Innovation Central Canberra

A collaboration led by cisco

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Digital Health Showcase

September 2024

About the event

The Digital Health Showcase was designed to accelerate the pace of digital innovation in healthcare. It involved health experts from industry, government and universities to ensure both demand and supply sides of the health sector were represented.

The event involved presentations from experts and an interactive showcase where startups, students and innovators could demonstrate their health applications and answer questions from healthcare providers at the front line of delivery.

The event was held at Innovation Central Canberra.

Expert Speakers

Prof Trish Williams – Cisco Research Chair in Digital Health

Prof Frank den Hartog – Cisco Research Chair in Critical Infrastructure

Dr Chaturica Athukorala – clinician and co-founder of Aurabox

Foreword

Healthcare now represents 10.5% of total government expenditure in Australia,[1] and 31% in the ACT.[2] Those costs are rising due to an ageing population and increased complexity of presentations including co-morbidities. Even incremental improvements to the healthcare system can yield significant savings.

But to assess healthcare through a pure cost or productivity lens is dangerous. Healthcare is a sector that is driven by patient outcomes, including safety, and any changes to the health system need to be proven to beneficial to patients, not just the efficiency of the health system.

The Digital Health Showcase was designed to find opportunities for digital innovation that can deliver the double dividend of being good for patients but also good for the overall functioning of the health system. It was an important conversation held with all the critical actors in the room: government (including providers), industry and academics. This whitepaper summarises the discussions that were had during the event as well as technology demonstration.

The event, in many ways, was a showcase of the way University of Canberra thinks about its own role: practical, outcome focused and industry-engaged. The University of Canberra was proud to play its role as a convenor and looks forward to helping to create new innovations out of the new connections that were made.

Professor Janine Deakin
Interim Deputy Vice-Chancellor, Research & Enterprise,
University of Canberra

1. https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure
2. https://canberradaily.com.au/act-2023-24-budget-builds-towards-the-future/

Attendees at the Event

Industry

- Cisco
- ignite technology
- uing
- aurabox
- ICN Industry Capability Network
- Virtulane
- IPTEL
- evolutioned

Universities

- University of Canberra
- Western Sydney University
- Flinders University
- La Trobe University

Health Providers / Agencies

- ACT Government
- Canberra Health Services
- Calvary
- Ochre Health
- Australian Government Department of Health and Aged Care

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Major Themes From the Showcase

We Need More Digital Innovation in Health, But It's Hard

The spiraling cost of healthcare will only be disrupted if systemic change is made. Health innovation can be applied to clinical workflows, health infrastructure and patients' interactions with providers. When assessing healthcare challenges we need to ask the question: is technology part of the solution?

Imperative: Create safe spaces for health innovators (recognising there is no such thing as a minimum viable product in a hospital). This means most digital innovation needs to happen outside an acute setting.

Underlaying Infrastructure Matters in Health

Health environments have high levels of legacy technology (or tech debt) and because of the scale of systems involved any upgrade is costly. Providers need to prioritise investments and ensure underlaying networks are based on a Zero Trust architecture where anything – or anyone – connecting to the network proves their right / authority to be there.

Imperative: Decisions about underlaying infrastructure must be based on the business value it delivers, not just new tech for its own sake. Managing cyber security risk is a critical trigger for investment.

Healthcare is Classified as Critical Infrastructure and Needs to be Managed Accordingly

The Federal Government recognises parts of the healthcare system as critical infrastructure. The obligations in relation to business continuity, resilience and security are naturally higher given that any major disruption not only puts individual lives at risk but also confidence in the entire system.

Imperative: Recognise that the complexity of healthcare should not be held up as a reason not to change.

There is an Almost Endless List of Opportunities for Digital Solutions to Health Problems

There is hardly any aspect of healthcare that couldn't benefit from digital innovation:

- Patient engagement and experience
- Workforce productivity (including automation of some tasks undertaken by clinicians and other staff)
- Clinical processes and workflows (including use of digital tools to improve access to healthcare services).

Imperative: Ensure that `whole of system' thinking does not stop the sector from realising small but tangible gains. Perfection cannot be the enemy of the good.

Startups Can be a Catalyst for New Thinking in Healthcare

Health settings are complex and fraught with risk. They are not generally geared to embrace startups given their procurement and risk policies. But startups have a critical role to play in providing new thinking and solutions, particularly when they combine clinical and technical depth.

Imperative: Do not understate the importance of clinical leaders who value and promote innovation.

