SFT-24
AUSTRALIA

2024 Successes and Failures in Telehealth Conference

13-15 November 2024
Brisbane Convention & Exhibition Centre

Building a better health system with telehealth and virtual care

Conference Proceedings

AN INITIATIVE OF

The University Of Queensland
AUSTRALIA
CREATE CHANGE

Centre for Online Health
CENTRE FOR HEALTH SERVICES RESEARCH

CONTENTS

WEDNESDAY 13 NOVEMBER 2024

OPTIONAL WORKSHOPS WILL BE HELD AT UQ BRISBANE CITY AND ARE FOR DELEGATES WHO HAVE PURCHASED AN ADDITIONAL TICKET TO ATTEND A WORKSHOP		
OPTIONAL WORKSHOP ONE **9.30 AM - 11.00 AM** **LOCATION:** Room 511, UQ Brisbane City, 308 Queen St **WORKSHOP TITLE:** Getting started with telehealth **PRESENTER**: Associate Professor Liam Caffery	**OPTIONAL WORKSHOP TWO** **11.30AM - 1.00PM** **LOCATION:** Room 511, UQ Brisbane City, 308 Queen St **WORKSHOP TITLE:** Introduction to telehealth evaluation **PRESENTER:** Dr Centaine Snoswell	**OPTIONAL WORKSHOP THREE** **1.30PM - 3.00PM** **LOCATION:** Room 511, UQ Brisbane City, 308 Queen St **WORKSHOP TITLE:** How to start and sustain consumer involvement in telehealth research **PRESENTER:** Dr Soraia De Camargo Catapan

THURSDAY 14 NOVEMBER 2024

7.30am	Registrations open - Boulevard Auditorium Foyer, Brisbane Convention and Exhibition Centre
PLENARY SESSIONS WILL BE HELD IN THE BOULEVARD AUDITORIUM	
8.30am	Conference Opening **Chair: Prof Anthony Smith**
8.35am	Welcome to Country
8.45am	Conference Overview and Housekeeping **Chair: Prof Anthony Smith**
8.50am	Executive Welcome **Prof Monika Janda, Director, UQ, CHSR**
9.00am	Keynote Address: The Rise and Fall of Telehealth: Where do we go from here? **Dr Ateev Mehrotra | Professor and Chair of the Department of Health Services, Policy, and Practice Brown School of Public Health Providence, Rhode Island, USA**
9.20am	Q&A Session with Keynote Speaker
9.30am	Industry Engagement Session
9.50am	Bronze Sponsor Address **Visionflex | Joshua Mundey, CEO**
10.00am	Bronze Sponsor Address **nbn | Robert Hardie, Executive Manager – Health & Agriculture, Regional and Remote**
10.10am	Residential Aged Care Telehealth Training Program. A new way to access telehealth training **Lisa Paulin**
10.20am - 10:45am	Morning Tea, Exhibition & Poster Viewing

THURSDAY 14 NOVEMBER 2024

10.45am - 12.15pm	**CONCURRENT SESSION 1 - AGED CARE** Chair: **Monica Taylor** BOULEVARD AUDITORIUM	**CONCURRENT SESSION 2 - ALLIED HEALTH** Chair: **Trevor Russell** B1	**CONCURRENT SESSION 3 - CONSUMER INVOLVEMENT** Chair**: Jaimon Kelly** B2
10.45am	Developing and delivering telehealth training for staff at residential aged care homes in a Primary Health Network covering urban, regional and rural areas - **Annie Banbury**	Utilising technology for Diet and Exercise Change In complex chronic conditions across Diverse Environments (U-DECIDE Study): feasibility randomised controlled trial - **Riley Brown**	Quality of care in telehealth-delivered Allied Health care: A consumer perspective - **Renee Cook**
11.00am	Improving Access to Virtual and Integrated Team Care in Residential Aged Care Facilities through Digital Interoperability **- Janine Cox**	Exploring the potential of the HoloLens 2: Enhancing mentored support for specialist speech pathology management - **Clare Burns**	Utilising experience-based co-design processes to enhance consumer advocacy and choice in tertiary telehealth services - **Michelle Cottrell**
11.15am	Evaluating the Impact of Remote Health Monitoring and Predictive Tools on Health Interventions in South Australian Aged Care Facilities - **Igor Ferreira**	Providing post-discharge support via telehealth for patients with dysphagia: A Pilot trial - **Liz Ward**	Improving consumer trust in digital health: a mixed methods study involving people with chronic kidney disease - **Soraia De Camargo Catapan**
11.30am	Using assisted living technology and GP telehealth in-reach to support ageing in place for residents of a rural aged care lodge in Western Australia - **Kate Valmadre**	Enhancing Community Care - a Multidisciplinary Allied Health Team delivering quality Virtual Care - **Sophie Bushell**	Understanding the Telehealth Access Gap: A consumer mapping study with culturally and linguistically diverse communities - **Victor Gallegos-Rejas**
11.45pm	Residential Aged Care Facilities General Practitioners - just a click away - **Christina McInally and Kylie Cookson**	Evaluation of a Speech Pathology Telepractice Dysphagia Service Within a Community Health Setting - **Clare Burns**	South Australian Virtual Care Service – Learnings from a consumer front door pathway - **Melanie Smith**
12.00pm	Q&A with speakers	Q&A with speakers	Q&A with speakers
12.15pm	Lunch, Exhibition & Poster Viewing		
1.00pm - 2.30pm	**CONCURRENT SESSION 4 - INTERNATIONAL PERSPECTIVES** Chair: **Sisira Edirippulige** BOULEVARD AUDITORIUM	**CONCURRENT SESSION 5 - VIRTUAL MENTAL HEALTH SERVICES** Chair: **Roshni Mendis** B1	**CONCURRENT SESSION 6 - TELEREHABILITATION** Chair: **Soraia De Camargo Catapan** B2
1.00pm	Transforming Rural Healthcare Delivery: Insights from the Västerbotten without Borders E-Health Initiative - **Manuel Gonzalez**	The Development and Initiation of a Virtual Urgent Mental Health Assessment Service for Children and Young People - **Tim Crowley**	Determining accuracy of performing a neurological examination via telehealth in patients with low back pain (LBP) - **Michelle Cottrell**
1.15pm	Skills and competencies for implementing doctor-to-doctor telemedicine in Asia; A Delphi consensus study involving 11 Asian countries - **Kuriko Kudo**	Child and Adolescent Virtual Urgent Care Service (CAVUCS) - A Consumer-Centric, Hospital Avoidance Strategy) - **Benjamin D'souza and Priya Wilson**	Design Principles for Virtual Reality Telehealth Rehabilitation: Enhancing Patient Motivation through Virtual Experiences - **Robert Cuthbert**
1.30pm	Teledermatology in Africa: a Scoping Review - **Maurice Mars**	Understanding mental health risk in Aotearoa New Zealand, a Telehealth reflection of distress - **Ruth Large**	Pulmonary and Cardiac Telerehabilitation (PaCT) – regionalised networked corridor approach delivering virtual care closer to home within regional, rural and remote Queensland - **Nadia Nestor**

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1.45pm	Bridging the Divide: A Global Analysis of the ICT Imperative in Shaping National Policies - **Toru Oga**	Health, engagement, and adherence outcomes of advanced health coaching in a real-world GLP-1-supported digital weight-loss service: Protocol for a randomized controlled trial - **Louis Talay**	Why has the use of telerehabilitation in physiotherapy clinical practice reduced substantially since the easing of COVID-19 restrictions? - **Trevor Russell**
2.00pm	Implementation and Outcomes of the '1177 Direct' Digital Symptom Assessment and Referral Service in a Region of Northern Sweden - **Virginia Zazo**	Is telehealth associated with more mental health service utilisation by urban Indigenous Australians? - **Xiaoyun Zhou**	A systematic review of attendance, adherence and satisfaction with real-time video-based telerehabilitation for physiotherapy - **Joshua Simmich**
2.15pm	Q&A with speakers	Q&A with speakers	Q&A with speakers
2.30pm	Afternoon Tea, Exhibition & Poster Viewing		
3.00pm - 4.15pm	**CONCURRENT SESSION 7 - EVALUATION** Chair: **Liam Caffery** BOULEVARD AUDITORIUM	**CONCURRENT SESSION 8 - PRIMARY CARE AND PRIORITY POPULATIONS** Chair: **Victor Gallegos-Rejas** B1	**CONCURRENT SESSION 9 - RPM** Chair: **Emma Thomas** B2
3.00pm	Right Care, Right Place, Right Time, Right Way: A Framework for addressing the wider dimensions of successful Telehealth design - **Mark Burdack**	Assisting Reality – Creating a community of practice to achieve virtual care innovation across three telehealth pilots in country Western Australia - **Kendra Mutch**	Virtual Pregnancy Monitoring- The case for Online pregnancy monitoring -An international experience - **Darryl Hadaway**
3.15pm	Meta analysis of reported no show or non-attendance rates among virtual and in-person models of care - **Phillip Greenup**	Investigating Healthcare Accessibility: Do Stakeholders Believe Telemedicine Improves Access? - **Aparna Venkataraman and Sisira Edirippulige**	Reducing Cost and Emergency Room Admissions Through Remote Patient Monitoring (RPM) - **Taraneh Lucas**
3.30pm	Herding cats: reflections from leading a large interdisciplinary telehealth project - **Rashina Hoda**	Virtual Health Care - Governance, Safety and Practice - **Shaun Hosein**	Remote Patient Monitoring in the Barwon South West region, Victoria: The learnings from sunrise to sunset - **Christina Mavridis**
3.45pm	What factors influence preferences for telephone and video consultations? A multinomial regression analysis using national survey data - **Roshni Mendis**	Working from first principals in Telehealth for Mob: Reinforcing Service Delivery with ACCO Telehealth Ecosystem Evaluations - **Nyree Taylor and Nean Tatnall**	West Moreton Health Preventative Integrated Care Service Telehealth and Remote Virtual Biometric Monitoring Challenges and Learnings - **Lorna McDonagh**
4.00pm	Q&A with speakers	Q&A with speakers	Q&A with speakers
4.15pm	Conference Close - Day 1		
6.00pm - 9.00pm	**Conference Social Function** Location: Roof Terrace, Gallery of Modern Art (GOMA) Dress: Smart Casual		

FRIDAY 15 NOVEMBER 2024

8.30am	Registrations open - Boulevard Auditorium Foyer, Brisbane Convention and Exhibition Centre		
PLENARY SESSIONS WILL BE HELD IN THE BOULEVARD AUDITORIUM			
9:00am	**Welcome Day Two**		
9.10am	Keynote Address: Harnessing AI in Healthcare: A Cautious Revolution **Landell Archer | Director of Healthcare, Government and Defence Solutions** **Pexip, Australia**		
9.30am	Q&A Session with Keynote Speaker		
9.40am	Oral Poster Session **Chair: Liam Caffery**		
9.45am	Embracing Technology – Utilising Virtual Services to Improve Supportive Care for Paediatric Oncology patients in the Home - **Alina Baldock**		
10.00am	360-degree Camera Positioning for the Development of Medical Educational Materials for Operating Theatre Nurses - **Yukiko Hisada**		
10.05am	Carbon emission reduction associated with utilisation of telehealth in outpatient clinics in an Australian tertiary health service - **Barbara Loppi**		
10.10am	Models of care for adult outpatient synchronous telepharmacy services: a systematic review - **Laura Neil**		
10.15am	Shifts in telerehabilitation use in physiotherapy clinical practice throughout the COVID-19 pandemic era - **Megan Ross**		
10.20am	Exploring Large Language Models for Telehealth Summary Generation - **Wei Zhou**		
10.25am	Morning Tea, Exhibition & Poster Viewing		
11.00am - 12.15pm	**CONCURRENT SESSION 10 - EVALUATION** Chair: **Anthony Smith** BOULEVARD AUDITORIUM	**CONCURRENT SESSION 11 - EDUCATION AND NEW DIGITAL TECHNOLOGIES** Chair: **Louise Harding** B1	**CONCURRENT SESSION 12 - PALLIATIVE CARE** Chair: **Helen Haydon** B2
11.00am	Clinician Experience: Telephone to Video - **Olga Polikina**	Telehealth delivery of an immersive virtual reality therapy tool for communication rehabilitation: A feasibility study - **Clare Burns**	Getting to know you: developing and sustaining a Community of Practice through a Paediatric Palliative Care ECHO program - **Alyson Gundry and Emma Brain**
11.15am	Patient Satisfaction in Virtual Care: How Video Telehealth Outperforms Telephone - **Mikaela Robertson**	A two-decade-long bumpy road of digital health education – an educator's perspective - **Sisira Edirippulige**	A life well-lived: Reflections on cancer treatment and palliative care by telehealth - **Ruth Large**
11.30am	Phone versus video: A systematic review of patient and provider preferences for telehealth appointments - **Monica Taylor**	Using digital applications and microlearning to build a sustainable telehealth training pathway and telehealth capability in the country WA workforce - **Kate Valmadre**	Integrating patient-reported outcome measures into a supportive and palliative virtual care clinic: Developing an implementation plan - **Peter Poon**

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11.45am	The effectiveness and cost effectiveness of a virtual Hospital in the Home service for COVID-19 infection: a retrospective cohort study and modelled decision analysis - **Linh Vo**	Exploring the Feasibility of Wearable Augmented Reality for Telehealth: A Simulation-Based Evaluation of the Microsoft HoloLens 2 - **Chiara Santomauro**	Examining Telehealth Modalities and Consultation Interventions in Palliative Care: Outcomes From an Innovative Rapid Palliative Care Inreach Division (RAPID) Program Developed During the COVID-19 Pandemic - **Patrick Steele**
12.00pm	Q&A with speakers	Q&A with speakers	Q&A with speakers
12.15pm	Lunch, Exhibition & Poster Viewing		
1.00pm - 2.00pm	**Concurrent Session 13 - Specialist Services** Chair: **Ruth Large** BOULEVARD AUDITORIUM	**Concurrent Session 14 - Teleheath Adoption and Access** Chair: **Annie Banbury** B1	**Concurrent Session 15 - Telepharmacy** Chair: **Centaine Snoswell** B2
1.00pm	Use of a Telehealth pod in Austin Hospital's Emergency Department waiting room - **Michael Ben-Meir**	Uncovering healthcare staff attitudes to the rapid deployment of telehealth in Victoria, 2020–2021: a 12-month telehealth experience - **Shona Callum**	Telepharmacy advice line; service evaluation and emergency treatment avoidance - **Anna Barwick**
1.15pm	Understanding Community: Critical for Best Care Delivery in Fracture Management - **Nariyoshi Miyata and John North**	Clinical support in aged care: Insights from a Visual Telehealth study evaluation - **Carla Sunner**	Application of Pharmacist-Led use of Video-Based Patient Education: A Systematic Review - **Tara Isaacs**
1.30pm	Scaling a virtual heart health support service in country Western Australia: Successes and challenges - **Kendra Mutch**	Telemedicine Adoption: How Key Drivers and Language Barriers Shape Doctor Preferences - **Aparna Venkataraman and Sisira Edirippulige**	Telepharmacy for pre-treatment medication history taking for patients with cancer: An implementation evaluation using the Consolidated Framework for Implementation Research 2.0 - **Marissa Ryan**
1.45pm	Q&A with speakers	Q&A with speakers	Q&A with speakers
2.00pm	Afternoon tea		
2.15pm	Keynote Address: Virtual Care: Australian Lessons and Future Directions **William Grant | Virtual Care Business Lead, Telstra Health, Australia**		
2.35pm	Q&A Session with Keynote Speaker		
2.45pm	Reflections on SFT 2024 Awards, SFT Best Paper Prizes, and conference close **Chair: Prof Anthony Smith**		
3.15pm	Conference Concludes		

For the most up to date program, please scan here

This program is correct at the time of printing.
The organisers reserve the right to make necessary changes without notice.

Acknowledgements

The organisers are grateful to many individuals and organisations, including the sponsors and exhibitors. We thank all delegates for their contribution and efforts.

The SFT conference is hosted by:
The University of Queensland's Centre for Online Health.

Website: https://coh.centre.uq.edu.au/

November 2024.

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KEYNOTE PRESENTATIONS

Keynote Address

Thursday 14 November 2024, 9:00am

Dr Ateev Mehrotra

Professor and Chair of the Department of Health Services, Policy, and Practice, Brown School of Public Health Providence, Rhode Island, USA

Ateev Mehrotra, M.D., M.P.H. is the Walter H. Annenberg Distinguished Professor and Chair of the Department of Health Services, Policy, and Practice at the Brown School of Public Health. Dr. Mehrotra has led seminal work evaluating the impact of telemedicine on costs and quality and advised the Congress and other policymakers in the US on telemedicine payment policy and regulations. He has published over three hundred peer reviewed papers and is a prominent voice in the field of health services and health policy.

Presentation Title: The Rise and Fall of Telehealth: Where do we go from here?

In this talk, Dr. Mehrotra will describe the dramatic evolution in the use of telehealth in the United States over the last 5 years. He will then delve into the ongoing debate about the future of telehealth and how recent research findings on the value of telehealth can inform the policy and clinical debate. He will challenge the idea that telehealth will fulfill the "triple aim "- improve access, decrease costs, and improve quality. Finally, he will describe potential paths forward in terms of telehealth payment and regulations.

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Keynote Address

Friday 15 November 2024, 9:10am

Landell Archer

Director of Healthcare, Government and Defence Solutions, Pexip, Australia

Landell started her career as an exercise physiologist and has been working in health-related software technology for 16 years. She's passionate about user experience and the interoperability of technology platforms to achieve the desired outcomes. She'd love to see a wider adoption of virtual care and believes in using modern technology to solve health problems. She even has a side passion project developing Kaha, an iPhone app for people with chronic pain.

Landell is the Director of Healthcare solutions at Pexip, where she works with large healthcare organisations to build solutions around the Pexip video platform. Pexip is unique in the market due to its ability to meet the stringent reliability, security and data privacy requirements that health and governments have. It's a cross-vertical platform that is used for government and Defence video conferencing proving its fit for secure environments.

Presentation Title: Harnessing AI in Healthcare: A Cautious Revolution

It's easy to be swept up by the whirlwind of technological progress and the ethical debates that fill our news and social media. This global discussion, whilst fascinating, can sometimes feel overwhelming in its scale and immediacy.

When we turn our focus to healthcare, however, we see a field where AI should be implemented with a more thoughtful, considered approach.

In this keynote, I will outline what to consider when implementing AI, so that you can have a careful, strategic approach to adopting this technology.

Revolutionising Care Delivery: But what are we risking? I'll discuss how AI integration in healthcare promises to revolutionise care delivery and enhance how health professionals work but give you a few tips on how to leverage this technology without sacrificing data privacy.

Improving Health Equity: I'll discuss how AI can fill a gap and can be linked to the quadruple aim with an emphasis on practical examples like Pexip's research and development into real-time language translation during video consultations and clinical care conducted over video to serve diverse patient populations.

Key Discussion Points:

- The Promise of AI in Healthcare: Highlighting the potential of AI to improve clinical care and patient outcomes through predictive analytics and operational efficiencies, whilst stressing the need for a measured pace in technology adoption.
- Stakeholder-Centric Approach: Advocating for a collaborative approach to AI integration, bringing together clinicians, patients, and technologists to address crucial issues like data protection, privacy, and security.

