



Virtual health care solutions capability statement

CSIRO's Australian E-Health Research Centre can power your digital health solutions across the spectrum of virtual care. We offer comprehensive research and consulting services to support successful virtual care solution development, implementation and evaluation. The depth and breadth of our research team is unique, combining specialist research experts with domain knowledge such as implementation scientists, epidemiologists, clinical trial specialists, health data scientists, health statisticians, data linkage experts, project management and economists. We also have clinician researchers with demonstrated understanding of complex healthcare models. We work with you to build a team with the expertise you need to deliver high impact research outcomes for large projects.

Virtual care research design, evaluation and implementation

Inputs (what we do)	Activities (how we do it)	Outputs (what we produce)	Outcomes (what we have improved)	Impact (sharing our findings)
<ul style="list-style-type: none"> • 30 years + experience in Implementation science methodologies, frameworks, and theories. • Research expertise in large scale evaluation and development of novel approaches to measure, evaluate and facilitate the implementation of virtual care solutions. • Experience codesigning approaches working with end users including consumers and clinicians to develop feasible, acceptable and appropriate virtual care solutions. 	<ul style="list-style-type: none"> • Needs assessments to identify stakeholder virtual care requirements. • Define implementation strategies and evaluation outcomes with stakeholders. • Engage with consumers, clinicians, and other stakeholders to gather insights. • Apply mixed methods, systematic implementation science approaches to measure and enhance implementation strategies. 	<ul style="list-style-type: none"> • Effectiveness evaluation of National Coronavirus Helpline. • Implementation enhancement plans for refining and modifying an in-hospital virtual care platform. • Patient and system wide evaluation of models of chronic care. • Evaluation of a national telehealth trial for chronic disease. • Total knee replacement digital rehabilitation trial with J&J. • Design, development and evaluation of mHealth platforms for the management of chronic conditions 	<ul style="list-style-type: none"> • Increased uptake of virtual care solutions. • Measurement of clinical and implementation outcomes to show effectiveness and generate recommendations for future implementation attempts. • Improved acceptability. 	<ul style="list-style-type: none"> • Enhanced recognition of virtual care solutions through media articles showcasing research outcomes. • Publications in peer-reviewed journals provide credibility for clinical and implementation effects • Presentation at domestic and international conferences can enhance awareness virtual care solution research outcomes. • Demonstration of the use of innovative mHealth technologies (mobile health, home monitoring) combined with sound clinical research.

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Benefits of working with us

- Expertise in implementation science specifically focused on virtual care implementations.
- Tailored implementation strategies codesigned to meet the unique needs and challenges of healthcare.
- Stakeholder engagement and training programs to facilitate successful adoption.
- Evaluation frameworks to measure and enhance the impact of virtual care initiatives.
- Commitment to evidence-based practices and continuous improvement.
- Expertise in metropolitan, rural, remote and research collaborations with Indigenous Australians.
- Multi-disciplinary research approach from quantitative to qualitative researchers. Research expertise crosses all aspects of health and social care disciplines, public health, and human computer interaction designers, alongside core technology research skills such as engineering, science, statistics and implementation science.

Example projects

- Evaluation of **Victorian Department of Health and Human Services (DHHS) HealthLinks Chronic Care (HLCC)**, a unique system, service and intervention level three-year evaluation to determine patient and health service outcomes of this new public hospital funding program. The impact of this evaluation was to bring about a change in mindset about how to identify and manage chronic and complex care patients.
- **Rauland Australia** concentric care platform: evaluation of an inpatient falls prevention workflow system. We developed an implementation enhancement plan to further refine and modify the implementation of the system. The process used to develop and execute the implementation enhancement plan resulted in actionable and measurable improvements to the system and the way its' delivery is supported.
- Evaluation of the effectiveness of the **Healthdirect** Living with COVID program, which was designed to assist COVID positive consumers who have a low or medium risk of hospitalisation to manage their care at home. The evaluation demonstrated the significant cost-efficiency of the program in terms of resource shifting to support appropriate consumer health care seeking behaviours.
- Evaluation of Home Telemonitoring for Chronic Disease Management: **CSIRO led a national trial of telehealth in Australia - the first of its kind**. The trial examined several outcomes such as hospitalisations, length of stay in hospital (LOS), MBS costs, PBS costs and mortality. Outcomes from this trial were a reduction in unscheduled admissions to hospital (down 24-36% in one year), a reduction in length of stay (34-42% over the first year), and a reduction in mortality (32-48%).
- Total Knee Replacement Trial: A large **multi-state RCT co-funded by J&J Australia** and investigating the efficacy of a digital platform in supporting rehabilitation of Total Knee Replacement patients, which has demonstrated an important step prior to introducing the platform to the market and healthcare practices.
- The Smarter Safer Homes Trial: A large randomised control trial which was funded by **Dementia Services Australia** to investigate whether smart home technology can support people to live in their homes for longer. This research demonstrated that people with a smart home installation the smarter safer home intervention improved their social care related quality of life. Subsequently, the smart home technology has been listed as a Critical Technology by the Department of Industry, Science and Resources.