in-home aged care setting has particular characteristics that require specific attention.

The National Ageing Research Institute (NARI) partnered with leading Australian home care provider Silverchain (as part of the Melbourne Ageing Research Collaboration (MARC) to develop a framework to ensure the successful, scalable and sustainable integration of digital health technologies into in-home aged care service provision.

Method

The mixed-methods research approach consisted of the following: Literature Review (40 peer-reviewed publications); Staff Survey (n=267 Silverchain staff from a variety of disciplines); Staff Interviews (n=18 Silverchain staff); and a Co-design workshop (n=12 Silverchain staff).

Results/Findings

A Framework for Enabling Technology Supported Aged Care at Home was developed to support home care providers, comprising seven themes:

1. Technology Design Factors and Features
2. Privacy, Security and Trust
3. Training and Technical Support
4. Organisational Design and Culture
5. Aspects of Client Care
6. Digital Literacy
7. Perceived Benefits of Technology

Enablers and barriers for each theme are highlighted alongside practical tips to strengthen enablers and reduce or eliminate barriers. An implementation checklist is also included as a practical tool to assist with the development of an implementation plan for the identified technology.

Implications/Key Message

The framework is designed to be applied before and during the procurement and implementation of new health-related technologies for in-home care providers, offering practical tips and information on overcoming barriers. This framework will increase the likelihood of successfully integrating technology into in-home aged care.

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Use of non-admitted geriatric and allied health services by people living with dementia in community and residential aged care

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Introduction

Post-diagnostic care guidelines for people with dementia recommend supports such as physiotherapy, occupational therapy, speech therapy, psychology and memory clinics. There is evidence that healthcare pathways differ between people living in the community and aged care.

Methods

Retrospective matched cohort study was carried out using linked mortality, admitted and non-admitted data. Study participants were residents living in a regional area, aged 65 or older with a first inpatient diagnosis of dementia. Transition from community to aged care (where applicable) was estimated using mode of separation, transfers to/from facility IDs, source of referral and type of usual accommodation. Time in study was censored for deaths and hospital admissions. A propensity matched cohort (admission date, socio-demographics, admission characteristics and comorbidities but without history of dementia) was used to compare rates of service use by setting.

Results

The study cohort included 4,786 people with a total of 4,937 person-years observed in the community and 3,734 in aged care. Non-admitted geriatric services 0.91 per year in the community compared to 0.35 in aged care. Non-admitted services involving an occupational therapist 0.61 per year in the community in contrast to 0.13 in aged care, involving a physiotherapist 0.84 per year in the community in contrast to 0.14 in aged care.

The matched cohort included 4,909 people with a total of 7,205 person-years observed in the community and 3,251 in aged care. Non-admitted geriatric services 0.16 per year in the community compared to 0.12 in aged care. Non-admitted services involving an occupational therapist 0.51 per year in the community in contrast to 0.26 in aged care, involving a physiotherapist 0.88 per year in the community in contrast to 0.41 in aged care.

Implications

Despite having a similar demographic and clinical profile, people living with dementia in aged care received less support occupational therapy and physiotherapy than people without dementia.

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‘I felt like they were making a connection’: A qualitative study of experiences from a cancer telerehabilitation program

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Introduction

Specialised group-based exercise rehabilitation is beneficial for cancer survivors but access to these services is limited. Telerehabilitation provides an opportunity to expand reach, but we do not know about the experiences of those who participate in this way. This study explored participant experiences of an exercise-based telerehabilitation program for people with cancer.

Method

A qualitative study using semi-structured interviews was completed. Twenty-two cancer survivors were purposively sampled from the experimental group of a randomised controlled trial evaluating exercise-based cancer telerehabilitation delivered in groups using synchronous videoconferencing. Interviews were audio-recorded and transcribed verbatim. Data were coded independently by two reviewers and analysed inductively by thematic analysis.

Results/Findings

A feeling of ‘connection’ was the overarching theme. Participants perceived they connected with the health service, expert health professionals, and peers through participating in the telerehabilitation program. These connections provided a personalised rehabilitation experience and improved perceptions of physical and emotional wellbeing. Two subthemes suggested connection was facilitated by (1) the acceptability of telerehabilitation and (2) enhanced accountability to exercise. Participants felt disconnected when they were unable to participate in the program due to cancer treatment, feeling unwell and co-morbidities.

Implications/Key Message

We identified that telerehabilitation facilitated connections that enhanced the reach of exercise to cancer survivors. Our findings support using telerehabilitation to deliver specialised group-based exercise programs alongside more traditional models of care to increase participation in exercise among people with cancer.

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Psychosocial and health service impact of population-based breast density notification in Australia: a co-designed BreastScreen Queensland randomised controlled trial

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Introduction/Background

Robust evidence on the benefits and harms of breast density notification is required to inform future mammography screening policy and practice in Australia. This randomised controlled trial (RCT) aims to assess the effect of notifying women with dense breasts participating in population-based breast cancer screening of their breast density on their psychosocial outcomes and health services use; and to determine whether using different modes of communication alters these effects.

Method

Co-designed prospective 3-arm RCT: standard care (no notification of breast density) vs. notification of breast density plus a hard-copy written health literacy sensitive information vs. notification of breast density plus a link to online written and video-based health literacy sensitive information. Women attending for mammography screening at the BreastScreen Queensland services (across 11 different sites), who are classified as having dense breasts (BI-RADS C and D) were randomised. Primary outcome measures are psychological and health service use. Secondary outcome measures are cancer worry, perceived risk, breast density knowledge, future mammogram screening, and acceptability. Baseline demographic screening data were collected and self-report data are being collected from women over a >2-year follow-up period (8-10-week, 12- and 27-month timepoints).

Results/Findings

Recruitment and data collection are currently underway and will be completed in July 2024. Preliminary results will be presented.

Implications/Key Message

This is the first service-embedded RCT in Australia and the world to test the immediate and downstream impact of breast density notification on women and health services prior to systemic implementation. It will provide evidence to minimise potential harms and map out consequences. Findings will help inform Australia's current and future policy and practice on this controversial issue and may be relevant to screening programs in other countries.

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Healthcare contact days for people with stage IV non-small cell lung cancer in Ontario, Canada: A population-based study

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Introduction/Background

For people with advanced non-small cell lung cancer (NSCLC), frequent healthcare visits are very burdensome, especially in the context of limited survival. This time loss has been conceptualized as time toxicity of treatment. We sought to describe patterns of healthcare contact days (i.e., days spent receiving healthcare outside the home as a measure for potential time toxicity) in a population-based setting.

Method

We created a population-based, retrospective cohort with health administrative data from Ontario, Canada (15 million), of adults aged ≥20 years diagnosed with stage IV NSCLC in 2014-2017 and died in 2014-2019. The primary outcome was contact days assessed from diagnosis to death. We stratified analyses by receipt, type and lines of systemic therapy. We plotted and fitted with cubic splines the weekly percentage of contact days to obtain trajectories over disease course.

Results/Findings

We identified 5,785 stage IV NSCLC patients (median age: 70 years, 46.3% female, 57.8% adenocarcinoma, 34.3% received systemic therapy). The median (interquartile range) survival was 108 (49-426) days, and median percentage of contact days was 33.3%. Patients receiving systemic treatment had longer median survival (261 [152-420] vs. 66 [34-130] days) and lower median percentage of contact days (22.2% vs. 40.9%). Overall and for subgroups (systemic therapy vs. not; type and lines of therapy), trajectories followed a U-shaped distribution, with highest percentage of contact days immediately following diagnosis and prior to death. The difference between maximal peak and trough was greater in patients who received systemic therapy (peak 34.8% vs. trough 15.9%, “deeper U”) vs. not (39.5% vs. 27.6%, “shallower U”).

Implications/Key Message

Stage IV NSCLC patients spent a significant proportion of days alive with healthcare contact, with higher contact days immediately post-diagnosis and pre-death. These data serve as a call to better support patients and care partners, benchmark appropriateness, and improve care delivery.

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Implementation of cancer care interventions using a stepped-wedge cluster-randomised controlled trial design: A systematic review

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Introduction/Background

Stepped-wedge cluster-randomised trials (SW-CRTs) offer several methodological, ethical, and sociopolitical advantages for implementation research in healthcare and have been increasingly utilised in the oncology setting. This study aimed to examine the implementation of interventions that used a SW-CRT design in oncology research.

Method

A systematic review was conducted across five databases in July 2023. Studies were eligible if they used a SW-CRT design in an oncology setting. Records were screened using Covidence. Implementation strategies were coded according to the Expert Recommendations for Implementing Change (ERIC) compilation, and implementation outcomes were coded to Proctor's Implementation Outcomes Framework (IOF).

Results/Findings

The search yielded 3,395 unique records with 25 publications reporting 15 trials. The 15 trials (n=8 efficacy trials and n=7 implementation trials) described diverse interventions in the healthcare setting (100%). Most trials (87%, n=13) incorporated both implementation and clinical measures as primary and/or secondary outcomes. When coded to the IOF, adoption (n=9) was the most frequently measured implementation outcome, followed by fidelity (n=5), appropriateness (n=5), acceptability (n=4), feasibility (n=2), costs (n=1), penetration (n=1) and sustainability (n=1). Despite implementation outcomes being reported in 14 (93%) trials, 12 (86%) did not use an established evaluation framework to guide the selection and reporting of implementation outcomes. Seven of the 12 (58%) trials that used implementation strategies to support intervention delivery provided a justification for the strategies chosen. When coded to ERIC, the most common implementation strategies used were educating and training healthcare professionals (n=12; 100%) and the use of evaluative and iterative strategies (n=5 42%).

Implications/Key Message

SW-CRTs are a valuable design for implementing complex healthcare interventions. Trialists should consider the need to incorporate implementation frameworks, strategies and outcomes into their trial planning and resource allocation. This strategic approach can enhance the design and impact of SW-CRTs, leading to improved patient outcomes and advancements in cancer care.

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Impact of Multimorbidity and Complex Multimorbidity on Participation in Cancer Screening Among New South Wales Residents Aged 45 Years and Over.

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Background

Colorectal, breast, and cervical cancers have a preclinical screen-detectable 'sojourn time'. Australia currently implements population-based cancer screening program for these cancers. Multimorbidity (MM, the co-occurrence of ≥ 2 chronic medical conditions) and complex multimorbidity (CMM, the co-occurrence of ≥ 3 chronic conditions affecting ≥ 3 different body systems) are emerging issues as the population ages and longevity increases. Current evidence suggests conflicting associations between multimorbidity and adherence to cancer screening.

Methods

We are conducting a retrospective record linkage cohort study of residents of New South Wales, Australia, utilising data via CHeReL and SURE platform from: (1) the Sax Institute 45 and Up Study at baseline (2005-2009, n=267,153); (2) the Medicare claims provided by Services Australia; and (3) NSW Cancer Registry. We include participants with recommended screening age, gender, and without prior cancer diagnosis for each cancer respectively. Our study aims include: (1) measuring cancer screening participation rates between participants with multimorbidity compared to those without; and (2) investigating the independent predictive value of complex multimorbidity in comparison with multimorbidity in relation to cancer screening participation.

Findings

Participants with MM (48.2% vs 42.1%, p<0.001) and CMM (49.4% vs 42.3%, p<0.001) demonstrated higher crude screening rates for bowel cancer (n=181,957) compared to those without MM or CMM. Conversely, breast (n=93,038; MM: 77.2% vs 79.4%, p<0.001; CMM: 77.2% vs 79.1%, p=0.025) and cervical cancer (n= 109,916; MM: 42.1% vs 50.9%, p<0.001; CMM 41.1% vs 50.6%, p<0.001) screening rates were lower among MM and CMM groups.

Conclusions

The associations between MM/CMM and cancer screening participations are inconsistent among three cancers. Patients with MM/CMM have higher screening rates for bowel cancer though lower screening rates for cervical cancer and breast cancer. Further research is needed to better understand the impact of MM/CMM and provide guidance for public health strategies and general practitioners in promoting cancer screening rates.

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Australian preferences for genomics-informed risk-tailored cancer screening: a discrete choice experiment

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Background: Genomic testing can provide valuable information on individuals' risk of different cancers, presenting an opportunity for risk-tailored cancer screening to improve early detection and health outcomes. The acceptability, uptake, and effectiveness of such programs is dependent on public preferences for the program features.

Aims: (1) To quantify the preferences of the Australian general population for the features of genomic risk assessment for risk-tailored cancer screening or early detection programs; and (2) To assess heterogeneity of preferences based on sociodemographic characteristics.

Methods: A systematic review, focus groups, expert consultation and cognitive interviews were used to develop a discrete choice experiment (DCE). A pilot DCE was conducted with 100 participants across Australia, who completed 12 choice tasks by selecting between two hypothetical approaches for genomic risk assessment as the basis for subsequent risk-tailored cancer screening. The results were analysed using a multinomial logit model. Recruitment for the full-scale DCE (n=800) is currently underway, using quotas for age, gender, state, remoteness, education, and Indigenous status, with completion expected mid-June 2024. Results will be analysed using conditional logit, mixed logit and latent class models, and willingness-to-pay calculated.

Results: Analysis of the pilot data (n= 100) found respondents preferred to be invited for testing at 40 years (versus 20-30 years), have a more comprehensive test (i.e. testing for multiple cancers and other serious preventable diseases), and a test with a lower cost. Participants were willing to pay AUD243 for a comprehensive test, versus a test for a single cancer only. Other features (e.g. method of invitation, level of detail of the invitation information, and test location) did not significantly influence preferences in the pilot data.

Implications: This study can help design more acceptable and effective genomics-informed cancer screening programs tailored to the Australian context, including consideration of how preferences differ between sociodemographic subgroups.

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Geographic patterns in population rates of hospital treatment for prostate cancer from the Australian Cancer Atlas digital research platform

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Introduction: Treatment decisions for prostate cancer depend on a variety of clinical and patient characteristics and have been shown to vary by remoteness and by area-level socioeconomic disadvantage. However, health service utilisation has not previously been studied at a finer granularity.

The aim of this study was to describe the spatial modelling of hospital separations data for radical prostatectomy and high and low dose rate brachytherapy. We describe how results are reported on the Australian Cancer Atlas digital platform for analysis by researchers, health resource managers, clinicians, and the community.

Method: Population rates of hospital separations for prostate cancer treatments were analyzed using Bayesian spatial modelling, generalized linear modelling and statistical clustering.

Results: There was strong evidence of geographic variation in rates of all three hospital-based treatments. Age-standardised participation rates for all treatments decreased with increasing socioeconomic disadvantage, with rates for radical prostatectomy being 13 / 10,000 person-years in the most disadvantaged areas compared to 19 / 10,000 person-years in the most advantaged areas. Areas were categorized into 3 groups characterized by having either higher rates for radical prostatectomy, high rates of low dose rate brachytherapy or high rates of excess deaths. Most areas classified as either remote or most disadvantaged were in the group with high rates of excess deaths.

Implications: The Australian Cancer Atlas provides an interface for exploring geographic differences in prostate cancer hospital treatment across Australia at high spatial resolution. This allows hypothesis generation to explore reasons for those differences. While precise reasons for these differences are yet to be determined, possible contributors to the small area variation may include differences in cancer testing and diagnosis patterns, stage at diagnosis, comorbidities, financial situation and geographic access to medical facilities. Expanding these results to include other types of prostate cancer treatment remains a priority.

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“It was time I could have spent better.” – the Barriers, Enablers, and recommendations for improving Financial Aid Access when a Child is diagnosed with Cancer

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Purpose

A child’s cancer diagnosis imposes both short-term and long-term stress on families, largely due to the financial burdens associated with the illness. This study aimed to explore (1) the barriers and enablers in alleviating the financial impacts of a child’s cancer diagnosis and treatment, and (2) areas for improvement in financial aid as suggested by stakeholders.

Method

This qualitative study utilised semi-structured interviews with five hospital social work team members, three charity representatives, and eight parents of children treated for cancer. The interviews, which were conducted between April 2023 and January 2024, were analysed using content analysis an inductive-deductive approach supported by Nvivo Software.

Results

Barriers to mitigating financial impacts included administrative difficulties (e.g., paperwork complexities, strict eligibility criteria, time consuming nature of paperwork, and limited support), community and psychosocial factors (e.g., cognitive burden, social and societal factors), and navigational issues (e.g., poor communication, fragmented support systems). Enablers included streamlined administrative processes, assistance with navigating and applying for financial aid, and community support for emotional refuge and respite. Suggested improvements included simplifying application forms, offering automatic eligibility for certain financial aids upon diagnosis, providing infrastructure within wards to support application processes, reallocating funds to increase navigator roles, facilitating connections to parent support groups, and providing tailored information through a centralized platform.

Implications

The financial stress stemming from the uncertainty of a child’s cancer diagnosis can be overwhelming. Enhanced support for families, both during and after treatment, is crucial to alleviate the multifaceted challenges they face. Current support systems fall short in effectively mitigating this stress, necessitating improvements to reduce the burden on the child, family, and broader society. This research provides empirical evidence for policy changes and the enhancement of survivorship support systems.

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Diet and Lifestyle Quality and Endometrial Cancer Outcomes: Longitudinal Analysis of FeMMe Trial

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Background

Endometrial cancer (EC) survivors undergoing fertility-sparing progestin therapy are susceptible to incomplete pathological response and heightened risk of obesity-related metabolic disorders such as diabetes and cardiovascular disease. Patients frequently inquire about dietary recommendations when consulting with their healthcare providers. Lifestyle choices, including diet and physical activity, play a crucial role in obesity, a significant risk factor for metabolic diseases, and may influence response to cancer treatment. Nevertheless, there is a scarcity of studies investigating the impact of lifestyle on EC patient outcomes.

Objectives

The objective of this research is to evaluate the potential link between an improved diet and lifestyle quality over a 6-month follow-up period and the achievement of a pathological complete response to treatment (pCR) (primary outcome) and Health-related outcomes including quality of life (QoL) and mental health (secondary outcomes) in women with EC participating in the feMMe trial.

Methods

This project will examine diet and lifestyle quality in relation to important outcomes among women with EC in the feMMe trial (NCT01686126; completed in May 2020). A total of 165 women with obesity and early-stage EC across 28 centres in Australia and New Zealand were randomly allocated to hormonal treatment with or without weight loss intervention or metformin. Diet and lifestyle quality within the feMMe participants will be assessed using three dietary indices: 1) Mediterranean Diet Score (MDS), 2) World Cancer Research Fund / American Institute for Cancer Research (WCRF/AICRF) score, and 3) Extended Healthy lifestyle index (EHLI) from baseline, 3- and 6-month follow-up visits. Trajectories of dietary and lifestyle quality changes over 6-month post-diagnosis will be examined longitudinally in relation to patients' outcomes.

Results

Ongoing preliminary analysis indicates no association between dietary/lifestyle quality changes and pCR at 6 months. Anticipated linear mixed models' analysis may identify significant trends in QoL and mental health. Comprehensive findings are in progress and will be thoroughly presented at the conference.

Conclusion

By assessing the patterns of diet and lifestyle quality over time in EC survivors in relation to EC disease progression, QoL, and mental health, the foundation for specific lifestyle-related guidance to improve outcomes can be provided.

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What participants experience and need in First-in-Human clinical trials

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Introduction/Background

Cancer clinical trials are an essential component of oncology, driving development of novel cancer therapies to improve patient outcomes. First-in-human (P1), trials are key to this process. The primary purpose of P1 trials is safety and tolerance, and personal benefit is not expected. To inform clinical trials services, we explored how patients experienced P1 cancer drug trials during two trial cycles.

Method

This qualitative study included English speaking adults with a cancer diagnosis able to participate in interviews, who consented to screening for a Phase 1 drug trial at an Australian cancer trial unit. Participants were interviewed up to 3 times (1) before and (2) after their first trial infusion and (3) after their first trial scan. Semi-structured interviews explored participants' life on trial, communication with the clinical trial team, and support needs. Thematic analysis was used.

Results/Findings

Six females and four males participated (n=10) in 21 interviews. Three major themes were identified. (1) *Life on a Phase 1 trial* describes P1 trial experiences and impact, underpinned by uncertainty at every point. Dominated by trial schedules and side effects, participants' lifestyle beyond the trial was impacted. (2) *How Participants are Treated* encompasses the interface between trial staff, participants and hospital systems. Subthemes include communication; care continuity; valuing trial participants and system in/convenience. (3) *Personal Attributes* encompasses individuals' characteristics and attitudes that supported them to enroll and continue on trial.

Implications/Key Message

Trial routines dictated study participants' lives, hoping for benefit from the study drug. Most felt well supported by the trial team, but some felt more like trial subjects than patients. Removed from their usual care team, standard supportive services such as palliative and psychosocial care normally offered to people with advanced cancer were not evident. Pre-trial psychosocial assessment and early palliative care involvement are recommended.

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Work-related factors that influenced the experiences of Auckland-based oncology related physicians during the nationwide COVID-19 lockdown in New Zealand

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Introduction/Background

Prior to COVID-19 the literature showed oncology physicians were at particularly high risk of burnout. The additional stress of COVID-19 related lockdowns and service reorganisation was potentially going to put these physicians at even greater risk. This study aimed to investigate the work experiences and well-being of oncology staff during the first nationwide lockdown period.

Method

A mixed methods study was conducted to explore factors influencing the experiences and well-being of physicians in the medical oncology, radiation oncology, haematology, gynaecological oncology and general medicine services at Auckland City Hospital during the first nationwide lockdown in New Zealand. Data was collected through online surveys and semi-structured interviews. Quantitative analysis was undertaken using descriptive statistics and non-parametric tests, and qualitative analysis using generally inductive thematic analysis.

Results/Findings

The 59 surveys and 13 interviews completed found the COVID-19 pandemic had negative and positive impacts on staff. Junior staff were at greater risk of burnout due to expectations and demands associated with their role, compounded with being subjected to greater exposure and infection risk. Parents and caregivers of dependent children also had more negative experiences due to elevated demands from both work and family. The low case concentration of COVID-19 in New Zealand did, however, result in relatively favourable working experiences for many physicians.

Implications/Key Message

The COVID-19 pandemic was potentially a huge risk to staff in oncology related settings. Lockdowns and service reorganisation was very disruptive and did result in some negative experiences, particularly for some groups of staff. Not all experiences were bad, however, with many staff reporting positive experiences during this period. Future pandemic planning should focus on protecting junior staff and those with dependent children.

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Session 4F: LIGHTNING TALKS

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Insights into Cardiac Care Challenges and Disparities in Australia.

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Background: Chronic heart diseases are the leading cause of premature mortality and disability in the world. However, evidence indicate that health systems are not well-designed to cater for the long-term care for these populations.

Objective: We aimed to understand challenges in delivering cardiac care and how these may impact people living with chronic heart diseases in Australia.

Method: We interviewed individuals living with chronic heart disease and health professionals providing care for them. Patient participants were recruited through specialist and general practitioner clinics while health professionals were purposefully selected to represent the range of different service categories, working in public or private sectors in urban, semi-urban and rural regions of Australia. Interviews were transcribed and analysed using inductive thematic analysis approach.

Results: Most patient participants were elderly and of mixed gender and ethnicities. Health professionals included cardiac specialists, general practitioners, nurses, pharmacists, and an emergency department doctor. Limited service availability in rural areas, extended wait times, inadequate care coordination, suboptimal information sharing between hospitals and primary care providers, and increased out-of-pocket costs have been identified as prominent issues. These limitations are more pronounced within the public health sector as opposed to the private sector. Compassionate care was found to improve patient satisfaction, leading to better uptake of and adherence with services.

Key message: Presently, a noticeable disparity persists in Australia regarding access to cardiac care services adversely impacting economically disadvantaged populations. Our study sheds light on the imperative of investigating potential service realignments to pave the way for universal coverage in cardiac care.

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Improving surveillance and quality of care for patients living with chronic kidney disease using complementary population-based data sources from Canada and Australia

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Introduction/Background: Comparative electronic healthcare data sources can provide valuable insights into variation in disease burden and quality of care for patients living with chronic disease. We outline a Canadian-Australian collaboration aimed at improving national disease surveillance and quality of care for patients with chronic kidney disease (CKD).

Method: In partnership with the CKD-CARE project team at The George Institute for Global Health, Australia, and the Canadian Primary Care Sentinel Surveillance Network (CPCSSN)-CKD team, we have created complementary cohorts of patients with CKD in Australia and Canada, respectively, using KDIGO-guideline-based definitions. CKD-CARE includes all adults who attended a MedicineInsight-participating general practice in Australia with ≥1 eGFR measurement between 2011-2021. CPCSSN includes national electronic medical record data from participating general practitioners between 2010-2015 in Canada (with a recent update to 2021). These sources contain clinical and demographic data that can be used for detection and recognition of CKD, and future initiatives to evaluate testing and monitoring of kidney function and use of recommended medications.

Results/Findings: Data from MedicineInsight includes detailed information on >2.7M adults within the 10-year cohort while CPCSSN includes >1.1M adults in the 5-year cohort. CKD prevalence estimates (2 eGFR measures <60 mL/min/1.73m^2 ≥90 days apart) have been found to be comparable (3.5% in Australia vs 4.7% in Canada in 2014). Demographic characteristics are also similar (51% vs. 56% female, mean age 74.3 vs. 69.2 years in Australia and Canada respectively) and will set the stage for the evaluation of guideline-recommended quality of care measures moving forward.

Implications/Key Message: This collaborative has the potential to understand disease burden and identify variation in optimal CKD care delivery in countries with complementary healthcare systems. It also creates opportunities to co-develop strategies to refine the delivery of primary healthcare and can be used as a framework for other chronic conditions in the future.

Acknowledgements: CKD-CARE is based on data from MedicineInsight (project 2020-004), a national general practice data program developed by NPS MedicineWise and now managed by the Australian Commission on Safety and Quality in Health Care. The study was approved by the MedicineInsight Data Governance Committee (2020-004) and Research Ethics Review Committee of the Sydney Local Health District, NSW, Australia (X21-0428, 2020/ETH00963).

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mHealth use and needs analysis of people with diabetes and GPs in a socioeconomically marginalised, urban Australian GP-led diabetes clinic.

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Introduction/Background

Mobile health platforms (mHealth) improve type 2 diabetes (T2D) outcomes. However, mHealth requires users to have internet-connected smartphones and be confident users. Australians in socioeconomically marginalised communities, outside cities or of First Nations backgrounds experience greater T2D burden and digital access disparities. We aimed to understand smartphone utilisation and mHealth needs of people with diabetes (PwD) accessing a general practitioner (GP)-led T2D clinic in a socioeconomically marginalised (based on Index of Relative Socio-Economic Disadvantage), culturally diverse, urban Australian setting, and the needs of local GPs.

Method

Study context: GP-led diabetes-specific clinic in Inala, Brisbane, a culturally diverse and socioeconomically marginalised community. Participants: ≥18 years old, accessing the clinic for T2D care and spoke English or we could access interpreters. 104 participants were surveyed for smartphone ownership, app use, mobile internet access, support resources and utilisation influences. Semi-structured interviews with 14 PwD and 10 GPs investigated needs, barriers and facilitators to mHealth uptake for T2D.

Results/Findings

Of survey participants, 86% owned a smartphone, 74% had mobile internet access and 51% used apps regularly. People who were older and females were less confident using advanced smartphone features and less likely to own a smartphone respectively. Interviews revealed relatives supported technology use, language interpreting, and self-management, but PwD were wary of overexploiting them. PwD valued continuous glucose monitoring, telehealth, reminders and rapid feedback. Display size, complicated apps and limited internet quota were barriers. GPs expressed concerns over medicolegal responsibilities outside operating hours, lack of funding mechanisms to review data and text messages from PwDs. However, GPs valued digital clinical decision support and improved communication with PwD and specialists.

Implications/Key Message

Findings will inform adaptations of an existing mHealth-underpinned model of integrated T2D care to improve applicability to primary care settings.

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The impact of home energy upgrades on healthcare utilisation and costs of people with cardiovascular, respiratory and mental health conditions

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Objectives: The relationship between the home environment and health outcomes has received significant attention and a growing body of evidence underscores the pivotal role that the physical aspects of the home play in influencing health and well-being. The Victorian Healthy Homes Program (VHHP) delivered home energy efficiency and warmth upgrades to 1000 low-income households in Victoria, Australia. This paper examines the impact of the VHHP on total healthcare costs, hospital admissions, MBS and PBS services for various healthcare conditions that have been linked to cold temperatures. Specifically, we look at cardiovascular conditions, respiratory conditions and mental health conditions.

Methods: The VHHP was implemented over a 3-year period and used a staggered, parallel group clustered randomised controlled trial. All households received a home upgrade either before (intervention group) or after (control group) winter (1 July – 30 September) in 2018-2020. Using a difference in difference approach, we exploit the impact of the VHHP on healthcare utilisation and costs over the winter period. We use OLS, negative binomial and interrupted time series methods, which control for age, gender, location and year fixed effects. For subgroup analysis, we test the impact of the VHHP for the people living in households with an average daily temperature below and above 18 degrees before the intervention separately according to the World Health Organisation Guideline.

Results: The results show that a modest investment in improving housing stock has reduced the number of PBS services for people with cardiovascular conditions after the intervention. However, the VHHP has no short-term health benefits for other outcome measures.

Discussions: Due to the data availability, we could not test the impact of the VHHP for more than one year after the invention. There might be long-term health benefits for people with cardiovascular, respiratory and mental health conditions because the upgrade is permanent.

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“Happiness around here is very contagious”: the experience, benefits and barriers of peer support for people living with heart disease

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Introduction/Background

Peer support has shown effectiveness in supporting individuals with chronic disease. However, little is known about the impact of peer support on individuals with heart disease. This study aims to explore experiences and perceptions of peer support for people with heart disease.

Method

Two semi-structured focus groups were conducted with two peer support groups in Australia during October-November 2022. Focus groups lasted an hour and explored the experiences of in-person peer support programs for heart disease. Focus groups were recorded digitally and transcribed verbatim. Using an iterative process, data were analysed thematically.

Results/Findings

Participants (n=23) had a mean age of 68±13.9 years and were mostly male (57%), tertiary educated (48%) and married (74%). Three main themes emerged: sharing experiences is beneficial, external circumstances influence motivation for attendance, physical challenges are barriers to attendance, and considerations for improvements of peer support programs. The benefits of sharing and receiving experiences in peer support included cultivating social connection, socially contagious positivity, feelings of being understood and accepted, normalising experiences, information seeking, and empowerment. Enablers of peer support included encouragement from healthcare professionals and family to attend and receiving visits from peer volunteers in hospitals, whereas barriers included transportation issues, long distance to attend, and being unwell. Participants expressed reluctance in considering digital applications for seeking peer support but reported using online resources in conjunction with in-person peer support to seek information on heart disease. Preferences for peer support improvement included involving family and consideration of blanket referrals for cardiac hospital admissions, in addition to access to consumer-focused online resources.

Implications/Key Message

Peer support was reported as beneficial by people living with heart disease. In this digital age, it is important that clinicians and researchers focus on accessible peer support options for heart disease that can be delivered remotely as well as in-person.

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The burden of long COVID: quantifying the lived experience of long COVID

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Introduction/Background
Long COVID is expected to be the most significant and enduring impact of the COVID-19 pandemic. Understanding the lived experience of this new condition can help inform treatment pathways, policy and future research. This study aims to explore the burden of long COVID with a focus on patient-reported symptom scales and health-related quality-of-life (HRQoL).

Method
Mātauranga Raranga | Long COVID Registry Aotearoa was designed in partnership with those with lived experience of long COVID. Comprehensive data are collected from participants in the registry. This includes information on symptoms, the severity of symptoms using symptom scales, self-reported (mental) health and HRQoL using the EQ-5D-5L. Participants have been followed up monthly using the EQ-5D-5L and 6-monthly for the symptom scales. Analyses describe the symptoms and explore differences by severity of infection, time since infection, and socioeconomic, demographic characteristics, and changes across time.

Results/Findings
The registry remains open and data collection is ongoing, analyses of collected data as of the end of March 2024 have formed the bases of this presentation (8.6% Māori; 91.4% non-Māori). All symptom scales are in the high range, and suggest that depression, anxiety and psychological stress, using the PHQ-9, GAD-7 and K10 respectively, are more prevalent in the registry participants than in the general public. Fatigues scales are also high, suggesting severe fatigue. Likewise the EQ-5D-5L scores are worse than population norms. There is considerable heterogeneity in these estimates when looking across participant characteristics. There has been some improvements in these scales at 6 months, but while they are statistically significant they are not clinically significant.

Implications/Key Message
The burden of long COVID is considerable and it does not appear that time mediates any of this burden. Additional research is warranted to further understand whether treatment mediates the impact.

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Cost-effectiveness of Deep Brain Stimulation for the management of Parkinson’s disease

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Cost-effectiveness of Deep Brain Stimulation for the management of Parkinson’s disease

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Introduction: Parkinson’s disease (PD) is a chronic neurodegenerative condition that has no cure and is largely managed using dopamine-supplementing medication as the first line of therapy. As the condition progresses and the therapeutic benefit of medical therapy is diminished, and/or leads to medication-induced side effects, deep brain stimulation (DBS) becomes an option to manage PD, reduce medication dosage and improve quality of life(QoL).

Methods: A state transition Markov model simulating the long-term costs and benefits of deep brain stimulation (DBS) for managing the symptoms of Parkinson’s disease (PD) was constructed. This model evaluates the effect of implementing DBS as a second line therapy for PD , relative the use of pharmacotherapy only (best medical therapy (BMT)). The model takes the perspective of Australian healthcare payer and simulates the natural progression of PD, assuming a cohort start age of 60.5 years. Expected costs and effects of both groups were calculated using a 1-year cycle length, following transitions between health states defined in this model by the 5 H&Y states and an absorbing death state. Transition between states is driven by probabilities based on the natural progression of PD, obtained from literature. QoL and caregiving costs were obtained from literature, while direct medical costs were derived from patient level data.

Results: The implementation of DBS in addition to BMT generated incremental costs of $36,468, and effects of 0.75QALYs. This resulted in a base case incremental cost effectiveness ratio (ICER) of $48,680/QALY after 10 years.

Implications: Although the implementation of DBS into the management of PD comes with significant upfront costs, improvements in QoL resulted in a cost-effective ICER assuming a ceiling ratio of $50,000/QALY within the Australian context.

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A Novel Digital App Enhances Patient-Centred Communication at the Bedside

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Introduction: Involving patients in communications about their healthcare improves the experience and quality of care, and reduces miscommunication and associated harms. Digital solutions can optimise communication between patients and healthcare providers. This study aimed to explore patients' and nurses' perceptions of using a digital Application (App) to support patient-nurse communication and patient involvement in bedside nursing handover in an Australian acute care ward environment.

Method: Patients and nurses used the digital App during routine care in an acute ward. Only patients who were English-speaking adults and clinically well were approached. Patients were surveyed prior on level of comfort regarding smartphone App use. After App use patients and nurse perceptions were sought using semi-structured interviews and feedback surveys. Interviews were recorded, transcribed, then analysed thematically. Survey data were analysed using descriptive statistics.

Results: In total 18 patient-nurses dyads participated in the study between March and May 2023. Patients (n=18) were mostly older (*median* 69.5 years), female (83.3%) and frequent users of smart phones (94.4%). Nurses (n=18) were mostly younger (*median* 23 years) and female (94.4%). Five themes were identified across patients and nurses, which suggested that in a context where historical barriers to communication between patients and nurses persist, using the App empowered patients to engage in healthcare communications, facilitated new opportunities for patient-centred information sharing, and refocussed nurses' awareness onto patient-centred care. Feedback indicated the App interface was easy to navigate and the features useful.

Conclusion: This digital App was perceived by nurses and patients to facilitate improved patient-centred communication at the bedside. This App could be integrated into existing healthcare systems following further refinements and wider scale testing, and has potential to reduce harm from miscommunication between patients and nurses, and enhance patients' experiences of care.

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Recognising consumers' contribution to health research: a survey of research organisations' perspectives

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Introduction/Background

Despite growing recognition of the importance of consumer engagement in advancing consumer-oriented and relevant research, many researchers experience challenges in appropriately acknowledging consumers' contributions to the research process. A pivotal aspect of this challenge relates to remuneration – the compensation offered to consumers in recognition of their contributions to research in terms of time, skills, and expertise. This may be due to a lack of reported practice and a scarcity of guidance regarding remuneration. We sought to explore current practices for recognising consumers' contribution to health research and to understand health organisations' experiences and perspectives regarding this.

Method

A working group comprised of academics, and health and medical research organisation representatives, including consumer-led organisations, was established to collaboratively develop a survey to elucidate current consumer remuneration practices in Australia. Drawing on existing consumer engagement literature, the draft survey questions were constructed and finalised following review, discussion and reaching consensus among the working group. From December 2023 to February 2024, the survey was distributed online to 503 research organisation participants across Australia. Quantitative data were analysed using descriptive statistics and qualitative data were analysed using content analysis methods.

Results/Findings

124 completed surveys were returned (25% response rate). 92% of respondents supported recognition of consumer contributions to health research. Of this 92%, 56% provided monetary remuneration, while 36% provided non-financial forms of recognition, such as training and co-authorship of academic outputs. Rates of financial remuneration varied, however 93% of respondents expressed a need for national guidelines for consumer remuneration to enable a streamlined approach across different levels of engagement.

Implications/Key Message

These survey findings support an imperative to establish recommendations for consumer remuneration, tailored to the needs of different organisations and contexts in Australia.

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Health service utilization by quota, family-sponsored and convention refugees in their first five years in New Zealand

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Over 35,000 refugees have resettled in New Zealand (NZ) since World War II, including quota refugees, family-sponsored refugees, and convention refugees (former asylum seekers). While these three groups are likely to share similar backgrounds and have similar health needs, they receive substantially different levels of organised health and settlement support on arrival in NZ. This study examines and compares health service utilisation patterns between NZ's three main refugee groups and the general NZ population.

The Stats NZ's Integrated Data Infrastructure (IDI) is a large collection of deidentified whole population administrative and survey datasets, linked at the individual level. Within the IDI, visa and border movement data was used to identify quota, family-sponsored and convention refugees who arrived in NZ in 2007-2013. Linked health data records were then used to explore primary care enrolment and consultations, emergency department (ED) presentations and specialist mental health service use in the first five years in NZ. Health service use patterns were compared between refugee groups and to the general population using logistic regression models, adjusted for age, sex, and deprivation.

Quota refugees were more likely to be enrolled and in contact with primary care and mental health services in their first year in NZ than family-sponsored and convention refugees, but differences reduced in subsequent post-arrival years. All refugee groups were more likely than the general NZ population to have presented to ED in their first year in NZ. Study findings have been published here: https://pubmed.ncbi.nlm.nih.gov/37301053/.

Quota refugees were better connected with health services in their first year in NZ than the other two refugee groups. Refugee groups accessed different types of frontline health services than the general population. NZ would benefit from a consistent nationwide approach wherein all refugees receive equal health and settlement support regardless of their visa type or settlement location.

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Establishing Key Priorities for Integrating Exercise and Nutrition into Regional and Rural Oncology Services: Application of Nominal Group Technique to facilitate a priority-setting workshop.

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Abstract

Background: Addressing barriers to supportive care services (SCS) in regional and rural settings is multi-faceted; often comprising challenges for both patients and health services. Understanding the priorities of all those involved is a crucial step towards addressing these challenges, particularly in remote areas where accessibility to health services is a known issue. Our goal was to reach consensus on the biggest barriers to exercise and nutrition services, drawing on the lived experience of consumers and health service representatives, to establish key priorities for future solution-focused work.
Methods: Nominal Group Technique (NGT) was employed to reach a shared agreement on the biggest barriers to exercise and nutrition, generating a priorities list that serves as a blueprint for future solution-focused work. Fourteen stakeholders participated in a face-to-face workshop during which a presentation was delivered, a list of common barriers developed and refined through group discussion, and a ranking activity conducted through a moderated group discussion confirming consensus.
Results: Our consumer and health service representatives agreed on three top priorities for integrating exercise and nutrition into regional and rural oncology services: Improving accessibility, addressing referral inconsistencies, and prioritising person-centred care. This led to discussions about possible solutions that included changes to existing documentation, the development of a standardised referral pathway, and relevant resources to support health services connect cancer patients with local SCS. Our study confirms the usability of NGT to establish the biggest barriers to supportive care services in regional and rural areas. These shared priorities will be used to guide solution-focused work in regional WA.
Implications for Research: Other researchers and clinicians can use our approach to NGT to establish priority areas for improving regional health services. Close collaboration among researchers, consumers, and health services is beneficial for developing solutions tailored to regional and remote settings.

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Place-based health planning in rural and remote northern Queensland communities

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Background

Place-based health planning is informed by local knowledge and data, as well as an exploration of community's environmental, cultural, social, and demographic characteristics. Co-design techniques may be used in healthcare planning to identify needs, explore solutions, and prioritise areas for action, to enhance feasibility and likelihood of success.

The four-year *Integrating Health Care Planning in North Queensland project,* funded by the CRCNA, aimed to improve the responsiveness of health services to health needs of communities. Phase 1 of the project saw the collation and online mapping of publicly available data to visually display population health needs and service availability, and a gap analysis. In Phase 2, the focus of this presentation, a place-based planning approach was implemented together with three prioritised communities: Clermont, Hughenden, and Kowanyama.

Methods

Key stakeholders in prioritised communities (including health service and community leaders) were contacted to determine interest and feasibility. The co-design process was conducted with local and regional stakeholders and self-nominated community members, through four steps, carried out via workshops, small group and individual meetings. Discussions resulted in a prioritised action plan, implemented by local Project Support Officers. Evaluation of the co-design process and implemented actions was conducted and assessed with the Framework to Assess the Impact from Translational health research (FAIT).

Results

Overall, knowledge advancement, capacity strengthening in health systems improvement, systems improvements and economic benefits were identified domains of project impact. A narrative case example discussing material and relational features of the co-design process, and health service and economic impacts in one remote community will be presented.

Implications

Participatory place-based health planning enables information sharing, trust building, and growth of shared ideas. It benefits communities and health services by driving locally relevant solutions towards better health. Benefits extend beyond improved health service delivery to building community capacity and ownership of planning.

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Voices of consumers in implementation science, a case study example of including the voices of people living with dementia in research

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Background

The most vulnerable and disenfranchised groups in society are often excluded from participating in research and when invited can experience multiple barriers. We advocate the use of processes to identify and actively reduce barriers to support the authentic engagement of consumers in research. Our interpretivist case study research project, identifying the experiences and perspectives of people living with dementia and family carers regarding dementia in-home respite, did exactly that.

Method

Semi-structured interviews, focus groups and field notes. Inclusive processes were used when recruiting potential participants and by considering the location of interviews and focus groups. The research team were flexible to the needs of participants, conducting interviews in their homes and offering transport to focus groups. Extended interview times were offered to enable breaks.

Findings

11 family carers and 4 people living with dementia participated in the study.

Key Message

When authentically including consumers in research, there are three key learnings from this case study.

1. Navigating gatekeepers: when recruiting participants through a partnering agency we found there was low participation from clients. By delving into the recruitment process, we found instead of contacting all eligible participants, staff were inviting clients who they informally deemed suitable to take part in the project. Solution: the research team contacted potential participants directly.
2. Offer options for interviews and transport to focus groups. Participants had the option for interviews to be over the phone, face-to-face (venue of their choice) or via Zoom/Teams. Reimbursement for travel costs to focus groups was provided.
3. Create a welcoming, safe and trusting environment for participants. This included providing a warm, hospitable welcome when participants arrive. Providing coffee, tea and morning tea is also a small but tangible way of showing you value their time. The room set-up is also significant to create a relaxed atmosphere.

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Codesign of an electronic Heath Passport for people living with disability and/or complex needs

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Introduction/Background

Consumers living with disability have heterogeneous needs. Understanding the needs and preferences of consumers living with disability to support person-centred care across settings is likely to improve the healthcare experience of this group. The aim of this study was to codesign, with consumers living with disability, an approach for capturing and communicating needs and preferences to support personalised care.

Method

The Experience Based Co-design (EBCD) framework was used to guide this study. EBCD consists of eight stages: 1) observe current practice; 2) interview staff; 3) interview consumers and develop a ‘trigger film’; 4) staff feedback event; 5) consumer feedback event; 6) joint staff and consumer feedback event; 7) joint staff and consumer codesign workshops; and 8) implementation. Consumers living with diverse disability and multidisciplinary staff working across diverse program areas at an Australian metropolitan public health network were purposefully selected and invited to participate. Analysis of each EBCD stage was conducted using mixed methods appropriate for each stage, including inductive thematic analysis, supplemented by photographs of workshop material (i.e. posters), and where appropriate descriptive statistics. Results from each stage informed the next EBCD stage.

Results/Findings

Eighteen staff participated in four focus groups and one interview. Fifteen consumers living with disability (and/or their support people) participated in an individual semi-structured interview. Seven consumers and seven staff participated across three codesign workshops. Individualised reasonable adjustments were provided to support active consumer participation. Participants ranked the electronic capture of needs and preferences with content specific for consumers living with disability as the most implementable solution. Desirable design features to support inclusion included: visual prompts (e.g. symbols); bolding important content; and avoiding jargon.

Implications/Key Message

We codesigned a digital intervention to meet the needs of both clinicians and consumers to support individualised care planning across the care continuum for consumers living with disability.

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Gathering Insights on the Implementation of an Operational Dashboard for WA Country Health Service

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Background: The WA Country Health Service (WACHS) oversees healthcare delivery across over 2.5 million square kilometres, representing the largest geographical coverage by a single health authority globally. Coordinating care in this vast region is challenging, compounded by decentralised reporting across seven regional areas. To address this, the WACHS Operations Hub was established in 2021, integrating clinical services, data analytics, and support services to improve clinical support, logistics, and operations management. The Service and Safety Dashboard, a central component of the Operations Hub, aggregates data on key metrics like patient management, bed availability, and staffing levels to support evidence-based decision-making and operational efficiency. This project aims to improve the dashboard's functionality and implementation to enable improved evidence-based decision-making and situational awareness across WACHS.

Methods: This study utilised an online survey, one-on-one interviews and group discussions with stakeholders, including executives, regional managers, directors, frontline staff, and IT personnel. Additionally, direct observations of regional Service and Safety meetings were also conducted to gain insights into dashboard use. The assessment focused on implementation, usability, functionality, and data quality, providing a comprehensive evaluation of the dashboard's performance and areas for improvement.

Results: Eleven per responded to the survey (n=69), and 25 in-depth interviews with an average time of 30-45 minutes, were conducted. Interviewed staff were supportive of the opportunity to voice their opinions, emphasising the importance of a participatory process in driving meaningful improvements. Key themes identified included standardisation, bidirectional information flow, reduced administrative burden, and override notifications.

Key Message: This study highlights the importance of engaging with stakeholders and incorporating their feedback to enhance situational awareness and operational efficiency within the WACHS Operations Hub. These insights will guide sustainable and scalable improvements to the dashboard.

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Co-designing the development of text messages (mHealth) for primary prevention of stroke: Love Your Brain

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Background

Love Your Brain is a three-armed RCT for evaluating the effectiveness of a multicomponent, digital health education program on stroke prevention to modify lifestyle behaviour among Australians. We aimed to develop a text message intervention to be assessed in the trial.

Method

Phase 1: Existing eHealth messages from the iVERVE intervention was reviewed for primary prevention. Phase 2: Message context and delivery considerations were co-designed with community members and stroke knowledge experts. Phase 3: New messages developed. Phase 4: Messages formatted with greetings or sign offs, and customised hyperlinks. Phase 5: Expert review and refinement of messages. Phase 6: Development of messaging platform.

Results

Phase 1: 1500+ iVERVE messages were reviewed and revised, with ~10% adapted for primary prevention. Phase 2: Community members/experts input: weekdays were preferred to weekends for receipt of text messages. No consensus was achieved regarding message frequency but “having a choice is a good option”. Phase 3: New messages were developed, and scheduled to deliver 33-63 messages over 12 weeks. Phase 4: To increase engagement, all messages were formatted with greetings/sign offs. Weblinks and shorteners were felt to be untrustworthy. Therefore, a Love Your Brain website was developed which uses the same hyperlink. Phase 5: Subject matter experts (e.g. health literacy) reviewed the content and appropriateness of the messages. Of the 125 messages, 79% were at a readability level of <Grade 8. Phase 6: REDCap was used to enable sending messages to participants by email/SMS. A crucial component of the platform was to enable personalisation at any time regarding selection of ‘healthy choices’ relevant to participants’ risk factors and the desired number of messages per week.

Key Message

Integrating prior research and co-design enriched the text message content and delivery. The platform is currently being piloted in a feasibility trial prior to a larger RCT.

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Listening to See: Co-designing the Powerful Pictures model of care with Aboriginal and Torres Strait Islander communities and Health Services

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Introduction/Background

The Powerful Pictures study aims to develop a new model of care with Aboriginal and Torres Strait Islander people to improve the way heart disease is detected and managed for those who present to an emergency department with symptoms of suspected acute coronary syndrome. To develop this model of care, we are engaging with Aboriginal and Torres Strait Islander community members, people with lived experience of cardiac care, local clinicians, and health services executives.

Method

The study will co-design the model in three regionally diverse settings within Far North Queensland: Regional (Cairns), Rural (Atherton) and Remote (Weipa). Qualitative interviews will take place with consenting participants from three key groups: Aboriginal and Torres Strait Islander people with a lived experience of suspected acute coronary syndrome, health workers and clinicians, and executive leaders and managers.

Results/Findings

The research team has established respectful relationships with local Aboriginal and Torres Strait Islander Community Controlled Health Organisations who have endorsed their support for the project. Qualitative data is being analysed using a combination of inductive and deductive approaches underpinned by the Indigenous methodology of Two-Eyed seeing. This ensures that data interpretation and coding is conducted with Aboriginal and Torres Strait Islander and non-Indigenous research lenses.

Implications/Key Message

Sustainable health services change and innovation can be challenging. Thoughtful and culturally safe engagement to co-design of the Powerful Pictures model of care is essential to ensure that it is both tailored to the needs of local Aboriginal and Torres Strait Islander people and acceptable to the clinical community. By utilising a Two-Eyed seeing approach we are moving beyond the historical monocular western science approach of medical research to partnering the strength of Indigenous and mainstream knowledges to create new solutions to complex challenges.

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Public comprehension of privacy protections applied to health data shared for research

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Introduction

Secondary use of health data for research and policy development is common–there are many benefits, but also risks if information about an individual's health record can be inferred. There has been little research into people's understanding of levels of privacy-preservation related to use of their data. At two timepoints we assessed how accurately people understood the effectiveness of techniques for protecting the privacy of health data used for research.

Method

We deployed an online survey in 2020 and again in 2024. Respondents were asked about willingness to share their data for medical research where data were: raw (including identifiers), de-identified, aggregated, or had differential privacy applied to aggregated data. For each scenario they were asked how likely they could be identified. Respondents were also asked about the meaning of 'de-identified', understanding of sharing data for commercial purposes and the 2024 survey asked about awareness of and involvement in data breaches.

Results

The 2020 cohort had substantial tolerance for researcher use of health data. There was an overall preference for better privacy protections, but this was not entirely consistent. Slight preference was shown for aggregated data over differential privacy, despite differential privacy being objectively 'safer'. This may be because differential privacy and its benefits were not well understood. Similarly, respondents showed no consistent understanding of the term 'de-identified' and confused understanding of commercial uses of data. The 2024 cohort data will be also discussed, outlining change in tolerance for health data use in the wake of high-profile data breaches.

Implications

More effort is needed to ensure that commonly used terms and methods described in forms seeking consent for use of individuals' data can be comprehended by the public. Without this, genuinely informed consent for data sharing cannot be gained.

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Can counselling interventions be brief AND effective for sexual assault survivors? A systematic review and meta-analysis supporting innovations in models of care

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Background: Sexual assault is a pervasive social issue in Australia and worldwide, with significant harmful impacts on survivors' mental health and well-being. Sexual assault services that provide specialist crisis and therapeutic programs are contending with long waitlists and delays to access services. Brief interventions are emerging as a potential strategy to provide timely care but are only useful if they remain effective in improving patient outcomes.

Methods: A systematic review and meta-analysis was conducted to synthesise evidence informing the effectiveness of brief interventions for people who have experienced sexual assault. Databases were systematically searched for trials testing interventions of up to six sessions duration for participants who had experienced sexual assault at any point in their lifespan, and measured person-centred outcomes. Studies were appraised for quality and data were extracted. Results from trials with sufficient homogeneity of data were combined in meta-analyses, and remaining studies were analysed using a descriptive synthesis.

Results: The review identified 18 eligible studies reporting on a range of brief interventions. Three meta-analyses of RCTs found moderate certainty evidence that brief interventions improve symptoms of PTSD (6 studies), depression (4 studies) and anxiety (2 studies) compared to no-intervention controls, with results supported by studies reporting within group improvements with similar effects. Effect sizes were comparable with previous studies testing interventions of longer duration.

Discussion: This review provides support for the use of innovative models of care to broaden the reach and accessibility of sexual assault support services. One sexual assault service has made changes to the model of care in response to this review. By reducing the intensity of service has been positively received, suggesting that reducing intensity of services can be an effective way to improve timely access, provided these changes are thoughtfully managed and supported by evidence.

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Engagement with electronic messages to support health and recovery goals after stroke

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Introduction/Background

Despite the growth in electronic messaging for health promotion and self-management, it is unclear how people engage with this mode of communication. **Objective:** To examine participant engagement with electronic health messages in the **Re**covery-focused **C**ommunity support to **A**void readmissions and improve **P**articipation after **S**troke (ReCAPS) trial.

Method

Over 12-weeks, electronic messages were sent via Short Message Service (SMS) or email, based on participant preference, using the inspiring Virtual Enabled Resources following Vascular Events messaging system. Participants could respond “stop” at any time. Participants in the intervention group were sent tailored messages for recovery/health promotion goals and were encouraged to respond to single questions embedded in specific messages. Both groups received 8-10 administrative messages. Aggregated engagement was measured by the number of messages sent with an embedded hyperlink, and the number of times hyperlinks were clicked. For the intervention group, engagement was also measured by the number of responses to messages prompting “pledge”, “reply”, “respond” and “agree”.

Results/Findings

In total, 15,755 messages were sent (48% SMS) to 466 participants (median age 67 years, 33% female); 3,745 (23%) messages contained a hyperlink and were clicked 1,377 (37%) times. Among the intervention group (n=231) 13,942 messages were sent over the trial period (Nov 2019-April 2024). Overall, 1,955 (14%) messages requested responses: “reply” (1,240); “pledge” (495); “respond” (148) or “agree” (72) with 252 (13%) responses received. Engagement with messages requesting “agree” (24%) had the highest response rate, followed by “reply” (14%), then “pledge” (12%). “Respond” messages had the lowest response rate (3%).

Implications/Key Message

Engagement with electronic messages among community-dwelling stroke survivors is variable, with 2 in 5 clicking hyperlinks and about 1 in 10 responding to engagement prompts. This research provides new insights into electronic messaging and level of engagement in a digital support program among older adults with chronic disease.

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Pathology point of care testing (PoCT) safety and quality issues: a review of international literature

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Introduction/Background

Pathology point of care testing (PoCT) has many benefits, including: rapid result availability; proximity to care enabling immediate and informed decisions regarding diagnosis and management; and convenience and accessibility, particularly in rural and remote areas. However, the safety and quality risks of PoCT must also be acknowledged and understood.

Method

We undertook a review and evidence synthesis of international peer-reviewed literature on pathology PoCT published between 2019 and 2024. We applied a structured search strategy in Medline and Embase (via Ovid). Following screening, we identified 28 studies discussing safety and quality issues associated with pathology PoCT.

Results/Findings

PoCT safety and quality issues included: governance; management systems; training and competency; pre-analytical considerations; analytical considerations; post-analytical considerations; environment; and workplace health and safety. Governance processes must ensure accountability and supervision to mitigate risks in PoCT service delivery. Lack of adherence to policies and procedures poses safety and quality risks, necessitating robust management systems for monitoring and error rectification. Inadequate training and competency of PoCT users leads to safety and quality risks, including incorrect results interpretation. Pre-analytical errors, such as sample collection and identification mistakes, as well as analytical errors, such as result discrepancies, require attention to maintain accuracy. Post-analytical errors, such as result reporting issues and documentation errors, pose significant risks to patient safety and diagnostic accuracy. Connectivity of PoCT with laboratory information systems and electronic medical records is crucial for minimising missing data and transcription errors to ensure safety and quality in patient care decisions. Environmental factors, including temperature variations, and workplace health and safety protocols impact PoCT effectiveness, necessitating adherence to standard precautions and infection control measures.

Implications/Key Message

Despite the benefits of PoCT, there are notable safety and quality concerns. Effective governance, robust management systems, comprehensive training, and adherence to quality practices are crucial to mitigate these risks.

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Research culture and capability in a Community Health Service

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Introduction/Background

Research generation and translation to practice is at the centre of evidence-based practice in healthcare. An engaged, supported and integrated workforce allows for high-quality evidence to be translated into clinical practice and service delivery. Clinical workforces often report a lack of time to partake in or conduct research, due to organisational barriers and direct-patient care taking priority. This presentation aims to describe the research capacity and culture of staff in a public community and oral health service.

Method

The Research Capacity and Culture (RCC) tool quantifies organisational, team and individual-level factors that enable and create barriers to conducting research in a health service. Queensland Health Metro North Community and Oral Health staff were invited to participate in the survey in October 2022. Participants respond to each statement with a Likert rating from 1 to 10.

Results/Findings

A total of 73 staff members from Metro North Community and Oral Health service participated. The team-level scores for the RCC were overall the lowest. Comparison to previously published research using the RCC, indicated marginally higher scores for individual-level items in our study across all domains. Individual-level items were very weak to weakly correlated with the team and organisation RCC items. Strong to very strong correlations were found between a majority of the team and organisation-level items.

Implications/Key Message

A key finding of this study was that team level scores were substantially lower when compared to individual and organisational levels. The item "team leaders that support research" was positively correlated with various organisation level items, indicating that if the respondent perceived the team leader as a low supporter of research the respondent perceived several organisation items also poorly. As an important stakeholder in enabling research in a health service, organisations should investigate the challenges experienced by team leaders in facilitating research and the support or training they may need.

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Partnering with consumers to co-design a research and innovation strategy in a Community Health Service

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Introduction/Background

Embedding innovation and research across Community and Oral Health (COH) services is integral to ensuring contemporary and high-value patient centred care. This study therefore aimed to utilise a co-design approach between COH staff and consumers to create an agenda and strategy to support and enhance research and innovation across the service.

Method

An Appreciative Inquiry (AI)-informed consultation process was utilised. Drawing on the '4D' phases of AI - Discover, Dream, Design and Destiny.

Pre-phase: Reviewed Research Strategy 2020-2022 against 4 goals, priorities and actions.

Phase 1: Pre-workshop online survey - respondents were asked to reflect on "Where do you consider Community and Oral Health to be performing from an innovation and research perspective?" against the 4 strategic goals. Preliminary analysis of these results was used to inform workshop questions and discussion.

Phase 2: Two-hour workshop with in-person and virtual attendance - Participants were asked to respond to the questions: What are we doing well? (discover); What do we need to work on? (dream); What strategies are already in place? (design); and What's our plan for success? (destiny). Polling within MicroSoft Teams capture quantitative data and free text comments. The workshop was transcribed and was analysed thematically.

Post-phase: The Innovation and Research Strategy 2023-2026 was drafted with actions and measures.

Results/Findings

Phase 1: 92-96% agreed or strongly agreed that goals were still relevant and 76-92% that they were achievable.

Phase 2: 38 staff attended the workshop with 701 individual responses. Eight themes were identified: *visibility*, *resources* and *working with others* were the themes most consistent across the 4 goals.

Implications/Key Message

This model of collaborative consultation informed the Innovation and Research Strategy 2023-2026 wording of the goals and informed the actions and measures. It was successful in 'bringing to the table' and 'hearing' the voices of varied stakeholders.

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Supporting existing researchers with the Research Plus program: Case study

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Acknowledgements: Project supported by COH Innovation and Research Centre funding 2021-23.

Background

Dysfunction of the vestibular system in the inner ear can result dizziness and imbalance, increasing the risk of falls and reducing quality of life regardless of age. Benign Paroxysmal Positional Vertigo (BPPV) is more common in older people or those who have fallen. Evidence-based physiotherapy management of BPPV can reduce subsequent falls by up to 60%. A vestibular screening tool (VST+) was developed in Brighton Rehabilitation Unit in 2021 to identify clients who require screening for BPPV and vestibular dysfunction. However, the number of clients in other COH services who would benefit is not known, nor is the frequency of screening and management. The Knowledge to Action framework was used to guide implementation.

Methods:

Focus groups were undertaken to identify barriers and enablers to implementation of routine screening, with clinical skills training and a documentation tool implemented. Lack of knowledge of onward referrals pathways was also a barrier. Baseline and post-implementation chart audits were undertaken to measure implementation success.

Results

Baseline chart audit in May 2022 identified 64% (27/42) of BRU clients were admitted related to a fall but only 2% (1/42 charts) had a documented vestibular assessment / management. A follow-up chart audit was completed in May / June 2023 across seven COH services with 50% of available charts audited (318 charts of 631). 205 clients (64%) met the criteria for VST+ screening, but only 15 (7%) had documented vestibular assessment / management. COH-wide physiotherapy staffing issues in 2022-23 significantly impacted effective clinical implementation.

