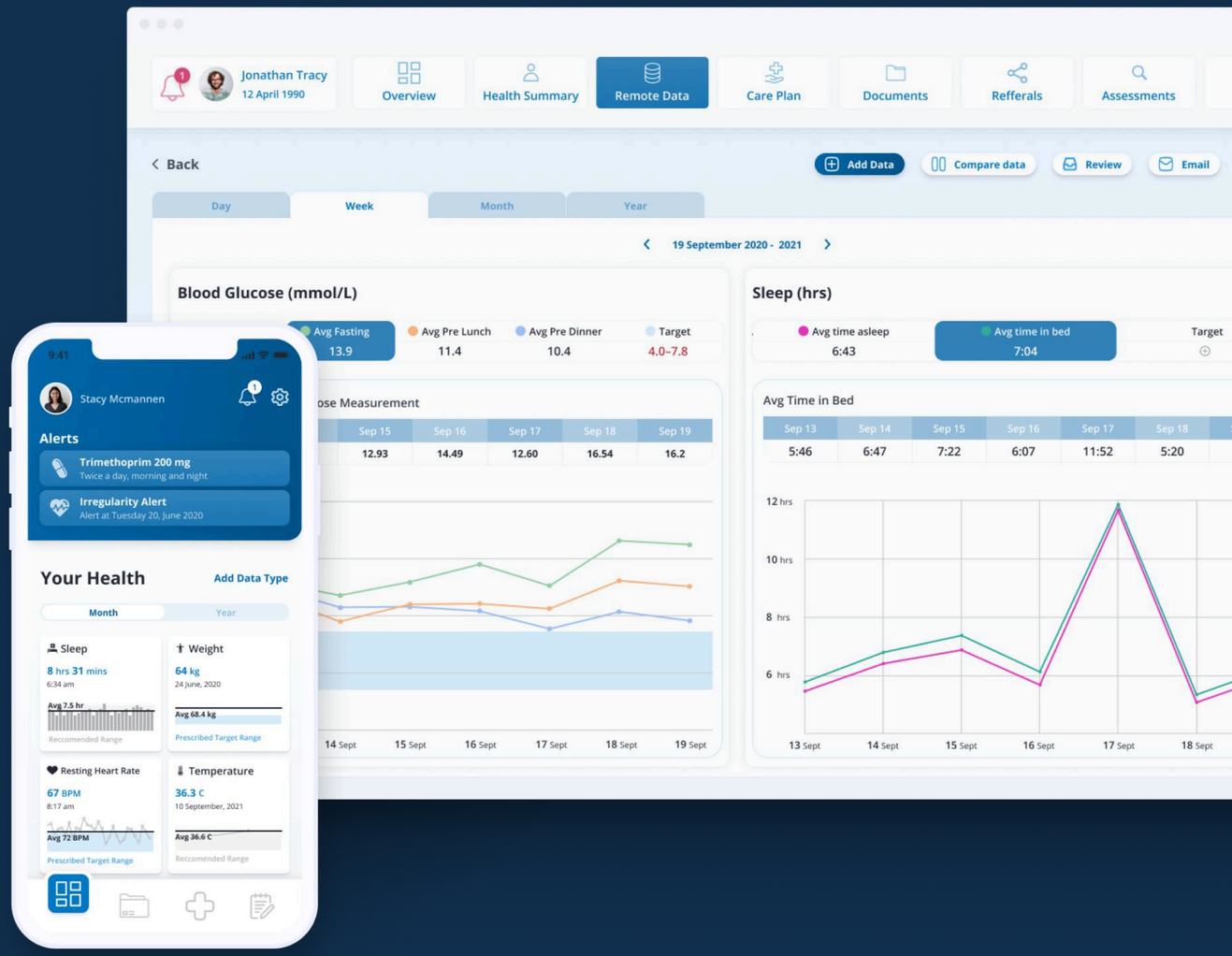
MyConnect

Making Australian
Healthcare More Accessible



The Project

- This project was conducted as part of a Master’s course at the University of Sydney with Erin Topfer & Zoe Liu.
- We were tasked with creating a digital product enabling Australian citizens to access healthcare during a lockdown that would also provide value post-lockdown.

Initial research

From desktop research we identified areas for further exploration

- The Australian government's health records system 'MyHealthRecords' is under-utilised with **9/10** Australian's on the system but **half** the records being empty. This is despite this being a 2 billion dollar project.