- Communication and Inclusivity: Emphasising the role of AI in bridging communication gaps through real-time translation services, ensuring comprehensive care for all patients, particularly the most vulnerable.

This presentation will seek to highlight both the vast potential and the inherent challenges of integrating AI in healthcare. It promotes a vision where AI has the potential to empower every facet of patient care, guided by deep empathy, rigorously informed by security and privacy standards and firmly anchored in ethical practices.

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Keynote Address

Friday 15 November 2024, 2:15pm

William Grant

Virtual Care Business Lead, Telstra Health, Australia

For close to two decades, William Grant has been a passionate enthusiast about delivering real value to customers and colleagues, and he continues to do so in his role as Head of Product – Virtual Care & Kyra Flow at Telstra Health.

Will's distinguished career includes Business Development Manager, Product Manager, Telehealth Project Manager and Business Unit Lead roles within the health sector.

Will is committed to making a positive, measurable difference to the customers, stakeholders and colleagues he interacts with.

Presentation Title: Virtual Care: Australian Lessons and Future Directions

Background
This presentation explores how the integration of virtual care technology is driving a paradigm shift towards sustainable and patient-centric models. We will discuss the opportunities for healthcare organisations to enhance their capabilities and confidence in embracing virtual care while avoiding common pitfalls encountered by new entrants in this field.

Results, lessons learnt and future trends
This abstract summarises key learnings from Australian virtual care initiatives, drawing on both international research and local studies.

Research findings demonstrate significant improvements in clinical outcomes and patient satisfaction. For acute care, virtual monitoring reduced hospital readmissions (from 43% to 21%) and length of stay (3.2 fewer days), resulting in average cost savings of $3,698 per admission compared to conventional methods.

Beyond the clinical benefits, the studies highlight the importance of addressing privacy, data security, and technology usability. The commercial sustainability of virtual care programs is also explored, considering factors such as the care model and deployment approach.

Looking ahead, advancements in biomedical engineering, predictive analytics, and artificial intelligence (AI) offer exciting opportunities for further enhancing the quality, safety, and sustainability of home-based care models through virtual care technology.

Conclusion
Our findings confirm the clinical, economic and consumer benefits associated with embedding virtual care technology in home-based service models, warranting consideration in health systems facing capacity constraints and rising costs. However, sustaining these benefits will require health providers to remain at the forefront of innovation, with a focus on discerning technologies which enhance clinical service delivery and benefit both healthcare providers and recipients.

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WORKSHOPS

Getting started with telehealth

Associate Professor Liam Caffery[1]

1. Centre for Online Health, The University of Queensland, Queensland, Australia

This workshop is aimed at healthcare providers who are starting their telehealth journey. Topics covered include staff readiness and training, choosing your technology, choosing your modality (telephone versus video), developing business processes to support telehealth, and normalising telehealth to deliver healthcare.

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Introduction to telehealth evaluation

Dr Centaine Snoswell[1]

1. Centre for Online Health, The University of Queensland, Queensland, Australia

When designing telehealth evaluation plans, programs should consider the types of measures that are important to key stakeholders. The translation of telehealth services from conception, through the pilot stage, and into practice requires tailored research and evaluation methods. This workshop will discuss the design and execution of telehealth evaluation plans, including clinical effectiveness, consumer and clinician engagement, and health economic considerations. We will discuss practical information about the methods used to evaluate telehealth services and explore relevant examples from our research.

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How to start and sustain consumer involvement in telehealth research

Dr Soraia de Camargo Catapan[1]

1. Centre for Online Health, The University of Queensland, Queensland, Australia

Join our dynamic, consumer-led workshop designed to empower healthcare professionals and researchers with the knowledge and skills needed to effectively involve consumers in telehealth service design and research. This workshop will explore the importance of genuine consumer involvement, practical approaches at various levels, and address common challenges. Gain insights from COH researchers and the Telehealth Consumer Reference Group and discover innovative solutions to keep consumers engaged and motivated throughout the research process. Whether you're an executive, clinician, service manager, researcher, or consumer – there is something for you!

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ORAL PRESENTATIONS

Developing and delivering telehealth training for staff at residential aged care homes in a Primary Health Network covering urban, regional and rural areas

Dr Annie Banbury[1]

1. Centre for Online Health, Centre for Health Services Research, The University of Queensland, Brisbane, Australia

A key recommendation from Australia's Royal Commission into Aged Care Quality and Safety was to develop strategies to promote the adoption of telehealth in Residential Aged Care Homes (RACHs) to increase access to primary care and specialist services, and to reduce hospital transfers. The University of Queensland's Centre for Online Health was commissioned by Brisbane North Primary Health Network to engage with local RACHs to 1. Assess telehealth business process needs for tailored support; 2. Conduct onsite telehealth workshops focused on business processes and training (including practical demonstrations of the Healthdirect videoconferencing platform); and 3. Provide resources (training materials and user guides) to support ongoing training of staff in each facility. Training sessions of two hours each were completed at 28 sites which approximately 200 RACH staff attended in total. The average self-rated score in telehealth knowledge and skills increased by 97%, and confidence in using telehealth increased by 70% after training. At follow-up, 76% of sites reported using telehealth, mostly on an ad hoc basis. Approximately 1/3 sites (32%) said 80% or more of their staff were confident in using telehealth. Staff cited an important need for ongoing support, regular engagement, and processes which promote engagement with external health services. Challenges with telehealth adoption included retention of trained staff in each facility, time constraints, willingness to practice telehealth, competing work priorities, and clarity around what telehealth support is available and how to access it. We faced many difficulties engaging with sites, and importantly, improved knowledge did not necessarily equate to a change in behaviour. We have developed a list of recommendations to increase telehealth use in RACHs including further interventions to support and sustain behaviour change, and training targeted to external providers identified by RACHs.

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Telepharmacy advice line: service evaluation and emergency treatment avoidance

Ms Anna Barwick[1,2], Associate Professor Christopher Freeman[1,3,4], Associate Professor Liam Caffery[5,6], Professor Anthony Smith[5,6,7]

1. School of Pharmacy, University of Queensland, Woolloongabba, Australia
2. School of Health, The University of New England, Armidale, Australia
3. Faculty of Medicine, University of Queensland, Herston, Australia
4. Metro North Hospital and Health Service, University of Queensland, Herston, Australia
5. Centre for Online Health, University of Queensland, Brisbane, Australia
6. Centre for Health Services Research, University of Queensland, Brisbane, Australia
7. University of Southern Denmark, Odense, Denmark

Background
There is a lack of access to after-hours and urgent care for low-acuity conditions, particularly in rural and regional areas of Australia. These pressures are transferred to emergency department presentations and GP practices that in turn experience access block and extended waiting times. The Pharmacist After Hours Advice Line (PAAL) service provided advice, where users were triaged, had their medication history assessed, then were provided with evidence-based verbal and written suggestions by a local registered pharmacist. The Tasmanian Department of Health funded PAAL from October 2022 until May 2023, for members of the general public, residential aged care facility (RACF) staff, and palliative carers.

Aim
To evaluate the components and feasibility of a pilot virtual pharmacy service.

Methods
Service users and five service pharmacists completed non-identifiable online surveys to record their experiences and collect summaries of the interactions. Descriptive analysis of service included demographics, recommendations, user feedback, and time-to-treatment.

Results
During the 8 months of operation, 523 contacts were made to the service, with 67% participant consent rate. Callers were predominantly women (65%) with an average age of 44 years. During retrospective review, more than three-quarters of callers (n=172; 77%) were calling from home and less than one-quarter (n=52; 22%) from an institution, such as an RACF. Common enquiries included questions about COVID-19 treatment (15%), side effects from medication (14%), drug interactions (13%), drug suitability (8%), and questions about prescription access (15%). Follow up surveys (n=28) demonstrated 100% satisfaction (somewhat or extremely) with the service and time-to-treatment was less than 1 hour in 71% of cases.

Conclusion
It is feasible to deliver pharmacist advice by phone and there is a demand for this service. Assessment of clinical and economic impact will help to determine sustainability and scalability of the service and inform future models of care around the country.

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Use of a Telehealth pod in Austin Hospital's Emergency Department waiting room

Associate Professor Michael Ben-Meir[1,2,3], Dr Joseph Kim[1,4]

1. Austin Hospital, Melbourne, Australia
2. Melbourne University, Melbourne, Australia
3. Monash University, Melbourne, Australia
4. Victorian Virtual Emergency Department, Melbourne, Australia

Austin ED designed and installed a telehealth booth into the ED's waiting room in late 2023. The booth was set up to connect via a touch screen to the Victorian Virtual Emergency Department (VVED).

Triage staff were trained in selecting appropriate patients who could be referred to the VVED and therefore discharged from Austin ED. We will present the first years' data of referrals, failure rate (return to Austin ED within 72 hours), patient experience and staff experience.

The telehealth booth design principles and process will also be described.

The utility to use onsite Telehealth referrals to enable successful ED diversions will be discussed. Barriers and enablers will be described as well as proposed opportunities to improve and expand the use of Telehealth booths.

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Utilising technology for Diet and Exercise Change In complex chronic conditions across Diverse Environments (U-DECIDE Study): Feasibility randomised controlled trial

Dr Riley Brown[1,2], Dr Shelley Keating[2], Dr Dev Jegatheesan[3], Dr Hannah Mayr[4,5,6], Ms Amandine Barnett[7,8], Mrs Marguerite Conley[5], Mrs Lindsey Webb[5], Dr Jaimon Kelly[7,8], Dr Centaine Snoswell[7,8], Dr Heidi Staudacher[9], Prof Graeme Macdonald[4,10], A/Prof Nicola Burton[11,12,13], Prof Jeff Coombes[2], Prof Katrina Campbell[8,12,14], Dr Nicole Isbel[3,4], A/Prof Ingrid Hickman[4,5]

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7. Centre for Online Health, The University of Queensland, Brisbane, Australia,
8. Centre for Health Services Research, The University of Queensland, Brisbane, Australia
9. Food & Mood Centre, Institute for Mental and Physical Health and Clinical Translation, Deakin University, Geelong, Australia
10. Department of Gastroenterology and Hepatology, Princess Alexandra Hospital, Brisbane, Australia
11. School of Applied Psychology, Griffith University, Brisbane, Australia
12. Menzies Health Institute Queensland, Griffith University, Gold Coast, Australia
13. Centre for Mental Health, Griffith University, Brisbane, Australia
14. Healthcare Excellence and Innovation, Metro North Health, Brisbane, Australia

Aim
This study evaluated the feasibility of a ubiquitously accessible patient-centred digital health diet and exercise service.

Methods
U-DECIDE was a single-centre, 26-week, randomised controlled trial set in kidney and liver disease clinics in a tertiary hospital in Brisbane. Participants were adults with a complex chronic condition referred for dietetic consultation with at least one feature of the metabolic syndrome (MetS). All participants received a dietary consultation, an activity monitor and usual care. Intervention participants were offered one text message per week and access to choose from additional digital health options as an alternative to face-to-face reviews (increased text message frequency, nutrition app, exercise app, group-based diet and/or exercise videoconsultations). The primary outcome of feasibility was determined by safety (study-related serious adverse events: SRSAEs), recruitment (≥50% eligible patients), retention (≥70%), exposure uptake (≥75% of intervention group had greater access to health professional contact than comparator) and videoconsultation adherence (≥80% attendance). Secondary outcomes included engagement with technology (frequency of use for apps, wear-time for activity monitor) and difference in MetS severity score (MetSSS).

Results
Of 67 participants (intervention n=33, comparator n=34), 37 (55%) were men, median (IQR) age was 51 (41-58) years. The most chosen digital health options were the nutrition app (n=29, 88%) and exercise videoconsultations (n=26, 79%). Only one participant chose no

additional digital health options. The intervention group had no SRSAEs. The study exceeded targets for recruitment (52%), retention (81%) and exposure uptake (94%). Video consultation adherence was 42%. Engagement across digital health options was inconsistent. There were no differences between groups for changes in MetSSS (N=26; intervention 0.4±1.1AU; control -0.4±2.1AU; MD (I-C), 95%CI: 0.78, -0.52-2.07; p=0.23).

Conclusion
Digital health options incorporating patient choice were a feasible service model for people with complex chronic disease. Targeted solutions to support telehealth attendance and appropriate engagement with technology are needed.

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Right Care, Right Place, Right Time, Right Way: A framework for addressing the wider dimensions of successful telehealth design

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HealthAccess was established in 2016 following a request from a rural hospital network to help fill gaps in its locum roster. As a community organisation, the Foundation knew that if the service was seen to be driven only by system-needs it would result in community resistance and sub-optimal performance. This led to novel solutions such as mapping patient care pathways into the design of the service to replicate how people naturally access care, and a strategic focus on community participation in design. As demand for services expanded, the approach was adapted to different contexts. For example, during an initial user trial of telehealth in a rural RACF, a resident expressed hesitancy about consulting a clinician they had never met in person, despite the use of high-definition video. This led to the co-design of a hybrid model that involves a regular clinician attending the facility on a quarterly cycle to co-design and monitor a care plan with residents and RACF staff, augmented by a weekly video clinic with the same clinician. In an Aboriginal community, local Aboriginal staff are employed to work with a virtual GP. In a remote community, a range of non-clinical concerns were identified such as the risk that local health providers (e.g. pharmacies) might be bypassed impacting jobs and economic activity. This led to a service model that integrated local providers into the design and delivery of care. An independent evaluation of the service found patient satisfaction and clinician satisfaction routinely exceeds 95%. The study design involves longitudinal data collection tracking key indicators such as community and clinician satisfaction, avoided transfers and health outcomes. The design framework incorporates the broader community dimensions of care that extend beyond technological, clinical or individual domains. The HealthAccess framework accounts for wider social and economic factors that are key to success.

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Telehealth delivery of an immersive virtual reality therapy tool for communication rehabilitation: A feasibility study

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Introduction
Speech pathology traditionally provides clinic-based appointments which can impact therapy access and limits opportunities for patients to practice communication skills in real-world settings. This research team designed and developed an immersive virtual reality (VR) coffee shop, the 'Communication Café' where the patient and speech pathologist can interact via a head-mounted display to practice communication rehabilitation. Initial in-person testing has supported system feasibility. As the VR tool also has telehealth capability, remote delivery needs to be explored. This study aimed to test the feasibility of telehealth delivery of the immersive virtual reality tool to support communication rehabilitation.

Methods
Ten patients and two speech pathologists participated in telehealth sessions using the VR Communication Café. The VR program was hosted on Meta Quest 2 VR headsets with players connected via 5G internet network. Initially, participants received training on how to use the VR system. Following this, 1:1 therapy sessions were conducted whereby the patient and speech pathologist entered VR Communication Café from remote locations. The speech pathologist directed the session with the patient practicing communication skills and strategies tailored to meet their communication goals. Feedback was collected on session and system outcomes and user experience.

Results
Testing revealed that practical demonstration and written instructions supported user training. Thirty sessions were conducted successfully, and a range of communication therapy tasks were conducted. The additional VR system features (e.g. sound effects, money management) offered greater fidelity/challenges during therapy tasks. Users reported that tele-delivery of the VR Communication Café was highly engaging and offered enhanced access for patients seeking to improve their communication skills.

Conclusions
This study demonstrated that it is feasible to deliver to communication therapy via telehealth utilising a novel immersive virtual reality tool. These results are being used to inform a larger clinical trial.

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Exploring the potential of the HoloLens 2: Enhancing mentored support for specialist speech pathology management via telepractice

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Objectives
Speech pathologists (SPs) in regional/rural services often face challenges in developing and maintaining skill-mix for delivery of specialist clinical services. Research by this team has demonstrated the efficacy, and cost efficiency, of using telepractice to provide shared care, linking local regional/rural clinicians with specialist SPs to provide support for laryngectomy management. Building on this work, the HoloLens2 by Microsoft offers a new way for clinicians to receive assistance remotely, incorporating live videoconferencing delivered directly to a headset worn by the clinician (termed “remote assist”), with multimedia augmented reality features to supplement instruction and enhance training. The aim of this proof-of-concept trial was to test the feasibility of the HoloLens 2 to support laryngectomy management to inform a larger trial design.

Methods
A collaborative method was used to seek feedback on the experiences of a SP with early laryngectomy skills, and an experienced mentor providing support delivered via the HoloLens2, compared to the standard telepractice system. Two clinical scenarios were tested: (1) changing a heat moisture exchange device and (2) changing a voice prosthesis. Perspectives from the “remote assist” SP and “local” SP, were gathered via the Telehealth Usability Questionnaire and written feedback.

Results
Real time support from the “remote assist” SP was highly valued. All clinicians reported the HoloLens2 was superior to the standard videoconferencing system with respect to useability and effectiveness for clinical task delivery. The inbuilt camera which facilitated ‘point of view’ vision, online image annotation and holographic view of instructional materials were features reported to enhance training and clinical workflow.

Conclusion
The HoloLens 2 offers enhanced potential to provide real time, integrated, remote support for clinical management of patients post laryngectomy. This feasibility data informs a clinical trial to examine clinician and mentor perceptions of tele-mentoring via HoloLens2.

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Evaluation of a Speech Pathology Telepractice Dysphagia Service Within a Community Health Setting

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Introduction
Ongoing access to speech pathology services is required to support clients living with dysphagia (swallowing disorders) within the community. However, the growing demand for community services and delivery of care to an increasingly complex caseload presents several challenges. To address these challenges, telepractice models have been proposed.

Aim
The aim of this project was to implement a telepractice dysphagia service model within a community setting and examine client and service outcomes and consumer satisfaction.

Methods
All referrals were screened on a session-by-session basis for suitability for 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 assessment with the speech pathologist. Those clients deemed ineligible or who declined telepractice received in-person care. Therefore, clients could receive care via telepractice, in-person, or a combination of both. Data was collected on clinical and service outcomes and staff/client satisfaction.

Results
Of the 36 clients referred, 12 accessed telepractice-only care, 16 received in-person only care, and 8 received a blended model. Across all appointments, 29 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 11-minute reduction ($p=0.02$) per appointment was noted for telepractice relative to in-person sessions. Redistribution of travel from the speech pathologist to the clinical assistant, afforded a median saving of 56 minutes per appointment (range 16-100) that could be reinvested into other clinical interventions. Only one telehealth appointment was cancelled due to technical issues. High levels of client and staff satisfaction were reported.

Conclusion
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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Enhancing Community Care - a Multidisciplinary Allied Health Team delivering quality Virtual Care

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The Enhancing Community Care (ECC) team provides effective support for people with late-stage chronic disease to maintain wellbeing and independence at home. The ECC multidisciplinary model includes a Team Leader, Social Worker, Physiotherapist, Dietitian, Occupational Therapist, Speech Pathologist, Aboriginal Health Practitioner, and Administrative Officer.

Most of our patients have many medical appointments and limited access to transport. ECC primarily delivers assessments and interventions via Virtual Care modalities, including video call, phone call, and follow up text and email correspondence. The patient and family are central to the model of care.

Operating since March 2023, we have identified challenges, benefits, and key learnings. Challenges include poor internet connectivity and lack of suitable devices at the patient's end. Clinicians can take longer to build rapport with their clients over the phone. Some patients have reported being unsure which clinician was speaking to them in group phone calls. There are barriers to completion of the full scope of assessments and interventions; completion of swallow assessment, physical component of malnutrition screening, exercise and equipment prescription, pulse oximeter, blood pressure observations, and clear assessment of lung sounds.

