UNSW SYDNEY

Western Sydney Health Alliance
For healthy communities in the Western Parkland City
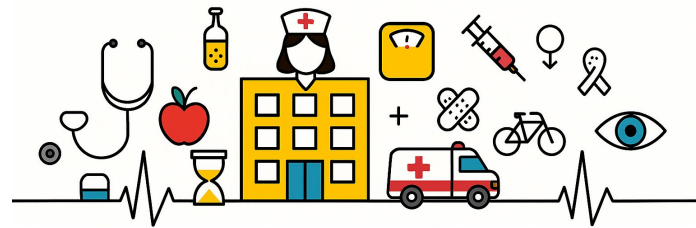An initiative of the Western Sydney City Deal

HEALTH WORKFORCE SHORTAGE
HACKATHON

Case study 1: Ageing Population

Scenario: Fairfield and Campbelltown regions are experiencing a surge in older adults needing aged care services. Yet local providers struggle to recruit and retain aged care nurses, personal care workers, and allied health professionals. The existing workforce is often underpaid, lacks specialised training, and faces burnout.

Key Issues:

- High turnover in aged care workforce
- Limited geriatric training and incentives
- Cultural and linguistic mismatches with patients
- High demand for home visits and chronic disease support

Challenge question: What could be done to improve the supply, training, and retention of aged care workers in areas with a growing elderly population?

To address this challenge, you are required to suggest innovative solutions—such as digital tools, AI systems, or new service models—to attract, train, and retain aged care workers in communities with a growing elderly population?

Prompts for Feasibility and Context:

- What training programs or incentives already exist?
- What are the wage and working condition barriers?
- Would your solution be sustainable long-term?
- How might older people from different cultural backgrounds engage with proposed changes?

Case study 2: Culturally and Linguistically Diverse Communities (CALD)

Scenario: Liverpool and Fairfield Local Government Areas (LGAs) have some of the highest numbers of culturally and linguistically diverse (CALD) residents in Australia. However, many local health services lack bilingual staff and sufficient cultural understanding. This gap contributes to reduced access to healthcare and poorer health outcomes for CALD communities.

Key Issues:

- Shortage of bilingual and bicultural health professionals
- Over-reliance on informal interpreters
- Mistrust or disengagement due to cultural disconnect
- Preventive services underused by CALD communities

Challenge question: What workforce solutions could improve culturally competent care for CALD communities?

To address this challenge, propose innovative workforce solutions—such as recruitment models, training tools, or AI/digital technologies—that enhance culturally competent care for culturally and linguistically diverse (CALD) communities in areas like Liverpool and Fairfield.

Prompts for Feasibility and Context:

- How could local community leaders or organisations be involved?
- What cultural training is currently offered in health education?
- Would your solution be affordable for health services?
- What policies support or hinder inclusive workforce planning?

Case study 3: GP Shortages in Growth Areas

Scenario: New suburbs in Camden and Penrith are rapidly expanding, and are experiencing significant population increases, but local GP services haven't kept pace with this expansion. As a result, residents often face long wait times, and lack of availability, unable to access timely care—leading many to turn to already overwhelmed emergency departments. These challenges are especially acute for culturally and linguistically diverse (CALD) communities, who may also struggle with language barriers and a lack of culturally competent care.

Key Issues:

- Limited financial incentives for GPs to set up clinics in growth areas
- Infrastructure gaps (e.g., clinic space, transport)
- High demand leading to burnout
- Few early-career doctors interested in general practice

Challenge question: What are effective solutions could help address health workforce shortages (GPs and nurses) in CALD communities, particularly the shortage of bilingual or culturally competent professionals?