Recommendations/Implications:

- Vestibular dysfunction and BPPV are highly prevalent but under identified in older adults across sub-acute and community services in Metro North Health.
- Implementation of evidence into clinical practice is complex process, often requiring more than one framework, and repeated cycles to achieve success.

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Engagement of Aboriginal and Torres Strait Islander peoples with an urban Community Diabetes Service

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Introduction/Background

Diabetes is the world's fastest growing chronic condition and is known to disproportionately impact Aboriginal and Torres Strait Islander Australians. Limited access, and under-utilisation of health services for diabetes management is known to have potentially life-threatening consequences. To improve access and utilisation of diabetes services for Aboriginal and Torres Strait people, within an urban environment, it is important to understand the factors which impact attendance in this clinical group.

Method

A retrospective audit of an urban community-based diabetes service identified Aboriginal and Torres Strait Islander patients who had failed to attend their scheduled appointments. These patients were contacted by an Aboriginal and Torres Strait Island staff member and invited to participate in a short phone-based interview. Interviews were conducted using a culturally appropriate "yarning-style", with questions targeted at developing a better understanding of the barriers to attendance. Response to questions were recorded and categorised to identify common themes.

Results/Findings

A total of 426 individuals engaged with the community diabetes service during the audit period. Of this population, 17.8% (95%CI, 14.4-21.7) identified as Aboriginal and/or Torres Strait Islanders. Almost a third of Aboriginal and Torres Strait Islander patients, 31.6% (95%CI, 22.0-42.6) were classified as non-attenders during the audit period. The key themes reported through yarning were, transport and parking, lack of cultural appropriateness within the service and communication issues. Ninety-five percent of respondents reported that embedding an Indigenous Health worker within the service would improve the cultural awareness of staff and address the social determinants that contribute to non-attendance.

Implications/Key Message

Despite differences in the reported barriers to attendance for urban-dwelling Aboriginal and Torres Strait Islander peoples, there were many similarities faced by their rural and remote counterparts. Future design of urban-based community diabetes services should investigate options for increasing cultural safety to enhance engagement.

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Research skills development through the New to Research Program: An evaluation

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Introduction/Background

Healthcare professionals are well placed to drive a research agenda in their workplaces, but often lack the confidence, knowledge and skills to conduct their own research. With the support of the Community and Oral Health (COH) Executive Leadership Team, the Innovation and Research Team developed a New to Research Program. Healthcare workers are funded one day per week to complete a scoping or systematic review over 5 months.

Method

To evaluate the first two years (2022 – 2023) of the New to Research Program: (1) healthcare worker profession, (2) dissemination activities, (3) progress – further projects and personal and (4) changes to the Program based on feedback.

Results/Findings

Eight healthcare workers have participated in the first two cohorts – 2 Registered Nurses, 1 Occupational Therapist, 1 Speech Pathologist, 1 Social Worker, 1 Oral Health Therapist and 1 Dental Officer. The topics were clinically relevant and driven by the needs of the service line. Half presented their findings at a conference and one person published their findings in a peer reviewed journal. A quarter of participants have enrolled in a doctoral program, one has received funding to progress their scoping review into a funded study and two participants left the organisation for a promotion. Each cohort offers informal and formal feedback which resulted in changes in Cohort 3 – the current cohort prepared their population-concept-context and drafting their search terms to streamline the time spent with the COH Librarian.

Implications/Key Message

The New to Research Program is designed to introduce healthcare workers to research in a supportive environment under the guidance of the Innovation and Research Team. The healthcare workers are developing new skills, growing in confidence and promoting research in their own units.

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Health Services Innovation through the Kickstarter Program: A Speech Pathology Telepractice Dysphagia Service Within a Community Health Setting

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Introduction/Background

Clinicians drive innovation in health services but often lack resources to develop and progress ideas to enhance the patient experience. The 'Kickstarter' program supports clinicians with implementation of innovative health service ideas. Clients in the community with dysphagia (swallowing disorders) require ongoing access to speech pathology services. However, increasingly complex caseloads present several challenges when meeting this demand. To address these challenges, telepractice models have been proposed. This project aimed to implement and evaluate an innovative telepractice dysphagia service model within a community-based service.

Method

Speech Pathology referrals were screened for suitability to participate in dysphagia care via telepractice. Telepractice sessions followed a validated swallowing examination model and involved a trained clinical assistant travelling to the client's home to support remote speech pathology assessment. Clients deemed ineligible or who declined telepractice received in-person care. All clients received care either via telepractice, in-person, or a combination of both modalities. Data was collected on clinical and service outcomes and staff/client satisfaction.

Results/Findings

Thirty-six clients were referred to the service, 12 accessed telepractice-only care, 16 received in-person only care, and 8 received a blended model. Twenty-nine appointments were conducted via telepractice and 35 conducted in-person. Diet/fluid modifications were recommended in 38% of telehealth and 23% of in-person appointments. An average an 11-minute reduction ($p=0.02$) per appointment was noted for telepractice compared to in-person sessions. Redistribution of travel to the clinical assistant, afforded a median saving of 56-minutes per appointment (range 16-100) for speech pathologists. Only one telehealth appointment was cancelled due to technical issues. Clients and staff reported high levels of satisfaction with telepractice.

Implications/Key Message

Successful implementation of a telepractice dysphagia service model within a community health context has offered flexible service delivery to meet the needs and preferences of clients, whilst also providing efficiencies to a busy speech pathology service.

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Geographic disparities in physiotherapy accessibility for priority populations in New Zealand

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Introduction/Background:
Physiotherapy is poised to play major primary care and rehabilitation roles in health conditions that excessively burden rural and indigenous populations and those with higher socioeconomic deprivation. However, the distribution of the Aotearoa New Zealand (NZ) physiotherapy workforce relative to these populations is not known. Geographic access is a major determinant of health care access and outcomes. The purpose of this research is to evaluate the accessibility of physiotherapy in NZ relative to Māori, Pacific, rural and high socioeconomic deprivation populations.

Methods:
This cross-sectional population-based study geocoded physiotherapy workforce data for 5,582 physiotherapists (92% of registered physiotherapists at March 2022) and integrated these with 2018 NZ Census data to generate 'accessibility scores' for each Statistical Area 2 (SA2) using the distance-based 3-step floating catchment area method. Demographic characteristics of rurality, Māori ethnicity, Pacific ethnicity, and socioeconomic deprivation were categorised, cross tabulated with accessibility scores, and thematically mapped using ArcGIS software.

Results/Findings:
The mean weighted practitioner-to-population ratio (accessibility score) was 11.88 per 10,000. Geographic opportunity to access physiotherapy was highest in Wanaka/Queenstown, inland central Canterbury, and Tauranga (accessibility scores up to 26/10,000). Mid-central, Northland, and East Coast of the North Island had the lowest physiotherapy accessibility (<0.94 to 9.06/10,000) and higher proportion rural, Māori, Pacific, or high socioeconomic deprivation.

Implications/Key Message:
NZ has an above-average physiotherapy-to-population ratio compared with other OECD countries however this workforce is maldistributed. We identified geographic disparities in access to primary care and rehabilitation with specific areas of physiotherapy workforce shortage, and potential over supply. There is also likely maldistribution of capability of this workforce given NZ physiotherapy funding models. A minimum workforce data set including aspatial variables such as type of care, clinician experience, and affordability is needed for more nuanced analysis of accessibility and to enable workforce planning over time.

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Strengthening rural healthcare outcomes through digital health: Qualitative multi-site case study

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Background

Rural populations experience ongoing health inequities with disproportionately high morbidity and mortality rates, but digital health in rural settings is poorly studied. Our research question was: How does digital health influence healthcare outcomes in rural settings? The objective was to identify how digital health capability enables the delivery of outcomes in rural settings according to the quadruple aims of healthcare: population health, patient experience, healthcare costs and provider experience.

Method

A multi-site qualitative case study was conducted with interviews and focus groups performed with healthcare staff (n=93) employed in rural healthcare systems (n=10) in the state of Queensland, Australia. An evidence-based digital health capability framework and the quadruple aims of healthcare served as classification frameworks for deductive analysis. Theoretical analysis identified the interrelationships among the capability dimensions, and relationships between the capability dimensions and healthcare outcomes.

Results/Findings

Seven highly interrelated digital health capability dimensions were identified from the interviews: governance and management; information technology capability; people, skills, and behaviours; interoperability; strategy; data analytics; consumer centred care. Outcomes were directly influenced by all dimensions except strategy. The interrelationship analysis demonstrated the influence of strategy on all digital health capability dimensions apart from data analytics, where the outcomes of data analytics shaped ongoing strategic efforts.

Implications/Key Message

The study indicates the need to coordinate improvement efforts targeted across the dimensions of digital capability, optimise data analytics in rural settings to further support strategic decision making, and consider how consumer-centred care could influence digital health capability in rural healthcare services. Digital transformation in rural healthcare settings is likely to contribute to the achievement of the quadruple aims of healthcare if transformation efforts are supported by a clear, resourced digital strategy that is fit-for-purpose to the nuances of rural healthcare delivery.

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Rural Kids GPS complex paediatric care coordination supports improved family well-being and healthcare experience.

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Background
Children with medical complexity (CMC) living in rural areas experience poorer health outcomes than their city counterparts. We aimed to evaluate the Rural Kids Guided Personalised Service (RuralKidsGPS), a nurse led co-designed integrated model of care implemented across four rural local health districts in New South Wales.

Methods
A mixed methods program evaluation was undertaken to assess the impact of RuralKidsGPS. Descriptive statistics were used for sociodemographic and clinical characteristics. Linear regression was used to examine mean differences in scores baseline to six months for paediatric quality of life (QoL) (Paediatric Quality of Life Inventory (PedsQL)), parental mental wellbeing (Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)) and experience of care (Paediatric Integrated Care Survey (PICS)), controlling for plausible confounders. A thematic narrative analysis explored stories shared by family members of CMC.

Results
Of 424 CMC, 62% were socioeconomically disadvantaged, including 27% priority populations. The most common diagnoses included neurological conditions (37%) e.g. cerebral palsy and epilepsy; and metabolic, digestive, or renal conditions (18%) e.g. mitochondrial disorders, Crohn's, and kidney disease. Most CMC (72%) required care coordination across local, primary, and tertiary service sectors. At 6 months, clinically and statistically significant improvements were observed in: child related quality of life (n=92, children > 2 years) with PedsQL total mean score increasing by 5.84 points (95%CI: 0.78, 10.91, $p = .02$) ; parent/caregiver mental well-being (n=92, mean total WEMWBS score +2.39; 95% CI: 0.66, 4.12, p=0.01); and access to care (n=92, PICS mean +10.9; 95%CI: 1.73, 20.07, p<0.05). Thematic analysis from parent/carer (n=28), siblings (n=2) and CMC (n=4) interviews described RuralKidsGPS as 'transformative' and care coordinators as 'fairy godmothers' and their 'go to' person for navigating the health system.

Implications
These results suggest that the model improves the health care experience and family well-being and supports navigation of complex health systems.

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The pathway to consumer healthcare information in rural and remote Queensland

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Introduction/Background

The delivery of care and fragmentation of facility-centred clinical information across rural and remote healthcare services remains a global challenge. A consumer-centred model, where the information accompanies the consumer across the care journey, is increasingly being explored. Healthcare staff perspectives are needed to understand how digital transformation can contribute to this model for healthcare delivery. We explored the research question: How consumer-centred is the information flow across rural and remote health services?

Method

A qualitative study was conducted with semi-structured interviews of staff (n=57) from various rural and remote healthcare systems (n=6). Transcripts were analysed for the current state of information transfer between and within health services, and sentiment. Additional insights were extracted including consumer and clinician perspectives, and future aspirations for information exchange. Member checking and senior subject matter expert review was conducted to confirm interim findings and refine recommendations to improve consumer information exchange.

Results/Findings

Consumer health information was largely paper-based, however frequent use of hybrid (paper and digital records) and digital Clinical Information Systems (CISs) was evident. Transferability of consumer information could be improved as some systems lack sufficient communication with CISs in other health service locations. Resourcing and workforce capabilities were identified to limit transparency of consumer healthcare information. Overall, the rural and remote healthcare workforce supported digital transformation and encouraged the expansion of digital CISs, provided adequate support was available.

Implications/Key Message

Rural healthcare staff indicate that better integration of CISs can enable a consumer-centred healthcare system by ensuring secure, reliable and efficient exchange of consumer information. Specific recommendations to enrich the flow of consumer healthcare information include the expansion of digital health information exchange applications, enhancing local digital infrastructure support, and building a digitally skilled workforce by investing in education and training.

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Influences of multi-level governance on the sustainability of integrated care in rural, regional, and remote NSW, Australia

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Introduction/Background

Integrated care is a mechanism to reduce system fragmentation and address the burdens faced by health systems, while aiming to achieve the Quintuple Aim. These initiatives see success from the clinical and patient experience perspectives yet are not commonly sustained. The integrated care literature emphasises the need for strong governance with a clear understanding of the context in which governance functions yet the translation of this research into practice is not adequate. A component of governance needing further research is the influence partnerships have on project sustainability. One partnership implemented, as part of the NSW Health Collaborative Commissioning, is *Care Partnership Diabetes (CP-D)* which brings together two LHDs, a PHN and Non-Government Organisation to address Type 2 Diabetes.

Methods

Semi-structured interviews were conducted with staff across the CP-D partners. Transcripts were thematically analysed to gain insights into the functioning and strength of ties within the partnership.

Results/Findings

Preliminary findings show a strong governance structure was developed but the program of work that was intended as the output of the partnership faced repeated contextual challenges. We categorised the types of challenges and facilitators to successful partnerships according to challenges communication between partners, ongoing impacts from the COVID-19 pandemic, and roles between the partners, trust, partner strengths, and understanding of project goals.

Implications/Key Message

Partnerships are essential within a health system where the responsibilities of health care sit across federal, state, and local levels. Researching the influence of governance in integrated care will allow for a deeper understanding of the *how* and *why* a partnership functions. Without this, partnerships will continue to be implemented without understanding influential factors leading to a waste of public resources and repetition of past mistakes.

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Session 5C: Cancer (1)

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Prostate Cancer Specialist Nursing Program: A Social Return on Investment

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Introduction While provision of cancer supportive care services for prostate cancer (PCa) patients during and after treatment have demonstrated efficacy in mitigating consequences of the disease, there is a lack of robust economic evidence regarding the benefits of such services. The aim of this economic evaluation was to assess the value for money of the Prostate Cancer Foundation of Australia (PCFA) Prostate Cancer Specialist Nursing (PCSN) and Telenursing programs.

Methods The Social Return on Investment (SROI) framework was used to develop the economic model for the PCSN programs. Stakeholder consultations were conducted with the PCSN team to collect costs and generate the benefits associated with delivery of the PCSN program, supplemented with published evidence. Calculation of impact included dead weight loss, attribution, benefit time frame and discounting. Sensitivity analyses were conducted to test the robustness of the model.

Results Costs of the program (including costs of referral to other services) and seven major benefits were included in the final analysis: 1. Improved health related quality of life (HRQoL); 2. Reduced emergency department (ED) presentations and hospitalisations; 3. Reduced travel costs; 4. Reduced productivity losses; 5. Reductions in clinical consulting time; 6. Reductions in nurse coordination time; and 7. Reductions in missed appointments. Intangible benefits which could not be monetised were also reported. The net social benefit and SROI for each program and a combined result are shown below.

(2020/21) & (2021/2022)	Net present value (benefits – costs)	SROI (benefits/costs)
PCSN program	$14,633,133	1.62
Telenursing program	$1,369,703	2.34
Combined	$16,003,487	1.65

Conclusions A conservative SROI analysis was conducted and a strong positive return on investment demonstrated the successful implementation of the program. A qualitative assessment of intangible benefits for patients and healthcare providers showed high levels of satisfaction amongst all stakeholders and the reach of PCSNs across all six PCa survivorship domains.

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Artificial intelligence in breast cancer screening: women’s preferences and uptake

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Introduction/Background

Artificial intelligence (AI) has the potential to replace one or both radiologists who review mammogram images in breast cancer screening, improving both screening accuracy and efficiency. However, cancer screening programs depend on high participation rates, and many women are unwilling to trust AI for healthcare. Our objective was to examine community preferences for the use of AI in breast cancer screening.

Method

802 women and gender diverse people eligible for breast cancer screening in Australia completed an online discrete choice experiment survey. Respondents answered eight choice questions with two screening alternatives and a follow-up opt-out question. Each screening alternative described the role of AI (supplementing current practice, replacing one radiologist, replacing both radiologists, triaging mammograms for the radiologists), and the AI accuracy, ownership, representativeness, privacy, and waiting time. Analysis included conditional and mixed logit models, latent class analysis, and the average individual uptake for policy relevant scenarios in Australia.

Results/Findings

Overall, participants preferred screening programs where the AI was more accurate, owned by an Australian company or Department of Health, more representative and had a shorter waiting time for results. There were strong preferences against screening programs which relied on AI alone or AI as triage. Three classes of preferences were identified: ‘AI Concerned’ (18% of sample) and ‘AI averse’ (42%) were strongly against the use of AI in breast cancer screening, while the ‘Accuracy above all’ group (40%) were positive about AI if it improved screening accuracy. Implementing AI in a way that was not consistent with community preferences could reduce participation in up to 22% of current screening participants.

Implications/Key Message

While AI may improve effectiveness or efficiency of breast cancer screening, these benefits may be offset if screening participation is reduced. Implementation will need careful communication to the screening population around potential risks and benefits.

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Attitudes towards the incorporation of AI into clinical workflows, and decision-making, among dermatologists.

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Introduction/Background

Under experimental conditions, several Artificial Intelligence (AI) tools have been shown to correctly identify images of malignant skin lesions with a level of diagnostic accuracy comparable to experts. As such, integrating AI with 2D or 3D skin imaging technologies into clinical workflows may be a promising way of improving access to accurate, cost-effective skin cancer screening and diagnosis. This study explored the attitudes of dermatologists in Australia and New Zealand towards incorporating AI into practice.

Method

Participants were fellows and trainees of the Australasian College of Dermatologists (ACD). An online survey was developed in consultation with the ACD Digital Health Committee. Survey links were emailed through invitations to participate in the ACD newsletter and distributed during the ‘AI in Dermatology’ session of the ACD Annual Conference (May 2024). The final sample included 122 completed surveys (16.2% response rate).

Results/Findings

Most dermatologists rated their knowledge of AI’s application to dermatology as only poor/fair (75.4%), and current use of AI for clinical tasks was low (87.7% never/rarely). Only 24.6% were willing to trust AI for diagnosing skin cancer. Despite this, most dermatologists thought their patients were willing to have AI tools incorporated into practice (59.9%). The most strongly held concern about using AI was the risk of inaccurate screening or diagnosis, with the prospect of reduced time on monotonous tasks being the most widely anticipated benefit. A potential clinical workflow that incorporated AI as part of a targeted, nationwide melanoma screening program in Australia was endorsed by only 25.4%.

Implications/Key Message

The optimal incorporation of AI tools into dermatological practice depends on the extent to which clinicians accept the technology. Currently, the anticipated benefits of using AI for decision-making in dermatology appear tempered by concerns about AI accuracy, low levels of trust, and a lack of familiarity with the technology.

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Visual explainers as a tool to communicate cancer's impact in Australia

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Background

Cancer epidemiology research delves into the patterns and determinants of health and disease within populations, addressing complex concepts such as disease prevalence, incidence, risk factors, and outcomes. For non-specialists, these terminologies and concepts can be challenging to comprehend, which can limit knowledge dissemination and prevent informed decision-making in public health. Converting epidemiological research into visual explainers humanizes the research data and contextualizes statistics within publics' narratives. Using Shorthand, a digital storytelling platform, we translated cancer epidemiology research about two key topics into interactive web-based visual explainers with the goal of enabling the general public, policy makers, and healthcare professionals to easily understand cancer statistics presented in the Australian Cancer Atlas 2.0.

Method

This presentation focuses on the creation and evaluation of two visual explainers, about prostate cancer and rare cancers. Clinicians, epidemiologists, and people living with cancer were consulted to identify key messages for the explainers. Scripts were developed which were shared with a peer review panel. The panel assessed whether the language used was relevant to the general public and whether the scripts accurately communicated the cancer research. Visuals were created based on the scripts and were then incorporated in Shorthand using features including scrolling and animation of the visuals and text to reveal the concepts and key messages. The drafts of the visual explainers were presented to another peer review panel to ensure the visuals reflected the intended messages effectively and were meaningful to the target audience. The explainers were then incorporated into the Australian Cancer Atlas 2.0 which was launched in May 2024.

Results

The development of the two visual explainers was used as a pilot to refine the process of creating visual explainers and will be implemented in the creation of further work focusing on areas such as statistical methodologies and other cancer types. This presentation will discuss the challenges of engaging in peer review of complex topics for visual explainers and tools that can be used to support this process.

Key Message

Interactive visual explainers can make cancer data more relevant to the public by linking it to cancer patients' experiences, as well as cancer prevention, screening, diagnosis, treatment options.

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Generation of machine-learning derived social vulnerability index to determine the spatial burden of lung cancer

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Introduction/Background

Sociodemographic factors influence incidence of lung cancer and contribute to its disproportionate distribution worldwide. This study aims to explore the role of social determinants on lung cancer incidence across various regions of Queensland, Australia.

Method

Data relating to people diagnosed with invasive lung cancer in Queensland, 2012-2019, were extracted from Queensland Cancer Register (n=20,713). Smoothed standardised incidence ratios (SIR) compared to the state average were estimated for 519 geographic areas using Bayesian spatial models.

Area-level sociodemographic features (n=200 unique variables) were extracted from multiple data collections, including Australian Bureau of Statistics, National Health Services Directory, and Public Health Information Development Unit. Random forest models using 80% of the 2016-2019 data were developed to identify important predictors for SIR and to estimate the feature importance scores for the predictors. Confusion matrices for test datasets (remaining 20% of 2016-2019 data, and 2012-2015 data) were used to evaluate model performance.

A novel gap-adjusted percentile rank approach incorporating results from the random forest models was developed to generate the social vulnerability index. The predictive capacity of this index in relation to small-area-specific lung cancer incidence was examined using linear regression.

Results/Findings

Fourteen sociodemographic features were identified by the random forest models, covering the prevalence of risk factors, chronic diseases, and socioeconomic status. The models achieved prediction accuracies of 0.60 (p-value < 0.01, Kappa = 0.38) and 0.65 (p-value < 0.01, Kappa = 0.42) for the 2016-2019 and 2012-2015 test datasets, respectively. The index was highly related to SIR, explaining 57.8% of the geographic variations in lung cancer incidence (coef = 0.15, p-value < 0.01, $R^2 = 0.578$).

Implications/Key Message

The significant relationship between the index and lung cancer incidence supports the feasibility of predicting lung cancer burden based on area-level sociodemographic characteristics. These results may also encourage its application to other cancer types.

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Movember as a change agent

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Introduction

Movember is the leading charity changing the face of men's health, and since 2003, has funded more than 1,320 men's health projects globally, challenging the status quo and transforming research and the way in which health services reach and support men.

Prostate Cancer Support and Registries

As part of Movember's support for prostate cancer, we have championed the establishment of clinical quality registries worldwide, including the Prostate Cancer Registry of Australia and New Zealand (PCOR-ANZ). These registries aim to improve the diagnosis, clinical management and outcomes for men living with prostate cancer by fostering a culture of quality improvement and research. By collecting datasets encompassing patient-reported outcomes, alongside clinical information, registries empower clinicians to deliver care that is optimal and equitable. Registries also offer a platform for men to share their experiences and needs via patient reported outcome measures (PROMs).

Transformative Role and Collaboration

Movember is not just a passive funder of registries, rather we recognise their transformative potential, and are a key change agent within the Health landscape. Through the success of PCOR-ANZ, and a belief in amplifying clinical quality and the voice of the patient, Movember has entered into a collaboration with Cancer Australia. This partnership, known as the Pan-Cancer Program, is working with clinical quality registries at a national level. Representing ten cancer conditions, the Pan-Cancer Program will deliver a national PROMs collection platform for use by registries, alongside a national benchmarking platform for participating clinicians and institutions. By establishing standardised metrics and methodologies, this program will enable comparisons of patient reported and clinical data across cancer conditions. The delivery of personalised cancer care to tailor support to individual circumstances will also become a reality via the PROMs platform.

Conclusion

Through these initiatives, Movember strives to create a world where all men have equal access to high-quality, patient-centred cancer care, thereby improving health outcomes for men worldwide.

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Cost-effectiveness of artificial intelligence in breast cancer screening

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Introduction: Breast cancer screening in Australia involves two radiologists reviewing each mammogram with discordant results resolved by a third radiologist. Artificial intelligence (AI) algorithms for interpreting mammograms may improve breast cancer screening program effectiveness and reduce costs. Our objective was to explore the cost-effectiveness of integrating AI into breast cancer screening from an Australian health care system perspective.

Method: We assessed the incremental cost per additional cancer detected comparing standard breast cancer screening practice (Standard) with three AI-human screen reading strategies (Integrated: AI replacing one human reader; Triage Single: AI triage with human double-reading; and Triage Only: AI triage with no human reading for low-risk screens) simulated in a retrospective cohort of 108,970 consecutive mammograms from women aged 50-74 years from 2013-2016 in BreastScreenWA. A two-year decision-analytic model incorporated cancer detection rate (CDR) and recall outcomes, with the incremental cost per additional cancer detected as the primary outcome. Costs were estimated from an Australian health system perspective (2022 AUD). One-way and probabilistic sensitivity analyses investigated uncertainty in costs and effects. Scenario analyses used published data from the first prospective, randomised controlled trial of AI accuracy in breast screening (Lång, 2023) to explore how improved AI performance impacted cost-effectiveness.

Results: In the base-case, all AI-human strategies were less costly but slightly less effective than Standard. Triage Only was the most efficient with an average saving of $4 per cancer detected, and detecting 0.000521 fewer cancers compared to Standard. In scenario analyses, improved CDR and recall outcomes resulted in higher AI-supported screen reading effectiveness and higher incremental costs compared with current practice, and an ICER of $714 per additional cancer detected.

Implications: This study represents one of the few economic evaluations comparing AI-supported mammogram reading with human reading. Results can inform AI technology adoption in population breast cancer screening.

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Can an online interactive plain language tool improve health information quality? Results from a randomised controlled trial

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Introduction

Ineffective health communication is a critical and persistent source of inequity in our health systems. This occurs despite repeated policy directives to provide health information that is easy for people to understand. This study evaluated the effectiveness of the Health Literacy Editor, an easy-to-use online plain language tool that supports health information providers to apply health literacy guidelines to written health information.

Method

188 health information providers (mean age 41.0 (SD=11.6); 154 female (85%)) took part in an online randomised controlled trial. Participants in the intervention group were provided access to the Editor and a 30-minute online training program prior to editing three pre-specified health texts. The Editor gives objective, real-time feedback on words and sentences. Control participants were asked to revise the texts using their own standard health information development processes. Regression models analysed differences in text grade reading score (validated instrument Simple Measure of Gobbledygook), use of complex language (% of the text) passive voice, and expert health literacy ratings (Patient Education Materials Assessment Tool).

Results

Texts revised in the intervention group had significantly improved grade reading scores relative to control (Mean Difference (MD)=2.48, 95% CI=1.84 to 3.12, p<0.001, d=0.99), lower text complexity (MD=6.86, 95% CI=4.99 to 8.74, p<0.001, d=0.95) and less passive voice (MD=0.95, 95% CI=0.4 to 1.5, p<0.001, d=0.53). Experts rated texts in the intervention group more favourably for word choice and style than those in the control group (MD=0.44, 95% CI=0.25 to 0.63, p<0.001, d=0.63), with no loss of meaning or content.

Key Message

The Editor helped users simplify health information and apply health literacy guidelines to written text. It has high potential to improve development of health information for people who have low health literacy. As an online tool the Health Literacy Editor is also easy to access and implement at scale.

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‘Get the lines of communication open’: codesign of a digital pre-consultation tool for menopause in Australian general practice

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Introduction/Background

Symptoms of menopause are under-recognised and under-treated in Australia (1) (2). Studies highlight a lack of recognition of menopause symptoms such that women do not seek treatment (3); that there are widely held misconceptions related to treatment options (4); and that women expect their GP to initiate conversations about menopause (5) whereas healthcare providers perceive women to be uncomfortable discussing topics related to menopause (6).

Pre-consultation tools are used in clinical practice to gather information from patients in advance of their consultation. Good tools empower patients to more thoroughly reflect on their concerns, and give them 'permission' to raise issues with their doctor (7). This study, part of the NHMRC-funded MenoPROMPT project, aimed to explore the needs and preferences of women and GPs in relation to a menopause-related digital pre-consultation tool to be used in Australian general practice.

Method

In this co-design study, four GPs and eight women with lived experience of menopause symptoms were brought together to develop a prototype for a digital pre-consultation tool. The tool was developed to sit within BetterConsult, a pre-consultation platform provided by digital health company HealthShare Digital.

Results/Findings

All participants agreed that the current approach to menopause in general practice needs to be improved. Participants noted the importance of normalising discussions about menopause, and envisioned that a well-designed pre-consultation tool could help meet this need. A prototype of the tool was successfully co-designed, receiving consensus agreement from all participants.

Implications/Key Message

The prototype will be evaluated in a 12-month pilot study in ten Australian general practices. These practices will concurrently use a clinical decision support tool developed as part of the MenoPROMPT project. Qualitative interviews will be held with patients and GPs, and data will be gathered on usage statistics for the tool.

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Videoconferencing with a physiotherapist versus in-person care for knee osteoarthritis: The Peak Non-inferiority Randomised Controlled Trial.

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Introduction/Background

Telerehabilitation with a physiotherapist is perceived by clinicians and consumers as being less effective than in-person care for musculoskeletal problems. We aimed to determine if videoconferencing consultations with a physiotherapist are non-inferior to in-person care for improving knee pain and physical function at 3 months in people with knee osteoarthritis (OA).

Method

Non-inferiority randomised controlled trial with 15 primary care physiotherapists across 27 Australian clinics. We randomised 394 adults with chronic knee pain consistent with OA to i) in-person or; ii) videoconferencing (Zoom) consultations. Both groups had 5 consultations over 3 months for an individualised strengthening program, physical activity plan and OA education. Primary outcomes were i) knee pain (numerical rating scale, 0-10) and ii) physical function (Western Ontario and McMaster Universities OA index, 0-68) at 3 months post-randomisation (secondary end-point 9 months). Non-inferiority required the lower 95% CI of the between-group difference to exceed -0·95 for pain, and -5·44 for function. Secondary outcomes included other clinical, adherence, attendance, safety and satisfaction outcomes, and cost-effectiveness. Trial was funded by NHMRC and prospectively registered.

Results/Findings

204 participants were allocated to in-person care and 190 to videoconferencing. At 3 months, both groups reported improved pain (mean change (SD) 2·98 units (2·23) for in-person and 3·14 (1·87) for videoconferencing) and function (10·20 (11·63) and 10·75 (9·62) respectively). Videoconferencing was non-inferior for pain (mean between-group difference 0·16 (95% CI, -0·26 to 0·57) and function (1·65, -0·23 to 3·53). Non-inferiority persisted at 9 months. Adverse events were similar across groups and not serious. Videoconferencing was superior to in-person for a number of secondary outcomes. Cost-effectiveness including private time and travel showed videoconferencing offered net social benefits due to cost savings at 9 months ($AUD-515; 95% CI -1023, 0).

Implications/Key Message

Videoconferencing with a physiotherapist is non-inferior to in-person care for people with knee OA.

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Process and implementation evaluation of a virtual hospital model of care for low back pain (Back@Home)

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Introduction: Low back pain was the 5th most common reason for an Emergency Department (ED) visit in 2020–21 in Australia, one third of these patients were subsequently admitted to hospital. Therefore, we have assessed whether some patients could be diverted to alternate clinical pathways, via admission to a virtual hospital (**rpa**virtual), and be cared for remotely in their own homes.

Methods: Ethics approval was granted for protocols X21-0278 & 2021/ETH10967 and X21-0094 & 2021/ETH00591. We conducted a mixed-method process evaluation, using the RE-AIM framework (reach, effectiveness, adoption, implementation, and maintenance) to answer key questions regarding the Back@Home model of care.

Findings: This evaluation describes a cohort of the first 50 patients that received care between 13th February – 31st July 2023. The service had high levels of reach and adoption, very low levels of ED representation, and no adverse events. Virtual care cost a median of AU$2215 (IQR AU$1724 – AU$2855) per admission. Patients admitted virtually had the same high satisfaction with care as traditionally admitted patients and reported less pain and better physical function.

Interpretation: Preliminary findings suggest that this model of care is a safe, acceptable, and feasible alternative to hospitalisation for non-serious back pain, in a select cohort of patients meeting inclusion criteria. Further data collection will inform whether Back@Home has had an impact on length of stay or admission rates for non-serious LBP. These outcomes will be available in September 2024 and presented at the conference.

Funding: This study was supported by a Health Services Research Grant from HCF Research Foundation (AU$315,000).

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Can virtual technology close the gap? Perceptions of health professionals managing deteriorating patients within satellite wards across Northern Health

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Background: The COVID 19 pandemic has had significant impact on health services, particularly in the way healthcare providers connect, communicate and collaborate to improve the reach of care in physically disconnected settings. Digital health is now routinely applied across clinical care to aid decision making and management of patients. However, few studies have explored the perceptions of healthcare professionals when digital technologies are utilised to aid management of deteriorating patients. This qualitative study aimed to explore the knowledge, perceptions and barriers of the management of deteriorating patients across Northern Health satellite wards and the acceptability of an integrated virtual approach to aid care and decision making.

Method: Data was collected through in-depth focus groups (N=7) with 16 healthcare professionals working across satellite wards (head of nurse managers and nurses) and the ICU (registrars, nurse liaisons and nurses). Thematic analysis was used to identify common themes in the data.

Results: Four main themes emerged: 1) lack of communication 2) inconsistent education and experience 3) rapid service expansion and 4) digital patient assessment. The results highlight the emotional toll satellite staff experience when managing deteriorating patients especially with the inconsistent transfer protocols between the main hospital and the satellite sites. Improving the communication strategies between sites will help decision making and management of patients and potentially reduce unnecessary patient transfers to the emergency department. Healthcare professionals indicated openness to the use of digital technologies to improve communication but showed concern with the practicality of such devices.

Implications: These insights have implications for healthcare organisations in terms of addressing continued communication and consultation when digital devices are considered to aid care in healthcare services that operate across multiple sites. Specifically, the insights gathered from this study will inform the co-designed digital escalation of deteriorating patient protocol to be implemented across Northern Health.

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Evaluation of the Get Healthy Service: A Secondary Analysis

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Introduction/Background

The Get Healthy Service (GHS) is a free six-month telephone-based healthy lifestyle coaching service delivered at scale in NSW since 2009 to support adults to make sustained health behavior improvements. The GHS was last evaluated over 10 years ago and was shown to be effective. Using recent data, we investigated who uses the GHS, characteristics conducive to program completion, and the impact on health risk behaviors.

Method

A process and impact evaluation of the GHS was conducted using secondary data collected during program delivery between December 2017 and May 2023. Descriptive statistics are reported for the service. Inferential analysis was used to measure the conversion rate of participants referred to completing the program, and to measure pre-post health risk behavior change. A scoping literature review was also conducted to provide context and insights into research findings.

Results/Findings

Of the 122,948 participants referred to the GHS, 53,566 participants enrolled and 17,153 completed the program. Multivariable analyses showed women, people who had a high-school level education (or less) and were in paid employment were less likely to complete the program. Men, people aged 50 years and over, and those who did not identify as Indigenous were more likely to complete the program. Almost one-third of participants were referred by health professionals and weight management was the primary referral reason. Those who completed the GHS program showed increases in physical activity, fruit and vegetable intake, and reductions in body weight, BMI, waist circumference and takeaway food.

Implications/Key Message

The GHS resulted in improvements in anthropometric and lifestyle risk factors in adults. This evaluation provides recent evidence of who is using the GHS, the characteristics conducive to program completion, and that the scaled-up telehealth program is effective at improving health risk behaviors.

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Design and Initial Insights of a Theory-Guided Mixed Methods Study on Implementing a Digital Fall Prevention Platform

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Introduction/Background

Falls are a major cause of hospital acquired complications and inpatient harm. Interventions (including tools and processes) to prevent falls exist, but it is unclear which are most effective and what implementation strategies best support their use. This study sought to evaluate falls prevention workflows delivered through Rauland Australia's Concentric Care fall prevention platform delivered in a new hospital and ascertain the impact of an implementation enhancement plan on uptake.

Method

A type-one hybrid effectiveness-implementation measured: 1) The effectiveness of fall prevention workflows, focusing on patient and health service outcomes 2) Implementation effectiveness as reflected in both subjective and objective measures. Both quantitative and qualitative data were collected at two key time points: 1) Shortly after implementation 2) Six months after delivering an implementation enhancement plan, which was informed by interviews coded to the Consolidated Framework for Implementation Research (CFIR) and mapped to the Expert Recommendations for Implementing Change (ERIC) tool.

Results/Findings

A risk reduction in falls per 1000 bed days was observed among cognitively intact patients post implementation enhancement plan, however, this difference was not statistically significant (adjusted Odds Ratio 0.98 [95% CI 0.81–1.20], p =0.88). Efficiencies in staff voice response times were identified (mean 41 seconds pre and 31 seconds post; 32% improvement, p <0.0001). The implementation enhancement plan successfully improved uptake of key system functions (+19% increase programmed smart bed, +39% increase set patient as high falls risk on the staff station console).

Implications/Key Message

The implementation enhancement plan improved uptake of the system and is likely to be effective for other interventions. The platform shows the potential to reduce falls among cognitively intact patients, but longer periods of observation and a larger sample are needed to confirm the effect. Besides falls, the efficiencies in response time are likely to improve patient care and experience.

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A qualitative exploration of TeleClinical Care Cardiac – a digital health innovation for transitional cardiac care

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Introduction/Background: TeleClinical Care-Cardiac (TCC-Cardiac) is a pilot-tested smartphone-based intervention that aims to holistically address limitations in transitional care for cardiovascular patients. TCC-Cardiac is an adjunct to existing heart failure and cardiac rehabilitation services that is intended to reduce hospital readmissions. The innovation incorporates telemonitoring, exercise, and education to promote engagement with cardiologists and general practitioners after discharge, improve medication adherence, and encourage lifestyle modifications. Patients are requested to measure their blood pressure, weight, and oxygen saturation at home, which is then transmitted to the smartphone application and subsequently to a back-end dashboard monitored by a hospital-based clinical team. Concerning measurements are escalated in consultation with the patient, and the dashboard is available to general practitioners if requested.

Method: Semi-structured interviews were conducted with 31 patients and 17 health providers across metropolitan and rural sites, including cardiologists, general practitioners, and cardiac rehabilitation coordinators as a part of an ongoing randomised controlled trial. Interviews were thematically analysed informed by the Consolidated Framework for Implementation Research (CFIR) and World Health Organisation Integrated People-Centred Health Services (IPCHS) strategies.

Results/Findings: TCC-Cardiac was valued in the continuum of care from empowerment of patients, coordinating care across services and providing an enabling environment of accountability. Remote monitoring, the central component of TCC-Cardiac, was valued by patients as it provided a sense of reassurance and enhanced understanding of CVD factors. However, the use of digital health is dependent on patient health literacy and motivation for recovery and need for additional support. The concept of observing trends in recovery rather than a single measurement in isolation in follow-up clinics support the clinical management by health providers, but long-term coordination of TCC-Cardiac with existing outpatient services must consider systemic shortages in staff, funding, and variations in digital ecosystems.

Implications/Key Message: TCC-Cardiac highlights the valuable role of digital health in promoting patient-centred transitional care.

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Virtual Hospital Care for Low Back Pain (Back@Home)

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My thesis:

- Summarises the prevalence and burden of low back pain in Australia, with a focus on hospital admissions, and introduces virtual hospital care as an opportunity to reduce inpatient hospitalisation.
- Systematically reviews global rates of hospital admission and stays for LBP, finding that compared to the pooled median, Australia's LBP admission rates were 3 to 4 times higher.
- Describes usual care for people admitted to hospital with LBP, finding that opioids were administered in approximately 80% of admissions and 49% of patients with radicular low back pain were given an antiepileptic medication in addition to an opioid.
- Estimated what proportion of patients initially diagnosed with non-serious LBP in the ED were potentially suitable for virtual hospital care as an alternative to traditional admission.
- Identified potential barriers to and facilitators of the world's first 'Back@Home' virtual hospital model of care. The resulting model was co-designed with front line clinicians to mitigate concerns while optimising virtual care delivery.
- Presents the protocol for evaluating Back@Home, a hybrid effectiveness-implementation type-I feasibility study designed to evaluate the effectiveness of a virtual hospital model of care for LBP on health service outcomes, patient-reported outcomes, costs, acceptability, and appropriateness of the virtual hospital model of care, as well as the feasibility and fidelity of our multifaceted implementation strategy.
- Presents the preliminary evaluation of Back@Home, a mixed-methods study using the RE-AIM framework. Findings suggest that this model of care is a safe, acceptable, cost-effective, and feasible alternative to hospitalisation for non-serious back pain, in a cohort of patients meeting specific criteria. The Back@Home service has had high levels of reach and adoption across the Sydney Local Health District, reflecting the success of the multi-faceted implementation strategy. Further data collection will determine whether Back@Home has impacted on length of stay or admission rates for non-serious LBP.

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Virtual care solutions for improving patient-centred health services and system efficiency

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Background

The West Moreton region in Southeast Queensland is projected to nearly double its population to 588,000 by 2036. This diverse region faces high rates of obesity and smoking, leading to unsustainable hospital service demand. Several virtual care initiatives have been introduced in WMH, aiming to provide better care closer to home for more people. In early 2022, WMH launched a virtual COVID Hospital in the Home (HITH) program, supporting COVID-19 patients with additional health concerns through remote consultation and monitoring. In November 2022, WMH introduced the Preventative Integrated Care Service for rapid response care targeting high-risk consumers with chronic conditions, focusing on prison populations.

Method

This doctoral research employs a mixed-method approach, including a retrospective cohort study, a cost effectiveness analysis and a discrete choice experiment (DCE). A mixed-method approach involving collection and analysis of quantitative and qualitative data based on RE-AIM framework is employed to retrospectively evaluate WMH virtual COVID-19 HITH service. A DCE is conducted to identify stakeholder preferences for a person-centred virtual care model in the correctional setting.

Preliminary findings:

Virtual HITH services replicating the systems, staffing, and daily routines of a hospital ward are likely to be a cost-effective intervention to expand inpatient care capacity. The virtual COVID-19 HITH program supported over 3000 patients, saving 75% of bed days compared to conventional hospital wards. The cost-effectiveness analysis found the virtual HITH to be dominant, with 3.37 Quality Adjusted Life Years (QALYs) gained and $1,693.45 saved per patient.

Implications

Understanding experiences and preferences for service delivery will enable better service design tailored to patients’ diverse needs. Outcomes from this work are expected to directly inform future strategic planning within WMH to achieve their sustainability objective of proactively keeping high-cost, high-risk health consumers out of hospital, and may influence the extent to which virtual care is expanded within WMH Preventative Integrated Care Service.

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Advancing Healthcare through the Development of an Economic Implementation Toolkit

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Innovation plays a critical role in tackling emergent healthcare challenges and promoting continuous service quality improvement. The main problem facing the health sector is not the scarcity of innovation but the diffusion of innovation. Among other priorities, economic considerations are a key factor influencing whether an innovation is implemented into practice. The application of health economics in implementation science, therefore, requires investigation and methodological development. The aim of this project is to develop an economic implementation toolkit. The toolkit will host a range of resources for health service providers, funders, and researchers to employ economic principles and advocate for innovation in their local context.

First, a systematic review was utilized to explore the use of economic evaluations alongside randomized implementation trials. Second, an observational study of Australian-registered clinical trials was used to describe the ways in which implementation research incorporates economic outputs. The review and observational study confirmed that, despite economic considerations gaining an increasingly prominent role in implementation research, there are still ongoing challenges and much to be gained in further developing methodology and guidance.

A discrete choice experiment is now underway to establish the key influences on the implementation of innovations. This will inform the development of the economic implementation tools in the toolkit. One tool that is currently in development is a value of information calculator that incorporates the relationship between evidence generation and implementation efforts.

Given clinical and public health problems, interventions, settings and other contextual factors are highly heterogeneous, there is much to gain from developing generalizable tools for employing economic principles and advocating for implementation in a local context. Such resources would add to the growing evidence base of implementation science initiatives, paving the way for innovations that are more convenient, more effective, less expensive, and more equitable for consumers.

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Incident data related to nasogastric tubes. What does the data tell us?

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Introduction/Background

Both Queensland and England record healthcare incidents centrally, and consider the use of a nasogastric tube (NGT) positioned in the lungs as a serious preventable incident. Since incident reporting began, little action has been taken to use these incidents to improve patient safety.

Aim

Describe and understand the clinical context of reported ongoing NGT position testing incidents in Queensland and England risk management systems.

Method

Four years of Queensland Health (n=27) and one year of NHS England (n=412) clinical incident data with keywords "nasogastric tube" were obtained from incident data custodians. Manual screening identified incidents relating to ongoing NGT position. Conventional (inductive) qualitative content analysis was conducted by assigning codes to each incident.

Results/Findings

Five Queensland and 24 English incidents were identified and analysed. Three incidents in England caused low-level harm, none of which related to the use of a displaced NGT. Harmful incidents were poor communication resulting in a NGT being unnecessarily removed; not having adequate staffing to care for patients with NGTs so nutrition and medications were missed; and not being able to use the NGT to provide fluid as the position of the tube couldn't be confirmed. Three key themes were identified in the data; different ongoing NGT position tests result in different outcomes; staff interpersonal relationships influenced incidents; hospital ongoing NGT position testing procedures were not followed but this did not result in harm.

Implications/Key Message

Harm caused by using a NGT originally confirmed in the correct position which subsequently displaced was not observed across five years of incidents, so is rare. This is despite multiple reports of clinicians not following ongoing NGT position testing procedures. Content analysis of incident data has been effective at understanding ongoing NGT position testing incidents and would be beneficial in understanding the context of other patient safety issues.

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Optimising equity and access in Australia’s lung cancer screening program

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Introduction/Background

In Australia, lung cancer is responsible for the most cancer deaths. A National Lung Cancer Screening Program will commence in July 2025. Whilst other national screening programs take a population approach to eligibility, lung cancer screening is unique, with eligibility targeted towards those with an elevated risk of disease. This eligibility means that some individuals with increased risk of lung cancer will not be able to access screening through a national program if they do not meet the required risk thresholds. With a national program commencing, there is opportunity to understand how Australia’s program can be optimised to be most equitable and accessible to those who will benefit from lung cancer screening.

Method

Four studies will be conducted to achieve the overall thesis objective. Study 1 will be a policy landscape analysis to identify variations in the eligibility criteria of lung cancer screening programs around the world. Study 2 is a systematic review identifying whether initial participation in lung cancer screening programs differs between key population groups. Study 3 will utilise qualitative methodology to understand general practitioner perspectives towards supporting those who are at risk of lung cancer but excluded from the Australian screening program. Finally, in study 4 modelling will be undertaken to estimate the impact of broadening the eligibility criteria of the Australian screening program.

Implications

It is anticipated that findings from this program of research will inform the development of recommendations on how Australia’s lung cancer screening program can be delivered to be most equitable. This will include recommendations pertaining to the participation of key population groups in screening and supporting health care professionals to assist those who are ineligible to participate in the current program and are concerned about as their lung cancer risk.

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Why should we integrate allied health stroke assessment?

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Introduction/Background

Imagine you phone a call center and answer questions for 20 minutes, before they decide to transfer you to the customer service department. The customer service department ask you the same questions before deciding you should speak to the finance department. This happens again before you finally get the help you need. Unfortunately, this is similar to what people with stroke experience. In the acute hospital, people with stroke are asked repetitive questions by occupational therapy, physiotherapy, speech pathology and social work, before receiving rehabilitation or discharge planning. At the Mater Hospital Brisbane, we aimed to reduce unnecessary duplication by integrating allied health stroke assessments into a transdisciplinary stroke assessment.

Method

Usual allied health and transdisciplinary stroke assessments were compared using a 22-month pre-/post- clinical study and differences investigated using Mann-Whitney U and Pearson's chi-squared tests.

Results/Findings

When the transdisciplinary assessment was used (N=116), allied health provided 3 fewer occasions of service (p=0.11) to each patient without compromising care quality. Additionally, fewer allied health professionals were involved in each patient admission (p=0.001). For example, the percentage of patients seen by occupational therapy and physiotherapy was 84.5% (p<0.001) and 87.1% (p=0.003) respectively, compared to 100% when usual assessment was used.

Implications/Key Message

Integrating allied health stroke assessment using a transdisciplinary assessment model resulted in less service duplication, demonstrated by fewer occasions of service provided to each patient by fewer allied health clinicians. Integrating assessment allows clinicians to redirect their time towards other occasions of high-value patient care such as rehabilitation or discharge planning. In other words, when a transdisciplinary assessment was used, people with stroke only spoke to one call center department before receiving the help they needed.

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Future-proofing fertility: Using ‘big data’ to overcome a silent superbug

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Gonorrhoea, an increasingly common sexually transmitted infection, can cause infertility, pregnancy complications and pre-term birth. Half of the women with gonorrhoea experience no symptoms.

The bacteria responsible for gonorrhoea is called a ‘superbug’ because strains have developed resistance to all available antibiotics. This is a major problem since gonorrhoea antibiotic resistance tests often fail to provide timely and definitive results. To overcome testing limitations, all infections are treated with the most effective antibiotic, however this practice accelerates antibiotic resistance and treatment becomes increasingly ineffective.

Recent advancements in resistance testing could transform treatment. New tests can quickly pinpoint infections able to be cured with older antibiotics, which will in turn reduce last-option antibiotic use, slowing resistance development.

My research, now in its second year, aims to keep gonorrhoea treatable by analyzing existing data in innovative ways. I am generating evidence on which, where, for who and how new resistance tests can best be used.

Analysing 23,000 gonorrhoea cases for patterns of multiple antibiotic resistance, I published a universally applicable method for prioritising resistance test development, avoiding investment of valuable research resources on tests with limited benefit.

From 23 years of Queensland gonorrhoea testing and antibiotic resistance data, I am identifying where and why there are gaps in resistance testing, and to what extent new tests can fill these gaps. Findings will provide Health Service Managers with evidence to allocate testing resources efficiently.

Lastly, I will evaluate a pilot study designed around the data-driven findings to assess the impact of new testing and treatment strategies on antibiotic use, clinical workflows, and patient outcomes.

Building an evidence-based bridge between research and impact, I hope to shape the future of gonorrhoea treatment, and in doing so keep gonorrhoea treatable to preserve future parents’ dreams.

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When diagnostics and digital health collide: benefit or bedlam?

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In 2022, a failure to check test results in a NSW regional hospital made headlines and led to three missed cancer cases and a baby's death. This is a deeply concerning reflection of a broader problem, where missed test results can occur for up to 62% of laboratory tests, and has been identified by the World Health Organization as a priority patient safety area.

Current Electronic Medical Record systems often incorporate digital health tools, such as decision support to enhance appropriate test selection, and test result tracking systems that identify pending test results at hospital discharge or deliver result alerts to clinicians.

However, poor integration of digital health with clinical workflows can give rise to error and increasing test volumes over time has resulted in a lack of clarity about who is responsible for test result follow-up. Each setting is different, and the outcomes from digital health implementation may be different in different contexts, such that a solution that succeeds at one site might be less effective at another.

My project undertakes an evaluation of two novel digital health innovations during the design and early stages of implementation. It will adopt a multi-methods qualitative co-design approach including interviews, ethnographic observations and work process modelling to understand the local context, explore the workflow impacts, and identify the contextual characteristics which can shape outcomes. Thus far in the project, I have identified that workload distribution, the synchronisation of tasks and professional scopes of practice can affect utility and effectiveness of digital health. This response will vary at sites that observe different local protocols.

By ensuring digital health interventions and tools are co-designed by stakeholders and their usability is suitable within the clinical environment, outcomes from my project will result in the development of tools and interventions that are effective, safe and sustainable.

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Using artificial intelligence to identify complex patients in general medicine

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Research has shown that patients who are “complex” experience poorer outcomes for inpatient care, yet there is no objective means to identify this group. At our metropolitan referral hospital 3061 people were admitted to general medicine over a ten-month period, some of them multiple times. 328 (11%) of these people were identified as complex by treating clinicians and referred to a specialist transdisciplinary allied health pathway for patients with complex allied health needs. We aimed to build an integrated clinical and digital picture of patients clinically identified as complex in general medicine by examining their characteristics and outcomes, and by developing a list of words that clinicians associate with allied health complexity.

Two studies were performed in general medicine at our hospital: 1) a cross-sectional survey of clinicians; 2) a retrospective observational cohort study of all patients admitted over a 10-month period. We compared the demographics, clinical features and outcomes of a complex and non-complex cohort of patients using a routinely-collected dataset.

The complex cohort (n=328) had poor outcomes – they stayed longer in hospital and had increased mortality and readmissions compared with non-complex patients ($p<0.01$). Complex patients were frail, significantly older, more comorbid and more likely to have cognitive impairment and multiple previous admissions than non-complex patients. Survey participants (n=80) generated a dictionary of 18/37 words that describe a complex patient in the progress notes, providing additional information for the digital picture.

Frailty, cognitive impairment, age and high hospital utilisation characterised allied health complexity across both studies. These two preliminary studies paint a clinical and digital picture of our complex patients. The next step is to develop a digital model integrating these clinical and demographic data with natural language processing of “complexity descriptors” for early algorithmic prediction of patients likely to benefit from complex care pathways.

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Enhanced Longitudinal Analyses for Community Opioid Dispensing following Injury

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Opioids alleviate severe pain from injury, surgery, or cancer but extended use poses risks like tolerance, dependence, respiratory and cardiovascular complications, and potentially fatal outcomes like death. Globally, 80% of drug-related deaths in 2019 were closely related to opioid use. Even in Australia, pharmaceutical opioid intake has increased in recent years. Each day 150 cases are hospitalized, and 14 emergency hospital admissions occur in this country due to pharmaceutical opioid harms. However, hardly any research investigates individual opioid trajectories, and none considers the impact of additional healthcare events. This research aims to explore statistical methods to best identify the predictive factors and patterns of community opioid dispensing among adults, focusing on trajectories following an injury-related hospital admission. Using a novel linked dataset, we follow adults who have been hospitalized due to any injury in Queensland, Australia during 1 January 2014 to 31 December 2015, and follow their subsequent hospitalizations (due to any cause, using QHAPDC), community opioid dispensing (using MODDS) and deaths for 2 years. Following a comprehensive scoping review to identify appropriate statistical methods, patient trajectories will be analysed and important predictors determined. Advanced statistical methods will be applied to understand the impact of healthcare usage on opioid dispensing and to assess the relationship between the timing of subsequent events and community opioid dispensing, which are currently unknown, but vital for policymakers to minimize harm from opioids.

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Realist Economic Evaluation and Policy Analysis of the Payment Mechanism of the Lead Maternity Carer Service in New Zealand

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The Lead Maternity Carer (LMC) service in New Zealand is funded through a modular payment mechanism, which affects the implementation of the LMC service delivery, distinguishing it from other payment mechanisms used health services such as capitation and fee-for-services. Exploring how the modular payment mechanism works for the stakeholders involved would generate evidence that could strengthen decision-making on funding and payment mechanisms in maternity care.

The overarching aim of this research project is to explore the effects of the Lead Maternity Carer Services Payment Mechanism on service providers using the Realist Economic Evaluation (REE) approach. It will also investigate outcomes related to workforce levels, such as workforce retention, recruitment, and shortage.

The study design is a sequential exploratory mixed method multiphasic research project. The first phase employs a qualitative approach, which involves 30 interviews with ten policy experts and twenty service providers, while the second phase employs quantitative approaches, which include a discrete choice experiment (DCE) involving LMC service providers and an economic evaluation. Some of the findings generated from Phase 1 of the study will form the framework for the parameters and attributes of the DCE in Phase 2 of the study. Phase 3 involves follow-up interviews with policy experts and LMC service providers to review findings from phase 2, followed by the integration of the results from the previous phases.

The research project will show the effects of modular payment on the retention and shortage of the health workforce. It could help develop an alternative payment system for the LMC service in New Zealand. The knowledge gained through this study has the potential to improve policymaking and payment mechanisms, promote efficiency, and strengthen the health system in New Zealand.

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Economics of Clinical Pathways in the Emergency Department: Chest Pain

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Emergency departments (EDs) are complex clinical settings, managing a high turnover of patients requiring timely and effective care. A lack of standardised care is reported, with only 60% of care adhering to evidence-based guidelines. Several international health systems recommend clinical pathways, structured multidisciplinary tools to standardise and optimise patient care. Despite their benefits, clinical pathways have not been completely integrated into routine emergency care in Australia. Hence, the IMplementation of Clinical Pathways in Tasmania (IMPACT) project aims to enhance the use of four clinical pathways, including that for chest pain, to improve patient outcomes and efficiency of acute care in Tasmania. Chest pain is among the most common presentations to EDs, accounting for 5-10% of all visits. As a component of IMPACT this thesis will assess the value of chest-pain clinical pathways by determining the evidence on cost and outcomes of their use across Tasmanian EDs.

This research encompasses six interrelated studies. The first is an umbrella review to identify evidence and describe the overall use and impact of clinical pathways in various healthcare settings. The second study, a scoping review will assess the economic effectiveness of clinical pathways in EDs globally. A secondary data analysis of the IMPACT register will identify patterns of chest pain pathway usage and associated outcomes in Tasmanian EDs, followed by an economic analysis, comparing the costs and outcomes of cases managed with and without clinical pathways. Study five will be a predictive economic modelling analysis to inform the choice of the implementation strategy for the chest pain clinical pathway. Finally, a qualitative study will explore stakeholders' perspectives on creating value in emergency care practices through clinical pathways.

The findings will inform decision-making processes and optimise resource allocation, by providing robust evidence on the effectiveness and economic viability of chest-pain clinical pathways across Tasmanian EDs.

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Utilizing 5G Private Networks for Sustainable Healthcare Services Through Smart Devices and Resource Monitoring

Carly Irving-Dolan

Introduction

The healthcare sector faces growing pressure to enhance patient care, improve operational efficiency, and reduce environmental impact. Leveraging private 5G networks offers a promising solution to enable a sustainable future for healthcare through real-time monitoring, improved data-driven decision-making, and enhanced patient experience. This keynote explores how private 5G networks, combined with smart devices and monitoring systems, can transform the healthcare industry into a more efficient and sustainable ecosystem.

Method

This presentation draws on a synthesis of industry case studies, technological reviews, and an analysis of healthcare providers that have adopted private 5G networks for smart device integration. Focusing on key aspects—real-time data monitoring, predictive analytics, energy efficiency, and patient-centric applications—the presentation demonstrates how private 5G networks enable seamless connectivity among devices, enhancing data flow and decision-making capabilities.

Results

Case studies reveal that private 5G networks support superior bandwidth, low latency, and secure connections, essential for deploying IoT-enabled medical devices and predictive analytics. Health institutions using private 5G report significant improvements in patient monitoring accuracy and response times, especially in high stakes environments like ICUs and operating rooms. Moreover, energy-efficient device connectivity reduces operational costs, contributing to a more sustainable healthcare model.

Findings and Implications

The findings indicate that private 5G networks enable hospitals and clinics to streamline operations and improve patient outcomes. By supporting a broad ecosystem of connected devices, 5G networks facilitate more accurate diagnostics and quicker, data-driven interventions. Furthermore, efficient data transmission across smart devices promotes sustainability through reduced energy consumption and improved resource allocation. As healthcare facilities move toward smart infrastructure, the broader adoption of private 5G networks could serve as a foundational technology for creating sustainable, digitally integrated health environments.

Key Messages

1. Enhanced Decision-Making: Private 5G networks facilitate real-time data collection and analysis, empowering clinicians to make timely, data-informed decisions.

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2. Operational Efficiency: With robust connectivity, healthcare facilities can optimize workflows, minimize energy consumption, and reduce resource wastage.
3. Improved Patient Experience: Real-time monitoring and predictive capabilities supported by private 5G networks improve patient outcomes and satisfaction by enabling personalized and responsive care.
4. Sustainable Future: Integrating private 5G in healthcare promotes a sustainable model by optimizing device energy use and enabling efficient infrastructure management, crucial in the transition toward greener healthcare operations.

This keynote highlights the transformative impact of private 5G networks on healthcare, emphasizing their potential to create a more sustainable, efficient, and patient centered future.

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Background to the Decarbonisation Challenge in the Healthcare Sector

Dr Neil Thompson[1]
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Introduction/Background

Climate risk is a material issue for all Australian Directors, C-suite and operations personnel irrespective of their organisation's market sector, location and for profit or not for profit orientation. Climate change can create primary financial risk via the physical impacts of a changing climate together with that associated with transition to a net zero emissions economy. An organisation's failure to effectively manage this primary financial risk can then give rise to reputational risk and threaten the entity's "social licence to operate", which in turn may ultimately lead to exposure to litigation risk. The Healthcare sector is not immune to these climate related risks, being responsible for over 4% of the world's carbon emissions. This session provides background to the decarbonisation challenge in the healthcare sector together with details on Task Force on Climate Related Financial Disclosures (TCFD) aligned decarbonisation methods that will enable the sector to achieve net zero whilst achieving permanent reductions in operating costs and staying within existing capital budget allocations.