Benefits include convenience of the service, excellent patient outcomes, and the development of a highly skilled, agile allied health workforce. The service is efficient and lean, offering excellent value for the healthcare dollar.

Learnings include the value of a hybrid model, offering some in-person clinics to facilitate physical assessments and interventions, contribute to rapport-building, and to collaborate with other service providers involved in the patients' care. ECC clinicians have also seen the benefit of upskilling each other to provide transdisciplinary initial assessments. Through this model each clinician is well-equipped to conduct a thorough initial assessment, identifying which disciplines will be involved in their care plan, assuring patient-centred, truly integrated care.

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Uncovering healthcare staff attitudes to the rapid deployment of telehealth in Victoria, 2020–2021: a 12-month telehealth experience

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Background
Telehealth was widely adopted in health services during the COVID-19 pandemic. It is unknown what the attitudes and ongoing needs of healthcare staff are after a rapid implementation of telehealth.

Aims
To evaluate staff attitudes to telehealth utilisation after a rapid implementation.

Methods
A health service-wide bespoke survey was sent to all clinicians, managers and administration staff in June–July 2021. We evaluated attitudes to: (i) telehealth application in the model of care; and (ii) the barriers and enablers to use of telehealth. Descriptive statistics were used for quantitative data, and content analysis for the textual data.

Results
One hundred and thirty-four respondents completed the survey (response rate = 22.5% of Healthdirect users (71/315), and 3.2% of total healthcare staff population). Most commonly, telehealth was identified as being important (78%) and safe (79%) by clinicians, and important (100%) and encouraged (88%) by managers. In contrast, telehealth was identified as not the same as face to face (56%; 50%), but easy to add to usual work arrangements (43%; 44%) by clinicians and managers respectively. The most common enablers of telehealth were: (i) having others use the same telehealth platform (74.3%; 100%); and (ii) completing training (68.9%; 72.7%) by clinicians and managers respectively. The most common barriers were having: (i) reliable Internet connectivity (39.2%; 45.5%) by clinicians and managers, respectively; (ii) the right equipment (clinician 37.8%); and (iii) a private area (managers 36.3%).

Conclusions
Despite training and having support from colleagues to implement telehealth, ongoing needs were identified that may promote uptake in specific health settings.

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Quality of care in telehealth-delivered Allied Health care: A consumer perspective

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Aim
The study aim was to explore consumer perspectives of quality in allied health telehealth care, guided by the Institute of Medicines' Six Domains of Healthcare Quality framework.

Methods
Semi-structured interviews were conducted with consumers (N=18) from across four metropolitan Queensland hospitals, between November 2020 and July 2021. Participants had received allied health services via telehealth (i.e., telephone and/or video consultation). The interview guide was informed by the Six Domains of Healthcare Quality which includes safety, effectiveness, patient-centred care, timeliness, efficiency, and equity. Interview data were analysed thematically both by and within the quality domains.

Results
Analysis generated six main themes relating to quality in allied health telehealth care: (1) Hybrid models of healthcare delivery – providing choice and access to a range of service modalities (i.e., in-person, telephone, and video consultation) was seen as a vital element to patient-centred care. (2) Telehealth enhances healthcare access equity – for consumers, choice was not only related to clinical requirements or consumer preference, but was a necessity for some, (3) Value of the interpersonal relationship – consumers value quality interpersonal interactions and acknowledge telehealth has its own unique interpersonal requisites, (4) Modality influences effectiveness – consumers highlighted multiple aspects that contribute to telehealth effectiveness, (5) Telephone consultations devalued – both consumers and clinicians assigned lower value to telephone consultations, (6) Technology is not the barrier – technology did not feature as a major barrier to telehealth access.

Conclusion
Consumer perspectives of quality in allied health telehealth care centred strongly around the domains of patient-centred care and effectiveness, relating to choice about care delivery and maximising telehealth effectiveness. To enhance care in-line with consumer priorities, services need to expand options of hybrid models of care and address the many aspects of effective telehealth delivery. We will discuss targets and practical strategies for both.

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Determining accuracy of performing a neurological examination via telehealth in patients with low back pain (LBP)

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Aim
To assess agreement between telehealth and in-person neurological examination outcomes in individuals with LBP-related symptoms in the context of observed agreement of neurological examinations performed in-person (‘gold’ standard).

Methods
Participants included 38 adult patients with LBP-related symptoms necessitating a neurological examination. Each participant completed a standardised neurological examination both in-person and via telehealth by two independent assessors within a single session. The in-person examination was repeated for 18 participants by a third assessor. Neurological tests were dichotomised as normal/abnormal for sensation, strength, deep tendon reflexes, and long tract tests. Agreement was expressed as exact percentage agreement and PABAK coefficients.

Results
Very similar levels of agreement (fair to almost perfect) were observed for sensation measures between modes (telehealth, in-person) and between in-person sessions. Similar levels of agreement were also observed between modes and between in-person examinations for most long tract tests, though lower between modes for the heel walk (PABAK[95%CI]: 0.22[-0.13-0.54] vs. 0.67[-0.17-0.93]) and Hoffmans test (PABAK[95%CI]: 0.55[0.18-0.81] vs. 0.76[0.27-0.97]). In contrast, deep tendon reflex testing only showed poor to fair agreement between modes (PABAK -0.03–0.33) and moderate to substantial agreement between in-person examination (PABAK 0.44–0.67). Agreement levels for strength tests were mostly lower between modes compared to between in-person examination though poor agreement was also observed for two myotomes (L2, S1) between the in-person examinations.

Conclusion
Neurological examination via telehealth for individuals with LBP-related symptoms appears comparable to in-person examination for some tests. Challenges in assessing deep tendon reflexes and strength were evident overall, but agreement for these tests was poorer between modes than between in-person examination. This potentially reflects both the acknowledged challenges of telehealth (e.g. visualisation, patient administered tests) and test interpretation (relevant for both modes). Caution is recommended when interpreting results, particularly for tests with low incidence of an abnormal response.

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Utilising experience-based co-design processes to enhance consumer advocacy and choice in tertiary telehealth services

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Aim
To co-design strategies that optimise consumer engagement and experience with telehealth services within a large metropolitan health service.

Methods
A two-stage mixed-methods approach, underpinned by an experienced-based co-design (EBCD) methodology conducted within a metropolitan health service in Brisbane, Australia. Stage 1 included: (i) workflow mapping of eleven established telehealth services/clinics, (ii) interviews with consumers (n=33) who accessed care via telehealth from nominated services/clinics, and (iii) informal engagement with community representatives (n=45) from priority groups (e.g. Aboriginal and Torres Strait Islander peoples, CALD, LGBTQIA+, and people with disability) to understand users' perspectives of telehealth, barriers to access and acceptability of telehealth. Qualitative data was analysed using a deductive Framework Analysis, incorporating both appointment workflow and the Picker Institute Principles of Person-Centred Care. Results were synthesised as stimulus material for Stage 2, which incorporated a series of workshops to co-design solutions that optimise consumer awareness and choice in accessing telehealth.

Results
Workflow mapping showed wide variation in triaging processes, with many excluding consumer involvement in decision-making to offer telehealth appointments. Consumer and community engagement highlighted many aspects of telehealth care that were working well, as well as barriers impacting choice of appointment type. Representatives from priority groups highlighted nuances of health interactions that should be considered to facilitate consumer advocacy and ensure informed decisions. Solutions to improve consumer awareness and choice were prioritised by the co-design group as: (i) a 'Telehealth Assist' model; (ii) digital resource and online information hub; (iii) waiting room videos; and (iv) system flexibility and support. Solutions were considered inter-dependent for maximum impact/success.

Conclusion
A robust EBCD process identified and prioritised co-designed solutions to address issues with consumer choice and advocacy in healthcare access. Solutions are relevant (and adaptable) to the broader public hospital- and community-based healthcare landscape, and therefore the potential for scalability is high.

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Improving Access to Virtual and Integrated Team Care in Residential Aged Care Facilities through Digital Interoperability

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This project aims to enhance the quality and accessibility of healthcare for residents in Residential Aged Care Homes (RACHs) by piloting a suite of digital tools designed to facilitate shared care planning, electronic medication management, and video telehealth. The initiative focuses on leveraging digital interoperability to ensure that residents and healthcare providers can engage in safe, efficient, and high-quality virtual healthcare delivery.

The primary objectives of the project include:

- Implementing a shared care planning system to foster collaborative care among healthcare providers.
- Deploying electronic medication management systems to minimize medication errors and enhance patient safety.
- Utilising video telehealth technologies to provide timely and convenient access to healthcare services.

Methodology
The project involves the integration of advanced digital tools within RACHs, followed by comprehensive training for healthcare providers on their effective use. The pilot will be conducted in selected RACHs, with a focus on assessing the impact of these technologies on care coordination and patient outcomes. Data will be collected on the usage, benefits, and challenges associated with each tool, and feedback from both residents and providers will be incorporated to refine the systems.

Preliminary findings indicate that:

Shared care planning software could significantly improve collaboration among healthcare teams, however the uptake is slow.

Electronic medication management systems are beneficial however not always fit for purpose.

Video telehealth facilitates greater access to healthcare services, especially for residents with mobility issues or those requiring specialist consultations.

Barriers still exist between systems and providers to achieve interoperability. Telehealth can demonstrate substantial potential in improving the quality of healthcare delivery. By enabling more coordinated care and reducing medication-related risks, these technologies play a critical role in enhancing the overall health and well-being of aged care residents. Continued investment in telehealth, interoperability and workforce upskilling is essential for safe and quality care within aged care homes.

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The Development and Initiation of a Virtual Urgent Mental Health Assessment Service for Children and Young People

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Consistent with other Paediatric Emergency Department services across Australia and internationally, there has been a significant increase in mental health presentations of children and young people to Emergency Departments with acute and urgent issues. During the pandemic period, mental health demand far exceeded resources. At the same time, evidence has been building on what assessment and treatments are effective for these urgent/acute presentations. This has not been matched by equivalent research evidence on what service configurations are most effective.

In 2023, the Women's and Children's Hospital, CAMHS and CAVUCS (Child and Adolescent Virtual Urgent Care Service) commenced a collaboration to explore the development of a virtual service for children, young people, and families with urgent psychological distress. This was considered on the back of the success of the CAVUCS and the positive impact this was providing consumers with urgent medical issues. The aim of this development for CAMHS and CAVUCS was to increase urgent service response for consumers in remote and rural locations and for those considering presenting to an Emergency Department however are uncertain if this is required. The other notable benefits included reducing the propensity for 'iatrogenic harm' and isolating family and systems problems to a young person; reducing ambulance use and ensuring care is provided in environments that are considered normative whilst maintaining connections to protective past times for young people.

This presentation will provide a narrative description of the service development and experiences over 2023 and 2024. It will discuss and reflect on the obstacles and challenges and the lessons learnt. A particular focus of the discussion will be on how the service worked to integrate the various acute and crisis response services to enable virtual care that was accessible whilst not compromising on clinical safety.

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Design Principles for Virtual Reality Telehealth Rehabilitation: Enhancing Patient Motivation through Virtual Experiences

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Introduction
Burn injuries are a significant public health challenge with the known consequences and long-term problems including pain, permanent scarring and psychological trauma. Immersive virtual reality (VR) technologies are a promising tool with prior studies showing positive effects on reducing patient's physical pain, psychological trauma and improving movement.

Current available VR rehabilitation interventions lack motivational qualities, are costly and resource intensive, and focus on the immediate post-injury phase, neglecting the critical aspect of long-term rehabilitation. This oversight points to a gap in providing continuous, patient-centred care. Tailored telehealth VR experiences will address this gap in care.

Aim
In this study, we aimed to explore the perceptions of burn survivors to design a telehealth enabled VR application suitable for community-based rehabilitation.

Methods
An online survey was administered to online forums, groups and communities globally. Burn survivors (N = 77), responded to this survey with their personal journeys and how they engaged with rehabilitation after leaving the acute hospital setting. Thematic analysis was conducted on their responses to extract common motivations and needs.

Results
Overall, the findings from the survey provided key insights into burn survivors' personal motivations and experiences with the burn rehabilitation process and provide directions for designing a VR telehealth application. The study highlighted multiple design insights and themes, including the novel theme of travel being a key to motivating burn survivors within their own personal rehabilitation experiences. Travel and other experiences could be an appropriate motivational tool to be built for a VR telehealth application.

Conclusions
This study aimed to understand the needs and motivations of burns survivors to inform the development of a telehealth-enabled VR application to assist with community-based rehabilitation. This work contributes core themes to the field of design that should inform the future development of VR applications.

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Improving consumer trust in digital health: a mixed methods study involving people with chronic kidney disease

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Aim
To explore preferences and experience with digital health in people living with chronic kidney disease (CKD) and to determine their trust in engaging with telehealth models of care, pointing towards solutions to enhance uptake.

Methods
Mixed methods study, with cross-sectional survey and individual interviews with adults living with CKD attending specialist appointments at an Australian metropolitan hospital. Descriptive statistics and Wilcoxon Matched Pairs test were used for survey responses and thematic analysis of interview transcripts. Qualitative and quantitative findings are reported together on a theme-by-theme basis providing an overall understanding of trust in digital healthcare.

Results
Despite limited familiarity with digital health, participants are open to learn and believe the focus should be in supporting them to adapt to existing models of care rather than the development of new models. Limited exposure to technology may undermine trust in digital health, and telehealth can promote improvements in health literacy. Having the choice in healthcare modalities can promote trust in telehealth. Trust in telehealth was seen to arise from trustful relationships with clinicians who demonstrate genuine interest in their care. Participants expressed more concerns about sharing identity data than health data online and worry about fragmented health information among providers. They preferred public health services due to distrust generated by the perceived risk of private sector data commercialization. Building trust requires increasing awareness of telehealth benefits, promoting positive experiences, improving digital literacy, and ensuring interoperability and transparency in digital healthcare systems.

Conclusion
People with CKD want opportunities to learn and benefit from digital health. Choice is paramount to building trust in telehealth and digital health, relying heavily on trust in the healthcare professional. Open disclosure on data management and purpose is key to promote trust.

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Child and Adolescent Virtual Urgent Care Service (CAVUCS) - A Consumer-Centric, Hospital Avoidance Strategy

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Background
Paediatric Emergency Department (ED) presentations at the Women's and Children's Hospital (WCH) Adelaide have been increasing disproportionate to population growth, providing the need for a service aimed at reducing the inflow of low-acuity patients.

Objective
CAVUCS provides them urgent care in the comfort of their own home, providing safe clinical pathways, facilitating effective, efficient journey across the health service, reducing ED presentations for low acuity presentations.

Service Description
CAVUCS can be accessed via a link on the WCH website directing consumers to an online form, that screens out high-risk patients. The ED journey is then replicated virtually, focusing on triage, assessment, treatment, and care coordination for children 6 months to 18 years. Dispositions include self-care with or without scripts, referral to other services like Urgent Care Centres, General Practitioners, EDs, or private specialists. Virtual admissions, to receive interventions at home are possible. We partner with South Australian Ambulance Service (SAAS) to facilitate safe assessment of consumers preventing an ED transfer, freeing ambulance crews to attend other emergencies.

Results
CAVUCS commenced in August 2021 and operates from 9 am to 9 pm. As of 15/5/24, CAVUCS has seen 43,886 patients, diverting 41,108 presentations from EDs. 90% of the 1644 ambulances, received self-care at home. Approximately 24% of CAVUCS presentations are from outside metropolitan Adelaide.

Conclusion
Virtual Care is not lesser care. CAVUCS is safe, consumer-centric, and making a difference in diverting low acuity cases from EDs to alternate services or self-care at home. CAVUCS has increased equity by providing consumers from non-metropolitan areas the ability to access urgent care virtually instead of needing to leave their community. CAVUCS has potential to include more stakeholders, ensuring that the right patients, receive the right care, in the right place at the right time. We have launched CAVUCS for low acuity Mental Health presentations.

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A two-decade-long bumpy road of digital health education – an educator's perspective

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Digital health education and training (E&T) at UQ has its origins as an academic eHealth program delivered by a consortium (2001; UQ, La Trobe, USQ) funded by the Australian Department of Education.

At the time, digital health was still niche, and this was the first teaching program of its type globally, and initially offered as a postgraduate program to Australian and overseas students. Later undergraduate and postgraduate courses in digital health, eHealth and telehealth were developed. The course-content focused on key concepts, clinical applicability, technology, medico-legal, and implementation considerations; courses attracted nursing, allied health, public health, and communication students.

The first of its kind, an innovative in-person practicum, based on clinical-scenario based telehealth training was offered to students. This program was very well received, but with limited resources it was difficult to sustain at scale.

Subsequently, there have been waves of interest in E&T; in 2011 to support new MBS item numbers for telehealth, grants were available to develop and provide relevant E&T. COH won a grant (AUD$1.2M) to develop a new academic and CPD clinical telehealth offering. While this venture was successful, unfortunately, it did not sustain when the funding ended. Like other programs, having a curriculum alone is insufficient for success.

In 2014, digital health was included in the UQ MD program as an elective.
To understand changing needs over time, we conduct E&T-relevant research. We focus on understanding educational needs, student outcomes, and barriers to the integration of E&T into routine curriculum for future practitioners.

Our program has taught over 10,000 students and CPD telehealth programs have also been offered across health professions; while our program has been successful, the importance of workforce digital health E&T has been underappreciated until recent years.

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Evaluating the Impact of Remote Health Monitoring and Predictive Tools on Health Interventions in South Australian Aged Care Facilities

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1. Integrated Cardiovascular Clinical Network SA Health, Australia

Aim
This study aimed to evaluate the effectiveness of Remote Health Monitoring (RHM) in facilitating medical interventions in aged care facilities. Additionally, it investigated the use of predictive tools to detect early signs of health deterioration, promoting timely health interventions.

Methods
Over an eight-month period, one nursing home facility in South Australia participated in the study. Residents with one or more chronic diseases, including HTN, T2DM, HF, or COPD, were included. Remote monitoring kits were customized based on each resident's condition. Daily emails were sent to the facility, detailing escalations, and trend detections, accompanied by weekly summaries. A validated statistical model was used to identify trends, while escalations were defined according to GP-specified metric limits, which were then correlated with subsequent medical interventions.

Results
Twenty-six residents, aged 74 to 99 years (average 89y), participated. Half of the residents had two or more chronic conditions, with hypertension being the most common single condition. The remote system generated 73 trends over the study period, with 23% resulting in medical interventions. Additionally, 481 escalations were identified, 29% of which led to medical intervention. Statistical analysis showed that both trends ($p > 0.05$) and escalations ($p > 0.005$) were significantly associated with medical interventions. The logistic regression model indicated that early medical intervention after a detected trend reduced the likelihood of escalation by 38.13% ($p>0.05$), confirming the effectiveness of early response.

Conclusion
The study demonstrated that RHM and predictive tools are effective in facilitating early medical intervention in aged care settings. The high volume of escalations and trend detections underscores the potential of these technologies to identify and address health deterioration promptly. This proactive approach can significantly improve patient outcomes and reduce the overall burden on healthcare systems, highlighting the importance of integrating RHM in aged care facilities.

