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AUSTRALIA

23rd Successes and Failures in Telehealth Conference

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15TH ANNUAL MEETING OF THE AUSTRALIAN TELEHEALTH SOCIETY

Conference Proceedings

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SFT-23

23rd Conference on Successes and Failures in Telehealth

15th Annual Meeting of the Australian Telehealth Society

27 - 29 November 2023

Acknowledgements

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The SFT conference is hosted by **The University of Queensland's Centre for Online Health** in partnership with the Australian Telehealth Society.

November 2023.

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Keynote Address

Tuesday 28 November 2023, 9:00am

Professor James Marcin
Director, UC Davis Centre for Health and Technology

Dr. James P. Marcin is professor and vice chair for research in the Department of Pediatrics at the UC Davis School of Medicine and director of the Centre for Health and Technology at UC Davis Health.

Professor Marcin completed medical school at the UC San Diego School of Medicine; his pediatric residency at the University of California, San Francisco; and a pediatric critical care fellowship at Children's National Medical Centre in Washington, D.C.

In addition to his clinical work in the pediatric intensive care unit (ICU), Marcin conducts research and advocacy on issues related to access and quality of care, particularly as it relates to telehealth and children living in underserved and under-resourced communities. Marcin serves on several national committees, including the American Association of Medical Colleges (AAMC) Telehealth Advisory Committee, the American Academy of Pediatrics Section on Telehealth Care, and the Emergency Medical Services for Children Innovation and Improvement Centre Telehealth Advisory Council. Marcin also conducts research to evaluate how telehealth can improve measures of quality of care, access to care, patient-centred care and costs of care with support from the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality (AHRQ), the Health Resources and Services Administration (HRSA), and the Patient-Centered Outcomes Research Institute (PCORI).

Presentation Title: Telehealth: From "Neat" to "Necessary" and the Need for Thoughtful Implementation

Following the COVID-19 pandemic, the use of telehealth transformed from a novel and niche modality of care to a well-accepted and important option for modern care delivery. How telehealth has been used by different institutions, health systems, and countries has varied and provides great insight into circumstantial successes and pitfalls. Dr. Marcin will explore the pros and cons of telehealth with respect to digital health equity and the lure to implement innovative technologies, including artificial intelligence. Research and evaluation of these models of care are imperative and demonstrate that how we implement telehealth has important implications on consequences and clinical outcomes. In this talk, Dr. Marcin will review important research findings to share lessons learned and highlight contemporary 'successes and failures' of telehealth.

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Keynote Address

Wednesday 29 November 2023, 9:10am

Professor Tim Shaw

Professor of Digital Health and Director of the Research in Implementation Science and eHealth Group (RISe), Faculty of Medicine and Health, The University of Sydney

Tim Shaw is Professor of Digital Health at the University of Sydney and leads the Research in Implementation Science and eHealth Group. He is recognised as an international leader in digital health and focuses on how technology can support new hybrid models and approaches to care and how health data can be used to transform care. He specialises in building partnerships across industry, services, government and universities to deliver high impact research translation and education. Over the last 5 years he has been a Chief Investigator on over 30 competitive or commissioned research and development projects totalling over $124M.

Presentation Title: Moving Beyond Telehealth to Sustainable Hybrid Models of Care

As we move beyond the pandemic, we need to define and understand how telehealth can be introduced into new, hybrid models of care, that are sustainable moving forward. This session will explore a number of emerging models of hybrid care across urban, rural and remote care contexts and consider the challenges and opportunities these models present as well as explore current disrupters in the marketplace and how they may impact care delivery.

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Workshops

Evaluation

Centaine SNOSWELL[1], Jaimon KELLY[1]

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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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Introduction to Telehealth

Anthony SMITH[1], Liam CAFFERY[1]

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Telehealth has been in existence for decades. Since the pandemic, there has been a rapid increase in awareness and use of telehealth in clinical practice. This introductory workshop has been specifically put together to give delegates who are new to telehealth, a basic 101 introduction to the field. Led by telehealth experts from the Centre for Online Health, learn about the basic concepts, practical tips for using telehealth in clinical practice, case studies and examples of where telehealth is working well, common challenges and how to access useful information about telehealth. This workshop will help set the scene for the sessions being delivered in the main SFT-23 conference program.

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Oral Presentations

TeleChemotherapy in Country WA: A novel approach to deliver cancer care in the country

Lindsay ADRIAANSEN[1], Christine HENNEKER[1], Jessica MCNEIL[1], Emma KINGWELL[1]

1. Western Australia Country Health Service, Western Australia, Australia

People living in rural and remote areas are defined as a priority population group in the Draft Australian Cancer Plan (2022), and the Western Australia State Cancer Plan (2020). To address reduced outcomes for people with cancer the WA Country Health Service Cancer Strategy (2017-2022) identified priority sites from a network of hospitals, health services and nursing posts located across Western Australia where patients had no access to cancer treatment services. Nurse-led TeleChemotherapy services were established in the Kimberley, Pilbara and Wheatbelt, based on the Queensland Remote Chemotherapy Supervision Model (QReCs). The WACHS TeleChemotherapy Model of care uses an innovative approach to deliver treatments and comprehensive care to patients where no service previously existed. Specially prepared regional clinical staff deliver care with support and monitoring from a centrally based multidisciplinary specialist team. This telehealth-based model of care has been developed with collaboration between metro and regional clinicians and health services. A robust clinical governance structure supports the delivery of care and learning frameworks support staff development. Audit of the medical records, patient and staff feedback informs service improvements, and a case study will demonstrate the psychosocial impact to our patients. 350 patients have received 2500 treatments since 2018 and have saved well over 4 million kilometres in patient travel to date. WACHS TeleChemotherapy units are audited twice a year and have 100% compliance with treatment to protocol- one of the most important indicators of safe and effective cancer treatment. The quality and safety, financial and psychosocial impact measures will be reported in the presentation. The development and monitoring of this innovative service using patient-reported outcomes and quality and safety data will inform future service re-design opportunities utilizing new technology such as reality assisted eyewear and further expansion of services to more regional and remote sites.

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Utilising telehealth to assist with the introduction of a new neurosurgical intervention to South Australia during the COVID-19 global pandemic

Felicity BAKER[1], Xenia DOORENBOSCH[1], Ray RUSSO[1], Jeanette TININCZKY[1]

1. Women's and Children's Health Network, South Australia, Australia

Selective dorsal rhizotomy (SDR) is an evidence-based treatment for the permanent reduction of lower limb spasticity in a select group of children with Cerebral Palsy. SDR has been available in Australia for many years, with an established pathway for children in South Australia to travel interstate for SDR surgery. A number of families from SA have also chosen to travel overseas for surgery, in part due to a less invasive surgical technique available overseas compared with the multi-level laminoplasty available in Australia to date.

In 2019/2020, plans were initiated to develop a new service jointly between the Neurosurgery and Rehabilitation departments to provide the first single level laminectomy SDR service in Australia. Links were developed with a highly experienced SDR team at the Seattle Children's Hospital to bring the surgical technique to our hospital.

The travel restrictions associated with the COVID-19 pandemic interrupted plans for the Seattle team to travel to SA to participate in the first surgeries. Creativity and willingness from all parties involved was required to trial alternative modes of intraoperative support. The WCH SDR team collaborated with the Seattle team to develop a safe and effective approach to introduce this surgical technique utilising real-time intraoperative support with assistance from the WCH telehealth team. Concurrent telehealth links in the operating theatre enabled surgical field and intraoperative neuromonitoring views to be shared between Seattle and Adelaide for real-time sharing of surgical experience and assistance interpreting neuromonitoring results to guide clinical decision making.

Without telehealth, the team would have needed to wait until travel restrictions lifted to introduce this surgical technique into Australia. Telehealth has enabled a number of children and families to safely undergo life-changing surgery closer to home with access to international expertise throughout development of the service.

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Consumer digital device access and digital literacy skills for cancer care during COVID-19: A mixed methods study

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1. Centre for Online Health, The University of Queensland, Queensland, Australia
2. Cancer Australia, New South Wales, Australia

Aim:
Consumers' lack of digital skills is commonly reported as a barrier to telehealth implementation. We aimed to identify whether consumers affected by cancer have access to technology and sufficient digital literacy skills to use telehealth.

Methods:
A mixed methods study comprising a survey and semi-structured interviews. Respondents were recruited using various strategies. Quantitative data were analysed using descriptive and inferential statistics and qualitative data were analysed thematically.

Results:
A total of 1162 surveys and 18 interviews were conducted. Consumers have mobile phones with internet access (n= 935, 80%), desktop/laptop computers (n=785, 68%) and tablets (n=525, 45%), with 85% (n=977) reporting reliable internet for video consultations. Devices used during consultations were telephone only (49%, n= 575), telephone and video (31%, n=358), and video only (20%, n=229). Of those who participated in a video consultation, most (89%, n= 521) had all the equipment they required at home, a private space (86%, n=505) and used desktop/laptop computers (57%, n=409). Remote patient monitoring devices and other apps, such as diaries and educational programs which monitor and track patients' engagement in treatment and management plans, were used by 9% (n=104). Most had sufficient digital literacy skills to participate in video consultations, with 91% (n=533) finding it easy to join a call. Audio and camera problems were reported by 18% (n=103) and 14% (n=83), respectively, and 16% (n=91) required help to use the technology. Qualitative data indicated that consumers' digital literacy skills improved during COVID-19 through work and social video call use.

Conclusion:
Most consumers have the technology and sufficient digital literacy to participate in video telehealth consultations in their homes. However, telephone-only consultations were most commonly provided by clinicians. Few consumers use remote monitoring devices and other applications in their cancer care and management, which may facilitate patient self-management activities.

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Telehealth increases cardiac rehabilitation completion by people of low socioeconomic status living in rural areas but there is room for improvement

Alline BELEIGOLI[1], Hila DAFNY[1], Maria Alejandra PINERO DE PLAZA[1], Claire HUTCHINSON[1], Tania MARIN[1], Joyce RAMOS[1], Orathai SUEBKINORN[1], Lemlem GEBREMICHAEL[1], Marie LUDLOW[2], Jeroen HENDRIKS[1], Vincent VERSACE[3], Robyn CLARK[1]

1. Flinders University, South Australia, Australia
2. Heart Foundation of Australia, South Australia, Australia
3. Deakin University, Victoria, Australia

Aims:
To investigate the impact of a telehealth-delivered program on cardiac rehabilitation (CR) completion and understand telehealth-related enablers and barriers among patients of low socioeconomic status living in rural Australia.

Methods:
We conducted a mixed methods study converging the results of a retrospective cohort and a qualitative study. Eligible patients were adults (>=18 years) living in rural South Australia with an Index of Relative Socioeconomic Advantage and Disadvantage score within the two lowest deciles; referred to CR after a cardiovascular-related hospital admission between 2016-2021. CR commencement and completion were assessed through the South Australian CR database. A regression model adjusted for sociodemographic and clinical factors was performed to understand associations with CR completion. Telehealth-related enablers and barriers to CR completion themes arising from semi-structured interviews and focus groups with 28 participants were evaluated by thematic analysis.

Results:
Among 7,159 CR referrals (mean age 66.6, SD 11.5; 31% women), 2,394 (33.4%) commenced the program – 1107 (67.7%) via face-to-face and 773 (32.3%) via telehealth (telephone). Among those commencing, 741 (66.9%) and 699 (90.4%) completed the face-to-face and the telehealth program, respectively (p<0.001). Enrolment in the telehealth program was independently associated with completion (OR 3.82; 95%CI 2.61-5.57; p<0.001). Flexibility of the schedule, overcoming distance-related barriers and low costs were themes identified as telehealth features that enabled CR completion. Barriers to completion included telehealth not addressing complex needs such as mental health issues, poor support to exercise training, and lack of opportunities for peer support.

Conclusion:
Compared with enrolment in a face-to-face program, delivery via telehealth increased the chances of CR completion by people of low SES living in rural areas. Improving support to mental health and exercise training and enabling peer support via telehealth may be necessary to fully address the needs of rural patients with low SES undergoing tele-CR.

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Master of Speech Pathology Telehealth Skills Development: A case study spanning 3 years

Kate BRIDGMAN[1]

1. La Trobe University, Victoria, Australia

This case study is about the development and piloting of a curriculum of telehealth workshops for final-year Master of Speech Pathology students. In 2021 and 2022 students were surveyed about their telehealth experiences during novice, intermediate and towards entry-level placements. Key findings indicated that despite attending placements during periods of extended COVID lockdown in Victoria, students had little support or instruction on placement about how to deliver speech pathology services via telehealth.

Students identified they would have benefited from (i) time to adjust to telehealth including use of resources; (ii) education about the platform and technological aspects; observation and role plays; (iii) having educators who were proficient in telehealth delivery and able to provide feedback during the sessions.

Consequently, a 2-part telehealth module was included in the 2023 curriculum. It included three hours of online self-directed activities relating to telehealth principles of practice, research implementation and examples from a range of Australian services. The second part included a two hour practice workshop in the La Trobe University Telehealth training facility. The workshop contained a range of activities based on Henry et al., (2022) interpersonal skills for telehealth checklist.

Students reflected on how this experience compared to their typical online classes and what they "will take into the clinic". Educator reflections include facilitators for success, benefits of teaching in a telehealth facility and recommendations for educators considering including telehealth competencies in Allied Health Curriculum.

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Scoping Review on Telehealth Competencies for Allied Health Professionals

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2. University of Plymouth, Plymouth, United Kingdom

Aim:
This review aimed to answer the following question: what existing telehealth competencies are relevant to allied health professions? The objectives were to identify (1) existing telehealth competencies developed by professional, national, or international institutes; and (2) telehealth competencies and current practices delivered through any educational programmes and/or practice placements.

Methods:
The review included studies involving at least one Allied Health Profession (AHP) that reported the use of synchronous telehealth in pre-registration programs and graduate Allied Health Practice. This review considered all study types and grey literature, including opinion articles, and non-systematic literature reviews from 2012 onwards. Theses and books were excluded. Search terms were identified from an initial pilot search of MEDLINE and AHP websites. A comprehensive data search was then conducted across MEDLINE, CINAHL, PsychInfo, Cochrane, EMBASE, Web of Science, PEDro, UK Health Forum, WHO, Health Education England, and all UK and Australian professional bodies for allied health professionals.

Results:
From an initial identification of 92,525 records, 40 articles were included in the scoping review relating to 10 different AHPs. The majority of the articles were guideline documents or opinion pieces (n=22), while the remaining were primary research studies, Delphi studies, or literature reviews. Competencies were related to either the delivery of telehealth consultations or the management of telehealth services. A synthesis of the competencies will be presented.

Conclusion:
This scoping review of telehealth competencies identified that, while there appear to be some common telehealth competencies for AHPs, there are several key differences. Such differences appear to be due to discipline-specific practice, divergent views of competencies, skills and behaviours. Implications for education programs will be discussed.