- Australian's reported that **< 23%** of doctors had used MyHealthRecords during consultations.

- Australian's increasingly have large amounts of personal health data coming from smart watches, smart phones and smart monitors but don't have a convenient way to share it with their doctor.

User Research Structure

Research

- Background Research.
- Competitor analysis.
- Online ethnography of other health platforms, opinions of MyHealthRecords.

Survey

- 64 respondents, both patients and doctors.
- Investigating usage of MyHealthRecords and personal health data.
- Served as a pipeline for user interviews.

Interviews

- 4 participants.
- Semi-structured interviews.
- Identifying current behaviours, pain-points, needs and goals.

User Groups

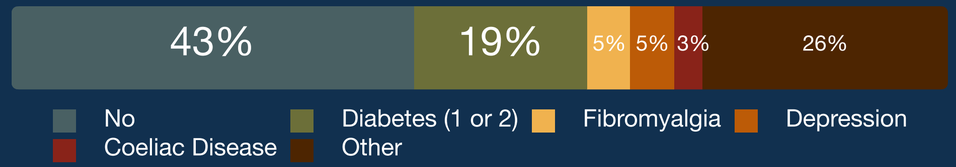
- Hybrid role-based and goal-based personas.
- Research identified 1 doctor persona and 2 patient personas.

Survey

- The survey was posted on social media and to people in our network and contained questions about demographics, My Health Records, personal health data and health status.
- Key takeaways were that ‘MyHealthRecords’ was under-utilised, a majority of people track their health and over half of respondents had a chronic illness.
- This shaped the questions that were in the interviews.

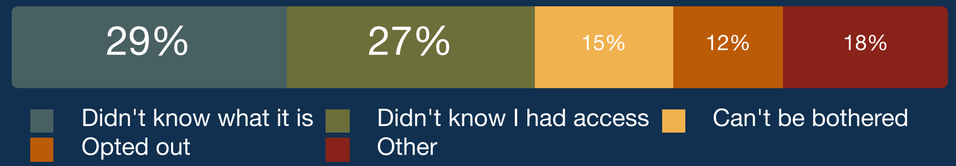
Do you track your own health?

Do you have a chronic illness



Have you accessed your ‘MyHealthRecords’?

If no, why not?



Interviews

Patients

- We interviewed people with and without chronic conditions.
- We wanted to focus on how they currently manage their health, their current issues communicating with their doctor and their use of personal health data.
- We used affinity mapping to extract insights from the interviews and transform them into personas.

Doctors

- We struggled to find doctor’s to interview so used nurses and medical student’s initially and updated our findings when we were able to find doctors to interview.
- We were interested in finding out about how they currently use personal health data, my health records and their preferences for data presentation.

Persona

Jonathan, 31
Male

Blood-Glucose Monitor

“ I need to streamline the communication of my health data with my doctor”

Health Condition:	Chronic
Occupation:	Marketing Manager
Location:	Sydney, NSW
Technology:	Samsung z flip 3 Glucose Monitoring Kits

Bio

Jonathan has been a marketing manager for the last couple of years. He has been very interested in tracking aspects of his health, primarily due to his chronic condition.

Five years ago, Jonathan was diagnosed with diabetes which was frustrated. However, it didn’t beat him and raise his attention to his health condition and performance.

As the doctor required, he has to monitor his blood glucose constantly. He purchased glucose monitoring kits and measured at four times a day to continually monitor his glucose. To better record his glucose level, he connected his monitors to the health kit on the phone. He also use trackng Apps on the phone to track his mood, sleeping quality, and exercise habits to help manage his chronic condition.

Behaviours

Frequently visits their GP and other healthcare providers and is required to **monitor his health consistently**.

Visits **several healthcare providers** as well as their GP.

Needs

To **easily communicate the large amount of data** required for their healthcare to their doctor.

To let their doctor know of any irregularities immediately.

Pain Points

Communication with multiple healthcare providers is difficult.

Can often **forget about blood-glucose irregularities** by the time they see their doctor.

Persona

Stacey, 37

Female

"I want to communicate with my doctor if anything goes wrong"

Health Condition:	N/A
Occupation:	Accountant
Location:	Sydney, NSW
Technology:	Iphone X Apple watch 6

Bio

Stacey is a working mom who is balancing her career with raising a family.