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Understanding the Telehealth Access Gap: A consumer mapping study with culturally and linguistically diverse communities

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Aims
Current telehealth service provision does not reach all Australians fairly and equitably. Culturally and linguistically diverse (CaLD) Australians are much less likely to be offered telehealth appointments, resulting in gaps in healthcare access. Broadly termed the “digital divide”, strategies to overcome this gap within CaLD populations remain limited. However, designing and implementing practical solutions requires input from CaLD consumers. This qualitative study aimed to understand and identify barriers, enablers, opportunities, and solutions to improve telehealth access for consumers needing interpreter services in Queensland, Australia.

Methods
This qualitative study uses two language-specific focus groups to understand the lived experience of consumers needing interpreter services and accessing telehealth services in a tertiary hospital in Queensland, Australia. Two language-specific focus groups (Mandarin and Cantonese) were conducted with consumers with the support of health service interpreters. Situated in the interpretative research paradigm and using a consumer mapping technique, consumers described their first-person perspective on lived experience interactions with the healthcare system while accessing telehealth and needing interpreter services.

Results
This is the first qualitative study conducted in a culturally diverse region in Queensland, Australia, integrating consumers' perceptions in their preferred language to describe their experience with telehealth. Our detailed analysis will cover the following domains: 1) perceived barriers and enablers to accessing telehealth, 2) graphical display of interactions with the multiple actors in the healthcare system and 3) potential opportunities and strategies to promote equitable access.

Conclusion
This study enhances understanding of consumer lived experiences when interpreter services are required during a telehealth consultation. These findings will help guide the development and implementation of practical strategies that foster equity in telehealth access and improve patient experience, especially for people from culturally and linguistically diverse backgrounds.

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Transforming Rural Healthcare Delivery: Insights from the Västerbotten without Borders E-Health Initiative

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Background
Rural areas in high-income countries face significant healthcare access disparities due to a scarcity of healthcare professionals and geographic dispersion. The Västerbotten without Borders (VuG) project in northern Sweden explores e-health as a transformative solution, leveraging remote healthcare delivery to address these challenges.

Methods
VuG developed a digital care model allowing healthcare professionals, including those located internationally, to remotely connect with and serve patients in Västerbotten's health centers. The project underwent an evaluative phase focusing on organizational adaptation, technology integration, and the employment model, with a pivot from local to centralized employment at a digital health center.

Results
The project identified key organisational challenges such as the integration of digital and traditional healthcare practices and managing remote healthcare staff. However, it demonstrated potential in improving access to care, reducing wait times, and enhancing continuity of care through sustained patient-practitioner relationships. Technology implementation, while initially challenging, saw progressive improvements and acceptance among staff.

Conclusion
The VuG project illustrates the critical role of e-health in enhancing healthcare delivery in rural settings. While promising, the initiative highlighted the necessity for robust digital infrastructure, effective change management, and comprehensive policy frameworks to support widespread adoption. Future directives include scaling the model and further refining the integration of remote practitioners into existing healthcare frameworks to ensure seamless service delivery and continuity of care.

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Meta analysis of reported no show or non-attendance rates among virtual and in-person models of care

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Objective
Comparisons of no-show rates between virtual and in-person models of care are commonly reported during evaluation, indicating how coveted improvements in attendance are to health service providers. This study seeks to synthesise the data from studies that make these comparisons, providing a more accurate indication of what can be expected from virtual care models.

Methods
A literature review involving five databases was conducted, identifying 441 articles for screening. 45 were included in the meta-analysis. A random effects model was used to calculate the effect size, with further analysis conducted to determine heterogeneity and publication bias.

Results
The random effects model estimated an average log odds ratio of -0.4890 between non-attending patients in the virtual care and in-person groups. An I2 indicated a high degree of heterogeneity among the studies analysed. The Fail-Safe N suggested that the results are robust and not significantly influenced by publication bias.

Conclusions
The meta-analysis indicated that on average, telehealth models of care implemented since COVID-19 provide a moderate reduction in risk of patient non-attendance when compared to in-person alternatives.

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Getting to know you: developing and sustaining a Community of Practice through a Paediatric Palliative Care ECHO program

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Background
Clinicians supporting young people with life-limiting conditions (LLC), and their families, describe their work as rewarding. However, palliative care clinicians' wellbeing may also be affected. Having difficult conversations, bearing witness to families' grief and young people dying, can impact clinician's capacity and capability to continue to provide care.

The Paediatric Palliative Care (PPC) ECHO community of practice (CoP) piloted in 2020 at Children's Health Queensland, has in the ensuing five years, witnessed a growing attendance. Internationally, the Project ECHO model, established in 2003, has been demonstrated as reliable, and offers participants benefits. By using a non-hierarchical learning model, via de-identified case discussions, Project ECHO participants report improved confidence, job satisfaction and enhanced outcomes. This has been evident in the PPC ECHO attendees.

Aim
After a 2021 review, the PPC ECHO CoP aims to develop further understanding of case presenters' experiences with PPC ECHO and the network's current impact as a tele-mentoring model for attendees.

Methods
A mixed methods approach of surveys and a focus group will be undertaken with feedback sought about participants' experiences of presenting unidentified cases in the past year. Presenters' perspectives about their expectations in sharing the case; barriers and motivators for joining the network; and any impacts will be elicited. Participants will be similarly canvassed.

Demographic data will be collected, and informal thematic analysis undertaken.

Results
Five themes emerged from previous reporting on case presentation experiences:

- Connections
- Support
- Up-skilling
- Reflective practice
- Wellbeing

These will be revisited with more recent PPC ECHO presenters to elucidate the enduring benefit of the Project ECHO model as an avenue for collegial support for health professionals providing palliative care to young people.

Conclusion
It will be asserted that the PPC ECHO network continues to be responsive to clinicians, and by extension consumers' needs.

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Virtual Pregnancy Monitoring - The case for online pregnancy monitoring - An international experience

Mr Darryl Hadaway[1]

1. CallMyDokter, Jakarta, Indonesia

In 2023 my Company in Indonesia, CallMyDokter, launched an online pregnancy monitoring app under the brand name “Bunda Pintar” – www.bundapintar.id – A brand name born out of the two major partners/providers of care, one being the largest maternity group in Indonesia (BundaMedik) and the second a large chain of clinics (Klinik Pintar). The proposed presentation is to share the use case story, the development and rollout journey, and the challenges encountered.

Why built - Response to GenZ and changing behaviors in the use of technology, the need for better support in the home and workplace of the mother-to-be recognizing the studies associated with sick leaves, environmental, cultural, health (physical and psychological) issues women encounter. Also, response to different quality of care provided across Indonesia.

The app itself is a virtual consultation application with HD video, scheduling, and measurement tracking, attached to an online medical record, linked to an IoT (low-cost watch or Android watches) allowing the upload of data, and articles.

The experience includes the case team doctor reviewing pregnancy to-dos, the midwife/ coach proactive engaging with the patient on those to-dos and supporting the patient around the journey (both physical and psychological issues), triaging those issues, and working with the patient's case doctor and specialist.

The app is currently used by some companies, the largest having a workforce of some 16,000 women and around 600 pregnancies per year.

Results include less than 1% miscarriage against a background of 15-20% nationally, improved productivity in the workplace and home, less stress on women, and high satisfaction rates, particularly around empathy scores.

The next development is to support the young child experience, in a country that is looking to support the mother in the workplace.

The presentation will also look through the difficulties encountered by other pregnancy apps in Indonesia.

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Herding cats: reflections from leading a large interdisciplinary telehealth project

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Interdisciplinary research and development projects involving multiple research teams and stakeholders are challenging. The “enhancing telehealth” project spanned 3 years and involved multiple research teams (Monash University, University of Melbourne), telehealth industry partners (Healthdirect Australia, Monash Health), government (Victoria Department of Health), and the DHCRC.

We faced a number of challenges including: Differences in terminologies and protocols in technology and healthcare domains; Conflicting interests and expectations across stakeholders; Representative participant recruitment, especially during the pandemic; and Challenges of covering the full R&D lifecycle: from co-design research, ideation, software design, development, to evaluations.

We applied a set of strategies which helped. Team-building through project kickoff, LEGO serious-play, regular project meetings, and end-of-year retrospectives allowed for open communication. Co-design with representative end-users, driven by clinical telehealth problems rather than pre-determined solutions, avoiding a “technology push” approach. An interdisciplinary approach meant we considered healthcare, technology, and business perspectives simultaneously. Working closely with the industry partner meant we maintained a real-world deployment perspective. Applying an agile R&D approach meant we could pivot recruitment and research strategies, consider emerging technologies, and incorporate iterative end-user and stakeholder feedback.

A number of leadership lessons were learned: Select a team to align with core project values; Focus on the beneficiaries - healthcare practitioners, patients, and carers. It is easy to lose sight of the original cause once competing interests pull and push; Provide a clear vision and continued guidance on the collective goals and not micromanage; Allow everyone the opportunity to share to understand multiple perspectives; Do not underestimate the effort required for communication and negotiation when working with stakeholders from different backgrounds; Build capability by mentoring early career researchers and technologists; reflect on experiences with them; Finally give yourself and others the permission and space to learn, growing to become an integrated medical and technological team.

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Virtual Health Care - Governance, Safety and Practice

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Patient complexity is increasing and I believe strongly in translating unplanned care to planned care using novel virtual health models of care to better guide the patient journey. While this is not traditional hospital avoidance it is better planned care that addresses complexity.

Virtual healthcare has evolved over the past few years that has been accelerated by the COVID-19 pandemic. This talk will define and illustrate concepts of virtual medical practice on a virtual ward. It will review emerging digital health tools and how they support virtual healthcare. These tools include telehealth, remote patient monitoring and AI. I will address virtual risk management and the supporting governance structures that optimise virtual health care.

These concepts will be based on sound clinical experience in the Queensland environment. It will integrate relevant cases to illustrate points and key concepts. I will ultimately show how to safely translate the patient journey from unplanned care to planned care through new models of care.

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Application of Pharmacist-Led use of Video-Based Patient Education: A Systematic Review

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Aim
To explore how patient education videos are being used in practice by pharmacists, with a secondary aim of describing what types of medications or health topics are utilising video education to supplement pharmacist counselling and what are the outcomes of these interventions. Pharmacist-led patient education is an important part of their patient-facing role and providing video education in advance of an in-person or video consultation could improve the efficiency and effectiveness of pharmacy services.

Methods
A systematic literature review was conducted in November 2023 using PubMed, Embase and CINAHL. Title/abstract, full text screening and data extraction was completed using Covidence.

Results
Out of 38 studies after full-text review, educational videos were provided to patients in various formats: during the education intervention with ongoing app/link access (6 studies), during the education intervention only (21 studies), app/link access only (8 studies), or as take-home multimedia (3 studies). In 44.7% of the studies patients had access to re-watch the video education if desired. The most common themes for video-based patient education were ‘management of a health condition’ (13 studies), inhaler technique (10 studies), and drug information for one or more medicines (8 studies). Outcomes measured included patient knowledge, satisfaction, adherence, management of their condition and inhaler technique. Of 25 studies that included a control group, 23 concluded that video education was as effective. In experimental studies without a control group, 10 out of 13 reported positive feedback or an increase in the subjects’ knowledge.

Conclusion
Patient education videos are increasingly supporting pharmacist-led in-person or telepharmacy counselling. These tools appear as effective as traditional pharmacist counselling methods. Further research is needed to understand their impact on pharmacist efficiency in different clinical settings where it is provided as a supplemental resource in conjunction with an in-person or telehealth consult.

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Skills and competencies for implementing doctor-to-doctor telemedicine in Asia; A Delphi consensus study involving 11 Asian countries

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Healthcare disparity in Asia is severe, and doctor-to-doctor (DtoD) telemedicine can be an effective way of bridging the gap in knowledge and skills of healthcare professionals. However, the skills and competencies required to successfully implement such activities were not clear. This study aims to identify the skills and competencies for conducting DtoD telemedicine in Asia.

This study employed the Delphi method. Participants were 30 people (IT staff, doctor, and nurse) from 11 countries recruited from Asia-Pacific Advanced Network Medical Working Group. First, with the help of an expert panel, the investigators formulated a list of skills and competencies for DtoD. Both synchronous and asynchronous models were considered. The round 1 questionnaire was administered to assess the listed items with respect to skills and competencies. Subsequently, a workshop was organized with the participants to further discuss the items. Then the revised round 2 questionnaire was sent. This study was approved by the Ethics Committee of Kyushu University Hospital.

The round 1 was completed by all participants, and all items were rated as appropriate, with 46 comments. After the workshop, 10 competencies were added. The round 2 was completed by all participants, and all items were rated as appropriate. In all, 43 skills and competencies were identified, including conceptual understanding, technical skills, coordination and security policy considerations, such as “Extract images from medical devices” and “Maintain audio quality”. Of which the highest scores were obtained by the competencies that correspond to preparing hybrid medical conference (1st: 94%, 2nd: 91%), while 360 video on-demand transmission received the lowest (1st: 85%, 2nd: 81%).

This is the first study to identify skills and competencies of DtoD telemedicine in Asia. The level of appropriateness seemed to depend on the experience of the participants. These competencies will be used for future training development and evaluation.

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A life well-lived: Reflections on cancer treatment and palliative care by telehealth

Dr Ruth Large[1]

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In 2013, Bob was diagnosed with metastatic melanoma, living in Auckland in New Zealand he had access to clinical trials which extended his life a further 11 years. Over that time, he had the opportunity for many telehealth consultations but it was not until 2020 that this became a reality courtesy of COVID-19.

Although he asked to see "the whites of my oncologists eyes" his consultations were only ever by phone over COVID lockdown and his medical team rapidly reverted to in-person visits once lockdowns were ended despite the availability of telehealth support.

During his palliative care journey it was not until the very end of his life in 2024 that he was able to be supported in his care with telehealth. Why is this and how could his care have been delivered differently?

This case report looks at the development of telehealth in New Zealand from a consumer viewpoint and investigates the barriers to delivering telehealth in a real life setting over the past decade.

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Understanding mental health risk in Aotearoa New Zealand, a Telehealth reflection of distress

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Objective
The aim of this research was to understand the utilisation of the 1737 Mental Health Call and Text Helpline by service users in Aotearoa, New Zealand. The 1737 Need to Talk service is one of the 39 free 24/7 telehealth services Whakarongorau Aotearoa / New Zealand Telehealth Services provides to all 5.2 million New Zealanders. This service was launched in June 2017, providing the public with the ability to call or text when they need mental health support.

Methods
This is a retrospective observational study analysing 1737 data over a six-year period: June 2017 through to December 2022. A total of 719,904 contacts to the service were analysed, including the demographics of service users deemed most at risk: their gender, age group, ethnicity, and area of residence.

Results
This research found that contacts to the 1737 service (by call or text) have generally increased until the end of 2021 and then plateaued from 2022. However, the number of service users deemed at risk has continually increased each year, with a significant increase of 1061% over six years. Service users most at risk for each demographic were found to be of female gender, in the 13-19-year-old age group, and those residing in Whanganui and Mid Central districts.

Conclusion
This study details the growth in the number of people (of particular demographics) reaching out for support to the free mental health helpline 1737. These results highlight the increasing risk of service users using the line and the potential importance of a free, 24/7 mental health support call/text line to all New Zealanders.

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Reducing Cost and Emergency Room Admissions Through Remote Patient Monitoring (RPM)

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Aim
Remote Patient Monitoring (RPM) is a growing sector in the digital health space for its potential to proactively manage chronic conditions for an aging patient population. By empowering patients to take an active role in their health, RPM promotes adherence to treatment plans and enhances patient engagement. We aimed to establish whether using RPM for home blood pressure monitoring and care management effectively decreased emergency room (ER) admissions and costs for users.

Methods
Data gathered from a primary care office, a part of Netrin's RPM initiative, indicates a steady use of home blood pressure (BP) monitoring devices over a span of two years. The study was conducted from January 2022 to December 2023, involving 17 cases, and 17 controls matched with the case for age and sex were selected from the same practice. Analyses were performed using logistic regression models. Patients selected for the program were chosen based on specific criteria to ensure they would derive benefits from its services.

Results
Among the 17 participants, all were Medicare beneficiaries with an average age of 77y. Overall, conducting the screenings showed a significant correlation (p=0.002) with a decreased total cost [odds ratio (OR), 0.42; 95% confidence interval (CI), 0.37-0.67] in the case group. The analysis demonstrates overall patient expenditure, decreasing from $534,259.47 in 2022 to $373,826.34 in 2023. Moreover, there were no instances of patients transitioning into high frequency emergency department (ED) utilization during the latter year.

Conclusion
Research indicates that home BP monitoring has the capacity to enhance health outcomes, notably by reducing emergency room visits and costs. RPM services have the potential to address multiple challenges encountered in the healthcare sector, empowering healthcare providers to deliver high-quality care to a larger patient population while consistently reducing expenditures.

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Teledermatology in Africa: A Scoping Review

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Background
Africa has a disproportionately high burden of skin disease and very few dermatologists. Teledermatology can address aspects of the problem, and there have been sporadic reports of teledermatology activities in Africa.

Aim
To determine the current state of teledermatology in Africa and when and where it has been practised.

Methods
Adopting PRISMA scoping review guidelines, four electronic databases were searched for evidence of clinical teledermatology practice within Africa until 31 December 2023. Titles and abstracts were reviewed by both authors, with consensus reached for preliminary inclusion: the paper was in English and reported the clinical use of teledermatology in Africa. Book chapters, opinion pieces, papers on tele-education, appointment bookings and reminders were excluded. Full-text papers were retrieved, reviewed, and included by consensus.

Results
Of 426 original resources, 64 were included in the review, seven of which reported on teledermatopathology. Twenty-one were published between 2019 and 2023. Teledermatology activity was noted in 44 of 54 countries. Most papers were from South Africa and Botswana (24). Synchronous, asynchronous, and hybrid models and, most recently, the sometimes informal use of mobile phone instant messaging apps and chat groups have been used. Despite the need, teledermatology use was limited, averaging 2.4+2.6 (range 0.1-9.5) cases per referring site per month. The reasons for this were not addressed. Four international projects serve between 8 and 22 countries, but their use is also limited. Common barriers to teledermatology were noted, and many legal, regulatory, and ethical issues (consent, record-keeping, privacy and data security) were underreported and remain unresolved. Direct-to-consumer services have not yet been successful.

Conclusion
The benefits of teledermatology are not yet universal, scaled, or sustained within Africa. The growing use of freely available instant messaging apps and dedicated mHealth apps appears to be the growth area of teledermatology in Africa.

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Remote Patient Monitoring in the Barwon South West region, Victoria: The learnings from sunrise to sunset

Ms Christina Mavridis[1]

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This presentation will focus on sharing the learnings that the Barwon South West region's Virtual Care team and health services have gathered since the introduction of remote patient monitoring. It will delve into the growth and implementation of this telehealth service, which first took root at Barwon Health, the region's largest health service.

Initially, Barwon Health's Remote Patient Monitoring (RPM) program was introduced to support individuals with chronic lung and heart disease as well diabetes, aiming to enhance self-management and self-efficacy at home and reduce unnecessary healthcare visits, while enabling timely intervention during clinical deterioration.