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A New eHealth Investment Appraisal Framework for Africa: Validation

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2. University of KwaZulu-Natal, Western Cape, South Africa

Background:
Decisions to use eHealth are complex and involve addressing a large opportunity cost. Sound choices are essential to ensure that eHealth implementations deliver sustainable net benefits that contribute to achieving Universal Health Coverage. Weighing up investment options is particularly challenging in resource-constrained settings where there are frequently insufficient economics data and expertise to conduct adequate appraisals. To address this, a new eHealth Investment Appraisal Framework (eHIAF) for Africa has been developed, informed by literature and based on the Five Case Model.

Aim:
To validate the new eHIAF for Africa through a survey of eHealth experts to consider whether it is fit for purpose and to refine it as needed.

Methods:
An online survey of purposively selected eHealth experts was used to validate the proposed eHIAF for Africa. The survey covered the framework development process, structure, content, completeness and utility. A reflective and iterative process was used for the inductive analysis of results to record experts' opinions and extract recommendations for refinement.

Results:
Eleven eHealth experts with experience in African countries and elsewhere showed overwhelming agreement with the eHIAF for Africa development approach and its structure, content and utility. All of the experts provided valuable suggestions for minor refinements, related to language, definitions and scope and felt that with these amendments the eHIAF for Africa would be suitable for its purpose. Two respondents suggested that it had wider applicability beyond Africa.

Conclusion:
The eHIAF for Africa is considered appropriate for use by officials working in resource-constrained settings who face the task of selecting optimal eHealth investments despite the absence of adequate economics data and/or expertise. It has the potential for broader applicability beyond Africa and will benefit from the development of user guides and practical tools to further empower its users to select optimal eHealth investments aligned with strategic health goals.

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Variation in uptake and provider experiences of safety and quality in GP video consultations in Australia: A whole-population mixed-methods study

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Aim:

Since the introduction of whole-population telehealth in Australia in 2020, uptake of general practitioner (GP) video consultations has been low (~3% of telehealth). Little is known about variation in use across providers and population subgroups and the potential emerging risks in relation to quality and safety. This study examines variation in use of video consultations by patient characteristics, changes in patient and provider uptake over time, and how providers experience and manage safety and quality.

Methods:

Medicare GP service claims data from Jan 2020 to Dec 2022 were linked to 2016/2021 Census data through the Multi-Agency Data Integration Project. Number of services and proportion of patients and providers using video consultation were plotted by month. Differences in video use by patient characteristics were quantified using modified Poisson regression, adjusting for age, sex, region and frequency of GP use. Think-aloud interviews with case-based scenarios are being used to explore provider experiences.

Results:

Preliminary findings: 11% (~1.9M/16.7M) of telehealth patients used video. In adjusted models, use was higher among younger adults (35-44y vs ≥85y, 13.6% vs 6.7%), higher socioeconomic groups (e.g. high vs low education, 14% vs 10%), people living in very remote regions (vs major cities 19.3% vs 11.3%), those with higher overall GP use (≥20 vs 1-2 services per year, 26.6% vs 5.1%) and people with mental-health conditions/dementia (vs without, 10/12% vs ~8%). Policy changes had limited effect on video uptake. Findings on provider experiences of managing safety and quality in video consultations will also be presented.

Conclusion:

Use of video-consultations in general practice remains low, despite policy changes to encourage their use over audio-only consultations, but is higher among some population groups, including younger adults, advantaged groups, frequent GP users and those with mental health conditions. Information on provider usage and experiences of video consultation will further inform telehealth and the ANU Telehealth in Primary Care Study team.

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Collective Wisdom & Collaborative Benchmarking: The Telehealth Victoria Community of Practice Experience

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The Telehealth Victoria Community of Practice (TVCOP) is a knowledge hub that supports health services in developing consistent practice in the integration and delivery of telehealth across Victoria. The Covid-19 pandemic meant rapid telehealth/virtual care growth for existing health service members. It also hastened entry into the telehealth/virtual care world for health service members new to the TVCOP. The ongoing pandemic conditions made it difficult for health services to determine what their business-as-usual (BAU) model should be and/or develop business cases to support resourcing and models of care. A benchmarking project was proposed by Peninsula Health with the view that this could aid in understanding how various health services have operationalized telehealth including identifying trends, commonalities and differences which could assist health services in planning and development. This presentation will outline the collaborative process used to develop a bespoke benchmarking tool as well as the challenges faced undertaking the benchmarking process. It will also note the findings of the survey in the areas of 1) Organisational General Information, 2) Organisational Telehealth Profile (including self-rated level of telehealth maturity), 3) Organisational Telehealth Activity, 4) Telehealth Models of Care, 5) Organisational Telehealth Governance and Planning, 6) Consumer Engagement & 7) Telehealth Resource Profile. Finally, there will be a comment about how this information has been used and whether there were other benefits to undertaking this project.

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A Referral Stalemate: Triaging GP Referrals through a Telehealth Assessment Process

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The Mt Isa Hospital (part of the North West Hospital and Health Service) has lost its monthly visiting orthopaedic surgical service, provided by the Townsville Hospital, due to a lack of orthopaedic consultant availability and willingness. The patients referred to this service for orthopaedic consultation have been on hold, with no available timeline for the re-instatement of these services. Some of these patients have significant pathology but limited options except to await the return of services. To prevent these people from slipping through the cracks, a pre-existing orthopaedic telehealth fracture clinic run by the Princess Alexandra Hospital in Brisbane has been expanded to assess their GP requests. In order to understand the nature of the pathology, the telehealth team reviews the patient's imaging and GP referral letter. The next step requires communication with appropriate referral centres to ensure patients with significant pathologies are seen in a timely manner. As part of our presentation, we will share several case studies and the patient outcomes. This service expansion demonstrates the value of telehealth services and how even a simple triaging process can have a huge impact on patient outcomes by reducing wait times and ensuring appropriate referrals for patients who would have otherwise been potentially lost to a waitlist.

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Enhancing telepractice offerings in the disability space: through trial, technology, resources and education

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1. Cerebral Palsy Alliance, New South Wales, Australia

Cerebral Palsy Alliance (CPA) provides services to thousands of clients living with a disability across NSW and the ACT, with sites in a variety of metro, regional and rural areas. Remote service delivery options have been utilised by CPA's rural sites for some time, however the arrival of the pandemic in 2020 meant an overnight acceleration to deliver a wide variety of interventions via Telepractice.

In 2021, on the back of the first year of the pandemic, CPA established a telepractice project team to review and enhance telepractice services and implement learnings from the 'forced use' that had been a part of the pandemic. The project commenced with qualitative interviews with over 100 Physiotherapists, Occupational Therapists and Speech Pathologists across the organisation and developed into a telepractice pilot project across five sites, involving 15 clinicians, 12 client engagement team members and 43 clients. The pilot focused on a blended model of service delivery (a mix of sessions delivered 'in person' and via Telepractice) and included an intensive training package for staff and onboarding for clients. Surveys were completed after each session and at the end of the pilot.

The objectives of the pilot included:

- Recommendations for resources to support telepractice (room set-up, technology and non-tech resources)
- Development of a specialist training package for CPA therapists and client engagement team members
- Development of a general training package for all staff across CPA
- Recommendations for change management

Key learnings from the pilot, including successes, outcomes and challenges will be shared. Additional learnings and challenges associated with the post-pilot implementation phase will also be shared.

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Midwifery and Obstetric Emergency Telehealth Service: Providing expert midwifery care to clinicians in regional and remote WA

Sara DAVIS[1], Victoria CARNEGIE[1]

1. Western Australia Country Health Service, Western Australia, Australia

WA Country Health Service (WACHS) covers an area of more than 2.5 million square kilometres caring for a population experiencing health inequalities, constrained resources and reduced economies of scale. Utilising world class telehealth services has helped make it easier for patients to access specialist WACHS clinicians without the burden, expense or time constraints of travel.

WACHS Emergency Telehealth Service (ETS), developed in 2012, assists clinicians with emergency care of patients presenting to any of the 110 WACHS hospitals, health centres and nursing posts. Improvements in patient outcomes, governance and clinical skills led to further specialist telehealth services being developed.

4200 babies were born at WACHS sites in 2020-2021 with several at "non-birthing" sites. The high number of perinatal presentations managed by ETS and over 1500 transfers per year to other sites, placed Maternity as the second highest clinical risk for WACHS. In February 2022 Midwifery and Obstetric Emergency Telehealth Service (MOETS) was launched in response to this risk.

MOETS provides 24/7 senior midwifery co-ordination across all WACHS sites including bedside videoconferencing specialist clinical advice, second clinician reviews of CTGs and second opinions for GP, midwifery led and single midwife services and, support to nurses in emergency departments, assisting with care escalation as required along with policy advice and care communication including transport logistics.

In March 2023, MOETS introduced an In-Reach program operating on a site risk-based approach, this service provides more active senior midwifery support to sites prioritized by risk either as single midwife sites or those experiencing permanent staffing challenges. Initially met with a mixed response, this new strategy is now mostly viewed as a benefit to Midwives working in regional and remote WA. Working collaboratively with WACHS sites MOETS provides guidance, facilitating the development of appropriate management plans ensuring appropriate evidence-based clinical care.

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Virtual Service Delivery can support Residential Aged Care Facility (RACF) staff and enable better outcomes for RACF residents while avoiding the need for unnecessary ambulance attendance

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1. South Australian Virtual Care Service, South Australia, Australia

The 2019 Royal Commission into aged care identified avoidable admissions to Emergency Departments (EDs) from RACFs as a significant issue impacting on the health, safety, and wellbeing of residents. Recently South Australia's Virtual Care Service (SAVCS) opened a service pathway for RACFs to virtually access acute care trained staff. This paper articulates the process of implementation and outcomes from that pathway.

Staffing levels and the ability to attract and retain a skilled workforce in the RACF industry has been well described. Challenges faced by RACF staff include large resident to staff ratios, as well as a broad case mix from chronic to acute care needs. As a result of both these factors, RACF staff can see calling for emergency ambulance attendance with resultant resident presentation to an ED as their only option for support, especially outside usual business hours. Presentations to ED for this cohort is not without risk, with increases in hospital acquired complications (HAC) including gastrointestinal and respiratory complications, delirium due to unfamiliar, institutional environment, medication errors and other preventable morbidity.

SAVCS aims to offer RACF staff direct access to acute care trained clinical staff via a virtual platform, bringing senior clinical support to the resident, allowing them to remain in their place of residence with people who know them best, with direct handover between all parties.

Since establishment of this service in June 2022, SAVCS has expanded across South Australia with 84% of RACF patients receiving treatment in places other than physical ED and 69% receiving their treatment in their place of residence (CIP).

Virtual platforms that directly connect RACF staff to acute clinical staff can play a role in reducing the risks to RACF residents, provide support for RACFs and reduce the need for ambulance involvement and provide appropriate CIP with high levels of staff, resident and family satisfaction.

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Trust and confidence in using telehealth by phone and video in people with chronic kidney disease: a cross-sectional study

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Aim:
To assess digital health use and measure trust and confidence in using phone and video consultations among people with chronic kidney disease (CKD).

Methods:
A cross-sectional study using digital health use questions and validated trust and confidence scales with 5-point Likert scale responses. Participants were people living with stage 3-5 CKD including transplant recipients attending a Brisbane metropolitan hospital outpatient clinic. Wilcoxon matched pair test was used to compare the difference between confidence in phone and video consultations and trust in phone and video consultations.

Results:
The total of 156 patients who completed the survey were predominantly male (55.7%), aged 61-70 years (32.7%), born in Australia (73.1%) and living in areas with high socio-economic status (M=6.05, SD 2.91). While 96.2% of patients had used phone appointments, 69.2% had never used video. Most patients used mobile phones (61%) and/or computers (20%) to exchange health information with their healthcare professionals. Only 19% used a mobile app to communicate with their healthcare professionals, while 38% used instant messages and 44% used email. If they had the choice, 25% would always choose in-person consultations, while 65% would prefer a mixture depending on the problem. Some participants (20%) would select a new healthcare professional if they did not offer telehealth consultations (phone/video). Results from validated scales demonstrated that patients' confidence in using phone consultations (n=150, M=3.75, SD=0.71) was significantly higher than their confidence in using video consultations (n=144, M=3.64, SD=0.74), p=0.039. Patients' trust in phone consultations (n=151, M=3.93, SD=0.64) was significantly higher than trust in video consultations (n=138, M=3.67, SD=0.66), p<0.001.

Conclusion:
People with CKD see telehealth as an important method of healthcare provision, with the hybrid

of in-person and telehealth the preferred service delivery model. Levels of trust and confidence in different telehealth modalities may change with an increase in video consultation uptake.

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Engaging consumers in the virtual care landscape

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The healthcare landscape is constantly evolving, and while treatments and care delivery modalities change, the consumer remains integral to care. Focusing on a person-centred approach in healthcare has made engaging with consumers earlier increasingly important, particularly in virtual care to ensure they have choice and satisfaction in their care while maintaining positive health outcomes.

The Virtual Care team at the Agency for Clinical Innovation recognised the need for a collaborative approach, engaging with consumers to influence clinician training and resources. It soon became clear that barriers to superior consumer engagement existed, such as jargon and a lack of understanding of how healthcare-supporting technologies interconnect.

To overcome these barriers, the Virtual Care team implemented strategies to build consumer digital health literacy, empowering them to make informed decisions about their care and actively shape healthcare across NSW. The benefits of consumer engagement are substantial, and we will explore engagement strategies, barriers and lessons learned in the virtual care context.

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Skill needs of hospital workers in digital health

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Background:
Digital health education and training is imperative for preparing current and future clinicians to work competently in digitally enabled health settings. While digital health is fast integrating in health systems, education and training of the workforce seems to be still limited.

Aim:
This study aimed to investigate healthcare professionals' current level of knowledge, skills and competencies relating to digital health and their expectations in that regard.

Methods:
We interviewed 25 clinical and non-clinical staff at the Princess Alexandra Hospital, Australia's first digital hospital. Inductive thematic analysis was used to analyse data. Consolidated Criteria for Reporting Qualitative Research (COREQ) was followed to report the results.

Results:
Three main themes were identified in the analysis. 1) Perceptions of the workforce regarding digital health 2) Education and training needs of the workforce 3) Workers' preferences relating to learning methods. Both clinical and non-clinical staff considered digital health as an important addition in their work environment. They observed that the integration of digital technologies in their practice has changed their day-to-day work. The majority agreed that the changes are positive. Lack of education was identified as a barrier and the hospital worker emphasised the need for education and training. Skills relating to using information systems, data entry, telehealth consultations, remote monitoring and order entry systems were considered to be important. Work based vocational training was the preferred mode of learning for most participants.

Conclusion:
This study aimed to understand the perceptions of hospital workers about the practice-changes due to technology integration. Most participants welcomed the changes as technology had a positive impact on their performance. Lack of relevant skills were a source of frustration for many hospital workers. They insisted on work-based training as a way of improving their skills to adapt into the changing environment.