Method

This session is based on peer-reviewed, quantitative research methods used across Australia and around the world to identify decarbonisation methods that have been applied successfully in the healthcare and other hard-to-abate sectors to achieve net zero and permanent reductions in operating costs.

Results/Findings

By applying TCFD aligned decarbonisation methods adapted from the aerospace and automotive sectors, healthcare facilities can achieve net zero whilst reducing ongoing operating costs across utilities, waste disposal, transport, communications and asset maintenance expense centres by up to 50%.

Implications/Key Message

The decarbonisation challenge in the healthcare sector should be seen as an opportunity to decrease financial, reputational and litigation risks and ongoing operating costs rather than a compliance cost exercise that diverts operating and capital budgets away from primary healthcare service provision.

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Non-Medical Hydrogen Applications in the Hospital Environment

Robert Saunders

Introduction/Background

In past years the Hospital Sector didn’t have to consider carbon emissions and with the procurement of cheap electricity, gas and oil the use of energy wasn’t front and centre. With a shift in thinking and decarbonisation targets now in place, as well as community sentiment, the need to focus on how the health sector use energy is now very much upon us.

Hydrogen is a natural element and a good alternative to gas, diesel and oil for several forms of applications in a hospital environment, such as heating ventilation and air conditioning (HVAC), hot water, cooking, general power and sterilization to name a few.

Using Hydrogen from traditional gas suppliers such as BOC or Coregas, delivered in the way as other medical gases, or producing Hydrogen on site via electrolysis plant are options for gas supply. This can then be used via Fuel Cells, Microturbines and Hydrogen Burners across several applications as fossil fuel replacement, including mobility.

Method

This presentation is based on research and experience of Hospital Infrastructure

Results/Findings

Hydrogen is already being used in the hospital environment (non-medical) such as in the United States where fuel cells are providing power to health facilities. Other examples have found in Japan and the United Kingdom. These examples and lessons can forge a pathway for deployment across Australia, supporting the decarbonisation of health infrastructure.

Implications/Key Message

This paper will focus on non-medical applications for hydrogen gas in the health sector and provide examples of technology, global test cases and supply chain. It is intended to help those involved in Hospital engineering, infrastructure, energy provision and sustainability consider Hydrogen as a future option.

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From Concept to Reality: A Comprehensive Exploration into the Development and Evolution of a Virtual Emergency Department

Dr Jason Talevski[1,2,3], A/Prof Adam Semciw[1,2], Prof James Boyd[2], Dr Rebecca Jessup[1,2], Dr Suzanne Miller[1,3], A/Prof Jennie Hutton[1,2,3], Dr Joanna Lawrence[1], Dr David Bevan[4], Dr Loren Sher[1,2]
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Introduction/Background

Emergency Department (ED) overcrowding remains a persistent global public health problem, leading to detrimental outcomes for patients and healthcare providers. Our team developed the first comprehensive statewide virtual ED in Australia, the Victorian Virtual Emergency Department (VVED), offering an alternative to in-person care for non-life-threatening emergencies.

Method

This paper describes the implementation and evolution of the VVED from its initial concept in 2020 to its current status as a statewide service for nearly seven million residents of Victoria, Australia.

Results/Findings

The initial model was established at The Northern Hospital (Melbourne) in October 2020 and only served patients in the Northern Hospital catchment (self-referred) between 1:00-9:30pm. A partnership with Ambulance Victoria was launched in June 2021 that enabled paramedics to seek virtual consultations with an emergency physician to try avoiding unnecessary ED transports. By February 2022, the VVED expanded to a statewide, 24/7 service and has consulted with more than 300,000 patients (currently averaging >750 presentations daily) and employs a multidisciplinary team of >350 healthcare professionals. In addition to self- and ambulance-referral, the VVED includes several additional access pathways, including Residential Aged Care Facilities, Urgent Care Centers, and other healthcare professional practices. The service appears to be highly effective based on ad hoc audits, which indicate that referrals to physical EDs are low (<15%) and that there has been a positive response from patients about the service based on responses in a voluntary post-discharge survey.

Implications/Key Message

The VVED model of care is a pioneering virtual emergency care service that spotlights the feasibility of digital health solutions in alleviating barriers to emergency care access. The successful implementation of the VVED is due to strong stakeholder collaboration, significant government financial investments in infrastructure, clear guidelines and continuous staff education, and proactive efforts to raise public awareness and engagement.

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The VVED Then and Now: A Descriptive Analysis of The Reach and Uptake of The Victorian Virtual Emergency Department

Dr Adam Semciw[1,2], Professor James Boyd[1], Dr Rebecca Jessup[2,1], Dr Jason Talevski[1,2,3], Dr Suzie Miller[2,3], Dr Jennie Hutton[1,2], Dr Joanna Lawrence[2,3], Mr David Bevan[4], Dr Loren Sher[1,2]
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Introduction/Background

The Northern Health Virtual Emergency Department (ED) began as a pilot in October 2020. In February 2022, it expanded statewide as the Victorian Virtual Emergency Department (VVED), now averaging over 700 patients daily. This study describes the reach and uptake of the VVED over its first and third years of operation.

Method

Data from year 1 (Oct 2020 - Sept 2021) and year 3 (Oct 2022 - Sept 2023) of the VVED. Outcomes were presented separately for each cohort. Logistic regression described the distribution of sex across age groups, presented as odds ratios (OR) with 95% confidence intervals (CI). The reach of the VVED was illustrated using local government areas (LGAs) and presented as age and sex-standardised incidence rates per 1000 person-years.

Results/Findings

In year 1, there were 5579 presentations. Registrations were bimodal, with those aged 65+ accounting for 4% of presentations. Male patients were fewer than females in adults aged 18-64 years (OR=0.49 [0.36, 0.65]) and those ≥65 years (OR=0.58 [0.37, 0.89]). Standardised registration rates in the top four LGAs ranged from 6-10/1000 person-years, all from one health service catchment. In year 3, there were 108,313 presentations. Registrations were trimodal, with those aged 65+ accounting for 27% of presentations. Male patients were fewer than females in those aged 13-17 years (OR=0.79 [0.71, 0.89]), a trend maintained in older adults. Standardised registration rates in the top four LGAs ranged from 63-140/1000 person-years, representing multiple health service catchments across the state.

Implications/Key Message

The VVED has grown exponentially and is now a statewide service. Uptake across age groups is not uniform, however, uptake in older adults has increased more recently, likely due to the expansion of dedicated registration pathways (e.g. Residential Aged Care Facilities).

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The Impact of Socioeconomic Status on Utilization of a Virtual Emergency Department: An Exploratory Analysis

Assoc Prof Jennie Hutton[1,2,3], Dr Jason Talevski[1,2], Mr Shady Rizk[3], Dr Loren Sher[1,2,3,4], Dr Rebecca Jessup[2,4], Assoc Professor Adam Semciw[2,4], Professor James Boyd[2], Dr Suzie Miller[1]
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Background: The incidence of chronic diseases is higher in low socioeconomic status (SES) populations resulting in a higher rate of health care use. This study aimed to explore whether utilization of the Victorian Virtual Emergency Department (VVED) differs according to social disadvantage and to determine SES differences in VVED referral pathways.

Methods: A retrospective analysis of routinely collected data from the VVED – a telehealth service that provides care for patients across Victoria, Australia with non-life-threatening emergencies – was undertaken for all individuals who presented to the VVED between July 2022- June 2023 through the two most common referral pathways (Self-referral; Ambulance referral). Area-level SES was ascertained by matching residential postcodes to the corresponding Australian Bureau of Statistics (ABS) Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD) deciles. IRSAD scores were divided into quintiles (1=most disadvantaged, 5=least disadvantaged) and multivariable logistic regression modelling was used to analyze associations between SES quintile and referral pathway, presented as odds ratios (ORs) with 95% confidence intervals (CIs).

Results: There were 68,598 participants included in the analyses (mean age: 29.8 years; 58.4% female). There was even SES representation in this study when split into lowest and highest five SES deciles (48.8% vs. 51.2%). Compared to the mid-SES quintile 3, higher odds of self-referral to the VVED were observed in the two least disadvantaged SES groups (Quintile 4; OR=1.16; 95% CI: 1.06-1.26) (Quintile 5; OR=1.38; 95% CI: 1.25-1.52). Conversely, lower odds of self-referral were observed in the most disadvantaged SES group (Quintile 1; OR=0.82; 95% CI: 0.78-0.87; $p<0.001$).

Key Findings: This large exploratory analysis demonstrated relatively even utilization of the VVED service across SES population groups. We also report a modest but significant difference in VVED referral patterns across SES groups, which warrants further exploration to ensure equal access to care is achieved.

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Investigating access to a Virtual Emergency Department for a culturally diverse population: An Exploratory Analysis

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Background: The utilization of digital health is lower in culturally and linguistically diverse (CALD) populations. This study aimed to investigate use of the Victorian Virtual Emergency Department (VVED) by CALD communities.

Methods: A retrospective analysis of routinely collected VVED data was undertaken for all presentations to the service in the period between April 2023 - March 2024. The VVED is a video telehealth service available across Victoria, Australia that provides care for patients with non-life-threatening urgent health needs. Primary language and country of birth were used as indicators of diverse cultural background. Presentation rates along with other demographic information including mean age, primary language spoken, and referral pathway were recorded. A linear regression model was employed to predict the probability of referral to further care.

Results: There were 165,662 presentations included in the analyses. Patients born outside Australia accounted for 15,353 (9.26%) with a mean age of 53 years. In contrast, Australian-born presenters constituted 149,013 (89.95%) of the presentations with an average age of 37 years. The primary language was not English for 4,090 (2.47%) presentations. Self-registration was proportionally higher for overseas-born patients 10,124 (65.94%), compared to 69,880 (46.89%) for Australian-born presentations. For Australian-born presentations, 54,619 (36.65%) were referred for in-person care, compared to a slightly higher rate 6,701(43.65%) for those born overseas. The odds of being referred for in-person care are lower for Australian-born patients (OR=0.66, 95% CI: 064-0.68, p<0.001).

Key findings: VVED use is significantly lower for patients born overseas compared to the proportion of population in Victoria. This is more evident for patients who speak a language other than English. Patients born overseas were also more likely to be recommended further care. The research supports further work to identify barriers to equity of access to the VVED for all patients.

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Impact of the Victorian Virtual Emergency Department on Physical ED Utilisation and Patient Mortality

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Introduction/Background

The Victorian Virtual Emergency Department (VVED) is a public telehealth service designed to treat non-life-threatening emergencies. A key objective is to safely redirect patients away from physical Emergency Departments (EDs). This study aimed to: i) describe the discharge destination after VVED presentation, and ii) describe physical ED presentations (within 24 hours) and mortality (30 days) after VVED presentation.

Method

VVED presentations were linked to physical ED presentations and mortality data from the Victorian Centre for Data Linkage. Data covered 12 months (July 2022-June 2023), with 11 months of presentations and one month of follow-up. Descriptive statistics were used to describe discharge destinations, physical ED presentations within 24 hours, and mortality within 30 days.

Results/Findings

There were 90,797 linked presentations from July 2022-May 2023. Of these, 55% were discharged to their usual residence, 17% were referred to a General Practitioner (GP), and 13% were advised to present to their local ED. Low rates of physical ED presentations were observed following VVED presentation: 17% of all VVED presentations and 6% of those discharged to their usual residence. 70% of patients advised to attend a physical ED did so. The 30-day mortality rate was low, at 1.5%.

Implications

The VVED has reduced the burden on physical EDs by safely managing a significant number of non-life-threatening emergencies remotely. The low rate of subsequent physical ED visits, especially among those discharged to their usual residence, demonstrates the VVED's efficiency in resolving medical issues through telehealth. The compliance rate of patients advised to attend physical ED is consistent with other telehealth triage services. The low 30-day mortality rate further supports the safety and effectiveness of the VVED model. These findings highlight the VVED's potential as a safe, sustainable, scalable solution for emergency care.

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Evaluating the economic impact of the Victorian Virtual Emergency Department using decision-tree analysis: results from the first year of the state-wide model

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Introduction The Victorian Virtual Emergency Department (VVED) was established in October 2020 to provide an alternative to in-person emergency department (ED) care during the COVID-19 pandemic. In March 2022, the VVED transitioned to a state-wide model, significantly expanding its reach. This study aims to conduct an economic analysis of the VVED's first financial year as a state-wide service (July 2022-June 2023).

Method: There were 103,015 presentations to the VVED during the study period. The decision-tree model included eight referral pathways: 1) Self-referral, 2) Ambulance at home, 3) Ambulance at residential aged care, 4) Redirected Triple zero (000) calls from home, 5) Residential Aged Care Facility (RACF), 6), Redirected 000 calls in RACF, 7) Urgent Care Centre, and 8) other Healthcare Provider referrals. Data was linked to the Victorian Emergency Minimum Dataset and the Victorian Admitted Episodes Dataset to determine hospital outcomes following calls. Each pathway was analysed for associated costs and outcomes, including direct medical, nursing and ambulance costs, and broader economic impacts on the healthcare system including ramping events and occupied bed days averted. The analysis compared the costs and outcomes of traditional in-person ED visits with those managed virtually through the VVED.

Results: This paper will present the final results of the analysis. Preliminary results indicate significant cost savings associated with the VVED model across all pathways.

Implications: The decision-tree analysis demonstrates that the VVED offers a cost-effective alternative to traditional ED care pathways. These findings support the continued expansion and refinement of virtual emergency care models to improve economic efficiency and patient care delivery across the healthcare system. Future research will focus on longitudinal analyses to assess the long-term economic impacts, including incorporation of equity considerations.

This work was supported by the Digital Health CRC.

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Impact of an integrated general practitioner-paediatrician model on GP hospital referrals and GP paediatric care: a stepped wedge trial.

Prof Raghu Lingam[1], Dr Cecilia Moore[2], Professor Lena Sanci[3], Professor Kim Dalziel[3], Ms Sonia Khano[2], Dr Tammy Meyers Morris[1], Professor Gary Freed[4], Professor Douglas Boyle[3], Ms Jane Le[2], Ms Stephanie Germano[5], Ms Karen Wheeler[6], Professor Siaw-Teng Liaw[1], Professor Harriet Hiscock[2,3]
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Introduction Our aims was to determine if an integrated general practitioner (GP)-paediatrician model (Strengthening Care for Children)[1]comprising weekly to fortnightly co-consultations, monthly case discussions and paediatrician email and phone support in between: (i) reduces GP referrals to hospitals (primary outcome) (ii) and improves GP knowledge, skills and confidence in paediatric care.

Methods: Stepped wedge cluster randomised controlled trial in 21 metropolitan GP practices in Victoria and NSW, Australia.

Results: Participating GPs (N=130) conducted 50,101 paediatric consultations during the control period (May 2021 to end March 2022) and 96,804 during the Intervention period (July 2021 to end March 2023). During the Intervention period, 1984 co-consultations, 530 case discussions and 154 emails/phone calls occurred. There was a reduction in GP referrals to hospitals (Control period: 990 referred (2.30%) vs Intervention period:1398 referred (1.96%); risk difference (Intervention - Control) -0.34% (95% CI -0.69, 0.00), p= 0.053). This reduction strengthened when analysing high referring GPs (i.e. those referring 5% or more of children at baseline) - (Control period 3408 (7.31%) vs Intervention period 10,030 (3.03%), risk difference (Intervention - Control), -4.28%, (95% CI -6.59, -1.97), p <0.001). GPs reported improved knowledge and skills in how to manage child health problems, how paediatric services are organised, and how to access them (all p <0.02).
At an estimated cost of AUS$298 per patient referred and based on 96,804 children seen during the intervention period, a reduction in referrals of -0.34% represents a cost saving to the health care system of $98,082. For the 10,030 patients of high referring GPs the potential cost savings from referrals is $127,926.

Conclusion: An integrated GP-paediatrician model of care can reduce referrals to hospitals, improve GP knowledge and skills in paediatric care, and save healthcare system costs. Future work should consider the evaluation of this model as routine care at scale.

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Primary health care policy in Aotearoa – an overview of what has changed since 2010, what hasn’t and why.

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Introduction
Aotearoa New Zealand has a primary health care (PHC) sector consisting predominantly of private for-profit general practices, and a growing number of non-profit community-based providers. Around 75-80% of PHC funding comes from government, the remainder is predominantly financed through patient co-payments.

Methods
This analysis of change and stability in PHC draws from utilisation data, survey data, policy documents and interviews with key stakeholders.

Results
Changes to the funding and structure of the primary health care system were incremental throughout the 2010s, while effects of the 2022 *Pae Ora* health system restructure have yet to impact primary health care funding, governance and delivery.

Since 2010, access barriers to PHC have increased, and inequities of access have worsened due to increases in co-payments. Key informants viewed health inequities, particularly between Māori and non-Māori, as the area in which least progress was made during the 2010s. The Māori Health Authority, created in 2022 to address inequities and honour *Te Tiriti o Waitangi,* was disestablished in 2024 after a change of government. Most other local innovations in funding and service delivery were not scaled-up across the country.

Quality improvement and multi-professional care were identified as areas of progress. Integrated care and collaboration across health and non-health services has been localised and patchy. PHC providers and policymakers have been increasingly concerned about the sustainability of funding, business practices and models of care, though there is little consensus on preferred solutions.

Implications
PHC policy and governance since 2010 has been in a state of drift, with little policy capacity at the national level to address persistent and growing problems of inequitable access, unmet need, and sector sustainability. While innovation from Māori and Pacific providers, and local initiatives show glimpses of promise, policy inertia has constrained the potential to address PHC challenges at scale.

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Primary care and clinical decision support technology: Future Health Today

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Introduction/Background

In primary care settings, General Practitioners (GPs) must identify and manage a broad range of conditions and provide appropriate and timely referrals. Clinical decision support software (CDSS) has been used in health settings to assist clinicians in prioritising care, however implementation success has been varied, often impeded by a lack of end-user input and consultation, and difficulties in designing individualized recommendations for care. Use, and evaluation, of CDSS in primary care in Australia has been limited. This project aimed to develop a CDSS for primary care using innovative technology and a collaborative approach.

Method

Using a co-design methodology, Future Health Today (FHT) was designed for primary care, with primary care. It was piloted in 2019-20, deployed in a pragmatic RCT in 2021-22, and further developed in 2023-24. Each stage of development was underpinned by evaluation involving feedback from end-users and leveraging primary care data to explore effectiveness.

Results/Findings

In 2019, FHT was piloted in one practice with recommendations for care in chronic kidney disease. In mid-2024, FHT is in use in 100 practices across Australia, encompassing more than 1.6m patients. Recommendations for care have been developed for 16 different conditions, including chronic disease, cancer risk, mental health, hearing and menopause. Over 125 participants (including GPs, nurses, managers and consumers) provided feedback on FHT, contributing to the development of a tool that is user-friendly, acceptable and useful in general practice. Additional participants have contributed to the co-design of new modules (recommendations for care in further conditions).

Implications/Key Message

This presentation will discuss the iterative evolution of FHT, underpinned by a philosophy of continuous co-design and action research, and applying a realist lens to implementation and evaluation. It will describe how primary care have been involved in the development and implementation processes and how technologies developed alongside FHT have supported this.

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Practical anonymization of free text primary care notes

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Introduction/Background

Free text notes contain a wealth of information that is not present in the structured medical record for both common and uncommon conditions. Even the best modern machine learning methods can neither perfectly anonymise notes nor strip them of all their sensitive content. But even if we could, doing so would leave the notes useless for secondary research purposes. Instead, we will take a broader look at the laws around anonymization, the different ways that re-identification can happen intentionally or otherwise, and some reference examples of how we might be able draw a line of what is an acceptable degree of anonymisation to find a workable path forwards.

Method

We ran machine learning models against a curated set of 300 Australian primary care notes and measured the effectiveness of the anonymisation. We applied additional methods and estimated the combined effectiveness. We combined these results with additional literature about re-identification to explore the potential implications for patients and researchers.

Results/Findings

Modern automated anonymisation tools cannot perfectly anonymise notes, and it is likely that perfect anonymisation will be forever out of reach. However, we can still protect patient privacy while providing useful data to researchers with a combination of technical and non-technical solutions.

Implications/Key Message

Free text notes are key to advancing research in primary care. By combining modern tools and practices, pathways to using these free text notes can be found.

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Primary and community health cohort consortium: health service research and planning using the 45 and Up Study

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Introduction/Background: By 2030, Central and Eastern Sydney (CES) anticipates significant increases in its ageing population and chronic conditions, necessitating more community-based healthcare. The lack of comprehensive data hampers evaluating the broader impacts on the population and primary-secondary care interfaces. In response, the CES Primary and Community Health Research Consortium was established in 2016. This collaboration includes two local health districts, the co-terminous primary health network, and UNSW. The main aims were creating a Data Linkage Resource (DLR), developing a research program focused on planning, developing, and evaluating primary and community services, and building research capacity.

Method: A governance structure was established, including terms of reference, monthly management meetings, and project-specific working groups. Annual forums were organized to showcase research, develop plans, and explore opportunities. The DLR links data from the 45 and Up Study with primary, secondary, and tertiary administrative data (MBS, PBS, hospitalisations, emergency department, community health, outpatient, cancer and death registries).

Results/Findings: The DLR now contains data on 30.6K people in CES (250K in NSW) and includes over 215mil records from 2006 onwards. Leveraging this comprehensive dataset, the consortium has explored various factors influencing health outcomes, such as impact of care plans, GP follow-up after hospitalization, social isolation, high service use in older people, caring responsibilities, obesity, telehealth, multimorbidity, cancer screening, and integrated care programs. Since 2016, the consortium has published 14 peer-reviewed journal articles (plus 11 reports and 20 conference presentations). Recently, machine learning techniques have been employed to manage missing data, analyse complex data trajectories, handle uncertainty, and develop algorithms.

Implications/Key Message: The consortium underscores the importance of collaborative efforts in developing research programs for primary and community service planning, development, and evaluation. Furthermore, these initiatives are instrumental in nurturing research capabilities and enhancing healthcare delivery strategies tailored to the evolving needs of the CES population.

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Primary care data for research and improvement: challenges and opportunity

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Background

Using routinely collected primary care data for research, service planning or other secondary use, can potentially decrease research costs and increase value in care and service provision, but access presents challenges and the data has limitations. Users and custodians of primary care data are best placed to highlight limitations, barriers and benefits of use of this data.

Method

Data users and custodians were surveys and interviewed to identify primary care-related datasets in Australia available for secondary use, and perceptions on enablers, barriers, limitations and benefits of their use. A literature review followed, focused on improvements to clinical processes, care or outcomes precipitated by secondary use of routinely collected general practice data.

Findings

106 datasets were named by respondents, suggesting a broad conceptualisation of 'primary care data'. Limitations and barriers to secondary use included technical constraints, data quality issues, limited access, lack of data standardisation and interoperability, lack of metadata, clinicians' lack of trust in privacy and security measures, and inadequate funding for improved data collection and end-user access. Data linkage was considered key to maximizing the utility and meaningfulness of primary care-related data. Secondary use of primary care data is increasing, but there are yet few published examples demonstrating direct improvements to clinical processes or patient outcomes resulting from secondary use of primary care data.

Implications

Technical and procedural solutions are in continual development to overcome the limitations inherent to primary care data. Access to primary care data remains a persistent challenge, with cost and approval processes being significant barriers for many researchers. Acknowledgement of the role primary care data plays in driving change needs to be better carried forward through the translation pipeline to build an evidence-library of impacts of secondary use. Without such acknowledgement the benefits of primary care data use are not being fully realised.

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Opportunities for linked-data to inform health service utilisation equity: A demonstration using statewide linked primary and tertiary healthcare data

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Introduction/Background

Comprehensive administrative health data are vital to health system planning, evaluation, and management, and have utility for addressing health equity. Historical state and federal health data linkage restrictions in Australia limited capacity to understand service utilisation, particularly towards integrated care planning, management and evaluation. Lumos, a New South Wales (NSW) linked data asset, comprising of general practice (GP) records linked with NSW administrative health records offers new opportunities. Drawing on Lumos and considering several historically minoritised populations, we aimed to: (1) determine utility of the dataset for identified sub-populations, and (2) determine variation in service use by sub-populations.

Method

We conducted a retrospective cohort study. We determined sub-population distributions and assessed the representativeness of Lumos by comparing Lumos 2022 data against statewide census estimates. Through adjusted regression we determined sub-population variations in health service utilisation.

Results/Findings

Lumos contained approximately 50% (5,198,438 users) of the NSW resident population (2010 - 2023) and demonstrated utility for various sub-population considerations. Lumos is broadly representative of the NSW population, with a slight bias towards major cities and least disadvantaged areas measured using Index of Relative Socio-economic Disadvantage (IRSD) quintiles. Within 2022, residents of more disadvantaged areas had progressively higher average GP visits (from quintiles 5, 5.0 to quintiles 1, 5.8), hospital admissions (0.3-0.4), and emergency department (ED) presentations (0.3-0.6). Several sub-populations (people experiencing severe mental illness, homeless and housing insecure, and drug and alcohol service users) had higher average GP visits (8.1, 6.7, 5.9), hospital admissions (1.1, 1.6, 1.2), and ED presentations (1.7, 2.9, 2.0). Most sub-populations disproportionately resided in remote and IRSD quintile 1 areas.

Implications

Historically minoritised populations engage broadly in health services, aligning with previously recognised higher health needs. The complexity of healthcare utilisation and need necessitates strengthening care integration and demonstrates the compounding challenges of rural healthcare delivery.

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Illuminating the cancer continuum of care through large-scale primary care data linkage

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Introduction/Background

Cancer patients interact with the health system using a range of health services. Data linkage is therefore key to addressing research questions across the cancer continuum of care, from pre-diagnostic trends, to treatment, health inequities and survivorship. Most patients who are later diagnosed with cancer first present to their GP, however primary care data has often been overlooked in Australian data linkage work. In this presentation I will describe two newly established data resources that bring together primary care, hospital and cancer registry data sources and highlight several projects focused on the pre-diagnostic phase. This work has been done by the Victorian Comprehensive Cancer Centre Data Connect team.

Method

The first study is a data resource profile. We describe the number of patients, types of data available through the data resources, time-period of availability, representativeness and geographic coverage. We also highlight some of the data quality issues and limitations. We then briefly describe two specific studies that have been carried out using these data resources: the first describes trends in blood test results prior to diagnosis; the second is a replication of a UK study that estimates the risk of cancer in patients who present to their GP with non-specific symptoms.

Results

Over 3 million patients are represented in the data covering a time-period of 2000 to 2022 with rich clinical information including pathology test results, observations, signs and symptoms along with hospital presentations and cancer diagnoses for all cancers diagnosed in Victoria from 2008 to 2022.

Implications

In this presentation we demonstrate the critical role that primary care data linkage plays in enabling research into cancer health services. The studies described are just two examples of work that is being done in this area and there are currently over fifteen projects that have been completed or underway.

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Supporting Learning Health Systems: Innovation for leveraging healthcare data in research, planning and policy cycles

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Introduction

As the digital age is embraced by healthcare providers, leveraging healthcare data for research, disease/immunisation surveillance, planning and policy formulation is pivotal for advancing health systems, and ensuring a Learning Health System that continuously generates and applies knowledge to improve healthcare delivery, patient outcomes and population health. Accessing healthcare data for research can be challenging. The University of Melbourne's Health and Biomedical Research Information Technology group, the largest of its type in Australian academic general practice, collaborates nationally and internationally. This presentation provides insights into accessing primary care data for research, along with technical solutions for data acquisition, linkage, curation, consent mechanisms, and the feedback loop essential for continuous improvement.

Methods

Our approach integrates privacy protecting data extraction and anonymisation techniques, phenotype and algorithm development, international common data models, Natural Language Processing (NLP), software, app and clinical decision support tool development, and data linkage solutions to unlock the power of primary care data. We are involved in exploration of dynamic consent mechanisms and technical innovations also include AI applications for electronic medical records (EMRs). Our Patron primary care data repository, alone or linked to other datasets facilitates epidemiological research, clinical trial recruitment and evaluation.

Findings

Through these methods, we have collaboratively facilitated significant advancements in quality improvement initiatives within primary care. By harmonising and standardising data, including into common models, we are streamlining data access and linkage across diverse datasets. Clinical decision support tools have promising results in improving patient outcomes and operational efficiency in general practice.

Key Messages

We work collaboratively with researchers and policymakers across Australia to provide technological innovation that addresses the challenges of accessing primary care data. We enable data-driven insights and decision-making, and are committed to advancing Learning Health Systems, harnessing the transformative potential of integrating primary care data into broader health system strategies.

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Non-publication bias in clinical prediction modelling and the role of health services research

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Introduction/Background

Digital health technologies are being used to develop, implement, and evaluate clinical prediction models for everyday decision-making. Clinical prediction models combine patient-level data with statistical algorithms to estimate the risk of being diagnosed with or experiencing outcomes from a disease or health condition. Despite many new prediction models being published yearly, most are of insufficient quality to be used in everyday practice, and very few are formally evaluated if and when they are implemented. Furthermore, the tendency to publish ‘positive’ findings means that of the models published, many more will have been planned but never completed. Study registries offer a unique opportunity to evaluate research before it is published, to determine current areas of research focus and to recommend improvements in study design as early as possible to improve model quality and uptake.

Method

A retrospective cohort analysis of studies registered with clinicaltrials.gov since 2000, that describe the development or evaluation of a clinical prediction model. Studies were followed for up to ten years post-registration to estimate times to study completion and publication. Publications were identified by automated linking to PubMed identifiers, combined with a machine learning classifier to identify likely papers.

Results/Findings

928 studies were analysed, of which 60% proposed developing a new prediction model over evaluating an existing model. Publications searches found 170 matching peer-reviewed publications for 137 studies. Within ten years of study registration, 28% (95% CI: 23% to 33%) of studies had published their results.

Implications/Key Message

Published clinical prediction model studies represent a fraction of current and ongoing research efforts. Health services research can improve the publication and uptake of high-quality prediction models by providing tools for meaningful consumer engagement and embedding evaluation from the outset, to make the most of digital health infrastructure.

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Evaluating the implementation of an eHealth programme: Using the CFIR Framework to determine scalability and sustainability for preventing falls.

Dr Meghan Ambrens[1,2], Dr Morag Taylor[1,2], Ms Lillian Miles[1], Dr Helen Hawley-Hague[3,4,5], Professor Chris Todd[3,4,5,6], Professor Lindy Clemson[7], Professor Jacqueline Close[1,2], Professor Stephen Lord[1,2], Associate Professor Thomas Lung[7], Professor David Berlowitz[8,9], Ms Janette Blennerhassett[8], Ms Julia Dayhew[10], Ms Wendy Hodge[11], Professor Kirsten Howard[7], Ms Pam Johnson[12], Dr Reena Lasrado[3,4,5], Ms Marita Merlene[11], Ms Sandra O'Rourke[7], Professor Cathy Said[9,13,14], Ms Leanne White[1], Professor Nicola Wilson[15], Dr Avigdor Zask[10], Professor Kim Delbaere[1,2]
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Background
Technological innovation, achieved through programmes such as *StandingTall*, is widely viewed as a significant and meaningful contributor to health and wealth. However, the success of the implementation and scale-up of technology-based programmes, especially those that require major changes to the organisation or the wider care system, is poor. This study reports the evaluation of uptake and sustainability of *StandingTall* following a real-world, international, multi-site implementation study.

Method
The Non-adoption, Abandonment, Scale-up, Spread, and Sustainability (NASSS) framework has been used to evaluate the implementation of *StandingTall* during a multi-site pragmatic clinical implementation trial in Australia and United Kingdom. Datasets included in the analysis were results and process evaluation of the implementation study, including survey responses and in-depth one-on-one semi-structured interviews.

A total of 72 interviews comprising eight health service managers (Australia); 30 health professionals (22 Australia, 8 UK), 34 participants (20 Australia, 14 UK) were included in the analysis. The analysis of primary interviews included a search for dis-conforming data (i.e., searching both the quantitative and qualitative dataset that might challenge our emerging interpretation of what happened) to ensure we did not cherry-pick quotes that supported our interpretation. The quotes included from the dataset, selected by MA and checked by MET and KD used the principle of “apt illustration”.

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Results/Findings
Using the NASSS framework highlights the complexities and considerations associated with introducing a technology-driven fall prevention exercise program into healthcare settings. By understanding and addressing the complexities within each domain, efforts can be made to enhance the implementation, adoption, and sustainability of StandingTall as an effective and accessible fall prevention intervention for older people.

Implications/Key Message
StandingTall, a novel fall prevention solution, fulfils an unmet clinical need and complements clinical care. However, the analysis revealed areas of complexity that will influence the uptake and sustained use of StandingTall.

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Development of a risk factor-based life expectancy calculator using metamodeling and machine learning: a proposed method and case study in diabetes

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Predicting life expectancy is critical for informing healthcare resource allocation and financial planning at both individual and societal levels. While life tables for the general population are widely available, they lack specificity for individuals with unique health risk factors such as comorbidities, smoking status and cholesterol levels. Linking the risk profiles to life expectancy helps identify populations at risk and tailor health interventions accordingly. However, constructing risk-factor-based life tables using traditional approaches such as the life table method is challenging because it is impractical to categorize the population into thousands of groups with diverse risk profiles and track their mortality. To address this challenge, patient-level simulation models have been developed. These models use data with censoring to simulate risk factor trajectories and mortality rates, based on which life expectancy can be estimated. For chronic diseases such as diabetes, these simulations are complex because they are structured to account for time-dependent interrelationships between risk factors and adverse outcomes, which affect life expectancy. Such models are computationally expensive, and the simulations required to minimize stochastic uncertainty and obtain a stable life expectancy estimate can last hours to days. Therefore, using a simulation model as a life expectancy calculator for end-users such as clinicians and policymakers is unrealistic.

In this presentation, I will explore advancements in microsimulation, metamodeling and machine learning to develop a risk factor-based life expectancy calculator. Specifically, I will demonstrate a case study focused on type 1 diabetes. This includes methods for sampling risk factor values, conducting simulations to generate training data, selecting machine learning models such as artificial neural networks, and evaluating prediction accuracy and computation efficiency. A practical demonstration using a web-based life expectancy calculator developed in R Shiny will highlight the performance and usability of the tool.

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Where does the Digital Age data come from?

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Introduction
The Digital Age depends on data that accurately describe the world. Digitalisation and Big Data can expand the possibilities for health services research and improve the delivery of health services, but if the data are not accurate, existing inequities may be exacerbated. In New Zealand, de-identified administrative and survey microdata about all New Zealanders are housed in the IDI (Integrated Data Infrastructure).

Method
We explored two case studies where records produced during the provision of care become data stored in the IDI. Case study 1 examined reports of concern made to the statutory child protection agency, and case study 2 examined the assessment of older people's need for care, using the interRAI (international Resident Assessment Instrument). Qualitative methods, largely interviews (n=71) with a range of professionals and family/whānau members and observations, were used. Results were thematically analysed.

Results
In both case studies, social processes shape data and raise concerns about data validity, reliability and equivalence. Reports of concern about potential risk to a child are made by a range of people with diverse motivations and are shaped by institutional processes and personal factors. interRAI needs assessors draw on imperfect information sources to try to establish and record the truth of an older person's situation, and assessments exclude some older people who cannot access interRAI. In both cases, data are a by-product of much stronger and more immediate imperatives to provide care and protection.

Implications
The study suggests that attention must be paid to the social contexts in which data are created. This is imperative in an information age when data are used to inform predictive models. Systematic biases in systems like health care and child protection can affect outcomes, and uncritical use of data produced as by-products of these systems can exacerbate inequities and reinforce social hierarchies.

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Using social networking sites in health research: a case study

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Background

Almost two-thirds of the world's population uses social media including social networking sites such as WhatsApp to communicate and share information. Nevertheless, the use of social networking sites in health research is relatively new and to date their application has been limited. Few studies have used these sites as a data collection platform. We present a case study to demonstrate the potential benefits and challenges of using a social networking site as the online platform for a co-design workshop.

Method

In our study, a 'private' WhatsApp group was used as the platform for the co-design of a question prompt list about pregnancy and childbearing for women with polycystic kidney disease (PKD). Prior to the commencement of the workshop, the moderator (lead researcher) provided participants with guidelines about privacy settings and respectful behaviour. The moderator posted questions daily, responded to participant posts and encouraged participation from all group members. The group ran for four weeks. The discussion transcript was exported from WhatsApp into Word and analysed using content analysis.

Findings

Seven women with PKD living in Australia participated in the workshop. The use of WhatsApp enabled an asynchronous discussion allowing participants to post comments and respond to questions at times that best suited them; ensured women from different geographical locations could participate; removed the need for a physical venue; and is a forum in which many women are already comfortable discussing their thoughts and opinions. Although it was not possible to capture participants' facial expressions and body language, participants used other forms of non-verbal communication such as emojis to express thoughts and feelings.

Key Message

Social networking sites such as WhatsApp are a practical, efficient, effective, flexible, generally familiar, mutually convenient irrespective of time, easily accessible, and low-cost mechanism to conduct online discussion groups and co-design workshops in health research.

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Development and collective case study of the Cost-IS (costing implementation strategies) instrument for digital health solutions

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Background

It is important to determine the relative value for money of health innovations when allocating limited healthcare resources. Implementation strategies require and consume healthcare resources yet are often excluded from published economic evaluations. The development of a pragmatic implementation costing instrument aims to assist with the planning, delivery, and evaluation of digital health implementation strategies. A collective case study demonstrates its use.

Method

A modified e-Delphi process was adopted to develop an implementation costing instrument. Purposive sampling was used to recruit a panel of experts. In each round, participants were sent an electronic questionnaire and a prototype of the implementation costing instrument. The initial prototype was informed from a literature review and qualitative interview findings; and was updated iteratively in response to the panel's feedback. Termination occurred once consensus was reached or when three rounds were completed, to prevent sample fatigue. Consensus was defined as at least 75% of experts in agreement for any item. An evaluative and descriptive collective case study was adopted to cost the implementation associated with the introduction of healthcare interventions.

Results

Consensus was reached on the core components and design of the instrument from a panel of twelve experts in implementation science, health economic evaluations and/or digital health. Areas where consensus was not reached included users' level of implementation science knowledge, specificity of the tool to digital health and accessibility via digital formats. The instrument was trialled in three case studies and was adapted to improve the analysis of implementation cost data. The adaptions included improved data granularity, meaningful categorisation, and capitalising on the program's functionality.

Key Message

Cost-IS is a pragmatic data collection instrument designed to estimate the costs of implementation strategies and activities. Trialling Cost-IS demonstrated its flexibility that could be tailored to meet the requirements of a range of implementation projects.

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Artificial intelligence in radiation therapy treatment planning: A Discrete Choice Experiment.

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Background

The application of artificial intelligence (AI) in radiation therapy holds promise for addressing challenges, such as healthcare staff shortages, inefficiency, and variations in treatment planning. Increased AI adoption can standardise treatment protocols, enhance quality, improve patient outcomes, and reduce costs. However, potential drawbacks include impacts on employment and algorithmic biases making it crucial to navigate these trade-offs. Understanding health care professionals (HCPs)' perceptions of how AI may impact their roles is important for successful implementation. This study uses a discrete choice experiment (DCE) to examine the AI-related characteristics that could influence the adoption in radiation therapy treatment planning.

Methods

In the DCE, respondents were presented with a hypothetical scenario in which AI systems for radiation therapy planning, described by five attributes: accuracy, automation, exploratory ability, compatibility with other systems and impact on workload with 2 to 4 levels for each attribute. These were presented to a sample of HCPs involved in radiation therapy planning via an online survey. The relative importance of the individual attributes was determined using multinomial logit model in R.

Results

The results showed the respondents (N=79) preferred AI systems with improved contouring precision compared with manual systems, offering the largest time saving in treatment planning. The also favoured systems that provide basic explanations of AI reasoning and decisions over no explanations or in-depth explanations. Respondents emphasized the importance of AI systems being cost-effective, while acknowledging AI's impact on professional roles, responsibilities, and service delivery. These findings offer valuable guidance for future research, including economic evaluations of AI-driven technologies in radiation therapy and explorations into management perspectives on AI implementation.

Implications

Rapid advances in AI are prompting a growing debate in Australia on its effective oversight. Insights from this study will inform Australian decision-makers about HCPs' priorities for present and future AI applications in treatment planning.

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Investigating consumer preferences and experiences of allied health telehealth services in Australia

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Introduction: Telehealth provision and uptake has rapidly increased since the COVID-19 pandemic. However, little is known about consumer preferences and experiences with telehealth, particularly in relation to allied health practice. Previous studies on telehealth have focused on general practice and broader primary care rather than allied health. Given that allied health professionals comprise a large proportion of the Australian healthcare workforce, this study aims to explore consumer preferences and experiences with allied healthcare delivered through telehealth.

Methods: This is a three-phase, mixed methods study. Phase 1 involves two literature reviews a) allied health telehealth studies and b) discrete choice experiments exploring telehealth preferences. Phase 2 involves focus group discussions to explore consumer attitudes and experiences. Phase 3 involves a discrete choice experiment delivered through an online survey targeting the general population. Findings from Phases 1 and 2 will inform the discrete choice experiment. The experiment will elicit consumer preferences related to allied services delivered through telehealth or face-to-face based on hypothetical scenarios and preferences over a set of attributes.

Findings: Preliminary findings of the allied health telehealth review found similar (dis)advantages of telehealth across different allied health specialties. These included increased convenience while lacking personal connection and hands-on therapy. The discrete choice experiment review indicated that consumer preferences for telehealth were often context- and condition-specific, but telehealth tended to be preferred if it could reduce travel and wait times. Population groups favouring telehealth usually have higher education levels and familiarity with technology. Focus group discussions are currently in progress during which a comprehensive list of attributes and levels for the discrete choice experiment will be identified. The discrete choice experiment is scheduled for completion in September 2024.

Implications/key message: This study will help identify directions in which allied health telehealth services should move to better meet community needs and expectations.

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Sustaining reductions in specialist clinic waitlists using data and a fresh mind-set

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Introduction/Background

There is strong evidence that waiting in outpatient and community settings is not inevitable, but sustaining improvements after waitlist reduction efforts is challenging. Having completed trials demonstrating the effectiveness of the Specific Timely Assessment and Triage (STAT) model to reduce waiting, we wanted to know what happened “post-project”. We aimed to determine whether reduced waiting in an epilepsy clinic was sustained two years after implementation of the STAT model.

Method

An observational study analysed data pre-intervention, post-intervention and at two-year follow-up. The intervention (implementation of the STAT model), combined a short-term backlog reduction strategy, creation of protected appointments for new referrals based on demand data and development of strategies to improve flow through the clinic. The primary outcomes were days waited between referral and first appointment, and the number of patients on the waitlist during the three study periods.

Results

Two years after implementing STAT, median waiting time in the epilepsy clinic, remained stable (52 days post intervention compared to 51 days at two year follow up) and the variability in waiting time reduced (IQR 37 to 77 days post-intervention; 45-57 days at follow-up). After reducing the original waiting list of 582 patients to 24 post-intervention, a small rise was seen at two years (n = 69). To maintain patient flow, neurologists divested from low-value review appointments “just in case” they were required and a more active approach was adopted to clinic administration to incorporate active performance monitoring based on data.

Implications

Sustained improvements following waiting time interventions are possible but are dependent on ongoing attention to patient flow, from entry to discharge. STAT provided a structured approach to drive and maintain improved access to outpatient care.

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Recovery from COVID-19 (ReCOV): Feasibility of an Allied Health led Post COVID-19 clinic for hospital staff – a mixed methods study

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Introduction/Background

"Post COVID-19 condition" (sometimes referred to as "Long COVID") refers to symptoms that persist for at least 12 weeks post COVID-19 infection. Health care workers are at higher risk of experiencing Long COVID and innovative management solutions are needed. In April 2022, The Royal Melbourne Hospital established an allied health led clinic (ReCOV) to provide a multidisciplinary approach to manage this condition. The aim of this study was to evaluate the feasibility of a workplace delivered outpatient multidisciplinary clinic for Royal Melbourne Hospital staff experiencing post COVID-19 condition.

Method

A mixed-methods study of hospital staff who had Long COVID and attended the clinic. Participants completed electronic questionnaires to determine baseline symptoms and were offered face-to-face or telehealth allied health appointments based on clinical indication, for up to 12 weeks. Acceptability, implementation, practicality, and limited efficacy were evaluated via one-on-one semi-structured interviews and analyzed using inductive thematic analysis. Limited efficacy was evaluated via pre- and post-intervention questionnaires and demand via multidisciplinary utilisation.

Results/Findings

Twenty-three (median age 37 [IQR 30-45] years, 52% female) participants were included. Participants had appointments with a median of 4 [3-5] different professional groups; most commonly exercise physiology (n=19, 83%), occupational therapy (n=17, 74%) and neuropsychology (n=15, 65%). Data saturation was reached after 13 semi-structured interviews. Participants valued ReCOV for being a COVID-19 specific, convenient, flexible and multidisciplinary service at their workplace. Participants perceived the service should be available for longer than 12 weeks to achieve further benefits as many participants perceived little change in physical health.

Implications/Key Message

Attending a multidisciplinary clinic located at their workplace was feasible for staff to manage Long COVID-19 symptoms. Further research is required to confirm the efficacy of such a service on patient outcomes.

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Recovering from COVID-19 (ReCOV): Feasibility of an Allied Health led multidisciplinary outpatient rehabilitation service for people with Long COVID

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Introduction/Background

An allied health led service (ReCOV) was established to provide a multidisciplinary, symptom management approach to Long COVID. This study aims to determine the feasibility (demand, implementation, practicality, acceptability, and limited efficacy) of this service.

Method

A single group feasibility study was conducted at a large, tertiary hospital to determine demand (referral numbers), acceptability, implementation (waitlist times, health professions seen), practicality (adverse events) and limited efficacy (admission and discharge scores from The World Health Organisation Disability Assessment Scale (WHODAS 2.0), the Brief Illness Perception Questionnaire (BIPQ), and the EuroQol 5 Dimensions 5 Levels (EQ 5D-5L)). Data are presented as median [Interquartile range] or count (percentage).

Results

During the study, 143 participants (median age 42 [32–51] years, n=97, 68% female) participated in ReCOV. Participants were waitlisted for 3.9 [2.1 – 10.0] weeks and engaged with 5 [3 - 6] different health professionals. The most commonly utilised professions were Exercise Physiology (n = 113 participants, 79%), Occupational Therapy (n=97, 68%) and Neuropsychology (n=95, 66%). No adverse events occurred. Thematic analysis of acceptability findings and limited efficacy testing indicated that participants improved their understanding of symptoms (change in BIPQ 1 [0 – 5], <0.001) and appreciated the reassurance provided, however, not all participants understood the model of care or improved with respect to their symptoms (change in EQ 5D-5L 6 [0 to 25], p=0.004, change in overall disability via WHODAS 2.0 [-6 – 14], p=0.53).

Implications/Key Message

A multidisciplinary service was safe and mostly acceptable to participants for the management of Long COVID. The 12-week duration of the service and the limited treatment options for Long COVID may explain why participants’ symptoms did not always change. Future iterations of such a service should ensure the model of care is explained and outcome measures are Long COVID specific.

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Insights from Expert Elicitation: Prioritizing Pathogens for Australian Public Health Response

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Introduction: Whole-genome sequencing is a powerful tool for understanding and controlling infectious diseases by providing greater resolution in typing pathogens.

Aim: To build consensus among experts and stakeholders in establishing criteria to prioritize pathogens for sequencing for public health purposes in Australia, and mechanisms for determining prioritization.

Methods: Two rounds of a Delphi survey were conducted with 83 Australian experts in infection prevention and pathogen genomics. In the first round, 38 experts rated 87 statements using a 5-point Likert scale. The second round involved these experts rating 47 statements, including 25 that were new or refined from the first round’s analysis.

Data Analysis: The Survey analysis was performed using STATA-17. A thematic analysis was carried out to generate new statements for the second round and to give context to the ratings provided by the experts.

Results: The largest expert groups were from Victoria (27.5%), Queensland (20%), and New South Wales and Australian Capital Territory (17.5%), with backgrounds in microbiology (31%), epidemiology (28%), and public health (20%). Consensus was reached among experts on prioritising pathogens for sequencing that significantly affect institutional and hospital environments (94%), disproportionately impact Aboriginal and Torres Strait Islander communities (91%), lead to high morbidity and hospitalizations (91%), and are linked to antimicrobial resistance, high virulence, and novel or emerging threats (all 91% agreement). Consensus (89% agreement) was also achieved on the need of joint decision by public health laboratories and public health units at jurisdictional levels to decide on pathogen to sequence. Pathogens such as Shigella, Salmonella, Listeria monocytogenes, Neisseria gonorrhoea, Mycobacterium tuberculosis, Group A Streptococcus, E. coli, Carbapenemase-producing Enterobacterales, and Neisseria meningitidis were identified as priorities for sequencing in outbreak investigation settings.

Outcome: Findings will guide the development of guidelines for prioritisation of pathogens for sequencing in public health surveillance and outbreak settings.

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Measuring the clinical impact of research growth in a public health service organisation

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Background

Public health service clinicians are becoming increasingly research active. Many frameworks promote growth of research capacity and capability but measuring the impact of the research is challenging. Our public health service introduced a Research Capability Framework (RCF) to guide capacity building and an impact metric to measure research impact. The Evidence Brief (EB) was developed as a communication tool and later used as a metric for clinical practice change. This study evaluated the RCF and the EB.

Method

A mixed method design evaluated the RCF. Interviews and self-rated surveys were conducted with management (n=17) and an Allied Health (AH) staff survey measured experience and knowledge of research methods (n=105). A case study design evaluated the EB. Four exemplar cases were investigated via document analysis and semi-structured interviews were conducted with relevant stakeholders. Quantitative data were analysed descriptively, and qualitative data were subjected to thematic analysis.

Findings

RCF interview themes were the rich potential for research within the clinical environment, the change in productivity due to research, the influence individuals have on research relationships, and role of managers and organisational processes hindering or promoting research. Strong research participation was noted, but knowledge of research methods varied considerably. EB evaluation results described the clinical practice change, the rationale and evidence for change, as well as the instigator and enablers for change.

Key Message

The RCF describes the broad range of AH research but is not used to direct research capacity building. Different starting points and teams/discipline strengths were noted, indicating robust research participation suggesting it should be considered a metric for measuring capacity. The EB serves effectively as an impact metric for clinical practice change, with each EB representing a distinct unit of practice change stemming from research or quality improvement projects.

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Fortifying foresight- exploring implementation determinants in data-driven interventions for delirium.

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Background:
Delirium is a potentially preventable condition characterised by an acute deterioration in global cognitive function, attention, working memory and consciousness. According to delirium clinical care guidelines, effective prevention (primary and secondary) requires identification of at-risk individuals, consistent screening for early detection, and pro-active implementation of preventative strategies. This study aimed to prospectively explore factors impacting delivery of evidence-based delirium care to inform the development and implementation of a multicomponent delirium prevention intervention.

Methods:
A qualitative interview study was conducted in a large metropolitan public health service in Australia with healthcare staff with expertise in delirium care, as well as care-partners (family members and companions) involved in caring for patients diagnosed with delirium during their acute admission. Interviews were inductively, analysed using a framework approach. The Consolidated Framework for Implementation Research (CFIR) domains underpinned interview questions and guided thematic mapping and analysis of responses.

Results:
Semi-structured interviews were conducted with 18 healthcare staff (14 clinical and 4 non-clinical) and 12 care-partners ranging between the ages of 34 to 76 years. Key themes included consistently integrating delirium screening processes into clinical workflows, infrastructure-related obstacles hindering the digitisation of decision support, and the need to engage staff and care-partners in risk prediction to enable appropriate and timely involvement of care-partners in delirium prevention. Care-partners also stressed the importance of excellent communication to make them feel included and educated about delirium's prognosis and recovery, especially the distinction between dementia and delirium.

Implications:
This study generated key insights into factors influencing delirium prevention. Incorporating these findings in the design and delivery of complex multi-component delirium prevention interventions is likely to maximise acceptability, uptake and integration into clinical practice. Future research should examine the feasibility and clinical effectiveness of deploying co-designed multicomponent interventions for targeted delirium prevention in pragmatic clinical trials.

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Session 6E: Big Data and Data Linkage

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Visualising the patient journey: the Queensland Injury Atlas beta

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Introduction

Every day, injured patients are transferred across Queensland by road and air. Many factors affect how patients are moved, including weather, staff and asset availability. For severe injuries, time to definitive treatment can determine survival and/or functional impairment. Yet due to siloed data collections, understanding the patient journey and outcomes has been difficult. The Queensland Injury Atlas (beta) aimed to comprehensively visualize the patient journey in an interactive and engaging format to facilitate understanding by clinical and government stakeholders.

Method

Queensland residents hospitalised due to any injury during 2011-2017 had their hospital admission linked to Queensland emergency department and insurance compensation scheme data, plus (for 2017 only) ambulance data. Spatial data included patient residential area, health facility locations, and ambulance pick-up geocoordinates. Stakeholder workshops guided the project scope and focus. An optimized database schema was developed and rigorously tested for performance, scalability, and reliability. Visualisations used HTML5, CSS3, and JavaScript frameworks like React.

Results

Of the 445,990 injured people presenting to hospital in 2017, 84,121 were transported using road/air ambulance. For those with detailed data available, more than 50% took longer than one hour from the time Queensland Ambulance Service was notified to enter an emergency department. Through using maps, graphs and even 3D views, information on injuries can be filtered by diagnosis or procedure codes, region, facilities, time point, or patient age, even down to the individual patient journey.

Implications

The Queensland Injury Atlas is the first worldwide to provide comprehensive visualisation of injuries requiring hospitalisation. Future updates will additionally link with retrieval services and death data, enabling more detailed examination of patient journey components and outcomes. While access is currently limited to authorised users, we aim to release restricted details more broadly in the future, since this resource can aid in planning, auditing care and preventing injuries.

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Queensland community opioid dispensing practices after spinal cord injury: a data linkage study

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Introduction/Background

Chronic, persistent and often severe pain is common after a spinal cord injury (SCI). Opioids are frequently prescribed to assist with pain management and to facilitate greater engagement or return to daily activities. Yet, opioids are known to have adverse clinical outcomes including addiction, overdose and death. While dispensing trends among the general population have been extensively explored, less is known about opioid dispensing practices following SCI. This is even more limited in the Australian context. This study aims to identify the prevalence and patterns of opioid dispensing following SCI.

Method

A retrospective cohort data linkage study was undertaken for all adults admitted to a public or private Queensland hospital for a traumatic or non-traumatic SCI over a 4-year identification period, from 1 January 2014 to 31 December 2017. Three month pre-injury and two-year post-injury community opioid dispensing data (up to December 2019) was linked to hospital administrative and death registry databases.

Results

Preliminary findings indicate that 739 individuals (615 traumatic; 309 non-traumatic SCI) were admitted to a Queensland hospital with a primary diagnosis of SCI during the identification period. Prescription opioids (measured as $\geq$1 script) were dispensed to 48% of those with a traumatic and 68% of those with a non-traumatic SCI during the 2-year observation period. Preliminary oral morphine equivalents indicate higher opioid doses dispensed to females. Opioid-related disorders were identified among 5% of those with non-traumatic and 1% of those with traumatic SCI. Further dispensing patterns will also be presented.

Conclusion

This study is an important step to determining opioid dispensing patterns following SCI. Findings will be used to inform healthcare providers, practice and policymakers, with an aim to improving patient outcomes.

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Australian Cancer Atlas 2.0: uniquely informing provision of optimal placement of cancer-related services.

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Background:
It is widely recognized that the impact of cancer varies by geographical area. The variation is often attributed to disparities in general health, socioeconomic factors, and lifestyle choices. It can also be driven by differential access to medical, support and other services, or differences in the diagnosis and management processes in specific areas. Recently the Australian Cancer Atlas 2.0 was launched, providing a unique and comprehensive insight into the disparities of cancer-related measures between small areas across Australia. Importantly, the expanded Atlas includes both relative and absolute measures of how cancer impacts Australians, with the latter particularly relevant to guide the optimal placement of health services.

Method:
Spatial and spatio-temporal statistical models within a Bayesian framework were developed and applied to population-based data obtained from cancer registry, hospital separations, Medicare and screening datasets, along with survey data. Substantial enhancements to the interactive digital architecture and user interface were made to visualise the modelled estimates across over 2,100 small areas along with their uncertainty.

Results:
Launched in May 2024, the Australian Cancer Atlas 2.0 revealed the extent and characteristics of the geographical disparities across the different measures, which in turn varies by cancer type and indicator. Many areas with higher than average diagnosis rates or poorer survival had relatively few cases, particularly rural and remote areas, highlighting the complexities of balancing centralisation of services with the increased socioeconomic and travel burden for rural and remote Australians needing treatment and support.

Implications:
The Australian Cancer Atlas provides unique insights into the “what” and “where” of geographical variation. It provides an important platform that is crucial for informing the development of interventions, policy and provision of services by directing attention and action to where it is most needed. The next step is to understand the “why”.

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Patient and acute care factors associated with days alive and at home (DAH) after hip fracture surgery

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Introduction/Background

Hip fracture is a serious fall-related injury sustained by older people: 25% die within 1 year. Whilst survival is important, maintaining independence and staying at home are highly valued outcomes for older people following hip fracture. 'Days alive and at home' (DAH) is a patient-centered outcome measure that captures initial acute and subacute hospital stays, subsequent readmissions, new residential care facility admissions and mortality. This study evaluated the association of patient and acute care indicators on DAH at 120 days (DAH_{120}).

Method

Retrospective cohort study using hip fracture registry data linked to hospital, residential aged care and death data for all individuals undergoing surgery for hip fracture to NSW hospitals participating in the registry between 2015-2018. DAH_{120} was calculated by determining the number of days alive at 120 days then subtracting the number of days spent in an acute care hospital, rehabilitation or residential aged care. Individuals who died prior to discharge were assigned DAH_{120} value of 0. Quantile regression assessed association of patient factors and level of adherence to six acute care clinical quality indicators on DAH_{120}.

Results

Of the 7,951 patients, 1,070 (13.5%) had died by 120 days. Median DAH_{120} was 87 (IQR 41-106) days. The median DAH_{120} was less in patients who were older ($p<0.0001$), had ≥3 comorbidities ($p<0.0001$) and were admitted from residential care ($p<0.0001$). After adjusting for age, sex, comorbidity and residential care; a high level of high adherence to acute care indicators (5-6 out of 6) was associated with 15 more days at home compared to low adherence (0-3 out of 6) ($p<0.0001$).

Implications/Key Message

This study demonstrates that calculation of DAH_{120} using linked registry and administrative data is feasible and provides a robust mechanism for evaluating the impact of patient characteristics and acute care on outcomes that are meaningful to patients.

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Promoting visibility among the invisible - A linked-data approach to support more equitable health system planning and implementation

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Introduction/Background

Due to limitations in the capture and consideration of key sociodemographic characteristics in health data, many groups who have experienced historical disadvantage and who continue to experience discrimination in health services are invisible in reporting and recommendations. This contributes to systematic inequities in health policy and service planning, and implementation. Improvements in linked administrative health data presents opportunities to overcome this challenge. Our study aimed to (1) determine feasibility to make frequently 'invisible' populations visible using linked data; and (2) characterise the New South Wales hospital admitted population.

Method

Expert advice, literature, and government documents were used to define sociodemographic characteristics within a large, linked health dataset - Integrated Care Outcomes Database (ICOD). ICOD contains NSW hospital admissions and other health administrative records. Drawing on the established sub-groups, we conducted a descriptive analysis of unique admitted patients within ICOD (2022-23).

Results/Findings

We defined key sub-populations, which combined, represented over two thirds (66.9%) of the hospital admitted patient population. Sub-populations included: (i) culturally and linguistically diverse (CALD) (28.4%), (ii) mental health service users (6.8%), (iii) drug and alcohol service users (6.1%), (iv) recently homeless or experienced housing insecurity (1.7%),(v) justice service users (1.0%), (vi) older people (24.9%), (vii) remote and very remote populations (0.6%), and (viii) populations within the most disadvantaged areas (IRSD 1-2) (28.7%).

Implications

Our study demonstrates the feasibility of promoting visibility of historically disadvantaged populations within linked health data and provides insights on service needs. While the sub-populations largely consisted of CALD, older populations, and those living in the most relatively disadvantaged areas; combined, minoritised populations make up the majority of admitted patients. Our estimate did not include other groups who continue to be invisible in our data, including Aboriginal and LGBTQI populations. Begging the question - who are we designing the health system for currently?

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Associations of neighbourhood air pollution and greenery with hospital admissions related to cardiometabolic disease

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Introduction/Background: Emerging evidence suggests that neighbourhood environments, where older adults spend much of their time, are important for promoting healthy living. We aimed to examine neighbourhood greenery and air pollution in relation to hospital admissions among mid-to-older aged adults.

Method: The setting was the Frankston-Mornington Peninsula region, where the National Centre for Healthy Ageing is based. Using a cross-sectional ecological study design we assessed neighbourhood-level, greenery using the Normalised Difference Vegetation Index (NDVI) and air pollution (nitrogen dioxide (NO_2)) using a land-use regression model. We examined electronic health records for hospital admissions (from emergency department) among patients aged $\geq$45 years, in 2021. Using ICD-10-AM codes and residential neighbourhood we computed total admissions related to type-2 diabetes (T2D) and cardiovascular disease (CVD).

