MEDINFO23

8 – 12 JULY 2023 | SYDNEY, AUSTRALIA

RMIT UNIVERSITY

Digital Health Hub

Establishment of a university-wide digital health hub as a pipeline between industry and academia

RMIT Digital Health Hub

RMIT University

AIDH IMIA

Acknowledgement of Country

RMIT University acknowledges the people of the Woi wurrung and Boon wurrung language groups of the eastern Kulin Nation on whose unceded lands we conduct the business of the University.

RMIT University respectfully acknowledges their Ancestors and Elders, past and present.

RMIT also acknowledges the Traditional Custodians and their Ancestors of the lands and waters across Australia where we conduct our business.

RMIT UNIVERSITY Digital Health Hub

RMIT is a global university of Technology, Design and Enterprise

RMIT has been leading the way for over 130 years.

As a global university of technology, design and enterprise, one of our biggest strengths is our expertise in collaborating and co-creating with industry, our students and our community to drive employment and innovation outcomes.

Every partnership between RMIT and industry is unique and built to deliver genuine impact in line with your business needs. Our expertise will help your organisation thrive in the rapidly changing business landscape.

Melbourne Campuses
Australia

Saigon South and Hanoi Campuses
Vietnam

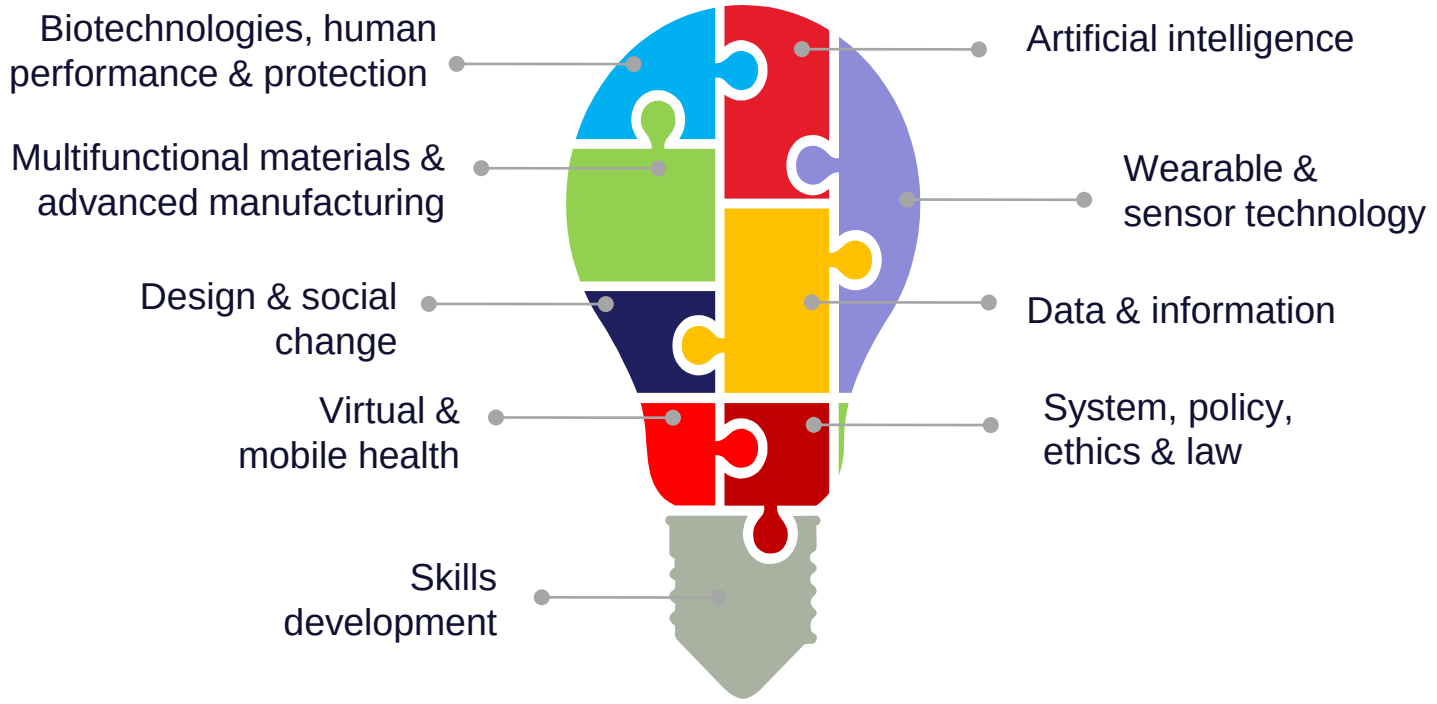
Barcelona Office
Spain

Singapore Institute of Management

RMIT Digital Health Hub

A vision for building a collaborative ecosystem with industry.