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Telehealth for Aboriginal and Torres Strait Islander Peoples

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In 2021, Royal Melbourne Hospital established a dedicated weekly First Nations teledermatology service to reduce barriers to specialist dermatology care for First Nations people in Victoria. Born out of the Covid-19 pandemic, the clinic was established on a small budget, using existing infrastructure. At the start of 2022, the Victorian Aboriginal Community Controlled Health Organisation (VACCHO) came on board as a proud funding partner. The clinic allows First Nations people to have access to a First Nations Dermatologist, providing confidential and clinically and culturally safe care. A successful pilot year led to a five-year funding agreement with Victorian Department of Health. So far there have been 207 consultations covering a range of skin conditions with 151 of these as a telehealth and 56 as a face to face. It also created a model for other specialities within the Royal Melbourne Hospital to provide clinically and culturally safe care. Collectively, these clinics will transform the provision of care to First Nations people at the Royal Melbourne Hospital.

Skin disease is also more than skin deep, with the timely treatment of skin directly linked to priority health outcomes, such as rheumatic heart disease, post-streptococcal glomerulonephritis, skin cancer and malignancy, better psychological outcomes and reduced cardiovascular disease.

The telehealth model allows individuals that may have been previously excluded from specialist dermatology care due to regional or remote location, timely access to specialist dermatology care and allows for First Nation led research projects to better inform local and national health policy and improve health outcomes.

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Does the digital divide impact acceptability and trust in telehealth? Results from a national survey including people requiring interpreter services

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Aim:
Access to high-quality healthcare is the primary determinant of survival and prognosis in cardiovascular disease (CVD) and chronic obstructive pulmonary disease (COPD). Providing different modalities of care (e.g., telehealth) improves care access, enhances health-related quality of life and reduces CVD-COPD burden. Considering this, the Wide Bay Hospital and Health Service (WBHHS) Rural Allied and Community Health opted to provide telehealth options for their clients. However, the effectiveness of these improvements in service delivery is yet to be measured. We evaluated how adding a telehealth-delivered model of care impacts patient outcomes and client perceptions.

Methods:
A mixed-methods service evaluation included routinary collected appointments and clinical data captured between September 2021 to September 2022. Effects measurements were assessed using appropriate statistical tests ($\alpha=0.05$). Simultaneously, in-depth interviews were conducted to identify clients' understanding of telehealth, mechanisms for participation and engagement and perceived barriers and enablers to accessing the programs. Interviews were analysed using thematic analysis.

Results:
Of 50 participants using the WBHSS program, 43% opted for in-person and 57% for telehealth (including hybrid). The average number of sessions was 11.5 for telehealth options and 7 for the in-person modality. Although the addition of telehealth increased the number of exercise sessions completed, this increase did not reflect a significant clinical benefit between groups due to the low sample size (e.g., changes in body mass index or blood pressure). Conversely, service and interview data showed that client satisfaction with the service was high, and connectivity issues represented a significant barrier to not choosing telehealth.

Conclusion:
Our study demonstrates that rural and remote communities living in low-resourced areas can adopt telehealth options to enhance care access. However, infrastructure could significantly limit their uptake resulting in unmodified clinical outcomes. Improving referral strategies and awareness of telehealth options could result in evident improvements in clinical outcomes.

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The hybrid environment: Learnings from the ground when embedding a new virtual model of care in the Hospital Emergency Department

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My Emergency Doctor will share first-hand insights during their time "on-the-ground" when implementing a new model of care – "Virtual Short Stay Unit" at a regional hospital.

The issue of Emergency Department overcrowding continues to be a complex, multidimensional healthcare service challenge, where one solution to overcrowding that has emerged is the establishment of short-stay units.

Patients requiring treatments or observation that may take several hours can be accommodated in a short-stay unit without occupying ED beds or needing to be admitted. Examples include: 1) patients requiring less acute treatments; 2) patients requiring diagnostic investigations, such as magnetic imaging, biopsies or endoscopy; or 3) patients such as those with mental illness requiring referral to social services to ensure safe discharge into the community.

However, what happens when short stay units are also backlogged? To address the backlogs that are emerging in Hospital Emergency Departments, My Emergency Doctor has extended its ecosystems of virtual solutions and launched a new innovative virtual short stay unit solution to improve issues in ED overcrowding, and support patient flow in emergency departments.

Having the opportunity to experience first-hand the virtual short stay unit solution deployment on the ground, we will be able to share critical insights for hospitals and facilities seeking to successfully deploy virtual care solutions in their own environment.

During the session, you will hear about:

- • Key learnings of virtual model of care implementation.
- • Impact of adopting virtual care in the short stay unit.
- • Tips in getting the balance right as Hospitals and Emergency Departments work in hybrid physical and virtual environments.

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Virtual Care Clinical Governance, reinventing the wheel or responding to new risks?

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Strong clinical governance is paramount to deliver safe, effective, and high-quality health care. As virtual care continues to increase its application, it is essential to maintain robust clinical governance systems to uphold the standards set by the Australian Commission on Safety and Quality in Healthcare (the commission).

As organisations develop, implement, and sustain virtual care initiatives, clinical pathways, services or even facilities; organisations must thoroughly and systematically assess if current clinical governance systems are sufficiently robust to mitigate virtual care risks or if new systems and processes are required meet the standards set by the commission. Similarly, the commission itself is yet to formally determine if additional standards are required to address novel risks introduced by virtual care. Although the commission's digital mental health standards suggest it is an area of interest.

Which leads to the question, do we need to reinvent governance arrangements to respond to virtual care or are our current frameworks sufficient?

Whilst it is acknowledged virtual care is often an extension of current well-established models of care, the delivery of the care and increased dependence on technology, can expose organisations, clinicians, patients, and consumers to new risks. Such risks include the ability to maintain accountability, consumer centred approach, continuous improvement, robust risk management systems and a delivering integrative systems approach just to name a few. This is especially important as virtual care initiatives strongly rely on collaborative partnerships amongst departments, services, clinicians, consumers, health entities and vendors.

The author will present on South Western Sydney Local Health District experience in identifying these risks and its progress developing robust clinical governance processes. Furthermore, the author will reflect how the sector should identify and address clinical governance risks and provide considerations organisations should make to ensure the delivery of safe, patient centred high-quality virtual care.

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Best Practice in Digital Health Research with Aboriginal and Torres Strait Islander people: Influencing factors to eHealth uptake with Indigenous populations

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Aim:
To explore First Nations peoples' experiences and perceptions of mHealth from the perspectives of end users.

Methods:
There is increasing global evidence for the relevance and application of digital health with First Nations populations. Digital health holds significant potential for facilitating health access and quality of care for Indigenous people. It is timely that a best practice framework is established to guide digital health research with Indigenous people. A program of research to develop this framework was recently published. Outcomes of the best practice framework development have commenced, informing this process is this systematic literature review led by Goodman et al. Systematic searches across five databases were conducted to identify qualitative and/or mixed method studies where an mHealth intervention was the primary focus for responding to health challenges with Indigenous populations. Qualitative data were extracted on experiences and perceptions of both end-users (Indigenous people) and health stakeholders who work with Indigenous peoples.

Results:
Seventeen papers conducted in Australia (n=10), Canada (n=2), New Zealand (n=2), Papua New Guinea (n=1), USA (n=1), and Samoa (n=1) were included. Common themes across end-users and health stakeholders were: importance of mHealth literacy, mHealth as a facilitator for connection and support, mHealth content needed to be culturally relevant, and data security and confidentiality. Two themes emerged that were unique to health stakeholders including the importance of mHealth supporting rather than replacing health stakeholders, and the role of workplace champions and organisational capacity for influencing uptake and sustainability of mHealth.

Conclusion:
This research program highlights that eHealth can support Indigenous healthcare delivery when the eHealth intervention partners with key representatives (e.g., patients, service providers, executive leaders) in the eHealth design appropriate to the purpose, people, setting, and delivery.

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A survey and discrete choice experiment exploring general practitioner preferences for telehealth consultations in Australia

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Aim:
To identify factors that influence general practitioner (GP) decisions to provide telehealth services in Australia.

Methods:
An online survey, administered from March 2022 to October 2022, was used to ask GPs to answer questions about their telehealth experiences and preferences, and a discrete choice experiment (DCE). The survey included questions on preferred consultation mode for varying clinical presentations and consultation lengths, as well as resources required for different consultation modes. The DCE elicited GP preferences for various service attributes of clinical consultations which included telephone and videoconference consultations. The DCE investigated five service attributes including consultation mode, consultation purpose, consultation length, quality of care and rapport, and patient co-payment. Participants were presented with eight choice sets that contained three options to choose from. Descriptive statistics were used to present the general telehealth questions, and mixed logit models were used to estimate and analyse the DCE data.

Results:
A total of sixty GPs completed the survey. Previous telehealth experiences impacted direct preferences towards telehealth consultations across clinical presentations, although in-person modes were generally favoured (across 70% of all sixteen clinical scenarios). The DCE results lacked statistical significance, demonstrating undiscernible differences between GP preferences for some service attributes. It was found that GPs prefer to provide a consultation with good quality care and rapport (p=0.002). GPs would also prefer to provide care to their patients irrespective of the consultation mode, length or purpose (<0.0001). Based on these findings, GPs highly valued the ability to provide high quality care and develop rapport during a clinical consultation.

Conclusion:
Experiences and preferences by GPs demonstrated a desire to deliver high quality patient care. This highlights that while other considerations influence GP choice to use telehealth, it is important that value-based care is recognised in future policy and funding reforms.

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Evolving and maturing approaches to Monitoring and Evaluation of Virtual Care: NSW Ministry of Health perspective

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The impact of COVID on how we deliver care has been extraordinary and has meant we have all had to think differently about how we support continued access to value based healthcare and how technology can enable us to do this.

The NSW Virtual Care Strategy seeks to capture the energy in the system around virtual care and build the momentum to develop state-wide capability and consistency. Ultimately the aim under the Strategy is for virtual care to be seen as a normal option for care that offers a safe, convenient and positive experience for both patients and clinicians.

How will we know the Strategy is achieving its aim? The NSW Virtual Care Monitoring and Evaluation (M&E) Plan will help us understand this. The Plan serves as a framework to assess the impact and outcomes of virtual care initiatives delivered under the Virtual Care Strategy. The monitoring and evaluation approach will assess the impact and outcomes of the Strategy across the four dimensions of value based healthcare (VBHC):

- Health outcomes that matter to patients
- Patient experiences of receiving care
- Clinician experiences of providing care
- Health system efficiency and effectiveness

Evaluation is part of the cycle of continuous improvement. The intent of the evaluation plan is to embed an evaluation framework that delivers continual feedback throughout the Strategy's implementation and operational phases, and to assess overall effectiveness and impact.

This presentation will outline:

- Key findings from key "legacy evaluations" across the four dimensions of VBHC of the Virtual Care Accelerator and Remote Patient Monitoring and how the findings are being used to shape the future approach
- The evolving and maturing approach to monitoring and evaluation of virtual care in NSW Health including challenges in counting and identifying virtual care patients in administrative datasets, and around counting, costing and ultimately funding virtual care

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Delivering child health and development checks in the virtual environment

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All jurisdictions in Australia offer universal child health and development "well child" checks to parents of young children, with the aim of providing parenting support and information, and prevention, early identification and appropriate referral for health and developmental concerns.

The child health service has traditionally and primarily been delivered in a bricks and mortar clinic via an in-person format. A previous pilot by WA Country Health Service aimed at providing parenting support via Telehealth in 2016 failed to achieve consumer engagement.

Service restrictions as a result of the COVID pandemic resulted in parental uptake of virtual child health checks and demonstrated an appetite for this modality of care for children aged 12 months and older. In response, the Virtual Child Health Check project was developed to meet consumer needs, especially for those living in remote and isolated circumstances, and those with limited access to in-person services due to acute and chronic nursing shortages.

The project staff deliver child health checks to parents of children aged 12 months to 2 years residing in designated regional areas, a cohort that has experienced a disrupted developmental trajectory resulting from COVID impacts.

Building on lessons learnt from a previous pilot, the project has achieved some successes and faced challenges.

Successes include consumer engagement, positive feedback, contribution towards organisational goals, development of a service delivery model, policy guideline, partnerships and promotional material including a consumer explainer video.

Challenges include upskilling staff, quantum of effort to engage individual families, issues with platforms and applications, and connectivity unreliability that requires staff to be more creative. Gaps identified by the project staff are access to a WACHS-wide platform for storing and sharing resources with consumers, and access to appropriate resources for culturally and linguistically diverse families.

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A forced shift towards the use of telehealth in speech and language therapy in Spain

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Aim:
To explore changes in the use and perception of telehealth by speech language therapists (SLTs) in Spain and to identify factors that have facilitated the change towards telehealth.

Methods:
A structured survey technique with open and closed response options was used to identify the perceptions and uses of telehealth by SLTs before and after COVID-19. This survey was completed by 133 SLTs from different intervention contexts in Spain during July 2020.

Results:
We showed an increase in the use of telehealth with a synchronous connection between user and SLT, as well as a greater use of videoconference platforms. In addition, there was an increase in telehealth services, such as, individual treatment and treatment with family members. However, there was no increase in the use of store-and-forward (e.g., the use of audio-visual recordings) and in the use of telehealth for assessment services. The majority of SLTs perceived that their confidence to perform teleintervention improved and considered that it allowed them to continue with their interventions. Previous knowledge and experiences by SLTs, such as previous experience with digital tools or having experience with naturalistic intervention, were studied regarding their impact on a positive change.

Conclusion:
COVID-19 prompted a change towards some uses of telehealth in SLT (i.e., synchronous videocalls), with a limited use of asynchronous modalities of telehealth, which might reflect an easier adoption of more similar uses of telehealth in comparison to traditional interventions. Moreover, the more complex nature of assessment processes and the limited presence of digital assessment tool in SLT might explain the limited use of assessments in a digital and remote modality. This study raises the importance of further developing digital tools and methodologies applied to SLT, specifically regarding asynchronous modalities and for assessment processes, to benefit from the potentials of telehealth.

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Building a sustainable, virtual Heart Health Support Service in country Western Australia

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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.

Consumer and referrer feedback have been overwhelmingly positive to the centrally provisioned virtual service which supports timely patient transition from metropolitan-based tertiary services to local care providers where available. Inclusion of a digital health application in coming months will enhance patient support and education between appointments and facilitate patient self-management.

Plans to expand the service from two regions to WA country-wide are constrained by factors including the absence of operational structures and Activity Based Funding (ABF) mechanisms for centrally provisioned virtual care services delivered to multiple regions. This has prompted collaboration with the WA Health system-manager and other states to progress funding reform as well as organisational changes for a more coordinated approach to governance, administration, and logistics for virtual care.

In the meantime, high service uptake, attributed to extensive referrer and patient engagement and the flexibility to have the telehealth appointment at home or a health site, is driving the ABF associated revenue needed to increase clinical resourcing requirements and attract cardiac CNS workforce not typically available in remote locations.

