Australian e-Health Research Centre

Innovative implemented tools for outpatient clinic scheduling

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Innovative implemented tools for outpatient clinic scheduling

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Abstract. Every year there are approximately three million new specialist clinic appointments at local hospital networks in Victoria. CSIRO, in collaboration with Austin Health, have developed two algorithms to assist with waitlist management in their outpatient specialist clinics. This study describes the implementation of these algorithms in software tools developed to support their use and trial in the clinical setting at Austin Health. We discuss the system design and development of both these software tools. We also review the implemented workflow of the tools and discuss how these tools seek to improve current systems.

Keywords. specialist clinic, template planning tool, next available appointment

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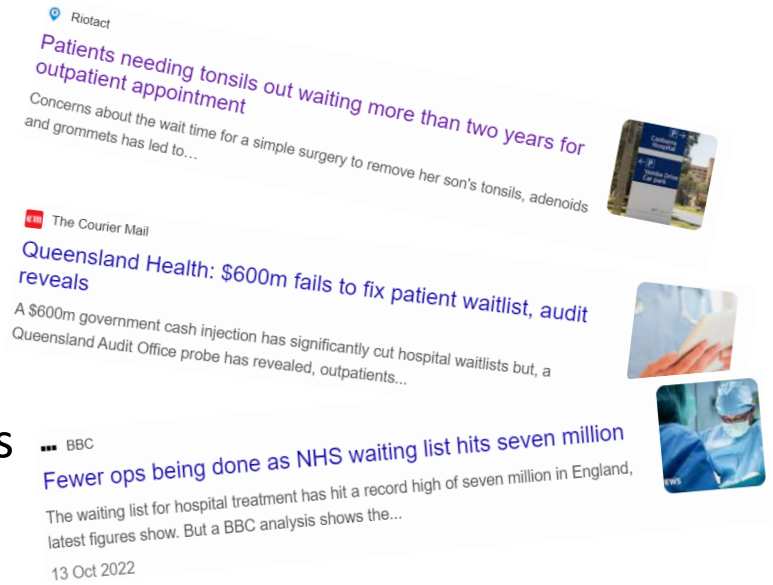
Background

- Waiting times are a major health policy concern
- Austin Health
  - Specialist Clinics: over 265,000 appointments every year
- Waiting list delays occur in many Specialist Units



Our solution

- We developed two solutions to support improved clinic scheduling and management
  - Next Available Appointment
  - Template Planning Tool

  - Main aim:
    - Waitlist visibility to the clinicians at the time of consultation
    - Provide realistic scheduling, increased productivity of staff, and timely care delivery for patients
    - Optimal allocation of resources across the New Urgent, New Routine, and Review appointment

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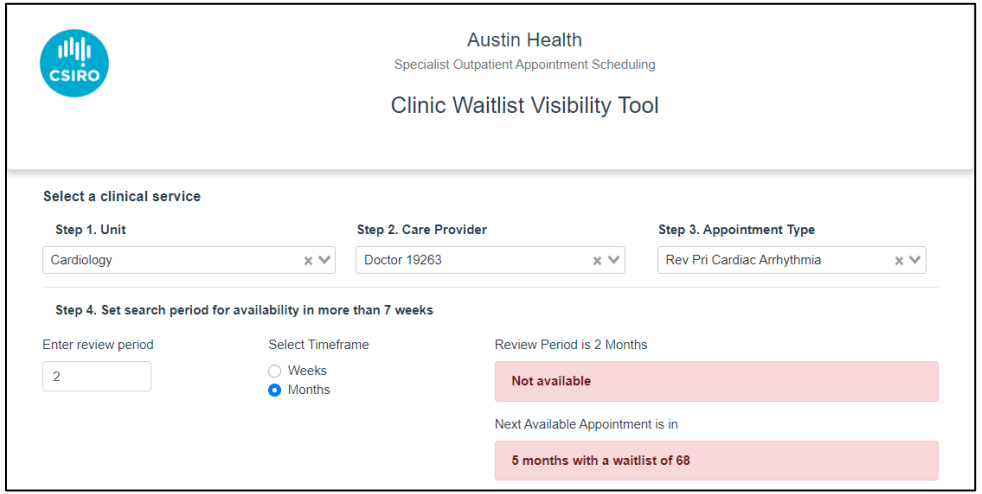
Next Available Appointment

- Provides a method to estimate a suitable date for a patient's next appointment
- Notify the clinician if the requested time frame is not available
- Allow the clinician to manage the risk involved in a patient's appointment being delayed