With the arrival of C19 and with mounting cases of varying severity, the platform which provided a triage dashboard, became the region's tool of choice, to support a newly established regional public health unit as well as an overwhelmed health workforce. It provided a coordinated response to the health needs of those with C19 across the region. The silver lining to the C19 pandemic was that other programs and health services became aware of the platform and its possibilities within existing or new models of care. Although the seed was planted there was still some work to do to ensure it was sown well and didn't get lost amongst the weeds. The implementation of the Better at Home program was the catalyst for further growth and adoption by other health services across the region. The challenges to adoption will be explored including within HITH, HARP, community nursing programs and other community-based programs.

Finally, the presentation will address the sunsetting of the platform, detailing the reactions and responses of those affected by this sudden change, much like a strong wind unexpectedly disrupting a flourishing ecosystem.

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West Moreton Health Preventative Integrated Care Service Telehealth and Remote Virtual Biometric Monitoring Challenges and Learnings

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The West Moreton (WM) region's chronic disease prevalence rates are all higher than the QLD state average. Lifestyle-related chronic conditions caused the most deaths, accounting for 39% of all deaths in the WM region, during the period 2016-17.

The Preventative Integrated Care Service (PICS) provides rapid access to intensive specialised medical management, delivered by a team of medical, nursing, and allied health clinicians, with a specific focus on supporting people with chronic conditions who require multi-disciplinary input to avoid a potential hospital presentation or admission. There are 3 main streams within the PICS Team; cardiology, diabetes and respiratory. Patients are referred via inpatient teams, GP or self-referral.

By providing care closer to home, it is anticipated that both the patient experience of care, and their quality of life, will be enhanced.
PICS provides care over a period of 16-days, through varied modalities including:

- home visits
- in-person clinic appointments
- telehealth phone calls, video calls and remote biometric monitoring

PICS uses an 'opt out' approach to virtual monitoring. Patients will complete daily biometrics using loan equipment and upload this to the digital health platform via a loan tablet, or an app downloaded to their own device. Depending on how the referral is received, staff will use information available to determine if patient is best suited to full kit monitoring, loan monitoring equipment, phone app, or no monitoring.

Learnings

- Designated virtual support person essential within Team
- Rapid response external support for IT issues with equipment/platform is vital
- Investment in time needed to upskill staff in virtual processes
- Significant time needed to onboard patients – clinician education with patient, administration tasks
- Change fatigue in staff affects uptake of new remote patient monitoring processes
- Time consuming to chase up non-returned equipment – need to mitigate this.

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Residential Aged Care Facilities General Practitioners - just a click away

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In ensuring that we deliver the right care, in the right place, with the person central to all that we do, we needed to think outside the box to ensure that we were able to provide this support to one of the most vulnerable population groups - our elderly.
The Central Queensland Hospital and Health Service (CQHHS) promptly identified a deficit in General Practitioner availability to Residential Aged Care residents, thus making admission to an Aged Care Facility very challenging
.
Older persons represented 15% of the population over the age of 65 years in 2019-20, with a projected growth of 4.3% compound annual growth rate by 2031. In 2016-17, CQHHS had significantly higher mortality rates from dementia (33.9 per 100,000) compared to Queensland rate of 28.9 per 100,000.

We needed to find an alternate pathway that provided medical governance in RACFs which promoted the relocation of this vulnerable population into a facility where they can continue to live their best life. In turn increasing patient flow through our acute facilities, ensuring that we are providing care in the right place.

What can we do? Lightbulb moment. Increase access to GPs through a virtual GP model. This model included resident admission, ongoing care and most importantly medical governance for each resident. Subsequently increasing patient flow through acute facilities as we now have GPs on tap as required.

When implementing this model, we reviewed the cost of acute facility bed versus the cost of a virtual GP that is fee for service based. The savings in utilisation of virtual GP provision far outweighs the associated cost in retaining a person in an acute care setting that cannot access GP representation. There have been fantastically positive outcomes of this implementation of virtual GPs with outstanding feedback from residents and their family/loved ones.

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What factors influence preferences for telephone and video consultations? A multinomial regression analysis using national survey data

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Objective
To examine the explanatory variables for consumers' selection of either telephone consultation or video consultation for specific health conditions, using multinomial regression analysis conducted on a national survey dataset.

Methods
A cross-sectional survey was conducted involving a sample of Australian adults who had used a telehealth service in 2021. An online sampling service by Qualtrics® enabled the recruitment of consumers that represented the Australian population in terms of gender, age, location (state or territory) and place of residence (urban or remote). Data collected included demographics, recent telehealth experience and preferences for telephone or video consultations for different scenarios including health conditions, varying time lengths and reasons for seeking a general practitioner.

Results
A total of 1069 consumers completed the survey. In-person consultations at a clinic were the top preference in all clinical scenarios presented, except when needing a prescription or to receive test results. In these cases, telephone consultation was preferred. General videoconferencing experience in day-to-day life increased the likelihood of consumers choosing video consultations over in-person clinic visits for their GP appointments. Additionally, consumers preferences for telephone consultations appear to be increased by internet connection issues and needing support to access technology.

Conclusions
These findings revealed there are a variety of reasons influencing consumer preferences for healthcare modalities. It also demonstrated that increased experience with videoconferencing in general, as well as for health consultations, may increase the chance of a consumer selecting video consultations as a preferred telehealth modality in the future. Alternatively, telephone was preferred for short (5 minutes) consultations, such as prescription requests and test results, while video consultations were often preferred for longer or more complex telehealth consultations. The results of this survey give valuable insights into consumer preferences for telehealth, and factors which may influence telehealth uptake within our health system.

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Understanding Community: Critical for Best Care Delivery in Fracture Management

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Mount Isa, a remote town in far North-West Queensland, is situated on the traditional lands of the Aboriginal Kalkadoon people, who make up 21.5% of the town's population. They face unique healthcare challenges, including higher rates of chronic diseases, lower life expectancy, and barriers to accessing specialist care, influenced by socioeconomic status, education, and living conditions. Telehealth initiatives like Telehealth Fracture Clinic (TFC) play a crucial role in addressing these challenges by improving access to specialist care, reducing travel burdens, and providing culturally sensitive healthcare solutions.

Mount Isa Hospital (MIH) is a primary referral centre within the North-West Hospital and Health Service (NWHHS) but lacks an on-site orthopaedic department; the nearest service is 900 km away. TFC has been operated twice a week by two orthopaedic consultants between MIH and Princess Alexandra Hospital (PAH) in Brisbane for 15 years. In 2023, 41.1% of referrals were Indigenous patients.

Indigenous people have a deep spiritual connection to the land, making travel to another hospital for surgical fracture management challenging. TFC reduces the need for travel and provides culturally sensitive care, improving health outcomes by enabling timely interventions and regular follow-up appointments. It also offers health education supported by local elders, promoting better understanding and adherence.

Despite its benefits, TFC faces a high failure-to-attend rate, particularly among Indigenous patients, at 32.9% overall in 2023, with 70.2% of those being Indigenous. This is likely due to trust-building in a virtual setting and cultural preferences, traditional healing practices, and socioeconomic circumstances.

TFC at MIH offers a promising way to deliver specialist healthcare to Indigenous populations in remote areas, reducing travel needs and providing culturally sensitive care. However, the high failure-to-attend rate highlights the need for strategies to build trust and overcome barriers for sustained telehealth success in improving healthcare access and outcomes for Indigenous communities.

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Assisting Reality – Creating a community of practice to achieve virtual care innovation across three telehealth pilots in country Western Australia

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The WA Country Health Service (WACHS) TeleChemotherapy model of care enables rural provision of low-risk cancer treatment utilising specialist clinician support via telehealth. Assisted reality (aR) technology was posed as an innovative solution to improve existing fixed camera visibility of patients and workflow, enhancing staff experience and quality of care. A proof of concept (POC) commenced, trialing voice-activated, head-mounted devices worn by rural chemotherapy competent nurses, providing the virtual nurse with real-time, first-person visibility of the clinical scenario.

Networking identified three independent POCs using the same aR technology across country WA. Significant inefficiencies became evident to stakeholders who initiated a collaborative community of practice (CoP) with internal and external membership to leverage collective learning, problem solving, and support practical implementation across pilots. Combining clinical, project and Information Management and Technology (IMT) staff skills and experience reduced duplication and enabled pre-emptive action to address identified risks and issues. A recommendation is to engage project managers from the Digital Delivery team to handle the digital aspects of the POC and scaling in BAU, for greater efficiencies and resource utilisation.

Shared resources and training through the CoP improved troubleshooting and understanding of the aR device functions, facilitating a positive learning experience and improved clinician buy-in. Qualitative survey data from each POC, and interviews with nurses involved in the TeleChemotherapy pilot will support understanding of clinical experience, barriers, and enablers with the technology, and inform recommendations for future application and adoption of aR within WACHS.

The community of practice approach has benefited organisational efficiency, collective success, and engagement across three virtual telehealth innovation pilots. Pending evaluation outcomes mid to late 2024, it is recommended the CoP continue to progress transition of aR technology to business as usual, facilitating scalability, clinician experience and supporting provision of sustainable virtual care closer to home for country patients.

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Scaling a virtual heart health support service in country Western Australia: Successes and challenges

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The WA Country Health Service (WACHS) - Heart Health Support Service (HHSS) is a one-to-one cardiac Clinical Nurse Specialist (CNS) led service delivered via telehealth aiming to increase access to comprehensive evidence based cardiac rehabilitation closer to home, responding to service gaps and lengthy wait-times for country WA patients.

Commencing as a proof-of-concept project in one region of Western Australia (WA) in 2022, the HHSS expanded to a second region after 5 months of operation and is scheduled to expand to a third in late 2024. Key outcomes over the first 12 months of service delivery (October 2022 – September 2023) included: (1) over 200% increase in the number of patients accessing nurse-lead cardiac rehabilitation in the SouthWest and Wheatbelt regions of WA; (2) earlier post-acute access to specialist cardiac nursing; (3) improved alignment of WACHS-provisioned cardiac rehabilitation to best practice guidelines; and (4) 97% patient satisfaction with the virtual service model.

Given the success of the HHSS model the service is now set to become business as usual in two regions and transition from project to operational governance is underway. The continued growth in service activity has resulted in Activity Based Funding (ABF) revenue approaching clinical workforce costs facilitating partial transition of service costs to operational funding. This frees up seed funding to increase clinical workforce resourcing facilitating further expansion with the long-term goal of scaling the service to all regions of WA.

Despite the benefits of providing centralised specialist services across regions virtually, challenges exist in successfully transitioning services to sustainable operational models due to system and national level funding challenges. This includes the absence of ABF mechanisms for centrally provisioned virtual care services delivered to multiple regions, resulting in reliance on seed funding to continue. To overcome this, participation in system funding reform opportunities is a priority.

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Pulmonary and Cardiac Telerehabilitation (PaCT) – regionalised networked corridor approach delivering virtual care closer to home within regional, rural and remote Queensland

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Aim
Pulmonary and cardiac rehabilitation (PR/CR) is essential for chronic respiratory and coronary heart disease patients to optimize functional status, recovery, quality of life, and symptom management. The aim was to implement hub and spoke telerehabilitation to improve access, decrease hospital utilization, and increase workforce capacity within regional and remote Queensland.

Methods
A RE-AIM implementation framework was used to assess. Patients referred between January 5 - October 1, 2023, from the seven HHSs. Inclusion criteria were based on standardised criteria. In person pre- and post-testing. Patients undertook a 6–8-week exercise program focusing on lower limb strengthening, functional capacity, and aerobic maintenance. Hybrid education option. Data on demographics, location, hospital utilization, timely access, health conditions were collected. Assessments included six-minute walk distance (6MWD), functional balance (SPPB), quality of life (HRQoL), symptoms, and mental health. Satisfaction and adoption were measured via Australian Health Commission and NOMAD questionnaires.

Results
298 patients referred, 11% (n=33) identified as Aboriginal and/or Torres Strait Islanders. Uptake was 67% (n=199) with 87% completion rate (n=173). Average attendance was 11.52 exercise/6.98 education sessions. The three corridors support 47 spoke sites and upskilled 27 clinicians. PaCT saved 90,538 kilometres and 1,315 hours of patient travel. Emergency presentations decreased by 16.5% (n=61), and preventable admissions decreased by 46% (n=95). The average length of stay was reduced by 1.8 days. Participants included 197 males with a median age of 62; conditions included COPD, asthma, bronchiectasis, ILD, PHTN, post-PCI, CAB-G, and heart failure. No adverse events were reported. Minimal important differences demonstrated in exercise capacity (72%), functional balance (40%), mental health (48%), and HRQoL and (67%). Patient satisfaction was high at 4.89/5, with telehealth service rated 4.7/5.

Conclusion
Hub and spoke telerehabilitation is a safe and effective model for delivering PR/CR in regional Queensland, demonstrating good adoption, reduced hospital utilization and significant clinical outcomes.

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Bridging the Divide: A Global Analysis of the ICT Imperative in Shaping National Policies

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This study investigates the critical role of information and communication technology (ICT) development in propelling telemedicine adoption worldwide. We leverage data from the "Atlas of eHealth Country Profiles 2016" to identify key drivers, acknowledging its value as a foundational analysis despite the year of publication. Our sophisticated correlation approach reveals the ICT Development Index (IDI) as the single most influential factor shaping telemedicine policies. This index, encompassing economic and healthcare infrastructure indicators like GNI and healthcare worker density, provides a comprehensive picture of a nation's readiness for telemedicine integration.

The analysis further unveils a strong correlation between the IDI and a robust eHealth ecosystem. This includes internet access, eHealth training programs, legal frameworks, patient safety protocols, data privacy measures, and seamless data sharing among healthcare professionals. This interconnectedness positions the IDI as a powerful driver of telemedicine innovation, highlighting the dependence of telemedicine success on a nation's digital and healthcare foundation. Countries with a high IDI consistently demonstrate superior eHealth policies and practices, solidifying the crucial role of ICT development in this domain. Our research underscores the need for a multifaceted approach to accelerate telemedicine adoption. By strategically investing in ICT infrastructure, comprehensive eHealth education, and robust legal frameworks, governments can unlock the transformative potential of telemedicine. This study provides compelling evidence, elucidating the intricate relationship between ICT development and telemedicine policies. We not only identify the IDI but also acknowledge the influence of additional critical factors. This comprehensive understanding of facilitators and barriers informs the development of coordinated policy initiatives. By leveraging data-driven insights, policymakers can enhance telemedicine accessibility and efficacy, paving the way for a revolution in global health outcomes. Ultimately, our findings hold the potential to transform telemedicine from a vision into a tangible reality, improving healthcare delivery across the globe.

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Clinician Experience: Telephone to Video

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Initially, the GP Assessment Team, part of the broader SA Health COVID Response Care Team (later transformed into the High-Risk Hub), relied solely on phone calls to remotely monitor quarantined interstate and international arrivals and COVID-positive patients. While nurses were able to check vitals upon request, the depth and reliability of assessments were limited. Additionally, the team used a record management system that was not integrated with the state-wide electronic medical record (EMR). Consequently, clinicians didn't have direct access to past medical history, medications, and test results, and the team's assessments were not visible to other parts of the healthcare system.

In 2022, the SA Virtual Care Service (SA VCS) was established as a state-wide virtual emergency department supporting SA Ambulance Service, regional sites, and residential aged care facilities by providing assessments via video link. The High Risk Hub function was transitioned to the SA VCS in January 2023, and both teams faced a steep learning curve. The primary change, and a major benefit, was the transition from phone to video calls, which significantly improved clinical assessments by allowing for the observation of physical symptoms, non-verbal cues, and the patient's environment. Another benefit was expanded expertise gained through joining a larger multidisciplinary team including several medical specialties (Emergency, General, and Rural Medicine), experienced nurses, and paramedics. By that time, SA VCS had already established processes and pathways with full access to the state-wide EMR. The SA VCS team, in turn, had to adapt to the direct-to-consumer model, which was a new experience for them.

Despite the technological advancements, challenges remain, particularly in rural and remote areas where connectivity issues and varying levels of digital literacy among patients and their support networks can affect the quality of consultations.

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Integrating patient-reported outcome measures into a supportive and palliative virtual care clinic: Developing an implementation plan

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Background
Increasingly models of care are prioritising patients remaining in the community, and attending virtual clinics where feasible and safe, instead of physically attending hospital clinics. To improve between-appointment communication, we sought to implement electronic Patient-Reported Outcome Measures [e-PROMs] which are validated digitally-collected surveys for patients to report their current status and concerns. The usual technology proficiency barriers are present with the added complexity of approximately 30% of patients seen through our virtual palliative care clinics requiring English language support. In this study we sought to identify technological feasibility, the feasibility of using multilingual PROMs and from these, develop an implementation plan to address the identified barriers to e-PROMs usage.

Aim
To develop an implementation plan for a multilingual e-PROM, identifying barriers and expectations in clinicians and consumers in virtual clinical settings.

Methods
Convenience sampling and mixed data collection were undertaken. Focus group interviews with clinicians and verbal surveys with consumers were conducted. Thematic analysis was applied for the interviews and verbal surveys were analysed by descriptive statistics and content analysis. The Consolidated Framework for Implementation Research guided the identification of codes and key themes to facilitate an implementation plan.

Results
Nine clinicians and 14 consumers participated. Qualitative data saturation was reached. While most of the consumers' barriers could be addressed by standard e-PROM functions, there are potential challenges regarding clinical resources and patient characteristics (e.g. age, family support). Developing a procedural guideline detailing the process, purpose and goal of e-PROMs usage and identifying a clinical liaison role are significant for implementation.

Conclusion
Considering participants as 'quasi-researchers' has allowed for an implementation plan developed in partnership with end-users. It is anticipated this will facilitate a feasible e-PROMs implementation potentially improving shared-decision making and patient-centred care for virtual palliative care clinics and thereby improving patient and family experiences and outcomes.

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Patient Satisfaction in Virtual Care: How Video Telehealth Outperforms Telephone

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Alfred Health in Victoria undertook surveys to gain insights into patient satisfaction within virtual care specialist appointments. In September-October 2023, patients were surveyed via REDCap both post-video and post-telephone consultation, and the results compared. Satisfaction around perceived standard of care, involvement in treatment decisions, and communication of delays was rated higher in video appointments than in telephone. It was also found that a higher percentage of patients who had a video consultation would choose to have one again, compared to those willing to have a second telephone consultation. As a result of these survey findings, we propose that clinical staff discuss future appointment preference with patients, offer a choice of modality where clinically appropriate, and to offer video telehealth as a first option for virtual appointments. To encourage the continued use of video telehealth and reinforce change at the clinic level, any positive feedback received as part of these surveys was also shared directly with clinicians. Overall, a better perceived quality of care, increased feeling of involvement in decision making and better communication of delays all make a strong case for the shift towards video telehealth as the preferred mode of virtual care delivery.

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Why has the use of telerehabilitation in physiotherapy clinical practice reduced substantially since the easing of COVID-19 restrictions?

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Background
The COVID-19 pandemic significantly accelerated the adoption of telerehabilitation for physiotherapy delivery in Australia, highlighting its potential to enhance accessibility and continuity of care. However, factors influencing the use of telerehabilitation beyond the easing of pandemic restrictions are not well understood.

Aim
To explore the factors that influence physiotherapists' use of telerehabilitation in clinical practice after restrictions to in-person physiotherapy were lifted.

Design
Cross-sectional national online survey study.