It is anticipated that demonstration of performance against the Quintuple Aim for Health Care Improvement in the short-term, along with system funding reform in the long-term, will enable expansion of the service and transitioning from project funding to sustainable service operations.

Key Learnings:

Centrally delivered virtual care services to multiple operational regions can improve equity of access, however current operational structures and ABF mechanisms do not support such clinical service design and delivery.

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Equity, diversity, inclusion, and accessibility: what the Australian Teletrial Program can offer Country SA residents

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The Australian Teletrial Program (ATP) is funded by the Commonwealth Government's Medical Research Future Fund – 2019 Rural, Regional and Remote Clinical Trial Enabling Infrastructure grant – 'access to clinical trials closer to home' - project of $75.2M over five years. The SA Department for Health and Wellbeing has recently established the South Australia and Northern Territory Regional Clinical Trial Coordinating Centre (SA/NT RCCC). There were 497 phase II/III in 2021, with 35% in oncology located in MM3; the program is a great opportunity to improve access.

Teletrials are a new model for conducting decentralised clinical trials co-designed with sponsors and the Community. A teletrial uses telehealth technology to communicate between the Primary Site and Satellite Site/s.

The presentation will present on the enabling program pillars below.

- Increase access to clinical trials for rural, regional and remote communities, including Indigenous communities
- Reduce the disparity in patient outcomes for geographically dispersed and diverse populations
- Improve participant recruitment rate in clinical trials
- Develop collaboration between rural, regional, remote, Indigenous communities and services, and metropolitan centres (public and private) with Australia becoming a partner of choice
- Build clinical trial capacity using workforce-accredited training.

Through decentralized clinical trials - focusing on a co-design model with the patient at the center of care, care can be provided closer to home; the model has the potential to improve quality of life as well as increase scientific knowledge and better knowledge transfer and applicability.

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The Virtual Hospital: The referrer experience enabling acute care within the home

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New and innovative models of care will continue to disrupt our complex health ecosystem. Telehealth has enabled higher acuity care at home when combined with wearable technology and artificial intelligence to deliver scalable healthcare. Virtual care has seen rapid growth with the Calvary Amplar Health Joint Venture (CAHJV) delivering virtual hospital care to over 200,000 patients in the last three years. CAHJV through the standalone NSQHS accredited virtual hospital has focused on care in the right place, right time and with the right provider. The CAHJV use of technology, including AI-based algorithms to identify suitable patients for virtual care and wearable monitoring patches for post day procedure anaesthetic procedures, can enable safe care to be delivered from across the country. A recent qualitative explorative study undertaken with clinician referrers to the virtual hospital identified four key themes of why virtual care wasn't reaching international targets, with the literature suggesting that 10% of bricks and mortar acute in-patients could be cared for in a virtual hospital. The research aimed to better understand the referrer knowledge and experience of virtual care. Outcomes demonstrated firstly that complexity of the hospital ecosystem with multiple pathways from the community and hospital that relied on individual knowledge was seen as a barrier. Secondly, that a broad referral criteria was too ambiguous despite more than 150 diagnostic related groups being eligible for the virtual hospital. Thirdly, that hospital in the home services and virtual hospital care required a clearer approach to complex non-clinical care needs including frailty in the home. Finally, that the expansion of the virtual hospital was contingent on improved system interoperability across primary and tertiary care. Embracing innovative change to enable new ways of delivering care is paramount.

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Using digital applications to build telehealth capability in the country WA workforce

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Recognising workforce skills are a strong determinant of telehealth adoption, the WA Country Health Service (WACHS) has commenced a collaborative research project to explore the effectiveness of a telehealth microlearning program to build workforce confidence and capability in delivering telehealth services.

Through a Digital Health Cooperative Research Centre (DHCRC) partnership including WACHS, La Trobe and Curtin Universities, a commercial vendor was engaged to develop, and test telehealth training modules accessed via a mobile telephone application (App). The technology combines microlearning, spaced repetition and personalisation to support continuous learning. The App uses an evidence-based approach to ensure long term memory retention by practising a few minutes a day, proven to help time-poor professionals recall knowledge, upskill and gain confidence.

Formal piloting of the App by WACHS workforce and partner organisations will examine if the microlearning format meets key objective to increase workforce capability and skills in telehealth provisioning. It will also inform potential to translate content into the WACHS Learning Management System for broader access and organisational sustainability.

The benefits of partnership include accessing expertise in research, pedagogy, telehealth provisioning and potential future commercialisation. Multiple partners with varied training needs have presented challenges to content development impacting project timelines. WACHS, as a long-standing provider of telehealth, has provided critical subject matter expertise into the telehealth training content development and research design.

Key learnings include: 1. Benefit of engaging early with stakeholders, including clinical workforce to ensure telehealth training and resources are targeted and tailored to meet identified workforce requirements. 2. Timely, easy, and flexible access to resources and training is essential to develop workforce skills and confidence in the use of telehealth for patient care. 3. The importance of clear communication, early identification of expectations and milestones when working in partnership. 4. Research ethics and governance approval require sufficient lead time.

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Family Experience of Care, Distress, and Out-of-Pocket Costs Following Injury: Comparing the Standard of Care to a Virtual Pediatric Trauma Centre

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Background:
The "Virtual Pediatric Trauma Center" (VPTC) is a model of care that uses telemedicine to provide pediatric trauma consultations to remote emergency departments (EDs) that lack specialized pediatric trauma expertise. We hypothesized that the VPTC model of care could result in improved family experience of care, reduced family distress, lower transfer rates, and lower family out-of-pocket (OOP) costs.

Methods:
We conducted a stepped-wedge trial over two years, enrolling children <18 years with trauma presenting to 10 non-children's hospitals in northern California. To measure family experience, we used the Consumer Assessment of Healthcare Providers & Systems (CAHPS) Child Hospital survey; for family distress, we used the State-Trait Anxiety Inventory Form Y survey; OOP costs were reported by families using texted/email surveys. Outcomes were assessed 3 days after injury and compared using intention-to-treat analyses.

Results:
595 injured children (369 assigned to VPTC; 226 assigned to standard of care) were included in the study. The mean difference in CAHPS scores between the VPTC model and standard of care was 0.02 (95% CI: -0.19, 0.15). The mean difference in the State-Trait Anxiety Inventory scores between the VPTC model and standard of care was 0.07 (95% CI: -0.08, 0.23). Transfer rates for the VPTC model of care was 91.6% and 92.9% for the standard of care (P=0.56). The mean 3-day non-medical OOP costs were $105 (SD=$300) for the VPTC model of care and $188 (SD=$566) for the standard of care (P=0.04).

Conclusion:
Families of injured children presenting to EDs rated their experience of care and distress similarly when care was assigned to telemedicine consultations and telephone consultations. Transfer rates were also similar. However, families experienced significantly lower non-medical OOP costs when consultations were conducted using telemedicine compared to consultations provided over the telephone.

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Towards "Formalising" WhatsApp Teledermatology Practice in KwaZulu-Natal District Hospitals in South Africa: Key-Informant Interviews

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Background:
District Hospitals in KwaZulu-Natal, South Africa, do not have dermatologists or onsite specialist dermatology services, resulting in a high referral rate to regional and tertiary hospitals. It has become common practice for doctors at District Hospital to use instant messaging apps like WhatsApp to seek advice from dermatologists in the provincial health service before possible referral. There is a need to regularise these activities and formally integrate them into the Provincial Dermatology Service. Preparatory studies for this have included: four scoping reviews of instant messaging use in dermatology, and medico-legal and ethical issues of consent, record keeping, and data storage related to WhatsApp; a retrospective analysis of the content of messages between doctors and dermatologists; and two surveys of instant messaging use by doctors at 23 District hospitals in the Province.

Aim:
To determine the views and perspectives of referring doctors and dermatologists on the feasibility and practicality of formalising the current instant messaging teledermatology activities.

Methods:
Between November 2021 and August 2022, two sets of key-informant interviews were conducted with 12 purposively selected District Hospital doctors and all 14 dermatologists in the KwaZulu-Natal dermatology service to obtain their views and perspectives on formalising their informal use of instant messaging for teledermatology. Recorded interviews were transcribed, and thematic analysis was undertaken to identify the underlying issues, concerns and ideas that informed the semantic content of the data.

Results:
Participants desire a formalised service. Five primary themes were identified; legal, regulatory, and ethical issues; process; usability, utility; and communication, and 22 sub-themes.

Conclusion:
These findings will be used with data from the prior surveys and best practices derived from the four reviews to develop a set of guidelines for formalising the spontaneous and informal teledermatology service that has run for the past decade.

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Effectiveness and sustainability of an electronic perinatal and infant telepsychiatry service (e-PIMH) in the Torres and Cape region of Australia

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Aim:
The e-PIMH telepsychiatry service helps families with perinatal and infant mental health needs by building local workforce capacity and providing telepsychiatry consultations. This study aimed to evaluate the implementation, service effectiveness, and sustainability of e-PIMH in the Torres and Cape region of Queensland.

Methods:
From April-November 2022 semi-structured interviews were conducted with healthcare and community service staff (n=15) who had access to e-PIMH in this region. Interviews were audio-recorded, transcribed, and analysed via inductive thematic analysis by two members of the research team. Initial participants were e-PIMH users. Subsequently we snowball sampled other local staff involved in perinatal or mental health.

Results:
Participants indicated e-PIMH offered support and provided education to health workers unequipped with perinatal and infant mental health knowledge. Analysis of interviews identified 4 themes considered "pillars" to successful implementation and uptake. These enablers to maximise service effectiveness were: 1. Building and maintaining trust with local services; 2. Community-led two-way communication; 3. Consideration of cultural beliefs; and 4. Ongoing promotion of the service. There were also 5 themes around service sustainability challenges: 1. Technology infrastructure; 2. Client preferences for in-person consultations; 3. Local staff turnover; 4. Client distrust with the health system; and 5. Complex circumstances for families. Participants additionally highlighted the impact of the COVID-19 pandemic on service implementation, specifically on service promotion (fewer in-person visits by e-PIMH possible), logistical processes, and general disruption to perinatal care within the region.

Conclusion:
Our findings suggest that implementation of a telehealth service such as e-PIMH in the Torres and Cape region relies on maintaining strong and genuine relationships with the community. Consideration of technology infrastructure, staff, and client factors are important as they may be unique to each community. Ongoing promotion and in-person visits will reinforce relationship building and trust, even if local staff turnover occurs.

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Remote Patient Monitoring of Hospital in the Home COVID-19 Omicron Wave Patients at Nepean Blue Mountains Local Health District

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COVID-19 bought many challenges with managing increasing numbers of COVID-19 positive patients in a large geographical area across Nepean Blue Mountains Local Health District (NBMLHD). Safe efficient monitoring of COVID-19 patients was required in the community as burden of disease and isolation requirements outnumbered available clinicians to monitor these patients.

The original community management strategy in NBMLHD was for the Hospital in the Home (HiTH) nurses to call patients daily for updates on biometric and symptoms data. Patients were safely monitored, while reducing the risk of staff exposure. However, the capacity for HiTH to provide this service was under strain due to the rapid rise of cases in late 2021.

An automated questionnaire system, Philips QuestLink, was co-designed between HiTH and the NBMLHD Virtual Care team to meet the local district's needs for efficient remote monitoring and align with the MoH guidelines for COVID-19 patients. It replaced phone calls to monitor mild to moderate risk COVID-19 patients, with a webpage survey (sent via a link through SMS) that included predefined flags and intervention prompts. The system also mitigated geographical barriers whereby patients requiring monitoring could be located anywhere within the district.

This project demonstrated effective partnerships with third party provider Philips HealthCare Questionnaire Manager to implement the system within six weeks during the pandemic. Partnerships with Patients and Carers helped to guide changes, and the involvement of an effective governance group with key stakeholders ensured safety and security.

QuestLink helped care for 657 patients, reducing nursing call numbers by approximately 4-fold (2,931 vs. 714). The overall patient clinical outcomes were unaffected. Our study demonstrated the feasibility and benefits of using QuestLink to care for COVID-19 patients in our community setting. NBMLHD expanded QuestLink services to the Supportive and Palliative Care service with a proof-of-concept patient monitoring system in March 2023.

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Evaluation of the implementation of a co-designed interactive web-based cardiac rehabilitation program in rural Australia

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Aim:
To evaluate the implementation process of a web-based cardiac rehabilitation (CR) program.

Methods:
Reporting on the outcomes of the implementation process from July 1, 2021 to June 30, 2022 using a descriptive observational prospective study design guided by the RE-AIM framework. Included patients were eligible for cardiac rehabilitation and residing in a rural and remote area.

Results:
A total of 1433 rural and remote patients participated in either a traditional or an interactive web-based mode of delivery for their CR program, with 50 choosing the web-based program. Web patients mean age was 60 (SD 11.6) compared to non-web 67.3 (SD 11.0), while there were 17 (34%) web-based females compared to 355 (25.6%) non-web. Myocardial infarction was the predominant reason for referral in both groups, web-based 18 (64.3 %) vs 495 (46.5%). Web-based patients reported increased confidence across all health domains, while clinicians reported the web-based program as high quality 5 (71.4%). Program completion for web-based patients was 17 (34%) compared to non-web 998 (72.2%), p<.001. Patient fidelity to data entry was high in the web-based, 100% for pre-assessment and 50% for post-assessment. Clinical outcomes were similar at both pre-assessment and six-month assessment for both groups. There was no significant difference in patients' preference by age or gender for web-based or other modes of CR. Web-based program enrolment was associated with a lower chance of CR completion (OR 0.25; 95%CI 0.15-0.53; p<0.001), after adjustment for age and gender.

Conclusion:
The web-based program provides an alternative flexible mode to complete CR, having met the demands of COVID pandemic restrictions. It has been integrated and successfully used by patients and clinicians, capturing a cohort who fit into the 20-50% not attending a CR program. Further work is needed to improve and standardise program implementation assessment, and increase patient recruitment, and completion.

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Through the Lens of Smart Glasses: Unveiling Telehealth Victories and Setbacks

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Introduction: The original pilot investigated the feasibility, effectiveness, and user experience of integrating Smart Glasses technology for clinical support and supervision during the orientation of new palliative care staff. Success in the pilot led to implementation for additional use cases and in additional community health and aged care services. As we embarked on the next step, a small-scale implementation, we delve into the challenges and opportunities that lay ahead.

The project: An implementation was planned for health and aged care services, however, recognizing the dynamic nature of this emerging technology, we adopted a phased approach with multiple tests and learn phases. These phases allowed us to adapt to unforeseen challenges and opportunities. Our project's structure evolved to accommodate these iterations, emphasizing flexibility to ensure successful integration despite the delays in the implementation process.

Learnings: The small-scale implementation in NSW leveraged learnings from the early findings of the small-scale pilot. We encountered hurdles in the form of technology and vendor changes, highlighting the importance of flexibility and a device-agnostic approach in our processes. These included addressing technology integration challenges, such as end-user computing (EUC) compatibility, security, and adherence to industry-specific guidelines. These challenges underscored the need for adaptability as we navigated this transformative journey.