The Digital Health Hub will help grow and nurture a unique, **collaborative multi-sectorial ecosystem** to engage and advocate for **Australian digital health innovation** both **nationally and internationally** to support health and care **across the lifespan of the citizen**.



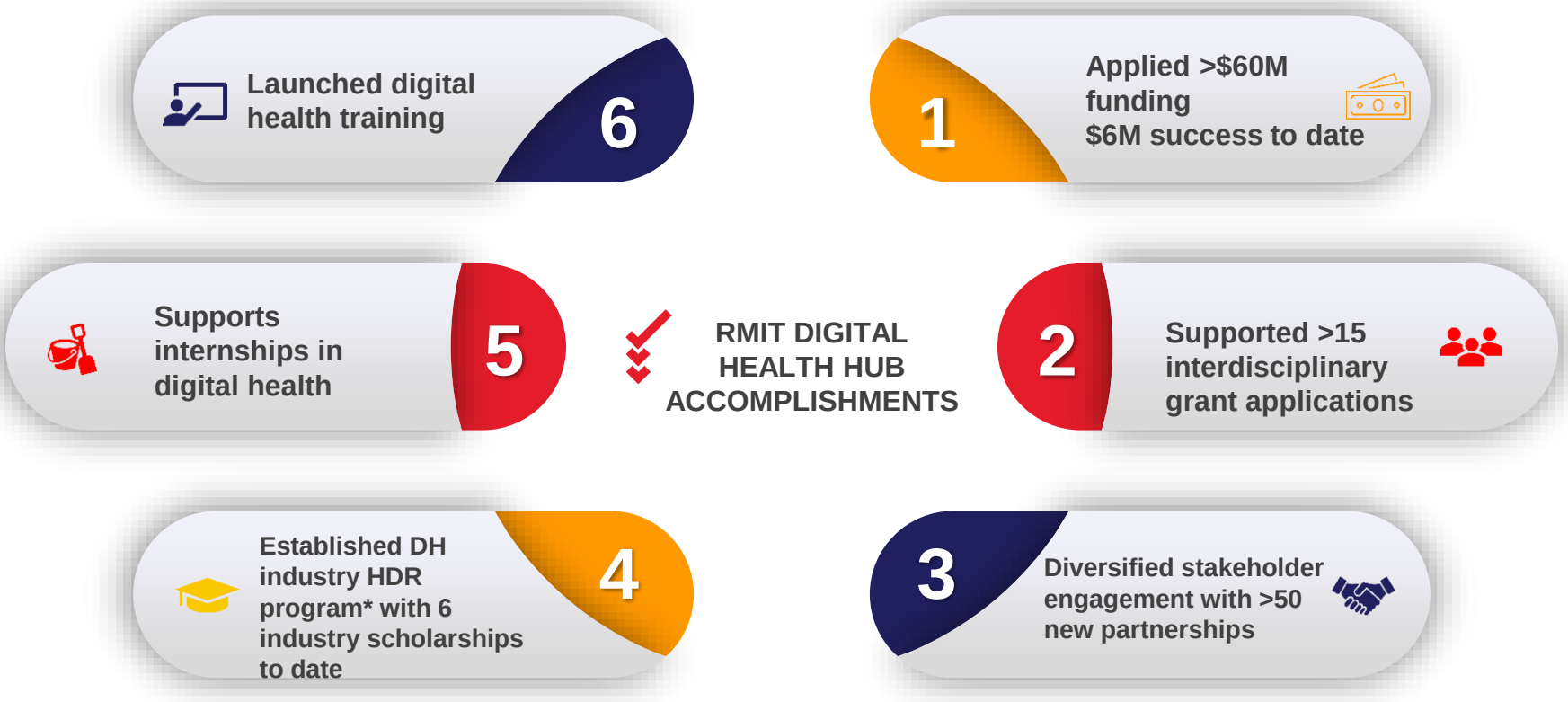
CORE ACTIVITIES

- RESEARCH AND DEVELOPMENT VALIDATION
- INNOVATION AND COMMERCIALISATION
- EDUCATION, WORKFORCE AND SKILLS DELIVERY
- DOMESTIC AND INTERNATIONAL INVESTMENT ENGAGEMENT