As her work is very demanding, she feels exhausted and stressed and constantly worried about her health.

However, she is always in a rush between company conferences and parental chaos. She cannot check with her GP on time and easily forget about details such as menstruation cycle, making communication with doctors more complicated and less efficient.

Therefore, she brought an Apple watch to help her better organise her work while keeping an eye on her health condition.

Behaviours

Only visits GP for an occasional check-up or if something goes wrong.

Uses myHealthRecords to check on immunisation history and medicare.

Needs

Needs to be able to check irregularities with her doctor.

Wants to be able to maintain her health.

Pain Points

Sometimes doesn't understand what the data she receives from her apple watch means for health

Persona

Peter, 52

Male
General Practitioner

“I just don’t want to be swamped with too much data to go through”

Location : Sydney, NSW
Technology: Clinical software

Bio

Peter, a general practice, is loved for the loyalty and honesty he has with his patients. His career is driven by sheer care for people and aims to provide accurate and timely treatment to his patients.

He has more than 20 years of GP experience and has rich professional medical knowledge but is weak on a complicated computer system.

To ensure optimal care is given, he always communicates with the patients and requests important information. Also, he would like to see the trends of patient measurement to help him make a quick medical diagnosis. In an ongoing pandemic, telehealth has become the primary way of communicating with patients. Health management and monitoring are becoming more challenged than previous.

Behaviours

Currently gets data from remote patients through phone or email.

Uses patient wearable data as an exploratory tool to investigate issues that arise.

Needs

To more efficiently have patients communicate their data.

To not be burdened with too much data.Prefers getting data in numbers rather than graphs

Pain Points

Says that there is a lack of information on MyHealthRecords, so doesn’t use it with patients.

Is concerned about being liable if a patient shares wearable data with them.

Identified problems with current system

MyHealthRecords is under-utilised because it’s often empty.

Doctor looks in MyHealthRecords for information.

↓

Record is empty or missing information.

↓

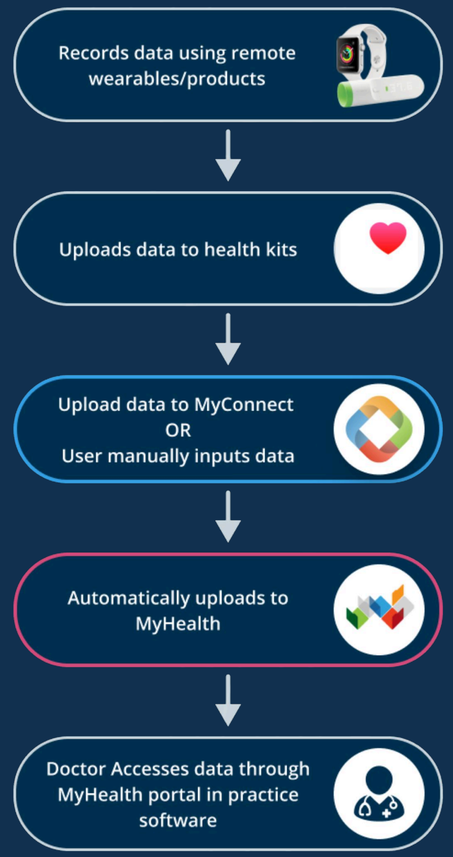
Doctor therefore doesn’t go on MyHealthRecords.

↓

Therefore doesn’t upload information.