Multivariable regression assessed associations between greenery, air pollution and admissions related to T2D and CVD, respectively. Analyses were adjusted for covariates including population density. We explored the interaction between area-level socioeconomic status (SES; using the Index of Relative Socioeconomic Advantage and Disadvantage) and each environmental exposure.

Results: Our sample comprised 695 neighbourhoods with mean (SD) values: population $\geq$45 years, 236 (95); T2D-related admissions, 5.1(4.5); CVD-related admissions 5.8(4.0); NDVI, 0.46 (0.08); NO_2, 5.23 (1.67) ppb. Greenery was negatively associated with admissions related to T2D (B=−10.8; 95% Confidence Interval (CI) [−15.2,−6.3]) and CVD (B=−10.5, 95%CI[−14.5,−6.4]). NO_2 was positively associated with T2D-related admissions (B=0.3, 95%CI[0.1,0.5]) and CVD-related admissions (B=0.2, 95%CI [0.01,0.37]). Area-level SES interacted significantly ($p<0.001$) with environmental exposures. Associations of greenery with T2D- and CVD-related admissions remained significant for the highest SES tertile, and between NO_2 and T2D for the middle SES tertile.

Implications/Key Message: Greenery appears beneficial for cardiometabolic health, while air pollution is adversely associated, however associations vary across area-level socioeconomic strata. Longitudinal analysis and multi-level modelling that includes individual-level patient data will help elucidate these findings.

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Shaping future practices: Understanding the perception of German-speaking medical and dental students of artificial intelligence – an online survey

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Introduction/Background

We have little knowledge about how future medical professionals perceive the impact of AI (artificial intelligence) on healthcare. This study explored the perspectives of German-speaking medical and dental students on AI in healthcare as well as their experience made with AI training.

Method

An online survey was conducted between April and July 2023 to gather data from students in Austria, Germany, and Switzerland. The survey included 28 questions (predominantly using Likert scales with up to 5 points) on AI knowledge, attitudes, and emotions towards AI. Additional open-ended questions were used for further comments. Data were statistically analysed using correlations, t-tests, and descriptive statistics.

Results/Findings

Out of 418 initial responses, 409 surveys met the full validity criteria for analysis. Participants included 203 men (49.63%), 186 women (45.48%), 12 non-binary individuals (2.93%), and 8 unspecified (1.96%), with an average age of 23.13 years. Significant variations in AI understanding were found across academic levels and gender. Only about 18.2% of students had received formal AI training. Medical and dental students exhibited differing AI perceptions and familiarity. A strong correlation (r=0.67) was observed between tech-savviness and AI application familiarity. Confidence in obtaining reliable AI information also correlated positively (r=0.72) with favourable AI attitudes. Qualitative data reveals students want AI curricula that address biases and enhance human skills.

Implications/Key Message

AI education is necessary for professionals to close knowledge gaps and perception differences in healthcare AI integration. The conclusion highlights the urgent need for AI education in medical and dental curricula to close knowledge gaps and address perception differences. AI understanding and confidence are key to integrating it effectively into healthcare practices.

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Using behaviour change theory to enhance understanding, application, and education of causal inference methods in infectious disease research

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Introduction/Background

Integrating causal inference methods (CIMs) into infectious disease (ID) research is essential for enhancing methodological rigour and practical applications. Current practices are underutilised, hindering the opportunities for research using observational data to answer causal questions. Moreover, the educational resources and training environments for learning and implementing CIMS are varied and often inadequate. This research project aims to address these gaps by improving the understanding, application, and teaching of CIMs in the ID research community.

Method

This research adopts a multi-phase research approach grounded in behaviour change theory, specifically the COM-B model, to understand how ID researchers learn and apply CIMs. The COM-B model, which focuses on capability, opportunity, and motivation, guided the analysis to identify facilitating factors and barriers in adopting CIMs. Data were collected through systematic review, a case study using electronic health records, a scoping review of education strategies, and a cross-sectional survey of ID researchers.

Results/Findings

The systematic review identified significant variability in reporting practices, with a predominance of simpler methods over advanced causal techniques. The case study demonstrated that CIMs offer more accurate and robust analyses than traditional methods, especially in handling time-varying confounding. The review of educational resources highlighted gaps in pedagogical structure and comprehensiveness. Survey findings indicated strong recognition of CIMs' importance but significant barriers such as understanding mathematical notations, time constraints and method complexity.

Implications/Key Message

This research provides overarching recommendations to enhance CIM education and implementation among ID researchers. These include developing comprehensive training programs, standardising learning materials, leveraging online platforms, and promoting peer learning and mentorship. By addressing these needs, the ID research community can improve the quality and impact of their work, ultimately leading to better health outcomes through advanced analytical methods.

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A qualitative evaluation of healthcare workforce experiences during the implementation of a digital coordination centre in a large metropolitan hospital.

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Introduction/Background: To better manage patient access and flow and improve safety, hospitals are starting to invest in dashboards and other digital tools, variously known as command or coordination centres (Franklin et al, 2022). A Digital Coordination Centre (DCC) was implemented in a large metropolitan teaching hospital in Victoria, Australia, with the aim of using real-time data to proactively identify issues that may impact access and flow as well as patient care. This qualitative evaluation reports the experiences of health professionals during implementation of the DCC and initial outcomes within the complex hospital ecosystem.

Method: A mixed methods approach, using a survey and semi-structured interviews, investigated staff experiences. Interviews with staff were analysed thematically. The Consolidated Framework for Implementation Research (CFIR) provided a guide for identifying and analysing factors that influenced DCC inputs, activities, and outcomes. Normalisation Process Theory (NPT) identified causal mechanisms that supported the embedding of the DCC within the hospital, assessed using the Normalisation MeAsure Development (NoMAD) tool. Survey data were analysed descriptively.

Results/Findings: 42 staff provided interview data and 65 staff completed the survey. Success factors for the DCC implementation included having a custom-built space, establishing new roles, utilising data and dashboards, following updated operating procedures, providing training and communication, and securing adequate funding and resources. Staff mostly agreed that the DCC activities were well-implemented, aided by a strong leadership team and thoughtful role selection. Some initial hesitancy was addressed by pro-active engagement with stakeholders. Barriers and enablers to effective implementation were identified, which will inform future DCC policy and practice.

Implications/Key Message: Qualitative evaluation of workforce experience and early outcomes during DCC implementation provides valuable insights for ongoing improvement and realising the expected benefits on improved patient flow. Dedicated project resourcing in the design, engagement and implementation phases is crucial for success.

Franklin, B. J., Mueller, S. K., Bates, D. W., Gandhi, T. K., Morris, C. A., & Goralnick, E. (2022). Use of Hospital Capacity Command Centers to Improve Patient Flow and Safety: A Scoping Review. Journal of Patient Safety, 18(6), e912–e921. https://doi.org/10.1097/PTS.0000000000000976

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Exploring AI-Powered Dietary Analysis Tools for Enhanced Nutrition Assessment

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Introduction/Background

Accurate dietary data underpins prevention of nutrition-related chronic diseases. However, traditional assessment methods like food diaries and questionnaires are arduous and error-prone. This pilot explored artificial intelligence (AI) technology's potential to enhance dietary assessments. The objective was to evaluate the feasibility of AI-powered tools for improving the accuracy and efficiency of dietary assessments, with future applications across individual and population health settings.

Method

A dataset of food images and nutritional information was collected to develop preliminary AI models identifying and quantifying food items and nutrients from images. Initial feasibility tests compared the practicality and potential accuracy of the AI tools against traditional methods.

Results/Findings

The AI-powered tools demonstrated promise for greater dietary assessment efficiency while offering preliminary evidence of accuracy. They provided tailored nutrition recommendations based on the analysed dietary intake data.

Implications/Key Message

This pilot successfully explored the feasibility of applying AI to streamline and enhance dietary assessments. Findings will guide further research and development of these innovative tools to ultimately improve assessment practices and nutritional health outcomes.

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Integrated long term-care of patients with cancer: shared care between cancer services and general practice.

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Introduction/Background

Long-term survivorship care is provided with limited bilateral engagement or communication. Care is not coordinated between cancer services and GPs, and there are variations in practice. This study explores the experience of patients, GPs, and cancer service providers in sharing care.

Method

This qualitative study was embedded in a quasi-experimental trial of an e-shared care plan for cancer patients from four Sydney hospitals. Participating patients, their GPs and oncologists were interviewed exploring issues of coordination, communication, and access to care. Thematic analysis used the “Rainbow model of integrated care” as a framework.

Results/Findings

Participants included 7patients, 7 GPs and 4 oncologists. At the *clinical* level, patients trusted their cancer specialists and GPs, but some missed follow up appointments with both and preventive and psychological care because of sub-optimal health literacy and information and financial and organisational barriers. *Interprofessional* integration through shared care facilitated GP confidence with follow up care and helped reduce demands on oncologists. However, communication between specialists and GPs was often not timely and did not provide sufficient guidance. At the *system* level access to appointments with specialists and GPs was generally good with telehealth improving access. However, cost was a disincentive to follow up visits and access to private allied health. E-shared care plans were intended to provide *functional* integration, but these were not integrated with the cancer services eHR. GPs and staff lacked the time to install and learn to use this new system for only one shared care patient.

Implications/Key Message

The e-shared care plan was designed to provide guidance on follow up care by GPs and improve communication with cancer services. However, barriers to interprofessional and system level integration prevented this being achieved. Shared care is complex requiring support beyond what an e-care plan could achieve.

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Effect of the Children and Young People's Health Partnership model of paediatric integrated care on child health service use, health-care quality and child health outcomes: a cluster randomised controlled trial.

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Background The aim of this study was to compare the effect of an enhanced usual care model with that of an integrated healthcare model that offered local health clinics for general paediatric problems and early intervention for children with tracer conditions.

Methods In this two-arm cluster randomised controlled trial, we compared the Children and Young People's Health Partnership (CYPHP) model of care versus enhanced usual care (EUC) among children (aged <16 years) registered at general practices in south London, UK. The CYPHP model comprised all elements of EUC (electronic decision support, a primary care hotline, health checks, self-management support) plus local child health clinics delivered by paediatricians and general practitioners, and a nurse-led early intervention service for children with tracer conditions (asthma, eczema, and constipation).

Findings In total, 23 general practice clusters, consisting of 70 practices with 97 970 registered children, were randomised to CYPHP or EUC. A statistically significant improvement was observed in eczema symptoms at 6 months (adjusted mean difference –1·370 [95% CI –2·630 to –0·122], p=0·032). At 12 months, quality of care was significantly improved; e.g. children in the intervention arm were 50% more likely to be prescribed a spacer for asthma (odds ratio (OR) 1.53; 95% CI 1.03 - 2.25), and over 3.5 times more likely to have an asthma action plan (OR 3.67; 95% CI 2.44 – 5.51) compared with children in EUC practices. However, we found no effect on non-elective admissions (NELA) (adjusted incidence rate ratio 1·00 [95% CI 0·91 to 1·10], p=0·99); nor paediatric quality-of-life (PedsQL score) at 6 months or 12 months for children with tracer conditions.

Interpretation Although the CYPHP trial was null for primary outcomes, it demonstrated a clinically important improvement in some secondary outcomes including care quality. Large scale system change requires time to observe a potential positive effect.

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Impact of coordinated care on adherence to antihypertensive medicines among adults experiencing polypharmacy in Australia

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Introduction/Background: Adherence to antihypertensives is key for blood pressure control. Most people with hypertension have several comorbidities and require multiple medicines, leading to complex care pathways. Strategies for coordinating medicine use can improve adherence, but the cumulative benefits of multiple strategies are unknown. Hence, we aimed to assess the effects of multiple measures of coordinated care on adherence to antihypertensives among people using a large number of medicines.

Method: Using dispensing claims for a 10% sample of eligible Australians, we identified adult users of antihypertensives between July 2018 and June 2019 who experienced polypharmacy (≥5 unique medicines). We measured medicine use reflecting coordinated medicine management in 3 months before and including the first observed dispensing, including: the use of simple regimens for each cardiovascular medicine; prescriber continuity; and coordination of dispensings at the pharmacy. We measured adherence (proportion of days covered≥0.8) to antihypertensive medicines in the following 12 months, and used logistic regression to assess independent associations and interactions of adherence with these measures of care.

Results/Findings: We identified 202,708 people, of which two-thirds (66.6%) had simple cardiovascular medicine regimens (one tablet per day for each medicine), two-thirds (63.3%) were prescribed >75% of medicines from the same prescriber, and two-thirds (65.5%) filled >50% of their medicine on the same day. One-third (28.4%) of people experienced all three measures of coordinated care. While all measures were significantly associated with higher adherence, adherence was greatest among people experiencing all three measures (odds ratio=1.63; 95% confidence interval: 1.55-1.72). This interaction was driven primarily by the effects of prescriber continuity and dispensing coordination.

Implications/Key Message: Coordinating both the prescribing and dispensing of medicines can improve adherence to antihypertensives, which supports strategies consolidating both the prescribing and supply of patients’ medicines.

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IntegraAnalytica: An innovative method for comparative analysis of integrated care programmes

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Introduction:

Despite the growing importance of inter-organisational collaboration in integrated care, there remains a significant gap in the methods available for conducting comparative case studies in this domain. This study addresses this gap by presenting a comprehensive method for comparing the implementation of integrated care programmes across multiple health districts.

Method:

We employed a multiple case study approach combined with a complex adaptive systems perspective to identify the significance of organisational and inter-organisational factors in the implementation of integrated care. We conducted 32 interviews with programme managers and coordinators across four districts in New Zealand.

Results:

This analytical approach, named IntegraAnalytica was applied in the Falls and Fracture Prevention Programme, an example of integrated care involving cross-agency collaboration across community, primary, and secondary care. The steps are as follows:

- Identify contextual factors: Determine organisational and inter-organisational contextual factors, which can be identified either inductively or deductively.
- Assess similarities and variations: Analyse and identify factors with similarities and variations across different districts.
- Categorize outcomes and performance: Determine a set of outcomes (which can be proximal/distant or quantitative/qualitative) and categorize districts into low, moderate, and high-performing groups.
- Factor/Outcome Matrix: Use a factor/outcome matrix to identify clear patterns between high and low-performing districts.
- Analyse Interrelationships: Identify the interrelationships between factors and assess the importance of these relationships. This involves investigating how a specific factor influences other related factors, how other factors impact the factor under consideration, and the number of highly significant connections between a particular factor and other factors.
- Measure the power of organisational factors: combines the impact of factors on outcomes with the strength of the relationships between a given factor and other factors

Implications:

This method enables the identification of critical success factors in the implementation of inter-organisational integrated care initiatives.

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A multilevel perspective of the barriers, enablers, and strategies for implementing Learning Health Systems

Dr Louise Shaw[1], Ms Meg Perrier[1], Dr Rahul Barmanray[1], Dr Daniel Capurro Nario[1], Professor Wendy Chapman[1], Dr Noel Faux[1], Professor Kathleen Gray[1], Dr Graeme Hart[1], Dr Kit Huckvale[1], Dr Mahima Kalla[1], Dr Meredith Layton[1], Dr Olivia Metcalf[1], Dr Debbie Passey[1], Dr Kayley Lyons[1]
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Introduction/Background
Learning Health Systems (LHS) represent a transformative approach to healthcare, integrating research and practice to continuously improve patient care and outcomes. However, the implementation of LHS faces multifaceted challenges at micro (individual), meso (health organisation) and macro (policy) levels. This study aimed to understand the barriers, enablers, and effective strategies for implementing digitally enabled LHS projects from a multilevel perspective.

Method
A qualitative approach was employed to characterise the multilevel barriers, enablers, and strategies for LHS project implementation. Data were gathered through semi-structured interviews with health professionals (n=27) from the first three cohorts of a 12-month fellowship program, designed to develop informatics-enabled LHS skills in Australian clinicians. Thematic analysis, utilising a predefined codebook, identified key themes and patterns.

Results/Findings
Preliminary findings revealed a complex interplay of factors influencing the implementation of LHS projects. At the individual level, under-developed data science knowledge and skills, lack of project implementation skills, and resistance to adopting new technologies were barriers. Organisational level, barriers included insufficient digital and technology infrastructure, resource constraints, and organisational culture. Conversely, key enablers included established digital and technology infrastructure, resource investment and supportive leadership. Policy level enablers, such as favourable data legislation, contrast with regulatory complexity. Effective strategies encompass fostering collaborative partnerships, technological investment, sustainable funding, and skill development.

Implications/Key Message
This study highlights the importance of adopting a multilevel approach in LHS project implementation. By recognising the interdependencies between individual, organisational, and policy level factors, healthcare stakeholders can develop more comprehensive strategies for enabling LHS projects. Tailored interventions addressing healthcare complexities can enhance the success of LHS projects that contribute to improving patient outcomes and healthcare delivery.

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“Nobody wants to log in to things” – a qualitative study examining general practice experience with technology in two integrated care projects.

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Introduction/Background

Integrated models of care need buy-in from relevant health professionals, and general practice is often central. Two such models are the Keeping Well and Independent Program (KWIP) and Cardiology in Community (CiC) which are part of NSW Health’s VBHC initiative, Collaborative Commissioning. KWIP focusses on the frail elderly and CiC on CVD with a focus on atrial fibrillation (AF). Both models ask general practice to identify high risk patients for improved care, and digital technology is used in various ways: to send and receive data, risk stratification, diagnosis and monitoring of patients, evaluation.

Method

We conducted semi-structured interviews with general practice staff participating in either CiC or KWIP, and program staff from the LHDs and PHNs responsible. We used Normalisation Process Theory (NPT) to guide the development of questions and the inductive thematic analysis.

Results/Findings

Technology and data were regular features in the interviews and were described both positively and negatively. We will present technology and data themes relating to perceived value, ease of use, reliability, workflow, and interoperability, as seen through the constructs of NPT. The use of a remote monitoring device for AF had high perceived value and gave meaning to the project, however while the logistics of arranging its use was easy at some practices, it was an impediment at others. Fragmented IT platforms impede work processes, some GPs found accessing information sent to them through an additional secure platform too cumbersome, or that data would disappear after a time which put them off using it.

Implications/Key Message

Consideration needs to be given not to just the potential benefits of technology, but how it will fit within the intended setting and how intended users will engage with it. Identifying local barriers and strategies to overcome these would encourage uptake.

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Locally adapted guidelines - a scoping review

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Introduction/Background

Clinical practice guidelines (CPGs) often fail to be fully implemented in practice. One barrier is inconsistency between recommendations and existing practice patterns. This can include patients, personnel, structure, availability of resources, cultural and ethical values. Local ownership can be beneficial and help to implement the guideline without affecting guideline validity. It is feasible to tailor national CPGs to a regional or local context (,i.e. guideline adaptation). To identify randomized controlled trials (RCTs) investigating the effectiveness of locally adapted CPGs.

Method

We performed a scoping review, following the JBI guidance (registration: Open Science Framework https://osf.io/3ed2w). The intervention had to be a locally adapted guideline (locally meaning adapted to any delineated area and/or entity at subnational and/or transnational level). Co-interventions were accepted. We did not restrict the control group. As we considered locally adapted guidelines as an intervention, and it seems feasible to test locally adapted guidelines in trials, we only considered RCTs, including cluster-RCTs. MEDLINE and Embase were searched in October 2023. Two reviewers independently screened titles and abstracts, full-text articles, and charted data. Conflicts were resolved by involving a third reviewer. Data were summarized descriptively.

Results/Findings

Five cluster RCTs reported in 6 publications and published between 2000 and 2010, were included. The trials originated from the UK (n=2), Australia, US, and the Netherlands. The adapted CPGs focused on diabetes, asthma, smoking cessation, mental disorders, and menorrhagia and urinary incontinence. The number of sites (e.g. practices) ranged from 4 to 30. Reporting was mostly insufficient to understand how adaptation was performed. Interventions always included some form of dissemination, such as educational meetings or workshops.

Implications/Key Message

Only a small number of locally adapted guidelines have been investigated in RCTs. There is a huge variety of settings and diseases. Remarkably, no new evidence has been published since 2010. This may explain shortcomings in reporting.

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The long-term impact of attention-deficit/hyperactivity disorder on children and adolescent's health-related quality of life: results from a longitudinal population-based Australian study

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Background

Attention-deficit/hyperactivity disorder (ADHD) is the most common neurodevelopmental disorder. While much is known about the functional and academic impacts of ADHD, impacts on long-term health-related quality of life (HRQoL) are less well-documented.

Aims: To explore, in children aged 4-17 years, associations between clinical ADHD symptoms and (1) children's HRQoL; (2) whether internalizing or externalizing behaviour attenuates this association; and (3) factors contributing to this association.

Methods

Data were drawn from the Longitudinal Study of Australian Children at child ages 4-17 years. Clinical ADHD symptoms (e.g. score > 8) were measured using the hyperactivity scale from the Strengths and Difficulties Questionnaire (SDQ). Internalising or externalising problems were classified as children with scores ≥ 5 on the Emotional Problems and scores ≥ 4 on the Conduct Problems scale on the SDQ, respectively. Children's HRQoL was measured using the Pediatric Quality of Life Inventory (PedsQL). Linear mixed models were used, adjusting for child and family factors.

Results

Compared to those with no ADHD symptoms, children with ADHD symptoms had significantly lower HRQoL across all domains from 4-17 years (mean difference=7.65, 95%CI 6.1 to 9.2). Internalizing and externalizing problems slightly attenuated the association between ADHD symptoms and children's HRQoL (mean difference =4.93, 95%CI 3.4 to 6.4). Female or having autism or other medical conditions, or caregiver having mental health problems was associated with poorer HRQoL while having 2 or more siblings or being of Aboriginal and Torres Strait Islander descent or not taking ADHD/ADD medication was associated with better HRQoL.

Implications

ADHD clinical symptoms are associated with poorer children's HRQoL from 4-17 years. Given that co-occurring medical conditions and poor caregiver mental health are associated with poorer child HRQoL, ADHD treatment needs to identify and address co-occurring conditions and parental mental health.

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Digital mental health care in the Australian health ecosystem - reach, uptake and equity considerations from a national online service, THIS WAY UP

Dr Christine Shiner[1,2], Ian Li[1,3], Nick Olsen[4], Prof Pasquale Roberge[5], Prof Helen-Maria Vasiliadis[5], Dr Michael Millard[1,3], Dr Alison Mahoney[1,3]
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Introduction/Background

Every year, ~20% of Australians experience a mental health disorder but less than half access effective treatment. Digital mental health services have been developed to increase the accessibility of mental health care and are rising in popularity. This study aimed to characterise reach and uptake of a digital mental health service in the Australian community, THIS-WAY-UP. Further, it sought to describe the socio-demography of routine service users and investigate predictors of treatment uptake.

Method

A naturalistic, observational evaluation of routine service provision was conducted over a two-year period (July 2020-2022). All Australian adults who registered for a THIS-WAY-UP digital mental health treatment program as part of their routine care were included. Service reach and uptake were quantified via the number of program registrations, and program commencements, respectively. Participant and registration characteristics were analysed descriptively. Multivariable logistic regression was used to examine predictors of treatment commencement.

Results/Findings

There were 82,943 registrations for a THIS-WAY-UP program during the study period, averaging 3317±574 new registrations each month. Registrants were demographically diverse, with ages ranging from 18-94 (mean 40±15), 35% residing in a regional or remote area, and spanning all quartiles of relative social advantage/disadvantage. 64% of service users (n=53,032) proceeded to commence a digital treatment; most commonly programs for mixed anxiety and depression (29%), insomnia (12%) and generalized anxiety (12%). In multivariable models, individuals who were older, resided in regional/remote areas, registered at the recommendation of, or under the supervision of, a clinician, and those who privately paid for treatment were more likely to commence treatment (*Odd's ratios' ranging 1.05-4.36, all p's<0.001*).

Implications/Key Message

In a naturalistic sample of >82,000 individuals, real-world users of digital mental health interventions were demographically diverse. These findings confirm the scalability and accessibility of digital mental health services when embedded within the wider health system.

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The Association of Physiotherapy Continuity of Care with Duration of Time Loss Among Compensated Australian Workers with Low Back Pain

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Introduction/Background

Physiotherapists are common treatment providers for low back pain, which is a common global health problem and the leading cause of years lived with disability. Continuity of care (CoC) is the provision of uninterrupted care by the same provider over time and is associated with more positive patient experiences, greater patient satisfaction, higher treatment adherence, and improved patient outcomes. The aims of this study are to determine how continuous the care provided by physiotherapists to compensated workers with low back pain is, what factors are associated with physiotherapy continuity of care (CoC; treatment by the same provider), and what the association between physiotherapy CoC and duration of working time loss is.

Method

Workers' compensation claims and services data for claims accepted between 01/07/2011-30/06/2015 from Victoria and South Australia were analysed. Each physiotherapy service was recorded alongside a unique provider identifier, allowing measurement of CoC, which was calculated using the usual provider continuity metric (UPC) and categorised into low (UPC<0.5), moderate (UPC 0.5-0.74), high (UPC 0.75-0.99) and complete (UPC=1). Binary logistic regression examined factors associated with CoC. Cox regression models examined the association between working time loss and CoC.

Results/Findings

Thirty-six percent of workers experienced complete CoC, 25.8% high CoC, 26.1% moderate CoC and 11.7% low CoC. Odds of complete CoC decreased with increased physiotherapy service volume. With decreasing CoC there was significantly longer duration of compensated time loss.

Implications/Key Message

Higher CoC with a physiotherapist was associated with shorter compensated working time loss duration for Australian workers with low back pain. Findings would be of value to workers' compensation insurers, who can educate workers on the importance of CoC on recovery and return to work.

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Mixing it up: Exploring the motivations and experiences of consultants in public-private dual practice in southern New Zealand

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Introduction/Background

Aotearoa New Zealand (NZ) operates a dual practice system where senior hospital clinicians (consultants) can work in both public and private health sectors. Dual practice is a common phenomenon internationally, yet there is little research exploring the reasons why consultants engage in dual practice, particularly in high-income countries. This study aimed to explore the motivations and experiences of consultants engaged in dual practice in NZ.

Method

Twenty qualitative, semi-structured interviews were conducted with consultants who worked in dual practice in NZ's southern health region (Otago and Southland). Purposive sampling was used to recruit consultants from thirteen unique specialties across three geographical centres and three decades of medical qualification. Interviews were transcribed, and thematic analysis was conducted to identify major themes and sub-themes.

Results/Findings

Motivations to engage in dual practice were multi-faceted. Participants described numerous drivers towards private work, including greater remuneration, more autonomy over their time, satisfaction with getting work done effectively, skill development and maintenance, and alleviating a sense of 'moral injury'. Yet, participants all remained anchored to the public system, citing a sense of commitment to the public system, support for clinical interests, and a greater sense of collegiality.

Implications/Key Message

This research highlights the complexity behind the dual practice model, suggesting that dual practice presents an opportunity for clinicians to gain the benefits of both the public and private sectors while alleviating the frustrations of working in one sector only. As pressure on health resources continues to grow, these findings highlight the need for policymakers to adopt a holistic view of the health system, and to consider how dual practice fits with health workforce policy, to optimise healthcare delivery and foster a more resilient health system.

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Compensable General Practitioner consultations remains high during long workers' compensation claims

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Background
General Practitioners (GPs) play a central role in the assessment, treatment and management of work-related injuries. Workers' compensation funds GP services only relating to the work injury, and patients may use alternative healthcare insurance (e.g. Medicare) otherwise. Both influence recovery and return to work outcomes. Few studies have examined the provision of healthcare across multiple insurance types. Therefore, we examined the frequency and patterns of GP service usage funded by workers' compensation and Medicare for injured workers during the first two years of long workers' compensation claims.

Method
A retrospective controlled cohort data linkage study containing GP services funded by workers' compensation and Medicare for 3,755 injured workers with long (104+ weeks) workers' compensation claims in New South Wales, Australia. We measured the median GP services funded by workers compensation, Medicare, and both in each worker. Twelve-month study periods describe: pre-injury, first injury year and second injury year.

Results
The sample of 3,755 injured workers used GP services 20,242 times in the first two years of workers compensation claim. Most GP services (63.5%) were funded by workers compensation. Average service use decreased from 19 to 15 annual consultation between the first- and second-year post-injury. The median annual rate of workers compensation-funded GP service use decreased from 13 GP services to 10 GP services during the first two years post-injury. Annual median rates of Medicare-funded GP services were maintained at 5 GP services pre-injury and during the first injury year, and were 4 GP services during the second injury year.

Implications
Injured workers with long-term workers compensation claims require ongoing compensable GP services, at a near-monthly rate on average, to manage complex recovery pathways. Separate insurance systems provide an incomplete picture of health service use, however, relevant GP services for injury appear to be largely appropriately assigned to workers compensation.

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Care pathways for reduced fetal movements: a cost consequence analysis

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Introduction/Background

Current clinical guidelines for reduced foetal movements during pregnancy recommend a full assessment of both the foetus and mother, including risk factor stratification, and foetal heart rate assessment through cardiotocography and ultrasound. Patient presentations continue to rise, largely due to initiatives increasing patient awareness of reduced foetal movements aiming to reduce stillbirths. This scenario adds significant cost to the health system. Replacing obstetricians with midwife-navigators, working at the top of their scope of practice may be a solution to managing the patient load. In this study we aimed to evaluate the costs and consequences of a new midwife-navigator-facilitated care pathway for reduced fetal movements.

Method

We conducted this study at a tertiary obstetric centre in Queensland, Australia and modelling occurred for this and smaller services. Two months of data from pre (n=112 in 2019) and post (n=141 in 2020) implementation of the care pathway were analysed with T-tests and logistic regression models to evaluate maternal and neonatal outcomes. A Markov model was built to estimate the costs and consequences of the intervention. Sensitivity analysis was conducted to test various scenarios including modelling for smaller centres.

Results/Findings

There were no statistically significant differences in clinical outcome between the intervention and usual care groups. Intervention patients spent 1 hour and 8 minutes less time in hospital ($p<0.001$). This resulted in a saving to the centre of AU$135 per patient (AU$159 083 annually). One-way sensitivity analysis suggested that cost savings would be found in all scenarios except for smaller units providing services for less than 1900 births per annum.

Implications/Key Message

To our knowledge, no other care pathway involving acute obstetric care has been economically evaluated to date. Our model based on real-world presentations for reduced fetal movements confirms that midwife-navigators may be an economically beneficial implementation strategy for managing obstetric conditions.

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HEALTH
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DAY THREE

FRI 6 DEC 2024

HEALTH SERVICES RESEARCH IN THE DIGITAL AGE

International Keynote: Professor Mike Drummond, University of York in the United Kingdom

Economic Evaluation for Health Care Decision-Making: Are We Ready for the Digital Age?

Professor Mike Drummond[1]

[1]University of York, York, United Kingdom

Economic evaluation is firmly embedded in decision processes regarding the introduction of new health technologies, especially pharmaceuticals, in several jurisdictions. However, in seeking acceptance by decision-makers, economic analysts in the health care field have departed from some of the principles of welfare economics. Therefore, economic evaluation in health care faces criticisms both from mainstream economists in relation to these methodological departures and from decision makers, who express concerns about the consequences of following the recommendations suggested by economic analyses.

The objectives of this presentation are: (i) to review the current state-of-art of economic analysis in health care; (ii) to outline some of the decision-makers' concerns and how these are being addressed and; (iii) to discuss the implications of the digital age and how economic evaluation can respond. The latter issue will be discussed in terms of changes in the technologies that will be assessed, changes in the ways that we assess them and changes in the ways that economic evaluations will be reported.

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Symposium 08: Hospitals without walls: Lessons learned through establishment of public and private virtual hospitals

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Effectiveness and implementation of Hospital at Home

Dr Jason Wallis[1], Professor Sasha Shepperd[2], Dr Petra Mäkelä[3], Ms Jia Xi Han[1], Ms Evie Tripp[1], Dr Emma Gearon[1], Mr Gary Disher[4], Professor Rachelle Buchbinder[1], Professor Denise O'Connor[1]
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Introduction/Background

Worldwide there is an increasing demand for Hospital at Home as an alternative to hospital admission. Although there is increasing certainty on the effectiveness and cost-effectiveness of Hospital at Home, health service managers, health professionals and policy makers require evidence on how to implement and sustain these services on a wider scale.

Method

Qualitative evidence synthesis of primary qualitative studies that explored implementation of new or existing Hospital at Home services from the perspective of different stakeholders. We applied thematic synthesis to synthesise the data across studies and identify factors that may influence the implementation of Hospital at Home. Confidence in the findings was assessed using GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative research).

Results/Findings

52 qualitative studies exploring the implementation of Hospital at Home services across 13 countries including perspectives of 662 service-level staff (clinicians, managers), eight systems-level staff (commissioners, insurers), 900 patients and 417 caregivers were included. Following synthesis, we identified 12 findings graded as high (n = 10) and moderate (n = 2) confidence and classified them into four themes: (1) development of stakeholder relationships and systems prior to implementation, (2) processes, resources and skills required for safe and effective implementation, (3) acceptability and caregiver impacts and (4) sustainability of services.

Implications/Key Message

Implementing Hospital at Home services requires early stakeholder engagement, understanding of regulatory requirements, efficient admission processes with clear guidelines for referrers, operational leadership, effective communication between staff, patients and caregivers, and a skilled workforce to safely and effectively deliver person-centred care. Implementing these factors will help to achieve acceptance from patients, caregivers and health professionals delivering the service and sustainability of the service.

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Implementing the Virtual Emergency Care Service to safely avoid ED presentation

Dr Kim Hansen[1]
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Introduction/Background

EDs are necessary for urgent health concerns; however, many physical ED visits could be better treated in alternate settings. The present study aimed to describe the feasibility, acceptability and effectiveness of a Virtual ED to reduce unnecessary physical ED presentations at a large tertiary health service in Australia.

Method

Observational data will be presented to evaluate the feasibility of a Virtual ED using routinely collected health service data and process-evaluation to assess intervention, fidelity and adherence from April 2020. The primary outcome for the present study was the feasibility of the Virtual ED model of care.

Results/Findings

The Virtual ED has received over 50 000 presentations since April 2020. Almost 90% are managed in the Virtual ED alone. Of those referred, most do not require an admission. Of calls managed entirely by Virtual ED, approximately 1% unexpectedly required a hospital admission within 48 hours. The presentation numbers have grown significantly since 2020 as the model of care has evolved. The Virtual ED service was considered helpful and clinically appropriate, with a high level of ED avoidance.

Implications/Key Message

The Virtual ED prevented most patients from presenting to the physical ED, with good uptake from patients and referrers, supporting the use of virtual care pathways in emergency care management.

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A virtual hospital industry-research partnership in the private sector – learnings, successes, and opportunities

Dr Olivia Fisher[1,2], Dr Trisha O'Moore-Sullivan[3], Kelly McGrath[1], Andrew Barron[1,3], Dr Shanthi Kanagarajah[4], Sue-Ellen Smith[5], Dr Ian Smith[6], Dr Elizabeth Martin[1,7], Dr Wendell Cockshaw[1,2], Belinda Moshi[1], Dr Caroline Grogan[1,7]
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Introduction/Background
In 2022, UCQ commenced establishment of a new private not-for-profit Virtual Hospital. Wesley Research Institute (WRI) was engaged as research partner to inform the design, implementation, and evaluation of new models of virtual hospital care.

Method
This abstract provides an overview of context assessment and co-design study results, and reflections of the research team and Virtual Hospital Steering Committee Chair.

Implementation framework: Planning and Evaluating Remote Consultation Services (PERCS).

Context assessment: 37 interviews with health and aged care leaders, doctors, nurses, consumers, carers, and public health stakeholders, February-July 2023.

Co-design workshops: one face-to-face, two online, July-September 2023. 36 participants from above groups plus allied health, general practitioners, and researchers.

Results/Findings
Context assessment:
Enablers – tension for change, enthusiasm about services to rural and remote areas, strong desire for healthcare in the best environment for patients.
Barriers - funding models are the major barrier, skepticism across stakeholder groups about the safety and suitability of virtual healthcare, technological limitations.

Co-design workshops:
Strong agreement on overarching principles – patient centred, more than telehealth, adaptable, innovative, and safe.

Learnings:
- Strong medical research culture but minimal health services research culture.
- Learning on the go.
- Good will on both sides.
- Research independence is key.

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Challenges

- Research and health service timelines did not align.
- Misalignment at times between drivers for research and hospital.
- Challenges identifying research problem and applicable data.
- Existing implementation frameworks needed adaptation to suit private hospital context.

Successes

- Research is now embedded in virtual hospital strategy and represented at the Steering Committee.
- Emerging research findings informed hospital implementation in real time.
- Plans for future collaboration.

Implications/Key Message

Private sector industry-research partnerships are challenging but worth the effort. Formation of trusting relationships is critical, as is the independence of the research team.

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The Promise and Pitfalls of Virtual Hospitals: Lessons from the Australian Public Health System

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Background

Virtual alternatives to physical hospital admissions and attendances have been found to be feasible, but the relationship between the costs and benefit is inconsistent, with some evaluations demonstrating the benefits exceed the costs and others the opposite. The context in which virtual hospitals are deployed impacts the results of the evaluation. In Australia, there are both facilitators and barriers to the implementation of virtual hospitals.

Method

A cost-consequence analysis of several virtual public hospital models of care was undertaken at a single institution, including hospital substitution programs, emergency department substitution programs, and the substitution of outpatient activity programs. The comparator was care without a virtual hospital program. Matching was the primary way of creating the comparator. The consequences for the health system (occupied beds, cubicles, readmissions, reduced capital requirements and the associated costs), patients (decreased burden of time) and society (decreased carbon emissions) were undertaken both during 2020-2021 and 2023. The sustainability of virtual care was evaluated using current funding rules.

Results/Findings

The context in which the evaluation takes place influences the results. A health system under pressure, such as during 2020-21, results in greater benefit from the use of virtual hospitals. The majority of models resulted in health system savings; however, it was not universal. Service volume being a critical factor. Patient and societal benefits were more universally present. Limitations in data, especially around patient outcomes and the use of quasi-experimental methods reduced the confidence in the results.

Implications/Key Message

The current funding system does not support the implementation of virtual hospitals and does not capture important elements of value for patients and society. While virtual hospitals hold great promise their implementation needs to be carefully designed with volume and financing requirements satisfied.

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Utilising the National Centre for Healthy Ageing data infrastructure for digital innovation in residential aged care

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Introduction/Background

The health and social information shared when aged care residents are transferred across settings is highly variable. Information volume, inconsistent data content and structure, data security and disparate electronic health record (EHR) systems makes data sharing challenging. We describe the creation of a digital prototype for sharing summary health data for residents in aged care.

Method

The project was established by the National Centre for Healthy Ageing (NCHA), a health service/academic partnership. Partnerships between local organisations involved in the transfer of aged care residents, and state and national peak body advisory groups were established. Critical activities to a unified approach to sharing important information were identified. These included: understanding workflows via interviews with end-users; gaining consensus on a set of critical point-of-care data via modified Delphi processes; identifying electronic systems that could be leveraged for data capture; and co-designing how to collect and display these data consistently, reliably and securely.

Results/Findings

Three local aged care providers using different electronic health record vendors were recruited. Ambulance Victoria facilitated engagement with local paramedics. The prototype summary contains seventeen items identified as important by end-users and is housed within the Peninsula Health/NCHA infrastructure with pre-registration of aged care residents for integration into hospital clinical systems. Where possible, data for the summary was extracted from vendor systems, however, manual input was required for unstructured data items. Local Primary Health Networks facilitated integration of alerts into GP systems via their health analytics platform. The NCHA Data Platform, containing linked data from across the region, will support rapid evaluation for iterative testing.

Implications/Key Message

By leveraging the networks of the NCHA and infrastructure of its integrated EHR Data Platform we have established a working prototype within a geographic test-bed for digital innovation in residential aged care. Roll out and feasibility testing will commence July 2024.

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Feasibility of a codesigned digital health solution to enable consumers to identify and communicate their needs and preferences with healthcare staff across a hospital care continuum

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Background

Aligning care planning with consumer needs and preferences across settings is operationally challenging. Within the National Centre for Healthy Ageing (NCHA), an academic/health service partnership, we have codesigned a digital health solution to capture and communicate consumer needs and preferences within electronic clinical systems. The aims of this study are to showcase this technology and assess the feasibility of the systems in capturing consumer inputted needs and preferences for clinician use.

Method

Feasibility testing was conducted across one acute medical and one rehabilitation ward at an Australian metropolitan health service. Consumers admitted during the six-week testing period were eligible unless they were: admitted and discharged after hours; predicted to be discharged within 24 hours; or in another trial. Eligible consumers were invited to input their needs and preferences into the digital solution. Consumer feasibility was assessed using observational notes, system usability questionnaires and qualitative interviews. Relevant staff were invited to participate in post-testing focus groups. Feasibility was assessed using Bowen's framework across the domains of: acceptability; demand; practicality; implementation; and integration. Analysis was conducted using mixed methods, including inductive thematic analysis and descriptive statistics.

Results

Eligible consumers were approached (114 acute / 24 rehabilitation ward). Of these 75% / 88% (acute / rehabilitation) consented, and 76% / 58% (acute / rehabilitation) populated needs and preferences with most (65%) requiring support. Results from consumer: observational notes (n=69); questionnaires (n=64); and interviews (n=9) indicated feasibility across acceptability, demand, practicality and implementation domains. Results from clinician focus groups (n=16, 2 groups) indicated feasibility across all domains and a desire for the digital solution. However, awareness of its availability was poor, especially in the acute ward.

Implications

Our codesigned digital health solution is potentially feasible in inpatient settings. However, consumer support and strategies to increase uptake by staff within local workflows is needed.

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Evaluating the Smart Ward sensor suite with the National Centre for Healthy Ageing Data Platformsss

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Introduction/Background

Older people admitted to hospital frequently have complex care needs, multiple co-morbidities and often suffer high rates of complications such as delirium, falls, functional decline, behaviours of concern and pressure injuries. Innovations in sensor technology and smart devices have the potential to improve clinicians' ability to tackle these issues by supporting the testing and delivery of novel interventions, providing new measures of patient function and freeing clinical staff from time consuming data collection. However, technological solutions have a history of under-delivering in healthcare scenarios due to complex combinations of regulatory, workforce, clinical and technical factors.

Method

The Flinders Geriatric Evaluation and Management Ward, Peninsula Health is being transformed into a "Smart Ward". This project is an innovation of the National Centre for Healthy Ageing (NCHA) and will include advanced sensors for passively monitoring patients' vital signs, falls, sleep, location, mobility and movement, and environmental monitoring of light, noise, and temperature. Smart devices include a circadian rhythm lighting system and a "patient tablet kiosk" and effectiveness will be assessed via integration of sensor data with data held in the NCHA Data Platform.

Results/Findings

The behaviour of these sensors and smart devices in a ward context is unknown and must be carefully evaluated and trials must be developed to test the effectiveness and acceptability of technological interventions in hospital settings. Both require linkage between sensor and data and patient records.

A low-cost ecosystem with minimal impact on hospital systems was developed to support these requirements by leveraging a combination of the NCHA Data platform and an existing Peninsula Health vendor.

Implications/Key Message

The impact of sensor data on hospital patients and workflows is unknown. It is therefore, critical to test new sensors and interventions involving them in a robust research framework. Leveraging research data infrastructure co-located with a health service is a crucial part of this.

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Natural Language Processing in electronic health data: Pursuing dementia detection for better prevalence estimation

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Background

Accurate estimation of population dementia prevalence is crucial, but challenging, and Electronic Health Records (EHR) represent underutilised data sources. We aimed to apply Natural Language Processing techniques to EHR data, to develop a suite of algorithms reliably identifying individuals diagnosed with dementia.

Methods

Data were sourced via the National Centre for Healthy Ageing Data Platform, a curated, EHR-derived data warehouse. Two validation cohorts were assembled: (1) those with confirmed dementia consisting of individuals aged >60 years identified through hospital specialist dementia clinic records, and (2) a comparison group with EHR records recruited from the community and determined not to have dementia.

The CogStack NLP pipeline is embedded within the NCHA data platform. This innovative pipeline retrieves and extracts information from both the structured and unstructured parts of the EHR. Final algorithms were developed via two work-streams; a traditional biostatistical approach fitting logistic regression models to structured data, and a data science stream using Natural Language Processing (NLP) to fit diverse models to unstructured (text) EHR data, for the same individuals.

Results

Of 1,082 individuals (362 with dementia), 860 had text data available. Amongst NLP models, Logistic Regression, Support Vector Machine, Adaptive Boosting, and Random Forest models performed equivalently (AUC 0.802, 0.815, 0.787, 0.803 respectively) In the biostatistics stream, 15 structured variables were included, covering demographics, health service attendance, medications, and ICD-10 Codes (AUC 0.853, specificity 72.22%, sensitivity 80.61%). When compared to the final structured model, a model combining insights from both streams demonstrated improved performance (AUC=0.951, chi2 test for ROC equivalence: $p<0.001$).

Key Message

Natural Language processing techniques applied to unstructured electronic health data may be powerful tools in capturing the presence of dementia and other diseases at scale. Algorithms such as these can be utilised for health service planning, and/or integrated into clinical systems for service targeting.

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The cost and carbon footprint of surveillance imaging for patients with resected stage III melanoma

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Background

Australia has the world's highest incidence of melanoma. As treatments improve, more people require follow-up care. Early detection of recurrent disease could improve survival by enabling earlier systemic treatment. However, there is no robust evidence of a survival benefit for surveillance imaging, and the optimal frequency of routine imaging remains unclear. Benefits need to be weighed against potential harms. The aim of this study is to estimate the cost and carbon footprint of diagnostic imaging for resected stage III melanoma patients attending follow up.

Methods

Data were available for stage III melanoma patients attending follow up at the Melanoma Institute Australia between 2000 and 2017 to the end of 2023. Patients were categorised based on the frequency of their imaging schedules. The number of diagnostic imaging tests after resection of the primary melanoma were calculated for each patient. Costs to the health system and out-of-pocket costs were valued in 2023 Australian Dollars using Medicare Benefits Schedule items. Environmental impacts were valued in carbon dioxide equivalent units using estimates based on life cycle analysis. This study was approved by the Sydney Local Health District Ethics Review Committee (RPA Zone), 2019/ETH07272.

Results

This study included 478 patients with a preliminary mean follow-up of 6 years. The total cost of diagnostic imaging was $3,705,296. Patients had a mean number of 18 imaging events during surveillance. CT and Ultrasound scans were the most frequent type of imaging. The mean cost per patient was $7,752. Full results will be presented at the conference.

Conclusion

More frequent surveillance imaging is likely associated with higher costs and larger carbon footprint. The results of this study will be used to build an economic model investigating the cost-effectiveness of different screening frequencies. This model will demonstrate methods available to consider trade-offs between health, financial costs, and environmental impact.

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Medically assisted reproduction and hormone sensitive cancers in women: Results from the CREATE study

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Introduction/Background

Medically assisted reproduction (MAR), including in vitro fertilization (IVF), involves the administration of large doses of hormonal drugs to induce ovulation. Researchers have raised concerns that receiving MAR treatments may increase the likelihood of hormone sensitive cancers (including breast, endometrial, ovarian, thyroid, melanoma, and colorectal cancers) in the woman. However, establishing causality between receiving MAR treatments and cancer is complex. This difficulty is, in part, due to historically small sample sizes, short follow-up times, and study design concerns. The current study using linked administrative data aims to address all three concerns.

Method

We formed a retrospective cohort of around 400,000 women who received at least one MAR treatment in Australia from 1991-2017. Each woman was matched with up to four comparator women on age, parity, and rurality at time of MAR treatment, and age of birth of first child. We identified women who received assisted reproductive therapy (IVF or intracytoplasmic sperm injection), and women who received ovulation induction or intrauterine insemination. Using an emulated target trial design and Cox regression, we followed each woman until a relevant cancer diagnosis, death, or 1 Jan 2018, controlling for confounders.

Results/Findings

We found a small to moderate increase in risk (hazard ratios: 1.1 – 1.5) for most hormone sensitive cancers following MAR treatment. The exceptions were endometrial cancer, which showed a stronger association (hazard ratios: 1.5 – 3.2), and colorectal cancer, which showed limited to no evidence of a relationship. Schoenfeld residuals suggested the proportionality assumption was often violated, with a greater risk sooner after treatment.

Implications/Key Message

There may be increased risk of most hormone sensitive cancers in women following MAR treatment. However, this may reflect surveillance bias after MAR treatment or underlying differences in women receiving treatments.

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Enhancing Psychosocial Support for Families of Children with Cancer: An Intervention Study

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Introduction
Parents of children with cancer often experience psychological distress which can go unnoticed due to hospital-based services focus on busy environments. Our study explores how an intervention, including electronic screening, impacts this distress, parents' quality of life (QoL), and support needs."

Method
In this cohort study, participants completed electronic screening and surveys at baseline, T1 (4 weeks and T2 (eight weeks). Families reporting ≥ 4/10 on the Distress Thermometer received additional assessment and support from a hospital social worker in coordination with psychology services. We recorded the time taken and activities of the social work intervention.

Results/Findings
Among 66 parents approached 57 (86%) consented to the study. Most were female (83%) and aged 30-49 years. Their children were diagnosed with cancer in the preceding 12-16 weeks. Significant improvements in distress levels, number of support needs and QoL were observed in parents with baseline high levels of distress, all assigned to therapeutic care. This was also evident in children with initially high levels of distress whose levels significantly decreased under the clinical threshold at T2 (<4). The support needs for highly distressed parents also significantly reduced over time, halving from baseline to T2. We identified a significant association between parents' levels of distress, their needs for support and quality of life at each assessment point. The mean time per participant intervention was 37 minutes at each time point, costing approximately $52 AUD. The majority of intervention time was spent in direct contact with the participant, followed by medical record documentation, referrals and team discussion.

Implications/Key Message
This study highlights the psychosocial benefits of distress screening for parents and children with cancer who show high levels of distress 12 weeks post-diagnosis. Findings suggest that without routine screening, assessment and therapeutic support, psychosocial outcomes may worsen over time.

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Practical guidance for preparing and conducting hybrid focus groups and online interviews with consumers for cancer research

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Background
Qualitative research provides rich insights into consumers' views and experiences. While detailed methodological guidance is available for analysing data from focus groups and interviews, practical advice for how to recruit, prepare and conduct these sessions, particularly in hybrid formats (i.e., online and/ or in-person), is limited. In cancer research, consideration of the consumer experience is important because people often share personal details about their cancer experience.

Method
From October 2023 to February 2024, we recruited a diverse sample of 52 consumers to co-design and test study materials for a qualitative survey to understand the needs and experiences of adults affected by cancer in Queensland, Australia to inform support service delivery. After conducting 15 hybrid focus groups and 20 online interviews, we reviewed our protocol, field notes, observations, and session transcripts to identify effective strategies for recruiting a diverse sample and supporting meaningful and productive consumer engagement.

Findings
From our learnings, we created two resources for preparing and conducting hybrid focus groups and online interviews with consumers. The first resource provides a 6-item checklist for session recruitment and preparation: i) define and document recruitment procedures, ii) use diverse recruitment methods to recruit a diverse sample, iii) implement multiple strategies to prevent and detect fraudulent participant sign-ups, iv) offer flexible options for research participation, v) develop and pilot visual session materials, and vi) nominate lead and support facilitators (focus groups only). The second resource provides five practical strategies for conducting the sessions: i) allow time to get started, ii) invite focused participation, iii) keep track of time, iv) facilitate productive and insightful conversations, and v) debrief after sessions for continuous quality improvement.

Implications
These resources can aid students, researchers, and healthcare professionals in optimising the consumer's experience of participating in cancer research, ensuring consumer engagement is meaningful and productive for all.

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Community co-design of a population-based cancer research study to inform service delivery

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Background: Consumer involvement in health research has been shown to improve research processes and outcomes needed to inform service delivery. This study engaged consumers in co-designing and testing study invitation and data collection materials to maximise acceptability of, and participation in, a population-based survey for understanding the needs and experiences of adults affected by cancer.

Methods: Consumers participated in a co-design workshop and/or interview. Workshops focused on generating and discussing ideas for a single, open-ended survey question to collect qualitative data on the needs and experiences of adults affected by cancer. Consumers then reviewed a study invitation letter and provided feedback on its design, wording, and layout. Workshop transcripts were analysed using content analysis to identify principles endorsed by consumers for designing these materials. Member checking was subsequently undertaken during interviews to validate and expand on these principles.

Findings: A diverse sample of consumers (*n*=52; ages 31-71 years; 27% rural; 23% born overseas, 6% Aboriginal and/or Torres Strait Islander; 42% personal cancer diagnosis; 44% cancer caregiver) participated across 15 workshops and 20 interviews. Ten principles for designing qualitative data collection materials were identified, including: *define the question timeframe and scope; provide reassurance that responses are valid and valued;* and *use simple wording*. Eleven principles for designing study invitation materials (e.g., flyer, letter, information sheet) were identified, including: *communicate empathy and sensitivity; facilitate reciprocal benefit;* and *include a 'human element'.* Study materials created with consumers based on these principles were considered acceptable and relevant, with 95% of interview participants indicating they would likely complete the survey question.

Implications: Through consumer engagement and co-design, this study identified principles for developing study invitation and data collection materials for use in cancer survivorship research. These principles can be used by researchers to optimise research participation and inform service providers about consumer needs and experiences.

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Producing the evidence to support integrated cancer care funding

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Introduction/Background

Payment reform is routinely advocated to overcome the siloing of healthcare system sectors, improve care integration, and encourage models of care that deliver benefits. One proposed method of doing this is via bundled payments – a single payment for the treatment of an episode of care—rather than paying for each service individually. The Centre of Research Excellence for Value-Based Payments in Cancer Care undertook a series of qualitative and quantitative studies to identify the key components for successfully introducing bundled payments into the Australian health system. This paper brings together the key findings from those studies.

Method

Quantitative analysis of incentives in Australia using the 45 and up Study data and employing difference-in-difference methods focused on the impact of payment reforms including the introduction and removal of public subsidies, differences in timing of diagnosis, the out-of-pocket payments over time, and public and private provision of radiotherapy. We derive generalizable results. In addition, a systematic review of payment reforms in cancer and their generalizability to Australia was undertaken.

Results/Findings

The results show that some of the conditions for payment reform have been met. The studies demonstrate that providers in Australia respond to changing financial incentives, often balancing their own and their patients' welfare. Current funding arrangements have also led to unintended consequences in the delivery and accessibility of care. However, there is limited evidence that bundled payments consistently deliver better outcomes. The evidence that does exist is not transferable to Australia. The institutional structure of Australia complicates the design of bundled payments.

Implications/Key Message

The introduction of payment reform is a critical requirement to improve integration of care in Australia but increased evidence on design and implementation is required as well as changes in the institutional structure. Importantly, assumptions of cost-savings are not supported by the limited evidence that exists.

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Session 7D: Costing Healthcare

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Costing cardiovascular, respiratory and mental health conditions in a cohort of elderly Australians

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Background

This costing study estimated the economic burden of a spectrum of cardiovascular, respiratory, and mental health conditions in a cohort of approximately 1300 elderly vulnerable Australians in the context of a home upgrade study to increase indoor temperature.

Method

The data spans a 6-year period from 2015-2020, including all hospital emergency and planned admissions, services reimbursed under the Medicare Benefits Scheme (MBS), and pharmaceuticals prescribed under the Pharmaceutical Benefits Scheme (PBS). The cardiovascular conditions include stroke, acute myocardial infarction (AMI), angina, and heart failure; respiratory conditions include chronic obstructive pulmonary disease (COPD) and pneumonia; and mental health conditions include mood disorders. Episodes of care were identified using ICD-10 codes. The costing windows were 3, 6 and 12 months respectively for respiratory, heart and mental health, as determined by clinical experts. Excess costs were captured by comparing costs with a matched cohort without these conditions.

Results

The average age of the cohort was 75 years (SD: 11.52), with 65% females. COPD had the highest monthly cost per person at $5505, followed by pneumonia at $3162, largely due to in-hospital costs. Respiratory conditions incurred the highest excess costs per person per month. The costs for angina, stroke, and other heart conditions were lower, at $577, $667, and $602 respectively, while AMI and heart failure were significantly higher at $2105 and $1897 per person per month. Mood disorders had a total cost of $147,304, with an average monthly cost of $1619 per person and an excess cost of $1077.

Implications

Reliable longitudinal costing data helps policymakers optimize the allocation of limited healthcare resources, particularly in the later stages of life. This study highlights the high costs associated with respiratory and cardiovascular diseases in a vulnerable elderly cohort, suggesting potential cost reduction through increased indoor temperatures.

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A difference-in differences approach to evaluate the impact of digital price transparency tools on patient in-hospital treatment costs

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Introduction/Background

Price transparency is promoted as a tool to achieving affordability in healthcare. In a marketplace characterized by opaqueness, price transparency initiatives aim to 1) alleviate information asymmetry 2) empower patients to shop around and choose lower-cost providers 3) lower prices overall, and 4) promote accountability amongst providers. Various digital price transparency tools are now operational. However, despite extensive investment the evidence for their effectiveness is mixed.

Method

We used a large private health insurance de-identified administrative claims data from 2012 to 2019 that links records from over 1.6 million patients to the doctors who provided their care in private hospitals. Using a difference-in-differences approach, we compared the total fees charged of private in-hospital procedures pre- and post- the introduction of two price transparency initiatives in Australia: 1) Surgical Variance Reports published by the Royal Australasian College of Surgeons in 2016 and 2) an online procedure cost estimator by this health insurance company launched in 2018.

Results/Findings

Preliminary results indicate that the introduction of price transparency initiatives in Australia did not lead to healthcare cost savings. The mean total fees for procedures included in the surgical variance reports increased significantly ($77.64) following publication. We observed a small increase in the mean total fees ($4.63) following the launch of the procedure cost estimator, but this was not statistically significant. Findings held upon robustness checks with variations of specifications.

Implications/Key Message

Price transparency initiatives may have the unintended consequence of increasing prices. Surgeons may not be motivated to be ‘low cost’ providers unless their reputation is affected by the fees they charge. For patients, publicly reporting pricing information online alone may be insufficient to remove uncertainty about quality of service and providers skills and experience. Quality indices such as patient- reported outcome- and experience- measures could enhance the utility of digital price transparency tools for patients.

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Delaying or avoiding total knee replacements by implementing a national non-surgical management program: A model-based economic evaluation

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Introduction/Background
Total knee replacements are highly effective when clinically appropriate, yet performance of these procedures has expanded to individuals with minimal symptoms or limited radiological signs of osteoarthritis. Structured education and exercise therapy programs have been proposed to reduce reliance on surgery and improve healthcare sustainability. The long-term cost-effectiveness of these programs at a population level is unclear. We evaluated the lifetime costs and benefits of a national non-surgical program for individuals with knee osteoarthritis compared to total knee replacement for all eligible individuals (usual care).

Method
We developed a life table, multistate Markov model to compare costs and health outcomes from a healthcare perspective over a lifetime horizon. A hypothetical cohort of adults aged 45 to 84 years old that would undergo total knee replacement was created based on Australian age- and sex-specific rates of total knee replacement. The likelihood of delaying/avoiding total knee replacements following non-surgical management was obtained from randomised trials. Model inputs for total knee replacement were derived from the Australian Orthopaedic Association National Joint Replacement Registry. The primary outcome was net monetary benefit (NMB), with an incremental cost-effectiveness threshold of $28,033. Subgroup, deterministic and probabilistic sensitivity analyses were completed.

Results/Findings
Implementation of a national non-surgical management program results in lifetime cost savings of $AUD498,307,942 ($7,970 per individual) compared to usual care. Non-surgical management was cost-effective for the first nine years but not at the lifetime horizon (NMB = -$AUD4,090). Subgroup analysis revealed that non-surgical management was cost-effective over the lifetime horizon only in individuals with no/mild pain at baseline (NMB = $AUD11).

Implications/Key Message
National implementation of a non-surgical management program for knee osteoarthritis is cost-effective for the first nine years, but not over the lifetime horizon. Opportunities may exist to invest early cost-savings in additional care or prevention, including targeted implementation to specific subgroups.

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Cost-effectiveness of 3D total-body photography in people at high risk of melanoma

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Introduction
Greater use of novel digital technologies for early melanoma detection could save healthcare costs by detecting smaller melanomas earlier or detecting harmless lesions that need no treatment. Evidence for the cost-effectiveness of early detection methods in high risk melanoma cohorts is scarce. We aimed to compare cost and health effects between people undergoing 6-monthly three-dimensional (3D) total-body photography (TBP) versus usual care for detecting melanoma in a high-risk cohort.

Method
We undertook a cost-effectiveness analysis using randomized controlled trial (n=314) data with two years follow up, taking a health system perspective. Eligible trial participants were adults aged ≥18 years at high risk of developing a primary or subsequent melanoma. Main outcomes included government healthcare costs, patient out-of-pocket costs, numbers of skin excisions and quality-adjusted life years (QALYs). Skin biopsies, excisions and their costs were collected using administrative claims data while quality of life was measured using the EuroQol-5D-5L.

Results
Over the two years of follow-up, the intervention group had similar proportions of malignant (54% vs 46%, p = 0.21) and benign (53% vs 47%, p = 0.09) skin lesion excisions to controls. There were significantly greater total costs for the intervention group (mean $2,542, 95%CI = $2,120, $2,964) compared with controls (mean $1,088, 95%CI = $916, $1,260, p <0.01), largely driven by the cost of the 3D TBP intervention. There was no significant difference in mean QALYs for the intervention (1.90) and control (1.92) groups (p = 0.32). There was a low likelihood (<5%) that the intervention was cost-effective compared to usual care.

