

Digital health at Deakin

Digital health technologies offer an equitable, inexpensive and accessible way to deliver health services and treatments.

Australia's federal, state and territory governments have all prioritised digital health as key to improving service delivery and health outcomes, now and for the future. [The National Digital Health Strategy and Framework for Action](#) sets out ways technology could help us better meet patient needs, coordinate care and inform treatment; improve healthcare availability and accessibility; build a more efficient and sustainable healthcare system; and protect national digital health infrastructure and the personal health information of Australians.

From smart homes to smart apps, digital health at Deakin includes eHealth (health care practices supported by electronic processes and communication); mHealth (using mobile phones and tablets for health services and information); remote patient monitoring; virtual health (where technology and patients are collaborators in healthcare delivery to overcome time and distance barriers); and other electronic health programs, including telehealth, telemedicine, electronic medical records and evaluation of digital health technologies.

Please join us, as together we develop digital health solutions to improve health outcomes and access to healthcare for all Australians.

Smart homes for better health

Digital technologies can help older people live in their own homes for longer, or support people with chronic illness to manage their condition.

Through the [ARC Industrial Transformation Research Hub for Digital Enhanced Living](#), Deakin's [Applied Artificial Intelligence Institute \(A²I²\)](#) and [Uniting AgeWell](#) are working together to help elderly people continue living safely at home. Using a vacant unit at Uniting AgeWell's Yernga Independent Living Village in Melbourne as a living lab for smart technology, the research team is adapting and optimising technology such as voice assistants like Google Home or Alexa; smart plugs that tell the user if appliances are left on; motion detectors; voice controlled lights; and video calling tablets to enable older people to maintain their independence and wellbeing.

'Having access to leading academic experts in artificial intelligence and other cutting edge technology fields has the potential to unlock innovative services and transform the experience of ageing of our customers, a goal that an aged care provider alone could not achieve.'

**Nina Bowes, Director of Strategy and Innovation,
Uniting AgeWell**



At Deakin's [Institute for Physical Activity and Nutrition \(IPAN\)](#), researchers are leveraging digital technologies to improve physical activity, nutrition and health across the entire lifespan, among people with and without specific health conditions.

The team is designing and developing a smart home ecosystem that connects different elements in the home to support people living with heart failure to better self-manage their care. The Smart-Heart project is a significant advance from existing management approaches for people with heart failure and has potential for expansion to other health conditions. The project involves a range of national and international partners.

'Working with academics who are driving innovation aligns closely with our goals to improve access to healthcare, support and strategies for managing chronic disease. We are at the early stages in our collaboration but are enthusiastic to make a valuable contribution to the Smart-Heart project.'

Hubert van Dalen, Managing Director, eHomeCare



Deakin's Centre for Social and Early Emotional Development (SEED) is working in partnership with Wayapa Wuurrk, an industry partner providing an Indigenous-led and culturally derived earth connection program. Together with A²I², the Deakin School of Communication and Creative Arts and a range of government and community organisations in the Geelong-Barwon region, the project will trial a smartphone intervention to increase parents' ability to support their children's emotional development and help prevent child mental health problems.

Aimed at parents of two- to four-year old children, the app employs artificial intelligence-based smartphone technologies to tailor intervention resources so they are relevant to specific parenting situations, such as negotiating snacks or screen-time, and personalise the delivery of specific interventions.

'This project is supported by a long-standing partnership between Wayapa Wuurrk and the Deakin team. The project will be co-led by the Deakin and Wayapa Wuurrk teams with a mutual goal of building evidence for Aboriginal wellbeing practices. We are excited to work with Deakin and believe that the project will build our industry research capacity, build evidence for the Wayapa Wuurrk practice, as well as build Aboriginal research capacity more generally. Through offering culturally derived content, and combining emerging technologies never before used in parenting programs, the project offers the potential for transformative change for both Australian Indigenous and non-Indigenous communities.'

Jamie Marloo Thomas, Project Chief Investigator and Wayapa Wuurrk Co-Creator and Managing Director

Apps for treatment and intervention

Smartphone technology offers opportunities for largescale health promotion and treatment management that reaches patients wherever they live, including appointment monitoring, mental health support and access to targeted information.

Researchers at Deakin's Institute for Health Transformation (IHT) have developed and tested the smartphone 'Application to reduce unmet needs among people diagnosed with CancEr', or ACE.

Based on consumer feedback, the ACE app prototype was developed with partners Barwon Health, Simple Solutions and Optus to provide appointment reminders from treating health services, support services and clinical trials information, and allied health resources to people newly diagnosed with cancer. The team continues to refine the app for different cancer groups across various settings.

'As a major partner on the NHMRC funded ACE project, we were keen to work with key researchers in the cancer space and make a difference in people's lives following a cancer diagnosis. In developing the smartphone app, our engineers and IT specialists had a positive and engaging relationship with Deakin researchers, which enabled successful delivery of the product. We were able to form new industry partnerships as a result of this strategic collaboration.'

Fadi Geha, Founder and Executive Director, Simple Solutions

Evaluating what's effective

How do consumers and health organisations know which digital health apps are most effective? There is currently no framework that Australian health organisations can use to rapidly review health apps to recommend to consumers and no regulatory body globally that adequately addresses the risk of misinformation from apps.

To fill this gap, the Deakin Health E-technologies Assessment Lab's (DHEAL) benchmarking and evaluation of digital health technologies project, funded by Medibank Private, has developed a comprehensive digital health app evaluation framework for the rapid evaluation and rating of the best health apps in priority areas.

The long-term outcome of the project will be the use of the framework by Medibank and other health and government organisations to review, promote and support the use of high-quality digital health apps across a variety of health conditions.

If you'd like to join Deakin and our partners as we work to grow Australia's digital health capacity, contact:

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