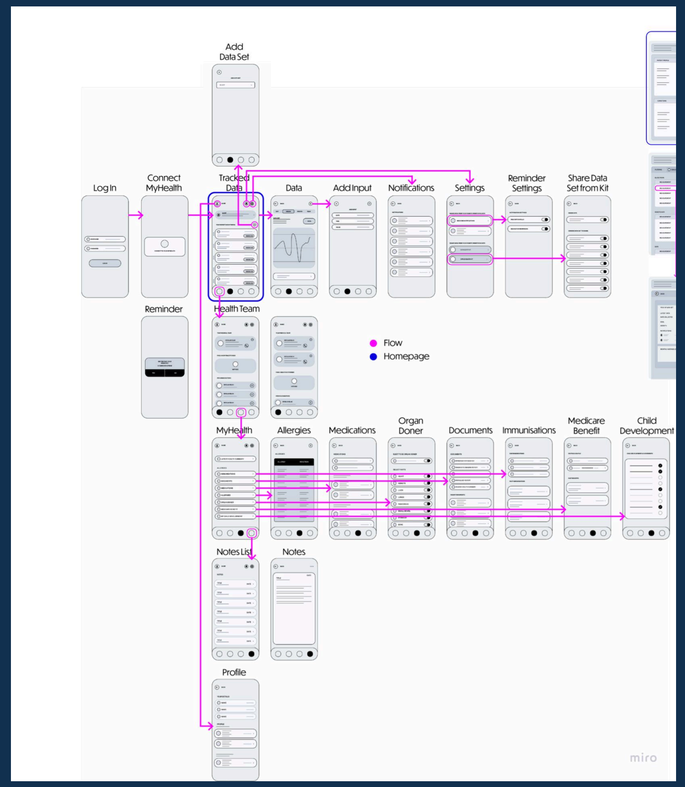
Next physician repeats process

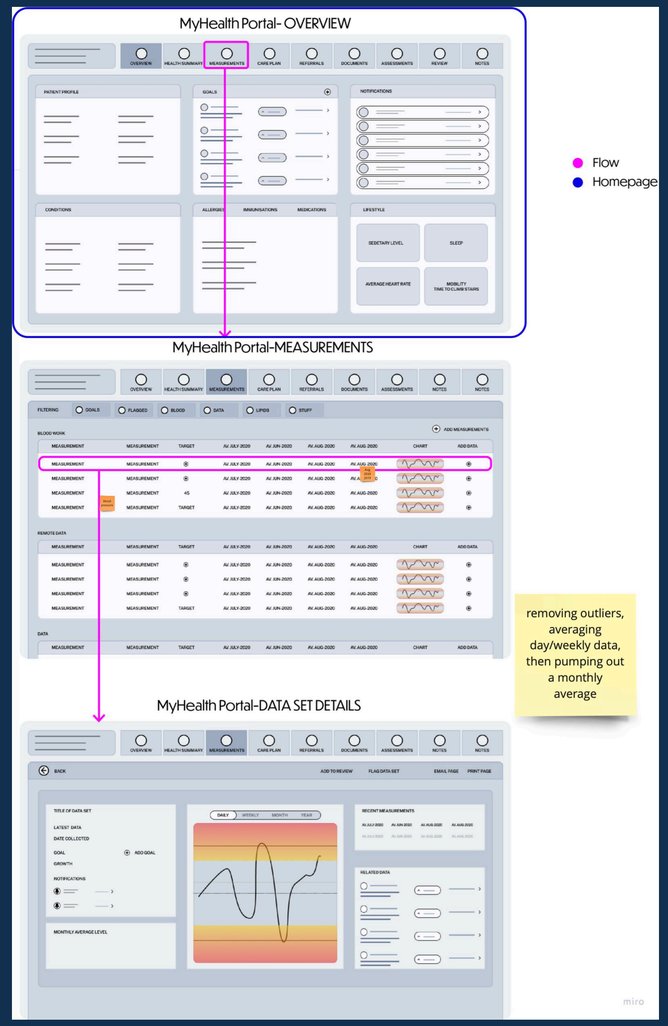
Our proposed solution is to leverage personal health data to populate MyHealthRecords



Prototyping

- We started off with sketches - then wireframes and lo-fi prototypes.
- Talked about what form it would take for the patient side: app or website.
- Wireframes were used for concept testing, lo-fi prototypes were used for user testing.





Data Visualisation Goals

- Primary focus of the data visualisation was to ensure that it met the goals of our user groups.

Doctors

- Progressive disclosure of detail in data visualisations allows sharing data efficiently without compromising information.
- A focus on numbers and summary statistics suit their preferred diagnostic style.

Patients with chronic conditions

- Simplified version of what doctor's see facilitates communication between patient and doctor.
- Provides a point of reference for a larger health team.