Implications
Over two years, the 3D TBP intervention generated higher costs and treated a similar number of lesions than usual care in a high-risk melanoma cohort. A fundamental reappraisal of the method for 3D TBP implementation is required to improve its cost-effectiveness profile.

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The cost-effectiveness of germline BRCA testing in prostate cancer followed by cascade testing of first-degree relatives of mutation carriers

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Background:

Prostate cancer (PCa) is associated with heritable mutations and approximately one-half of these are in the *BRCA* genes. International guidelines recommend targeted genetic testing of PCa patients with elevated risk. Patients with germline mutations have aggressive disease and benefit from personalised treatment (e.g. olaparib). Further, relatives of affected patients are at increased risk of cancer and may benefit from early detection and prevention. The value for money of genetic testing, however, has not been assessed. In this context we evaluated the cost-effectiveness of germline *BRCA* testing in PCa.

Methods

We conducted a cost-utility analysis of targeted germline *BRCA* testing with and without cascade testing of first-degree relatives (FDRs) in PCa patients in the following scenarios: 1) metastatic prostate cancer (mPCa); 2) high/very high-risk localised PCa; 3) localised PCa patients with family history of PCa; 4) localised PCa patients with Ashkenazi-Jewish ancestry. A semi-Markov multi-health-state transition model was constructed using a lifetime time horizon. The analyses were performed from an Australian payer perspective. Decision uncertainty was characterized using probabilistic analyses.

Results

The incremental cost-effectiveness ratio (ICER) of germline *BRCA* testing compared to no testing was AU$265,942/quality-adjusted life year (QALY) in mPCa, AU$591,408/QALY in high/very high-risk localised PCa, AU$3.9 million/QALY in localised PCa patients with a family history of PCa and AU$650,098/QALY in localised PCa patients with Ashkenazi-Jewish ethnicity. Extension of testing to FDRs resulted in ICERs of AU$16,392/QALY in mPCa, AU$18,872/QALY in high/very high-risk PCa, AU$47,294/QALY with a family history of PCa and AU$14,637/QALY in Ashkenazi-Jews. Probability of cost-effectiveness at a willingness-to-pay of AU$75,000/QALY was 0% in the patient-level analyses and 100% in most cascade testing evaluations.

Implications

Germline *BRCA* testing may not be cost-effective in patients with an established diagnosis of PCa but demonstrates significant value for money when extended to blood related family members of test positive patients.

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How clinicians understand and measure value in Allied Health Primary Contact models of care: Informing a cost calculator

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Introduction/Background

Allied Health Primary Contact Clinic (AHPCC) models of care have shown great potential to improve the timeliness and efficiency of specialist outpatient care. However, measures of value vary across studies, and there is increasing focus on comprehensively evaluating the outcomes of AHPCCs, including cost-effectiveness. This study aimed to elucidate how AHPCC lead clinicians understand and measure the value of their clinics, in order to inform development of an AHPCC cost calculator.

Method

A convergent mixed methods approach was employed, in which the same individuals completed a pre-survey, followed by a qualitative descriptive interview. Participants were AH lead clinicians currently employed in AHPCC clinics in Metro South Health in Queensland.

Results/Findings

Twenty-three clinicians from six different AH professions participated, representing 22 clinics across four hospitals. Clinicians perceived five main domains of value: Patient satisfaction; Clinical outcomes; Care pathway and resource use; Health service performance; and Staff satisfaction and professional standing. Evaluation practices were variable across AHPCCs, though very few collected quality-of-life or economic data. Participants felt that evaluation of AHPCCs was a complex, yet highly important undertaking. They felt that evaluation was often not properly enabled, and identified a number of important supports, such as protected time, funding, administrative support, leadership support, access to mentorship and development of structures which enable collaborative evaluation at a state-wide (or broader) level.

Implications/Key Message

AH clinicians felt that AHPCC clinics had broad value to a range of stakeholders, and outlined both positive and negative domains of impact that could be measured as part of a robust economic evaluation framework. This study was the first phase of a study which aims to develop and pilot a simple cost calculator to assist health service management in evaluating and optimising performance of AHPCCs. Comprehensive evaluation of cost-effectiveness requires more routine collection of quality-of-life and economic data.

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Session 7E: Primary Care

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It’s complicated: Managing medical uncertainty in the time before diagnosis of a rare disease; a qualitative study

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Background

People with a rare disease commonly experience long delays from the onset of symptoms to diagnosis. Rare diseases are challenging to diagnose because they are clinically heterogeneous, and many present with non-specific symptoms common to many diseases. We aimed to explore the experiences of people with myositis, primary immunodeficiency, and sarcoidosis from symptom onset to diagnosis to identify factors that might impact receipt of a timely diagnosis.

Methods

We conducted a qualitative study using semi-structured interviews. Our approach was informed by Interpretive Phenomenological Analysis. Drawing on uncertainty management theory we examined how patients experience, assess, manage and cope with puzzling and complex health related issues during their search for a diagnosis in the cases of rare diseases.

Results

We conducted interviews with 26 people with a rare disease. Ten participants had been diagnosed with a form of myositis, 8 with a primary immunodeficiency, and 8 with sarcoidosis. Time to diagnosis ranged from 6 months to 12 years (myositis), immediate to over 20 years (primary immunodeficiency), and 6 months to 15 years (sarcoidosis). We identified four themes that described the experiences of participants with a rare disease as they sought a diagnosis for their condition: (1) normalising and/or misattributing symptoms; (2) clinician particularising; (3) asserting patients’ self-knowledge; and (4) working together through the diagnosable moment.

Implications/Key message

Managing medical uncertainty in the time before diagnosis of a rare disease can be complicated by patients discounting their own symptoms and/or clinicians discounting the scale and impact of those symptoms. Persistence on the part of both clinician and patient is necessary to reach a diagnosis of a rare disease. Strategies such as recognising pattern failure and accommodating self-labelling are key to diagnosis.

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Continuity of Primary Care in People With and Without Intellectual Disability and Subsequent Hospitalisations

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Introduction/Background
Continuity of care (CoC) is critical in improving human health, especially for people with intellectual disability, a population that experiences poorer mental and physical health than the general population and experiences barriers to accessing adequate health care. However, empirical evidence is lacking for CoC and its impact on health outcomes in this sub-population. This study examines continuity of primary care in people with and without intellectual disability and its association with subsequent hospitalisation.

Method
We used a custom-built population-based linked health and service data asset in New South Wales, Australia. We extracted primary and acute care data (2017-2018) for children and adults with intellectual disability (n=100,089) and a comparator group without intellectual disability (n=455,677) matched on age, sex and residential area.

Results/Findings
People with intellectual disability had more general practitioner (GP) visits in a year (median: 5 vs 3 visits), and similar regularity of care indices, than people without intellectual disability. For those with ≥3 GP visits over a year, the proportion having a high Usual Provider of Care (UPC) index was higher in people with intellectual disability than people without (36% vs 27%). People with intellectual disability had higher rates of hospitalisation and longer lengths of stay in hospital in the subsequent year than people without intellectual disability. The risk of hospital use decreased as the UPC index increased in people with intellectual disability.

Implications/Key Message
Our findings provide insights into the accessibility of continuity of primary care by people with intellectual disability, and indicate lower rates of hospitalisation with increasing continuity of care for those with higher primary health care needs. Integrated cross-jurisdictional data assets can be used to generate benchmarks and evaluate primary care for people with intellectual disability.

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A discrete choice experiment to elicit preferences for chronic disease screening programs in Australia

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Introduction/Background

Chronic disease screening programs are crucial for early disease detection and management, however uptake may be limited when programs do not consider the needs and preferences of current and future users. Discrete choice experiments (DCEs) have been used to elicit preferences for alternative healthcare services, and are effective for demonstrating the priorities and preferences of those who will access these programs.

Method

Focus groups were held with consumers and healthcare providers, and fifteen program attributes generated from these focus group were prioritised in order of importance via an online survey, with five of these deemed 'most important'. The outcomes of the prioritisation exercise were then reviewed and refined by an expert panel to ensure clinically meaningful levels and relevance. This informed the contents of the final DCE survey. The DCE survey was administered online to a representative sample of the Australian population aged >18 years between March 2022 and April 2022. Data were analysed using a panel mixed multinomial logit model.

Results/Findings

The online survey was completed by 305 respondents. A strong preference for highly accurate screening tests and nurse-led screenings at local health clinics was evident. Participants expressed disutility for waiting time and out-of-pocket costs but were indifferent about the source of information. Respondents were willing to pay $32 to reduce a week of waiting time, and $205 for a 95% accurate test compared to a 75% accurate test.

Implications/Key Message

Our findings highlight the importance of diagnostic test accuracy and nurse-led service delivery in chronic disease screening programs. These insights could guide the development of patient-centric services by prioritising test accuracy, addressing waiting times, and promoting nurse-led care models. This study also highlighted broader social issues such as the stigma around some chronic diseases that require careful consideration by policy makers when designing or implementing screening programs for chronic conditions.

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Older incarcerated adults’ access to prison health services: findings from a qualitative study in New South Wales prisons, Australia.

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Introduction/Background

Older incarcerated adults have higher rates of chronic illness and an increased level of physical and mental health conditions compared to older adults in the community. Thus, understanding their access and barriers to prison health service are important first steps to identify the cohort’s unique needs and to achieve equivalence of care.

Method

We conducted interviews with 10 correctional officers, 13 prison health staff, and 14 older incarcerated adults in 3 prisons in NSW, Australia. We used thematic analysis underpinned by interpretivist theoretical perspective to analyse the data.

Results/Findings

Three themes emerged from analysis of the data: i) Medical screening – ‘ticking the boxes’, ii) Medical referral as a pain point and iii) Barriers to accessing prison health service. Reception medical screening was reported as cursory and routine health screening as ‘opportunistic’, lacking detail or a targeted, systematic approach. Medical referral was ‘humiliating’ for older incarcerated adults, bureaucratic for prison health staff and costly for Corrective Services. Bureaucratic processes, long waiting times, and fear of retribution were some of the barriers for older incarcerated adults to access prison health service.

Implications/Key Message

The multistakeholder perspectives from this study revealed several limitations to older incarcerated adults’ access to prison health service. It is important that older incarcerated adults’ access to and satisfaction with health service and barriers they face are closely monitored and evaluated to address their unique needs and achieve equivalence of care.

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Exploring the feasibility and acceptability of involving the Bilingual Community Navigator in the general practice setting of Sydney, Australia

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Introduction

Patients from culturally and linguistically diverse (CALD) backgrounds often face difficulties in accessing health and social care services in Australia. This research explored the feasibility and acceptability of involving bilingual community navigators (BCNs) in helping patients from CALD backgrounds to better access health and social care services in general practice setting of Sydney, Australia.

Methods

Informed by the prior phases of the research, i.e., needs assessment and codesign exercise, a total of 12 community health Workers (CHWs) were recruited and trained as BCNs. Three of them were placed for 10 weeks in two general practices in Sydney where most patients were from specific CALD backgrounds (Chinese in one and Samoan in other). A mixed method design including quantitative analysis of a record of services provided by BCNs and post-intervention qualitative interviews with 16 participants including patients, practice staff and BCNs explored the feasibility and acceptability of the intervention.

Results

BCNs served 95 patients, providing help with referral (52.6%), information about appointments (46.3%), local resources (12.6%) or available social benefits (23.2%) with a critical role overcoming their language barrier. Overall, BCNs fitted in well within the practice and patients accepted them well. Felt need of the service, recruitment of BCNs from the patient community, motivation, and training of BCNs acted as facilitators for their roles. Most notable barriers included lack of awareness of BCNs' roles among some patients and practice staff, unavailability of information about local culture specific services, and inadequate consultation time of BCNs. Limited funding support and short project timeframe were major limitations.

Implications/Key Message

While the intervention was found feasible and acceptable, sustainable funding is required to continue the intervention. Future research is needed to scale up this intervention to other culture groups and assess its cost-effectiveness.

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Practice patterns of primary care physicians working in 'boutique' medical clinics in Ontario, Canada

Dr Michael Green[1,2], Mr Eliot Frymire[1,2], Dr Erind Dvorani[2], Dr Paul Nguyen[1,2], Dr Danielle Martin[5], Dr Emma Mcilveen-Brown[4], Dr Rick Glazier[2,5]
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Introduction/Background

In Ontario, Canada, multiple organizations operate under a 'boutique' medicine model where patients pay an annual fee to access primary care services. Little is known about the characteristics of physicians and patients participating in boutique 'private practice' clinic practice models. This study offers insight into the practice patterns of boutique clinic primary care physicians, as well as the estimated public costs of this business model in Ontario.

Method

This retrospective population-based cohort study included patients seen by physicians in boutique clinics, and all of Ontario in 2016 and 2023. Three boutique clinics in Ontario were identified using publicly available information. Provincial administrative claims data was obtained from the Ontario Health Insurance Plan (OHIP). All fee-for-service physicians who billed at least 1 OHIP claim from January 1, 2016 to December 31, 2016 and from January 1, 2023 to December 31, 2023 under their clinic group codes were included.

Results/Findings

Significant differences were seen in patient demographics, fees, and referral patterns amongst boutique clinic practices compared to Ontario physicians. Patients in boutique clinics were more likely to be under 65 years old, from the highest income quintile and have fewer comorbidities. Boutique clinics were more likely to see patients for musculoskeletal, dermatologic, and infectious disease illnesses. Physicians in general practice were more likely to see patients for mental health, chronic disease, and preventive care. There was a higher rate of referrals to dermatology, surgery, and family practice from boutique clinics. Rates of referrals for diagnostic investigations were higher than baseline referrals rates amongst Ontario physicians. Results from the 2023 data update will be available for the presentation.

Implications/Key Message

The results of this study demonstrate that boutique clinics serve a wealthy subset of the Canadian population and impose high costs through out-of-pocket expenses and payments from the public healthcare system.

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Primary care access and attachment in Canada: Ontario’s centralized waitlists and the patients who use them

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Introduction/Background

Approximately 15% of Ontarians (2.39 million) do not have a regular primary care provider (PCP) and are considered “unattached”. One solution is centralized waitlist via Health Care Connect (HCC) program in Ontario which is intended to roster unattached patients to a PCP. This study investigates characteristics of unattached patients who have enrolled themselves on HCC in search of a PCP.

Methods

This is a retrospective cohort study of unattached patients who are on the HCC database from 2009 to 2021. The database has a total of 1,059,172 patients along with information on their age, sex, date of registration, and current status (referred, terminated). After linking with administrative databases, additional variables such as income quintile, rurality, comorbidity, and marginalization index were included to examine patients’ socio-economic and demographic characteristics.

Results/Findings

*P*reliminary analysis shows that the mean age of these patients is 40.2 (±21.2) at registration, 54.0% are female and 86.8% are from urban/semi-urban areas. Of them, 24.8% came from the highest income quintile whereas 16.1% came from the lowest quintile. On average 44.3% patients were referred to a PCP with highest (60.4%) being in 2014 and lowest (27.8%) in 2019. Overall, 61.1% were taken off the list because majority (>80%) were either referred or they found physicians. We also examined their attachment rates by linking with our attachment cohort and compared them with their provincial counterparts who were unattached and not on the HCC database. We followed them up until 2022 and found HCC patients had much higher rates of attachment than their provincial counterparts.

Implications/Key Message

The HCC is a provincial program that assists individuals without a regular PCP in finding one within the community. Our results suggest that HCC patients have higher rate of attachment than those who are not on the HCC database.

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A parallel randomised trial testing community-based non-invasive fibrosis assessment for suspected non-alcoholic fatty liver disease: Outcomes and evaluation of the LOCATE-NAFLD trial

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Introduction/Background: Metabolic dysfunction-associated steatotic liver disease (MASLD) – previously 'non-alcoholic fatty liver disease' (NAFLD) – is estimated to affect a third of Australian adults. Transient elastography (TE) is a non-invasive diagnostic technology that can determine the severity of liver disease, however this technology is currently only provided in hospital-based liver clinics. This results in long wait times, increasing the risk of complications for those with undiagnosed advanced liver disease.

Method: The MRFF-funded LOCal Assessment and Triage Evaluation of NAFLD (LOCATE-NAFLD) study was a 1:1 parallel randomised trial testing a community-based FibroScan (TE) model. Eligible participants had suspected MASLD/NAFLD and were referred to one of three hospitals in Queensland. Participants randomised to the intervention received a FibroScan outside of the hospital setting, with results provided to their general practitioner (GP) and hepatologist. Those in the usual care arm remained on the waiting list for their hospital-based appointment. Health outcomes were measured after 12 months. The model was evaluated using trial data and semi-structured interviews that explored GP and patient perspectives.

Results/Findings: Ninety-seven participants were recruited, with 49 randomised to the intervention. The intervention demonstrated a decrease in the time to high-risk diagnosis (median 10 days in the intervention arm compared to 296 days in usual care), and a median reduction of one year in the time to receive a FibroScan. Other clinical outcomes showed minimal change. The LOCATE model was considered highly acceptable by both patients and GPs. A notable reduction in anxiety and stress was experienced by the intervention group due to decreased waiting times.

Implications/Key Message: The LOCATE model shows potential for health service and individual patient impact, particularly in reducing waiting times to see a specialist for patients at high risk of developing severe liver disease. This trial provides evidence to support the implementation and evaluation of this model on a larger scale.

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Trends in the use of sodium-glucose cotransporter 2 inhibitors following hospitalisation with heart failure, New South Wales, Australia

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Introduction/Background

Sodium-glucose cotransporter 2 inhibitors (SGLT2i) significantly reduce risks of re-hospitalisations and deaths in people with heart failure (HF). While initially used for treatment of type 2 diabetes (T2D), accumulating evidence of cardiovascular benefits resulted in expansion of their indication for use in HF patients in 2022. Little is known about the use of SGLT2i in Australian routine clinical practice among people with HF.

Method

Using linked administrative data, we identified adults hospitalised with HF in New South Wales during 2014-2021. We estimated the quarterly prevalence of SGLT2i use during the study period defined as having ≥1 SGLT2i dispensing in the 90 days following discharge. We assessed sociodemographic and clinical characteristics of people with a post-discharge dispensing of SGLT2i in 2020-2021.

Results/Findings

We identified 57,496 people hospitalised with HF during 2014-2021 (median age 80.0 years, 51.6% male, 34.8% with T2D). We observed a ~8-fold increase in prevalence of SGLT2i use over this period, reaching 7.8% by end of 2021. This increase was primarily driven by increased use in people with T2D, with a 16-fold increase, up to 16.5% by end of 2021. There was almost no use among people without T2D from 2014-2020, but this increased to 1.8% by end of 2021. 1,057 (5.7%) people were prescribed SGLT2i in 2020-2021, with key characteristics as follows: median age 72.0 years, 67.2% male, high comorbidities prevalence

(94.0% T2D, 46.8% chronic kidney disease, 36.5% obesity), 66.9% SGLT2i prevalent users, and 65.2% used ≥10 medicines.

Implications/Key Message

SGLT2i use has been increasing among people hospitalised with HF, primarily in people with T2D. However, this use remains relatively low, with only one in six people hospitalised with HF with T2D in 2021 filling a prescription. Continued monitoring is required with the expanding indication for HF, to ensure clinical benefits are realised within this high-risk population.

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Evaluating antipsychotic administration in delirium over seven years at a metropolitan health network

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Introduction/Background

Delirium is a common hospital-acquired complication. Indicator seven of the Delirium Clinical Care Standard requires monitoring of antipsychotic usage as they have significant adverse effects and may aggravate delirium. The aim of this study was to obtain high-quality data on antipsychotic usage in hospitals to support the development of appropriate targets for this indicator.

Method

This retrospective study included all patients discharged from four metropolitan hospitals from Jan-2017 to Dec-2023 with a delirium diagnosis. Inpatient antipsychotic administration rates were determined using electronic medication records. Locations that did not use electronic medication management, ambulatory and mental health services were excluded.

Results/Findings

A total of 22,397 admissions met inclusion criteria of which 7,338 (33%) were administered one or more antipsychotics (87,222 doses). Males had higher administration rates than females (35% vs 30%). Administration rates differed between specialties, ranging from 9.9% (emergency medicine) to 42% (specialty medicine). Extended length of stay was associated with higher administration rates (>15 days:39%, <5 days:26%). Patients aged >65 years had lower administration rates than patients aged <65 years (32% vs 45%).

There was a decrease in the proportion of patients administered antipsychotics between 2017 and 2023 (39% vs 29%). There was minimal change in antipsychotic administration rates during the COVID-19 pandemic (2019:33% 2020:33%, 2021:32% 2022:29%). Between 2017 and 2021, antipsychotic administration rate decreased in geriatric medicine (27% to 12%).

The most common antipsychotics were olanzapine, haloperidol and quetiapine (17%, 11% and 11% respectively). In patients who received antipsychotics, 21% received a single dose only.

Implications/Key Message

This study provided valuable longitudinal data describing antipsychotic administration rates and has supported the development of improvement targets for our organisation. Improvement targets should be adjusted to local characteristics, such as the clinical specialty and patient demographics.

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Statin intensity and survival after stroke in people with and without dementia

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Introduction/Background

High intensity statins are recommended for secondary prevention after ischaemic stroke (IS) for all people with a reasonable life expectancy. People living with dementia may not receive preventive treatments after IS because dementia is associated with reduced long-term survival. It is unclear if people living with dementia benefit from high intensity statins.

Method

Matched cohorts of people ≥65 years of age living with and without dementia (1:4), who were discharged from Victorian hospitals after IS between 1st July, 2012 and 30th April, 2018 and survived ≥60 days without readmission were extracted from the Victorian Admitted Episodes Dataset. Statin intensity was determined by the first prescription dispensed in the 60 days post-discharge. The cohorts were followed from day 61 post-discharge until death or the last day of data capture, June 30th, 2018. Statin use was extracted from Pharmaceutical Benefits Scheme data and death data was extracted from the National Death Index via data linkage. Hazard ratios (HR) and 95% confidence intervals (95%CI) for the effect of high intensity statin use versus no statin use on all-cause death were estimated using Cox proportional hazards regression. Cohorts were analysed separately.

Results/Findings

The cohorts (dementia N=1584; without dementia N=6367) were 53% female and 47% were aged ≥85 years. Median follow-up was 597 days (range 1-1764). High intensity statins were used by 40% and 59% of people living with and without dementia, respectively. Compared to no statin, high intensity statin use was associated with almost 40% reduced risk of all-cause death in people living with and without dementia (HR 0.61 [95%CI 0.50-0.73] versus HR 0.62 [95%CI 0.55-0.71], respectively).

Implications/Key Message

People with and without dementia gain similar benefit from secondary prevention with a high intensity statin. Living with dementia should not be a barrier to receiving preventive treatments after IS.

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Equity and access to diabetes eye care in Te Toka Tumai Auckland 2008-2019: analysis of routinely collected health-facility data

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Introduction

Diabetic retinopathy is a leading cause of preventable blindness and vision impairment in the working-age population. Sight-threatening retinopathy often develops without symptoms, so regular retinal screening and ophthalmology review are necessary for early detection and timely treatment. This study aims to summarise loss to follow-up through the diabetes eye care pathway and identify disparities across population sub-groups.

Methods

A retrospective cohort study of people engaged with diabetes retinal screening in Auckland between 1 January 2008 and 31 December 2019. The cohort was established from the Diabetes Retina Screening Program dataset of Te Toka Tumai Auckland, New Zealand, the National Non-Admitted Patient Collection dataset and the Mortality Collections dataset.

We estimated proportion of the eligible population *'lost to follow-up'* at three potential disconnection points through the diabetes eye care pathway: Stage 1) from retinal screening, Stage 2) when referred from screening to ophthalmology, and Stage 3) from ophthalmology review. The disparities across population sub-groups were analysed by age, sex, ethnicity groups, and area-level deprivation quintiles using log-binomial regression.

Results/Findings

One in five individuals eligible for loss to follow-up analysis in stage 1 had no access to the recommended biennial retinal screening events during the median follow-up period of 7.4 years. Māori [RR=1.46, 95% CI 1.26-1.70] and Pacific Peoples [RR=1.45, 95% CI 1.28-1.65] are less likely to access retinal screening services than NZ Europeans. Among the individuals who had referrable retinopathy, 22.7% missed the referral appointment and 16.6% of those in ophthalmology attended the follow up review appointments.

Implications/Key message

Retinal screening or ophthalmology service is not accessible to at least a quarter of the patients who need it. These disconnections through the care pathway not only put these people at risk of developing vision-threatening retinopathy, but the efficiency and effectiveness of secondary care providers could also be compromised.

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A qualitative exploratory study of staff perspectives of patient non-attendance in an outpatient physiotherapy setting

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Introduction/Background

Patient non-attendance at scheduled healthcare appointments is an ongoing concern for health services, contributing to lengthened waiting lists and limited appointment accessibility for patients. Despite this, there is paucity in studies exploring healthcare professionals' experiences with managing non-attendance within their practice. Hence, this study aimed to: (1) explore physiotherapy staffs' perspectives on why patients miss scheduled appointments; (2) explore perceived barriers and facilitators associated with implementing strategies to curb non-attendance; and (3) describe non-attendance mitigation strategies suggested by staff to address the barriers and facilitators.

Method

A qualitative exploratory study using a focus group discussion and semi-structured interviews with a purposive sample of 22 physiotherapists and 5 administrative staff from three outpatient physiotherapy clinics was undertaken. Participants were provided with the option to take part in-person, via telephone, or videoconference. Data collection took place between June 2023 and January 2024, and data was analysed using a hybrid inductive/deductive framework analysis approach.

Results/Findings

The major inductively identified themes relating to why patients may miss appointments as described by staff were: perceptions of value; material deprivation; and service delivery and built environment. Barriers and facilitators associated with non-attendance mitigation strategies as well as suggested solutions were deductively mapped to the theoretical domains framework (TDF) to explore behavioural determinants that may influence successful implementation. The relevant domains included knowledge; reinforcement; goals; optimism; memory, attention and decision-making; environmental resources and context; and emotions.

Implications/Key Message

Participants acknowledged the complexities of addressing non-attendance and expressed an understanding for the range of circumstances that contribute to patient non-attendance. Greater awareness of the reasons for non-attendance may help providers determine appropriate strategies to implement within their practice.

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Towards the secondary use of clinical trial data

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Introduction/Background

Clinical research addresses important gaps in knowledge and is an integral and important part of healthcare delivery. Australia invests $1.5 billion in health research and development annually and could add $129 million annually, to GDP, if data from publicly funded clinical research was made accessible to the research community. 25-50% of clinical trials registered in ClinicalTrials.gov do not report nor publish their findings. The clinical trials environment in Australia is complex, uncoordinated, and fragmented with systemic failures in researchers' ability to share data from medical research.

The Australian Research Data Commons (ARDC) has instigated the Health Studies Australian National Data Asset (HeSANDA), a network of 9 infrastructure Nodes representing 72 health research organisations across Australia.

Method

The HeSANDA program, a national initiative of the ARDC is supported by the Australian Government through the National Collaborative Research Infrastructure Strategy. Its goal is to build national infrastructure to allow researchers to access and share data from health studies such as clinical trials.

A key achievement of HeSANDA is the Health Data Australia (HDA) platform, which launched in July 2023. HDA is a data discovery and request service that helps researchers find, access, and reuse data held across HeSANDA's network of partners.

Data governance and control over data remains with the individual custodian, but HeSANDA's partners adhere to a common set of agreed data management principles and standards for data publication and the management of data requests.

The HeSANDA QLD Node, one of the 9 nodes, launched in November 2023 and has embarked on a series of engagements to inform the clinical researchers about the HeSANDA program and assist them in preparing their metadata.

Results

HDA currently holds 179 records with 11 from Queensland.

Key Message

HeSANDA has been broadly supported by the community. The next phase will consolidate the activities.

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Long COVID Management in Primary Care

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Introduction:
There is limited evidence on optimal management of Long COVID in primary care settings. Many of those living with Long COVID in Aotearoa New Zealand report experiences of inadequate healthcare, including not feeling listened to or understood, dismissal of physical symptoms as psychosomatic, and the lack of adequate referral pathways. This study explores what an optimal Long COVID service in primary care encompasses through the perspectives of those with lived experience and their whānau.

Method: Five of the thirteen planned workshops have been conducted. At these workshops participants were given the opportunity to use crafting materials to visually represent their experiences, including what support they had or had not received. As a group, participants later talked about their artwork. Workshops were recorded, transcribed and analysed using thematic analysis.

Results:
Preliminary themes were broadly similar across workshops. Many participants had experienced a lack of empathy from general practitioners (GPs) yet reported that this is what is most needed. Some appreciated when GPs were honest about their uncertainties and lack of ability to offer definitive treatment. Participants recognised the widespread lack of understanding about the condition but urged GPs to approach it with curiosity rather than attributing symptoms to anxiety or menopause. There was a stated need for a dedicated case manager or coordinator to provide support and advocate for specialised care. The workshops and their analysis are ongoing. Final results will be presented at the conference.

Implications:
General practitioners in Aotearoa New Zealand continue to play a pivotal role in the management of Long COVID, with this study shedding light on areas needing improvement within primary care settings. Notably, empathy emerged as a recurring theme across all workshops. Further co-design approaches involving collaboration among researchers, policymakers, healthcare professionals and individuals with lived experience will allow us to design a service blueprint tailored for Long COVID care.

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Use and effectiveness of general practitioner management plans and team care arrangements for patients with Type 2 diabetes

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Introduction

General practitioner management plans (GPMPs) and team care arrangements (TCAs) are funding mechanisms that support multidisciplinary collaborative care for patients with chronic conditions. Coordinated by general practitioners (GPs), GPMPs/TCAs enable patients to receive Medicare-subsidised allied health care, with additional group services available for people with Type 2 diabetes (T2D). While GPMP/TCAs are widely used, there is little evidence on whether they improve the management of chronic conditions, including diabetes.

Method

A difference-in-differences analysis was used to compare visits of patients with T2D who received and those who did not receive any GPMP/TCA between 2020-2023 using a Victorian subset of Data for Decisions general practice-based research network data. Disease management was compared using HbA1c levels in the 12 months before and after receiving a GPMP/TCA. Trends over time in clinic visits and prescriptions were also analysed for intervention and control patients.

Results/Findings

3555 patients received a new GPMP/TCA, compared with 3230 patients (74,100 visits) who did not receive a GPMP/TCA in the same time period. The patients who received compared to those who didn’t receive a GPMP/TCA were similar in terms of sex (44% female vs 43% female) and mean age (63.7 vs 63.9 years). In the intervention group, mean HbA1c levels peaked at 7.7% in the 3 months before receiving a GPMP/TCA, saw improvement following, and returned to similar levels 12 months after. Mean HbA1c results for the control group were stable throughout. There was an increase in visits and prescriptions for T2D medications in both groups.

Implications/Key Message

People with T2D who received a GPMP/TCA were more likely to have a higher HbA1c level, suggesting that the services are being targeted to people who likely need more support to manage their diabetes. However, the improvement in management was not durable for the year following the service.

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Practice Changes in the Family Physician Workforce in Ontario, Canada: 1993-2022 7f

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Introduction/Background

Comprehensive primary care is the foundation of an effective healthcare system but has been on the decline as more family physicians pursue careers in focused practice. The objective is to explore changes in family medicine practice over the last 30 years.

Method

Using health administrative data, we developed an algorithm to identify physicians who specialize in primary care, and then, described their type of practice based on the physician billings and number of days worked in a typical year. We looked at data from April 1,1993 to March 31, 2022, in the province of Ontario, Canada.

Results/Findings

We identified an increase in primary care physicians from 11,103 in 1993/1994 to 17,411 in 2021/2022. The trend of part time primary care physicians (i.e., physicians who work <44 days or treat <5 patients per day in a typical year) follows a U-shaped distribution, starting at 20.5% in 1993/1994, dropping to a low of 15.0% in 2009/2010 and ending at 20.4% in 2021/2022.During this period, we identified an overall increase in number of patients from 10.7 million in 1993/1994 to 14.8 million in 2021/2022.. From 1993 to 2022, comprehensive primary care patient visits steadily increased from 4,318 to 5,070 in 2010/2011, then, decreased to 4,215 in 2021/2022. Average number of patient visits for focused practice physicians increased from 1,440 in 1993/1994 to 2,636 in 2021/2022.

Implications/Key Message

This study provides insight on the changing pattern of family medicine practice. Over the past 30 years, there has been a substantial increase in the proportion of primary care physicians pursuing focused practice with a corresponding decrease in the number of comprehensive primary care physicians per capita. This is a significant contributing factor contributing to our current crisis in access to primary care in Ontario specifically, and Canada as a whole.

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Implementing Good Life with OsteoArthritis from Denmark (GLA:D®) in a public outpatient setting in Tasmania

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Introduction/Background

Good Life with OsteoArthritis: Denmark (GLA:D®) is an evidence-based education and exercise program for people with hip or knee osteoarthritis, primarily offered through private physiotherapy clinics in Australia. Our previous research indicates many people struggle to access osteoarthritis programs like GLA:D® due to cost and geographic location, demonstrating a need for more public offerings. This study evaluated the implementation and delivery of GLA:D® in three Tasmanian Health Service (THS) public outpatient centres in Southern Tasmania.

Method

Feasibility was evaluated using the RE-AIM framework with a combination of quantitative outcome data (including KOOS) collected through the GLA:D® registry, program fidelity assessment, and qualitative interviews. We conducted semi-structured focus groups and one-on-one qualitative interviews with 1) all staff involved in the implementation and delivery of GLA:D®; and 2) patients who had participated in the program. Interviews were analysed using an inductive thematic approach.

Results/Findings

Four main themes were identified: 1) acceptability of GLA:D®; 2) patient experience and accessibility; 3) implementation considerations; and 4) sustainability within the THS. GLA:D® was acceptable as an evidence-based program that was easy to implement and deliver in the THS. In interviews, patients described enjoying participating in GLA:D®, with improvements to their KOOS function score (mean difference at 3 months +8.28 (95% CI 2.20 to 14.36) and average worst pain reduced by 10.24 (95% CI -18.60 to -1.89) on 100-point VAS. Some patients with co-morbidities or complex pain did not benefit. Implementation and sustainability considerations included: staffing, space to run GLA:D®, administrative load, and accessibility for patients (e.g. transport).

Implications/Key Message

Implementation of GLA:D® in public outpatient centers is feasible and acceptable to patients and providers. Patients reported improvements in pain, function, and quality of life. Considerations for long-term sustainability should be a priority when implementing GLA:D® in a public setting.

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HIV pre-exposure prophylaxis (PrEP) access in the modern age: a narrative review of PrEP telehealth models and their implementation considerations 7

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Background

The introduction and scale-up of oral HIV pre-exposure prophylaxis (PrEP), a highly effective biomedical HIV preventative, has significantly reduced global HIV transmissions. Differentiated and innovative PrEP healthcare models, such as telehealth services, can support those at higher risk of HIV by overcoming access barriers (e.g. geographical, stigma, cost) and streamlining appointments. We aimed to explore the availability of PrEP telehealth services and their implementation.

Method

A narrative review of innovative PrEP healthcare models was conducted iteratively using peer-reviewed articles, subject matter experts, and grey literature (including legislation, policies, and regulations). Telehealth model findings were extracted from this larger study.

Findings

Our review found that telehealth services were an effective method of PrEP service delivery, particularly for routine appointments with uncomplicated patient presentations. Private fee-for-service PrEP telehealth models connect general practitioners with patients nationwide, serving thousands annually; however, service quality and safety vary. Instances of incomplete HIV case reporting and poor linkage to local follow-up services indicate a need for quality control. Training and accreditation are essential to support safe and high-quality service delivery.

MyCheck, an NSW-based public sexual telehealth service, is highly acceptable to priority populations and has been evaluated as resource-efficient. Currently piloted in limited locations, allocating additional resources would expand MyCheck’s reach to higher-risk populations statewide.

Other PrEP telehealth service considerations include maintaining privacy (if patients are attending telehealth appointments in shared spaces, or are mailed prescriptions/medications), and mitigating stigma or geographical barriers when providing face-to-face service referrals (pathology sample collection, complicated presentations, and some STI treatments).

Key Message

Telehealth models expand PrEP and sexual healthcare access, reducing HIV risk. Appropriate funding for targeted public services, training and accreditation for private services, and reliable referral pathways are crucial to support the safe and effective scale-up, sustainability, and integration of PrEP telehealth services into the healthcare system.

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Community health navigators in bilingual general practice

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Introduction/Background

Community Health Navigators (CHNs) are increasingly being integrated into health systems to support disadvantaged patients to navigate health and social care services in the community. General practitioners (GPs) have a unique opportunity to provide culturally responsive and coordinated care among the culturally and linguistically diverse (CALD) population. However, people from CALD backgrounds with low English proficiency and low health literacy are especially vulnerable to navigation and access problems.

Method

This mixed methods study extended previous feasibility studies to evaluate the implementation of a model of training and attachment of Bilingual Community Navigators (BCNs) in a range of practices providing care for patients from CALD backgrounds in the first half of 2024. Records of the implementation in practices including BCN logbooks and qualitative interviews with CHNs, GP staff and patients were analysed thematically.

Results/Findings

5 BCNs were recruited and completed the training and placed in bilingual general practices. There were large variations in referrals to the CHNs in the practices. In some practices there were many referrals; in others there were too few referrals resulting in one CHN leaving (for other work) without completing the attachments and two CHNs needing to be relocated to other practices. Several factors contributed to the variation in referrals including the age, migration pathways, culture and needs of the patient population, the time availability of the CHN in the practice, and the understanding and acceptance of the role by all practice staff.

Implications/Key Message

CHNs have an important role in general practice especially for CALD patients. There is a need to spend more time briefing practices and planning the attachments in accordance with the unique organisational and patient population needs in each practice. This may require flexibility in the model of care including on call facility rather than placement in some practices.

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Comparison of 'Dental Caries Utility Index' and 'EQ-5D-5L' with the 'Oral Health Impact Profile-14': a cross-sectional study

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Introduction/Background

The Dental Caries Utility Index (DCUI) is a newly developed preference-based quality of life measure (PBM) for oral health, that can be used in economic evaluations. The main objective of this study is to compare utility values of DCUI and EQ-5D-5L, a generic PBM with the Oral Health Impact Profile-14 (OHIP-14) scores and self-rated oral health in an Australian cohort to evaluate which utility score corresponds better with the oral health indicators.

Method

An Australian online sample of 1,127 participants completed DCUI, EQ-5D-5L, and OHIP-14 along with widely used and validated global oral health questions. Analysis of the instruments' distribution, internal consistency, and inter-correlation was conducted, as well as the ability of the three instruments to discriminate along the different levels of self-rated oral health status.

Results/Findings

The sample skewed towards high quality of life and oral health-related quality of life (OHRQoL) as measured across all instruments. Stronger positive correlation between DCUI and OHIP-14 than between EQ-5D-5L and OHIP-14 was observed. The highest internal consistency as well as the ability to discriminate along different levels of self-rated OHRQoL was reported by OHIP-14, followed by DCUI and EQ-5D-5L. Subsample analysis including only participants that denoted the most favourable OHIP-14 score implied that DCUI aligned better with favourable OHIP-14 score than EQ-5D-5L did with favourable OHIP-14 score.

Implications/Key Message

The findings indicate that the DCUI has better agreement than the EQ-5D-5L with the OHIP-14 and self-rated OHRQoL among a healthy sample. The DCUI correlated with the OHIP-14 in a greater extent than the EQ-5D-5L, and the DCUI was better at discriminating between levels of self-rated oral health status severity compared with the EQ-5D-5L. Hence, these findings demonstrate the potential of DCUI as a useful CSPBM for OHRQoL. However, further validation with clinical data is suggested for confirming its reliability and validity.

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Hospital care experiences for people who mainly speak a language other than English7f

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Introduction/Background

Feedback from people who mainly speak a language other than English at home about their healthcare experiences provides valuable information about the performance of the healthcare system. The Bureau of Health Information (BHI) has conducted surveys that provide insights into healthcare experiences of linguistically diverse people in NSW public hospitals.

Method

Between 2017 and 2022, more than 22,000 linguistically diverse patients shared their healthcare experiences in NSW public hospitals through BHI's statewide stratified, random sample survey program of adult admitted and emergency department patients. Patients were identified by how they answered the question: "Which language do you mainly speak at home?". Logistic regression models were used to understand how their experiences changed over time, how they compared with patients who mainly speak English at home and key drivers of positive healthcare experiences.

Results/Findings

Linguistically diverse patients' overall ratings of hospital care improved over time, however, their experiences remained less positive than those of patients who speak English. While both groups provided similar ratings of the way health professionals explained things and whether they received the right amount of information, linguistically diverse patients were far more likely to say they received contradictory information. Using an interpreter substantially improved patients' understanding of the information they received from health professionals. Well organised care and health professionals who work well in a team were the strongest predictors of positive overall experiences, both for linguistically diverse patients and for those who mainly speak English.

Implications/Key Message

Surveys are useful for understanding differences and similarities in healthcare experiences of people who mainly speak a language other than English at home and those who mainly speak English. People from linguistically diverse backgrounds may face challenges when accessing and navigating the healthcare system. Understanding their healthcare experiences helps inform efforts to make healthcare services more accessible, inclusive and responsive to their needs.

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Trial-based cost-utility analysis of PROMISE: Patient Reported Outcome Measures in cancer care, a hybrid effectiveness-Implementation trial to optimise Symptom control and health service Experience.

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Routine collection of electronic patient-reported outcome measures (ePROMs) has the potential to inform and improve cancer care. Benefits include enhanced health-related quality of life, fewer unplanned hospital visits and significantly better survival. However, information about the cost-effectiveness of incorporating this information into practice is limited. PROMISE is a multi-centre, randomised hybrid effectiveness/implementation trial to evaluate the clinical and cost-effectiveness of using ePROMs in routine cancer care to improve patient outcomes. Participants are adults aged 18 years or older diagnosed with a solid cancer and starting treatment at Princess Alexandra Hospital, Royal Brisbane and Women's Hospital, Gold Coast University Hospital or Townsville University Hospital in Queensland, Australia. Recruitment closed at the end of June 2023. 600 patients were recruited to the trial (target =572) and 33% have withdrawn or died at the final 2-year time point. 362 participants were available for analysis. We are conducting a trial-based cost-utility analysis alongside the PROMISE trial with a 2-year duration. Healthcare resource use was captured for all participants from hospitalisation and MBS/PBS data sets. Using the area-under-the-curve method, utility scores measured by the EuroQol-5D every 6-months, will be multiplied by survival time to generate quality-adjusted life years (QALYs) and incremental cost per QALY ratios will be calculated. A resampling method using single imputation nested in bootstrapping will be used to assess uncertainty around the ratio values. Confidence intervals (95%) around ratios for the difference in mean costs and QALYs will be generated through the bootstrap percentile method using 1,000 bootstrap replications. This presentation will present the findings of these analyses (currently underway) and discuss their implications to Australian clinical practice.

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The influence of digital systems on person-centred nutrition care and interprofessional practice in hospitals

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Introduction:

Hospital nutrition and meal services are increasingly becoming digitalised. However, limited research explores how the digitalisation of these services may influence person-centred care and interprofessional practice. We aimed to explore how different digital nutrition and health systems influence person-centred care and interprofessional practice across two rehabilitation services.

Method:

Fifty-eight hours of ethnographic fieldwork were undertaken, involving 165 unique participants (patients, carers and diverse staff members). Overall, 125 participants were observed and 77 were interviewed. We used reflexive thematic analysis to analyse the data through the lens of complexity science. Our research was completed through an interpretivist paradigm.

Findings:

Four themes were generated: (1) the influence of local context on technology use in nutrition services; (2) how digitalisation impacts staff participation in nutrition/mealtime care; (3) opportunities to embrace technology to support nutrition service flexibility; and (4) the (in)visibility of digitally-enabled nutrition systems. Our findings revealed how digital systems can support the flexibility and visibility of nutrition and meal services for patients, support persons and nutrition professionals. However, opportunities remain to enhance the visibility/awareness of data captured in digital nutrition systems for other staff groups.

Implications:

The digitalisation of hospital nutrition services care promotes person-centred care and interprofessional practice by:

- Supporting the self-selection of meals and ordering at point-of-service to empower patient autonomy;
- Enhancing the ability of support staff to work to their full potential at mealtimes with safeguards of digital quality control; and
- Better involving patients in their care through enhanced sharing of their nutrition information/progress.

The unintended consequences of digitalisation, such as reduced flexibility and the invisibility of nutrition information to some staff groups, must be considered in implementation. Future research should focus on collaborating with end-users (patients, carers, and staff) to optimise the functionality and use of digital systems in hospital nutrition services.

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Risk appetite of hospital staff during discharge planning from subacute care: a multidisciplinary qualitative exploration

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Background

Increased global demand for hospital beds, exacerbated by the Covid-19 pandemic, has highlighted the importance of effective discharge planning processes. Yet, research to date has focused on the role of health professionals' subjective clinical reasoning on discharge decision-making. This study aimed to explore the impact of subacute care professionals' personal and organizational risk appetite on discharge decision-making.

Methods

A qualitative descriptive study was conducted. Interviews and focus groups with sub-acute clinicians (n=17), managers (n=12) and a hospital lawyer (n=1) were analyzed inductively and thematically, using Braun and Clarkes six-step thematic analysis method.

Results

Health professionals' risk appetite was a key driver of their risk assessment and management in the context of discharging patients from sub-acute care. Personal beliefs and experiences and perceived organizational attitudes, heavily influenced professionals' risk appetite. There were substantial variations between clinicians' and managers' views on risk responsibilities and the legal reality of risk ownership. Managers and clinicians perceived the medical team held overall responsibility for the discharge, yet from a legal perspective, the ownership of the risk actually belonged to the health service. Managers perceived that risk attitudes differed between healthcare settings, believing health professionals who work in subacute care are more risk averse than those who work in acute care. Differences in risk perceptions and attitudes had the potential to cause conflict between and within treating teams, patients and family members which may result in delayed discharges.

Key message

Risk assessment is a key driver of discharge decision-making. However, professionals' diverse risk appetites heavily influence discharge from subacute care. Health care organizations may benefit from addressing differences between professional groups' perceptions of risk in order to streamline discharge planning processes and shorten patient lengths of stay. A supportive environment that fosters learning and discussion regarding risk is essential.

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Determining discharge-readiness from subacute care from the perspectives of key stakeholders: A qualitative exploration7

Dr Kate Gledhill[1,6], Professor Natasha Lannin[2,3], Professor Tracey Bucknall[4,5], Professor Lisa Hanna[6,7]
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Background

Discharging patients from subacute care is complex and nuanced. Prolonged hospital admissions increase the patient's risk of an adverse event at a high societal cost. Alternatively, discharge too soon can lead to poorer functional and medical outcomes. Research on discharge-planning and discharge-readiness from hospital has been conducted predominantly in the acute and mental health care settings, neglecting the subacute setting. Additionally, studies to date have examined separately the perspectives of clinicians, patients or family members; none have combined the perspectives of these key stakeholders, or included legal and managerial perspectives. This research aimed to explore discharge-planning processes and discharge-readiness from subacute care from the perspectives of key stakeholders.

Methods

Stakeholder groups participated in semi-structured interviews or focus groups, dependent on participant preference and consisted of patients (n=16), family members (n=16), clinicians (n=17), health service managers (n=12) and one (1) lawyer. Once recorded interviews and focus groups were transcribed verbatim, inductive thematic analysis was conducted using Braun and Clarkes six-step thematic analysis method.

Results

This study exemplified the relationship between a patient's functional capacity and their social and physical environment. Organizational factors that enhanced discharge-planning were: effective inter- and intra-disciplinary teamwork; shared decision-making through collaborative communication between key stakeholders; and the provision of education to both patients (on the ongoing management of their medical status and function) and to clinicians (on the processes needed to establish true collaborative care).

Key Message

Recommendations to assist in streamlining discharge-planning processes from subacute care include ensuring adequate access to primary healthcare networks; strengthening relationships between subacute and ambulatory services; and ensuring sound supervision and role-modelling to increase clinicians' skills in effective communication, patient and family-centered goal setting. Increasing engagement with primary healthcare networks may improve health promotion strategies and reduce hospitalizations.

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Exploring the relationship between health literacy, antibiotic knowledge, attitudes and behaviours in young Australian adults

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Background
Reducing antibiotic consumption is crucial to combat antibiotic resistance, a significant public health threat. According to the WHO, at least 700,000 people die each year from drug-resistant diseases. By 2050, this number could rise to 10 million. Prudent antibiotic use preserves their effectiveness, ensuring they remain a viable treatment option for future generations. Reducing human consumption of antibiotics relies on well-informed consumers. Health literacy has been linked to better health outcomes. The extent to which health literacy influences knowledge, attitudes and behaviours towards antibiotics is explored in a sample of young Australian adults (18-35 years).

Method
Three surveys (All Aspects of Health Literacy Scale (AAHLS), Knowledge, Attitudes and Practices (KAP) towards the personal use of Antibiotics and Consumer Behavipour Survey (CBS)) were administered online to a sample of over 120 young Australian adults. Participants were recruited through an online recruitment system at the University of Technology Sydney and via social media. Recruitment is ongoing and final details will be available in August 2024. Linear and logistic multiple regression analysis will be used to determine the relationship between health literacy, knowledge and attitudes and a range of 10 undesirable antibiotic behaviours. Prevalence estimates for these 10 behaviors will also be obtained.

Findings

Health literacy is expected to predict better knowledge of antibiotics and antibiotic resistance as well as more positive attitudes and lower reported engagement in undesirable behaviours. Prevalence estimates are expected to be higher than in a more general population sample.

Implications

Improving health literacy is one mechanism for reducing the overconsumption and inappropriate use of antibiotics in young Australian adults. Using digital platforms would be a mechanism to explore for training in health literacy given their low cost, ubiquity and gamification options.

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HEALTH SERVICES RESEARCH ASSOCIATION AU.NZ

HSR 2024

POSTER PRESENTATIONS

HEALTH SERVICES RESEARCH IN THE DIGITAL AGE

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P1 - Omicron Surge Impact on Acute Kidney Injury in ICU Patients: A Study Using the ISARIC COVID-19 Database

Miss Danyang Dai[1], Associate Professor Sally Shrapnel[1], Associate Professor Pedro Franca Gois[1], Doctor Marina Wainstein[1], Doctor Moji Ghadimi[1], Doctor Nicholas Spyrison[1], Doctor Rolando Claure-Del Granado[2], Professor Jason Pole[1]

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Introduction/Background

Acute Kidney Injury (AKI) is common among COVID-19 patients and is associated with a higher risk of death. Compared to earlier variants, Omicron has reduced mortality. This investigation focuses on the relationship between AKI and the Omicron variant using the global International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) COVID-19 global dataset.

Method

This prospective observational study aims to characterise AKI in a cohort of 3,908 COVID-19 patients admitted to the intensive care unit (ICU) across six countries. Clinical characteristics were compared between Omicron and pre-Omicron patients. Multivariable logistic regression was used to analyse the relationship between Omicron variant and AKI. AKI was defined based on the change in serum creatinine levels, in accordance with the Kidney Disease Improving Global Outcome AKI guidelines, with the first occurrence within 7 days of admission being considered.

Results/Findings

The prevalence of AKI was not different between Omicron and previous variants (24.7% vs 22.9%, p-value = 0.321). However, patients admitted to an ICU during the Omicron wave were older and had more comorbidities than pre-Omicron patients. Controlling for confounders, ICU patients with the Omicron variant were almost 40% less likely to develop AKI compared to patients with previous variants. Survival analysis suggests that there is no statistical difference in the survival curves between Omicron and previous variants for AKI patients.

Implications/Key Message

After adjusting for demographic factors, comorbidities, laboratory findings, and treatments, patients hospitalised during the Omicron wave exhibited a reduced likelihood of developing AKI compared to previous eras. Nevertheless, the precise influence of the Omicron variant on kidney function remains a subject of ongoing discussion. Further studies are needed to better understand the relationship between this viral variant and its effect on kidney health.

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P2 - Delirium and Cognitive Impairment: Why it's challenging to provide care.

Mrs Margaret Cahill[1], Mrs Laura Beth White[2], Dr Alison Craswell[3], Dr Amanda Fox[4], Professor Alison Mudge[5]
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Introduction/Background

With an aging population, the proportion of adults with cognitive impairment (CI), including delirium, is increasing and recognition must be given to the unique care needs of this population. People with CI require additional support to complete basic activities of daily living (ADL) and preventative cares. This assistance is core work for nurses, in collaboration with multidisciplinary teams.

Method

A cross-sectional audit was conducted to determine the prevalence of delirium and cognitive impairment in adult inpatients and their care needs in a major health service, consisting of seven inpatient facilities for a population of approximately 900,000 people.

Results/Findings

Across 68 wards in 7 facilities, 1145 adults were screened, of whom 167 (14.5%) had delirium and 315 (27.5%) other CI, i.e. 482 (42%) had CI overall. Nursing specials were present for 30 (18%) participants with delirium, 14 (4.4%) with other CI and 1 (0.2%) without CI ($p<0.001$). Care plans were available for 1112 adults. Need for ADL support was significantly higher e.g. supervision or assistance with eating was required for 72 (44%) patients with delirium, 88 (28%) with CI and 81 (13%) without CI ($p<0.001$). Incontinence was more common (85 [52%] vs 90 [14%], $p<0.001$) and significantly more patients with delirium and CI had high falls risk, pressure injury risk and malnutrition risk.

Implications/Key Message

This study highlights the very real challenges nurses face providing high quality care for people with delirium and CI, to meet their fundamental care needs.

Word Limit: 299. Theme – Acute Care

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P3 - Examine the usage and benefits of mobile applications for sepsis-related healthcare: a scoping review of literature and a review of publicly available mobile applications

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Background: Sepsis is responsible for 20% of all global deaths annually and remains one of the deadliest conditions in the world despite recent advances in understanding and management. Adoption of mobile devices has led to the rapid development mobile health applications, including for sepsis-related healthcare. This study aimed to examine the current usage and benefits of these sepsis-related mobile applications.

Methods: We conducted two reviews to systematically summarise the current evidence and usage on mobile health applications for the purpose of sepsis-related healthcare: (i) a scoping review of published original research; and (ii) a review of mobile applications freely available for public use in the *Apple App Store* and *Google Play Store*. Screening and data collection were performed by two independent reviewers in each review.

Results: The scoping review identified 24 studies published from 2015 to 2024,with most published after 2020 (n=15, 63%). The studies included investigated mobile applications for three main purposes: (i) clincial assistance (n=16, 67%), (ii) biomarker or pathogen detection (n=5, 21%), and (iii) education (n=3, 13%). Almost all applications (n=23, 96%) were designed for use by health care professionals.

The application store review identified 16 applications for inclusion. Similarly, nearly all applications (n=15, 94%) targeted health care professionals as the main users, with only one (7%) application designed for both healthcare professionals and the general public. The primary purpose of the identified applications was most frequently clinical assistance (n=13, 82%), followed by education (n=3,19%. Ten (63%) out of 16 apps featured at least one clinical calculator to estimate the risk of being septic.

Implications: Our comprehensive reviews demonstrate the diverse range of innovative features provided by mobile applications to support clinical decision making and improve patient care. Sepsis can affect anyone and future applications aimed at increasing public awareness and knowledge of sepsis would be beneficial.

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P4 - Exploring the characteristics, outcomes and clinician perspectives of general medicine patients with complex allied health needs in the digital age – an observational cohort and cross-sectional survey

Ms Elena Gerstman[1,2,3], Dr Jennifer Jones[1,2,3], Ms Chris Michael[4], Professor Sue Berney[1,2], Professor Karin Thursky[2], Professor David Berlowitz[1,2,3]
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Introduction/Background

Health systems are increasingly challenged by ageing demographics, rising chronic disease and associated complexity. Patients who are "complex" experience poorer outcomes for inpatient care, yet there is no objective means to identify this group. To address complexity at our health service, patients deemed to have complex allied health needs are referred to a specialist transdisciplinary allied health pathway. We aimed to build an integrated clinical and digital picture of patients clinically identified as complex in general medicine by examining their characteristics and outcomes, and by developing a list of words that clinicians associate with allied health complexity. Results may inform digital strategies to identify complex patients at risk of poor outcomes.

Method

Two studies were performed in general medicine at a quaternary hospital in Melbourne, Australia: 1) a cross-sectional survey of clinicians; 2) a retrospective observational cohort study of all patients admitted over a 10-month period. We compared the demographics, clinical features and outcomes of a complex and non-complex cohort of patients using a routinely-collected dataset.

Results

In the general medicine cohort (n=3061), 328 (11%) were identified as complex by treating clinicians and referred for the complex pathway. The complex cohort were frail, significantly older, more comorbid and more likely to have cognitive impairment and multiple previous admissions than non-complex patients. Complex patients stayed longer in hospital and had increased mortality and re-admissions ($p<0.01$). Survey participants (n=80) including allied health (50%), medical (31%) and nursing (19%), generated a dictionary of 18/37 words that describe a complex patient in the progress notes, providing additional information for the digital picture.

Implications

Frailty, cognitive impairment, age and high hospital utilisation were associated with allied health complexity across both studies. Combining these clinical and demographic data with natural language processing of "complexity descriptors" may provide for early algorithmic prediction of patients likely to benefit from complex care pathways.

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P5 - Launch of a dedicated After-Hours Care Unit and the impact on junior doctors.

Dr Cat Lunter[1,2], Natalie McLean[3], Edward Berry[3], Cheryl Power[3], Dr Matthew Lumchee[4], Dr Georga Cooke[5], Dr Jack Lockett[1,2]

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Introduction/Background

An effective after-hours clinical model of care is vital for patient safety, workforce support and optimal hospital system efficiency. However, the after-hours environment is fraught with challenges across these domains. A combination of a reduced and fragmented workforce, decreased supervision and training, increased shift intensity and loss of team cohesion are all factors contributing to a risk of adverse outcomes.

In 2024 a dedicated After-hours Care Unit (AHCU) was established at our hospital to address the issues identified in a review of the previous model of care. The aims of the initiative are to improve the ability to deliver safe and timely after-hours care whilst offering a co-ordinated education and learning experience for the staff involved.

There is limited research evaluating the impact of dedicated after-hours teams on medical officer learning and well-being, which are vital for the provision of safe and effective care and improved staff physical and mental health.

Method

This qualitative study consists of two components. Firstly, a comparison of data collected prior to the implementation of AHCU relating to the ward-call shifts and night rotations, with anonymised comparative survey data collected from medical officers after completing their AHCU rotation.

The second component is thematic analysis of both anonymised end of term feedback collected by the Medical Education Unit, and semi-structured interviews of medical officers following completion of their AHCU rotation.

Results/Findings

Data is currently being collected from the junior doctors undertaking their After-Hours Care Unit terms in 2024.1 and 2024.2. This presentation will cover the development and implementation of AHCU and the evaluation of its impact on the junior doctor after-hours experience and well-being.

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P6 - Adverse Events and Associated Economic Burden of COVID-19 Vaccination in Queensland, Australia: a cross-sectional QoVAX-Statewide study

Dr Qing Xia[1], Associate Professor Kerry-Ann F O'Grady[1], Peter Vardon[2], Professor Janet Davies[2,3], Dr Hannah E Carter[1]

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Introduction/Background

This study aims to assess the economic burden on both healthcare system and societal productivity associated with the AEFIs following following up to four doses in Australia.

Method

A cross-sectional survey was conducted in the general population aged ≥18 years in Queensland, Australia, who had received a COVID-19 vaccine in the preceding 12 months. N=6,964 participants were recruited between 1 July and 30 September 2022. Primary outcomes included incidence and duration of local and systemic AEFIs; healthcare utilisation and expenditures; and the productivity losses and costs due to AEFIs. Healthcare expenditures were estimated using Australian national public healthcare reimbursement data, and productivity costs using Australian Bureau of Statistics Average Weekly Earnings.

Results/Findings

Of 6,797 eligible participants, 6,777 (99.7%) received at least one dose, 6,747 (99.3%) at least two doses, 6,268 (92.2%) at least three doses, and 3,084 (45.4%) at least four doses. Any AEFIs were reported by 53.4%, 44.1%, 40.7%, and 40.9% following Doses 1 to 4, respectively. Pain and tenderness were predominant local AEFIs, while tiredness and headaches were the most frequent systemic AEFIs, generally resolving within three days. A decline in AEFI rates was noted across successive doses. Relatively few participants consulted medical professionals: 7.0%, 7.3%, 5.1%, and 1.9% following each dose respectively. The mean healthcare cost per person reporting AEFIs was $24, $88, $22, and $4 following each respective dose. Work absenteeism was recorded in 16.5%, 18.2%, 15.2%, and 11.2% following each dose, with mean absenteeism days per person vaccinated of 4.7, 7.4, 3.6 and 2.1, respectively, and mean associated costs per person reporting AEFIs amounting to $1494, $2388, $1136, and $690, respectively.

Implications/Key Message

We observed a relatively high-volume but mostly mild self-reported AEFIs, with only a small proportion of individuals sought medical services. The productivity costs attributable to these AEFIs were substantially greater than the healthcare expenses incurred.

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P7 - Research, Innovation and Care of hospitalised children: developing paediatric nurse research capacity.