FDA definition of digital health: *…includes categories such as mobile health (mHealth), health information technology (IT), wearable devices, telehealth and telemedicine, and personalized medicine… including digital health technologies intended as medical products or in a medical product [**diagnostics, devices, drugs and biologics**]*

Hub accomplishments

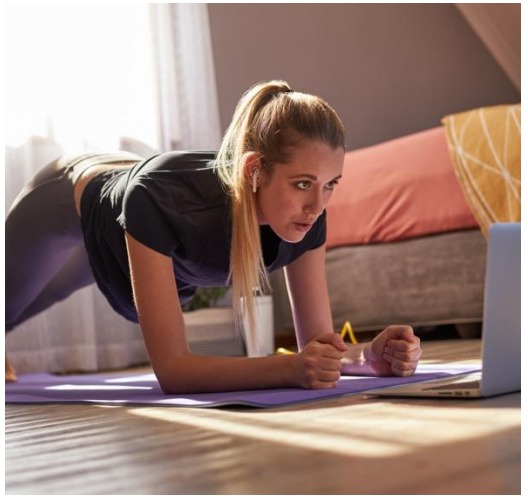
Trialling a collaborative ecosystem model



Hub themes

HEALTHY AGEING

MENTAL HEALTH



REHABILITATION

WORKFORCE

Training programs

Undergraduate

On offer

- Foundations in Digital Health

In the pipeline

- University-wide minor – 4 courses:
  - ⑩ Foundations in Digital Health
  - ⑩ 3 others from across the discipline

Postgraduate

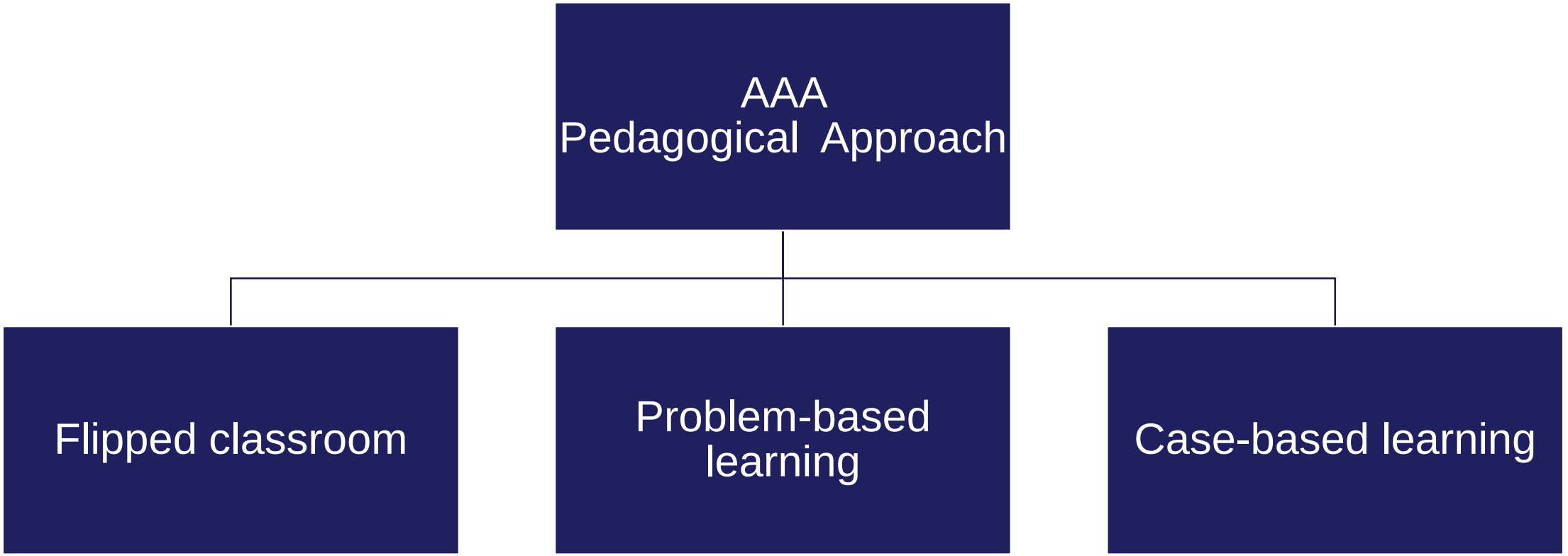
On offer

- Future skills short courses
- Graduate Certificate: Online, 1-year FT

In the pipeline

- Micro-credentials
- Graduate Certificate: FTF, 1 semester FT
- Graduate Diploma
- Masters

