

Written Proposal

Team 05 | Case Study 3: GP Shortages in Growth Areas

The Problem: A System at its Breaking Point

Western Sydney's primary care is in crisis. A severe shortage of General Practitioners (GPs), combined with a burnout crisis seeing 70% of doctors overwhelmed, has created a system that is failing both patients and practitioners. In the rapidly growing, culturally diverse suburbs of Camden and Penrith, this translates to:

- Long wait times
- Overworked doctors
- Critical communication barriers

This endangers patient health. The traditional model of one-on-one care is no longer sustainable. We believe the solution isn't just to find more doctors—it's to **make our current doctors 10x more effective**.

Our Solution: The Clinical Workflow Engine

ClinicOS is a digital platform that streamlines the entire patient journey. Inspired by the proven efficiency of self-service kiosks in the fast-food industry, our system automates the most time-consuming parts of a GP's day.

We believe the GP should focus on what matters: **treating patients**.

ClinicOS has two key parts: a **Patient Kiosk** for intelligent data intake and a **GP Dashboard** for efficient decision-making.

1. The Patient Kiosk:

A patient arrives and uses a simple, tablet-based kiosk.

- Choose their preferred language from a visual grid.
- Gets prompted with "Are you here for a new problem, or a repeat prescription?"
- For new problems, a conversational AI guides the patient through structured questions in their native language.

2. The GP Dashboard:

The kiosk instantly translates and summarises the patient's input into a concise, scannable GP Briefing. When a GP clicks on a patient in their queue, they see a complete summary before the patient even enters the room.

Real-World Impact & Practicality

ClinicOS is designed for immediate implementation on standard tablets and integrates with existing EMR systems. It solves the core challenges by:

- Creating a "fast lane" for simple consultations
- Cutting the cognitive load and "social battery" drain on doctors
- Eliminating the need for language interpreters (reducing clinical errors)

Our Innovation: What Makes ClinicOs Different?

While digital forms exist, ClinicOS is different by design. Our innovation lies in three key areas:

1. **The "Fast Lane" Triage:** Segmenting patients by intent ("New Problem" vs. "Repeat") is simple but dramatically speeds up routine visits.
2. **Focus on Data Synthesis:** Our AI transforms raw data into a decision-ready summary that makes the GP 10x more effective.
3. **Human-Centric Design:** Protecting the doctor's most valuable assets: their time and mental energy.

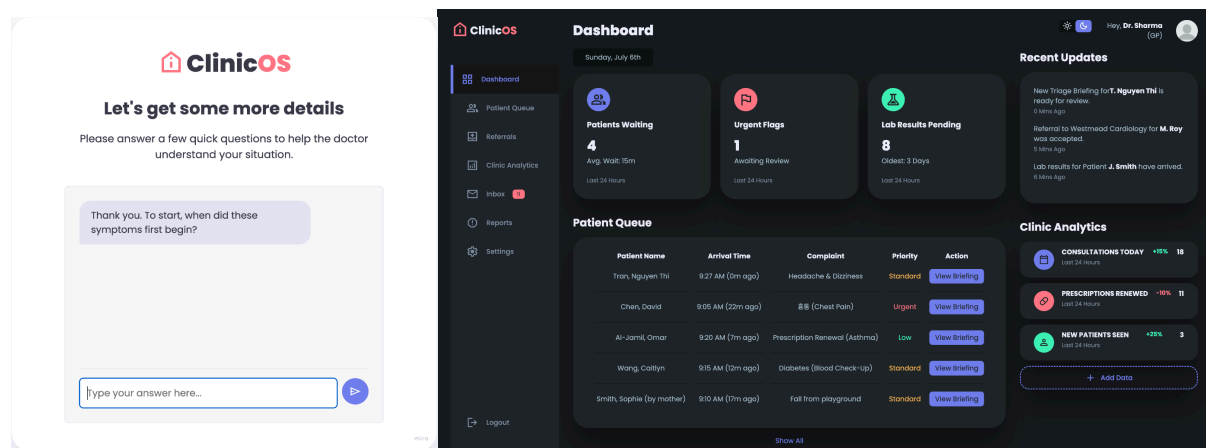
This fixes the critical flaws of the current system:

- The "blank slate" consultation
- The reliance on inefficient interpreters
- The creation of unstructured, unusable patient data.

The Prototype: A Realistic Demo

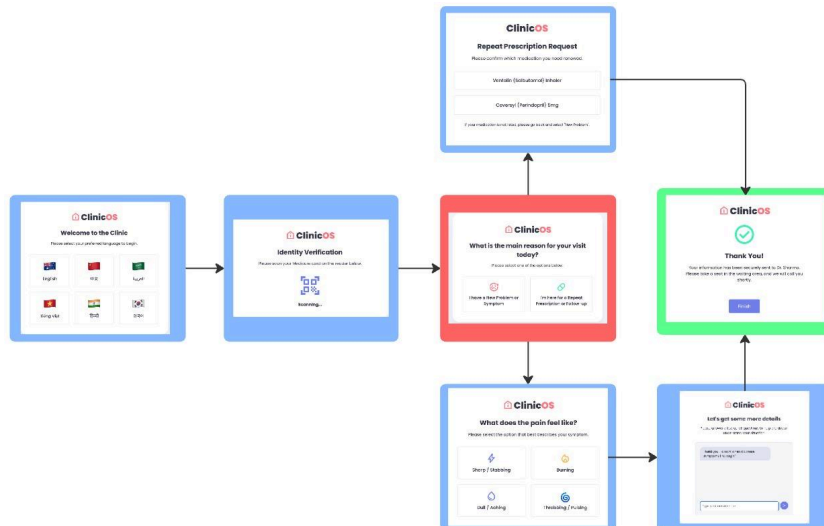
We have built a high-fidelity prototype using HTML, CSS, and JavaScript to demonstrate the seamless workflow of ClinicOS.

- **Patient Kiosk:** A fully interactive, multi-screen web app demonstrating the language and intent selection, followed by the simulated conversational AI chat.
- **GP Dashboard:** A professional interface showcasing the live Triage Queue and the final, AI-generated GP Briefing for a sample patient.



Visual Support

[Click Here - System Flow Diagram](#)



Evidence Base

ClinicOS is grounded in established data and successful real-world models.

- Projected **28% GP shortfall in NSW by 2032** necessitates efficiency-based solutions. (*Deloitte, 2023*)
- Self-service kiosks have **reduced wait times by up to 57%** and significantly improved data accuracy in service industries. (*Harvard Business Review, 2022*)
- AI tools can **reclaim 25% of a clinician's time** by automating administrative work, a core feature of our GP Briefing. (*JAMA, 2023*)
- Kiosk systems **report 97% usability rates**, proving that patients of all ages will adopt well-designed, simple interfaces. (*JMIR, 2021*)

Implementation & Scalability

ClinicOS is a highly scalable solution.

- Initial rollout can be funded privately by clinics through the purchase of low-cost tablets. For wider adoption, government grants aimed at improving primary care in growth areas can be sought to fund hardware.
- Deployment is as simple as installing an application on a tablet and integrating with the clinic's EMR via standard APIs.
- ClinicOS integrates into the daily workflow, becoming an indispensable tool for workforce and patient management, ensuring its long-term viability.