Sandra Charlton[1], Fiona Gotterson[1], Laurel Mimmo[1,2], Marilyn Cruickshank[1,3,4]
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Introduction/Background

Research capacity in healthcare is linked to safety and care quality, and health professional engagement; is key to evidence-based practice, incorporating practice-based evidence, and healthcare innovation. Research capacity refers to abilities, skills, and infrastructure (including access to relevant information and digital technologies), that enable individuals and organisations to undertake research and implement evidence.

Identified barriers to nurses' research capacity encompass individual, team and organisational factors, including research knowledge, confidence, resources, team, and organisational support. These barriers impact nurses' ability to engage in evidence-based practice and practice-based research. Paediatric nurses face additional challenges embedding research into practice, such as consideration of children's specific healthcare needs and the diverse clinical contexts where paediatric healthcare is delivered.

As part of a larger study to develop and implement a Paediatric Nursing Innovation and Research Network a systematic Rapid Literature Review (RLR) was undertaken in consultation with an expert health librarian, to explore advanced practice nurses' perceptions of their research capacity.

Method

The RLR was conducted following the PRISMA statement. MEDLINE and CINAHL were searched for publications relevant to the population of interest and research questions. Hand searching of reference lists of included studies was also conducted. Data was extracted by two nurse researchers; conflicts were resolved by a third researcher.

Results/Findings

Searches of key databases and targeted grey literature identified seven papers for data extraction. Findings will be presented, along with reflections of using a rapid review methodology for health services research.

Implications/Key Message

Fostering a culture that values and supports research capacity for advanced practice nurses, through the provision of resources, including digital technologies, and training to enhance research skills, promotes evidence-based practice.

Research capacity building and innovation for advancing paediatric nursing practice ultimately enhances healthcare provision and well-being of paediatric patients and their families and aligns with organisational core values and nurses' domains of practice.

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P8 - Mind the gap! Measuring the unmet clinical demand across allied health in general medicine – an audit of episodes of care and complexity post implementation of new model of care

Dr Aruska D'Souza[1], Ms Bridget Agius[1], Ms Adrianna Griffin[1], Ms Emily Brodie[1], Ms Bonnie Jenkins[1], Ms Orla McGrath[1], Ms Aisling Burke[1], Ms Alisha da Silva[1], Ms Hilda Griffin[1]
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Introduction/Background

General medicine inpatient caseloads are intensive and complex. In June 2023, The Royal Melbourne Hospital Allied Health service received a uplift in resourcing and introduced a new model of care to the general medical inpatient unit. This study measured changes pre and post implementation:

1) Unmet clinical demand as indicated by clinician identified need and related service encounters actioned and not actioned
2) Allied health service encounters ≥60 minutes as an indicator of patient complexity

Method

Allied Health (clinical and neuro psychologists, dietitians, occupational therapists, physiotherapists, podiatrists, social workers and speech pathologists) reported daily the number of encounters actioned and not actioned from 10-21st October 2022 (pre) and 9-20th October 2024 (post). All data were categorized using clinician-specific priority matrices which included targeted response times; with "Priority 1" being the highest clinical priority. Clinicians also recorded the number of service encounters of ≥60 minutes.

Results/Findings

Survey completion rates were high throughout (96.5% pre and 99.5% post). Prior to the new model of care, 713/1539 patient episodes were actioned (unmet need 826, 54%); and afterwards 1524/2204 (unmet need 680, 31%). Despite a 53% increase in "Priority 1" encounters, the unmet clinical demand for "Priority 1" encounters decreased from 33% (154/467) to 18% (108/715) after resource increases and new model of care was introduced. There were 252 (16%) encounters of ≥60minutes and 406 (18%) pre and post change respectively. At both timepoints, discharge planning was identified as the main reason for encounters requiring ≥60 minutes.

Implications/Key Message

Following the implementation of a new model of care and increased resourcing in allied health, more general medical inpatients were seen by allied health clinicians, especially for "Priority 1" patients. Patient complexity (as measure by encounters of ≥60 minutes) were similar prior to and after the change.

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P9 - Supporting knowledge translation within health services: an umbrella review of the use and impact of clinical pathways

Dr Rishita Chandra[1], Dr Maria Unwin[1], Associate Professor Viet Tran[1,2,3,4], Dr Simone Page[2], Associate Professor Amanda Neil[1]
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Background

Clinical pathways are structured, multidisciplinary tools designed to support the implementation of clinical guidelines and protocols, aiming to standardise best practices for specific conditions and improve patient outcomes. Numerous systematic reviews and meta-analyses have assessed their effectiveness, yielding inconsistent findings. An umbrella review of existing reviews can identify, appraise, and synthesise the collective evidence. Our umbrella review *(PROSPERO CRD42024529371)* will use Cochrane and JBI guidelines to assess the use and impact of clinical pathways on professional practice, patient outcomes, length of hospital stay, hospital costs, patient satisfaction, and hospital staff satisfaction.

Method

Following PRISMA guidelines, a systematic search was conducted in MEDLINE, Epistemonikos, and the Cochrane Library from inception to March 2024 to identify relevant systematic reviews and meta-analyses. Two reviewers are independently screening titles and abstracts for potentially eligible articles. Given variation in terminology and the complexity of the studies screened, a 4-member review team will together screen full texts to finalise articles for data extraction. Data extraction will include information about review methods, characteristics of the included studies, types of interventions, and reported outcomes. The extraction form will be piloted on a subset of articles to ensure all relevant information is recorded. The quality of included systematic reviews and meta-analyses will be evaluated using AMSTAR 2.

Results

Out of 2,444 articles identified, 2,392 remained after de-duplication. Following title and abstract screening, 107 of 1698 articles have so far been identified as potentially eligible. We will present a narrative synthesis of the findings, addressing clinical and methodological heterogeneity and the use and impact of clinical pathways.

Implications

This study will provide high level evidence on the use and impact of clinical pathways, highlighting best practices associated with clinical pathway to guide and improve patient outcomes in the provision of healthcare and will inform decision-making, policy and future research.

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P10 - Community care navigation intervention for people who are at-risk of unplanned hospital presentations

Ms REBECCA KWOK-YEE PANG[1,2,3], Dr Brendan Shannon[4], Dr Taya Collyer[1,2], Prof. Velandai Srikanth[1,2,5], A/Prof. Nadine E Andrew[1,2]

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Introduction/Background

Care navigation, a type of care co-ordination for managing people with chronic conditions, aims to improve patient care and outcomes. However, its effect on unplanned hospital presentations and patient reported outcome measures (PROMS) is not well understood.

Method

A Cochrane systematic review was conducted to assess the effects of community care navigation on hospital presentations and PROMS in those at-risk of unplanned hospital presentations. Two reviewers independently extracted and assessed the data from eligible randomized controlled trials (RCTs) and clustered-RCTs, with consensus reached through the third reviewer. We judged the certainty of evidence using the GRADE approach; meta-analysis and narrative synthesis were performed. Results were presented comparing care navigation to usual care.

Results/Findings

Our meta-analysis included 17 studies (19 publications) with 33,410 participants, comprising 16 RCTs, five of which used a Zelen's design or pragmatic non-blinded RCT. Follow-up durations ranged from one to 24 months, with most studies conducted in community settings and four linked to hospital programs. Findings indicated that care navigation for at-risk patients may reduce hospital admissions at 365-days (RR 0.87; 95% CI 0.77-0.97; I^2=43%; 3 studies, 795 participants, p=0.01, very low certainty evidence) and increase outpatient appointments at 30-days (RR 1.07; 95% CI 1.02-1.13, I^2=0%; 2 studies, 2178 participants, p=0.01, moderate-certainty evidence). There was little to no effect on hospital admissions and emergency department presentations at 30-days, with low certainty of evidence. Narrative synthesis was used to report PROMS in nine studies due to varied collection time points and measurement tools with varying results.

Implications/Key Message

This review identified diverse care navigation models supporting various patient cohorts. Care navigation may reduce hospital admissions at 365-days, possibly due to increased use of outpatient services. Further robust studies are required to enhance certainty of evidence in hospital presentations and measure the effects of PROMS.

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P11 - Modifiable risk factors for hospital readmission – patient and health professional perspectives

Ms Holly Wilson[1], Dr Liesje Donkin[2], Dr Jeff Harrison[1], Ms Kim Brackley[3], Dr Gigi Lim[4], Dr Amy Hai Yan Chan[1]

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Introduction/Background

In New Zealand (NZ), one out of every eight people will experience a readmission, yet a third of readmissions could potentially be prevented. Identifying modifable risk factors for preventable readmissions could help inform prevention strategies. Patients and healthcare professionals (HCP) who have experience or expertise in readmissions are well positioned to identify modifiable risk factors, yet few studies have explored their viewpoints. The aim of this study is to identify modifiable risk factors associated with preventable readmissions from the perspectives of patients and HCP.

Method

Patients aged 18 and over who had been readmitted to Auckland hospital were invited to participate in semi-structured interviews. HCP with experience looking after readmitted patients were invited to participate in semi-structured interviews or focus groups. Data in each group were analysed separately and then compared to each other using inductive thematic analysis to identify factors associated with readmissions.

Results/Findings

30 patients were included (53% female; 17% Māori; 20% Pacific; mean (SD) age 50(17) years). Six themes relating to modifiable risk factors for hospital readmissions were identified by patients: communication, misalignment between patient illness perceptions and treatment, unclear or missing information, poor health literacy, poor medication management and health system factors. In the HCP group, 38 HCP participated (45% Pharmacists; 34% Nurses; 18% Physicians; 3% Allied health). Five themes related to modifiable risk factors were identified by HCPs: miscommunication with patients, insufficient family support, poor medication management, patient understanding and beliefs, and under pressured and staffed systems. The comparison of patients and HCP identified factors is currently being completed.

Implications/Key Message

Both patients and HCPs identified key risk factors that could potentially be modifiable areas when considering hospital readmissions. These modifable risk factors for preventable readmissions hold implications for the design of future clinical care, health systems, and could guide future readmission prevention strategies.

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Poster Theme: Ageing

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P12 - Valuing the economic burden falls injury in residential aged care to the Australian health system: A within-trial analysis

Dr Charles Okafor[1], Dr Namal Balasooriya[1], Dr Amy Page[2], Prof Anne-Marie Hill[2], Prof Christopher Etherton-Beer[2], Prof Tracy Comans[1]

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Background

Falls injury, a major but preventable injury problem faced by older adults, is a critical public health concern in Australia. Understanding the economic implications of falls among older adults is crucial to allocating healthcare resources efficiently to reduce falls and improve quality of life. This study therefore aimed to estimate the cost of fall-related injuries within residential aged care (RAC) settings.

Methods

A cost analysis from the healthcare system perspective was conducted based on a double-blinded randomised-controlled trial – the Opti-Med trial. The trial participants were 303 people aged 65 years and older. Identification of in-scope data from the Opti-Med trial dataset was achieved using the falls description note and the National Hospital Cost Data Collection diagnostic related group classification system. Data analyses were performed using STATA V.17. All costs were adjusted to 2022 Australian Dollars.

Findings

On average, the cost of an injurious fall per incident was $2,494 (SD = $6,199), while the average cost of falls per resident annum was $1,798 (SD = $6,002). The potential cost of injurious falls per annum in Australia's RAC system was $325 million. There was an inverted U-shaped relationship between body mass index and falls risk in RAC.

Implications/Key Messages

Fall injuries in RAC have a substantial economic impact on the Australian health system, with the cost per resident annum representing 20% of the 2021 – 2022 healthcare expenditure per capita, which underscores the need for more effective RAC-tailored falls prevention strategies in this setting. Investing in effective falls prevention strategies at an amount less than the scaled-up cost of falls injury in Australia RAC system would be a worthwhile decision. The inverted U-shaped relationship between body mass index (BMI) and falls injury in RAC provides an insight for a RAC-tailored falls prevention strategy.

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P13 - Projecting future demand for residential aged care in Queensland

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Introduction/Background

In Queensland, the proportion of adults aged 65 and older is projected to increase from 16.6% in 2021/22 to 21.4% by 2041/42, reflecting an ageing population. This means demand for residential aged care will increase significantly over the next 10-20 years, even though the proportion of people accessing residential aged care has been stable. Simultaneously, the system is changing because of the Royal Commission and there is risk of private providers failing or refusing to operate in unprofitable markets. Without available aged care places, individuals lacking family or community support may end up burdening the state's healthcare system as long-stay hospital patients.

Aged care planning is currently disaggregated across state and federal governments, and the private sector, meaning there is currently no strategic planning view for aged care in Queensland. The objective of this study was to develop a statewide statistical model to estimate future demand for residential aged care places and compare these estimates to current service availability.

Method

Using the Australian Institute of Health and Welfare GEN Aged Care Dataset, trends in use of residential aged care over the past five years were analysed. Future demand was estimated using a population-based approach, accounting for demographic variation across regions.

Results/Findings

Findings indicate there will be a significant increase in residential aged care demand in Queensland, with 62,371 places required by 2031/32. The current supply of aged care places falls short of this, with only 44,119 places available across 511 facilities in 2023. The size of this difference varied at the regional level. Queensland Health currently contributes 1,420 places across 52 facilities; over 80% of which are in regional and remote areas.

Implications/Key Message

This research quantified the future residential aged care demand in Queensland and identified areas where current supply is not equipped to meet future demand.

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P14 - The interRAI assessment for elder abuse: we can do better? lessons from the elder abuse prevention fund project in New Zealand

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Introduction/Background

Globally one in 6 older adults in the community will be a victim of abuse (elder abuse; EA). Despite these horrific statistics EA remains largely undetected and under-reported. Available screening methods and tools fail to accurately identify the phenomenon's true prevalence. The aim of this study was to improve EA detection in NZ.

Method

We analysed a methodology to improve detection of EA using the interRAI-HC (International Resident Assessment Instrument - Home Care) which currently underestimates the extent of abuse. The interRAI is a suite of clinical assessment instruments. In Aotearoa New Zealand interRAI is mandatory in aged residential care and home and community services for older people living in the community. They are designed to show the assessor opportunities for improvement and any risks to the person's health.

Results/Findings

Analysis of 9 years of interRAI-HC data (July 2013 to June 2022) encompassing 186,713 individual assessments from an Aotearoa New Zealand cohort identified that through altering the criteria for suspicion of EA, capture rates of at-risk individuals could be more than doubled from 2.5% to 5.9%.

Implications/Key Message

We propose that via adapting the interRAI-HC criteria to include the "unable to determine" whether abuse occurred (UDA) category, identification of EA victims could be substantially improved, facilitating enhanced protection of this vulnerable population.

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P15 - The realities of digital connectivity for frontline aged-care workers.

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Background

Frontline aged-care workers are overworked and underpaid. Further there is substantial churn with the RACGP reporting that half of the aged-care workforce intend to leave the sector in the next three-year period and a majority of frontline workers being part time, agency or casual. While digital transformation offers opportunities to address growing pressures in this sector, the present environment presents significant challenges for effective implementation of digital technologies.

Method

Data collection involved individual and group interviews with all stakeholders in both community and residential aged-care settings in South-East Queensland. Data were analysed deductively, coding to the Consolidated Framework for Implementation Research, to determine barriers and explore possible facilitators of digital transformation at the service delivery interface. Inductive coding was also used as themes specific to the aged-care context emerged. Here, we report some specific feedback from end users, relevant to the implementation of technological solutions in the aged-care space.

Findings

Themes included the need for practical real-time data collection in hardware and software formats suitable for operational requirements in this highly regulated sector, and a strong need for interoperability across a multitude of presently disparate systems.

Key Message

When designing and planning digital systems for the aged-care sector there is a need for requirements analysis with a strong emphasis on the real-world exigencies experienced by the end user. We conclude with a call for a focus on on-going iterative codesign to ensure appropriate fit of digital solutions to the context in which they are implemented.

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P16 - An analysis of falls in 25 residential aged care (RAC) facilities before and during COVID-19 lockdowns (2019 to 2021)

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Introduction/Background

Timely analyses of electronic health record data could be used to guide evidence-based decisions during crises, such as the COVID-19 pandemic. We investigated falls experienced by residents before and during COVID-19 lockdowns in RAC in Sydney, Australia, using routinely collected data.

Method

A longitudinal cohort study using data from 25 RAC facilities, between March 2019 and March 2021, was conducted. The outcome measures were all falls, injurious falls, and falls requiring hospitalisation. Generalised estimating equations (GEE) were applied to determine the association between COVID-19 lockdown periods (Lockdown 1: March–June 2020; Lockdown 2: Dec–Jan 2020/21) and fall-related outcomes while adjusting for confounders and seasonality.

Results/Findings

Across the study 11,658 falls occurred among 2,996 long-term residents. Residents experienced a median of one fall during the study period (interquartile range: 0–4). During Lockdown 1 the rate of all falls increased by 32% (IRR 1.32, 95% CI 1.19–1.46, p <0.01) and injurious falls increased by 28% (IRR 1.28, 95% CI 1.12–1.46, p<0.01) compared to pre-pandemic rates. Despite the increase in falls and injurious falls, falls requiring hospitalisation remained unchanged during Lockdown 1 (IRR 1.07, 95% CI 0.86–1.32, p=0.519). During Lockdown 2 the rate of all falls, injurious falls, and falls assessed as requiring hospitalisation did not change significantly compared to pre-pandemic rates.

Implications/Key Message

While there is growing uptake of digital systems in RAC, investment is needed to ensure the data collected can be rapidly analysed and interpreted to inform practice. A timely analysis of routinely collected data during the COVID-19 pandemic could have guided falls prevention interventions, such as proactive deployment of allied health services, and hospital transfer policies to ensure that RAC residents were able to receive appropriate care following a fall.

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P17 - Adapting a Sensory Support Intervention for Older Adults with Sensory Impairment for the Australian Home Care Setting

Dr Melinda Toomey[1], Dr Helen Gurteen[1], Dr Dayna Cenin[2], A/Prof Melanie Ferguson[3], A/Prof Yuanyuan Gu[4], Prof Chyrisse Heine[5], Prof Lisa Keay[6], Dr Sheela Kumaran[6], Dr Sabrina Lenzen[7], A/Prof Iracema Leroi[8], Prof Judy Lowthian[9], Dr Carly Meyer[9], Dr Leander Mitchell[10], Dr John Newall[11], Prof Nancy Pachana[10], Dr Marianne Piano[12,13], Dr Smriti Raichand[4], Ms Emma Scanlan[14], Prof Hamid Sohrabi[15], Prof Piers Dawes[1]

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Introduction/Background

The Sense-Cog Sensory Support Intervention (SSI) is a home-based multi-session program developed to support the hearing and vision needs of older Europeans with dementia. As we adapted the SSI for older Australians with hearing and/or vision loss receiving home care services, we also considered digital solutions to improve accessibility.

Method

An iterative codesign process with 13 older adults (median age 85 years, range 71 – 94) with hearing/vision impairment, 3 informal caregivers, and 7 hearing, vision or home care professionals was completed. Interviews with older adults and informal caregivers were conducted in Phase 1 to understand the sensory support care needs. Workshops with professionals in Phase 2 assessed if the SSI met those needs and the modifications required. Results from Phases 1 and 2 were synthesised to inform adaptation of the SSI intervention.

Results/Findings

Needs identified included information to navigate hearing/vision services, supports for overcoming daily living challenges, and strategies to overcome communication, emotional and social challenges of living with sensory impairment. The SSI was deemed to broadly meet those needs with the following requested modifications: behaviour change strategies to promote uptake of the intervention, adapting the resources to local providers, expanding device training to cover accessibility features of smartphones and other non-hearing/vision aids and resources, and integrated referrals and information sharing between professionals. The adapted SSI uses a

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learning management system as an online curated repository for intervention materials to enhance accessibility.

Implications/Key message

The findings suggest that the Sense-Cog SSI is applicable to the Australian home care context, with some modifications necessary to meet the specific needs of older Australians with sensory impairment. The proposed modifications aim to address these needs effectively and are expected to enhance the intervention's effectiveness. The adapted SSI will be evaluated for its effectiveness and cost-effectiveness.

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P18 - Quality Under the Microscope: Examining the Impact of Medicaid Policies on U.S. Long-Term Home Care

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Background

The quality of home care services in the USA is under continuous scrutiny, particularly government-funded facilities. This study investigates the impact of Medicaid policies on the quality of long-term home care services, focusing on case-mix reimbursement, wage pass-through, and bed/resident tax policies.

Method

A quasi-experimental design was utilized, analyzing longitudinal facility-level data from 2000 to 2009. Quality indicators included hospitalization rates, the use of restraints on residents, Activities of Daily Living (ADL) scores, and the Cognitive Performance Scale.

Findings

Our findings indicate that Medicaid policies positively affect the quality of long-term home care services in the United States.

Key Message

These results highlight the critical role of policy-driven interventions in enhancing home care quality.

Keywords: Long-term home care, Medicaid policies, Quality indicators, Health policy

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P19 - THE TRAFFIC LIGHT SYSTEM: A NOVEL PREDCITIVE GERIATRIC PATIENT PRIORITISATION MACHINE LEARNING MODEL

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THE TRAFFIC LIGHT SYSTEM: A NOVEL PREDCITIVE GERIATRIC PATIENT PRIORITISATION MACHINE LEARNING MODEL

Abstract:

The global ageing population and the "Greying of the Nation" phenomenon have intensified the need for hospitals and healthcare systems to cater to the needs of adults aged 65 and older. Managing acute older individuals in hospital settings presents significant challenges due to comorbidity, chronic conditions, functional decline, and associated health complications. Accordingly, this research aims to address the gaps within existing literature by investigating the clinical and managerial aspects of the geriatric patient journey and developing a novel state-of-the-art predictive model to enhance care and optimise patient flow. The Traffic Light System (TLS) utilises a combination of various gradient boosting architectures and regression trees to prioritise and classify complex and non-complex geriatric patients into appropriate pathways. The TLS incorporates what-if scenario analysis to explore multiple patient journey possibilities. The results showcase the practicality of the TLS in improving patient prioritisation and placement, emphasizing the need for an intelligent model for geriatric patients.

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P20 - Factors impacting hospitalisation and related health service costs in cancer survivors in Australia: results from a population data linkage study in Queensland (COS-Q)

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Introduction/Background

The global economic cost of cancer and ongoing care costs for survivors are increasing. Little is known about factors affecting hospitalisations and related costs for the growing number of cancer survivors. Our aim was to identify contributing factors of cancer survivors admitted to hospital in the public system and their costs from a health services perspective.

Method

A population-based, retrospective, data linkage study was conducted in Queensland (COS-Q), Australia, including individuals diagnosed with a first primary cancer (1997-2015) and incurred healthcare costs between 2013-2016. Generalised linear models were fitted to explore associations between socio-demographic (age, sex, country of birth, marital status, occupation, geographic remoteness category, socio-economic index) and clinical factors (cancer type, year of / time since diagnosis, vital status, care type) with mean annual hospital costs and mean episode costs.

Results/Findings

Of the cohort (N=230,380) 48.5% (n=111,820) incurred hospitalisations in the public system (n=682,483 admissions). Hospital costs were highest for individuals who died during the costing period (cost ratio 'CR': 1.79, p<0.001) or living in very remote or remote location (CR: 1.71 and CR: 1.36, P<0.001) or aged 0-24 years (CR: 1.63, p<0.001). Episode costs were highest for individuals in rehabilitation or palliative care (CR: 2.94 and CR: 2.34, P<0.001), or very remote location (CR: 2.10, p<0.001). Higher contributors to overall hospital costs were 'diseases and disorders of the digestive system' (AU$661m, 21% of admissions) and 'neoplastic disorders' (AU$554m, 20% of admissions).

Implications/Key Message

We identified a range of factors contributing to hospitalisation and higher hospital costs for cancer survivors and our results clearly demonstrate very high public health costs of hospitalisation. There is a lack of obvious means to reduce these costs in the short or medium term which emphasises an increasing economic imperative to improving cancer prevention and investments in home- or community-based patient support services.

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P21 - Assessing the hospital volume-cost relationship in pancreatoduodenectomy (PD) for pancreatic cancer patients: a population-based longitudinal study

Assoc Prof Ling Li[1], Dr Nanda Aryal[1], Ms Khalia Ackermann[1], Prof Neil Merrett[2,3], Prof Arthur Richardson[4,5], Prof Johanna I Westbrook[1], Prof Vincent Lam[5,7]

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Background

Pancreatic cancer is a leading cause of cancer death worldwide. Pancreatoduodenectomy (PD) is one of the most common surgical procedures for pancreatic cancer patients. PD is a highly complex, invasive, and costly surgical procedure, associated with significant perioperative morbidity and mortality. The number of PD performed at different hospitals varies significantly. Limited evidence exists on the PD volume-cost relationship. This study aimed to assess the PD volume-cost relationship and to examine the variation of PD costs across different hospitals in NSW.

Method

This retrospective cohort study included adult patients who underwent a PD for pancreatic cancer between 2016 to 2019 at any NSW public hospitals. The primary outcome was the total hospital cost during PD admission. Study hospitals were grouped into low-volume hospitals (LVHs; <10 PDs per annum) or high-volume hospitals (HVHs). Multivariable modelling was applied to examine the association between volume and cost.

Results

The total PD volumes across 18 study hospitals varied from one to 80 over the four-year period, with two performing only one PD. Of all 443 resections, 71.6% (n=317) were performed at six HVHs and 28.4% (n=126) at 12 LVHs. The median number of PDs performed in four years at HVHs was 48 (interquartile range [IQR]: 43-80), which was higher than that at LVHs (median:16, IQR:9-20; P<0.001). The median total hospital cost per patient at HVHs was AU$55,398; significantly lower than that at LVHs (AU$62,859; p=0.001). After adjusting for available patient and clinical factors, the total cost per patient at LVHs was 22% higher than that of HVHs (adjusted estimate:1.22, 95% CI:1.08-1.37; p=0.002).

Implications

Performance of PDs at HVHs was associated with substantially lower hospital costs. Our findings demonstrate the likely economic benefit of centralising PDs in countries with a relatively low population density, like Australia. Future studies should investigate related patient financial burdens.

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P22 - Strategies to improve adherence to skin self-examination and other self-management practices in people at high risk of melanoma: a scoping review of randomised clinical trials

Dr Deonna Ackermann[1], Dr Jolyn Hersch[1], Professor Monika Janda[2], Dr Karen Bracken[3], Professor Robin Turner[4], Professor Katy Bell[1]
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Introduction

Adherence, both in research trials and in clinical practice, is crucial to the success of interventions. This scoping review aimed to describe (i) strategies to improve adherence to self-management practices in randomised clinical trials of people at high risk of melanoma and (ii) measurement and reporting of adherence data in these trials.

Method

We searched MEDLINE, EMBASE, CINAHL and CENTRAL and forward and backward citations. Two reviewers screened title and abstracts and full-text. Data was extracted on strategies used to improve adherence, and their evaluations.

Results

From 939 records screened, we identified 18 eligible trials using a range of adherence strategies but with sparse evidence on effectiveness of the strategies. Strategies were classified as: trial design (n=15); social and economic support (n=5); intervention design (n=18); intervention and condition support (n=10); and participant support (n=18). No strategies were reported for supporting underserved groups to adhere, and few trials targeted provider adherence (n=5). Behavioural support tools included reminders (n=8), priority setting guidance (n=5) and clinician feedback (n=5). Measurement of adherence was usually by participant report of skin self-examination practice, with some recent trials of digital interventions also directly measuring adherence to the intervention through website or application analytic data. Reporting of adherence data was limited and fewer than half of all reports mentioned adherence in their discussion.

Implications

Using an adaptation of the World Health Organization framework for clinical adherence, we identified key concepts as well as gaps in the way adherence is approached in design, conduct and reporting of trials for skin self-examination and other self-management practices in people at high risk of melanoma. Our findings may usefully guide future trials and clinical practice. Evaluation of adherence strategies may be possible using a Study Within A Trial (SWAT) within host trials.

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P23 - Locally adapted meta-analysis: generating relevant effect estimates for the economic evaluation of supportive care interventions for breast cancer patients

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Background

Healthcare spending at the local level represents the largest and fastest-growing share of total health expenditure in Australia. Economic evaluation has been reported to be underused for resource allocation at the local level, partly due to the perceived lack of relevance of economic evaluations to the local context. This study conducted structured stakeholder engagement to inform a meta-analysis to generate locally relevant effect estimates for mindfulness-based interventions (MBIs) for breast cancer.

Methods

A literature review identified seven studies published since 2007. A workshop was convened to present relevant information on the study population and intervention characteristics to three clinical experts, who discussed the relevance of each study to the local context and the expected impact of alternative intervention characteristics on the published effect estimates. The elicited responses informed inclusion criteria and pre-specified sub-groups for meta-analyses.

Results

Expert stakeholder engagement provided context-specific insights on factors expected to affect the relevance, feasibility and effectiveness of MBIs in the local context. These insights informed the definition of intervention groups based on an additional extended mindfulness session, encouragement of home practice and varying levels of instructor training and experience.

Conclusions

This study outlines a novel systematic method for contextualising published evidence to a local setting through structured stakeholder engagement. It explores strategies to address uncertainties around local effect estimates, including broadening review criteria for meta-regression, using expert elicitation to refine effect estimates, and threshold analyses to estimate the magnitude of incremental effects required to impact cost-effectiveness. These methods are being applied more broadly to evaluate interventions to support local health services to address socioeconomic and geographical disparities in the cancer care pathway.

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P24 - Consumer perspectives on data sharing in cancer research

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Background

Better use of health data is a national priority for advancing cancer treatment and survivorship. This study explored consumers' preferences for data sharing in cancer research and the principles underlying these preferences.

Method

During workshops with consumers to co-design a population-based cancer survivorship study, participants were given a series of hypothetical scenarios depicting various levels of data sharing. Participants were asked to nominate their preferred scenario and discuss the reasoning behind their choice. Descriptive statistics were used to summarise participants' preferences. Key principles underpinning these preferences were identified through content analysis of workshop transcripts.

Results/Findings

Forty-two consumers participated across 14 workshops (aged 23-79 years; 43% personal cancer diagnosis, 38% cancer caregiver; 26% rural; 21% born overseas; 7% Aboriginal and/or Torres Strait Islander). In addition to providing self-report data, most participants (86%) indicated they would be willing to grant researchers access to their current health records for a specific project. Many (62%) would be willing for this information to be de-identified and shared with other researchers for use in other projects if they were made aware of them. Less than half (44%) would be willing for their de-identified *future* health records to be shared with other researchers for other projects if made aware. Willingness to share data was dependent on four principles: i) the research will benefit others impacted by cancer, ii) researchers' credibility and intentions for data use are clear and transparent, iii) participants retain ownership and control over certain types of data, particularly health records, and iv) personal information is de-identified and stored securely.

Implications

Study findings suggest community support for improved data sharing in cancer research. To optimise consumer participation and data sharing in cancer research, researchers should consider community benefit, transparency, ownership and control, and privacy and confidentiality in the design and conduct of their studies.

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P25 - Development and testing of consensus quality indicators for cancer supportive care: a Delphi study

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Background

High quality supportive care is essential to achieve optimal health outcomes for people affected by cancer. Quality indicators provide comparative information for monitoring, management, and improvement of care within and across healthcare systems. The aim of this Australian study was to develop and test a minimum viable set of cancer supportive care quality indicators that would be feasible to implement and generate usable data for policy and practice.

Methods

A two-round, modified reactive Delphi process was employed to develop the proposed indicators. Participants with expertise in cancer control rated their level of agreement on a 7-point Likert scale against criteria assessing the importance, feasibility, and usability of proposed indicators. Relative response frequencies were assessed against pre-specified consensus criteria and a ranking exercise, which delivered the list of proposed indicators. Draft indicators were then presented to a purposive sample of clinical and health management staff via qualitative interviews at two acute care settings for feedback regarding feasibility. Online desktop audits of published health service policy were also conducted to confirm health service data availability and feasibility to report against proposed indicators.

Results

Sixteen quality indicators associated with the delivery of quality cancer supportive care met pre-specified criteria for inclusion. Indicators were mapped and ranked across five key categories: Screening, Referrals, Data Management, Communication and Training, and Culturally Safe and Accessible Care. Testing confirmed indicators were viewed as feasible by clinical and health management staff, and desktop audits could provide a fast and reasonably effective method to assess general adherence and performance.

Conclusions

The development of quality indicators specific to cancer supportive care provides a strong framework for measurement and monitoring, service improvement, and practice change with the potential to improve health outcomes for people affected by cancer. Evaluation of implementation feasibility of these expert consensus generated quality indicators is recommended.

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P26 - Digital Interventions to Prevent Type 2 Diabetes: A Systematic Review

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Introduction/Background

Digital health has transformed how health care is provided and experienced, leading to health system efficiencies and clinical benefits. In the past ten years, digital health interventions (DHIs) have been used for type 2 diabetes (T2DM) prevention. No study has systematically and comprehensively been undertaken to examine impacts of these DHIs on Quadruple Aim. Our aim was to systematically review the literature to examine the effectiveness of DHIs for T2DM on Quadruple Aim.

Method

The review was conducted and reported following PRISMA guidelines 2020 for the last 10 years. We searched four databases (PubMed, Embase, CINAHL and Web of Science) in the last 10 years and systematically reviewed 54 articles of effectiveness of DHIs for T2DM on Quadruple Aim in healthcare. DHIs were coded using WHO's DHIs classification 2023 version.

Results/Findings

In total, 54 articles were included, representing 15 DHIs for T2DM prevention. The efficacious clinical outcomes of DHIs in prevention of T2DM were demonstrated, particularly within categories of targeted persons communication/telemedicine, personal health tracking, on demand communication with persons and data management. The combination of diverse DHIs displayed superior outcomes. DHIs with healthcare provider' interaction was more effective than DHIs alone. DHIs had positive effects on persons experience. There is still lack of studies assessing healthcare cost and healthcare provider experience.

Implications/Key Message

DHIs were effective for T2DM prevention, and they had positive effects on persons experience. Health professionals should use different kinds of DHIs and integrate them with clinical support to optimize the effectiveness.

Targeted persons communication/telemedicine, personal health tracking, on demand communication with persons and data management were effective tools.

Further research is needed to examine the effects of DHIs on healthcare cost and healthcare's provider.

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P27 - The Changing Landscape in Cost-Utility Analysis Literature: An Australian Perspective, 1992-2022

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Introduction/Background

Over the past three decades, economic evaluation of healthcare interventions, such as cost-utility analysis (CUA), has become an increasingly important tool for making health care decisions in Australia. However, the sheer volume and diversity of this literature, coupled with the advances in health technologies, and demographic changes, have presented the need to assess the evolution, trends, and overarching themes in Australian CUAs.

Method

Bibliographic data of publications published from 1992 to 2022 on Australian CUA were sourced from the Tufts Medical Center Cost-Effectiveness Analysis Registry. Bar charts, bubble plots, and heatmaps were used to describe the findings. All statistical analyses and visualisations were performed using the RStudio software platform.

Results/Findings

Between 1992 to 2022, 490 Australia-based CUAs were published. The volume has steadily increased, with a predominant focus on cost-per-QALY (81.8%) over cost-per-DALY. The majority of CUAs originated from Victorian, NSW, and Queensland institutions. Australian CUA modelling activity compares favorably with other OECD countries. The quality of CUA modelling has increased steadily over time. CUAs were mainly supported by academic or government organizations (51.2%), with relatively few declaring pharmaceutical funding (12.2%). The leading intervention types analysed were pharmaceutical (22.0%) and health education/behavior (18.0%). The most frequent disease areas investigated were circulatory system (18.4%) and neoplasms (13.3%), while the most used discount rate was 5% (57.9%), with lifetime horizon (26.9%) mostly adopted. Most studies adopted the health system perspective, few studies considering societal components like productivity loss (3.7%) and caregiver time (3.9%). The dominant willingness to pay threshold used for decision making was $50,000 (40.8%).

Implications/Key Message

While the volume and methodological quality of published CUAs in Australia have grown, many studies still omit important details. Researchers are encouraged to transparently report and justify their choice of perspective and costing approach to enhance the reliability and applicability of their findings.

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P28 – Cardiovascular disease incidence by ethnicity in New South Wales, Australia

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Introduction/Background

Australia has recently updated its guidelines for the management of cardiovascular disease (CVD). This includes the introduction of a new CVD risk calculator based on the PREDICT equation developed from a large New Zealand population cohort study. The New Zealand risk equations were calibrated to Australia based on differences in observed CVD death rates between the two countries. However, this involved the removal of ethnicity from the PREDICT equation because of a lack of readily available ethnicity data in Australia to use for calibration purposes.

Method

We have linked the 2016 Australian Census to the death registry for the whole of Australia (approx. 21 million people) and to hospital and deaths data for the state of New South Wales (NSW) (approx. 7 million). The Census provides data on self-reported ancestry which is Australia’s current approach to the measurement of ethnicity. This enabled estimation of CVD death rates by ethnicity for the whole of Australia and estimation of CVD incidence rates by ethnicity for the state of NSW.

Results/Findings

Our preliminary results found that in addition to the higher CVD incidence in those of Māori, Pacific and South Asian ancestry reported in the New Zealand PREDICT study, there was a substantially higher CVD incidence in those of Arab ancestry compared to the population average. CVD incidence also appeared slightly higher in some Eastern and South-Eastern European groups.

Implications/Key Message

The greater population size of Australia and increased granularity of ethnicity categories has enabled us to identify additional ethnic groups that are of increased risk of CVD. Of particular importance is the ability to identify higher CVD incidence in the Arab population who are often grouped into the larger Middle Eastern/Latin American/African category in New Zealand data with potential masking of health inequalities.

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P29 - Economic evaluation of a Virtual Model of Antenatal asthma Care (VMAC) compared to a face-to-face model

Ms Aisha Towhari[1], Dr Dennis Thomas[2], Dr Vanessa McDonald[2,3], Dr Peter Gibson[2,3], Dr Penny Reeves[1,4], Dr Victoria McMreanor[1,4,5]

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Introduction/Background: In Australia, approximately 1 in 10 pregnant women are affected by asthma. Nonadherence to medications and poor management can lead to exacerbations and unpredictable symptom changes during pregnancy. These women face higher risks of hospitalizations, unscheduled GP visits, and emergency department (ED) visits, resulting in increased adverse perinatal outcomes. The Virtual Model of Antenatal asthma Care (VMAC) trial aimed to compare the uptake and impact of a virtual model with a face-to-face model of care, involving clinical assessment, feedback and asthma self-management education. The intervention sought to enhance asthma care uptake, improve asthma control and perinatal health outcomes through telehealth-based education.

Method: The economic evaluation follows a VMAC clinical trial consisting of 200 pregnant asthmatic women recruited from John Hunter Hospital in Newcastle, NSW, Australia. *A trial-based cost-effectiveness analysis* will use the implementation effectiveness outcome to calculate an incremental cost-effectiveness ratio (ICER) of the cost per additional session delivered. Costs include both intervention delivery and patient-incurred costs. Additionally, *Markov decision analytic modelling* will be employed to assess cost-effectiveness, extrapolating costs and outcomes one year beyond the 4-month trial follow-up. Clinical effectiveness on exacerbation and symptom control will be assessed by ED visits, hospitalizations, oral corticosteroid use and unscheduled doctor visits. Costs will include intervention costs and healthcare utilization, including costs related to exacerbations. The ICER will represent the cost per additional exacerbation avoided.

Results/Findings: Of the 200 women recruited, 132 completed the follow-up assessments. The preliminary findings indicate that 5% of participants experienced asthma exacerbations during the follow-up period.

Implications/Key Message: The future results of the economic evaluation will identify if the virtual care model increases asthma management uptake, reduces exacerbations and lowers healthcare utilization costs. These findings will provide valuable guidance for health service providers and policymakers regarding the provision of accessible and cost-effective asthma care for pregnant women in Australia.

Trial Registration: Australian New Zealand Clinical Trials Registry ACTRN12621001562864

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P30 - Do choice of population and ethnicity information source affect estimates of ethnic disparities in non-communicable disease rates?

Dr Frederieke Petrović-van Der Deen[1], Sheree Gibb[1], Melissa McLeod[1], Andrea Teng[1]
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Routine data linkage or bringing together information for the same individual from different administrative data sources, is an increasingly popular method to answer public health related research questions, both by policymakers and academics. When datasets are linked researchers often restrict analysis to the population that has records in both linked datasets, resulting in loss of individuals from the population. In addition, there are often several sources of ethnicity information that can be used to define differently sized ethnic populations. This study aims to illustrate the impact of population loss due to linkage and the source of ethnicity information on estimates of non-communicable disease rates by ethnicity (Māori (Indigenous peoples) compared to sole Europeans) in New Zealand (NZ).

Data were sourced from Stats NZ's Integrated Data Infrastructure (IDI), a collection of deidentified whole-population administrative (eg, health, justice, housing) and survey datasets (eg, NZ Census) linked at the individual level using probabilistic linkage procedures. More than 60 datasets are linked through a central 'spine' that aims to capture all people who have ever been resident in NZ. Different non-communicable disease cohorts were formed (including lung cancer and cardiovascular disease) and disease rates and rate ratios for Māori compared to sole Europeans were calculated for different linked subsets of these cohorts using different data sources for ethnicity.

Our results showed that both the choice of ethnicity information source and the population subset had an impact on the size of ethnic disparities in non-communicable disease rates. This has implications for tracking and monitoring of ethnic inequities if different methods or data sources are used over time. Consistent methodological approaches and ethnicity data sources are required for comparing ethnic differences in disease rates between studies.

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P31 - Differences in health-related quality of life among adults with and without behavioural risk factors for chronic disease: A systematic review and meta-analysis

Nirmali Sivapragasam[1], Dr David Brain[1], Dr Gayani Amarasinghe[1], Dr Sanjeewa Kularatna[1,2], Dr Sameera Senanayake[1,2], Dr Nicole White[1]
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Introduction

The presence of behavioural risk factors for chronic disease is associated with elevated risks for morbidity, mortality and reduced health-related quality of life (HRQoL). A systematic review and meta-analysis were undertaken to measure the extent to which HRQoL differed between those with and without self-reported high body mass index (BMI), smoking and alcohol use.

Method

PubMed, Embase, Web of Science and EconLit were searched between 1 January 2009 and 12 October 2023. Observational studies were included if they used one or more of the following instruments: the European Quality of Life 5 Dimensions (EQ-5D) 5 Level or 3 Level versions, Health Utility Index (HUI) Mark 2 or 3, Short Form 6D (SF-6D), Assessment of Quality of Life (AQoL) scale, Quality of Well-Being Scale (QWB) or the 15 Dimensions (15D). Studies focused on disease-specific populations or using non-random study designs were excluded.

Results

Most studies used the EQ-5D-3L (n= 9) or the EQ-5D-5L (n=4) with the remaining studies reporting use of the SF-6D (n=3) or HUI3 (n=1). Seventeen eligible studies provided estimates of effect size for BMI (13 studies), smoking (nine studies) and alcohol use (one study). Overweight, obese and underweight adults had a reduced HRQoL of 0.06 points (95% CI 0.03-0.09), 0.27 points (95% CI 0.18-0.36) and 0.24 (95% CI 0.14-0.34), respectively, compared with adults with normal BMI. Smokers reported a reduced HRQoL of 0.14 points (95% CI 0.03-0.26) compared with non-smokers. Overall heterogeneity between studies measured by the I^2 varied between 83.87% to 96.90%. Some differences in utility values by study instrument were observed.

Implications

Health-related quality of life was consistently higher among those with the presence of behavioural risk factors for chronic disease. This meta-analysis provides evidence synthesis of utility estimates for informing economic evaluations of interventions addressing behavioural risk factors for chronic disease.

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P32 - Exploring how peer workers provide support to people with mental health conditions for healthy lifestyle

Dr Caitlin Fehily[1], Dr Kylie Bailey[1], Ms Jessica Whitfield[1,3], Ms Vibeke Hansen[1], Dr Melanie Kingsland[2], Prof Jenny Bowman[1], Miss Sophie Love
[1]University Of Newcastle, Newcastle, Australia, [2]Hunter New England Population Health, Wallsend, Australia, [3]Central Coast Local Health District, Central Coast, Australia

Introduction/Background

This research focuses on chronic disease prevention among people with a lived experience of mental illness; a high-risk group, with reduced life expectancy up to 20 years due largely to chronic diseases. In mental health services, peer-workers perform a valuable role in enhancing mental health recovery, informed by lived experience. Their potential role to also provide support for healthy lifestyles is increasingly recognised.

Method

Firstly, qualitative interviews & surveys were conducted with peer workers and people with lived experience to measure current perspectives on, and provision of, support for healthy lifestyle by peer workers (focusing on smoking, nutrition, alcohol, physical activity and sleep) (n=9). This informed co-development workshops with peer workers and people with lived experience (n=10) to consider: (1) what might peer-delivered support for healthy lifestyle look like, and (2) what might help peer workers provide that support.

Results

Inductive thematic analysis of qualitative interviews identified key themes: (1) strength of the peer workforce in providing holistic support for mental health recovery, (2) differences across different parts of healthy lifestyle, (3) aspects of the peer role that introduce challenges; and (4) the range of strategies currently employed to support healthy lifestyle. In the workshops, ideas for support centered around: conversations about healthy lifestyle and its links with mental health; sharing own lived experience with healthy lifestyle; supporting goal setting or identifying a purpose; and sharing resources, information and supports. The group generated several ideas for how to enable this support, and voted on the top two which were: peer-led (1) training and education, and (2) community of practice.

Key Message

Participants agreed physical health is connected to mental health, and peer workers have an important role in supporting physical wellbeing as part of mental health recovery. At a system-level, there were many considerations to enabling this role.

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P33 - Data linkage to inform health service planning for paediatric palliative care

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Introduction/Background

While the number of children of children who may benefit from paediatric palliative care continues to grow globally, data to inform health service planning is lacking. This presentation will provide an overview of the methods used to try and identify the population who may benefit from paediatric palliative care in Australia. The benefits and limitations of such methods will be presented using examples from current and previous research.

Method

Routinely collected health administrative data for individuals aged 0 to 21 years, with a condition eligible for palliative care, were linked and analysed using descriptive statistics. Individuals were identified for inclusion using ICD-10-AM codes. Data sources include records from hospital admissions, emergency department presentations, death registrations, perinatal, and paediatric palliative care.

Results/Findings

Data linkage is useful to help identify populations of interest. However, caution needs to be taken when interpreting and extrapolating results, due to data limitations. Data quality and availability, along with the time and costs associated with obtaining data means that this method is not a feasible long-term solution to providing data to inform health service planning.

Implications/Key Message

There is an urgent need to invest in long term solutions to ensure there is reliable, readily available, real-time data to inform health service planning.

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P34 - Does area deprivation affect the lived experience of long COVID in Aotearoa?

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[1]Waipapa Taumata Rau | The University Of Auckland, Auckland, New Zealand, [2]2Long Covid Support Aotearoa, , Aotearoa New Zealand

Introduction/Background

COVID-19 exacerbated many existing health inequities. It is important to understand if long COVID, the most enduring impact of the pandemic, will have similar inequitable effects. This study explores the influence area deprivation has on patient-reported symptom scales and health-related quality-of-life (HRQoL) of individuals with long COVID.

Method

Mātauranga Raranga | Long COVID Registry Aotearoa was designed in partnership with those with lived experience of long COVID. Comprehensive data are collected from participants in the registry, including the Index of Multiple Deprivation (IMD2018) area deprivation score and domain ranks, and information on symptoms, their severity using symptom scales, self-reported health (SRH) and HRQoL using the EQ-5D-5L. Participants have been followed up monthly using the EQ-5D-5L and 6-monthly for the symptom scales. Analyses describe the symptoms/self-reports and explore differences by deprivation Quintile. We additionally explore variation using the Range and Extremal Quotient to measure the absolute and relative levels of inequities respectively.

Results/Findings

The registry remains open and data collection is ongoing, analyses of collected data as of the end of March 2024 have formed the bases of this presentation (8.6% Māori; 91.4% non-Māori). Nationally, each IMD2018 Quintile comprises 20% of Aotearoa's population. 45% of non-Māori respondents lived in less deprived Quintile 1(Q1) and Q2 areas. The deprivation pattern for Māori respondents is variable, with fewer Q1 (15%) participants, but an overrepresentation in both Q2 and Q5 (25% each). Compared to participants living in Q1 areas, participants in more deprived areas (Q4+Q5) were statistically more likely to have poorer symptoms, particularly for breathlessness, depression, anxiety, psychological distress, fatigue, and stigma. However, there was little or no difference in HRQoL.

Implications/Key Message

Area deprivation reveals variations in the long COVID burden of our participants. Further research is needed to understand this variation, in order to inform service provision and policy.

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P35 - Interprofessional collaboration between pharmacists and community health workers to improve medication adherence: a systematic review

Dr Carole Bandiera[1], Dr Ricki Ng[1], Dr Sabuj Kanti Mistry[2], Prof Elizabeth Harris[3], Prof Mark Harris[3], Prof Parisa Aslani[1]
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Introduction: There is increasing evidence to support the effectiveness of interventions involving community health workers (CHWs) in improving patient health outcomes, which reinforces their growing integration in healthcare teams. However, little is known about the interprofessional collaboration between pharmacists and CHWs. This systematic review aimed to explore the impact of interventions involving pharmacists and CHWs on improving patient medication adherence.

Methods: The English scientific literature published in Embase, MEDLINE, Web of Science, CINAHL, Scopus, plus the grey literature were searched in April 2024. Using the software Covidence, two researchers screened article titles and abstracts and assessed full-text articles for eligibility. Studies were included if i) the intervention was delivered by pharmacists and CHWs and ii) reported on medication adherence outcomes. Data were extracted using a customized template using Excel. The Effective Public Health Practice Project quality assessment tool was used to assess the studies' methodological quality.

Results: Eight studies met the inclusion criteria, including a total of 1494 participants. Seven studies were conducted in the United States, and five were published in the last 4 years.

The interventions consisted of medication therapy management, medication reconciliation, and repeated education sessions. The CHW shared clinical and non-clinical patient information and ensured a culturally safe environment while the pharmacist delivered the intervention.

In six studies, medication adherence was evaluated through patient self-reported measures. Two studies used objective measures such as, pharmacy refill records and proportion of days covered.

Three studies showed a significant improvement in medication adherence. Half of the studies were of weak quality.

Implications/Key Message: There were a small number of studies identified which focused on the interprofessional collaboration between pharmacists and CHWs to improve medication adherence. The impact of the interventions on medication adherence was limited. Further studies of higher quality are needed to better evaluate the impact of such collaboration on patient health outcomes.

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P36 - Evaluation of WELLfed

Assoc Prof Mona Jeffreys[1], Ms Kahurangi Dey[1], Ms Donna Hiroki[1,2], Ms Kim Murray[2]
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Introduction

WELLfed is a community-based intervention to address food insecurity in Porirua, an area of high deprivation in the Wellington region of Aotearoa New Zealand. Learners are taught food preparation and provided with equipment and food over a 16-week course. Informal evaluation suggests that WELLfed has beneficial impacts, such as learners increasing their confidence, eating more healthily, and spending less on food.

Methods

We have partnered with WELLfed to design a Te Tiriti o Waitangi-led evaluation being undertaken in three phases: 1) To identify domains of reach; 2) To develop and test tools; and 3) A full evaluation. Phase 1 involved 20 WELLfed stakeholders in five focus groups, namely learners, tutors, a Kaupapa Māori group, other staff, and Board members, identifying domains of reach. Phase 2 involved testing a refining a survey to measure the impact of WELLfed in each of these domains. We are currently piloting the survey with 15 learners, who will each complete the survey at the start and end of their course.

Results

The five domains of reach identified in Phase 1 are: i) safe and supportive environment; ii) food competence, nutrition knowledge, and skills; iii) skill development, empowerment, and self-efficacy; iv) social connection; and v) outreach and impact.

Low literacy levels are a barrier to participation in research. We developed a survey tool, being well received by learners, that uses a series of smiley faces instead of written answers. The test surveys identified that most questions were acceptable and understandable, when assisted by a researcher.

Learner safety when answering personal questions, such as those about food insecurity, is facilitated through having a research assistant from WELLfed. Further pilot results will be available at the conference.

Implications

Having co-designed domains of reach, and testing tools with the community, has facilitated the evaluation design and progress. We are currently seeking funding for the full evaluation (Phase 3).

Conference sub-theme: Community-based care

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P37 - Using data linkage to develop comorbidity profiles for community wound care clients

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Background

Unhealed wounds can significantly impact a patient's quality of life, increase the risk of hospital admissions and increase costs to both patients and health care providers. Patient comorbidities may significantly alter, delay, or inhibit normal wound healing. However, despite wound care comprising a significant amount of care delivery, accurate documentation of comorbidities in the home health care setting can be challenging.

Linking wound data with hospital admission data mitigates some of these issues and provides access to high quality International Classification of Diseases (ICD) diagnosis codes that supports the construction of comorbidity profiles.

Method

Silverchain is a large not for profit Australian community health and aged care organisation. Care records of Silverchain's WA based wound care patients from 2017/2018 were linked to hospital admissions data for the 12 months prior to their admission. The Charlson Comorbidity Index (CCI) and the Elixhauser Comorbidity Index (ECI) were calculated using ICD-coded diagnoses from the linked data. Regression analysis identified associations between comorbidities and healing and examined the impact on different wound categories.

Results

Wound care was provided to 14,479 patients with 25,968 wounds and linked with 170,000 hospital admissions. Eighty-four percent of patients were hospitalised at least once in the 12-months prior to their admission for community wound care. Seventy-six percent of wounds healed with variation of healing and comorbidity profiles across wound categories. While the comorbidity indexes used were predictive of non-healing wounds, the presence or absence of individual comorbidities provided better fitting models for all wound categories.

Implications

Linking wound data with hospital admissions data was successful in developing comorbidity profiles for community wound patients and identification of those comorbidities that impact wound healing. This research highlights the need for a wound specific comorbidity measure that can be used to better understand wound healing and inform practice.

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Poster Theme: Consumer Engagement and Co-Design

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P38 - Combining Systems Science and Implementation Science Approaches to Co-Design Implementation Strategies Within Health Services: A Case Study

Dr Anna Chapman[1], A/Prof Anna Ugalde[1], Prof Steven Allender[1], Cherene Ockerby[2], Christopher Sharp[2], Katrina Stevenson[2], Dr Laura Alston[3,4], Prof Alison Hutchinson[1,5]
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Introduction/Background: 'Ask, Advise, Help' (AAH) is a model endorsed by national peak organisations that supports clinicians to engage with patients about smoking cessation. Implementation of this model within routine healthcare remains a challenge. Integrating systems and implementation science approaches has the potential to strengthen implementation within complex systems. Specifically, Group Model Building (GMB) is one system dynamics method that can assist the selection and tailoring of implementation strategies to local context.

Method: We integrated systems and implementation science approaches to understand the current system and co-design strategies that could support implementation of the AAH model within the largest public health service in Victoria, Australia. The study was underpinned by the EPIS framework and system dynamics theory. We utilised a participatory GMB technique, that involved three 2-hour online group workshops, supported by Deakin University's systems modelling software, STICKE (https://sticke.deakin.edu.au/). Within workshops, key stakeholders, including staff and consumers, participated in creating a causal loop diagram (CLD) that visually depicted the interconnected factors influencing AAH model implementation at the participating service. Stakeholders used the finalised CLD to identify potential strategies, which were then assessed for fit and feasibility using Hexagon, a practical implementation tool. Early implementation plans were then developed for top-rated strategies.

Results/Findings: The final CLD encompassed 21 factors perceived by stakeholders to be influencing AAH model implementation at the participating service. Three key action areas were subsequently identified; the top-rated strategy within each area was: 1) establishment of a dedicated smoke-free clinic, 2) communication skills training, and 3) creation of electronic medical record templates to document smoking cessation care.

Implications/Key Message: This project provided a blueprint for co-designing a multifaceted implementation strategy tailored to the unique contexts of individual healthcare services. We will reflect on the process of combining systems and implementation science approaches, highlighting advantages and disadvantages.

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P39 - Using the Behaviour Change Wheel to develop strategies to improve adherence in randomised clinical trials: the example of MEL-SELF trial of patient-led surveillance for melanoma.

Dr Deonna Ackermann[1], Dr Jolyn Hersch[1], Professor Monika Janda[2], Dr Karen Bracken[3], Professor Robin Turner[3], Professor Katy Bell[1]

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Introduction

Adherence to self-management interventions is critical in both clinical settings and trials to ensure maximal effectiveness. This study reports how the Behaviour Change Wheel may be used to assess barriers to self-management behaviours and develop strategies to maximise adherence in a trial setting (the MEL-SELF trial of patient-led melanoma surveillance).

Method

The Behaviour Change Wheel was applied by (i) using the Capability, Opportunity, Motivation-Behaviour (COM-B) model informed by empirical and review data to identify adherence barriers, (ii) mapping identified barriers to corresponding intervention functions, and (iii) identifying appropriate behaviour change techniques and developing potential solutions using the APEASE (Affordability, Practicability, Effectiveness and cost-effectiveness, Acceptability, Side-effects and safety, Equity) criteria.

Results

The target adherence behaviour was defined as conducting a thorough skin self-examination and submitting images for teledermatology review. Key barriers identified included: non-engaged skin check partners, inadequate planning, time constraints, low self-efficacy, and technological difficulties. Participants' motivation was positively influenced by perceived health benefits and negatively impacted by emotional states such as anxiety and depression. We identified the following feasible interventions to support adherence: education, training, environmental restructuring, enablement, persuasion, and incentivisation. Proposed solutions included action planning, calendar scheduling, alternative dermatoscopes, optimised communication, educational resources in various formats to boost self-efficacy and motivation and optimised reminders (which will be evaluated in a Study Within A Trial (SWAT).

Implications

The Behaviour Change Wheel may be used to improve adherence in clinical trials by identifying barriers to self-management behaviours and guiding development of targeted strategies.

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P40 - Cancer survivors' involvement in oncology research: A systematic review of co-designed digital initiatives

Associate Professor Anna Ugalde[1], Ms Hannah Jongebloed[1], Dr Brenton Baguleyy[2], Assoc Prof Skye Marshall[1], Professor Victoria M. White[3], Professor Patricia M. Livingston[1], Ms Kathy Bell[4], Ms Leonie Young[4], Professor Sabe Sabesan[4,5], Professor Dayna Swiatek[6], Associate Professor Anna Boltong[7], Dr Joanne Britto[8], Associate Professor Nicole Kiss[2,9]
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Introduction/Background: The co-design of healthcare initiatives and resources has been endorsed internationally and there is increasing interest in digital initiatives to improve reach, feasibility, and effectiveness. This review aimed to evaluate the co-design processes used for digital cancer care initiatives involving people with the lived experience of cancer (cancer survivors).

Method: A systematic review searched four databases for studies which engaged cancer survivors (active or completed treatment) in the planning and/or development of an oncology-exclusive intervention, service, or resource that had at least one initiative component that utilized an electronic platform. Four frameworks were applied to evaluate the co-design processes.

Results/Findings: Thirty-eight co-designed digital initiatives were identified. These included n=18 (47%) digital resources (e.g., electronic patient-decision aids, educational websites); n=13 (34%) smart device apps; n=6 (16%) web-based intervention or self-monitoring programs; and n=1 (3%) serious game to improve self-advocacy skills.

The digital initiatives were primarily developed as new initiatives (n=29; 76%) for use in the outpatient setting (n=27; 71%) using a '*co-production*' approach to patient engagement (n=19; 50%). Frameworks utilised to guide co-design were mostly user-centred design (n=11; 29%) or not reported (n=9; 24%). Reporting was poor for patient description, level of involvement, and details of survivor contributions.

Survivors were mostly engaged via interviews (n=32; 84%) or in usability testing (n=23; 61%), and in the '*explore*' (n=37; 97%) or '*develop*' (n=35; 92%) stages of co-design. Most studies achieved the '*collaborate*' (n=18; 47%) Consumer Participation Level, followed by '*co-design*' (n=15; 40%) and '*consult*' (n=5; 13%). No study achieved '*empower*' Consumer Participation Level. Only n=1 initiative formally evaluated survivors' experiences with the co-design process.

Implications/Key Message: Survivors were frequently engaged in the co-design of digital cancer care initiatives. Engagement across all stages of co-design, increased Consumer Participation Levels, and evaluation of survivors' experiences are required to achieve more meaningful engagement.

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P41 - What are patients' perceptions or attitudes regarding the use of Artificial Intelligence in skin cancer screening or diagnosis - narrative review

Ms Preksha Machaiya Kuppanda[1], Professor Monika Janda[1], Associate Professor Liam J Caffery[1,2]
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Introduction: Artificial Intelligence (AI) in dermatology has witnessed dramatic developments, with evidence demonstrating AI to be equivalent to dermatologists in its diagnostic performance of classifying images as skin cancer. With its potential, AI could become an integral part of the skin cancer screening pathway. It therefore becomes essential to understand patient perception as they are key stakeholders and may be significantly affected by the implementation of AI. Despite this, patient engagement in implementation programs and research that captures their perspectives and concerns have been limited. The aim of this study is therefore to summarise the current evidence regarding patient perceptions of use of AI in skin cancer diagnosis and identify research gaps and scope for future research.

Methods: A narrative review of original studies that explore patient perceptions or attitudes towards use of AI, either as a clinician-facing or patient-facing intervention in their skin cancer screening.

Results: 16 articles that met inclusion criteria were included in this review. The key themes identified were patients' optimistic views of AI, patient concerns of AI, patients' preference of the role of their provider and AI in their diagnosis, and factors influencing patient perceptions and attitude towards AI incorporation in their skin cancer screening pathway.