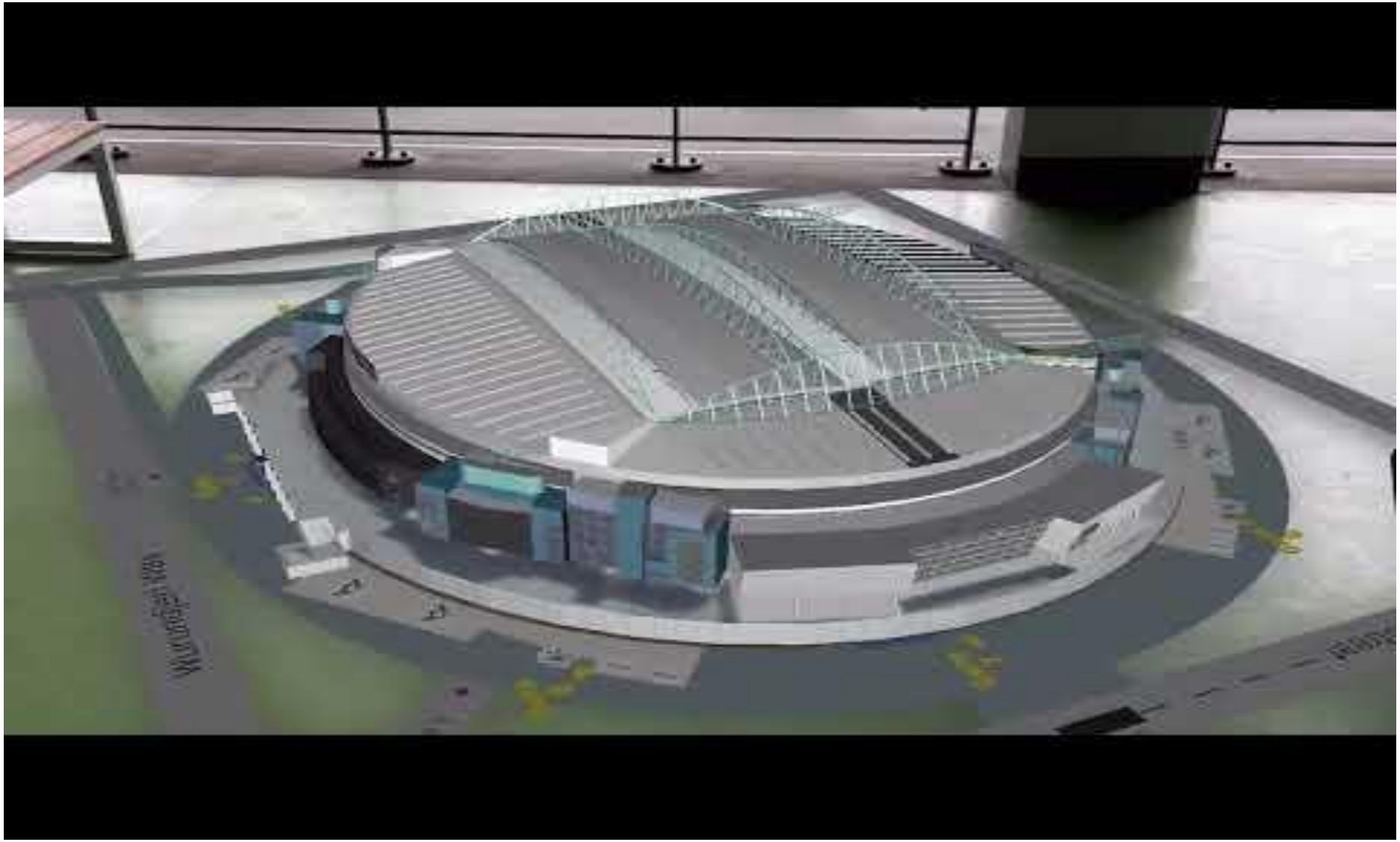
Pedagogical approaches



Collaboration with Industry Partners

- Google
- AFL / Marvel Stadium
- NDIS
- World Solar Challenge
- Adobe creative campus
- Telstra health
- Health organisations and ministries
- AWS