Conclusions: The unique application of Smart Glasses in community health and aged care settings provided valuable insights for future implementation projects. Lessons learned from this project are guiding the wider implementation of Smart Glasses in our national community health and aged care services. As Smart Glasses technology continues to evolve, it holds promise in revolutionizing clinical support practices and improving the quality of care provided to vulnerable patient populations. Test and learn phases remained essential as we explored new devices, and our device-agnostic processes future-proofed the use of technology, ensuring its effectiveness in diverse healthcare scenarios.

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Developing a telerehabilitation policy framework for low- and middle-income countries of Sub-Saharan Africa and South Asia

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Aim:
According to the WHO Atlas eHealth country profile of 2015, most of the low- and middle-income countries (LMIC) of Asian and African regions are adopting eHealth interventions and becoming digitalized. The United Nations Convention on the Rights of Persons with Disabilities states that people with disabilities have a right to the highest possible standard of health without discrimination. However, people with disabilities and their lack of inclusion in national health policies remain a concern.

The overall research project consists of a scoping literature review, review of policies associated with 10 LMICs, and a Delphi process, to build a telerehabilitation framework for LMICs. The aim of this paper is to examine existing eHealth/telehealth-related policies and strategies of LMICs of Sub-Saharan Africa and South Asia.

Methods:
To identify existing policies, frameworks, and guidelines (grey literature) related to eHealth or telehealth, the PRISMA based systemic review was adopted. From the World Bank classification list of 22 LMICs of Africa and South Asia, 12 countries were selected.

Results:
Thirty-three policies, strategic plans/frameworks, and guidelines were found on government websites. Among the analyzed documents, there were policies (34%), strategic plans (21%), and guidelines/frameworks (12%). The remaining documents were annual reports and bulletins. All the selected countries have national eHealth strategic plans. Only 2 countries have national eHealth/telehealth policies. Only 33% of the documents included disability in their policy or strategic plan. No countries had a national telerehabilitation policy or strategic framework.

Conclusion:
The United Nations has made explicit the right for people with disabilities to achieve optimal health and care. Lack of focus on this right in existing national strategies and policies is troubling. The next step for our research is to develop an inclusive telehealth framework via the Delphi process.

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Virtual Care and First Nations Communities: The Clinician Experience

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The aim of this project is to better understand the clinical experience in successfully delivering services via virtual care to First Nations communities.

Virtual and face to face consultation sessions were held with clinical staff across a total of five Local Health Districts in NSW to understand success factors in delivering virtual care during the pandemic.

To supplement the qualitative data, a survey was distributed across the state to Aboriginal Controlled Community Health Services and NSW Health leads in First Nations focused services. The survey was distributed to capture the experience in delivering virtual care services during and post COVID-19 and how and if services are clinically and culturally safe for First Nations populations.

Clinician consultations and survey findings demonstrated:

- Most services currently offer virtual care services
- Almost half indicated they use virtual care every day
- Telephone was the most widely used modality
- Videoconferencing was not a popular choice due to the use of additional mobile data
- Most participants identified tools to support the cultural appropriateness of virtual care as a significant priority

Suggestions for key considerations to support culturally safe delivery of virtual care include:

- Position virtual care as a choice rather than it being compulsory as a part of a hybrid model of care
- Ensure virtual consultations are embedded within an existing service, such as Hospital in the Home
- Good IT Support and Internet Access, including the potential to distribute data cards as a part of the service
- Designated clinic rooms to ensure confidentiality if the service is being provided from a "spoke" in a hub and spoke model
- Support person/s or Aboriginal Health Worker/Practitioner to sit in on consult if available

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What is 'Remote Therapeutic Monitoring' and why should Australian Healthcare professionals care?

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Remote therapeutic monitoring (RTM) is a healthcare approach that uses technology to monitor patients' health conditions and treatment progress remotely. In contrast to Remote Patient Monitoring (RPM), which monitors physiological data, usually using a physical device - RTM uses Digital Therapeutics to monitor a patient using self-reported data and typically involving a mobile app.

Healthcare professionals can use this information to track patients' health status and adjust treatment plans remotely, without requiring patients to visit healthcare facilities in person.

Australian healthcare professionals should care about RTM because it not only addresses the quadruple aim of healthcare but offers several benefits, including:

- • Improved patient outcomes
- • Increased access to care
- • Reduced healthcare costs
- • Patient empowerment

RTM, like RPM, is reimbursed in the US by Medicare and some private health insurers under certain conditions.

US Medicare reimburses for RTM on a fee-for-service basis, with reimbursement rates varying depending on the type of service provided. Private health insurers may also provide coverage for RTM, but the reimbursement rates and criteria for coverage may vary. Five new CPT codes were also recently added for physical therapists providing outpatient therapy under Medicare Part B. These codes, which mainly cover patients treated for musculoskeletal and respiratory issues, achieve outcome-based care, without requiring the healthcare system to convert to a blended payment model as is currently pursued with MyMedicare.

In Australia, we haven't introduced reimbursements for RTM or RPM. The opportunities for self-monitoring technologies to reduce emergency room admissions are huge. The reimbursement model that the US operates fits well within our Medicare reimbursement model. It's easy to imagine Australia taking advantage of these new technologies by taking several similar steps which will be explored.

Overall, by addressing these issues, the Australian government can create a more supportive environment for RTM and encourage healthcare providers to integrate it into their practice.

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Moving Beyond Integrating Telehealth with Face-to-Face: A palliative care case study of integrating two telehealth services for timely and less fragmented clinical care

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Monash Health is Victoria's largest public health service, providing care to one-quarter of Melbourne's population. Our unit provides supportive and palliative care within the hospital environment and for patients at home receiving outpatient care or awaiting capacity from community providers.

In October 2020, we implemented a new telehealth outpatient service; Palliative Care Virtual (PCV). The clinic is specifically for oncology outpatients and operates synchronously alongside medical oncology outpatient services. This model promotes inter-disciplinary collaboration between palliative care physicians, oncologists and nurse practitioners resulting in early referral to palliative care.

The Rapid Palliative care In-Reach Division (RAPID) was a separate telehealth service set up to provide supportive and palliative care to patients in the community, between clinic appointments and upon hospital discharge, especially when there are delays in engagement with community providers owing to demand. This service operates business hours and is bi-disciplinary with specialist palliative care nurses and physicians or registrars. RAPID is an on-demand telehealth service utilised by patients and providers for specialist clinical care and consultation and the coordination of services to patients in the community.

As both services have matured, PCV and RAPID increasingly collaborate and integrate their care to ensure patients have their supportive and palliative care needs met in a timely fashion with continuity of care. To September 2022, in PCV's first two years of operation, 423 patients were seen by the clinic. Approximately 20% (n=84) of patients under the care of PCV were also engaged with RAPID. We hypothesise that, through the integration of these two telehealth services, we have been able to provide a significant improvement in the care for community-dwelling patients. In particular, we have both enhanced the patient experience and reduced unplanned acute admissions through increasing accessibility, arresting developing medical issues and reducing distress for patients and families.

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Home visits from afar: Using telehealth to conduct Occupational Therapy home assessments

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The COVID-19 pandemic swiftly prompted the Flinders Medical Centre Home Rehabilitation Occupational Therapy team to reconsider the utilisation of telehealth to its full capability, to provide rehabilitative services to patients discharging from hospital to home. Home Rehabilitation is a hybrid (in-person and telehealth) rehabilitation model that provides a short term intensive multi-disciplinary program including assessment and therapy for patients in their home.

Given the short time frame of service provision, home safety assessments are a common referral for Occupational Therapists to ensure patients are supported with their transition home from hospital.

To comply with social distancing, the Home Falls and Accidents Screening Tool (HOMEFAST) was selected as a tool that can be appropriately conducted via telehealth. It is a valid and reliable tool for predicting falls risks in the home by identifying risks and providing immediate feedback and tailored solutions.

Assessments were conducted either using a suitable 'proctor' holding a loaned iPad to show therapists the home environment if the patient was deemed unsafe to complete this independently, or if the patient was cognitively sound but had restricted mobility – the outcome from the HOMEFAST screen was used to determine the need for further assessment.

From therapists' perspective, the primary benefit to this modality was increased time efficiency as it eliminates travel time. Barriers voiced were technical challenges with the videocall platform used which affected patient rapport, patient's cognitive and mobility status, and the availability of a support person. Additional limiting factors included individual therapist experience and confidence using telehealth.

Overall, this method proved successful for patients that have a suitable support person present and continues to be a regular assessment option 'post pandemic' to conduct comprehensive home safety assessments virtually – with nil adverse events reported against patients receiving this method of intervention.

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From a Green Field to a Successful Home Telehealth Support Service for Heart Failure and Type 2 Diabetic Patients

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For nine years, the Regional General Hospital of Slovenj Gradec in Slovenia (EU) has been providing a home telemonitoring service to patients with chronic conditions such as heart failure and/or type 2 diabetes. This service aims to support patients in managing their disease from the comfort of their homes. The hospital established the service as part of the European project, UNITED4HEALTH, with participation from nine clinical partners. The project has been a success story for the hospital as it achieved all the goals set by the project team at the start of the project, including gaining knowledge, establishing technological conditions, developing the service, setting up a telehealth control centre, achieving user satisfaction, and demonstrating benefits for healthcare professionals.

During the first three years, the hospital team established processes that enable the service to run in parallel with traditional patient care. Patients measure at home several vital sign parameters, including blood pressure, heart rate, body weight, oxygen saturation, blood sugar levels, physical activity, and temperature. The results are sent over the mobile network to the hospital monitoring centre, where they are processed. If the results exceed recommended values, the medical staff at the centre is informed, and the patient is contacted by phone. If conditions continue to deteriorate, a medical specialist intervenes by reviewing the data and determining the continuation of the treatment. The patients are informed about the changes in their treatment.

The service has supported over 600 patients so far, collecting over 650,000 measurements that serve as a database for analysis. Around 1,300 medication treatments have been changed remotely. A survey on the perception of the service among 363 patients confirmed a high level of user satisfaction with the service, with a score of 4.3 out of 5. Healthcare professionals involved also see several benefits for their professional work.

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A systematic review of synchronous telepharmacy service models for adult outpatients with cancer

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Aim:

To review existing evidence regarding synchronous telepharmacy service models for adult outpatients with cancer, with a secondary focus on outcomes, enablers, and barriers.

Methods:

A systematic review was registered with Prospero and conducted using PubMed, CINAHL, and EMBASE in March 2023. Search terms included pharmacy, telehealth, telepharmacy, and outpatient. During article selection in the web-based platform Covidence, an extra inclusion criterion of synchronous cancer-focused services was applied. Once articles were selected, data extraction and narrative analysis was performed.

Results:

From 2129 non-duplicate articles, 9 were eligible for inclusion, describing 8 unique patient populations. The service models included pre-treatment medication history taking, adherence monitoring, toxicity assessment, and discharge follow-up. The studies primarily used telephone and compared to no contact (n=7), while others compared videoconsults and telephone (n=2). Studies found synchronous telepharmacy services can improve timeliness of care, optimise workload management, and provide individualised and convenient efficacy monitoring and counselling. One study of 177 patients on immune checkpoint inhibitors found 38% of the 278 consults had at least one intervention (41% were clinically significant immune-related adverse events). When videoconsults were compared directly with telephone consults for pre-treatment medication history, it was found scheduled videoconsults had a significantly higher success rate than unscheduled telephone consults, and that videoconsults also represented increased funding and equivalent time efficiency. When telephone follow-up was compared to no follow-up, improved treatment adherence was seen, and progression-free survival was significantly higher for the telephone group (6.1 months vs 3.7 months, p=0.001, respectively). Reported enablers included physician buy-in, staff resources, and proper utilisation of technology. Identified barriers included time investment required and technical issues.

Conclusion:

Both telephone and videoconsult modalities are being used to deliver synchronous telepharmacy services across a range of outpatient services. Although more evidence is needed, data to date supports positive service benefits and enhanced care.

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Remote patient monitoring for First Nations peoples living with diabetes: A cost-effectiveness analysis

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Aim:
To investigate the cost-effectiveness of remote patient monitoring (RPM) for First Nations peoples living with diabetes.

Methods:
This study was set at the Goondir Health Service (GHS), an Aboriginal and Torres Strait Islander Community-Controlled Health Services located in the Darling Downs region of Queensland. A cost-effectiveness analysis was undertaken from the perspective of the GHS. Data were provided by the GHS using extracts from their electronic medical record and RPM system. Clinical effectiveness of the program was determined by comparing mean HbA1c pre- and post-enrolment in the RPM service. The staff and technology costs for running the RPM service were calculated and reported in Australian Dollars. The volume, type and reimbursement from MBS patient interactions with GHS for 6-months pre- and post-enrolment were collated (Oct 2020 to Sept 2021).

Results:
There was no statistically significant effect between the pre- and post-enrolment mean HbA1c demonstrating that the RPM service was equally effective as usual care. The 6-month RPM service for 84 patients cost $84,566 to cover RPM kits, ongoing technology costs and a dedicated Virtual Care Manager. This equated to a cost of approximately $1007 per patient for the 6-month trial. There were 199 more clinician-client interactions in the post-enrolment period which resulted in an additional $4,797 revenue for the GHS. This equates to an average 2.3 clinician-client interactions per patient providing an average additional revenue of $57.10 per patient.

Conclusion:
The diabetes RPM service was equally effective as usual care and resulted in increased interactions with clients. The cost of running the RPM service was substantially more than the additional revenue generated from increased interactions. This evidence highlights the need for alternative funding models for RPM services and demonstrates the need to focus future research on extra-clinical benefits resulting from services of this type.

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Blended treatment of online- and face-to-face psychotherapy in a setting of an evening clinic as a new form of care: How and why?

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Aim:
Psychotherapy in an evening clinic is a new form of treatment according to the German psychotherapeutic guidelines. In particular employees, students or people who care for a relative make use of this offer. Inability to work can be avoided if the evening clinic is used in an early state. In a new established setting of a blended psychotherapy (face-to-face plus online therapy), the intensity of treatment should be further increased. The fact that the presence times in the evening clinic can be significantly reduced through online treatments makes this offer even more attractive for a whole range of patients. Using the evening clinic setting should also lead to a reduction of stigma being treated due to a psychiatric disease.

Methods:
To date, 48 patients aged between 18 and 30 years have been treated in our evening clinic setting (Alexius/Josef Clinic, Neuss, Germany) from 17:30 – 20:30 h over 5 weeks (3 days in presence and 2 days online) and then for another 5 weeks 2 days in presence and 1 day online. Patients received group and individual therapy, mindfulness exercises and psychotherapeutic ward rounds. Psychopharmacy was applicated in some cases only. The spectrum of treated diseases included depression, various anxiety disorders (including social phobia and generalized anxiety disorder) and adjustment disorders. Patients showing acute suicidality and primary addiction were excluded.