Method
Physiotherapists currently practicing in Australia were invited to complete an online, purpose-built survey. Data regarding participants' use of telerehabilitation after restrictions to in-person physiotherapy were lifted (2022 onwards) and the factors that influenced their current use of telerehabilitation were collected between September and November 2023. Data were analysed using descriptive statistics.

Results
118 of 152 physiotherapists were included in the study. Seventy-eight per cent indicated they continue to provide telerehabilitation for a small proportion (14%) of their case load. Reasons for not offering telerehabilitation included in-person practice being easier (23%), a perceived patient preference for in-person appointments (18%), concerns about telerehabilitation effectiveness (15%) and disliking providing care via telerehabilitation (12%). Physiotherapists also reported patients rarely requested telerehabilitation services (49%). Although only 25% of physiotherapists (35 of 142) reported that patients like telerehabilitation about the same or more than in-person consultations, these respondents tended to have a higher proportion of their weekly caseload conducted via telerehabilitation and reported higher levels of perceived effectiveness, confidence, and satisfaction with telerehabilitation.

Conclusion
Although most surveyed participants continued to offer telerehabilitation beyond the easing of pandemic restrictions, the proportion of their caseload utilising telerehabilitation was small. Use of telerehabilitation in clinical practice is influenced by a range of factors, including ease of in-person practice, perceptions of effectiveness and the preferences of clinicians. Addressing these barriers is crucial to enhance the long-term viability and effectiveness of telerehabilitation physiotherapy in Australia.

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Telepharmacy for pre-treatment medication history taking for patients with cancer: An implementation evaluation using the Consolidated Framework for Implementation Research 2.0

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Background
Medication history telepharmacy consults are carried out prior to a patient commencing their systemic anti-cancer therapy (SACT). At this study institution, this has historically been carried out as an unscheduled telephone consult, however, due to challenges with this model, a scheduled videoconsultation model was established. While funding, time efficiency, and completion rate for the videoconsultation service compared to the telephone consult service has been examined previously, an implementation evaluation has not been undertaken.

Objective
This study explored staff perceptions of the videoconsultation model implementation compared to the existing telephone model.

Methods
Semi-structured interviews were conducted with staff (n= 14) who were involved with the videoconsultation service, or who provided care for patients who had a videoconsultation. Interview transcripts were coded for positive or negative influence and strength using the Consolidated Framework for Implementation Research (CFIR) 2.0, to understand which constructs influence implementation.

Results
Thirty-nine out of the 79 CFIR 2.0 constructs were identified in total for both telephone consult and videoconsultation services from the domains of Innovation, Outer Setting, Inner Setting, and Individuals. The strongest enablers out of the 25 positively influencing constructs for the videoconsultation service were innovation advantages, critical incidents, support persons, financing, and telehealth coordinator capability and motivation. Four of the eight barriers identified as negatively influencing for videoconsultations were unique to videoconsultations and included innovation simplicity, innovation cost for the health service, compatibility, and pharmacist opportunity to deliver the innovation. Similarities (e.g., space was a barrier) and differences unique to each model were identified.

Conclusion
The interplay of the many factors which may influence implementation success, including factors unique to the type of telepharmacy model, can be considered when designing and

implementing telepharmacy services. Findings suggest a hybrid service of telephone and videoconsult models may best meet the needs of patients and the organisation.

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Exploring the Feasibility of Wearable Augmented Reality for Telehealth: A Simulation-Based Evaluation of the Microsoft HoloLens 2

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Background and Aims
Telehealth is crucial to the provision of high-quality treatment of patients in rural areas. Telehealth is typically delivered via videoconferencing technology, but the emergence of novel technologies such as wearable devices and augmented reality (AR) presents an opportunity to explore advancements in telehealth delivery. Such technologies could facilitate progression towards more advanced telehealth models of care that require precision advice, greater collaboration, and healthcare outside the hospital. The Microsoft HoloLens 2 is a head-worn AR device that could offer further support to rural clinicians through live visual annotations in 3D space. The aim of this study was to explore the feasibility of the HoloLens 2 for clinician-to-clinician telehealth consultations.

Methods
Twenty-five clinicians trialed the HoloLens 2 and evaluated it against a trolley-based telehealth device used in current practice. Each participant trialed the devices from one of two perspectives: a rural clinician accessing support or an advising clinician providing support. Participants completed two blocks of the same four scenarios, trialing one device in each block.

Results
Advising clinicians had higher ratings of usability and self-efficacy, and lower ratings of mental workload, when providing support via the HoloLens 2 compared to the trolley-based device ($p<.035$). However, rural clinicians rated the HoloLens 2 lower on usability compared to the trolley-based device ($p=.020$) and rated their self-efficacy and mental workload equally when using both devices ($p>.253$). Participants generally preferred to use the HoloLens 2 over the existing device. On average, scenarios took 1 minute longer to complete when using the HoloLens 2 ($p<.001$).

Conclusions
The findings revealed crucial insight into the benefits and limitations of using the HoloLens 2 for clinician-to-clinician telehealth. Wearable AR technology has the potential to improve the way telehealth is delivered but there are various factors that, if not adequately considered, may limit its safety and efficiency.

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A systematic review of attendance, adherence and satisfaction with real-time video-based telerehabilitation for physiotherapy

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Background
Attendance at appointments, adherence to home exercise programs and satisfaction with treatment all have the potential to impact clinical outcomes, progression and overall effectiveness of physiotherapy. Satisfaction is also a key measure of the success of a healthcare intervention. Therefore, it is necessary to better understand the impact of telerehabilitation on attendance, adherence and satisfaction.

Aim
To compare attendance, treatment adherence, and patient satisfaction with physiotherapy delivered via telerehabilitation compared to in-person.

Design
Systematic review with meta-analysis of randomised controlled trials.

Method
Five databases (PubMed, CINAHL, Embase, PEDro, and Cochrane) were systematically searched for randomised controlled trials of adults receiving either real-time video telerehabilitation or in-person physiotherapy. Random-effects meta-analyses were performed.

Results
Eight studies were included for attendance, nine studies for adherence, and twelve studies for satisfaction. Telerehabilitation resulted in treatment session attendance rates that were 8% higher (95% confidence interval (CI) 1% to 18%) and adherence to home exercise programs that was 9% higher (95% CI 2% to 16%), when compared to in-person physiotherapy. Satisfaction rates were not significantly different, with a standardised mean difference of 0.03 (Hedges' g; 95% CI −0.23 to 0.28). Level of certainty assessed by GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) ranged from very low to low, primarily due to inconsistency and high risk of bias.

Conclusion
Attendance at appointments among participants assigned to telerehabilitation is somewhere between similar to and considerably higher than among control participants. Adherence to self-management with telerehabilitation was better than with in-person delivery, although with some uncertainty about the magnitude of the effect. Reported satisfaction levels were similar between the two modes of treatment delivery. Although uncertainty exists about the magnitude of the effects, the potential of telerehabilitation to improve attendance and adherence rates, while maintaining equally high satisfaction, makes it a compelling alternative for physiotherapy delivery.

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South Australian Virtual Care Service – Learnings from a consumer front door pathway

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The South Australian Virtual Care Service (SAVCS) provides virtually enabled urgent care to consumers with the aim of finding the right care in the most appropriate setting. SAVCS is a multi-disciplinary team of paramedics, senior medical consultants (general practitioners, emergency physicians and general physicians), senior nurses, clerical staff and data/analytics support.

Since October 2023, SAVCS has expanded to provide access to consumers who have called the Healthdirect 24-hour Health Information and Advice Service and have met the appropriate inclusion criteria. This is the first general pathway SAVCS has introduced with direct consumer facing consults, without a clinician on site. The pathway provides a service for consumers triaged as needing to go to ED or needing to see a GP within two hours with an urgent virtual consult and/or navigation to the most appropriate local care including care in place, with their usual GP, at a hospital avoidance service, urgent care service or in an Emergency Department.

Since October of 2023:

- Over 2000 calls have been received
- Median length of consults of 20 minutes
- 60 percent of calls received care without the further need for attendance at a physical ED
- A Net Promoter Score (NPS) of 80 (world class)

Following the implementation of the pathway and through ongoing reviews, several learnings have been identified. Opportunities for improvement include the need for clear understanding of exclusion criteria and clinical appropriateness to ensure there is no delay to definitive care, and the need to ease the burden of consumers repeating their stories. In addition, evolving experience in the pathway has resulted in a higher proportion of calls being managed entirely at triage through service navigation. This resulted in better use of resources, improved capacity and enhanced experience. Ongoing work is underway to address opportunities and process improvement

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Examining Telehealth Modalities and Consultation Interventions in Palliative Care: Outcomes from an Innovative Rapid Palliative Care Inreach Division (RAPID) Program Developed During the COVID-19 Pandemic

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Background
Palliative care patients transiting between hospital and home settings encounter significant challenges. Monash Health Supportive and Palliative Unit, Melbourne, Australia has implemented Rapid Palliative Care Inreach Division (RAPID) program to support these patients.

Aim
Analysing the telehealth modalities employed and their associated consultation interventions within the RAPID program during care transitions.

Methods
A retrospective clinical audit was conducted using electronic medical record data from patients seen by the RAPID palliative care service at Monash Health between October 2020 and March 2022. Data included patient demographics, national benchmark metrics Palliative Care Outcomes Collaboration (PCOC) phase, consultation modalities, and interventions initiated.

Results
A total of 206 patients underwent 722 consultations, with 76.2% conducted via telephone, 18.6% via video, and 5.2% in-person. Non-English speaking patients exhibited a higher incidence for receiving video and in-person consultations. The mean age of patients for video and telephone consultations was 69.4 years, while for in-person reviews, it was 64.1 years ($p=0.028$). Video consultations compared to telephone consultations were more frequently involved with medication changes (41% vs. 23%, $p<0.001$), management plan alterations (26% vs. 8%, $p<0.001$), advice or education (28.4% vs. 18.6%, $p=0.042$), and referrals to other healthcare providers (30% vs. 17%, $p<0.001$). Subgroup analysis revealed the differences in medication adjustments and management plan changes for patients within the Stable and Deteriorating PCOC phases, and more referrals occurred via video consultations for patients in just the Stable phase.

Conclusion
The telehealth supported RAPID program demonstrates the importance of specialised palliative care services in transitional care. While telephone consultations predominated, video consultations were associated with higher intervention frequencies, especially for patients in the Stable and Deteriorating care phases. Incorporating video components may enhance intervention rates, however, further research is needed to validate these findings and explore their impact on patient-specific outcomes, thereby optimising telehealth services in palliative care.

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Clinical support in aged care: Insights from a Visual Telehealth study evaluation

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Aim/Objective
The Partnerships in Aged Care Emergency using Interactive Telehealth (PACE-IT) project aimed to improve communication networks between the Emergency Department (ED) and Residential Aged Care Facility nurses through the implementation of a visual telehealth model of care.

Methods
The non-adoption, abandonment, spread, scale-up and sustainability (NASSS) framework served as the primary method for evaluating the PACE-IT MOC to determine the project's potential for scalability and sustainability. It focused on identifying gaps and successes in key aspects such as clinical support, bidirectional communication, and the provision of person-centered care.

Results
The application of the NASSS framework revealed critical challenges to the sustainability of the PACE-IT MOC including workforce shortages, internet connectivity and system workflow issues. To overcome these challenges continuous training and support, attention to the roles of designated workplace champions and drivers, a consistent and skilled nurse workforce, the adoption of a central hub of expertise were all key components toward supporting sustained visual telehealth for Residential Aged Care Facility nurses.

Conclusion
Findings from this study adds to the knowledge of care for older individuals in residential settings. The study advances understanding of visual telehealth implementation, emphasising the need for innovative education, policy, and practice workforce solutions in the aged care sector.

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Health, engagement, and adherence outcomes of advanced health coaching in a real-world GLP-1-supported digital weight-loss service: Protocol for a randomized controlled trial

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Background
Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have demonstrated unprecedented effectiveness in treating overweight and obesity in clinical trial settings. However, these settings arguably do not reflect real-world experiences. Many modern weight-loss services combine GLP-1 RA therapy with health coaching through a digital platform to maximize care access and outcomes. Although an emerging literature on real-world medicated digital weight-loss services (DWLSs) has made some positive discoveries of their safety and effectiveness, these studies have hitherto not been able not been able to address concerns that such services generate negative long-term body composition outcomes. A recent qualitative analysis revealed that increasing the level of health coaching personalization and proactiveness may improve adherence rates and thus the effectiveness of Australia's largest DWLS.

Aim
To assess the sustainability of health outcomes from a real-world GLP-1RA-supported DWLS using advanced health coaching.

Methods
Participants were randomly allocated to the advanced and rudimentary (control) coaching groups. Both groups will follow the standard Semaglutide dosing schedule. The control group will receive generic diet and exercise recommendations and will only receive further coaching if they ask questions via the program app. The intervention group will receive a personalized diet and exercise plan and will be engaged by their health coaches at a minimum of every 3 days with personalized advice. Access to health coaching will cease for both groups after 6 months. Weight, fat-free to fat-mass ratios and quality of life measures will be taken at baseline, 6 months and 12 months.

Results
Study recruitment will take place in early 2025, with the cohort consisting of 512 participants (256 in each group). The Bellberry Human Ethics Committee approved the research on 24 May 2024.

Conclusion
This study will generate important insights on the degree to which health coaching design impacts the effectiveness of GLP-1 RA-supported DWLSs.

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Working from first principals in Telehealth for Mob: Reinforcing Service Delivery with ACCO Telehealth Ecosystem Evaluations

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Since the COVID outbreak and significant lock down that Victoria experienced, telehealth and digital in health technologies have been high on the agenda/list for Aboriginal Community Controlled Organisations (ACCOs) to help enable better access to care for their communities. This quality improvement project discusses the unique technology needs of the ACCOs and their communities to access chronic disease care in rural and remote areas of Victoria. Although needed to support service delivery, many of our ACCOs were unsure of the kind/type and design of technology they needed to suitably equip the service with telehealth capabilities. Our Digital Health and Information, Computers & Technology (ICT) team at Victorian Aboriginal Community Controlled Health Organisation (VACCHO) performed an ecosystem assessment of the environments at the ACCOs to determine the gaps in resources and equipment needed to fully leverage this service delivery methodology. VACCHO ICT team then worked with their network of service providers to purchase and provide equipment needed to compliment the service delivery method for the ACCOs. As part of the Continual Quality Improvement (CQI) process, these ACCOs noted that some of the technology was suitable to the location and service delivery method, however some technology needed to be modified to suit the use of and interactions of mob. This abstract discusses the findings of the hardware requirements at the ACCOs to suit an appropriate, reliable and culturally safe service delivery for Aboriginal Communities in Victoria.

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Phone versus video: A systematic review of patient and provider preferences for telehealth appointments

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Aim
To summarise clinician and patient preferences and satisfaction of phone versus video appointments and explore characteristics of who selects one modality over the other.

Methods
We conducted a systematic review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. MEDLINE, CINAHL, and Embase databases were searched in April 2023 for peer-reviewed articles published in English using terms for telehealth, video, phone, telephone, virtual and eHealth. Studies were included if they described clinical consultations using telephone and video and were between a patient and any health professional. Outcomes needed to be patient or clinician preferences or user satisfaction for either telephone or video consultation formats. Screening was conducted by two independent reviewers per record. Any uncertainty was decided by a third external reviewer. Data was extracted and described narratively. No meta-analysis was conducted due the variability of services and outcome measures. Study designs were classified using the NHMRC Evidence Hierarchy to report on the strength of studies.

Results
Seventy-eight studies were included, published between 2003-2023 and using primarily cross-sectional survey and/or interviews methods (n=41, 52.5%). Studies covered 19 clinical disciplines, most often paediatrics (n=13; 16.7%) or mental health (n=10; 12.8%). The most common setting was outpatient clinics (n=46, 59%). Half of consumer-focused studies preferred video for telehealth consultations (n=33 of 61; 54.1%), with a third concluding equivalence (n=19; 31.1%) and only 8% (n=5 of 61) preferring telephone. Preferences for video were stronger in the 37 provider studies with 75.7% reporting a preference video (n=28), one for telephone (2.7%) and three reporting equivalent preferences (n=3; 8.1%).

Conclusion
Though video is less common than phone for telehealth appointments, the majority of clinicians and consumers preferred it. These findings can help providers optimise their services to deliver safe care that satisfies both clinicians and patients.

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Using assisted living technology and GP telehealth in-reach to support ageing in place for residents of a rural aged care lodge in Western Australia

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A proof of concept is underway to determine the efficacy of assistive living (AL) technology to support residents to live as independently as possible in a rural Multi-Purpose Site (MPS) aged care setting. The solution combines non-invasive sensors with artificial intelligence to detect incidents and provide information on resident behaviours, to inform care needs – including access to primary care.

Despite technology challenges delaying commencement, interim evaluation indicates achievement of intended project benefits, including improved resident safety and quality through real-time situational awareness; immediate alerting to adverse incidents and provision of resident behaviour trend data; increased resident confidence to undertake activities of daily living; and increased staff job satisfaction.

Insights are assisting staff, residents, and family members to better understand resident behaviour, support daily activity needs, and proactively respond to behaviour changes which, if otherwise undetected, could result in health deterioration and independence loss. Staff have visibility of information collected by the system on residents' activity via a dashboard (trend data) and mobile phone (real-time incident alerts).

Limited access to a local GP prompted implementation of an in-reach telehealth pathway, as AL technology insights frequently identified changes to resident profile that could benefit from low acuity investigations and timely primary care support. Significant collaboration with the local Primary Health Network, provision of equipment and staff training was required to successfully implement the virtual GP model.

Staff have successfully used trend information to explore root causes and potential solutions in collaboration with residents. Real-time alerts for doors opening/closing at night, and from residents requiring immediate assistance while off-site due to falling or feeling unwell, has improved resident safety and confidence to remain active in their community. Plans are underway to expand telehealth in-reach, however further consideration is required to determine scalability of AL technology in other rural MPS aged care settings.

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Using digital applications and microlearning to build a sustainable telehealth training pathway and telehealth capability in the country WA workforce

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Successful telehealth adoption is strongly determined by workforce skills and confidence. Traditional educational methods often fail to effectively upskill busy healthcare professionals. To address this, WA Country Health Service (WACHS) participated in a collaborative research project to develop and assess the efficacy of an innovative telehealth microlearning program delivered through a digital application (App) called Forget-Me-Not®. Employing a microlearning methodology, the technology leverages Bloom's concept of mastery to deliver short, daily sessions and scenario repetition to enhance learning efficiency, aiming for long-term skill retention. WACHS, alongside other organisations, participated in a pilot which concluded in December 2023. This abstract describes the results of the pilot and outlines the next steps to enable a sustainable telehealth training pathway within the organisation. Analysis of the pilot data suggests a positive shift in levels of participant confidence and appropriate skills and knowledge in the provision of telehealth consultations. Positive perceptions of App usability and the potential for microlearning for future professional development were reported. Participant feedback suggested a desire for more tailored content and enhanced question variety.

On the back of the microlearning pilot findings, WACHS conducted a targeted review of learning modules via a structured review process. This was aimed at customising the integration of content into the WACHS Learning Management System to meet specific workforce needs and to enable telehealth training sustainability. Eleven 'bite-sized' modules were developed in keeping with the microlearning concept. This training forms part of the WACHS telehealth training pathway inclusive of platform training and clinician peer-support in the clinical telehealth application.