Conclusion: There is evidence of both optimistic views and concerns regarding the implementation of AI in skin cancer diagnosis. There was a significant expression of interest to use Augmented Intelligence or AI in an assistive role to guide dermatologists in the skin cancer screening process. Studies have not identified any consistent patterns regarding the influence of demographic factors such as age or education on patients' perception or acceptance of AI. Research indicates that attributes such as AI's impact on workflow, its cost, innovativeness, and functionality influence patient perceptions of AI, and adjusting these attributes could enhance acceptance.

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P42 - Development of preventive health intervention apps for chronic disease prevention.

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Background

This presentation will showcase two free mobile application (app) based preventive health interventions – Podsquad and 10,000 Steps. Podsquad is a health behaviour change program that supports children and families to adopt and maintain positive nutrition, physical activity, and sleep habits through short bursts of play-based online learning. The 10,000 Steps Program provides an interactive website and app, designed using evidence-based behaviour change techniques, to increase individuals' awareness and participation in physical activity, through activity tracking and challenges.

Method HWQld led the development of a brand-new intervention: Podsquad and partnered with researchers and a creative agency to apply a unique approach to solution design that combined behaviour change theory, consumer and literature research, and 'design thinking' to challenge assumptions, solve complex problems, and enable greater innovation. CQUni led the upgrade of existing app: 10,000 Steps that involved a comprehensive discovery phase which reviewed the current state of the app and recommendations for the upgrade, and an extensive design phase which brought together existing functionality of the web application and discovery phase recommendations.

Results

Podsquad's co-design process engaged over 300 children and families, yielding high satisfaction and intention to change health behaviors. Since launching in July 2023, Podsquad has been downloaded over 14,500 times, receiving a 4.4-star rating.

The 10,000 Steps mobile app upgrade included 310 user surveys and has resulted in significant engagement improvements. Released in May 2023, the app has been downloaded over 67,000 times, had a 50% increase in new users and 614% increase in engaged sessions, with users logging nearly 17 billion steps.

Implications

Digital preventive health interventions like Podsquad and 10,000 Steps demonstrate the potential to support positive health behaviors on a large scale, addressing barriers such as geography and accessibility. These programs illustrate the effectiveness of combining digital technology with design thinking and co-design in developing user-centered health solutions.

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P43 - Comparing polarised and non-polarised dermatoscopes in the MEL-SELF trial of patient-led surveillance: a randomised study within a trial.

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Introduction

This study within a trial (SWAT) aimed to determine the effect of using a higher-cost, mobile dermatoscope with a polarised light source (P-dermatoscope), compared to a lower-cost, non-polarised mobile dermatoscope (NP-dermatoscope), on participant submission of a good quality skin lesion image, within the MEL-SELF patient-led melanoma surveillance trial.

Method

MEL-SELF is recruiting patients previously treated for localised melanoma who attend routinely scheduled follow-up at skin clinics in Australia. This SWAT ran within the intervention group with participants randomised to either a P-dermatoscope or NP-dermatoscope. The primary outcome was the proportion of participants who submitted an image at baseline that a teledermatologist could make a management recommendation on. Using adaptive randomisation to safeguard against dermatoscope underperformance, we prespecified a comparison of device groups following the randomisation of 60 participants. If the difference in proportions of successful image reporting was greater than 30%, the randomisation ratio would be modified to 2:1, favouring the more effective model. A difference over 50% would result in all subsequent intervention participants receiving the more effective model.

Results

Of 60 participants, 25(83%) using P-dermatoscope and 19(63%) using NP-dermatoscope provided baseline images suitable for teledermatologist reporting. The 20% (95%CI, -2 to 42) difference in proportions did not meet the threshold for randomisation adjustment. However, due to reported NP-dermatoscope user issues, the protocol was amended to offer the alternative dermatoscope to those encountering quality or usability challenges after the 3-month timepoint.

Implications

Although the randomisation adaptation threshold wasn't met, participant experience suggests potential differences in device usability. Reliance on a single model of health technology in a trial may expose trials to operational risk. Offering an alternative device for participants may mitigate these risks and generate comparative data to inform clinical practice. Additionally, user-friendly digital tools may enhance patient engagement and the quality of self-monitored health data.

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P44 - Health system interventions for the cost containment of drugs used for cardiovascular diseases: A systematic review and exploration of how the results could be adapted to the Sri Lankan context

Dr JLP Chaminda[1,2], Prof Sanjeewa Kularatna[1,3,4], Dr Dilantha Dharmagunawardena[2,5], Prof Reece Hinchcliff[5], Dr Alexia Rohde[1], Dr David Brain[1], Dr Ruvini M. Hettiarachchi[6], Dr Sucharitha R. Weerasuriya[1], Dr Yapa YMSS[2], Dr Sameera Senanayake[1,3,4]

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Cardiovascular disease (CVD) in low and middle-income countries (LMICs), accounts for over 80% of global CVD-related deaths. The high cost of drugs is a major concern in not of managing CVD. This study aimed to conduct a comprehensive review to identify interventions for cost containment of CVD drugs and use the intervention scalability assessment tool (ISAT) to examine the acceptability and application of relevant interventions in the Sri Lankan context, that can also be adaptable to other LMICs. A systematic search across three databases (MEDLINE, Web of Science and EMBASE) was completed to identify relevant health system interventions. The ISAT assessed the feasibility of adapting the identified interventions to Sri Lanka, using structured interviews with 25 Sri Lankan stakeholders representing five groups: health managers, cardiologists, pharmacists, nursing officers, and patients. The search yielded nine publications. Five were conducted on a national scale, while others were conducted at the regional levels. Seven were published in developed countries. The identified interventions were categorised into six intervention themes: Imposing a ceiling price or reference price; introduction of the polypill; introduction of volume price contract initiatives; prescribing generic and essential drugs; one intervention package including generics, essential medicine, 90-day drugs, and free delivery; and a second intervention package including discounts, rebates, cost-free medicine, and bundling. Assessment of six intervention themes revealed that methods of setting ceiling prices and controlling generic drug prescribing were the most popular, while other interventions were least popular. The study provides a roadmap for future interventions based on successful scaling, emphasizing the importance of understanding contextual variables and encourages stakeholder participation in policy assessments and advocacy. The findings highlighted the potential for enhancing the access to affordable CVD drugs not only in Sri Lanka, but also adaptable to other LMICs. These outcomes can contribute to policy decisions, aimed at reducing the significant global burden of CVD.

Keywords: Cardiovascular disease, Drug, Cost, Interventions

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P45 - Developing a platform for translational research to inform policy and practice

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Introduction/Background

Translational research broadly aims to progress basic science discoveries toward public health impact. A diverse range of research methods can be used to generate evidence along this continuum, with randomised controlled trials (RCTs) being the gold standard study design because of their high internal validity. Contemporary developments have led to master protocols which improve efficiency of early phase (Phase I–III) RCTs by comparing a range of interventions with a common control group; however, their application in study designs with higher external validity (Phase III-IV) is yet to be explored. The aim of this presentation is to present the development of methodology for using master protocols in translational research.

Method

The development of this methodology emerged from consultation with professional networks in mental health translational research, four non-government mental health organisations, two public mental health services, two Primary Health Networks and a national advocacy body in the mental health sector. Consultations involved critical appraisal on key elements of research methodology (aims and hypotheses; recruitment and allocation; data collection and analysis).

Results/Findings

Use of a master protocol is warranted for translational research. Codesign should be central in determining priorities of organizational partners, and the sub-studies should address these priorities using implementation hybrid design types. The master protocol should stipulate the domains of interventions *a priori* informed by codesign and a social determinant of health model. A common control group could be established using a 'trial within cohort' approach, which would improve external validity by allowing participants the choice of interventions. Different implementation strategies for any given sub-study could be trialed, with interim analyses informing adaptation at pre-planned milestones.

Implications/Key Message

Implementing this methodology will strengthen organizational partnerships for translational mental health research, and demonstrating this process will encourage other research networks and service providers internationally to adopt a similar approach.

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P46 - Revolutionising access to research data in Australia

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Introduction/Background

Many health services research projects in Australia have been abandoned or delayed as researchers face barriers to accessing health due to privacy concerns. This means researchers waste time on frustrating bureaucratic processes and important research questions remain unanswered.

One solution is the use of dummy data to develop analytic code, with the code then run on the real data by data custodians. This sidesteps privacy issues as researchers never access the real data and the data stays in its secure location. Research containers can be used to avoid errors from the differing computing environments of the researchers and data custodians. The UK's OpenSafely group have combined dummy data and containers to allow researchers to safely analyse the health records of over 17 million NHS patients, with 155 research projects in 4 years.

Method

We used the OpenSafely approach on an international critical care data set stored in Australia. We first used a dummy-data-only system and then developed a container system using VS Studio, GitHub, and Docker. Research teams were sent dummy-data to develop their code. Data custodians created the results using the real data and reviewed the results to ensure they were safe.

Results/Findings

The OpenSafely approach allowed an international research team outside Australia to examine the benefits of extracorporeal membrane oxygenation in patients with COVID-19, with the publication accessed over 28,000 times. One barrier is that researchers and data custodians need skills in Docker. Data custodians also need to develop safe dummy data, initiate the analyses, and check that results are safe to release (e.g., no individuals identified).

Implications/Key Message

The OpenSafely approach is a potential silver bullet to Australia's long-standing issues with data access for research. It ensures privacy for patients whilst allowing researchers to answer research questions that benefit patients and the health system.

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P47 - Pivoting Pacific research methods for qualitative research during COVID-19 and beyond

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Introduction

Pacific methodologies prioritise the special relationships and connections between people within a Pacific context (for example teu le vā; vā). Talanoa is a storytelling method that is embedded within Pacific spiritual, cultural and collective foundations. COVID-19 pandemic restrictions necessitated adopting and adapting online interviewing in lieu of traditional in-person methods.

Method

We will discuss innovative qualitative data collection methods from two research projects at different periods of the COVID-19 pandemic:

(a) 2017-2021: An exploration of integrated care services for Pacific families (n=15).
In 2017, Pacific families in-person interviews only.
2020 (pandemic restrictions), Pacific families offered options for Zoom, phone or in some cases in-person interviews.

(b) 2024: Mapping Pacific Health and Social Providers within Aotearoa New Zealand (no COVID-19 restrictions). Chief executives (n=29) of Pacific providers across Aotearoa New Zealand were recruited for a survey followed by individual interviews. The process was managed online with recruitment via email, follow-up by phone, and all interviews conducted via Zoom.

Findings

Initially, pivoting to online interviewing was challenging especially for Pacific families accessing computers, internet and digital apps (e.g. Zoom) - described in the literature as the 'Pacific people's digital inequity'. Researchers had to learn new digital skills, cope with privacy and disruptions issues working from home, developing rapport, talking at the same time, body language cues, with some participants apprehensive of the change. It was important to continue cultural practices at the start and end of the discussions (e.g. a prayer). The online interviews with chief executives were less challenging, possibly due to increased familiarity with online processes, office settings, and the topic (workplace experiences rather than insights about personal life).

Implications

Our experiences of data collection in the COVID-19 context highlight both challenges and opportunities. Researchers need to be adaptable and flexible, practising cultural sensitivities while at the same time ensuring rigorous and safe qualitative research.

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P48 - Beyond Realist Evaluation: Reviewing the Realist Economic Evaluation Approach

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Beyond Realist Evaluation: Reviewing the Realist Economic Evaluation Approach

Introduction

Realist evaluation unveils what most evaluation approaches do not: the ‘black box’ of the program. It focuses on what works for whom, how, and under what circumstances; however, there is a paucity of evidence on the application of an economic lens with a realist approach. The study aims to explore the Realist Economic Evaluation (REE) method.

Method:

The study was conducted as a literature review with eight articles included, which are all the published literature on realist economic evaluation. Two of the article’s theoretical papers, two are study protocols, three are research articles, and the last is a guidance paper.

Findings:

The theoretical papers highlighted similarities and differences between realist and economic evaluation, resource use, and how they integrate. The protocol papers identified the phases of realist evaluation (developing initial program theories, testing program theories, and refining initial program theories) and cost effectiveness as methodologies in conducting REE. The articles explored economic-related program theories, economically optimized program models, cost-related program theories, cost-sensitive context, mechanisms, and outcomes, and context-sensitive mechanism-outcome configuration. The guidance paper provided steps for conducting REE and described three forms of the method: economic-informed program theories, economic evaluation of one or more realist program theories, and realist-informed economic evaluations.

Implications

The existing published literature on REE varies in the definition of concepts and methodologies applied. The guidance paper attempts to provide direction on REE methods; however, more research in the REE space is needed to generate evidence on structured guidance, which can advance knowledge and provide frameworks to deepen this evolving method in health research.

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P103 - Efficient for Whom? The Broader Implications of Innovative Clinical Trial Designs

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Background

Clinical trials are critical to health services in determining the best therapies and how best to deliver those therapies. Innovative trial designs have emerged to generate evidence more efficiently than traditional randomized controlled trials, which are notorious for being expensive and time-consuming. However, *efficiency* has largely been viewed in terms of statistical design and neglects issues key to stakeholders and society. This project aimed to widen the scope of measuring clinical trial efficiency, particularly for adaptive platform trials, by considering the costs and benefits to stakeholders.

Method

Clinicaltrials.gov, Australian and New Zealand Clinical Trials Registry, and ISRCTN were systematically searched to identify Australian-led adaptive platform trials. Trial investigators were invited to complete an online survey about funding, progress, and outputs.

Findings

Nineteen Australian-led adaptive platform trials were identified across the registries. We received 11 survey responses (58% response rate). Investigators reported receiving 1-12 successful grants to date (mean=4). The most common funder was government (n=9/10), followed by philanthropic (n=4/10) and industry (n=2/10) funders. Years of grant funding ranged from 5-8 years. The total amount of funding ranged from $2-40M (mean=$12.6M). Of those who have commenced recruitment (n=5), trials have recruited 1,000-13,172 participants (mean=3,654) and opened 2-18 domains (mean=7). Four trials have reached triggers or platform conclusions, of which half (n=2) have published the results.

Key Message

A large amount of government and other funding is allocated towards clinical research due to its key role in improving the health of individuals, communities, and society. Adaptive platform trials are especially expensive but have a high research output. Health service researchers must, therefore, ensure the benefits of clinical research (as perceived by stakeholders and society) outweigh the costs, particularly as innovative trial designs emerge and promise statistical efficiencies. This requires continuous and genuine collaboration among the research team, funders, healthcare providers, policymakers, payers, and consumers.

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P49 - Trends and issues in pathology point of care testing (PoCT) in Australian healthcare settings

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Introduction/Background

Point of care testing (PoCT) for pathology has significantly increased across healthcare settings in Australia, including hospitals, general practices, Indigenous medical services, community clinics, and pharmacies. Traditionally focused on haematology and biochemistry, PoCT now includes molecular-based devices, particularly for infectious diseases, accelerated by the COVID-19 pandemic.

Method

We undertook a review and evidence synthesis of peer-reviewed literature on PoCT published between 2019 and 2024. A structured search strategy was applied in Medline and Embase (via Ovid). Following screening, twelve studies discussing issues, safety, and quality of pathology PoCT performed by healthcare workers in Australia were included.

Results/Findings

PoCT results accuracy is an important issue, with studies identifying differences between laboratory and PoCT results beyond acceptable tolerance. Tied closely to accuracy is competency: users must have adequate training and knowledge on proper use of PoCT to perform tests and understand results to avoid misinterpretation. To facilitate quality testing, quality assurance is critical and any arising issues must be resolved prior to results being reported.

Traceability issues can also lead to incorrect results reporting, particularly in manual processes where inadequate sample labelling and documentation can cause sample mix-up and transcription errors. Connectivity (automatic data capture and transfer) can facilitate results accuracy in health information systems. However, challenges to achieving connectivity include infrastructure issues, with unreliable internet (particularly in remote settings) impacting data transmission and interface capability of PoCT devices. Additional issues pertinent to primary and community settings include incorporating PoCT into existing workflows and funding models, and resource limitations (equipment and staff).

Implications/Key Message

While PoCT technologies have advanced rapidly in recent years, there are still many concerns associated with PoCT use in Australia, including issues related to: accuracy; competency; quality assurance; traceability; connectivity; infrastructure; workflow; and funding. These must be addressed to ensure the safety of PoCT in healthcare delivery.

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P50 - Point of care testing (PoCT) standards: how do Australia's national standards compare?

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Introduction/Background

The National Pathology Accreditation Advisory Council (NPAAC) is responsible for the national pathology accreditation standards used to accredit laboratories in Australia. Within these standards, Point of Care Testing (PoCT) is governed under the *Requirements for Point of Care Testing (Second Edition 2021)*. With increasing use of PoCT in Australia, the comprehensiveness and currency of these standards requires comparison against other PoCT standards.

Method

We undertook a review to identify PoCT standards by handsearching websites of national and international government and health agencies. Following screening, six standards were selected for synthesis and comparison: NSW Health Pathology (2018); Australasian Association of Clinical Biochemists (2019); New Zealand Point-of-Care Testing Advisory Group, Royal College of Pathologists of Australasia (2022); Canadian Society of Clinical Chemists (2018); UK Medicines and Healthcare Products Regulatory Agency (2021); and International Standards Organisation (2022).

Results/Findings

The *Requirements for Point of Care Testing* standards were largely comparable with national and international guidelines. Notable distinctions revolved around areas of governance, connectivity, and post-analytic considerations regarding standardisation of results reporting. A major recommendation, consistent across international guidelines, advises the formation of a multi- or inter-disciplinary PoCT governance body/committee to hold overall responsibility for all aspects of the PoCT service. Connectivity of PoCT devices with the existing digital health systems of an organisation was raised in both national and international standards as an essential consideration in PoCT device selection. Compatibility of data standards in test results reporting in the post-analytic phase was recommended in international guidelines. PoCT results reporting should follow the same units of measurement and reference ranges as the local accredited medical laboratory and clinical practice.

Implications/Key Message

Updates to the *Requirements for Point of Care Testing* standards should focus on governance, connectivity, and standardisation of results reporting to enhance the effectiveness, quality, and safety of PoCT in Australia.

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P51 - Point of care testing (PoCT) training resources in Australia: a review

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Introduction/Background

Pre-analytical errors, such as sample collection, device and process issues, and patient identification mistakes, are not uncommon in PoCT and can lead to false results and incorrect medical decisions. Adequate training and ongoing competency of PoCT users is vital for ensuring result accuracy. We sought to identify what PoCT training resources exist in Australian healthcare.

Method

We hand searched websites, including hospital, general practice, allied health, and paramedicine, to identify currently available training resources for PoCT across Australian states and territories. The search was conducted using the internet, thus, training resources existing within internal systems (e.g., on an intranet) which are not publicly available were not included in this review.

Results/Findings

A wide array of training resources for PoCT exist in Australia and are broadly dispersed across a range of providers including government agencies, universities, and professional networks. Most identified resources were provided online by NSW Health Pathology and Flinders University (and its associated PoCT programs/collaborations). Whilst many resources are in the public domain (e.g., NSW Health Pathology YouTube channel), other providers require a user account/login to access training (e.g., Australian Point of Care Practitioners Network) or only provide training to staff at specified centres (Flinders University PoCT programs in the Northern Territory/Western Australia). Others, like Pathology Queensland, have internal systems.

The identified training resources encompass accredited/nationally recognised courses, e-learning modules, training kits, device training guides, case studies, professional learning modules, competencies, and documentation. The format of training resources included videos, webinars, documentation (forms/templates), and guidelines, catering to different learning needs and preferences.

Implications/Key Message

Ensuring comprehensive training and competency assessment for PoCT users is fundamental to address safety and quality concerns and ensure the reliability and accuracy of PoCT results. Development of a nationally accredited training program could avoid duplication of resources and provide consistency across training standards.

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P52 - Evaluation of the Priority Primary Care Centre program in the Western region of Victoria, Australia

Miss Madison Frith[1], Dr Sean Randall[1], Dr Feby Savira[1], Mr Jamie Swann[2], Ms Naomi White[2], Mr Andrew Giddy[2], Ms Kirsty McClean[3], Prof Anna Peeters[1], Prof Suzanne Robinson
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Madison Frith, Sean Randall, Feby Savira, Jamie Swann, Naomi White, Andrew Giddy, Kirsty McClean, Anna Peeters, Suzanne Robinson

Introduction: The Victorian State Government has established Priority Primary Care Centers (PPCCs) to reduce the demand on Emergency Departments (EDs). PPCCs are general practitioner led, free of charge services that aim to provide care for conditions that require urgent attention, but do not require the high-acuity care of an ED. This study aims to evaluate the implementation and impact of the PPCC on ED demand in three sites within the Western region of Victoria: Ballarat, Geelong and Warrnambool.

Methods: This is an observational mixed methods study. The quantitative component involves analysis of de-identified administrative data, comprising PPCC clinical records and ED presentation records. An interrupted time series analysis will be employed to assess the effect of PPCC on ED demand. Qualitative data collection involves semi-structured interviews to understand the experiences of PPCC patients, clinical staff, managerial and administrative staff and ED clinical staff. Implementation science frameworks have been integrated within the study design.

Results: Preliminary analysis of PPCC clinical records from 28 October 2022 until 1 July 2023 indicated 12,961 unique attendances, mostly in Ballarat PPCC (68%). The mean number of visits during this period was 54 per day. The greatest patient load was those younger than 15 years old (32%). Most patients reside in regional centres (64%) and live in areas classified as socioeconomic quintile 3 (40%). After attending the PPCC, 13% of patients were referred to general practice and 2% to the hospital/emergency department, while 80% of attendances were fully resolved. Qualitative data suggests PPCC offers accessible, affordable, and convenient care. Facilitators to successful implementation of PPCC included experienced workforce, effective planning and resource management, and effective collaboration and leadership, while barriers included poor community awareness and interoperability issues.

Conclusion: The PPCC has reached a broad range of patients with various demographic and socioeconomic backgrounds across the region. Most attendances were resolved in the clinic, suggesting the PPCC is filling a gap of unmet need for urgent but low-acuity care.

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P55 - Training for Change: Tailoring Cultural Safety Training for Health Care Providers

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Introduction/Background

Indigenous people continue to have poor experiences in the health care system, even when staff have completed cultural safety training. This research aimed to understand the gaps between knowledge and practice within an Emergency Department, and how these can be bridged in order to ensure Indigenous people have access to culturally safe care within the hospital.

Method

This study included interviews with health care providers as well as surveys and focus groups with Indigenous community members and health leaders. Through these results we identified knowledge and information gaps of health care providers and Indigenous community members regarding accessing care in the Emergency Department. From these recommendations, a series of training materials are being developed to address these specific gaps, building on the foundation of general cultural safety training.

Results/Findings

Although cultural safety training is becoming more widespread across health care institutions in Canada, many care providers lack confidence in their knowledge to provide culturally safe care. Both care providers and Indigenous community representatives felt there would be value for health workers to have more specific knowledge about what culturally safe care looks like in their practice. Indigenous community members wanted more knowledge about the pathways and standards of care to ensure appropriate access to high quality health care services.

Implications/Key Message

Although cultural safety training has become more common among health providers in Canada, often the training leaves gaps when it comes to operationalizing culturally safe care. Providing training and protocols to ensure specific services are culturally safe and ensure continuity of care between hospital and community-based services can be a way to enhance health care providers’ ability to provide culturally safe high-quality care.

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P56 - Integrating allied health services using a transdisciplinary assessment model

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Introduction/Background

Allied health professionals work together to assess and treat people with health conditions. However, allied health roles and skills can overlap leading to duplicated services. This frequently occurs during stroke assessment. When services are duplicated, this is an opportunity to use innovative solutions to integrate care. At the Mater Hospital Brisbane, we aimed to integrate allied health stroke assessments using a transdisciplinary assessment model and evaluate the impact on service provision.

Method

Usual allied health and transdisciplinary stroke assessments were compared using a 22-month pre-/post- clinical study. The transdisciplinary stroke assessment was administered by a trained physiotherapist or an occupational therapist on behalf of the allied health team. Assessment differences were investigated using Mann-Whitney U test for continuous variables and Pearson's chi-squared test for categorical variables.

Results/Findings

When the transdisciplinary assessment was used (N=116), allied health provided 3 fewer occasions of service ($p=0.11$) to each patient without compromising care quality or patient safety. In addition, fewer allied health professionals were involved in each patient admission ($p=0.001$), compared to usual assessments. For example, the percentage of patients seen by occupational therapy and physiotherapy was 84.5% ($p<0.001$) and 87.1% ($p=0.003$) respectively, compared to 100% when usual assessment was used.

Implications/Key Message

Integrating allied health stroke assessment using a transdisciplinary assessment model was successful. Less service duplication occurred, demonstrated by reduced occasions of service to each patient and provided by fewer allied health clinicians. Integrating assessment means that clinicians can redirect their time towards other occasions of high-value patient care such as earlier discharge planning or rehabilitation. In the digital age, clinicians could identify duplicated services and integrate assessments into a single electronic form to achieve similar benefits.

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P57 - Why is implementing Health Information Technology (HIT) so hard: understanding HIT implementation and health services integration for chronic disease management

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Introduction/Background: Chronic diseases significantly challenge healthcare systems when care is not integrated to meet people's needs. As care integration drives healthcare reform, health information technology (HIT) emerges as a promising enabler. This research aimed to understand the digital transformation process and the changes it brought about within a health service's integration for chronic disease management.

Method: This research centred around three case studies of how medical officers use the clinical applications at health services in Canberra. Qualitative data were collected through semi-structured interviews with health professionals. This multiple case study design facilitated an in-depth understanding through comparative analysis between a successful but unofficial application (WhatsApp), and less successful official cases (MedChart and MyHR).

Results/Findings: COVID-19 has accelerated digital transformation, forcing healthcare systems to adapt more quickly than ever before. Digitally-enabled and integrated operating models are central for delivering effective chronic care outcomes. Despite varying levels across the cases, these was a predominantly supportive attitude toward healthcare digitalisation. This research emphasises that both technical and non-technical factors play significant roles in the effectiveness of HIT implementation. However, given the current level of digitalisation, technical issues play a disproportionate part in implementation challenges. The power of technical factors in changing users' willingness and behaviour should not be overlooked.

Implications/Key Message: Effective HIT implementation requires user-centric design that aligns technology with user workflows with minimal disruption, alongside properly defined clinical representatives and well-defined problem-solving channels. Ideal representatives are those from target users' own clinical networks with close working relationships. Our research emphasises the interactions between technical objects and human subjects, particularly how changes in the power of one influences the other. It suggests potential solutions for adjusting power relations to maximise the effectiveness of HIT implementation.

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P58 - Piloting a value-based care toolkit in an online community of practice platform

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Introduction

Value in healthcare is complex to define and measure. Yet identifying and addressing low value care is critical to ensure quality outcomes with finite resources. Low value care can include practices that may be harmful to patients, have little clinical benefit, are inefficient, have disproportionately high costs, or misuse resources. The 'Moving Towards High Value Care Toolkit' includes strategies to identify the value of care, encompassing clinical scenarios and cost mapping tools to support behaviour and practice change.

Embedding the value-based care toolkit within an online community of practice utilising the ECHO model™ at Children's Health Queensland was designed as a pilot implementation project. The focus of the presentation will be on the implementation strategies and processes involved in tailoring and adapting the toolkit within the ECHO model™, including the role of consultation, facilitation, and training.

Method

The project involved developing an interactive learning series within a newly established ECHO® Network, focused on capacity-building sessions for clinicians, managers and service directors regarding how to utilise the toolkit within their integrated care practice contexts. A mixed-methods evaluation, including qualitative interviews with ECHO® Network attendees and quantitative administrative data, focused on understanding the feasibility, acceptability and appropriateness of the toolkit and mode of delivery, and the sustainability of embedding the toolkit in an ECHO model™.

Findings & Implications

Delivering the toolkit within the ECHO model™ was a dynamic process that integrated consultation, facilitation, and training as commonly used implementation science strategies. Unexpected challenges that arose during the study required the development of additional resources, flexible modes of interaction, and attention to power dynamics, confidentiality and valuing different views when identifying examples of low value care in practice. The processes followed and resources developed are likely to be relevant to value-based health care initiatives conducted in other clinical and integrated care contexts.

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P60 - Key methodological, recruitment and implementation challenges within a randomised trial of a Community Health Navigator intervention with patients transitioning from hospital to home.

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Introduction/Background: Community Health Navigators (CHNs) are increasingly being incorporated into health systems to undertake a variety of roles aimed at reducing barriers to health care access. CHNs may help prevent hospitalisation by aiding the transition home following acute care, providing linkage to social and community supports, increasing patient and family engagement, and promoting self-management skills.

Method: This parallel group, pragmatic randomised trial commenced November 2022. Patients are allocated following discharge from four Sydney hospitals to the CHN intervention or usual care. CHNs are employed by Sydney Local Health District within the Planned Care for Better Health Program, a community-based service involved in identifying vulnerable patients at risk of hospitalisation, to strengthen the support they receive.

Results/Findings: Significant challenges to recruitment, retention and implementation have necessitated a revised protocol and sample size. Ethical concerns about researchers approaching patients on wards or 'cold calling', has resulted in a two-step telephone recruitment process: the first from a treating team member, and the second from a researcher/contingent worker. Contacting patients and imparting lengthy, complex participation information over the phone has been difficult with those who are elderly or recently discharged and is further compounded by the need for interpreters.

To be effective, CHNs attempt to make contact to provide support within 72hrs of discharge. Facilitating contact and conducting a home visit within this timeframe has proven difficult and has been impacted by patients' lack of knowledge about, and familiarity with the CHN role.

Implications/Key Message: Ethical requirements intended to protect patients can impede participation. Central to addressing challenges has been a collaborative and problem-solving approach between the hospital, CHNs and research team. Employing nurses to undertake screening and initial contact with patients has improved sample identification and recruitment. Streamlining recruitment processes and patient communication and reducing the pressure of data collection at baseline has increased patient willingness to participate.

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P61 - Hospital Nutrition Care in the Digital Age

Mrs Jennifer Ellick[1,2], Hannah Olufson[1], Ms. Amanda Adams[1], Ms Simone McCoy[1], Ms Jessica Kinneally[1], Ms Merrilyn Banks[3], Ms. Adrienne Young[2,3]
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Introduction/Background

Increasing demands for hospital dietetic services call for innovative models of care. Opening a new digital hospital provided the opportunity to rethink traditional dietetic and food services, to meet the needs/expectations of our consumers/partners. We aimed to leverage digital systems and workforce capability to implement a high-value service model supporting collaborative, person-centred nutrition care.

Method

Multidisciplinary stakeholders reviewed literature and consumer feedback to identify, design, and implement local digital innovations. A delegated and digitally enhanced service model was implemented, supporting the work to full scope of practice within a delegated Malnutrition Model of Care and a flexible, mixed model food service. A digital meal rating tool was created and implemented to support the evaluation and improvement of meals/menus via real-time feedback. As well as the implementation of, a state-wide, health practitioner-led telehealth model of care, the Dietitian First Gastroenterology Clinic. Monitoring of safety, quality and outcomes is enabled via clinical supervision, clinical outcome/practice audits, and review of activity data.

Results/Findings

Three years after opening 77% of all outpatient activity is now delivered via telehealth contributing to state-wide load sharing. As well 69% of all inpatient activity is routinely delegated to Dietetic Assistants through digital workflows, supporting expanded scope of practice (gastrostomy dietitian services, 12 occasions/month) and 8% of Dietitian time being reallocated for quarantined research/service improvement with scientific presentations/publications increasing by 200%. Benefits to our patients include decreased wait times for gastroenterology outpatient services, low prevalence of malnutrition (27% overall, with 0% hospital acquired) and high rates of food service satisfaction (4.2/5).

Implications/Key Message

This work highlights the value of harnessing technology to provide high-value service models through delegation, health practitioner-led clinics and statewide load sharing. The implementation and evaluation of our digital nutrition service model will pave the way for other facilities and services eager to embrace the digital age of healthcare.

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P62 - Exploring user and provider experiences with health education chatbots: a qualitative systematic review

Prof Dr Kyung-eun (Anna) Choi[1,2,3], Dr. Sebastian Fitzek[1]

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Introduction/Background

Chatbots present a transformative opportunity within health education and behavior change interventions. However, their optimal deployment warrants a comprehensive understanding of user and healthcare provider experiences, an area where systematic reviews of qualitative evidence are currently lacking. This qualitative systematic review aimed to synthesize insights into patient and healthcare provider perceptions of chatbots designed specifically for health education and behavior change.

Method

We conducted a search across the PubMed, Cochrane, and Science Direct databases for English peer-reviewed qualitative and mixed-methods studies published before October 1, 2023, exploring user experiences with chatbots for health education and behavior change. Methodological quality was appraised using the Joanna Briggs Institute Critical Appraisal Checklist. Key data were extracted, and findings were synthesized following meta-aggregation principles.

Results/Findings

Our analysis included 27 studies from ten countries and revealed the potential of chatbots to increase health literacy and support positive behavioral change. These included 241 participants (112 female, 71 male, 20 LGBTQ+ youth) in primary qualitative studies, and 10.802 participants in mixed-method studies, of which 657 were involved exclusively in the qualitative components of these studies. User satisfaction varied, with personalization and privacy emerging as vital considerations. Theoretical underpinnings, including the Health Belief Model and Transtheoretical Model, have shown a significant influence on chatbot effectiveness.

Implications/Key Message

Chatbots hold substantial promise for health education and behavior change. To maximize their potential and foster widespread acceptance, personalization, data privacy, and robust theoretical integration are essential. Further research on these aspects will drive continued advancements in integrating and optimizing chatbots within healthcare landscapes.

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P63 - Quality of Ambulatory Surgical Care: A Systematic Review and Meta-Analysis

Ms Pooja Arumugam[1], Ms Claire Fraser[1], Ms Lisa Cassaniti[1], Mr Joshua Wright[1], Ms Sunnya Khawaja[1,2], A/Prof Alka Kothari[1,3], A/Prof Manju Chandrasegaram[1,4], Ms Trang Dang[1], A/Prof Isuru Ranasinghe[1,2]
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Introduction

Most surgical procedures in Australia are performed in the ambulatory (outpatient) setting. However, the quality of ambulatory surgical care needs to be better understood, as the literature broadly reports the outcomes of individual procedures. We performed a systematic review and meta-analysis of the rates, timing and causes of adverse clinical outcomes within 30 days of ambulatory surgery, utilising studies that reported broadly across all procedures performed in the ambulatory setting.

Method

We searched PubMed and Embase for studies published between 2000-2023. Reported outcomes included immediate hospitalisation rate, 30-day hospitalisation, post-operative complications and death. Pooled estimates were calculated using the Freeman-Tukey double arcsine transformation.

Results

From 4,298 records screened, we identified 30 studies encompassing 15,868,214 patients. Most studies were either good (67%) or fair (30%) quality. No studies from Australia were identified, and 50% were from the USA. Immediate hospitalisation was reported commonly (12 studies, pooled proportion 1.82%, 95% CI 1.1-2.71%), and 30-day hospitalisation was reported by nine studies (pooled proportion 2.88%, 95%CI 1.2-5.3%). Death and complications were infrequently reported. The most commonly reported causes for hospitalisations were surgical (34.4% of all hospitalisations, 95%CI 31.2-37.7%), such as bleeding (15.5%, 95%CI 2.2-36.1%) and urinary retention (4.6%, 95%CI 0.9-10.1%), organisational issues such as late start/exit from theatre (26.0%, 95%CI 12.5-42.2%), and anaesthetic concerns (11.8%, 95%CI 9.6-14.2%), such as vomiting (3.35%, 95% CI 0.87-6.91%). All pooled results showed a high degree of heterogeneity, reflecting differences in surgical cohorts and outcome definitions.

Implications

Although ambulatory surgery is associated with relatively low rates of immediate or 30-day hospitalisations, the most cited causes for hospitalisation are potentially preventable, including surgical, organisational and anaesthetic factors. The heterogeneity in cohort and outcome definitions, however, means that the overall quality of ambulatory surgery is hard to quantify, and further studies using standardised definitions are needed.

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Poster Theme: Mental Health

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P64 - Schizophrenia and Diabetes Mobile-Assisted Remote Trainer (S.M.A.R.T.): A co-designed digital intervention to improve diabetes self-management in people with schizophrenia

Dr Urska Arnautovska[1,2,3], Dr Gabrielle Ritchie[1,2,3], Dr Anish Menon[1,4], Dr Nicole Korman[2], Dr Alyssa Milton[5], Dr Rebecca Soole[1,3], Dr Marlien Varnfield[6], Dr Jaimon Kelly[4], Dr Pieter Jansen[7], Andrea Baker[3], Professor Anthony Russell[4,8,9], Professor Dan Siskind[1,2,3]

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Introduction/Background: People with schizophrenia are more likely to develop type 2 diabetes mellitus (T2DM) compared to the general population. Such high risk of T2DM is due to lifestyle factors such as sub-optimal diet, and sedentary behaviour, and metabolic side effects of antipsychotic medications. Digital health interventions, such as smartphone apps and text messaging, can be valuable tools for self-managing diabetes. Involvement of consumers as well as health professionals in the development of such innovate approaches from the onset, however, is necessary to facilitate successful implementation and positive health outcomes.

Method: We adopted a multi-stage co-design process to develop a low-cost, SMS-enabled intervention titled Schizophrenia and Diabetes Mobile-Assisted Remote Trainer (S.M.A.R.T.). Considering specific motivational and cognitive characteristics of people with schizophrenia, S.M.A.R.T. aims to promote diabetes self-management through provision of purposefully built text messages targeting key lifestyle behaviours associated with diabetes (e.g., nutrition, weight management, physical activity). The development of S.M.A.R.T. is informed by models of diabetes self-care and incorporates evidence-based behaviour change techniques to provide psychoeducation and facilitate positive change in lifestyle behaviours.

Results/Findings: In a 4-week pilot study with five participants living with schizophrenia and pre-diabetes/diabetes, S.M.A.R.T. was found to be feasible and acceptable in improving key lifestyle behaviours related to diabetes self-care and participants were highly engaged and responsive to the intervention.

Implications/Key Message: S.M.A.R.T. is a world-first digital intervention aimed at improving diabetes self-management in individuals living with schizophrenia. Preliminary results suggest this novel personalised text message system is acceptable and feasible in this unique patient population. Participant feedback will inform further refinement of S.M.A.R.T. intervention to be tested in future studies.

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P65 - Understanding views on value based mental healthcare payment reform in a complex healthcare system: The Australian experience.

Ms Alicia Norman[1,2,3], Prof Henry Cutler[1,2,3], Dr Anam Bilgrami[1,2,3], Ms Mona Aghdaee[1,2,3], Prof Frances Rapport[1,2,4], A/Prof Jonas Fooken[1,2,3]
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Introduction/Background: Many developed countries, including Australia, have fragmented mental healthcare systems with costly care that is misaligned with patient preferences. To improve the integration of care, payers are exploring new payment methods that promote collaboration and care integration among multiple providers. Our study aimed to provide insights and recommendations for shifting mental health care payment models away from traditional fee-for-service toward innovative models that pay for outcomes.

Method: We gathered data by interviewing 21 executives from state and federal government departments, agencies, and mental health commissions in Australia. We also conducted three national online workshops with 70 non-government stakeholders, consumers, and public participants. Responses were transcribed and analysed to identify common themes using thematic and schema analysis methods. These themes were organized using the Consolidated Framework for Implementation Research (CFIR) to offer a concise overview of stakeholder perspectives.

Results/Findings: Stakeholders generally agreed on the need for value based payment models in mental healthcare, but there were differing opinions on how these new models should be governed in a federated system like Australia. Primary barriers to implementation included defining outcomes that matter to consumers, lack of evidence, workforce gaps, political complexities, procedural challenges, and costs. Contrasting perspectives between government and non-government stakeholders highlighted differences that may need to be addressed before implementing payment reforms.

Implications/Key Message: Reforming payment models in mental healthcare is complex and challenging, magnified by the often-large uncertainty in attributing outcomes to care. This study offers potential recommendations for implementing outcomes-based payment reform at scale in mental healthcare, across areas such as governance and planning, evidence-based care promotion, and laying the groundwork for reform.

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P66 - Prevalence and patterns of mental health service use for Australian workers with compensated low back pain

Dr Shannon Gray[1], Dr Michael Di Donato[1], Mr Luke Sheehan[1], Assoc Prof Ross Iles[1], Prof Alex Collie[1]
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Introduction/Background

Low back pain (LBP) is a leading cause of disability globally, interfering with work performance and quality of life. Workers with work-related LBP can receive workers' compensation and access funded healthcare to promote recovery, including mental health services, due to strong links between LBP and mental health. We aimed to determine prevalence of mental health services for workers with compensated LBP, describing volume, timing and provider, and identify determinants of service volume and time to first service.

Method

Claims and services data from four Australian workers' compensation jurisdictions (Queensland, South Australia, Western Australia, Victoria) lodged 1/07/2011-30/06/2015 were analysed. Mental health services occurring 30 days prior to 730 days following claim acceptance were examined. Prevalence was reported as a percentage of all claims overall and by time loss duration, age group, sex, financial year of claim lodgement, jurisdiction, socioeconomic status and remoteness. Logistic regression determined odds of accessing at least one mental health service. Volume and time (weeks) from claim acceptance to first service were calculated overall, by provider and interaction type, and by listed independent variables. Negative binomial and Cox regression models examined differences between service volume and time to first service by independent variables, respectively.

Results/Findings

Prevalence was 9.7% and highest in Victoria. Odds of accessing services was highest with longest time loss, among females and in Queensland. Lower odds were observed in regional areas and those >56 years. 91.2% of workers with mental health services saw a psychologist, 16% saw multiple provider types. Number of services and time to first service increased with time loss. Victorian workers had the most services, yet accessed them latest.

Implications/Key Message

Findings suggest opportunities for workers' compensation regulators and insurers to provide greater and earlier access to appropriate mental health services alongside physical treatment as standard practice, to help promote recovery.

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P67 - Young Australians' use of mental health services

Dr Johanna Wilson[1], Dr Alison Gee[1], Jason Thomson[1], Esther Qiu, Amy Young[1]
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Introduction/Background

People born 1997–2012, commonly referred to as Generation Z, grew up in a digital age. By the time they transitioned into teenage and young adulthood, smart phones, digital applications, and social media were incorporated into daily activities, and internet-based information, including healthcare information, were widely available. In contrast, people from the preceding Generation Y (born 1981–1996) entered adulthood while these digital transformations were only just emerging, and as access and internet use increased.

Method

This poster presents an overview of government funded and subsidised mental health services accessed by young Australians aged 12–24 years using national data assets held by the Australian Institute of Health and Welfare. Data will be presented for this age group from Generation Y for 2007–08, alongside Generation Z for 2021–22.

Results/Findings

Data show the use of mental health services by young people at two time points within the last two decades of the digital age: people aged between 12 and 24 during the years 2007–08 and 2021–22.

Implications/Key Message

The mental health of young people has been a recent focus of data on social isolation and loneliness, mental disorder and distress, and use of mental health services. Young people in Generation Y and Generation Z have been exposed to significantly different technological and online landscapes during their childhood and formative years. This poster highlights mental health services use by young people at two different time points during an era of digital transformation.

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P68 - The availability of national data on Australian mental health services

Dr Alison Gee[1], Mr Jason Thomson[1], Ms Amy Young[1], Dr Matt Robson[1], Ms Indus Chopra[1], Mr Kevin Yeo[1]
[1]Australian Institute Of Health And Welfare, Canberra, Australia

Introduction/Background

Data about the investment and activity of public health services is central to understanding how services are used, and who uses them, to meet the health needs of the population. Such data can be used by health agencies, policy makers, health system planners, professionals, researchers and the public.

Method

The Australian Institute of Health and Welfare (AIHW) has collaborated for over 35 years to enable reporting of health and welfare data on Australians, including the use and functions of health services. The AIHW holds more than 150 data collections. Mental health-related data work is among the largest functions of the AIHW and includes long-running collections specific to mental health, general health services, support services and newer collections such as digital mental health support.

Results/Findings

Each year, the AIHW receives more than 170 data submissions for mental health specific collections alone. Data from these national collections include information about mental health services':

- Resources, including staffing and monetary resources (revenue/expenditure);
- Service activity, including service episodes delivered and consumer demographics;
- Consumer experiences of service, including patient-reported measures and use of restrictive practices such as involuntary treatment, seclusion and restraint;
- Consumer outcomes from service, including clinician- and patient-reported outcome measures.

The AIHW also accesses data on other services used by people with mental health conditions, including welfare and support, other Australian Government initiatives and national surveys. Data are published in various formats including topic-based reports, flagship publications, data portals, and dedicated subsites.

Implications/Key Message

There are aggregate data available on the resources, use and experiences of Australian mental health services that can be used to inform quality improvement and mental health services research. This presentation provides an overview of the range of available data, collaborative agreements underpinning data sharing, and processes for how data are collected from health services through to national reporting.

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P69 - Establishment of a Cross-Domain Comprehensive Mental Health Care Model

Clinical Psychologist Yi Feng Lu[1], Professor Chi-Cheng Yang[1,2]
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Introduction/Background

Given the continuity of mental health, psychologists can focus on comprehensive mental health care. However, in Taiwan, there is more emphasis on promoting mental health and counseling for psychological distress in the community, while focus more on treating mental illnesses in hospital. Currently, there are few opportunities for integrated services between the two. Therefore, constructing an integrated service model would enhance mental health care.

Method

This model evolves through three stages: (1) establishing Holistic Mental Health Center at a hospital in Taiwan, employing 12 psychologists to carry out integrated psychological care; (2) constructing an appropriate continuum of care model through literature review and expert consultation; (3) implementing psychological care and adjusting to a more suitable model.

Results/Findings

The Holistic Mental Health Center integrates clinical and counseling psychologists, establishing “the four-level prevention”. It includes of "Level One" (mental health promotion), "Level Two" (detection of psychological issues), "Level Three" (management of psychological issues), and "Level Four" (grief support) of mental health services. Simultaneously, these services are implemented in the domains of "hospital-community-home" model.

Implications/Key Message

We expect that this model will establish systematic and comprehensive mental health services within the hospital, community, and home care systems.

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P70 - Mental health service use after minor to moderate motor vehicle crash injury: A systematic review

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Introduction

Acute psychological distress after motor vehicle crash (MVC) injury is pervasive, as are the mental health (MH) sequalae for those with long-term recoveries. Around 80% MVCs result in minor to moderate injuries (e.g., whiplash, sprains, strains), and while typically labelled “minor”, around half still experience impairments one-year post-injury. MH service use after these injuries is unclear. Addressing this could inform MH service design for injured people. Thus, the aim of this review was to synthesise evidence relating to MH service use after a minor to moderate MVC injury.

Method

A systematic literature review was conducted (CINHAL, MEDLINE, Embase, Scopus, and PsycINFO). The study population was those with majority minor to moderate injuries and the outcome was MH service use (e.g. MH-related medicines and consultations).

Results

From 3969 identified records, 12 studies were included. Prevalence of MH service use varied significantly, ranging from 2.85% to 83%. Some studies defined populations based on specific injury types (e.g. whiplash), and the scope of MH service use varied. Most studies were retrospective cohort studies and conducted in Victoria, Australia (11/12), with one Swedish register-based cohort study. Five studies reported therapeutic interventions, four examined medication use, and three included a mix of therapeutic interventions and medication use. Determinants of MH service use included female sex, seeking common law compensation, and soft tissue injury.

Implications

Prevalence of MH service use after minor to moderate MVC is not well described. Few studies reported prevalence of MH service use after minor to moderate MVC injury and majority of studies were conducted in Victoria, Australia, indicating limited information outside of Australia. Improving reporting and definitions of MH service use may lead to improved estimates of prevalence and therefore better MH service provision in this population.

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P71 - How change management models and methods have been applied in digital transformation?

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Introduction/Background

Internationally, health services have seen increasing presence of changes towards the use of virtual care. Changes include the adoption and implementation of tools to integrate virtual care and the integration of new digital tools and technologies in care delivery processes. Greater understanding of change management methods and models employed for change related to virtual care will support health services for successful integration of virtual care in healthcare delivery.

Method

A systematic literature review was conducted in which a search strategy was developed and applied to four electronic databases (Medline, PsycINFO, Scopus and Business Source Primer) to retrieve peer-reviewed primary studies, published in English between January 2019 and December 2023. Studies that reported on use of structured change management processes in relation to incorporation of, or transition to virtual or digitally enabled health service, were eligible for inclusion. Data were extracted into a purpose-built data extraction table and data synthesis was conducted in stages using a team-based approach.

Results/Findings

Of the 3156 studies identified, 3142 were excluded during the two-staged screening process. Seventeen studies were included for data extraction. Findings demonstrate that in the context of virtual care change, high quality ongoing collaboration between clinical and technical subject matter experts is essential to incrementally address challenges. One off or short-term initial training is insufficient for change to be embedded and sustained. No single change method was identified as preferred or superior but integrating process improvement approaches, such as Plan-Do-Study-Act cycle, within a broad strategic change approach allowed necessary adaptations to be made to enable change.

Implications/Key Message

Change leadership that effectively engages with and bring together clinical and technical subject matter experts to deliver, embed and sustain change is critical. Support that enables change managers to identify and use change approaches most relevant to the requirements of the change is valuable.

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P72 - Patterns of physiotherapy attendance in compensated Australian workers with low back pain: a retrospective cohort study

Dr Michael Di Donato[1], Mr Luke Sheehan[1], Dr Shannon Gray[1], Professor Rachelle Buchbinder[1], Associate Professor Ross Iles[1], Professor Alex Collie[1]
[1]School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia

Introduction/Background

Workers with low back pain (LBP) frequently seek care from physiotherapists. We sought ot identify patterns of physiotherapy attendance and factor associated with these patterns in Australian workers with accepted compensation claims for LBP.

Method

We included workers with accepted workers' compensation claims for LBP from four Australian states between 2011 and 2015. We used trajectory modelling to identify distinct groups of workers based on the number (i.e., volume) of monthly physiotherapy attendances over a two-year period from claim acceptance. Descriptive statistics and logistic regression models were used to compare the characteristics of the groups.

Results/Findings

A small but significant proportion of workers attend physiotherapy numerous times over a long period. 79.0% of the sample (n=22,767) attended physiotherapy at least once in the 2 years after claim acceptance. Among these, trajectory modelling identified four distinct patterns of attendance. Most (n=11,808, 51.9%) recorded a short-term low-volume pattern, 26.8% (n=6,089) recorded a short-term high-volume pattern, 14.3% (n=3,255) recorded a long-term low-volume pattern, and 7.1% (n=1,615) recorded a long-term high-volume pattern. Workers from Victoria (OR 0.34, 99%CI 0.31, 0.37), South Australia (OR 0.69, 99%CI 0.60, 0.80), and Western Australia (OR 0.79, 99%CI 0.69, 0.88) were significantly less likely to attend physiotherapy than workers from Queensland. Victorian workers were significantly more likely to be in one of the 2 long-term trajectory groups (OR 8.17, 99%CI 6.86, 9.73; OR 18.68, 99%CI 13.57, 25.70).

Implications/Key Message

Most compensated Australian workers with LBP attend physiotherapy. Significant interjurisdictional differences between attendance patterns suggest that policy may play an important role in healthcare delivery.

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P73 - How much physiotherapy, chiropractic and osteopathy care do compensated Australian workers with low back pain receive? A retrospective cohort study

Dr Michael Di Donato[1], Dr Shannon Gray[1], Mr Luke Sheehan[1], Professor Rachelle Buchbinder[1], Associate Professor Ross Iles[1], Professor Alex Collie[1]
[1]School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia

Introduction/Background

Most physical therapy professions can provide many of the recommended treatments for low back pain. We sought to identify the prevalence and frequency of physiotherapy, chiropractic and / or osteopathy care in Australians with workers' compensation claims for low back pain (LBP).

Method

We included workers with accepted workers' compensation claims longer than 2 weeks from the Australian states of Victoria, Queensland, South Australia, and Western Australia. Workers were grouped by whether they attended physiotherapy, chiropractic, and/or osteopathy in the first 2 years of their claim. Descriptive statistics and logistic regression were used to describe differences between groups. Descriptive statistics and negative binomial regression were used to describe differences in the number of attendances in each group.

Results/Findings

Most workers had at least one physical therapy attendance during the period of their claim (n=23,619, 82.0%). Worker state, socioeconomic status, and remoteness were the largest contributing factors to likelihood of physical therapy attendance. Most workers only attended physiotherapy (n = 21,035, 89.1%, median of 13 times). Far fewer only attended chiropractic (n = 528, 2.2%, median of 8 times) or only osteopathy (n = 296, 1.3%, median of 10 times), while 1,750 (7.5%) attended for care with more than one type of physical therapy (median of 31 times).

Implications/Key Message

Most Australian workers with workers' compensation time loss claims for LBP attend physiotherapy at least once during their claims. State of claim is the strongest predictor of which physical therapy profession they attend, possibly due to regional availability. Workers who see a physiotherapist have significantly more attendances. Future research should explore the relationship between these patterns of care and claimant outcomes, including work disability duration.

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P74 - High-risk opioid prescribing and persistent opioid use in Australian workers with back and neck musculoskeletal disorders or injuries

Mr Yonas Tefera[1], Dr. Shannon Gray[1], Professor Suzanne Nielsen[1], Professor Alex Collie[1]
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Background

Opioid prescribing to injured workers has increased despite limited evidence supporting the benefits may often outweigh the risks. However, there are limited data what predicts early higher-risk and persistent opioid use in injured Australian workers.

Methods

Injured workers with workers' compensation claim for back and neck conditions who filled at least one opioid prescription within the first 90 days after injury from January 01, 2010 to December 31, 2019 were included. High-risk opioid prescribing practices in the first 90 days were measured using one of four indicators of risk (high-total opioid volume on first dispensing occasion—exceeding 350mg oral morphine equivalent, high average daily dose over 90 days—higher than 50mg oral morphine equivalent, initiation of long-acting opioids, and concurrent psychotropic prescriptions). Persistent opioid use was determined using group-based trajectory modelling over the subsequent 1-year period. Multivariable logistic regression was used to identify predictors of high-risk opioid prescribing in the first 90 days and persistent opioid use in the subsequent year.

Results

A total of 6,278 injured workers were included**.** At least one indicator of high-risk opioid prescribing was identified in 67.1% of the sample in the first three months. Persistent opioid use was identified in 24.8% of the sample over the subsequent year. Early high-risk opioid prescribing was associated with double the odds of persistent use (aOR 2.07, CI: 1.80-2.38). Injured workers in inner and outer regional Australia had higher odds of early high-risk prescribing (aOR 1.26, CI: 1.11-1.44) and (aOR 1.43, CI: 1.10-1.87) respectively, compared to those in major cities. Similarly, workers residing in disadvantaged and advantaged socioeconomic areas had higher (aOR 1.20, CI: 1.03-1.41) and lower (aOR 0.68, CI: 0.56-0.82) odds of persistent opioid use, respectively, compared to those residing in areas of middle socioeconomic quintiles.

Implications

Two-thirds of injured workers receiving opioids in the first 90 days showed evidence of high-risk prescribing indicators, with one-quarter exhibiting persistent opioid use over the subsequent year. Early high-risk opioid prescribing doubles the odds of opioid persistence. There is a need for further research and careful scrutiny of opioid prescribing in this population.

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P75 - Protocol for the process evaluation of the MOHMQuit trial (Midwives and Obstetricians Helping Mothers to Quit smoking)

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Introduction/Background: Smoking cessation in pregnancy remains a public health priority. Our team used the Behaviour Change Wheel to develop the Midwives and Obstetricians Helping Mothers to Quit smoking (MOHMQuit) intervention with health system, leader and clinician components. MOHMQuit addresses a critical evidence to practice gap in the provision of smoking cessation support in antenatal care. Nine public maternity services in New South Wales are participating in a cluster randomised stepped-wedge controlled trial of effectiveness. The trial includes a comprehensive process evaluation to assess to what extent and how MOHMQuit is being implemented (acceptability; adoption/uptake; appropriateness; feasibility; fidelity; penetration and sustainability), and the context in which it is implemented, in order to support further refinement of MOHMQuit throughout the trial, and aid understanding and interpretation of the results of the trial.

Method: The design of the process evaluation is underpinned by implementation science frameworks and adopts a mixed methods approach. Quantitative evidence from participating leaders and clinicians in our study will be used to produce individual and site-level descriptive statistics. Qualitative evidence of leaders' perceptions about the implementation will be collected using semi-structured interviews and will be analysed descriptively within-site and thematically across the dataset. The process evaluation will also use publicly available data and observations from the research team implementing MOHMQuit, for example, training logs. These data will be synthesised to provide site-level as well as individual-level implementation outcomes.

Results/Findings: This poster serves to describe the design of the process evaluation and its rationale. As yet there are no results.

Implications/Key Message: Process evaluations are a recommended integral component of effectiveness trials, complementing the intervention outcome results.

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P77 - Payment mechanism of the Lead Maternity Carer service in Aotearoa New Zealand: Exploring the landscape of modular payment in maternal health.

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Background: The Lead Maternity Carer (LMC) service is a publicly funded maternal care initiative in Aotearoa New Zealand. Service providers (mostly midwives) are paid using a modular payment mechanism. The service has been established for almost thirty years ago, however there is a paucity of evidence with respect to the modular payment mechanism, thereby limiting the opportunities to learn, relearn, and unlearn. This study aims to document the development of the LMC modular payment mechanism in New Zealand and determine its conceptual framework.

Method: The study was conducted as qualitative research with interviews involving policy experts and review of policy documents as well as published articles. Policy experts from the ministry of health, Te Whatu Ora, New Zealand College of Midwives and General Practice Obstetricians were interviewed to provide insight and perspectives on the modular payment of LMC service providers.

Findings: The development of the modular payment was started due to the high cost of maternity services, different schedules of payment, and a health workforce shortage. The maternal health services were influenced by the Nurse Amendment Act 1990, Section 51 Maternity Notice 1996, new political leadership, and policy entrepreneur. In addition, the *context* of changes in government policies on contracting in New Zealand, the global focus on maternal health, and the move towards universal health coverage facilitated the processes, along with multiple actors who played critical roles in the development of the modular payment mechanism. A logic model was applied to determine the conceptual framework of the payment mechanism.

Conclusion:

Policy and context were found to be influential in the development of the modular payment mechanism; however, critical changes have occurred in the health system of New Zealand. Further study on the current operation of the modular payment system is needed to align it with workforce reforms in New Zealand.

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P78 - Excess burden of preterm birth among immigrant women in high-income countries: a systematic review and meta-analysis

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Background: Immigrant women in high-income countries often face unique health challenges influencing perinatal health outcomes, including the risk of preterm birth. The findings of available studies on risk difference in preterm birth in this group of women are inconclusive and conflicting. Estimating the risk preterm birth among immigrants in high-income countries is critical to strategies the effort to reducing preterm birth and its far-reaching consequences. This systematic review and meta-analysis synthesised evidence on the risk of preterm births among, migrant women in high-income countries.

Method: We searched six databases including Embase, Medline, Scopus, CINAHL, Web of Science and Global Health from inception to November 2023. We conducted inverse variance-weighted random-effects meta-analysis using Review Manager (RevMan) version 5.3. We estimated pooled OR with 95% confidence intervals for all preterm birth (PTB) categories stratified by mother's country of origin income classification.

Result: Of 3,516 records retrieved from six electronic databases, we included 81 unique studies (74%, n=59 was cohort) conducted in 17 high-income countries (HICs) comprising a total of 61,944,720 population. The sample for the studies ranges from 25454 to 5,223,20255 participants. We observed that women who immigrated from low-income countries had increased extreme preterm birth with effects ranging from a OR 1.42 (95%CI: 0.98– 2.04) to 2.75 (95%CI: 2.41– 3.14). This association was not observed among migrants from high-income countries. Overall immigrant women from low-income countries and lower-middle income countries had higher risk preterm births compared to native women and immigrant women from high-income countries with some inconsistencies across preterm birth categories.

Conclusion: Our study highlights the importance of identifying populations at increased risk for preterm birth, specifically among immigrant women in high-income countries informing the design and implementation of effective strategies to reduce preterm birth incidence and its consequences in high-risk population.

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P79 - Psychotropic medicine utilisation in Australian workers with back and neck musculoskeletal disorders or injuries

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Background

Psychotropic medicines are frequently prescribed to injured workers. However, data on the extent and determinants of their utilisation in injured Australian workers is limited.

Methods

The utilisation of five groups of psychotropic medicines—antidepressants, gabapentinoids, anxiolytics, hypnotics/sedatives and antipsychotics—over a three-year period in 22,595 workers with back and neck-related conditions following a workers' compensation claim was examined. The World Health Organisation drug statistics methodology, guidelines for Anatomical Therapeutic Chemical classification and Defined Daily Dose (DDD) assignment was employed. Descriptive statistics were used to describe and characterise the utilisation by time loss duration and temporal trend over the years. Zero-inflated negative binomial regression was employed to identify determinants of psychotropic medicine utilisation.