Results:
All the patients who were treated were able to return home to their usual everyday life. Those patients who suffered from depression showed a reduced BDI-score of 8 points. Anxiety ration scores were also significantly reduced. Patient's satisfaction with the offer of blended therapy in the evening clinic was very high. 90% of the patients recommended the therapy for others.

Conclusion:
In the future, blended psychotherapy in an evening clinic can complement therapy-options in a meaningful way.

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The Potential of Virtual Care – Consistent improvement of patient experience COVID@homeplus, Tasmanian Health Service (THS)

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Prior to the COVID-19 pandemic, telehealth adoption was far from widespread. Despite obvious benefits of improving access, the technology wasn't in place, consumers weren't ready, and providers resisted the shift to virtual care. Then came the pandemic - suddenly, telehealth was in high demand. Digital convenience not only drives trust and loyalty, but patients are increasingly looking for care that affords them greater convenience and meets them where they are.

THS COVID@homeplus is an innovative nurse led program, that brings together acute, community and primary care to provide a safe and effective in-home health care via telehealth technology for vulnerable patients with COVID-19 or other respiratory illness.

COVID@homeplus commenced on the 15th December 2021 and has provided care to over 35,000 Tasmanians. Results from the Patient Satisfaction survey demonstrates that this service has maintained consistently high scores since the service commenced and has improved significantly in the last quarter of 2022. The mean score has increased from 82.3% to 93.4% alongside an increasing response rate. The survey findings indicate the service's strength primarily lies in the way staff members interacts with patients.

COVID@homeplus leadership team have developed a multidisciplinary team that values teamwork, engagement, and training, with a focus on developing a person-centred culture that integrates evidence-based care and involves all stakeholders. The team respects the different experiences and strengths of each team member, relying on this experience to enhance their service. The team have embraced virtual health care and are strong change champions, adapting to the needs of the community and can pivot and adapt to change without any restrictions. COVID@homeplus is a real-world example of how virtual care programs can respond seamlessly and agilely to new challenges whilst sustaining the satisfaction of its end users and community.

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An Iterative Technological, Business and Clinical Use-Case Model to Enhance the Transfer of Digital Health Innovation to Practice

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Aim:
A great deal of digital health research initiatives have not translated into positive practice change for the sector. The aim of this study is to analyse digital health innovations that have not gone beyond research pilots and others that have changed health care practice, to advance a model that can be used to guide new eHealth installations toward successful deployment.

Methods:
Digital health projects that ranged from small pilot studies to large scale deployments were examined from literature and stakeholder interviews to identify critical success factors. The data was analysed for emergent themes to identify critical success factors.

Results:
The analysis revealed that successful projects integrated innovative but stable technology, entrepreneurial business analyses and clinical needs assessments. Successful deployments iteratively evolved use-cases by adjusting technological innovations, business cases and clinical deployments until a use-case emerged that led to practice improvement. The resultant model we call, the Iterative Technical-Business-Clinical Use-Case model was used to guide the development of a remote vital signs monitoring technology from research pilot to commercial application.

Conclusion:
An iterative, Technological, Business and Clinical use-case approach emerged from insights into digital health initiatives that translated into practice and others that did not. The framework can potentially be used to reduce the gap between research and practice.

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Implementation of a nurse-led intervention to augment an existing Residential Aged Care Facility outreach service with a visual telehealth consultation

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Aims:

Up to 75% of residents from residential aged care facilities (RACF) are transferred to emergency departments (ED) annually to access assessment and care for unplanned or acute health events and at times preventable. The primary objective of this study was to assess whether the augmentation of an RACF phone-based ED service with the addition of a visual telehealth consultation (VTC) would reduce RACF rate of ED presentations compared to usual care. The secondary objectives were to 1) monitor presentations to ED within 48 hours post VTC to detect any adverse events and 2) measure RACF staff perceptions of VTC usability and acceptability.

Methods:

This implementation study used a stepped wedge cluster randomised controlled trial design. Study settings were four public hospital EDs and 16 RACFs in two Local Health Districts. Each ED was linked to 4 RACFs with approximately 350 RACF beds, totalling 1435 beds across 16 participating RACFs. Facilities were randomised into eight clusters with each cluster comprising one ED and two RACFs.

Results:

A negative binomial regression demonstrated a 29% post-implementation reduction in the rate of ED presentations (per 100 RACF beds), within ED ACE hours (IRR [95% CI]: 0.71 [0.46, 1.09]; p=0.122). A 29% reduction, whilst not statistically significant, is still clinically important and impactful for residents and EDs. A post-hoc logistic regression demonstrated a statistically significant 69% reduction in the probability that an episode of care resulted in an ED presentation within ED ACE hours post-implementation compared to pre-implementation (OR [95% CI]: 0.31 [0.11, 0.87]; p=0.025).

Conclusion:

Findings have shown the positive impact of augmenting an RACF outreach service to ED with a VTC. Any reduction of resident presentations to a busy ED is beneficial to healthcare overall, but more so to the individual older person who can recover safely and comfortably in their own RACF.

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Linked in – Lactation Telehealth in country Western Australia: Stepping up to make a difference

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The Western Australian Country Health Service (WACHS) Lactation Telehealth Service began in October 2021. The service provides high level breastfeeding care and consults for women with a lactation consultant via Telehealth and was instigated to meet the unmet need of ongoing breastfeeding support for women after discharge from hospital. It is a Telehealth service that seeks to ensure the 'highest possible level of health and wellbeing' with equitable access to all despite the enormity of the geographical expanses of remote WA.

Two lactation consultants started offering Telehealth appointments in October 2021 and by April of 2022 there had been a 430 percent increase in demand for services, correlating with COVID-19 restrictions. The increase in incoming referrals due to restricted services on top of trying to meet the general community need, challenged the service. The service responded with solutions such as expedient triaging of wait listed clients - prioritised according to need, early initial phone consults, along with the sharing of electronic evidence-based resources with clients in the interim period until they could be seen within a 1:1 Telehealth appointment. These initiatives meant clients were supported during their vulnerable time while waiting for their Telehealth appointment.

The service continues to evolve and grow. Some of the successes include the development of Multidisciplinary joint telehealth consults with Lactation Consultants, Speech Therapists and Dieticians, providing holistic client care in response to individual need, and joint Lactation Consultant / regional Midwifery consults, which support midwives and vulnerable babies and families within their own communities. The recent introduction of weekly online breastfeeding education classes for clients has empowered and helps facilitate vital 'community' connection. The importance and relevance of the service for country WA families has been shown by the increasing number of consults and much positive feedback from appreciative clients and healthcare staff.

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Prison Telehealth Project

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The Princess Alexandra Hospital Secure Unit (SECU) in Brisbane is a co-located 12-bed inpatient and outpatient facility. It is the only secure inpatient unit in QLD and the only unit to be co-located with a tertiary hospital in Australia.

The SECU outpatient service offers over 6000 appointments per year, 900 of which are orthopaedic. Unfortunately, up to half of these fail to attend (FTA). Reasons include, inmate refusals, transport issues, prison lockdowns, court appearances and the impact of COVID. FTA rates stand at approx. 40%, increasing to almost 50% during COVID.

X-ray requirements have been a limiting factor for orthopaedic telehealth. This has since been largely overcome through the acquisition of X-ray machines across the correctional sector. Basic imaging can now be completed on site, negating the need for prisoner transportation for X-rays.

To improve clinic efficiency a trial was commenced in May 2022 to drive an increase in telehealth appointments for clinically suitable patients. After 1 year of trial, notable improvements in efficiency have been realised. Telehealth appointments now account for 40% of the clinic representing over 300 appointments per annum compared to less than 30 per annum previously. Overall FTA rate has been reduced by 15% compared to pre-COVID, and 20% compared to during COVID. It is noted that telehealth appointments have a much lower FTA rate (19%) compared to in person appointments (37.5%).

Data has confirmed an increase in activity of 160 more completed appointments during the trial, and the revenue generated easily exceeds the cost of coordinating the service. Furthermore, reduced numbers of inmates travelling to the hospital means QLD Correctional Services stand to save over $100,000 per annum in transport costs, all in all providing a compelling argument for continuation of the service.

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Virtual Hospital in the Home: A new way of delivering traditional care

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During the pandemic, many NSW patients accessed the COVID in the Community program, receiving COVID care at home from Health professionals. NSW Health is building on the learnings and momentum of the COVID in the Community program to expand and grow the Virtual Hospital in the Home services (HiTH). With the use of virtual enablers, such as videoconferencing and remote patient monitoring, eligible patients now receive treatment in a safe pre-determined location as a substitute for in hospital care.

A workshop was undertaken in 2022 to understand challenges in transitioning existing HiTH services to virtual HiTH. Several key themes emerged. Challenges identified included a lack of IT equipment, the need for change management to support and model development to guide the embedding of virtual modalities into existing HiTH services.

As the services have rolled out across the state several challenges and success have been identified.

Change Management support has been a key element of uplifting virtual HiTH. Clinicians were initially tentative regarding the use of virtual modalities in HiTH services. There was concern from clinicians that the quality of care provided was at risk of being substandard. Concerns around safety were also voiced.

Key factors of success focus on ensuring virtual HiTH services are embedded in existing clinical governance structures, measures of success were developed at the outset of the expansion and the model of care had the agility to support patients "flexing" into accessing face to face services when required and moving back to virtual services when patient acuity reduced.

Our presentation will touch on the successes and challenges of the virtual HiTH rollout of this emerging model of care.

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Oral Poster Presentations

Participants' lived experience and acceptability of a suite of imposed and self-selected digital health services to assist with diet and exercise behaviour change in complex chronic conditions: Mixed methods study

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Aim:

To evaluate the acceptability of imposed digital health tools for the assessment and monitoring of diet and exercise; and self-selected digital health services to assist diet and exercise behaviour change.

Methods:

This mixed-methods study was embedded into a feasibility randomised controlled trial which recruited adults from specialist kidney and liver disease clinics. The intervention group were provided a suite of digital health services for diet and exercise including text messages, mobile applications, and video consults. Both intervention and comparator groups received usual in-person multidisciplinary care. Participants recorded their dietary intake via a digital food record (Research Food diary, Xyris Software Pty Ltd) and wore an activity monitor (Fitbit Inspire HR™). Quantitative data were analysed descriptively, and qualitative data were analysed thematically. A modified eight construct Theoretical Framework of Acceptability was used to guide analysis.

Results:

Twenty-nine interviews (n=17 intervention, n=12 comparator) and 50 surveys (n=24 intervention, n=26 comparator) were completed from a possible 67 participants. Higher areas of acceptability related to the constructs: affective attitude (83%, n=20/24, could see it offered long term); ethicality (flexibility of when and where to engage was valued by participants); intervention coherence (digital health purpose was well understood); perceived effectiveness (67%, n=16/24, thought it improved their motivation to eat healthily); and perceived safety (77%, n=17/22, agreed that they felt safe while exercising to the recommendations). Lower to moderate areas of acceptability related to the constructs: burden (technical design challenges); opportunity costs (additional digital health features were desired to improve useability); and self-efficacy (tailored and practical approaches were desired to support behaviour change).

Conclusions:

There were varied experiences and acceptability for digital health services that assess, monitor, and support diet and exercise behaviours among participants with complex chronic conditions. Individualised and technical support remains important to overcome barriers with acceptability of digital health services.

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Development and validation of a survey instrument to measure patients' trust and confidence in using telehealth

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Aim:

Patients' willingness to rely on telehealth and their ability to use it are core components of telehealth adoption, effectiveness and sustained use in healthcare. This study aimed to develop and validate a survey instrument to measure trust and confidence in telehealth.

Methods:

The PAtient Trust Assessment Tool (PATAT) was adapted to measure trust in telehealth and items were developed to measure confidence in using telehealth (phone and video) in two phases. Phase 1: Face and content validity used patients' think-aloud focus group and specialists' feedback. Phase 2: A modified version of the survey resulting from Phase 1 with 5-point Likert scale responses was used to collect data from people with chronic kidney disease at a Brisbane metropolitan hospital. Four exploratory factor analyses (EFA) with oblique rotation promax were used for each of the four surveys to extract factors with a loading of .60 or more, where the fewest possible factors explained the most variance (σ) before rotation. Cronbach's alpha (α) measured the internal consistency of each scale.

Results:

Face and content validity resulted in 17 items to measure trust and 8 items for confidence. EFA results (N=156) for the trust scales were both unidimensional: 1) Trust in phone consultations with 13 items ($\sigma=88.58$, $\alpha=0.92$); 2) Trust in video consultations with 14 items ($\sigma=54.34$, $\alpha=0.93$). EFA resulted in two factors for each of the confidence scales: 1) Confidence in using phone consultations ($\alpha=0.83$), comprising a 4-item 'self-efficacy' factor ($\sigma=77.24$, $\alpha=0.84$), and a 4-item 'experience & support' factor ($\sigma=27.01$, $\alpha=0.81$) and; 2) Confidence in using video consultations ($\alpha=0.83$) comprising a 4-item experience 'self-efficacy' factor ($\sigma=83.92$, $\alpha=0.84$) and a 3-item 'support' factor ($\sigma=26.48$, $\alpha=0.82$).

Conclusion:

The Trust and Confidence in Telehealth scales are valid instruments to measure patients' trust and confidence in using telehealth via phone and video.

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Cost-effectiveness of Telemedicine in Developing Countries: A systematic review

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Aim:

Telemedicine has the potential to increase access in low-resource settings. As affordability is an aspect in the consideration of policy change, this review aimed to identify evidence relating to the cost-effectiveness of telemedicine in developing countries.

Methods:

PRISMA guidelines were utilised, and review was registered with PROSPERO. A systematic search on Cochrane, PubMed and Embase databases for articles published between 2001–2022 was carried out. Two independent reviewers screened, appraised quality, extracted and synthesised data from the included studies.

Results:

Final screening resulted in the inclusion of 21 articles. Two (10%) articles reported a cost-utility assessment of telemedicine. Eleven studies (52%) conducted cost-effectiveness or cost-saving analyses (USD11.43-94112) of the telemedicine intervention compared to the conventional healthcare practice, three (14%) evaluated the cost-benefits (Benefit-Cost Ratio 3.51, 1.23, 1.45) of telemedicine systems, and five (24%) analysed cost comparison. Six studies (29%) assessed cost of telemedicine interventions from a societal perspective, 11 (52%) from patients' perspective, and 13 (62%) included provider perspective. Telehealth services used five (24%) asynchronous, 12 (57%) synchronous, and four (19%) combined interventions. Three articles (14%) reported cost of Disability Adjusted Life Years (DALY) averted (USD200-1985), and two (10%) reported Quality Adjusted Life Years (QALY) as an outcome measure. Only six studies (29%) reported Incremental Cost Effectiveness Ratio (ICER) compared to non-clinical outcomes (INR (-)34,900, USD44), per live saved (USD5,652-56011) per QALY (USD1061-3183, GBP26051), and per DALY averted (USD (-)4288-1985, GBP53). Though analyses on cost were varied, all studies (100%) concluded telemedicine to be advantageous.