Key learnings include:

1. Importance of a review team and process to provide feedback and critical review of content.
2. Limited subject matter expertise capacity to participate in content review negatively impacts project timelines.
3. Value of innovative educational approaches in addressing workforce telehealth training challenges.

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Investigating Healthcare Accessibility: Do Stakeholders Believe Telemedicine Improves Access?

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Aim
This study investigates the impact of telemedicine on healthcare accessibility, focusing on how different technological and environmental factors influence perceptions among healthcare providers and patients. It explores the significant contributions of ICT proficiency and mobile app usage, offering novel insights into the strategic implementation of telemedicine services.

Methods
This study employed multivariable logistic regression analysis to assess data from two distinct groups: healthcare providers (n=226) and patients (n=303). For providers, variables included ICT proficiency, infrastructure availability, and the type of healthcare setting (primary, secondary, tertiary). For patients, the analysis focused on the use of dedicated mobile apps for telemedicine consultations, internet accessibility, and their proximity to various levels of healthcare facilities like primary, secondary, and tertiary care centres.

Results
The results for healthcare providers indicated that ICT proficiency significantly enhances the perception of improved healthcare accessibility through telemedicine, with odds increasing by approximately 15 times ($p<0.001$) for those proficient without ICT assistance and 27 times ($p<0.001$) for those requiring some help, indicating strong statistical significance. Working in secondary care was also found to significantly increase the odds of perceiving telemedicine as beneficial (OR=4.80, $p=0.028$). However, the availability of infrastructure did not show a significant impact ($p=0.492$) on perceived access by the doctors.
For patients, the use of dedicated mobile health apps was notably effective, increasing the perceived accessibility of healthcare services fourfold ($p<0.00001$). However, other factors, such as internet access and proximity to healthcare facilities, did not demonstrate a significant effect.

Implications
This study underscores the pivotal role of ICT proficiency and mobile app utilisation in enhancing telemedicine effectiveness. Enhanced ICT skills significantly increase healthcare providers' perceived efficacy, while mobile technology significantly enhances patient experiences. These insights are crucial for policymakers and administrators to optimise telemedicine to ensure equitable access across different populations.

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Telemedicine Adoption: How Key Drivers and Language Barriers Shape Doctor Preferences

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Aim
This novel study investigates key factors influencing healthcare professionals' preferences for integrating telemedicine with in-person consultations. It evaluates the effects of telemedicine modalities, technological proficiency, infrastructure, language barriers, and experience on preferences for future healthcare delivery models, providing vital insights into the changing dynamics of digital healthcare practices.

Methods
This study analysed survey responses from 226 doctors through multivariable logistic regression to evaluate the influence of telemedicine modalities, ICT skills, infrastructure availability, language barriers and previous telemedicine experience on future healthcare delivery preferences, with a 90% confidence level. Additionally, thematic analysis of open-ended responses further elucidated the perceived benefits and challenges of various telemedicine modalities and language barriers.

Results
Logistic regression analysis highlighted that adequate infrastructure significantly increases the odds of doctors preferring telemedicine by about 7.67 times ($p=0.031$). Similarly, high ICT proficiency significantly enhances the odds by approximately 7.28 ($p=0.026$). The presence of video and audio modalities in telemedicine also demonstrates beneficial effects; specifically, video increases the odds by 4.23 ($p=0.068$) and audio by 7.28 ($p=0.026$). Conversely, extensive experience in telemedicine delivery shows a 15% reduction in the odds of preference ($p=0.037$), suggesting complexities that require further investigation. Notably, experiences with language barriers have a profound impact, increasing the odds by 10.87 ($p=0.0237$), with thematic analysis also highlighting substantial communication challenges, reflecting the critical need for robust multilingual support within telemedicine systems. The thematic analysis also highlighted dominant themes like "Technology Integration" and "Accessibility," underscoring the growing dependence on digital health solutions and the essential demand for accessible services.

Implications
This study underscores the critical role of infrastructure, ICT proficiency, and multilingual support in enhancing telemedicine adoption. Despite the positive impacts of telemedicine modalities, complexities arising from extensive telemedicine experience highlight areas for further research, emphasising the necessity of addressing these challenges to optimise healthcare delivery.

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The effectiveness and cost-effectiveness of a virtual Hospital in the Home service for COVID-19 infection: a retrospective cohort study and modelled decision analysis

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Background
Hospital in the home (HITH) is an evidence-based model of care offering home-based treatment as an alternative to traditional acute inpatient care. In Australia, HITH services have been expanded since the onset of the COVID-19 pandemic to mitigate nosocomial spread and reduce inpatient capacity strain. This paper aims to assess the effectiveness, cost-savings, and sustainability of a HITH service using virtual care technology to provide care at home for moderate COVID-19 patients in West Moreton Hospital and Health Services, Queensland.

Methods
A retrospective cohort study was conducted to collect data on costs, readmission rates, and length of stay over a 12-month period following the index admission to the virtual COVID-19 HITH service. A decision tree was undertaken to synthesize study data with published literature, comparing the cost effectiveness of this virtual model with a conventional physical ward for treating COVID-19. Costs were estimated from the Australian health system perspective. Quality-adjusted life-years (QALYs) were adopted as the measure of effectiveness. A probabilistic sensitivity analysis was conducted to investigate the overall impact of uncertainty in the data.

Results
The virtual COVID-19 HITH service was associated with 75% bed days saved when compared to a hypothetical cohort of the same group admitted to a conventional hospital ward. The cost-effectiveness analysis found the virtual COVID-19 HITH to be dominant, with 3.37 QALYs gained, and $1,693.45 in health system costs saved in a modelled cohort of 3,809 patients. When uncertainty was considered, there was a 73% likelihood that the virtual HITH model of care was cost-effective from a health system perspective, assuming a willingness to pay of $28,033/QALY.

Conclusion
HITH services incorporating virtual care modalities replicating the systems, staffing, and daily routines of a hospital ward are likely to be a cost-effective intervention in the Australian healthcare setting to expand inpatient care capacity.

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Providing post-discharge support via telehealth for patients with dysphagia: A Pilot trial

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In Singapore, patients and caregivers experience issues managing dysphagia care at home following hospital discharge. Prior consumer-based research conducted in Singapore revealed that many patients and caregivers wanted improved access to post-discharge dysphagia care and support. To address this service gap, a post-discharge dysphagia telehealth service was developed. The aim of the study was to evaluate the feasibility of a telehealth model through exploration of patient and service outcomes, patient and caregiver satisfaction, and preliminary costs. A cohort of 20 patients with dysphagia and their caregivers attended one or more telehealth sessions over the initial month post-hospital discharge. During the sessions, reviews of dietary preparation, swallowing function, and therapy progress were conducted, and further support and intervention were provided, if needed. In total, 42 telehealth sessions were conducted. No support was provided during 10 sessions, minor support was provided during 13 sessions, and major support and intervention were provided to address patient and swallowing safety during 19 sessions. Out of 20 patients, 19 required support and intervention during the first week post-discharge, however they experienced fewer issues with each subsequent session. The average session duration was 29.6 minutes. No sessions were cancelled despite some technical issues. Satisfaction measures revealed all patients and caregivers were highly satisfied with the telehealth system, audio-visual quality, level of rapport and interaction, comfort level, and usefulness of the sessions. Preliminary analysis of consumer and initial service costs revealed that the service can be delivered with minimal additional health service resources and at a low cost to patients and caregivers. The findings support the telehealth service as being feasible, cost-effective, and well-accepted by consumers, and it enhances patient safety during the initial month post-hospital discharge. This model has the potential for wider implementation to improve dysphagia care and reduce associated safety risks during a hospital-to-home transition.

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Implementation and Outcomes of the '1177 Direct' Digital Symptom Assessment and Referral Service in a Region of Northern Sweden

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In 2021, Region Västerbotten in northern Sweden launched "1177 Direct," a digital service to enhance primary healthcare accessibility and streamline care processes. This innovative platform offers automated symptom assessment and referral support through a virtual unit with staff across Europe. Integrated into the electronic health record (EHR) system, "1177 Direct" provides automated anamnesis, self-help advice, image attachments, and video consultations.

Data from October 2021 to May 2024 showcase the service's impact, with 45,000 visits and 217 unique symptom categories managed. Common visit reasons included skin conditions, general symptoms, infections, and respiratory issues, reflecting the service's versatility in addressing various healthcare needs. During the presentation, we will detail the service's clinical workflow and demonstrate its outcomes through one practical case. Integrating "1177 Direct" into Region Västerbotten’s healthcare system has optimized patient flow, reduced misdirected care contacts, and enhanced resource efficiency. This abstract aims to share our insights and outcomes, emphasizing the model's potential for adoption in other regions and countries.

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Is telehealth associated with more mental health service utilisation by urban Indigenous Australians?

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Background
Telehealth holds promise for delivering accessible, cost-effective and quality mental health care. Research has demonstrated its benefits for remote Indigenous populations, but little is known about whether telehealth increases service use for urban Indigenous populations and equally for Indigenous and non-Indigenous Australians. This study aimed to explore Indigenous populations' access to telehealth delivered mental health services and the sociodemographic and service-related factors associated with telehealth utilisation.

Methods
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. Telehealth included videoconference and phone services. Multivariate regression analyses assessed sociodemographic and service-related factors associated with MBS-subsidised telehealth-delivered mental health service access (whether used any telehealth mental health item) and utilisation (number of telehealth mental health items used in 2021).

Results
Indigenous populations in SEQ had significantly lower access to telehealth mental health services compared with non-Indigenous populations. While telehealth use was associated with increased mental health service utilisation for both groups, Indigenous populations demonstrated significantly lower service utilisation. Among Indigenous populations, lower rates of access to MBS-subsidised telehealth services were significantly associated with being male, aged 55 or older, having stable housing, living in single-family households, and the absence of a prior mental health diagnosis. Conversely, higher telehealth utilisation among Indigenous users was associated with residing in regional or remote areas, having a pre-existing mental health diagnosis, living in the Gold Coast Hospital and Health Service region, and receiving psychotherapies.

Conclusions:
Despite telehealth being associated with higher overall mental health service use, this relationship was less prominent for Indigenous populations. Targeted efforts are needed to ensure equitable access and effective use of telehealth services for Indigenous Australians.

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ORAL POSTER PRESENTATIONS

Embracing Technology – Utilising Virtual Services to Improve Supportive Care for Paediatric Oncology patients in the Home

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Aim
Include low risk oncology presentations to CAVUCS to provide additional support within the home environment, preventing unnecessary presentations to the Paediatric Emergency Department (PED) or regional Emergency Department (ED).

Background
Telephone triage is an essential component of today's oncology practice. Treatments and supportive care have become increasingly complex, including the management of telephone calls from patients with cancer. Comprehensive, standardised systems are required to manage the telephone triage process. Technological advances have allowed us to further improve patient outcomes. In 2021 the Child and Adolescent Virtual Urgent Care Service (CAVUCS) was established. Initially, children with a cancer diagnosis were excluded.

Method
A guideline was developed with an inclusion and exclusion criteria checklist to allow oncology patients to access CAVUCS. A three-month trial was undertaken following a communication and education plan. Outcome measures included preventing unnecessary presentation to PED, successful resolution of presenting complaint, accessing safe, appropriate care at home, no presentations to PED following CAVUCS referral. Data was reviewed together with consumer surveys from families.

Results
There were 135 calls during the three-month trial. Of these, 73 required no additional follow up, 36 required in person medical review including PED, 11 met exclusion criteria, 11 were missed referrals, and 4 referred to CAVUCS. All consumer feedback was supportive of the service.

Conclusion
The exclusion criteria were amended following the trial to safely include a larger cohort of oncology patients to access CAVUCS. This enhanced the existing telephone triage with access to virtual assessment and care from paediatric specialist via a virtual platform.

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360-degree Camera Positioning for the Development of Medical Educational Materials for Operating Theatre Nurses

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Operating theatre (OT) nurses set up the required surgical instruments and devices quickly and accurately for each surgery; however, existing training based on photographs and explanations makes it difficult for them to understand the surgical instrument setup. The 360-degree video could be a solution to this problem; however, the appropriate placement of the cameras should be explored. This study aimed to determine the appropriate camera positions for OT nurses to understand surgical instrument setup.

Methods
A 360-degree camera (Ricoh THETA V, 2 K, 15 Hz) was used. 360-degree videos were recorded for two robotic surgeries and one laparoscopic surgery. The camera was placed in front of the instrument table on which the surgeon's instruments were placed. The camera was positioned and recorded at different heights (145 cm, 155 cm, and 165 cm) and distances from the table (30 cm and 40 cm). The surgeon watched the recorded videos and assessed the visibility of the instruments on the table, the nurse’s hand movements, and collaboration with the surgeons.

Results
The tabletop could be seen well when the camera was close to the instrument table. However, to easily observe the movement of the hands on a table, a higher camera position was necessary. Height was found to be more important than distance in capturing the entire movement on the table. The key criteria used to determine the best camera position were the visibility of the equipment on the table, the nurse's hand movements, and coordination with the surgeon. Under these conditions, out of the four positioning patterns tested, the best camera height and distance from the instrument table were 165 cm and 30 cm, respectively.

Conclusion
The findings of this study, which identified the optimal 360-degree camera positions for OT nurses, hold significant potential for enhancing online education in the medical field.

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Carbon emission reduction associated with utilisation of telehealth in outpatient clinics in an Australian tertiary health service

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Objective
To assess the impact of implementing telehealth in outpatient clinics on the carbon emissions associated with the delivery of health care.

Methods
Design, setting: Retrospective cohort study in a large metropolitan tertiary referral health service from January 2021 to December 2022 during the COVID-19 outbreak and lockdown period.

Participants: All patients who attended an outpatient clinic appointment during the study period, either in-person, via telehealth video call, or telephone.

Main outcome measures: The estimation of carbon emissions in tonnes (t) of CO2-equivalent (CO2-e) associated with in-person and remote (telehealth and telephone) appointments based on emissions associated with travel, telehealth platform usage and n95 mask usage, waste collection and landfilling.

Results
There were 571,121 outpatient clinic appointments during the study period. Of the appointments, 251,458 (44%) were conducted remotely, resulting in an estimated reduction in 3,629t of CO2-e emissions in the two-year period. Telehealth consultations in this time contributed 4.5t of CO2-equivalent emissions. The total emission usage of telehealth clinic was only 0.12% of emissions generated from face-to-face clinic appointments.

Conclusion
Telehealth offers the opportunity of substantial carbon emissions reduction within the healthcare sector, while also providing cost and time-saving benefits for healthcare services and patients. Limitations include generalisation of transportation modes, educated assumptions around the presence of carers during an appointment, and the retrospective nature of the data collection.

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Models of care for adult outpatient synchronous telepharmacy services: a systematic review

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Aim
To summarise synchronous telepharmacy models of care involving adult outpatients care patients. Secondary aims were to report clinical and non-clinical outcomes of telepharmacy services for adult outpatient care, as well as facilitators and barriers of each model.

Methods
A PROSPERO registered systematic review was conducted using PubMed, CINAHL, and Embase databases in March 2023. Key search terms included pharmacy, telepharmacy, and outpatient. Data extraction and narrative analysis were then performed.

Results
From 2,129 unique articles reviewed, 103 were eligible for inclusion. Synchronous telepharmacy services in an outpatient setting were delivered by telephone consults and videoconsultations, with the majority being delivered by the telephone modality (87%). Services primarily involved a pharmacist providing a single consultation with a patient. The purpose of this was either to provide counselling, obtain a best possible medication history, or to provide ongoing support as part of a clinical program, such as diabetes and blood pressure monitoring. Patients reported the quality of care received through telepharmacy consultations provided the same level of care or was superior to in-person services. A key facilitator for the success of telepharmacy services was access to training, technical assistance, digital literacy and access to technology.

Conclusions
Telephone consult and videoconsultation telepharmacy services are being delivered across a range of outpatient clinical areas. More evidence is needed for videoconsultation services and how this modality may potentially provide further benefit for certain clinical tasks such as counselling and use of medication delivery devices. Overall, telepharmacy services enhance patient accessibility to healthcare and offer a convenient method of delivering high quality services.

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Shifts in telerehabilitation use in physiotherapy clinical practice throughout the COVID-19 pandemic era

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Background
During the COVID-19 pandemic, restrictions to in-person physiotherapy consultations required a rapid shift to telerehabilitation. Although many physiotherapists indicated an intention to continue offering telerehabilitation beyond the era of pandemic restrictions , anecdotal evidence suggests this may not have occurred.

Aim
To explore the shifts in physiotherapy telerehabilitation usage throughout the pandemic, investigate the potential reasons for these changes, and examine the evolving perceptions of telerehabilitation before, during, and after the pandemic restrictions.

Design
Cross-sectional national online survey study.

Method
Between September and November 2023, physiotherapists practicing in Australia were invited to complete a purpose-built survey. Data were collected regarding participants' telerehabilitation use prior, during and after restrictions to in-person physiotherapy as well as confidence, satisfaction with and perceived effectiveness of telerehabilitation. Quantitative data were analysed descriptively.

Results
152 participants were included in the analysis. The proportion of physiotherapists using telerehabilitation increased from 29% pre-pandemic to 91% during restrictions, then decreased to 78% after restrictions were eased. Telerehabilitation caseload rose to approximately 47% of total during restrictions but dropped substantially to 14% once restrictions were lifted, although it remained well above the pre-pandemic level of 4%. Approximately 38% of physiotherapists offered fewer telerehabilitation consultations than intended, primarily due to perceived patient preference for in-person visits (27%), reduced demand post-restrictions (20%) and ease of in-person consultations (17%). Physiotherapist ratings (on a 0-10 scale) for confidence using (5.4 pre to 7.0 post), satisfaction with (5.5 to 6.6), and perceived effectiveness of (5.5 to 6.8), telerehabilitation progressively increased throughout the pandemic, with almost 80% indicating that providing telerehabilitation became easier over time.

Conclusion
Although telerehabilitation usage surged during pandemic restrictions, it has subsequently decreased substantially. Despite increased confidence and satisfaction with telerehabilitation, physiotherapists' perceptions of patient preference for in-person care and reduced patient demand for telerehabilitation post-restrictions suggest persistent barriers to frequent use.

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Exploring Large Language Models for Telehealth Summary Generation

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Telehealth has become an essential component of modern healthcare, particularly in palliative care where clear communication between doctors and patients is crucial. Effective summarization of doctor-patient conversations during teleconsultations can significantly enhance patient understanding and care quality. This talk will share the results of a comparative study that explores the potential of using large language models (LLMs), specifically GPT-3.5, GPT-4 (ChatGPT), and LLaMA 2, for zero-shot summarization of doctor-patient conversations.

Our interdisciplinary team of medical and technical experts developed two bespoke benchmark conversations that simulated realistic doctor-patient communications during palliative care teleconsultations. The evaluation employed a suite of established metrics, including BLEU, ROUGE-L, METEOR, and BERTScore, which are widely recognized for measuring the quality of text summarization, and Flesch-Kincaid Grade Level to evaluate the readability of the generated summaries.

Our results indicate that all models perform comparably on longer conversations, with GPT-4 showing a slight edge in balancing content comprehension and maintaining structural similarity to the source material. This suggests that GPT-4 is better suited for creating summaries that accurately reflect the nuances of the original conversation while being easy to understand. For shorter conversations, the LLaMA models appear less capable compared to GPT models in achieving comprehensive summarization that demands both precision and semantic understanding. Specifically, GPT-3.5 exhibited the highest BLEU and BERTScore, indicating precise n-gram overlap and closely matched token embeddings with reference summaries, while GPT-4 excelled in ROUGE-L and METEOR scores, showcasing superior sequence matching and semantic understanding.