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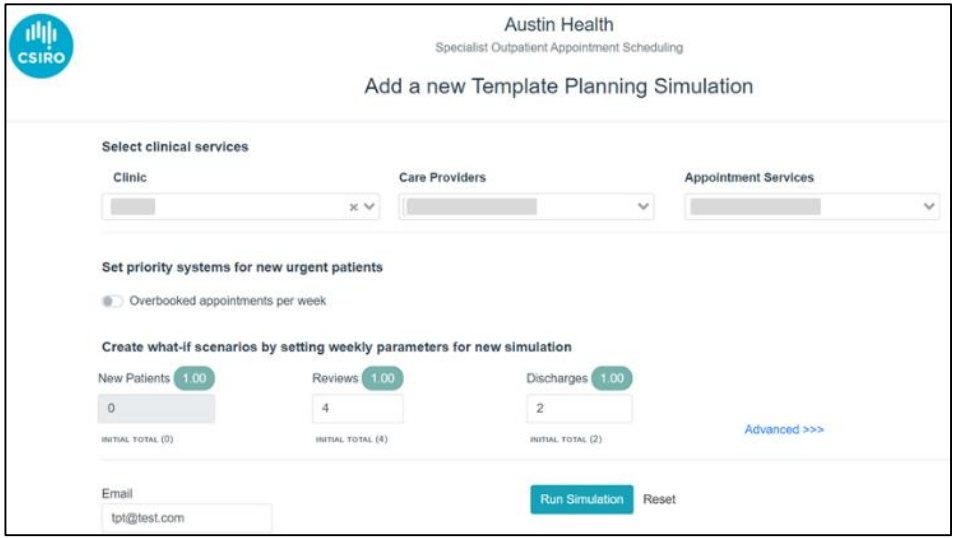
Template Planning Tool

- A collection of models and the current waitlist to provide a prediction capability for specialist clinic waitlist management

- Ability to investigate “what if” scenarios up to two years into the future by varying key model parameters



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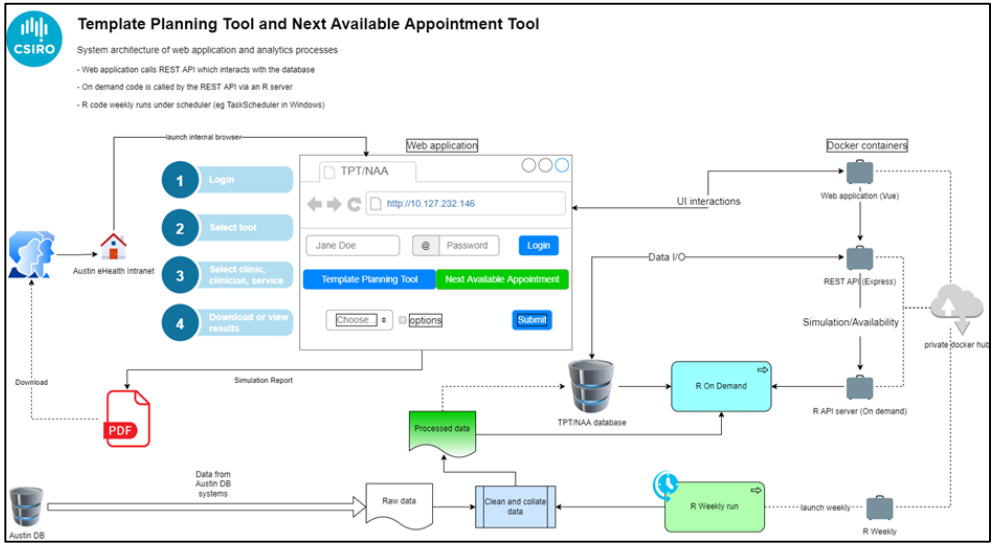
Methodology & System Design

- Developing a User Interface (UI) in Vue
  - An open-source JavaScript framework used for building front-end user interfaces
- Developing a backend server in NodeJs Express
  - A web application framework that provides a REST API
- Simulation Processing
  - Developed in R language



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Thank you

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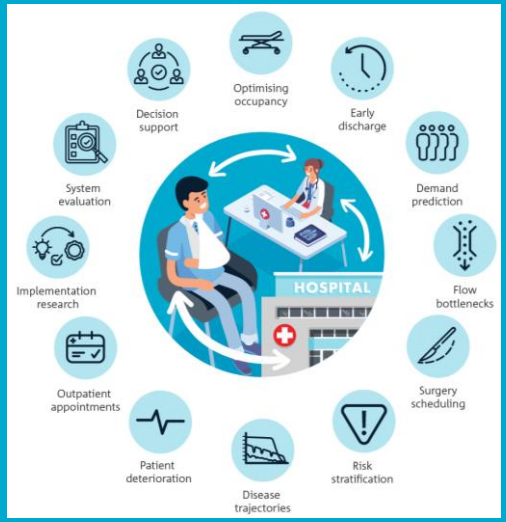

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