Conclusion:

This review identifies inconsistencies in performing an economic evaluation of telemedicine in the low-resource setting. Future studies are required to focus on analysing the cost-effectiveness with the inclusion of an ICER in conjunction with either a DALY or QALY as the clinical outcome measure. Consistent evaluation across studies will allow for transferability of interventions.

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Objective Evaluation of a Training Program for International Telemedicine Conferences in Asia

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Although doctor-to-doctor international telemedicine conferences are useful, many medical facilities in Asia do not have staff trained for technical support. The Telemedicine Development Center of Asia (TEMDEC) has been developing and implementing a training program for international telemedicine conferences in Asia along with evaluation criteria using analytic rubrics to objectively assess participants. In this study, two trainers analyzed the validity of these criteria to determine the rate of agreement.

Nine trainees invited to Japan from six Asian countries participated in a five-day technical training in February 2023. The participants attended telemedicine conferences held at TEMDEC and provided technical assistance. A hands-on experience in setting up a hybrid meeting in a large conference room and live-streaming an endoscopy demonstration using a 360-degree camera was provided. The participants hosted conferences connecting medical institutions in their respective countries to report on the training results. Two TEMDEC trainers assessed the participants using the evaluation criteria and calculated weighted kappa coefficients to obtain agreement rates.

The objective ratings were 3.40 ± 0.73 and 3.56 ± 0.68 for Rater A and B, respectively. There was no difference between the two evaluations ($P = 0.61$). Regarding agreement per item, "motivation and communication" was fair ($K = 0.25\sim0.37$), "venue setup" was moderate to substantial ($K = 0.49\sim0.53$), "equipment operation" was moderate or substantial ($K = 0.49\sim0.53$), and "quality control and troubleshooting" were substantial or almost perfect ($K = 0.63\sim0.84$). "Handling medical contents" was moderate ($K = 0.44$).

There was a high agreement rate in items where the level of understanding is easily expressed in behavior; however, the objective evaluation of communication and motivation may have been difficult because participants individually communicated with remote colleagues in their native languages. Comparative studies in long-term programs should address the handling of medical content.

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One-way Video in Clinical Consultation

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Whakarongorau Aotearoa supplies New Zealand's National Telehealth service; including Healthline, a free 24/7 service which gives telephone access to Nurses, paramedics and Doctors. In 2020 still-image upload was released within the service and resulted in improved disposition advice. In 2023 one-way video was enabled. This case discussion reviews the use of image and video upload in a free to the public consultation service. Of particular interest is the user experience of one-way video, the volume of video use within the service and equity issues of care delivery where access to data and devices is required.

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Measuring the Cost Effectiveness of Telehealth to Rural and Remote patients for fracture management

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Mount Isa Hospital (MIH) is a main referral centre within the North-West Hospital and Health Service (NWHHS) in Rural Queensland. However, there is no orthopaedic department onsite, and the nearest orthopaedic service available is Townsville University Hospital (TUH) which is 900km away. Telehealth fracture clinic (TFC) has been held twice a week between MIH and the Princess Alexandra Hospital (PAH) in Brisbane by two consultant orthopaedic surgeons for 15 years, which helps to minimise patient travel and manage the conditions locally.

This study aims to compare one calendar year of onsite costs using the telehealth model with the estimated transfer costs to a large regional hospital for ongoing management and whether TFC has reduced the healthcare service cost.

A retrospective cost analysis of TFC from 1st January 2022 to 31st December 2022 was conducted. The data on the TFC referrals, attendances and demographics were collected by MIH nursing staff.

During the study period, 96 clinics were held, and a total of 971 patients attended, which consisted of 679 adult patients and 292 paediatric patients. The average fail-to-attend rate was 31.5%, and 41.7% of the referrals were Indigenous. The transfer cost was estimated at $1330 for an adult and $2660 for a child with an accompanying adult. The cost of running the TFC was estimated at $1263 per clinic. During the 12 months of the study, there were overall savings of approximately $1,558,554 for the healthcare service.

The TFC at MIH resulted in significant cost reduction to the healthcare service by minimising unnecessary patient travels. The surplus funds may be channelled towards enhancing rural areas' resources and service capabilities, such as health advocacy for Indigenous populations. This model of telehealth practice has the potential to facilitate the adoption and implementation across various geographically dispersed and underserved rural and remote regions.

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Successful Implementation of Telehealth Groups for Rehabilitation Patients in Rural South Australia: Lessons Learned from the Pandemic

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This case study focuses on the successful implementation of Telehealth group sessions by the Berri Outpatient Rehabilitation during the COVID-19 pandemic. The Telehealth groups targeted rehabilitation patients on stroke, hip fracture, amputee and deconditioning pathways, aiming to provide practical and accessible rehabilitation services to consumers in their regional catchment.

By developing group programs based on the strengths of clinicians, the program was able to offer a diverse range of group sessions to meet the needs of consumers. The success of the Telehealth groups was evidenced by high levels of satisfaction reported by participants, underlining the benefits of increased accessibility, convenience, and social support.

To achieve this success, clear guidelines for group sessions, training, and support to clinicians were provided. Regular surveys and follow-up sessions were implemented to ensure they were meeting the needs and expectations of the consumers. This data was regularly fed back to the clinicians to allow continual improvement.

By using Telehealth, the Berri Rehabilitation Unit has transformed rehabilitation group services in rural and remote areas, providing patients with access to high-quality care previously limited by geographical and isolation barriers. The case study highlights the importance of adapting to meet consumer demand, particularly in a rapidly evolving healthcare landscape.

Telehealth groups have now become standard inclusion for all outpatient rehabilitation consumers enrolled in the Berri Rehabilitation Program. The inbuilt ongoing evaluation and refinement measures continue to improve the delivery and outcomes of the program.

The positive consumer engagement through the Berri Outpatient Rehabilitation Telehealth group programs highlights the need to continue incorporating Telehealth groups as part of a well-rounded rehabilitation program. By doing so, rehabilitation units can expand accessibility, increase consumer contact time, and enhance the quality of care in rural and remote areas, providing patients with the possible care, regardless of their location or any potential future disruptions to in-person services.

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Factors Influencing the Satisfaction of an Online Medical Conference: A Report from the Oto-Rhino-Laryngological Society of Japan, 2021

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The integration of advanced technology in medicine has led to the rise of telemedicine conferences, bridging gaps in medical knowledge among physicians. These conferences vary in size from one-on-one teleconsultations to large-scale events with hundreds of participants. Past studies have indicated superior quality of presentation materials, greater ease of participation, and better concentration during online conferences compared to physical meetings of similar sizes. However, the specific factors that significantly influence a positive experience in online meetings and their interrelationships remain undetermined. Understanding these factors could facilitate the design of more effective online conferences. Hence, we analyzed post-conference survey data from an online conference we co-organized to identify which factors positively influence participants' overall rating of online conferences.

We conducted an online survey for all participants of the Kyushu Regional Meeting of the Oto-Rhino-Laryngological Society of Japan, an online academic congress held on May 30, 2021. The survey included seven multiple-choice questions and two open-ended questions, focusing on how each participant associated potential factors with their satisfaction levels in online conferences. We used regression analysis to examine the correlations among factors in the multiple-choice responses, while the open-ended responses were subjected to quantitative text analysis, using correspondence analysis to examine frequently occurring words in relation to each attribute. Of the 516 attendees, 433 (84%, 433/516) responded to the online survey. Our analysis revealed that: (1) the ease of asking questions was a significant factor that positively influenced the evaluation of online meetings (.28), (2) the ease of asking questions also positively affected the ease of discussion (.48) and communication (.26), and (3) technical difficulties did not significantly negatively impact the evaluation of online meetings. Therefore, telemedicine education should prioritize enhancing interaction among participants, at least as much as resolving technical issues in online medical conferences.

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Connecting The Dots: Adelaide PHN's role in improving access to timely care for aged care residents via telehealth

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Timely access to primary care continues to be an issue for senior Australians living in Residential Aged Care Homes (RACHs). This was a key finding of the Aged Care Royal Commission which prompted a $178.9 million funding to Primary Health Networks (PHN) across Australia to support Residential Aged Care Homes setup telehealth infrastructure and enhance out of hours care. With a primary focus on enhancing accessibility and quality of care, Adelaide PHN leveraged on the government's funding to create a program (Telehealth in RACHs program) aimed at overcoming the barriers to timely health for Senior Australians through technology. Our poster presentation explores how this program was implemented, the approach, impact as well the support required to ensure sustainability.

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How do people truly feel about telehealth? A mixed-methods analysis of experiences, perceptions, and expectations on Twitter

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Aim:

Telehealth use has increased considerably in the last few years and evidence suggests an overall positive sentiment towards telehealth. Twitter has a wide userbase and can enrich our understanding of telehealth use, expressed in an unbiased and unprompted way. This study aimed to explore the experiences, perceptions and expectations about telehealth expressed on Twitter over the last five years.

Methods:

Mixed-methods study with sequential complementary quantitative and qualitative phases was used for analysis stages comprising 1) a quantitative semiautomated analysis and; 2) a qualitative research-led thematic analysis. A machine learning model was used to establish the dataset with relevant English language tweets from 01 September 2017 to 01 September 2022 relating to telehealth using predefined search words. Results were integrated at the end.

Results:

From the initial 237,671 downloaded tweets, 6,469 had a relevancy score above 0.8 and were input into Leximancer and 400 were manually analysed. Experiences, perceptions, and expectations were categorised into three domains: experience with telehealth consultation, telehealth changes over time, and the purpose of the appointment. The most tweeted experience was expectations for telehealth consultation in comparison to in-person consultations. Users most mentioned the hope that waiting times for the consultations to start to be less than in-person, more telehealth appointments to be available, and telehealth to be cheaper. Perceptions around the use of telehealth in relation to healthcare delivery changes brought about by the COVID-19 pandemic were also expressed. General practitioners (GPs) were mentioned six times more than other healthcare professionals.

Conclusion:

This study found that users expect telehealth services to be better, more affordable and more available than in-person consultations. Users acknowledged the convenience of not having to travel for appointments and the challenges to adapt to telehealth.

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Poster Presentations

Building a vibrant community of practice, 'Easy to say, not so easy to do': Reflections in the development of a local community of practice

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Project ECHO Older Persons network was developed in partnership between the West Moreton Darling Downs Primary Health Network (WMDDPHN) and West Moreton Health (WMH) in 2021, to deliver a virtual community of practice to support clinicians working with older persons across the region. The Darling Downs West Moreton ECHO region covers 100k square kilometers and 12 local government areas. Some of the critical challenges facing this region include vast geographical distances, inequitable access to services, and an unprecedented older persons population growth with a high degree of health burden and vulnerability. The cornerstone of the WMDD Project ECHO model fosters an interactive conversational community of practice, linking like-minded practitioners. Traditionally, communities of practice tend to develop with small groups of participants meeting locally face to face, a model that can disadvantage isolated or rural clinicians. ECHO Older Persons network has established a successful virtual community of practice that allows clinicians in rural and remote locations to connect virtually, to interact, share knowledge and resources in a way that supports innovation, professional development and problem solving. Topics are chosen according to interest expressed via a Learning Needs Analysis and Participant feedback. Not only does the WMDD ECHO have a large registration base (approx. 150) and consistent participation in the sessions, but there are also multiple examples showing how participants have utilised connections and learnings from fellow ECHO participants demonstrating 'on the ground' improved outcomes for older persons. Key lessons learnt: Keep it local to the region: Panel members and presenters are invited mostly from the local communities which builds connection, grows confidence, ownership, and collaboration between participants in delivering care. Ensure adequate time for case study and didactic presentation: Although challenging to keep the topic presenter to time, feedback confirmed participants valued the ECHO structure and opportunity to engage.

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A continuous quality improvement to develop culturally safe telehealth guidelines

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During the recent SARS-CoV2 pandemic the social and emotional wellbeing of many Aboriginal people was negatively impacted, with people feeling isolated, disconnected from community, and unable to access care.

Whilst Digital Natives are looking and embracing disruptive alternatives to traditional face-to-face care, there is a need for Aboriginal Community Controlled Health Organisations (ACCHOs) to understand how best to develop sustainable telehealth models that appropriately connect with and support their communities' health and well-being.

This paper identifies key elements of delivering culturally safe telehealth services for Aboriginal clients using telephone and videoconferencing technologies to maximise connections, build a positive rapport and relationship with clients, and deliver safe care that meets clients' needs.

Based on the review of the literature, practice wisdom of Aboriginal Health Workers/Clinicians, and the views and needs of Aboriginal community members, Budja Budja Medical Clinic developed Practice Guidelines to maximise positive telehealth experiences and health outcomes for its clients.

In this paper we discuss the findings of the research which identifies elements of new approaches that need to be incorporated, which includes: the importance of co-design approaches, understanding needs within and across communities, focussing on effective mechanisms to coordinate clients care, fostering confidence and trust in the use of new technologies, and developing innovative methodologies through continuous quality improvement.

We are at the start of a Digital Health revolution, and it is important ACCHOs are supported to establish appropriate infrastructure and build health professionals' and communities' capacity to engage effectively in culturally appropriate ways of using digital technologies, lest Aboriginal communities are further disadvantaged in accessing care.

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Balancing Act: Trade-Offs for Decision Makers in Economic Evaluations of Virtual Care Programs

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Virtual care has emerged as an effective solution for connecting patients with healthcare providers, particularly in remote and underserved areas or when patients are unable to travel to access services. By leveraging technology, virtual care has the potential to:

- produce economic benefit associated with the combination of impacts on transportation, hospital admissions, emergency department visits, and patient follow-ups and reduce healthcare inequity.
- improve patient outcomes and experiences (e.g., reduce time spent attending services or improve ease of disease monitoring), as well as improve clinician experience of delivering care (e.g., quality of care and workload management).

To facilitate policy design and implementation, the NSW Ministry of Health has conducted economic evaluations of several statewide virtual care initiatives (e.g., tele ECG and telestroke).

These evaluations aim to assess the cost-effectiveness and impact of the respective programs on the NSW community and health system. The evaluations are conducted within the framework of Value Based Healthcare, which strives to deliver health outcomes that matter to patients, improves patient experiences of receiving care, enhances the experiences of healthcare providers, and promotes the effectiveness and efficiency of care.

In some instances, the economic evaluations have produced compelling insights that require careful consideration from decision makers. For instance, one notable finding is the substantial initial implementation costs associated with virtual care platforms, which can pose challenges given limited budgets. This requires deliberation of the most effective approach to establish virtual care platforms, whether it involves a cohort-specific model, a hub and spoke model, a generalist model, or a combination thereof. Another dilemma arises from the balance between patient outcomes and health system sustainability when considering a program that improves diagnoses rates, consequently resulting in increased costs for the health system due to the delivery of optimal treatment.