Augmented Reality - Explore Marvel Stadium



https://www.youtube.com/watch?v=K6W-5YC9MqU

Workforce Growth

- Upskilling students to be prepared and ready for challenges in the 21st century and beyond
- The success of any digital health initiative relies on a robust and skilled workforce.
- Significance of workforce growth within the context of the Hub's model.
- The Hub emphasises the need to build a sizable workforce to effectively address the challenges and opportunities in digital health.

Workforce Growth

Transdisciplinary team: The Hub promotes a transdisciplinary approach, bringing together professionals from various fields, such as technology, healthcare, data science, and design.

This interdisciplinary collaboration fosters innovation, promotes holistic thinking, and facilitates comprehensive solutions.

Workforce Development Opportunities

Fellowships:

•The Hub offers fellowships aimed at attracting and retaining talented academics with expertise in digital health.

•These fellowships provide opportunities for professional growth, research, and collaboration within the Hub's ecosystem.

A transdisciplinary team of early and mid-career academics, senior academics, and industry experts drives innovation and addresses the evolving needs of the digital health landscape.

Workforce Development Opportunities

Adjunct roles:

- Adjunct roles within the Hub's workforce allow professionals from outside the academic setting to contribute their expertise.
- This inclusion of adjunct roles facilitates knowledge exchange, brings industry insights, and promotes real-world applicability.

Through fellowships and adjunct roles, the Hub promotes professional development, collaboration, and knowledge exchange between staff and students.

HDR Strategy

The main HDR strategy is focused on **industry-sponsored projects**, **securing scholarships from industry** and incorporating **doctoral internships** for **real-work experience**.

- ***Connection*** to industry through supervisory panel
- Produce knowledge that is ***applicable*** to real-world contexts
- Offer ***liveable*** stipends
- ***Integration*** into Digital Health Hub faculty

Broader strategy: Produce knowledge that is relatable and has real world outcomes

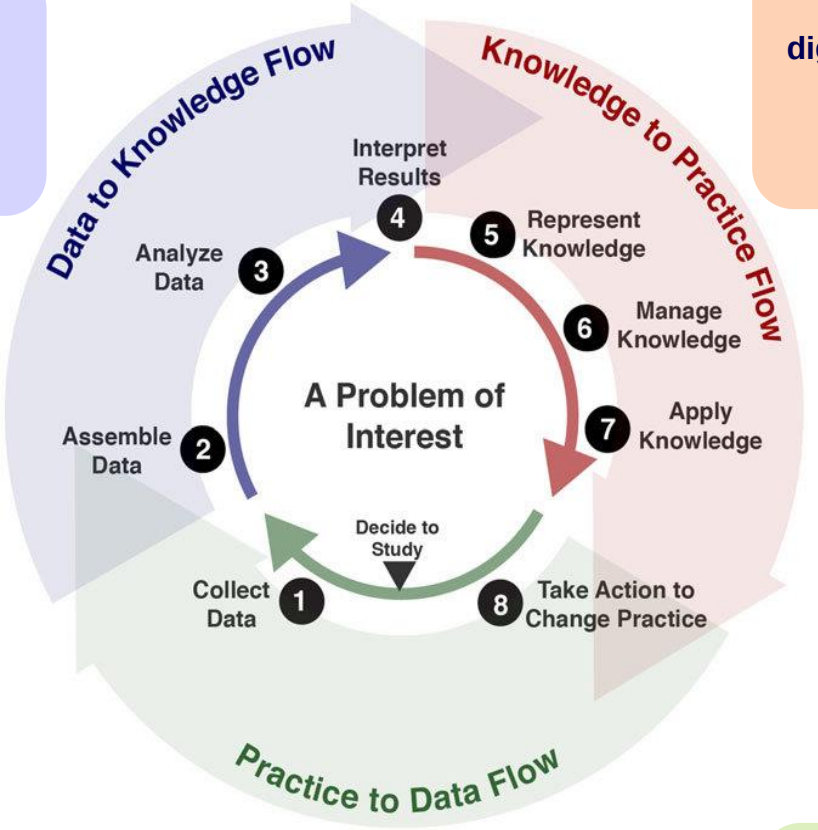
Development of a digital health nursing model in simulated health training