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About the NIIN (which University of Canberra is a member of)

Launched in 2020, the National Industry Innovation Network (NIIN) is a collaborative vehicle for digitally transforming industries and accelerating innovation to generate large-scale economic and societal impact. It has evolved to become one of the largest innovation networks in Australia and includes six Innovation Centrals, eight Research Chairs, five specialised technology centres and dedicated skills development programs.

Recently the NIIN launched a Health Alliance which provides dedicated focus on national health challenges. With backing from major industry partners and involvement from a quarter of Australia's universities, the Alliance aims to harness collective innovation capacity, build critical mass around health priorities, and create a forum for idea exchange, positioning itself as a gateway to advanced digital health solutions.

Specialised Health Centres

University of Sunshine Coast Health Productivity Lab

Based at the University of the Sunshine Coast, this lab addresses workforce challenges in regional healthcare through the development and testing of digital health solutions. It focuses on innovations such as telehealth and AI-driven fall detection to improve care delivery. The lab aims to support an ageing population and enhance healthcare accessibility and effectiveness, particularly in rural settings.

Digital Health Design Lab

Based at Flinders University, this centre specialises in digital health innovation, focusing on improving healthcare delivery through secure health data management and telehealth services. The centre's work emphasises enhancing the quality of life and streamlining healthcare through cutting-edge digital solutions.

Healthcare Transformation Lab

Located at RMIT University, this lab serves as a collaborative space for health system transformation, integrating design, systems thinking, and technology. It fosters ecosystems-focused innovation by creating platforms for collaboration among hospitals, technologists, and policymakers. Employing immersive problem-solving methods, the lab generates actionable insights to tackle complex health challenges.

Health Research Chairs

Prof. Trish Williams, Flinders University
Cisco Research Chair in Digital Health, co-Director of the Flinders Digital Health Research Centre and Director of the Cisco-Flinders Digital Health Design Lab.

Dr. Alison Craswell, University of the Sunshine Coast
Cisco Research Chair in Digital Health and Ageing with extensive research experience in acute care of older adults, digital health and informatics, health service evaluation, and hospital models of care.

Other Research Chairs

- **AI and IoT**
- **Digital Transport**
- **Critical Infrastructure**
- **Trust, Retail, Logistics and Finance**

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Innovation showcased at the event

Aurabox

Description

Aurabox is a clinical workflow platform that simplifies managing medical imaging. It addresses the common challenges of fragmented image access and sharing, which can slow down patient care. By centralising imaging from various sources, Aurabox streamlines workflows, enabling quick access, easy sharing, and collaboration on patient imaging to improve outcomes.

How it works

Aurabox is a cloud-based, user-friendly platform similar to PACS. Doctors can request imaging, access a patient's complete imaging history, and compare images side-by-side. The platform allows secure sharing with other doctors, even across organisations, for quick consultations. It supports multidisciplinary teams, hospitals, and radiology providers, offering an efficient solution for medical imaging management.

Partners

aurabox

MEDTECH ACTUATOR

Learn more

MIRA

Description

MIRA is a contactless medical image viewer developed within Flinders University's New Venture Institute by technology startup UING. Based on UING's virtual touchscreen system, it enables doctors to view medical images using hand gestures, eliminating the need to touch screens and maintaining sterility during surgery. This innovative solution reduces the risk of contamination and improves the workflow in surgical settings.

How it works

Using AI and gesture recognition, UING enables interaction with screens without physical contact. Doctors can manipulate and examine medical images by using hand gestures, eliminating the need for traditional controllers. This system is versatile, applicable in various settings like medical imaging, digital signage, and public information kiosks, allowing users to control screens at a distance.

Partners

[redacted]

Flinders University

Learn more

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Innovation showcased at the event

Healthy Connections

Description

Delivering advanced healthcare in the Pilbara is challenging. Patients often travel long distances to access primary and specialist medical services, leading to a lack of continuity of care and poorer health outcomes. As part of the WA Health Department's funded *The Challenge*, Curtin University is helping address this challenge by developing a mobile Medi-Kit.

How it works

The Medi-Kit brings the 'clinic to the community' by offering AI support and analysis for health consultations in culturally sensitive ways while providing secure satellite connectivity.

Partners

Curtin University

Learn more

Virtual Emergency Department

Description

La Trobe piloted a virtual ED to provide patients with access to virtual nursing and medical care, enabling a patient's condition to be managed at home, in an aged care facility or at the roadside (in the case of an ambulance attending).