Results

The overall utilisation (DDD/1000 workers/day) of psychotropics for all-time loss claims was 135.4 (CI: 128.8-142.1). The highest utilisation was for antidepressants (74.2, CI: 70-78.5) followed by gabapentinoids (31.6, CI: 29.7-33.5), anxiolytics (16.1, CI: 14.7-17,6), hypnotics/sedatives (10.6, CI: 9.4-11.8) and antipsychotics (2.9, CI: 2.3-3.4). Claims with increasing time loss duration showed increasing utilisation for each major class of medicine and overall psychotropic utilisation. The incidence rate ratio on the number of DDD for overall psychotropic medicines (1.21, CI: 1.00-1.47), antidepressants (1.29, CI: 1.02-1.63) and antipsychotics (3.47: CI:1.31-9.17) was higher in the age group of 35-44 compared to 15-24 years age group. There was a 20.2% increase in dispensing of psychotropic medicines from 2010 to 2016, driven mainly by an increase in gabapentinoid (111.4%) and antidepressant (14.1%) utilisation.

Key message

The utilisation of psychotropic medicines in compensated Australian workers with time loss claims for back or neck conditions appear to be high, particularly in those with longer time loss durations. There was significant variation in psychotropic medicine utilisation across some sociodemographic-related characteristics. Prescribing trend changed over time, with increasing utilisation of gabapentinoids in recent years.

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P80 - Relationship of a Pharmacist Delivered Minor Ailment Service in Ontario, Canada and Service Recipient Attachment to a Primary Care Provider

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Context: Pharmacists represent the 4th largest healthcare profession in Canada, after nurses, physicians, and social workers with 46,699 licensed to practice in 2022. Minor ailments (MA) are health conditions managed with minimal prescribed treatment and/or self-care strategies. In Ontario, Canada, pharmacists were given authority to deliver service for 13 MAs on January 1, 2023, with an additional 6 MAs on October 1, 2023.

Objectives: To describe MA recipient characteristics and the relationship between MA service delivery and primary care attachment.

Methods: This cross-sectional study used linked health administrative data, including pharmacist billing for MA services, patient demographics, and physician and hospital billing data, collected for 15.4 million residents in Ontario. Logistic regression was used to analyze the delivery of MA services prescribed from January 1 to December 31, 2023 with primary care measures (primary care attachment). Models were adjusted for key demographics (age, sex, income, comorbidity) and healthcare utilization (flu/COVID-19 vaccination).

Results: In 2023, 547,673 (3.6%) Ontario residents received at least one MA service, with the top 5 services being urinary tract infections (UTIs), conjunctivitis, herpes labialis, allergic rhinitis, and atopic/eczema/allergic contact dermatitis. Compared to all other Ontario residents, MA service recipients were more likely attached to a primary care provider [odds ratio (95% confidence interval)]: 1.38 (1.37-1.40) and female (2.39 (2.38-2.41), and have higher income [highest vs. lowest income quintile: 1.21 (1.20-1.22)], comorbidity 2.33 (2.31-2.35). 8.6% of people receiving a top 5 MA service were uncertainly attached to a primary care provider. There were notable differences in attachment by type of patient enrolment model.

Conclusion: This study provides insight into early users of this program and enables further understanding of patterns of practice for pharmacists and other primary care providers.

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P81 - Changes in pregabalin dispensing to Australians with workers' compensation claims for low back pain following the listing of pregabalin on the pharmaceutical benefits scheme

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Introduction/Background

We sought to identify whether the inclusion of pregabalin on the list of medicines subsidised by the Australian government in 2013 resulted in changes to the dispensing of pregabalin to Australian workers with low back pain.

Method

We included a sample of Australian workers with workers' compensation claims for two or more weeks off work between 2010 and 2018. We grouped workers by whether the first two years of their claim occurred before, during or after pregabalin was listed on the Pharmaceutical Benefits Scheme (PBS). We measured the prevalence of pregabalin dispensing and time to first pregabalin dispense in each group with descriptive statistics and binary logistic and Cox proportional hazards models. We used interrupted time-series analyses to measure changes in the monthly number of pregabalin dispenses, percentage of pain medicine dispenses that were pregabalin, percentage of gabapentinoid dispenses that were pregabalin, and the median cost per pregabalin dispense.

Results/Findings

Of the 17,689 workers included in the study, 13.7% (n=2,431) were dispensed pregabalin during the study period. Workers whose claim occurred before or during when pregabalin was listed on the PBS were at significantly lower odds of being dispensed pregabalin than those workers whose claim began after PBS listing (OR 0.20, 99%CI 0.15, 0.25 and OR 0.40, 99%CI 0.33, 0.48, respectively). There were significant step increases in the number of pregabalin dispenses (26.3%, 99%CI 6.2%, 50.3%), percentage of pain medicines that were pregabalin (29.3%, 99%CI 1.5%, 64.9%), and percentage of gabapentinoid dispenses that were pregabalin (13.9%, 99%CI 7.5%, 20.6%). There was a significant step decrease in the median cost per pregabalin dispense (-61.8%, 99%CI -66.8%, -56.1%).

Implications/Key Message

Listing pregabalin on the PBS saw significant increases in the prevalence, number and percentage of pain medicines, and significant decreases in time to first pregabalin dispense and cost.

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P82 - Cost-Effectiveness of Semaglutide in Treating Type 2 Diabetes – a Systematic Review

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Introduction/Background

Semaglutide, a novel glucagon-like peptide-1 (GLP-1) receptor agonist, has shown significant efficacy in managing T2D. However, its cost-effectiveness remains a critical consideration. This study aims to provide a comprehensive overview of all existing evidence on the cost-effectiveness of Semaglutide.

Method

PubMed, Embase, and the CEA Registry were searched to retrieve potential studies investigating the cost effectiveness of Semaglutide in treating T2D compared with other drugs. Two authors independently performed literature screening, data extraction, and quality assessment. The proportion of ICER outcomes (dominant, cost-effective, dominated) were calculated. Subgroup analyses were conducted based on the route of administration, type of comparator drug, and funding source.

Results/Findings

The search yielded 1360 records from 2019 onwards, with 44 articles and 116 comparisons for ICERs from Europe (n=24), North America (n=13), and Asia (n=7) meeting the criteria. Of 44 articles, 41 articles adopted a lifetime horizon and 39 employed a healthcare system perspective. Among the 116 comparisons, Semaglutide was dominant in 28%, cost-effective in 54%, and not cost-effective in 18%. Specifically, for subcutaneous Semaglutide (n=32), the figures were 16%, 59%, and 25%; for oral Semaglutide (n=52), they were 21%, 66%, and 13%, respectively. When compared with other GLP-1 inhibitors (n=49), Semaglutide was dominant in 53%, cost-effective in 22%, and not cost-effective in 25%. Against SGLT-2 inhibitors (n=30), the corresponding figures were 3%, 77%, and 20%. For comparison with DPP-4 inhibitors (n=15), Semaglutide was dominant in 20%, and cost-effective in 80%. Notably, Semaglutide was dominant/cost-effective in all comparisons (n=66) funded by Novo Nordisk, but not in those funded by other pharmaceutical companies (n=9); for these unfunded or funded by non-pharmaceutical companies (n=41), Semaglutide was dominant/cost-effective in 71%.

Implications/Key Message

Semaglutide demonstrates cost-effectiveness in treating T2D; however, the results varied by funding source, suggesting the further necessity for transparent and unbiased economic evaluations to inform healthcare decision-making.

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P83 - Addressing Challenges and Opportunities of Indonesia's Pharmacy Digital Services: Lessons from Australia

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Background: In today's rapidly evolving healthcare landscape, the adoption of digital transformation in pharmacy services is a necessity. The Indonesian pharmacy is facing important challenges related to its transformation process to digital services. This study aimed to assess the challenges and potential opportunities for Indonesia in transforming its digital pharmacy services by discussing some comparative practices and lessons learnt from Australia's experiences.

Methods: A narrative review and comparative analysis were conducted focusing on pharmacy digital services employed in hospital and community pharmacies in Indonesia and Australia. Information and evidence were synthesised from guidelines, reports, and published research to provide a comprehensive evaluation of the implementation of digital technology in pharmacy services in Australia, while also identifying challenges and opportunities for application in Indonesia.

Results: It is derived that fragmented health data, a lack of unified drug information resources, and the absence of dispensing software and automated dispensing cabinets are the key challenges in transforming digital pharmacy services in Indonesia. Nevertheless, the development of the SATUSEHAT platform, coupled with strong government support in infrastructure, funding, and education, offers a promising framework to enhance the efficiency and safety of pharmacy digital services.

Implications: The challenge and opportunities explored area of relevance for policymakers and clinical practitioners not only in Indonesia but also in other Southeast Asian countries with similar health systems, where governments are considering or actively pursuing the digital transformation of pharmacy services. Furthermore, this research also underscores the necessity of developing standardised guidelines for digital pharmacy services, which could facilitate more consistent implementation and better interoperability across different healthcare settings.

Keywords: Pharmacy Digital Services, Challenges, Opportunities, Indonesia, Australia

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P84 - Creating an environment for virtual care: Infrastructure and capability requirements for efficient virtual healthcare delivery

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Background

Health systems worldwide are currently adapting their virtual care platforms and strategies for long-term sustainability. There is a pressing need to define the essential infrastructure and capabilities required for effective virtual care in today's complex healthcare environment. The study aimed to identify the essential infrastructure and capability prerequisites for supporting effective patient-centred virtual care in the contemporary healthcare environment.

Method

The READ (readying the materials, extracting data, analysing and distilling findings) method of document analysis was utilised to examine frameworks from Australia and New Zealand that offer guidance on the implementation, operation, and delivery of virtual care. A systematic search of 39 organisations, including government departments, healthcare agencies, private organisations, and non-governmental entities were conducted. Thematic framework analysis was then employed to synthesise the findings.

Findings

Analysis identified fifteen frameworks related to virtual care delivery, revealing ten main capability domains. Notably, these frameworks predominantly emphasised operational aspects such as technology infrastructure (14/15), governance (9/15), and data management (11/15). However, critical elements such as physical infrastructure (6/15), patient care (7/15), equity (4/15), collaboration (3/15), healthcare outcomes (2/15), workflow (4/15) and proactive change management (2/15) were relatively underrepresented.

Implications

The study highlighted essential capability domains and identified gaps in current frameworks essential for supporting patient-centred, collaborative, and sustainable virtual care initiatives. While there are certain capabilities and infrastructural elements agreed upon as critical across frameworks, the existence of varying guidance regarding patient and change process may suggest potential inconsistencies in capability development within and across systems of care provision. Understanding these domains and the disparities identified can provide valuable insights guiding the formulation of policies and guidelines for virtual care integration within public health systems with in Australia and New Zealand.

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P85 - Use of an online valuation tool to create an SF-6Dv2 social value set for Aotearoa New Zealand

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Introduction

The SF-6D is a health descriptive system used worldwide for measuring patient-reported health outcomes and valuing health-related quality of life in economic evaluations. In this study, an online valuation tool was developed and applied to create an Aotearoa New Zealand (NZ) SF-6Dv2 social value set to be used in the economic evaluation of health interventions and services.

Method

An online survey, comprised of a valuation tool and a short introductory video explaining the survey's purpose and what participants were required to do, was distributed to a large representative sample of the NZ adult (≥18 years) population in June-July 2022. The valuation tool implemented the Potentially All **P**airwise RanKings of all Possible Alternatives (PAPRIKA) method, a type of adaptive discrete choice experiment estimating both personal and population level preferences, and a binary search algorithm to identify health states worse than dead. Extensive data-quality controls were included to identify and exclude participants who failed to understand or engage with the valuation tasks.

Results/Findings

After exclusions, a sub-sample of 2985 'high-quality' personal value sets were averaged to create the NZ SF-6Dv2 social value set. Participants who watched at least 90% of the video were more than twice as likely to pass the tool's data-quality controls. Free-text responses indicated that the video was useful and the inclusion of te reo Māori (the Māori language) was appreciated. These results demonstrate the feasibility and acceptability of using the online valuation tool to value the SF-6Dv2.

Key Messages

The online valuation tool and video can be easily adapted to value other health descriptive systems. It is crucial that stringent data-quality controls are implemented to ensure the validity and reliability of a social value set, particularly given its potential use in health care allocation decisions. Including a video that engages participants is likely to enhance data quality.

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P86 - Development of a taxonomy of suicide prevention services for a national need-based planning model in Australia

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Introduction/Background

Needs-based planning models are translational tools that population-level service planners can use to effectively plan for optimal service delivery within their jurisdiction. However, there is currently no equivalent planning model for Australian suicide prevention services. One key component for a needs-based planning model is a service taxonomy, which describes a nationally agreed service continuum for suicide prevention. This presentation describes the development of a service taxonomy and outlines the suite of interventions and programs underpinning suicide prevention services in Australia.

Method

Academic and grey literature, including national policy documents, were reviewed for existing and emerging suicide prevention services to develop a provisional service taxonomy based on grouping similar service functions. A suicide prevention expert advisory group (n=14) with lived experience voices, service providers, policymakers and academics was convened to review and refine the draft service taxonomy. Broader sector consultation was then conducted via survey (n=35) to validate the proposed taxonomy and obtain feedback on any missing services and additional considerations.

Results/Findings

The resulting suicide prevention service taxonomy includes seven service streams, focusing on prevention (system development to enhance wellbeing, reducing drivers of distress), early intervention for those at risk of suicidality (early engagement), support for people experiencing suicidality (primary care, community-based intensive interventions, bed-based services), and supports for recovery (long-term wellbeing). The feedback highlighted reaching people at earlier touchpoints before support is required because social determinants and individual risk factors can elevate suicidal risk. The taxonomy development reaffirmed embedding suicide prevention programs and services within these touchpoints upstream, beyond clinical healthcare settings.

Implications/Key Message

Service taxonomy development is a crucial first step in creating a national needs-based suicide prevention service planning model for Australia. Further refinement and integration with other model components including epidemiology, and workforce parameters, will assist service planners to plan for population-level suicide prevention services.

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P87 - Lean times but we still need the wins: Innovation in developing funding-readiness of researchers

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Introduction/Background

Researchers and research offices alike report the frustrations ECRs especially face in lack of knowledge about how to tackle the Australian research funding landscape and the burden of grant development, especially fellowships. Despite best efforts in the form of in-house programs, seminars, fact sheets and 1:1 support etc, a last minute, stagger to the finish line approach to grant development by some applicants perpetuates. This is at best a false economy; rewards are low and inputs are high. The sector is screaming out for innovation but thwarted by dwindling resources and the difficulties in engaging increasingly time-poor researchers.

Method

We collaborated with universities and MRIs across Australia to build a new approach in the form of a multimodal, evidence-based, scaffolded online grant development program. We piloted this program with 16 universities and medical research institutes for the 2024 NHMRC Investigator Grant round.

Results/Findings

Here we present the results of the pilot and report on participants’ feedback, including usability, fit for purpose, and learning outcomes.

Implications/Key Message

We discuss whether this ushers in a new era of funding-readiness and grant development competency for Australian researchers. We answer the question ‘will this innovation make life easier for both researchers and their supporters?’.

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P88 - Using virtual models of care for outpatient services: a systematic review of quality-of-care outcomes

Dr Maryam Sina[1], Professor Rebecca Mitchell[1], Dr Ramya Walsan[1], Professor Robyn Clay Williams[1], Dr Alexander Cardenas[2], Dr Michelle Moscova[3], Professore Elizabeth Manias[4], A/Professor Natalie Taylor[3], Dr Virginia Mumford[1], Dr Bradley Christian[5], Professor Reema Harrison[1]

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Background

Virtual care use is widespread in outpatient settings, yet to date, literature reviews examining quality-of-care outcomes have been limited, with few focusing on outpatient care. This systematic review aimed to synthesise evidence of quality-of-care outcomes (namely, subsequent outpatient visits, readmission, hospitalisation, length of stay, emergency department (ED) visits, and mortality) associated with virtual care in outpatient settings.

Method

Embase, MEDLINE, the Cochrane Library, PsycINFO, and CINAHL were searched from 01 January 2013 to 6 July 2023. Studies included if the type of virtual care was video or audio-based and synchronous (e.g., live, two-way audiovisual) link between a patient and a care provider. The full-text screening was conducted independently, and data was extracted before synthesis. We summarised study characteristics by the quality-of-care outcomes, type of outpatient care, specialty, components of virtual care and follow-up duration.

Findings

After reviewing 3,884 citations, 38 articles were included. The majority of studies were from USA (n =21), Canada (n=6) and Australia (n=2). Twenty-nine studies were retrospective and prospective cohorts, and eight were randomised-control trials. Follow-up duration ranged from three days to two years. The most commonly reported types of outpatient care were regular check-ups and monitoring (n=11) and post-operative care (n=10). The most commonly reported quality-of-care outcomes were hospitalisation (n=31), ED visits (n = 20) and mortality (n= 20). Over two-thirds of the studies found no or little significant statistical difference between virtual vs in-person outpatient encounters and the quality-of-care outcomes.

Key Messages

Evidence of the quality-of-care outcomes associated with virtual care is critical to inform health service planning. Current evidence suggests similar outcomes for outpatient care delivered in-person and virtually but is limited by the heterogeneous types of virtual care provision and quality-of-care outcomes assessed. Further research requires consideration of the volume of virtual care and its associations with outcomes over longer follow-up periods.

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Poster Theme: Primary Care

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P76 - The barriers and enablers for health professionals in providing vaping cessation support: A scoping study

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Background

The alarming rise of e-cigarette use (vaping) has been observed globally. Whilst previous studies have evaluated health professionals' experiences in smoking cessation support, little is known about their experiences in helping people quit vaping. This scoping review aimed to summarise current evidence on the facilitators and barriers to offering vaping cessation support from the perspective of health professionals with client-facing roles.

Method

The Joanna Briggs Institute methodology was followed. Six databases were searched for relevant peer-reviewed articles published in English between 2003 and 2024. All articles were screened by two reviewers independently, based on pre-specified eligibility criteria. Data extraction and analyses were informed by the Theoretical Domains Framework (TDF).

Findings

A total of 18,475 articles were screened; 20 publications met the inclusion criteria. Data extracted were mapped to 12 of the 14 TDF domains. None of the studies were from Australia. Most studies were cross-sectional surveys. Barriers were more commonly reported than facilitators and included electronic medical records not containing screening tools covering vaping, lack of policy and guidelines, lack of knowledge, lack of training and competing priorities. Facilitators included health professionals' sense of responsibility and willingness to provide e-cigarette cessation support.

Key Message

Without a comprehensive understanding of the challenges faced and facilitators experienced by health professionals, the development of effective interventions for vaping cessation support will be limited, and opportunities for intervention during patients' regular visits to health professionals may be missed. Improving health professionals' capacity to offer effective vaping cessation support is a critical part of addressing e-cigarette use.

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P89 - Changes in primary health care utilisation in Aotearoa New Zealand, 2008-2023

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Introduction/Background

The New Zealand Primary Health Care Strategy (2001) aimed to improve access to and increase nurse participation in primary health care. Utilising nurse expertise has been identified as a potential solution to ease GP workloads. Whether this has occurred has not been investigated.

Methods

We obtained data from the Ministry of Health (MoH) via an Official Information Act request for PHC service utilisation data for the years 2008 to 2023. Data compiled are for all recorded GP and nurse consultations which occur in a general practice, including telehealth. Nurse consultations include consultation with both practice nurses and nurse practitioners. Results are presented as the average number of consultations per enrolled patient.

Results

The average number of GP consultations showed modest change over the 16-year study period, with small increases from 2.9 in 2008 to 3.1 in 2022, with a dip in 2020 and 2021. The lowest consultation rates (2.8) during the study period were in 2023. Nurse consultation patterns did not show the Covid-related or the 2023 dip, and rose steadily from 0.4 in 2008 to 1.0 in 2023.

Indigenous Māori had consistently lower rates of GP consultations (2.5 in 2023) and higher rates of nurse consultations (1.2 in 2023) than Pacific (GP: 2.8; nurse 0.9) and European (GP: 3.1; nurse 1.0) people.

Implications/Key Message

Increasing nurse consultations are not mirrored by a reduction in GP consultation rates. Reasons for Māori consulting with nurses at higher rates than NZ Europeans should be investigated; possibilities include nurse management of chronic conditions and barriers to accessing GP care.

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P90 - Pharmacist management of conjunctivitis in a primary care setting in Ontario, Canada

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Introduction/Background

Pharmacists are the 4th largest healthcare profession in Canada, with 46,699 licensed to practice in 2022. Minor ailments (MA) are health conditions managed with minimal prescribed treatment and/or self-care strategies. In Ontario, Canada, pharmacists were given authority to deliver service for 13 MAs on January 1, 2023, with an additional 6 MAs on October 1, 2023. This study identifies patterns of conjunctivitis MA service provisions including attachment to a primary care physician.

Method

This study used linked health administrative data, including pharmacist billing for conjunctivitis MA service, patient demographics, and physician and hospital billing data, collected for 15.4 million residents in Ontario. Logistic regression was conducted for delivery of conjunctivitis MA services prescribed from January 1 to December 31, 2023, by primary care attachment. Models were adjusted for key recipient demographics and healthcare utilization.

Results/Findings

In 2023, 547,673 (3.6%) Ontario residents received at least one MA service, with conjunctivitis (153,021 [27.9%]) being the 2nd most delivered service after urinary tract infections. 32.6% of conjunctivitis MA service recipients were <12 years of age and 58.1% were female. Compared to all other Ontario residents, they were more likely attached to a primary care provider (odds ratio [95% confidence interval]: 2.34 [2.29-2.38]) and have higher income (highest vs. lowest income quintile: 1.68 [1.65-1.71]), comorbidity (1.84 [1.81-1.87]) and pharmacy service use (flu/COVID-19 vaccination: 1.26 [1.24-1.27]). In adjusted analyses, receipt of MA service remained significantly associated with primary care attachment (1.69 [1.65-1.72]).

Implications/Key Message

MA consultations by pharmacists were delivered to a small proportion of the Ontario population in the first year after introduction with more than one-quarter of MA visits relating to conjunctivitis. Youths, and people living in higher income neighborhoods and with a primary care clinician were more likely to use this MA service, raising issues of equity and fragmentation.

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P91 - African Australians’ health information needs and community-based health literacy solutions at the point of care

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Background

African Australians, particularly refugees, have a higher burden of comorbidities and potentially poorer health outcomes. Compounding these are multi-level barriers at individual, community, and structural levels that impede their access to health care, contributing to health inequities and disparities. The health literacy of migrant and refugee patients attending primary care facilities is inadequate, with difficulties related to information about health care and health promotion. Individuals with adequate levels of health literacy can take responsibility for their own, family, and community health. However, not much is known about African Australians’ specific health information needs and information delivery preferences at the point of care.

Method

This project in its entirety will use a participatory action research (PAR) and co-design (design thinking) methodology. The first stage of the project will involve focus group discussions (qualitative research) with consumers (African Australians) and healthcare providers (doctors from African Health). Eight focus groups (4x with English-speaking consumers, 2x with Dinka-speaking refugee communities, and 2x with healthcare providers), each comprising between 5 – 10 participants will be conducted for this study. The focus group interviews will explore the current health literacy environment, specific health information needs for African Australians, their information delivery preferences, and interventions to improve their health literacy at the point of care. Data collection is currently underway. The focus group interviews will be recorded, with consent, and transcribed for analysis.

Implications

This project will provide evidence on African Australians' specific health information needs from both consumers’ and providers’ perspectives and identify community-based health literacy interventions at the point of care that could work for this community. Findings from this study will inform the next phase of this body of work which will involve co-designing a prototype resource with African Australian communities and providers to advance African Australians’ health literacy at the point of care.

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P92 - The use of alternative prehospital referral pathways by paramedics in Queensland: Barriers, facilitators, and potential solutions to improve implementation

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Introduction/Background

The evolving societal healthcare demands are multifaceted, shaped by demographic shifts, epidemiological transitions, technological advancements, and evolving patient expectations. The demand for emergency healthcare services in Australia has outpaced population growth, with worsening delays and patient outcomes. This increase in demand for emergency services, necessitates a revaluation of the traditional role of paramedics. Concurrently, an increase in non-emergent cases places additional strain on ambulance services, and emergency departments. The shift towards more non-emergent cases underscores the development and proliferation of alternative prehospital care pathways, where patients can be redirected to receive more appropriate care than in an Emergency Department. Within these integrated health care initiatives, paramedics assume multifaceted roles as liaisons between healthcare facilities, social services, and vulnerable populations. Thus, enabling and fostering continuity of care, access to services, alleviating emergency department congestion, financial burden, and mitigating healthcare disparities. (Allana, 2021)

These evolving models of care offer a promising avenue for prioritising patients holistic health, as well as improving the availability of emergency care services for the disadvantaged, distanced, and disabled patients. Simultaneously, technological innovations, such as digital health platforms are enabling a shift in care delivery modalities, patient-provider interactions and creating opportunities to deliver holistic, patient centered, tailored care (Neves et al, 2022).

This vast expansion of new alternative care pathways necessitates a review of if they are being utilised to their full potential. They offer countless benefits for patients, health care providers and communities – but the question remains. Are our paramedics given the opportunities to utilise these alternate care schemes in the best way possible?

Implications/ Key Findings - This research aims to investigate the paramedic perceptions of barriers, and facilitators in the use of prehospital referral pathways as alternatives to the Emergency Department and provide potential solutions to improve implementation.

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P93 - Effectiveness of models of care in improving the quality of care for non-specific low back pain

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Introduction/Background

Models of care that alter the delivery of health care for non-specific LBP may overcome barriers to delivering guideline-concordant care. We aimed to assess the effects of alternative models of care for people with non-specific low back pain on the quality of care and patient health outcomes.

Method

We included randomised controlled trials comparing alternative care models to usual care with no restriction on healthcare setting or country. Studies that recruited adults with non-specific LBP, regardless of symptom duration, were included. We considered any type of model of care compared to usual care. The same care had to be provided in each group. Major outcomes include referral/receipt of any lumbar spine imaging, prescription/use of opioids, referral to surgeon/lumbar spine surgery, admission to hospital, pain, back-related function, and adverse events. The primary comparison was any model of care compared to usual care for outcomes closest to 12 months.

Results/Findings

Forty-six trials (25,587 participants) met our inclusion criteria. Healthcare delivery was commonly altered through coordination and management of care processes (22 trials) or information and communication technology (13 trials).

Moderate certainty evidence indicates that alternative models of care probably result in little or no difference in referral/receipt of any lumbar spine imaging (risk ratio [95% CI] = 0.93 [0.86 to 1.00]) or prescription/use of opioids (risk ratio [95% CI] = 0.96 [0.89 to 1.04]). Moderate certainty evidence suggests that alternative models of care probably result in small, clinically unimportant improvement in pain (mean difference [95% CI] = -0.33 [-0.46 to -0.20] on 11-point scale) and back-related function (standardised mean difference [95% CI] = -0.15 [-0.22 to -0.09]). We are uncertain of the effect of alternative models of care on the remaining outcomes.

Implications/Key Message

Policy-makers may need to be cautious about implementing alternative models of care for non-specific low back pain.

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P94 - Experience of, satisfaction with, and preference for telehealth for HIV and sexual health consultations: Results of a cross-sectional online survey of men who have sex with men in Australia

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Introduction/Background

Guidelines recommend men who have sex with men (MSM) in Australia attend clinics for HIV/sexual health (SH) care quarterly. Telehealth could help alleviate the burden of frequent face-to-face visits on patients and clinics.

Method

We conducted an online cross-sectional survey between Oct-2022–Jan-2023 in Australian MSM aged ≥18, including people living with HIV (PLHIV), PrEP-users (HIV-negative individuals taking antiretroviral medicines to prevent HIV acquisition), and non-PrEP-users. The survey explored experience of and satisfaction towards (scale range: 1=very unsatisfied to 4=very satisfied) face-to-face and telehealth consultations. Factors associated with preference for telehealth were determined with multivariable logistic regression; we report adjusted odds ratios (aOR) and 95% confidence intervals (CI).

Results/Findings

Of 1,117 participants, mean age was 38 years (SD=12.5) and 72.8% identified as gay. 29.8% were PLHIV, 30.5% PrEP-users, and 39.7% non-PrEP-users. Almost all participants (96.5%) had experienced face-to-face HIV/SH consultations, while 69.2% had experienced telehealth. Among those who had experienced each mode, mean satisfaction was slightly higher for face-to-face consultations (M=3.39, SD=0.80) than telehealth (M=3.13, SD=0.75). Overall, 42.3% preferred telehealth. This preference was higher among those born overseas (aOR=1.38, 95%CI=1.06-1.80), living in suburbs with low concentrations of gay men (aOR=1.49, 95%CI=1.11-2.02), and who felt sexual practices are easier to discuss with a healthcare worker by phone than face-to-face (aOR=1.33, 95%CI=1.14-1.54).

Implications/Key Message

Among the two-thirds of participants with telehealth experience, satisfaction was almost as high as for face-to-face consultations. Just under half would prefer telehealth in the future. Telehealth was more appealing to overseas-born and outer suburban MSM (who are more marginalised in the HIV response and comprise an increasing proportion of new HIV diagnoses in Australia) and by those with reservations about discussing sex in face-to-face consultations. Scaling up telehealth for HIV/SH may help reach these groups, especially if carefully tailored to their needs.

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P95 - Pathways to enhancing people-centred preventive healthcare: investigating the role of traditional and complementary medicine providers

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Background

Around 70% of Australians use or engage with complementary medicine products or practices, and 40% consult with a traditional or complementary medicine (T&CM) practitioner. While contributing to primary care, T&CM providers are generally outside of the national healthcare 'system'. Common reasons people visit T&CM practitioners in Australia include seeking support for chronic illness management, improving general health and wellbeing, and as an adjunct to cancer treatment. The WHO advocates for a 'people-centred' approach to healthcare and includes T&CM as part of this vision. The Australian Government's *National Preventive Health Strategy 2021-2030* and *Primary Care 10 Year Plan 2022-2032* advocate for workforce mobilisation to provide person-centred, outcome-focused, multidisciplinary care, but T&CM providers are outside of the scope of focus. This research is studying the extent of support for greater utilisation of T&CM practitioners in Australia's healthcare system.

Method

In mid-2024 we deployed a survey that gathered the opinions of Australia adults. Representatives of the medical and allied health workforce; T&CM providers; healthcare-related policymakers and academics; and other adults – i.e. general consumers of healthcare, branched to answer tailored questions. In addition, clinicians in general practice were interviewed to gain deeper understanding of their perspectives on potential integration of T&CM within the healthcare system.

Results

The survey results will be presented.

Key messages

This research is determining the appropriateness and appetite for utilisation of T&CM providers in a more formalised and consistent manner within the Australian healthcare system. This is the first study, that we are aware of, that looks directly at whether integration of T&CM with the Australian healthcare system can provide a pathway to help meet the aims of the *National Preventive Health Strategy 2021-2030* and *Australia's Primary Health Care 10 Year Plan 2022-2032.* The voice of policymakers has previously been lacking from research around T&CM integration.

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P96 - Use of multi-sector whole-of-population linked data to inform telehealth policy in primary care in Australia

Dr Danielle Butler[1], Dr Nina Lazarevic[1], Ms Hsei-di Law[1], Dr Jennifer Welsh[1], Professor Christine Phillips[2], Professor Sally Hall Dykgraaf[2], Associate Professor Grace Joshy[1], Professor Emily Banks[1], Assoc Prof Jane Desborough[1], Associate Professor Dan Chateau[1], Professor Rosemary Korda[1], and the ANU Telehealth in Primary Care Study Team
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Introduction/Background

Recent large-scale adoption of telehealth has led to major shifts in primary care delivery globally. We aimed to use linked data to assess changes over time in primary care uptake, quality and equity in relation to telehealth policies in Australia, to inform future policy and practice.

Method

We used individual-level national primary care claims data (2016 to 2022), linked to 2021 Census data and Death Registrations, accessed through the Person Level Integrated Data Asset (PLIDA), an Australian whole-of-population data asset. We investigated changes in proxy indicators derived from claims data of primary care access (use, out-of-pocket costs) and quality (uptake and timeliness of chronic disease management, continuity-of-provider and medication continuity) in relation to key telehealth policy changes, and variation in these outcomes across population subgroups, using time-series analysis and multivariable models.

Results/Findings

Around one in four primary care consultations were by telehealth (>95% by phone). Policies enabling access to telehealth, chiefly as a substitute for in-person consultations, were associated with maintained use of primary care during the pandemic, lower out-of-pocket costs and small positive changes in quality-related measures of care, including greater uptake and more timely chronic disease management, higher continuity-of-provider, and improved medication continuity. Subsequent policies to curtail telephone but not video telehealth consultations were associated with small negative changes in uptake and timeliness of chronic disease management. Changes in trends over time were similar across population subgroups. Strengths and limitations of linked claims data to evaluate primary care policy will also be presented.

Implications/Key Message

Telehealth policy changes supported ongoing access to primary care during the COVID-19 pandemic, with additional small overall positive effects on use, quality and out-of-pocket costs. Timely whole-of-population linked claims data is important for informing primary care policy.

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P97 - Patients’ experiences with virtual care with NSW public hospital outpatient clinics

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Introduction/Background

Virtual care is now a core component of healthcare delivery across Australia after rapidly expanding during the COVID-19 pandemic. The Bureau of Health Information has produced substantial evidence about NSW patients’ experiences of virtual care with hospital outpatient clinics between 2020 and 2023.

Method

BHI analysed the responses of 10,036 NSW public hospital outpatients who responded to the Virtual Care Survey between 2020 and 2023. A multivariable logistic regression model was used to explore patient factors predictive of positive virtual care experiences. For each measure, a multivariable model was created using SURVEYLOGISTIC procedure with a backward elimination approach to identify patient characteristics associated with the likelihood of respondents reporting the most positive response while controlling for other patient-related characteristics.

Results/Findings

Patient familiarity with virtual care, and with the healthcare professional(s) providing the care, were significantly associated with the most positive ratings of virtual care experiences. Patients who had more than five virtual outpatient appointments in the past 12 months were almost twice as likely to rate their overall virtual care as ‘very good’ and to say they would ‘definitely’ use virtual care again. Patients who mainly speak a language other than English at home were less positive about their virtual care experiences overall, patients living in rural areas were more likely to say they would ‘definitely’ use virtual care again and patients who accessed their virtual care appointments with video were more likely to say the care and treatment received through virtual care ‘definitely’ helped them

Implications/Key Message

Listening to what patients have to say about their virtual care experiences increases understanding of the value and impact of this model of care. These results also help identify areas where further improvements can be made, particularly for different patient groups.

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P98 - Health-related quality of life and work productivity impairment among people with knee osteoarthritis awaiting total knee replacement

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Background

The extent to which advanced knee osteoarthritis impacts health-related quality of life (HRQoL) and work productivity has not been quantified in large representative cohorts. This study aimed to describe HRQoL and work productivity impairment in knee osteoarthritis and to evaluate factors associated with HRQoL.

Method

Adults newly referred to four public hospitals for orthopaedic assessment due to knee osteoarthritis were enrolled in the study from May 2022 to February 2024. Median regression adjusted for age, sex, and radiological knee osteoarthritis severity was undertaken to identify factors associated with HRQoL and work productivity. HRQoL was defined using utility scores (0 indicated death, 1 indicated best health) converted from EQ-5D-5L questionnaire responses. Work productivity impairment was assessed using the Work Productivity and Activity Impairment questionnaire.

Results

Among 319 study participants (mean age 67 years, 57% females), self-reported HRQoL was moderate, with a median EQ-5D-5L score of 0.68 (interquartile range [IQR]: 0.33-0.83) and a median EQ-VAS score of 70 (IQR 50-77). On average, study participants worked 23.6 hours per week and missed 2.3 (SD 7.6). Overall productivity impairment was 45.8%, absenteeism was 8.9%, and presenteeism was 40.6%. Being male ($\beta=0.11$), employed or retired ($\beta\approx0.35$), and more physically active ($\beta\approx0.35$) were associated with higher HRQoL. Body mass index ≥35 kg/m2 ($\beta=-0.20$), greater knee osteoarthritis severity ($\beta=-0.22$), having depression ($\beta=-0.36$), and the use of paracetamol ($\beta=-0.18$) or opioids ($\beta=-0.32$) were associated with lower HRQoL.

Implications

This cohort of people awaiting total knee replacement demonstrated low HRQoL and mild work productivity impairment due to knee osteoarthritis. A range of patient and clinical characteristics were associated with low HRQoL: potentially modifiable factors included obesity, low physical activity, and depression.

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P99 - Improving the uptake of patient reported outcome measures (PROMs) in the routine care of culturally and linguistically diverse (CALD) patients: a systematic review

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Background

Culturally and linguistically diverse (CALD) populations are often excluded from routine use of patient-reported outcome measures (PROM), despite forming a large proportion of the population. PROMs can assist CALD populations in eliciting their health concerns, especially important during chronic condition management. This systematic review aimed to identify enablers to increasing PROM use in CALD populations.

Method

We searched 6 databases from January 2000 to December 2023, for empiric studies that described methods to implement PROMs among CALD populations. We excluded 6800 studies. Data about strategies to facilitate PROMs in clinical care were extracted from included studies. Narrative thematic analysis was used.

Findings

6806 titles and abstracts were screened. Six studies met the eligibility criteria and were included. Included studies were undertaken in primary care, academic and specialist clinic settings. Key themes identified were:

Enthusiasm despite challenges: CALD adults, despite limited English and technology proficiency, were more enthusiastic about completing electronic PROMs compared with English-proficient patients. However, CALD populations, in four studies, required staff, family, and carer assistance to comprehend English PROMs and navigate computer software.

Cultural sensitivity matters: Aboriginal and Torres Strait Islander participants were concerned that completing PROMs might lead to judgement from healthcare staff. They suggested that community consultation would ensure that the PROM content was culturally sensitive and acceptable, although this was not described by other CALD populations.

Support for healthcare staff: Healthcare staff, in two studies, saw that for effective implementation of PROMs in CALD populations they needed: 1) infrastructure support to integrate culturally and linguistically validated translations, and 2) managerial leadership to ensure the availability of administrative staff and interpreters.

Key Takeaway

Health services in English-speaking countries have not been designed to integrated translated PROM data into clinical workflows and health systems. Our findings illustrated practical strategies to enhance PROM use in CALD populations.

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P100 - Patient Reported Outcomes: the real end goal (in Orthopaedic Surgery)

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Background

In a healthcare climate seeking ways to reduce costs, value-based approaches to surgical care ensure the right patient is having the right surgery with the right resources. Patient Reported Measures (PRMs) can provide a robust, real-time understanding of health from the patient's perspective and can equip clinicians with the right information to deliver high value surgical care, the care that patients need and want. This research is an evaluation of patient and clinician perspectives on the collection and use of digital PRMs in orthopaedic surgery at a single public hospital in Melbourne.

Method

Pre- and post-operative PRMs were collected from 400 hip and knee arthroplasty patients who underwent surgery between August 2022 and August 2024. Evaluation questions were incorporated into the 6- and 12-month postop PROMs to understand the feasibility and acceptability of collecting them. PRM completion rates were monitored based on the number of eligible participants at various timepoints. A Microsoft Power BI report built from the PRM data enabled clinicians to access patient PROMs at the 6-week and 12-month in-person visits. Staff surveys were conducted to assess the utility of PRM data in clinical care.

Results

PRM completion rates ranged from 86%-93% over the 24-month study period with an overall completion rate of 89%. Almost 100 responses were received to the patient evaluation questions with 90% of participants finding the PRM surveys easy to complete online using a phone or computer. Staff engagement with the PRM data via the dashboard was positive in theory but limited in actual practice.

Implications

Patients want to provide information to the hospital about what success in surgery means to them. The majority of patients find digital PRMs easy to complete and required minimal assistance from others. Clinicians like the idea of using PRMs but need guidance and incentive to use them in clinical care.

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Poster Theme: Rehabilitation

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P101 - Avoiding Robot Roulette: A clinician’s toolkit for choosing the optimal physical therapy robot

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Background

Adoption of robotics in health and rehabilitation has been slow, despite technical capabilities rapidly advancing, and their inclusion in clinical guidelines. The feasibility and sustainability of robotics in therapy are viewed positively, and with emerging workforce challenges, it is therefore surprising that robotics have not yet become standard in clinical practice in rehabilitation. Commonly cited reasons for the languid uptake include poor implementation planning and lack of strategic direction from professional or health service organizations. There is also a lack of guidance for clinicians to appraise and select robots that are most suitable for their health setting. This study aims to provide a practical tool for clinicians and service planners to appraise and select the optimal therapy robot for their context prior to investment.

Method

A scoping review was conducted to capture clinician insight, change implementation considerations and robotics capabilities, to create a weighted checklist, using a Multicriteria Decision Analysis (MCDA) approach. MCDA is increasingly being used to guide decision making by incorporating criteria to guide selection of the optimal device for their context.

Findings

The main outcome of this study is the delivery of a practical, multifactorial appraisal tool that can be used by all key stakeholders to evaluate therapy robots according to need and preference. The secondary outcome is the ability to demonstrate the importance of context when considering which device to purchase: ‘one size does not fit all’.

Implications

With the Australian Robotics Strategy (2024) recently published, including health as a key target area, it is hoped that this tool will provide a robust starting point for clinicians to improve the rigor of device selection and implementation. It also provides an opportunity to improve the implementation of robotics with the aim of improving patient outcomes, whilst reducing strain on health services with an ageing population.

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P102 - Feasibility of a multi-disciplinary, multi-modal prehabilitation service for patients undergoing major head and neck surgery with free flap reconstruction

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Introduction/Background

There is limited literature investigating multidisciplinary allied health prehabilitation for people undergoing head and neck surgery with free flap reconstruction. In July 2023, a multi-modal prehabilitation service including dietetics, speech pathology, physiotherapy and psychology was established. This study aims to evaluate the feasibility (demand, implementation, practicality, acceptability) of this service.

Method

A cohort study was conducted to determine demand (demographics), practicality (time from prehabilitation referral to surgery), implementation (health professionals seen, mode of delivery) and acceptability (bespoke patient reported surveys) of the prehabilitation service. All participants received access to online educational videos and referral to each discipline was based upon screening assessments. Prehabilitation intervention was provided accordingly.

Results/Findings

Over eight months, all eligible participants (n=55 (100%), median age 62 [interquartile range (IQR) 55-73] years, 34 (62%) male, 44 (80%) from metropolitan Melbourne) were referred to prehabilitation (demand). Participants had a median of 27 [IQR 20-35] days from prehabilitation referral date to surgery (practicality).

Fifty-four (98%) participants accepted access to the videos (implementation). Following screening, fifty-four (98%) participants received pre-operative speech pathology, 53 (96%) dietetics, 28 (51%) psychology, 16 (29%) physiotherapy and 9 (16%) received all disciplines. A total of 244 appointments were delivered (n=70 (29%) face-to-face and n=174 (71%) a combination of face-to-face and telehealth).

Twenty-five (45%) participants completed the pre-surgery acceptability survey and reported the prehabilitation program prepared them for surgery physically (n=22, 88%) and mentally (n=22, 88%). Forty-eight (87%) participants completed the post-surgery acceptability survey. Forty-three (90%) participants reported making changes to their in-hospital health behaviours because of the program.

Implications/Key Message

A multi-disciplinary prehabilitation service for patients undergoing head and neck surgery with free flap reconstruction is feasible and acceptable to participants. Due to the limited prehabilitation time and geographical distance to the health service, prehabilitation programs should offer multi-modal service delivery including telehealth and videos.

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P104 - Launch of the Equitable Cancer Outcomes across Rural and Remote Australia (ECORRA) Program

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Introduction/Background

Australians in rural and remote areas consistently experience worse cancer-related health outcomes, such as poorer survival, in part due to delays in diagnosis and treatment commencement, compared with people living in urban areas. To reduce this inequity, the Equitable Cancer Outcomes across Rural and Remote Australia (ECORRA) Program aims to support rural and remote health services to sustainably implement the Optimal Care Pathways (OCPs), as recommended in the Australian Cancer Plan.

Method

The ECORRA Program was funded by the Medical Research Future Fund. Commencing 2024, Phase 1 will use the Theoretical Domains Framework to identify the key determinants influencing the implementation of the OCPs. Relevant determinants will then be mapped to implementation strategy components. Commencing 2025, Phase 2 will use the British Design Council's Double Diamond Framework to co-design a sustainable and scalable, evidence-informed, implementation package for rural and remote health services. From 2026-2029, a prospective, pragmatic stepped-wedge cluster randomised controlled trial will embed and evaluate the implementation package within 14 health services across South Australia, Victoria, and Queensland. Partnerships with stakeholder organisations will support the ECORRA Program and facilitate nationwide scaling from 2029 onwards.

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Results/Findings

In October 2024, the ECORRA Program was launched, supported by key industry, advocacy, and health service partners. The ECORRA Program will co-design and evaluate an evidence-informed nationally scalable implementation package to embed the OCPs into rural and remote health services. The Program is hypothesised to improve cancer care and health outcomes by improving adherence to the OCPs in rural and remote health services, while being acceptable and feasible, leading to timely cancer diagnoses and treatment, and reduced healthcare costs.

Implications/Key Message

The ECORRA Program represents a substantial investment and commitment to improve cancer outcomes for rural and remote Australians nationally.

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P105 - Evaluating a digital antibiogram tool to support data accessibility and use for improved antimicrobial stewardship in Northern Australia

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Introduction/Background

Antimicrobial stewardship is a proven strategy for optimising antimicrobial use and combating the increasing threat of antibiotic resistance. Access to local and relevant antimicrobial susceptibility data is critical for tailoring antibiotic therapy. Traditionally, cumulative antibiograms represent these data, however, accessing these is challenging in many regional and remote setting across Australia. In 2021 we developed i-gram, a digital antibiogram available on the HOTspots surveillance platform, providing region-specific data for clinicians in Northern Australia. A 2022 Delphi survey informed further refinement of the i-gram tool and this study aims to assess its generalisability to settings outside northern Australia. We will gain user insights from both urban and regional stewardship teams in Queensland to optimise uptake of the tool in routine stewardship practices.

Method

This pilot study employs scenario-based problem-solving workshops with healthcare providers. Two half-day, face-to-face workshops will be conducted: one in an urban setting and one in a rural/remote setting. Participants will engage in scenarios focusing on patient-specific prescribing descriptions and the development of antimicrobial prescription policies using i-gram data. Data will be collected through thinking-aloud methods, audio recordings, and mini-focus groups to capture real-time cognitive process and in-depth feedback.

Expected outcomes

Findings will identify practical steps needed to increase uptake and use of the i-gram tool and will serve as educational resources for assessing region-specific patterns of resistance. The workshops which will provide deeper understanding of the generalisability and scalability of the i-gram tool to other settings.

Significance

Insights from this study will guide further development and refinement of the i-gram tool based on user feedback. The i-gram tool can also serve as an educational resource for stewardship training. The intended benefits include increased access to local antimicrobial susceptibility data, and advanced knowledge base to drive efficient clinical management of patients, and understanding of local antimicrobial resistance patterns.

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P106 - Implementation of the Virtual Integrated Practice (VIP) Partnership Program: Digitally enabled primary care in rural Queensland communities

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Background

The Virtual Integrated Practice (VIP) Partnership Program was co-created as a strategy to address the critical shortage of General Practitioners (GPs) in rural/remote Queensland. In this program, urban-based GPs use telehealth to provide ongoing care to patients in rural/remote general practices 1-2 days/week, augmented with biannual practice visits.

This study aimed to evaluate the implementation of the VIP model in general practices experiencing workforce shortage.

Method

Service and billing data were collected to assess fidelity of delivering the virtual model. Acceptability was assessed using anonymous patient surveys and qualitative interviews were conducted with practice staff to identify barriers and enablers to implementation.

Findings

Between 2021 - 2024, seven GPs provided 4732 telehealth services for the patients of six rural/remote practices (MM4-MM7). Patients were majority female (63%), had an average age of 49.5 years (SD 21.8) and 3.9% identified as Aboriginal or Torres Strait Islander. Most consults were delivered via videohealth (68%), with patients typically attending appointments at the practice in-person (73%). Over half of the appointments were GP services provided to returning patients and the most common reason for presentation was chronic disease management (18%). Surveys (n=213) found 98% of patients would use the service again, 94% indicated the program improved their access to primary care and 23% reported that the service prevented emergency department presentation. Key determinants of implementation were digital infrastructure, practice staff support, and triage processes to ensure telehealth appropriateness.

Implications

Our findings demonstrate the potential for digital health services to offer continuity of care in the midst of a GP workforce crisis and improve equitable access to primary care for rural and remote Queensland communities. This evaluation has informed strategies for the ongoing implementation across private and public general practices, with data collection underway to determine cost efficiency of the virtual GP model.

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P107 - The Dietitian First Gastroenterology Clinic in the digital age – a virtual service model providing timely care closer to home

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Introduction/Background

The Dietitian First Gastroenterology Clinic (DFGC) is a safe and effective allied health led model of care that reduces wait times and provides cost savings, however scale and spread beyond metropolitan areas has been slow. With increased numbers of patients waiting outside clinically recommended time frames for specialist gastroenterology care, innovative digital service models are required to improve access to care.

Method

The Surgical, Treatment and Rehabilitation Service (STARS), formed partnerships with Metro North, West Moreton and Wide Bay health services and consumers to pilot this telehealth DFGC. Contributing to statewide load sharing, STARS Dietitians work independently as the first contact practitioner for suitable category 2 and 3 patients referred to gastroenterology. Digital systems were utilised to manage referrals, documentation, virtual care and health outcomes, intervention and information sharing, providing timely care to patients closer to home.

Results

Over a 12-month period, 128 referrals were received with 86% of activity delivered by telehealth. Consumers accessing the service who identified as Aboriginal and/or Torres Strait Islanders was 7.29%. A patient experience survey revealed high acceptability of telehealth delivery, with 89% of patients rating their care as good or very good. Whilst patient satisfaction with the telehealth service was high, this project identified the lack of a digital system to support an efficient, streamlined, and traceable referral pathway to the statewide service. The evaluation demonstrated a saving of $739 per patient compared to a traditional medical model, with outcomes comparable to services delivering face to face consultations.

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Implications/Key Message

Recommendations include investment into digital referral systems to overcome barriers related to manual referral triaging and to support diversion to alternative care pathways. Our team continue to advocate for advancements to increase scale and spread in rural and remote locations and support the adoption of innovative allied health models of care.

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P108 - Staff-reported barriers and facilitators to the implementation of patient-focused interventions within regional and rural healthcare services: A rapid review

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Introduction/Background: Individuals in rural areas consistently experience higher rates of mortality and morbidity, and poorer access to healthcare, compared to their metropolitan counterparts. Optimizing the implementation of evidence-based interventions can reduce these inequities. Existing literature outlines numerous barriers and facilitators to the implementation of healthcare interventions, but these are generally not specific to rural areas. This rapid review synthesizes staff-reported barriers and facilitators to implementation within regional and rural healthcare services to inform future implementation efforts in these settings.

Method: A systematic search for peer-reviewed publications was undertaken using CINAHL, PsycINFO, Medline, and Embase databases (1/1/2000-29/08/2023). Eligible studies were original research articles published in English, that formally assessed staff-reported barriers and facilitators to the implementation of patient-focused interventions within regional and rural healthcare services in high-income countries. Qualitative, quantitative, and mixed-methods designs were accepted. Eligible healthcare settings included acute, sub-acute, primary care, community health and aged care. Data were analysed using inductive thematic analysis.

Results/Findings: The search yielded 3,927 unique citations, with 39 publications ultimately included. Included studies were predominantly conducted in Australia (n=18, 46%) or the USA (n=18, 46%); were based in primary care (n=17, 43.5%) or hospital (n=16, 41%); in rural (n=21, 54%) or mixed rural/regional (n=8, 20.5%) locations; and used qualitative methods (n=32, 82%). Key barriers included resource constraints (human/physical/funding), intervention integration and complexity, access to specialists/services, and a lack of perceived need for the intervention (staff/community). Key facilitators encompassed supportive leadership, champions, capacity building/training, sense of community, networks (internal/external/informal), intervention adaptability, and collecting/reflecting upon data.

Implications/Key Message: These findings offer essential guidance to healthcare providers, leaders, and researchers in planning future implementation efforts in rural contexts. Understanding context-specific barriers and facilitators is a crucial pre-implementation step, enabling the design of tailored strategies to improve healthcare delivery and reduce health disparities in rural and regional areas.

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P109 - Enhancing health services through digital innovation: The Northern Australian Regional Digital Health Collaborative (NARDHC)

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Introduction

While digital health is a rapidly advancing area, much of this activity is based in metropolitan areas, with little focused effort on the application across Northern Australia. The challenge of providing 21st century health services in rural, regional, and remote (RRR) Australia is acute. In response to need, stemming from distance, reduced access to health services and socio-economic disadvantage, RRR communities are keen to innovate to respond to need, but have been limited through challenges in digital literacy and connectivity.

Method

A strategy that offers real opportunity to improve RRR health outcomes is the use of digital technologies. Despite this, much is still unknown about how to combine technology with face-to-face care, to deliver high quality, acceptable and accessible health care whilst supporting a digitally enabled and responsive health workforce.

Results

In response to this gap, the Northern Australian Regional Digital Health Collaborative (NARDHC) was established in 2021. NARDHC is a collaborative of six organisations: James Cook University, Optus, Northern Queensland Primary Health Network (NQPHN), Tropical Australian Academic Health Centre (TAAHC), Australian e-Health Research Centre (AeHRC, CSIRO), Cooperative Research Centre for Developing Northern Australia (CRCNA). It embeds research, implementation, and interoperability experts across university, industry partners in health and digital technology, regional communities, and SMEs, to address the unique challenges of delivering healthcare in RRR Australia.

Key Message

This poster will feature the structure, approach, and strategy of NARDHC and will illustrate a framework for interoperability and implementation for digital health in RRR Australia. Three NARDHC digital health case studies that showcase potential to strengthen health systems and deliver services in RRR Australia, will be featured.

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P110 - Giving a voice to rural Australians: A qualitative exploration of the relationship between health care access and well-being.

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Introduction/Background

Access to healthcare is a crucial determinant of overall well-being, particularly in rural regions where healthcare services are often limited. This study explores the relationship between healthcare access and well-being among rural Australians. Previous research indicates that rural Australians face significant barriers to healthcare, including distance, limited services, and socioeconomic factors, which can adversely affect their well-being. However, there is minimal qualitative research exploring the relationship between these health care access challenges and the perceptions of the individuals' impacts on well-being.

Method

This qualitative research design included 20 semi-structured interviews (10 individuals & 10 carers). Participants were recruited through community noticeboards and social media in several rural towns in NSW. Interviews were semi-structured, allowing for detailed exploration of participants' perceptions and experiences regarding healthcare access and its impact on well-being. Thematic analysis, following Braun and Clarke's six-phase framework, was used to identify and interpret themes.

Findings

Interviews are in progress so results are pending. Based on existing literature, expected themes include: geographical isolation, transportation issues, and limited availability of medical services; psychological impacts on family and individual well-being, the role of carers, including the emotional strain on those providing care; and the importance of community resilience and the use of informal support networks to mitigate healthcare access challenges. Well-being impacts are expected to be wider in scope than what is typically discussed.

Implications/Key Message

This research is vital for understanding the complex factors influencing well-being in rural communities. It provides a platform for rural Australians to voice their needs and influence healthcare services. Future research should focus on innovative, community-designed solutions to bridge the healthcare gap, prioritising issues important to local communities.

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P111 - Optimising Referral Pathways for Cancer Support Services in Regional WA: Protocol for a Digital Supportive Care Referral Toolkit

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Background

Cancer outcomes in Australia are among the best in the world, yet cancer continues to pose the most significant health challenge in the country. Additionally, the complementary role of exercise and nutrition in cancer often goes unnoticed. These services are increasingly acknowledged as crucial components of comprehensive cancer care, capable of preventing, relieving, and reducing the physical and psychosocial effects of cancer. However, many cancer patients remain unaware of these services and their benefits. Similarly, healthcare professionals lack the necessary knowledge to discuss the importance of exercise and nutrition in cancer and have no clear guidance on how to refer patients to suitable community-based services. Failing to address these issues means that patients miss out on the benefits of incorporating exercise and nutrition into their treatment plans.

Methodology:

This project is part of a broader research project funded through the WA Department of Health, aimed at integrating exercise and nutrition services into standard cancer care. Our aim is to co-design, test, and evaluate the effectiveness of a digital referral Toolkit for regional health services. The Toolkit will include a triage protocol, a directory of community-based exercise and nutrition services and user-friendly resources to support health services to link cancer patients with appropriate community-based exercise and nutrition programs. Guided by the principles of Implementation Science, we will employ the Exploration, Preparation, Implementation, Sustainment (EPIS) framework to meet our objectives: Explore the needs of health service partners, co-design a digital referral Toolkit using a modified Delphi technique, test the digital referral Toolkit in our partnering health services, and evaluate its effectiveness against pre-determined outcomes.

Results

Preliminary results indicate that a digital referral Toolkit will increase patient referrals to exercise and nutrition services, as well as enhance patients' motivation to make positive behavioural changes and incorporate physical activity and healthy eating into their treatment plans.

Key Message:

All cancer patients should be able to connect with exercise and nutrition services as part of comprehensive care. The development of a digital referral Toolkit will positively impact health service delivery, patients’ care experience, and communication between health services and community-based exercise and nutrition services.

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P112 - Mapping Domains of Health Equity in Telehealth: Bridging Gaps with Existing Instruments

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Introduction/Background

Telehealth has emerged as a crucial service model for enhancing healthcare accessibility, particularly in rural and remote areas. Rural communities face challenges such as limited healthcare facilities, shortages of professionals, and geographical barriers, which telehealth can help mitigate by enabling remote consultations and treatments. Despite its potential, the specific impact of telehealth on healthcare access equity remains under-researched. This study addresses this gap by identifying and analyzing the domains of health equity in telehealth services, with the aim to inform strategies that optimize telehealth for equitable healthcare access.

Method

Our approach involves a comprehensive literature review to ascertain relevant domains impacting health equity in telehealth. We collaborated with a panel of experts to refine these domains and employed a systematic mapping strategy to compare them against existing measurement instruments in telehealth research. The goal was to identify coverage gaps and areas lacking in empirical support.

Results/Findings

Our ongoing analysis has identified 29 distinct attributes related to health equity across various domains, such as equipment and infrastructure availability, digital skills, and service availability. Initial mapping suggests significant gaps in coverage by existing instruments, particularly in areas crucial to rural and remote populations.

Implications/Key Message

Early findings underscore the critical need for developing targeted measurement tools that better capture the realities of telehealth usage in rural and remote areas. By addressing these gaps, policymakers and healthcare providers can better assess and improve health equity, ensuring that telehealth fulfills its potential as an equalizer in healthcare access. Future work will focus on developing and validating new instruments tailored to the uncovered domains, aiming to facilitate more equitable health service delivery across diverse geographic settings.

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P113 - Patient experience in small rural emergency care facilities

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Introduction/Background

Feedback from people about their experiences of emergency care in small rural hospitals provides valuable insights into the performance of the healthcare system in rural and remote areas.

Method

The Bureau of Health Information's state-wide, stratified random sample survey – Rural Hospital Emergency Care Patient Survey 2023 – results reflect the experiences of 5,107 patients who received emergency care in one of 81 small rural public hospitals in NSW between January and March 2023.

The survey was designed in collaboration with rural local health districts and NSW Health's Regional Health Division. It includes a 17-question module comprising questions of relevance to patients in rural areas. Patients were asked about different aspects of their experiences, including facility access, transfers to other hospitals for further treatments, health outcomes and follow-up care.

Results/Findings

Most patients were positive about their experiences of care in small rural hospitals. However, ratings for more than half of all comparable questions declined compared with the previous survey (2019). The results show potential areas for improvement, including involvement of patients in decision-making, communication with patients' families or loved ones and teamwork among emergency department health professionals. Of the patients who said that, at the time, they thought their condition could have been treated by a general practitioner (GP) or other health professional, the most common reasons cited for not seeing a GP or other health professional were: the service was closed; or the patient could not get an appointment in a reasonable time.

Implications/Key Message

People living in rural and remote areas may face distinct challenges when accessing and navigating the healthcare system. Understanding their healthcare experiences helps inform efforts to make healthcare services more accessible, inclusive and responsive to their needs.

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P114 - Implementation of provider-to-provider telehealth in country WA

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Introduction/Background

The use of rural provider-to-provider telehealth (RPPT) is growing globally. It is used to both increase the equitable access to healthcare services for those living in rural and remote areas, and to increase the support offered to the place-based providers in these areas. WA Country Health Service (WACHS) covers a 2.55 million square kilometre area, divided into seven regions, and serves a population of approximately 550,000 with areas defined as regional, rural, and remote. The WACHS Command Centre is an example of RPPT with clinical services in place since 2012. This study aimed to evaluate the implementation of rural provider-to-provider telehealth across country Western Australia between 2018 and 2023.

Method

A cross-sectional retrospective analysis was conducted of all patient contacts in the clinical arm of the WACHS Command Centre, between 5 January 2018 and 31 December 2023. Analysis was informed by the expanded Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) Framework and Implementation Outcomes Framework (IOF) definitions.

Results/Findings

Across the six-year data collection period, a total of 155,013 service contacts were analysed from the five Command Centre clinical services. The results show a steady increase in both reach and adoption of services across country WA, but with a wide variation depending on region and health facility type.

Implications/Key Message

This research shows the implementation of WACHS Command Centre clinical services across country WA from 2018-2023, evaluated quantitatively via the RE-AIM framework. Given the increase in reach and adoption, but large variability, it is important we explore the experience of those using the services and overall value delivered. Subsequent phases of this research undertake a qualitative component.

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