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To address this challenge, propose creative and practical solutions—such as incentive schemes, workforce pipeline programs, mobile apps or telehealth services, community-based models, or AI/digital technologies—that could: Attract and retain GPs in growth areas, support bilingual or culturally responsive care, reduce pressure on emergency departments, and improve access and outcomes for CALD communities

Prompts for Feasibility and Context:

- How could local community leaders or organisations be involved?
- What cultural training is currently offered in health education?
- Would your solution be affordable for health services?
- What policies support or hinder inclusive workforce planning?

Case study 4: Allied Health Access for Mental Health

Scenario: Young people across Western Sydney are struggling with rising rates of anxiety and depression, yet access to timely and affordable support remains limited. Wait times for mental health support, especially psychology, to see psychologists or social workers can span several months—especially in lower-income or outer suburban areas. Many young people and their families cannot afford private mental health care, particularly without private health insurance.

Key Issues:

- Shortages of psychologists and social workers

- Services concentrated in urban centres

- Long waitlists for school and community support

- Burnout among mental health professionals

Challenge question: What innovative solutions could help grow, support, and more fairly distribute the mental health workforce—especially to improve access for young people in low-income and outer-suburban communities?

To address this challenge, you are required to propose practical solutions—such as workforce development programs, incentive schemes, AI-powered triage tools, telehealth platforms, or community-led support models—that can: Expand the availability of mental health professionals, ensure equitable access across urban, regional, and underserved areas, reduce wait times, especially for young people, and support the wellbeing and retention of mental health workers.

Prompts for Feasibility and Context:

- What partnerships (e.g., schools, NGOs, PHNs) could help scale your idea?

- Are there non-traditional roles (e.g., peer workers) that could ease the pressure?

- What social attitudes or stigma might influence uptake?

- Would government policy support or block your idea?

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Requirements

Student Task Requirements

You are required to choose one of the four case study scenarios and propose an innovative and practical solution to address the problem discussed in the case study.

What You Need to Submit:

1. Written Proposal (2-3 pages max)

Your written proposal must clearly explain:

- The solution: What is your proposed solution and how does it work?
- Practicality: Why is this solution feasible? How could it realistically be implemented in the current healthcare system?
- Impact: How does your solution directly address the key issues in the case study?
- Novelty: What makes your idea innovative or different from existing industry solutions?
- Gaps addressed: What problems or shortcomings in current solutions does your idea overcome?
- Prototype concept: Describe a potential prototype (e.g. AI-enabled system, mobile app, virtual service model, digital tool, community-based digital program). Explain its key features, how it would function in practice, and how it supports the implementation of your solution. You may include sketches, mockups, or system designs.

2. Video Pitch (5 minutes)

You must also produce and submit a short video (pitch) that:

- Clearly presents the problem and articulates your proposed solution.
- Demonstrates how the solution works (visually, conceptually, or with a mockup).
- Explains how it solves the problem in a practical, effective way.
- Highlights the novelty and innovation of your solution.
- Engages your audience—imagine you're pitching this to potential funders, health leaders, or community partners.

Suggested Structure for Your Written Proposal (2–3 pages)

Page 1:

- Introduction: Briefly introduce the selected case study and outline the key problem you're addressing.
- Proposed Solution: Clearly explain your solution, and articulate how it works.
- Practicality: Describe how the solution could realistically be implemented within the healthcare system.
- Real-World Impact: Highlight the expected outcomes and how your solution addresses the challenge and the needs for the target population.

Page 2:

- Innovation & Novelty: Explain what makes your solution unique, innovative compared to existing solutions.
- Gaps Addressed: Identify the shortcomings in current industry solutions and how your solution fills those gaps.

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- Prototype Concept: Describe your proposed prototype (e.g. digital tool, mobile app, AI-system, ML model, or technology- enabled framework, etc.), including its main features. Visual elements like diagrams or mockups are optional but encouraged.

Page 3:

- Visual Support: Include any sketches, mockups, or system diagrams that help illustrate your solution.
- Evidence Base: Provide academic references, industry examples, or key research findings to support your arguments and demonstrate the feasibility of your solution.

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