Robab Abdolkhani
Postdoctoral Research Fellow, RMIT University

The Research Phases Within the Learning Health System Cycle

Phase 2b: Co-design of digital health training strategies

Phase 3a: Pilot implementation of digital health training interventions in a simulated environment (e.g. new modules in EMR, teleconsultation, remote monitoring scenarios)



Phase 2a: Gap analysis of the identified challenges and needs in nursing's digital health practice and the current nursing education curricula

Phase 3b: Evaluation of the simulated interventions (usability study)

Phase 1c: Understanding nurse academics' perspectives on digital health education based on the transformation during the COVID-19 pandemic

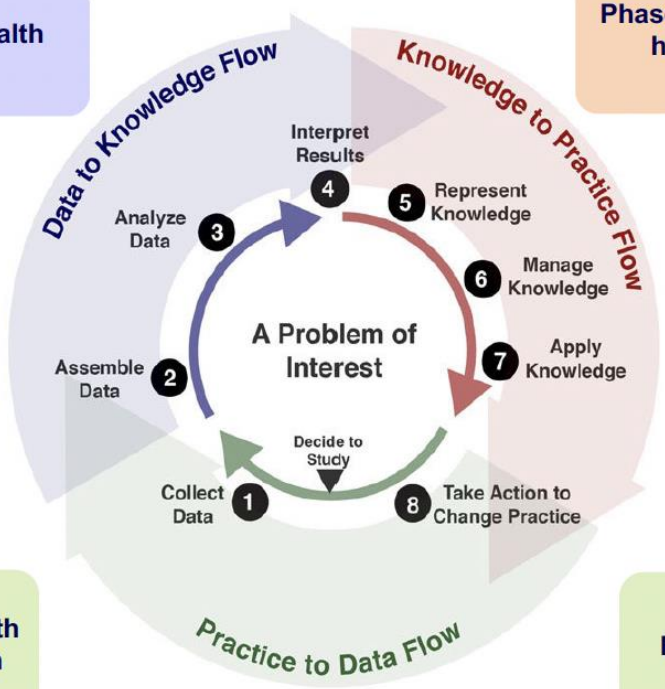
Phase 1b: Understanding nurses' readiness and expertise gap in digital health services implemented during the COVID-19 pandemic (based on socio-technical elements)

Phase 1a: Systematic literature review

17

Phase 2b: Co-design of digital health training strategies

Phase 3a: Pilot implementation of digital health training interventions in a simulated environment



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Results

Participants	Nurse academics	**Participants**	• Chief nursing information officers (3) • Clinical educators and nurses (8) • Health representatives in digital health companies (2) • Nurse representatives in the government bodies (2)
Content	• Demographic questions • Rating 4 digital health topics (technologies, information exchange, quality, professionalism) based on: theoretical knowledge; confidence in teaching its application in nursing program	**Content**	• Experience of digital health during the pandemic • The expectation of digital health skills and competencies from new graduates
Tools	Web-based National Survey	**Settings**	National Individual Interviews

Participants	• 5 studies only targeted nurses • 17 studies included nurses along with other participants
Digital Health Services	• 17 studies on teleconsultations • 3 studies on Tele-ICU • 1 study on EHR • 1 study on in-patient robotics
Context	• 13 studies focused on COVID-19 • 7 studies focused on other diseases

1a. Abdolkhani R, Petersen S, Walter R, Zhao L, Butler-Henderson K, Livesay K. The Impact of Digital Health Transformation Driven by COVID-19 on Nursing Practice: Systematic Literature Review. JMIR nursing. 2022 Aug 30;5(1):e40348.
1b. Livesay K, Petersen S, Walter R, Zhao L, Abdolkhani R. Sociotechnical Challenges of Digital Health in Nursing Practice During the COVID-19 Pandemic: A National Study. JMIR Preprints:46819.
1c. Livesay K, Petersen S, Walter R, Zhao L, Butler-Henderson K, Abdolkhani R. National Survey on Understanding Nursing Academics' Perspectives on Digital Health Education. (Underway)

Digital Health Hub Rehabilitation Project

https://youtu.be/298CdRCFxOk

Thank you

https://www.rmit.edu.au/partner/hubs/digital-health-hub

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