How it works

Patients register online to enter a virtual waiting room, where a triage nurse assesses their needs. Based on the evaluation, they may receive a telehealth consultation, be referred to outpatient care, or be directed to the emergency room if needed. This system speeds up patient assessment and often avoids in-person visits.

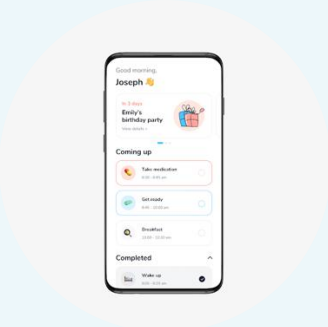
Partners

LA TROBE UNIVERSITY

Northern Health

Learn more

Hayla



Description

Hayla supports caregivers and individuals with developmental disabilities by automating task logging and monitoring daily activities. It alerts caregivers if critical tasks, like appointments, are missed, enhancing safety and independence.

How it works

Hayla uses Meraki sensors to monitor daily routines and environment. Caregivers set up reminders, and if tasks are missed or issues arise, like a running tap, the app sends alerts to ensure quick action.

Partners

ignite technology

Learn more

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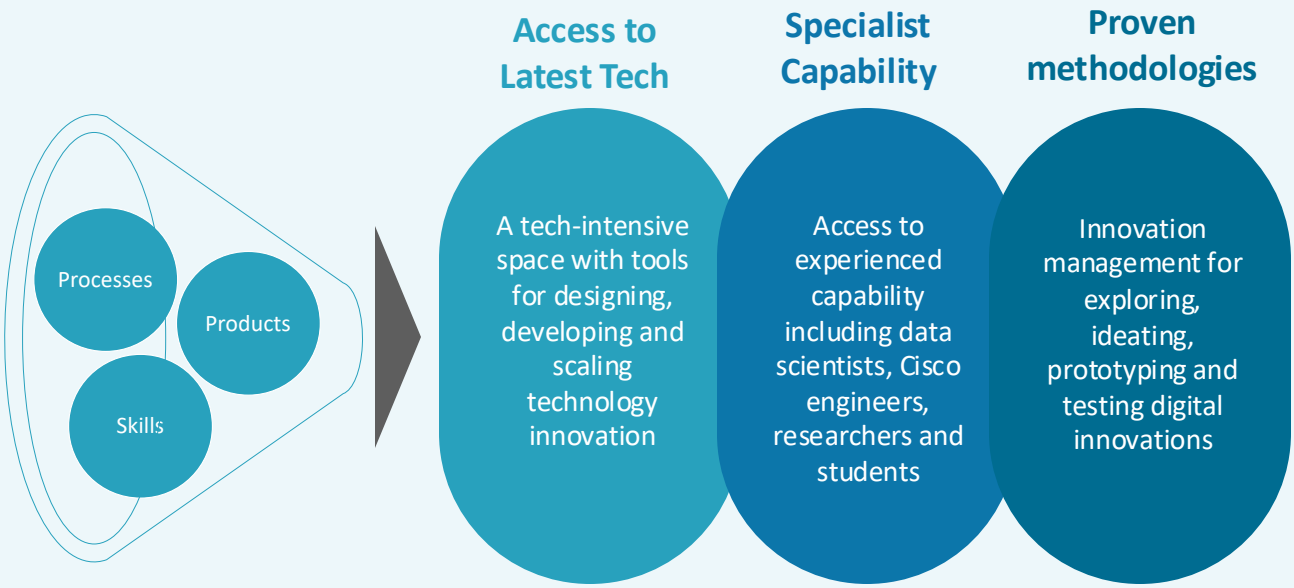
Innovation Central Canberra – a platform for digital healthcare innovation

Innovation Central Canberra is a new, industry-driven facility at the University of Canberra focused on solving innovation challenges with the latest digital technology. Innovation Central works with industry in a way that is low risk and cost effective. It is focused on problems that have a digital solution and could relate to new processes, new delivery models or new products across a range of industries, including healthcare. Industry get to actually build prototypes and solutions, not just hear about what's possible, using a bank of talented staff, students and industry collaborators.



Benefits for Industry

- Better understand how emerging technologies might benefit your business
- Access expertise that will help you test an idea, or turn an ideas into a prototype
- Get access to specialist digital infrastructure and tools not readily accessible to SMEs
- Network with other companies and potential collaborators

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How to find out more

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