Overall, the consistent performance of GPT-4 in handling both short and long summaries positions it as a potentially better choice for generating patient-friendly telehealth summaries. These findings underscore the strengths and limitations of current LLMs in medical conversation summarization and highlight the need for further research to leverage these models for practical telehealth applications.

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POSTER DISPLAY

Going the Distance: Complex cases from the Mt. Isa telehealth fracture clinic

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Since 2011 the Princess Alexandra Hospital (PAH) in Brisbane and Mt. Isa Hospital (MIH) have held an orthopaedic telehealth fracture clinic to provide care to remote and rural patients. During this time the Mt. Isa telehealth clinic has provided services for the management of fractures from lower and upper limb to spine in patients ranging from 1 to 85 years of age. The clinic operates every Tuesday and Friday morning and is led by an orthopaedic consultant and a radiographer who together dial in to MIH from the Telehealth Centre at the PAH. In Mt. Isa, the patients have the option to attend an in-person clinic appointment with an onsite resident medical officer, or alternatively they are able to dial in from home. The clinic has been shown in previous studies to be cost-effective by providing an orthopaedic service to patients who would otherwise have to travel to Townsville Hospital for ongoing fracture management. The key lessons which have been learned in the 13 years of operating the clinic include the value of a multidisciplinary team, the importance of early access to appropriate care and the minimisation of the burden of healthcare placed on patients. Arguably the greatest challenges faced by the clinic have been that patients who present for care often require management of other non-fracture related orthopaedic conditions which need in-person assessment. Additionally, despite best efforts it has highlighted the fragmented nature of the healthcare process for rural and remote patients.

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Can trust increase use, adoption and acceptance of digital health? A systematic review of studies measuring trust in digital health from 2010 to 2023

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Aims
To identify instruments measuring trust in digital health amongst consumers and healthcare professionals and explore definitions and factors predicting and associated to trust.

Methods
Systematic review of literature using tailored search strategies for PubMed, Embase, Cochrane, CINAHL, PsycINFO, Scopus, and Web of Science. Included studies had at least one item measuring trust in a variety of digital health interventions from either consumers, healthcare professionals or both perspectives.

Results
Initial search retrieved 1,944 studies and 49 met the inclusion criteria. Trust in digital health was found to be a complex construct that, from a consumers' perspective, can influence digital health use, adoption, acceptance, and usefulness. Consumers' trust can be affected by the degree of human interaction in automated interventions, perceived risks, privacy concerns, data accuracy, digital literacy, quality of the digital health intervention, satisfaction, education and income. Healthcare professionals' trust is developed by observing the good performance of digital health and improved by education.

Conclusion
This study highlights the multifaceted nature of trust in digital health, emphasizing its significant impact on both consumers and healthcare professional perspectives, and underscoring the various factors influencing and influenced by trust in the adoption and utilization of digital health interventions. Future efforts should address the potential need for a theoretical framework describing the dimensions of trust in digital health and associated factors.

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Use of iApply platform for individualised patient monitoring and pre triage assessment

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Background
The Virtual Services at the Women's and Children's Hospital (WCH) – WCH@Home and the Child and Adolescent Virtual Urgent Care Services, provide vital healthcare to paediatric patients in South Australia. To ensure patient safety in Virtual Urgent Care and Mental Health Urgent Care, remote patient monitoring and pre-triage systems have been implemented.

Objective
Utilising the iApply system, the aim is to enhance patient safety and optimize healthcare delivery. This involves online pre-triage to assess patients' suitability for virtual urgent care consultations and at-home patient monitoring for personalised care over a 24-hour period.

Results
Implementing remote patient monitoring and pre-triage systems, such as iApply, significantly improves patient safety and healthcare delivery. Online pre-triage ensures efficient resource allocation and timely access to care. At-home patient monitoring offers personalised care, enhancing patient experience and satisfaction.

1. Timely Interventions: iApply enables prompt interventions based on at-home patient monitoring, leading to improved outcomes and reduced hospital admissions.
2. Enhanced Patient Experience: Patients benefit from continuous support at home, enhancing convenience and overall satisfaction.
3. Optimized Resource Allocation: These systems optimize resource allocation, directing immediate attention to critical cases while providing comprehensive care to others remotely.

Conclusion
The integration of remote patient monitoring and pre-triage systems at the Women's and Children's Hospital represents a significant advancement in virtual healthcare. Utilising iApply prioritises patient safety through efficient assessment and personalised care, ultimately improving patient outcomes and experiences in virtual care settings. Ongoing investment in such technologies is crucial for further enhancing healthcare quality and accessibility.

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Moving from an admitted program to a non-admitted program utilising telehealth

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An evaluation of the first ten months of the Colac Area Health (CAH)/Barwon Health (BH) program showed that whilst the CAH Geriatriac Evaluation and Management (GEM) @ Home model was effective in allowing patients to receive care in their home, the challenges in the clinical governance and medical model of care necessitated an alternative model for ongoing viability.

The new non-admitted clinic model of care was commenced in October 2023 after future modelling suggested bed substitution did not have financial viability for BH required for safe clinical care by Geriatricians who have sole responsibility for the patient under their bed card. GEM @ Home since October 2023 has been running as a non-admitted program with a fortnightly Telehealth ‘Virtual Geriatric Clinic’ (VGC), with a Registered Nurse running the clinic at CAH and the geriatrician joining the assessment via Telehealth.

Together, the Registered Nurse and the Geriatrician are able to conduct a comprehensive assessment of the client along with their family (either present in person or dialling in from another location). These assessments are not limited to continence, falls and mobility frailty, dementia or other emerging cognitive impairments, medication reviews and/or other age related medical issues that are impacting on the clients daily living.

These assessments take place in CAH where Wi-Fi is readily available to ease the burden of interrupted internet access. It was early identified that the usual use of a laptop for telehealth was ineffective for most clients. Age related illnesses may also include deafness, which the team have had to navigate and find a solution for to allow for this common barrier. There is now a dedicated computer with two screens, portable camera, headphones & microphone sets and a headphone jack to allow for up to 5 participants in the one room.

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Enhancing Telehealth through Photo Elicitation: Capturing Lived Experiences in Palliative Care

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Aim
This study explores the use of photo elicitation interviews to capture and understand the lived experiences of end-users in the co-design of telehealth software, specifically within the palliative care context.

Methods
The study employed photo elicitation interviews, a qualitative research technique, to gather nuanced insights from 12 participants, including six healthcare professionals and six patients. Participants were asked to take and discuss photographs that depicted their telehealth experiences, focusing on important places, challenges faced, and potential enhancements for telehealth services. The analysis integrated these photographs with interview transcripts to derive comprehensive themes and insights.

Results
The findings revealed that telehealth provides significant benefits, such as comfort from home, reduced travel, and minimized risk of infections, which are particularly valued by patients in rural areas. However, challenges such as inadequate internet connectivity, the need for technical support, and the inability to perform physical examinations were also highlighted. Healthcare professionals emphasized the importance of maintaining interpersonal connections and the need for advanced telehealth features to support this. Both healthcare professionals and patients provided valuable feedback on enhancing the telehealth experience, including the need for better user training, improved noise control, and the incorporation of peripheral devices for more thorough virtual examinations.

Conclusion
The use of photo elicitation in this study offered deep insights into the lived experiences of telehealth users, informing the co-design process with rich, user-centered data. The technique facilitated a greater understanding of end-user needs, helping to bridge the gap between technical feasibility and user expectations. The insights gained will guide the development of more inclusive and effective telehealth solutions, ultimately aiming to improve patient outcomes and satisfaction in palliative care settings.

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The Effectiveness of Telehealth Appointments In Outpatient, Advanced Musculoskeletal Physiotherapy Clinics At The Alfred

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Background
The use of telehealth (TH) is increasing, particularly since the COVID-19 pandemic (Hui et al., 2021 & Australian Government, 2022). It can aid in the healthcare disparity in more geographically challenging areas and improve access to healthcare with cost reductions (Braswell et al., 2021 & Flodgren et al., 2015). Contrarily, TH has highlighted disparities that arise with uptake, access and utilisation.

Aim
To identify factors associated with the attendance of TH consultation in advanced practice physiotherapy clinics.

Methods
Data was obtained at the Alfred Hospital Outpatient, Advanced Musculoskeletal Practice (AMP) clinics between January 2021 to November 2021. Multi-variable regression analysis was performed to determine factors associated with unsuccessful TH appointments. Variables included age, gender, geographical location (rural/remote >100km vs. Metro <100km from the Alfred Hospital), Socio-economic Indexes for Areas (SEIFA), non-English speaking background (NESB) and clinic type (Orthopaedic or Neurosurgery). An unsuccessful TH appointment was defined as a video (or phone) call that did not proceed.

Results
A total of 368 patients were included in this study, aged 21 to 91 with a median (IQR) age of 61 (50-71) years. Age was the only factor associated with failing to attend TH consultation when accounting for confounders. Patients aged 60-69 years were 3.69 times more likely to not attend a TH consultation (p=0.001). There was no association between type of clinic, SEIFA, NESB, gender, and location on TH success rate.

Conclusion
Patient age should be considered when referring patients >60 years old to AMP clinics via TH, irrespective of clinic type, SEIFA, NESB and geographical location. Future studies should consider looking at what contributing factors or trends there are associated with increased age and target support to those >60 years old to improve TH success. This will allow for developmental strategies and further comparison analysis.

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“I could not speak or swallow. How does a program [eRehabilitation] teach me that?”: Factors influencing the uptake of stroke telerehabilitation: A qualitative evidence synthesis

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Introduction
Stroke is one of the leading causes of disability in the United Kingdom (Stroke Association, 2021). In 1999, telestroke was defined as the application of telehealth to stroke care. Systematic reviews have also examined the effectiveness of telestroke application in contrast to conventional management but have focused solely on feasibility and patient satisfaction through quantitative means. The purpose of this study was to examine existing qualitative literature regarding the experiences of stroke patients, and caregivers towards telerehabilitation along the stroke care continuum. Additionally, identify factors that shape the uptake of telerehabilitation by health organisations and how stroke patients access and experience telestroke.

Methods
A qualitative evidence synthesis was conducted. This exhaustive search comprised of 8 databases including PubMed, CINAHL, Web of Science, Academic Search Complete, and MEDLINE. 2353 records were found.

Results
1652 were screened by title and abstract, and 172 articles received full texts screening, 46 studies met the inclusion criteria and were included in the review. Our primary findings suggests that stroke survivors’ desire for independent living and personal motivations shape their commitment to telerehabilitation. Stroke survivors and caregivers benefitted from increased agency and flexibility but were concerned about privacy, safety, and technological disruptions. In developing and incorporating telestroke, organizational leadership must consider how health professionals incorporate technology.

Conclusion
A mismatch between how practitioners utilize technology, and their standard care may lead to an increased workload for health professionals. Our findings emphasize the role of individual level and organizational factors in shaping the uptake of telestroke.

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Revolutionising Rural Orthopaedics: The Telehealth Triumph in Fracture Management

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Living in rural areas often limits access to specialised medical services due to the shortage of onsite specialists. Consultant-driven telehealth has emerged as a powerful tool to overcome barriers and enhance access to healthcare services.
In surgical specialties, telehealth offers potential advantages for managing rural patients, including monitoring, health education, patient engagement, and adherence. However, maintaining quality care in telehealth, particularly for surgical needs, is challenging. Surgery often requires face-to-face interactions for clinical examinations, planning, and post-operative care. Trust and effective patient-doctor interactions can be better established in person.
Mount Isa Hospital (MIH), a remote hospital in Queensland, successfully manages these challenges with its Telehealth Fracture Clinic (TFC). MIH is a main public referral centre within the North-West Hospital and Health Service (NWHHS), without an onsite orthopaedic department; the nearest service is 900 km away. For 15 years, TFC has operated twice a week between MIH and Princess Alexandra Hospital (PAH) in Brisbane, led by two consultant orthopaedic surgeons, minimising patient travel and managing conditions locally.
An audit of TFC from January 1st to December 31st, 2023, measured its effectiveness. Over 700 new patients were referred, with more than 90 percent completing their fracture management via telehealth. Only 5 percent of patients initially reviewed required surgery, which remains consultant-driven. Common fractures managed included metacarpal bones, phalanges, and the radius and ulna, demonstrating that many upper limb fractures can be managed via telehealth without complications.
TFC at MIH demonstrates the feasibility and effectiveness of telehealth in managing orthopaedic conditions in rural settings. With a high success rate in completing fracture management and minimal need for surgical intervention, telehealth proves to be a viable solution to enhance healthcare access and outcomes in remote areas. Early surgical intervention and patient-doctor trust remain critical to its success.

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Medical Students’ Attitudes and Understanding of Artificial Intelligence

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Aim
The growing interest in utilising artificial intelligence (AI) within the healthcare sector is undeniable. With the ongoing expansion of AI applications in healthcare, the necessity for educating clinicians and medical students in this field becomes more evident. To facilitate meaningful engagement with medical students, gaining insight into their collective perceptions of AI is imperative. Hence, this study endeavours to explore medical students' attitudes and comprehension regarding Artificial Intelligence.

Methods
The study population comprised 1,096 medical students enrolled in the Medical Sciences programme at a university in Iran. The questionnaire on the attitudes and understanding of artificial intelligence consisted of 11 questions (5-point Likert questions). Participants were asked to rate their agreement with a series of statements relating to their current attitudes towards AI, their current understanding of AI, and their confidence in using AI tools in a routine and critical manner following graduation.

Results
The findings revealed that the highest level of agreement pertained to the significant role of artificial intelligence in healthcare, with a mean score of 4.12, followed by the perceived usefulness of artificial intelligence education in the field of medicine, with a mean score of 4.01. Conversely, medical students expressed the lowest level of agreement with the notion of not undergoing specialized medical training due to advancements in artificial intelligence and their familiarity with the terminology related to the field of artificial intelligence.

Conclusion
This study showed that medical students with positive perceptions possess good awareness and opinions regarding artificial intelligence and its use in healthcare settings. However, only 10 percent of the surveyed students have received formal education on artificial intelligence applications in healthcare. Therefore, we suggest policymakers make an appropriate arrangement to focus on medical education and the increased implementation of artificial intelligence to enhance students’ confidence to use this technology.

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Driving Access to Care: Supporting the Victorian ACCO Service Telehealth Model

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Since the COVID outbreak and significant lock down across Victoria, telehealth and digital in health technologies have been a solution to enable Aboriginal Community Controlled Health Organisations (ACCOs) to gain improved access to care for their communities. This quality improvement project discusses the unique service delivery needs of the ACCOs to be able to access chronic disease care from their homes in rural and remote areas of Victoria. Two service delivery processes have been included. The first process describes a retrieval service support model that illustrates the additional work, role and responsibilities of a practice manager in an ACCO to help Mob attend their appointments. And the second process discusses an outreach service support process which involves mobile technologies such as an iPad and mobile backpack that Aboriginal Health Workers/Practitioners/Nurses take with them to community to connect mob to specialists' appointments on country. In the retrieval process, yarning sessions are set up at the ACCO and a representative collects Mob from their homes and brings them into the ACCO for their appointments. Telehealth appointments are scheduled back-to-back so that Mob can sit and connect with each other whilst waiting for their appointment. As part of the Continual Quality Improvement (CQI) process, these ACCOs noted that the telehealth technology needed a way to 'notify' and escalate to the specialist that they had the community member waiting on the call. This presentation discusses some of the unique operational needs and the estimated carbon offset calculation for telehealth service delivery based on the ACCO service Model in Victoria.

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Think-Aloud for Better Digital health: Utilising Think-Aloud Methodology in Telehealth Software Development

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Background
Our consortium of health professionals, industry partners, researchers, and government partners aimed to develop a summary-generation tool in telehealth clinical interactions, focusing on palliative care. This was driven by the patients' (usual) desire to remain at home yet needing frequent interaction with healthcare. To assist in developing the digital health consultation summary tool, we employed a think-aloud methodology together with iterative prototype development. Think-aloud is an instructional method employed for usability testing, allowing users to articulate their thoughts while interacting with the prototype.

Aim
This study reports on identified themes to iteratively improve a software prototype that generates consultation summaries.

Methods
We used a facilitator (qualitative researcher) to encourage verbalisation of user thoughts, processes and behaviours while completing tasks (think-aloud methodology). Sessions were either the participant using the prototype with a facilitator or as part of a dyadic session involving a real practitioner participant, a consumer, and the facilitator where we employed a healthcare encounter scenario-based approach. The methodology allowed us to obtain deeper insights into real-time challenges and difficulties while navigating the prototype, thereby informing iterative software prototype improvements.
Participants including practitioners, patients, and family members with palliative care experience were purposively recruited through investigator networks.

Results
Nine participants were recruited for 13 interaction sessions, including individual think-aloud and/or dyadic mock consultations. Five primary themes for improvement were identified according to user perspective, including: cosmetic changes to the graphical user interface, missing information, redundant information or features, usability, and workflow improvements.

Conclusion
The employment of the think-aloud methodology collected highly relevant information from participants, which informed the use and development of the consultation summary-generation tool. Our chosen method including the use of mock scenarios offered valuable insights for our team to understand individual's needs, essentially pinpointing five improvement themes for the most optimal end-product design.

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Unlocking Patient Satisfaction: The Role of Telemedicine Modalities and Language Proficiency

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Aim
This study investigates the impact of telemedicine modalities, mobile apps, and language proficiency on patient satisfaction with telemedicine consultation, highlighting critical interactions between communication technologies and linguistic barriers. By examining both technological facilitators and potential communicative barriers, this work aims to provide novel insights to enhance the efficacy and accessibility of telemedicine services to address diverse patient needs.

Methods
Survey responses from 303 patients were analysed using multivariable logistic regression to assess the impact of telemedicine modalities—audio, video, text—and dedicated mobile apps alongside encountering language barriers on their satisfaction. The analysis identified significant predictors of patient satisfaction at a 90% confidence level. Concurrently, a thematic analysis of open-ended responses further explored the underlying preferences and barriers, particularly concerning communication effectiveness and technology accessibility.

Results
The results revealed that video calls significantly enhance patient satisfaction, increasing the odds by approximately 74% ($p = 0.036$). The usage of dedicated mobile apps for telemedicine consultation also showed a positive effect, raising satisfaction odds by 65% ($p = 0.086$).

Notably, encountering language barriers was associated with a 25% decrease in satisfaction odds, though this was not statistically significant ($p = 0.278$). Although not identified as significant in the regression analysis, the thematic analysis revealed that experiences with language barriers significantly led to communication challenges for non-native English speakers, emphasising the need for enhanced multilingual support.
Furthermore, thematic analysis also revealed themes of 'Accessibility', 'Convenience', and 'Specificity', which underscore the importance of easy access and personalised telemedicine care.

Implications
This study emphasises the importance of technology and linguistic inclusivity in telemedicine. Enhancing video call functionality and mobile app usage significantly boosts satisfaction, while addressing language barriers is crucial for ensuring comprehensive and personalised care fostering greater patient engagement and satisfaction in telemedicine services.

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