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Enhancing Rural Cardiac Rehabilitation through Artificial Intelligence in South Australia's Remote areas

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Introduction:
Residents in rural and remote areas of Australia face limited access to primary healthcare services compared to those in major cities. Internationally, cardiac rehabilitation is recognised as the most effective intervention that prevents secondary cardiac events in patients with cardiovascular disease and as such it is recommended that all patients be referred to a CR service following a cardiovascular event. It was identified that there were lower rates of enrolment in and completion of cardiac rehabilitation (CR) for rural patients due to multiple barriers preventing them from accessing CR programs. The mean waiting time for CR is ~6 weeks, the mean time off work is ~4 weeks. Waiting times, employment, and travel distances have all been identified by rural patients as a barrier to access CR services. Through telehealth CATCH can deliver its services in the patient's home with a waiting time of 1-2 weeks. Country Access to Cardiac Health (CATCH) is a telephone based cardiac rehab service providing support and guidance to rural and remote South Australians. The CATCH service commenced in 2015 as a partnership between iCCnet and Country SA Medicare Local (now Country SA PHN) with the goal of improving participation rates in cardiac rehabilitation programs for rural patients and hence improve their health outcomes. This service is delivered one on one affording the unique ability to provide patients with individualised, tailored programs designed around their specific health needs and goals. Through education relevant to their situation the service empowers patients with the skills and understanding to become an active member of their healthcare journey.

Aim:
To review efficacy of using telehealth as a method of delivering CR services to patients residing in rural and remote areas of South Australia to improve access and completion of CR programs.

Methods:
Referral, participation and completion rates for SA rural patients across each local health network were reviewed for the past 12-month period. Data was collected from the central cardiac referral database, which captures data for rural patients referred for traditional face to face CR and compared with data from the CATCH database, which captures data for rural patients referred to CATCH cardiac tele rehab. Eligibility criteria for patients to be referred to the CATCH Tele rehab program, as opposed to being referred to a face-to-face service is that patient resides more than 50km from a facility providing traditional face to face CR.

Results:
1942 patients were referred to traditional face to face CR services and 518 referred to CATCH tele rehab service. Both average participation rates (56.5% vs 27.1%) and completion rates (88.4% vs 37.7%) were higher across all SA LHNs for patients delivered CR services by

CATCH tele rehab than by traditional face to face service.

Conclusion:

The findings demonstrate that the use of telehealth to provide CR services to rural patients in SA has significantly improved participation and completion rates for this patient cohort.

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Digital Patient Empowerment: Enhancing Chronic Disease Management Through a Patient-Centred Remote Health Monitoring Program in Rural South Australia

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Introduction:
Residents in rural and remote areas of Australia face limited access to primary healthcare services compared to those in major cities (Australian Institute of Health and Welfare, 2022). This inequity is particularly concerning, given that individuals with three or more chronic diseases have 40.8% greater odds of requiring healthcare services (Leach, Gunn, & Muyambi, 2022). The limited access may hamper the continuity of care and effectiveness of care plans for these chronic patients. Digital health can be a feasible approach to promote equitable access to primary healthcare while enhancing health education and ultimately supporting the self-management of chronic diseases (Tighe et al., 2020).

Aim:
To evaluate the impact of a patient-centred Remote Health Monitoring (RHM) program on self-management among chronic disease patients in rural and remote areas of South Australia.

Methods:
A cross-sectional survey evaluated the experiences of 60 patients in remote areas enrolled in iCCnet's Remote Health Monitoring program. As inclusion criteria, participants must have had at least a month's enrolment, one or multiple chronic conditions, and live in rural South Australia. Eligible patients received an SMS invitation that outlined the survey's voluntary and confidential nature. Data were analysed thematically, and percentages were calculated based on the number of respondents for each question.

Results:
The survey, sent to 60 patients, received responses from 30 who revealed high satisfaction levels with the RHM program. Notably, 87% gained confidence in managing their health, and 87% felt capable of handling health episodes at home. Thematic analysis of open-ended responses highlighted 'Service Efficiency and Effectiveness' as a notable strength of the program.

Conclusion:
The findings demonstrate that the patient-centred RHM program significantly promotes self-management and confidence in healthcare. The overwhelming majority of chronic disease patients felt empowered and assured enough to manage their healthcare needs at home.

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Enhancing Rural Cardiac Rehabilitation through Artificial Intelligence in South Australia's Remote Areas

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Introduction:
Australia's rural and remote residents face substantial challenges in accessing primary healthcare services compared to their urban counterparts. Globally, cardiac rehabilitation (CR) is recognized as a highly effective intervention for preventing secondary cardiac events in patients with cardiovascular disease. Consequently, international guidelines recommend referring all eligible patients to a CR program following a cardiovascular event. However, rural patients experience lower enrolment and completion rates in CR programs due to multiple barriers, including extended waiting times (approximately 6 weeks), prolonged time off work (averaging around 4 weeks), and significant travel distances to access CR services. These obstacles were identified by rural patients as major deterrents. To address these challenges, the Country Access to Cardiac Health (CATCH) program was established, offering telephone-based cardiac rehabilitation services to rural and remote South Australians. CATCH, initiated in 2015 through a partnership between iCCnet and Country SA Medicare Local (now Country SA PHN), aims to enhance participation rates in cardiac rehabilitation programs for rural patients, ultimately improving their health outcomes. The CATCH program provides individualized, tailored programs aligned with patients' specific health needs and goals, offering education and support to empower patients to actively engage in their healthcare journey. Telehealth, by operating in the digital domain, offers a particular opportunity for the application of modern data techniques to care.

Aim:
To better allocate resourcing, create a flexible neural network to predict hospitalizations in the 12 months following a cardiac event.

Methods:
Referral, participation, medication, lipids and completion rates for rural patients in South Australia were reviewed over a 12-month period across each local health network. Data was collected from the central cardiac referral database, which records information for rural patients referred to traditional face-to-face CR programs or CATCH a flexible neural network model was employed to predict hospitalizations in the 12 months following a cardiac event, using patient data and clinical variables.

Results:
The use of a flexible neural network yielded promising results in predicting hospitalizations in the 12 months post-cardiac event, enhancing the overall care and outcomes of these patients. By making these results available to clinicians, patients at higher risk will be able to receive a greater level of care and oversight.

Conclusion:

The integration of a flexible neural network for hospitalization prediction represents a promising step towards personalized and proactive healthcare for cardiac patients in remote areas.

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Global Telehealth and Telemedicine Adoption Resilience: 2019-2023

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The ongoing global health crisis, characterized by a scarcity of healthcare resources, particularly healthcare personnel, has spurred the rapid adoption of telemedicine and telehealth services, especially in the aftermath of the COVID-19 pandemic. This review study presents a comprehensive assessment of the worldwide adoption of telehealth and telemedicine, shedding light on their utilization across different continents. A rigorous assessment was employed, involving the examination of peer-reviewed articles from Cochrane Library, Pubmed/Medline, Scopus and Web of Science databases. Articles published before Jan 1, 2019, as well as those from alternative databases, duplicates, news sources, and blogs, were excluded from consideration. The inclusion criteria focused on articles published on or after January 1, 2019, ensuring the relevance of the findings to the pandemic and post-pandemic era. The analysis revealed distinct adoption trends among countries across continents, defined based on the scope of telehealth services, encompassing administration, disease diagnosis, treatment, patient follow-ups, pharmacy services, and electronic health records integration. Among the countries surveyed, 35.1% were classified as advanced adopters, 26% as developed adopters, 31.1% as developing, and 7.8% as emerging adopters. In conclusion, this study offers a comprehensive overview of the global adoption of telehealth and telemedicine, highlighting the extent to which nations have embraced these technologies since the onset of the COVID-19 pandemic. The findings serve as a valuable resource for healthcare stakeholders, guiding efforts to harness the potential of telehealth and telemedicine in shaping the future of healthcare delivery.

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Working together to effectively communicate with culturally and linguistically diverse communities about virtual care

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The NSW Ministry of Health held focus groups with stakeholders from CALD backgrounds to understand the CALD community's experience of virtual care. Three 90-minute consultations included cultural support workers, bilingual community educators and community members from CALD backgrounds. 60 participants in total. Nineteen languages other than English were spoken by participants. Participants were more familiar with 'telehealth' but not 'virtual care'.

Several benefits were identified for using virtual care, including reduced travel and costs, ability to support others, particularly older people, in virtual consultations and ability to receive care in a culturally safe environment.

Barriers identified included limited access to devices, low health literacy, lack of social support, language and communication challenges and insufficient virtual interpreter services.

Participants wanted more information about types of virtual care, when virtual care is appropriate, preparing for virtual care appointments (checklist), accessing interpreter services or translated materials, costs of appointments and privacy.

Patient choice was considered to be an important message to emphasise in communications materials and several participants felt that learning from other people's experience through the use of videos and case studies was helpful.

Ultimately stakeholders felt working with community leaders would build trust, acceptance, and uptake of virtual care and will help increase the visibility of virtual care. It was also agreed that it was important to translate virtual care resources into community languages.

Channels identified for accessing culturally specific communications: social media, radio, mail, community events, advertising at GP clinics, community centres and health centres, newspapers, flyers and signage, and National Ethnic and Multicultural Broadcasters' Council (NEMBC).

Conclusion:

1. Include CALD community representatives in the co-design and development of communication initiatives and materials.
2. Promote virtual care using multimedia communications and multi-channel promotion.
3. Ensure that key resources are translated into multiple languages.

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Around the Kitchen Table: Consumers consulting consumers on virtual care

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The aim of this project is to better understand community sentiment and preferences for virtual care communications. Community members will be asked about their:

- understanding of virtual care
- experiences of virtual care
- communication preferences
- when and who is offering virtual care as an alternative to in-person consultation, and
- how do they want to learn about virtual care.

The NSW Ministry of Health engaged five consumers with strong community connections to host a discussion in person or online with members of their local community who may have experienced virtual health care in the last 12 months to two years. "Kitchen Table Discussions" (KTDs) were held across several NSW regions. KTDs are a proven methodology to reach beyond informed consumers to hear the voice of grassroots community and health consumers who would not normally engage in more formal consultation. A total of 43 consumers, ages 44 to 81, were consulted across five KTDs.

The majority of consumers had experienced some form of virtual care during the past two years but not all were aware it was virtual care or telehealth, or if it was just normal communication between health provider and patient.

Most learnt about virtual care during COVID when it became the preferred option for GPs and specialist services.

Participants like virtual care and would like the option to choose how they have their appointments i.e. whether it is virtual or in-person, or ability to alternate as they need.

Conclusion:

Consumers would like to see more information and education on what virtual care is and when and how it can be used.

Assisting them to know where virtual care is available is important.

More accessible, plain language information available through trusted avenues including GP clinics, pharmacies, local community services as well as websites.

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First Nations communities and Virtual Care: Meaning and Message

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Aim:
The aim of this project is to better understand First Nations community sentiment and preferences for virtual care.

Methods:
Consultation sessions were held digitally, during 2022 with 16 participants across two sessions, focused on the health sector. An additional one on one consultation was undertaken with a participant who was unable to make the sessions. The total participant views captured in this report is 17.

Results:
Results showed there was consistent awareness across participants from urban, regional and remote locations, however all participants from remote locations were aware of virtual care as a core offering for accessing health care in their community. Male participants were slightly less likely to have experienced virtual care, with 5 out of 7 demonstrating awareness compared with 10 out of 10 women.

There was an overwhelming positive attitude to virtual care as a concept shared by all participants. Some raised concerns about "losing the personal touch with care" over the phone or internet and that "mob struggled with building trust with their health care provider.

Barriers included lack of experience and knowledge in accessing the technologies and digital literacy. Many felt the community perceived virtual care as being forced upon them rather than having a choice in how care is delivered.

Conclusion:
- Position virtual care as a choice for First Nation patients.
- Develop a series of culturally tailored printed and digital resources, that use strong visual elements to demonstrate different ways virtual care can be applied.
- Share positive, strengths-based user experience stories of First Nations people.
- Consider workforce training and support programs.
- Consider a series of online training or webinars, tailored to Aboriginal health sector.
- Consider local community event presence, to show virtual care technologies and provide opportunities for the community to learn and ask questions.

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Safety & Quality Lens on COVID@homeplus, Tasmanian Health Service

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COVID@homeplus is an innovative nurse led program, that brings together acute, community and primary care to provide a safe and effective in-home health care. Telstra Health MyCare Manager provides the program with a secure scalable digital health platform that enables individuals to monitor their symptoms, vital signs, and wellbeing.

The program design has incorporated several key elements to ensure adequate review, evaluation, and risk mitigation. This has enabled the program to be agile and respond seamlessly to new challenges.

The multidisciplinary team at COVID@homeplus continually places the lens of safety and quality on the service to ensure improvements and opportunities are taken to enhance the service provided. One of these service innovations was adapting and implementing the Measurement Analysis Reporting System (MARS) for a virtual health care service. This initiative audits the care planning, management and provision which is based on the National Safety and Quality Health Service (NSQHS) Standards and specific care requirements for people suffering from COVID-19 and other respiratory illnesses. The audit tool created included partnering with consumers to optimise care provision and to foster consumer engagement in virtual service delivery.

COVID@homeplus has adapted the traditional MARS tool to enable auditing of the care planning and management delivered virtually. The COVID@homeplus team use the MARS auditing system as a mechanism for measuring service delivery effectiveness and it assists clinicians and non-clinicians in understanding if the delivery of care is in alignment with evidence-based practice, policy, and protocols. The audit results aid in celebrating care success and inform opportunities for improvement.

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Student speech pathologists' experiences of speech pathology telepractice placements in comparison to in-person placements

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Introduction:
Telepractice placements in speech pathology have increased in recent years. There is emerging evidence that telepractice placements enable students to develop their skills, knowledge and confidence while providing quality clinical care. However, little is known about the perceptions and experiences of speech pathology students during telepractice-delivered intervention and supervision that underpin these outcomes.

Methods:
This mixed methods study with Australian speech pathology students involved two phases. Phase 1: On-line questionnaire (n = 56) exploring students' perceptions of telepractice for clinical services and student supervision, analysed descriptively. Phase 2: Five on-line focus groups (n = 20), exploring student learning and development, clinical supervisory practices and other potential influences in telepractice placements, analysed inductively using qualitative content analysis.

Results:
Phase 1: Students reported varied experiences with telepractice (TP) placements; 35% felt more confident in TP and 42% more confident in-person. 57% positively changed their perceptions of TP after having a TP placement. 81% reported developing different skills in a TP placement compared to an in-person placement; TP was reported to be more effective for learning organisation and time management skills but less effective for interacting with administrative and other staff, managing clients' behaviour and working with clients with complex needs. Phase 2: Focus group discussions qualitative content analysis (Graneheim & Lundman, 2004). Themes and subthemes were developed reflecting issues including emotional responses, skill development, barriers and facilitators of learning and student competencies.

Conclusion:
Student perceptions of telepractice and in-person placements vary, and the different placement modalities are associated with differences in student practices, clinical supervision and student learning. Understanding these will differences assist universities to proactively plan, maximise student learning and ensure quality care.

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