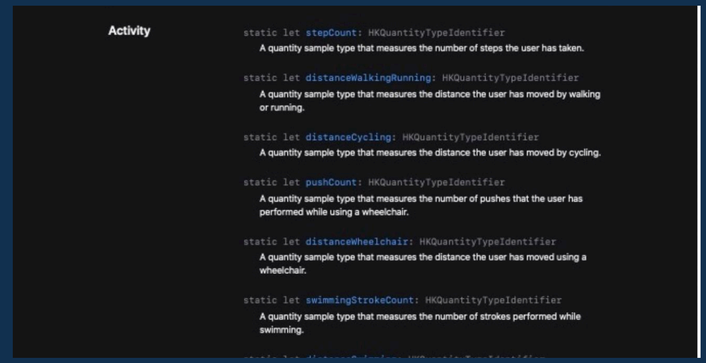
Patients without chronic conditions

- Simplified version of what doctor's see facilitates communication between patient and doctor.
- Interactive data points allow irregularities to be investigated with their doctor.

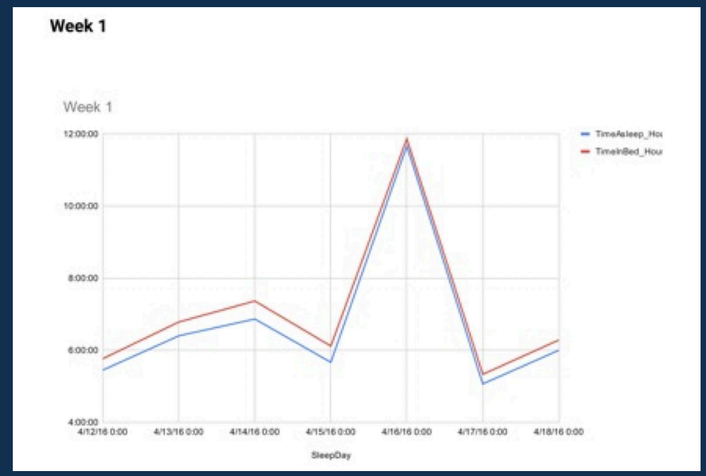
Data visualisation process

- Located open source datasets as well as extracted Zoe's apple watch data.
- Referred to the apple HealthKit API documentation to understand what we would be able to use.
- Explored different variations of data visualisation.
- Conducted user testing and concept testing.

HealthKit



Exploration



Prototyping

User Testing

Concept Testing

- 8 Participants
- 6 Doctor Personas
- 1 Chronic Illness Persona
- 1 Average User Persona

High Fidelity Prototypes

SUS & Think Alouds

- 9 Participants
- 4 Doctor Persona
- 2 Chronic Illness Persona
- 3 Average User Persona

Final visualisations - mobile

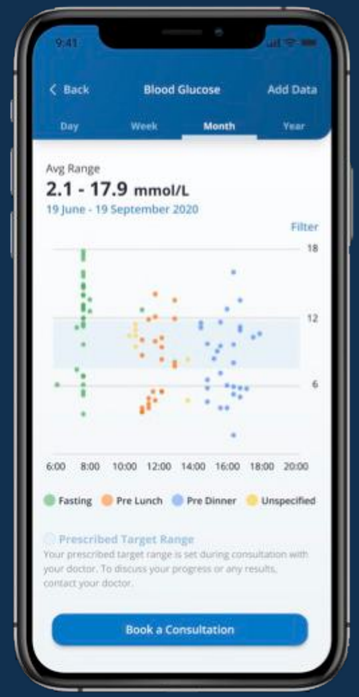
Day

Lets the user see how their blood-glucose changes throughout the day

Week

Daily changes in blood-glucose are communicated with colour-coded lines. Lines are selectable to indicate what day it was.

Month

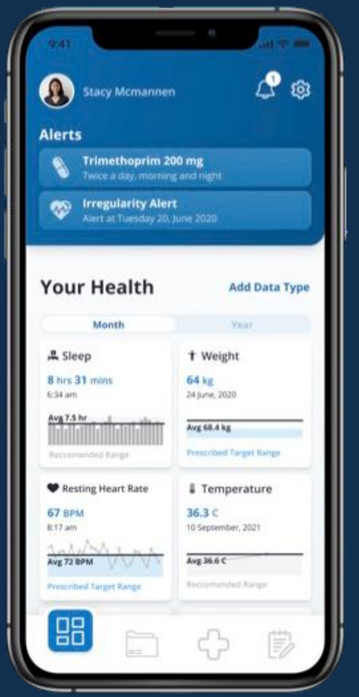


Number of data points is too dense to have lines indicating individual days. Data points indicate BGL ranges and are selectable for better communication.

Year

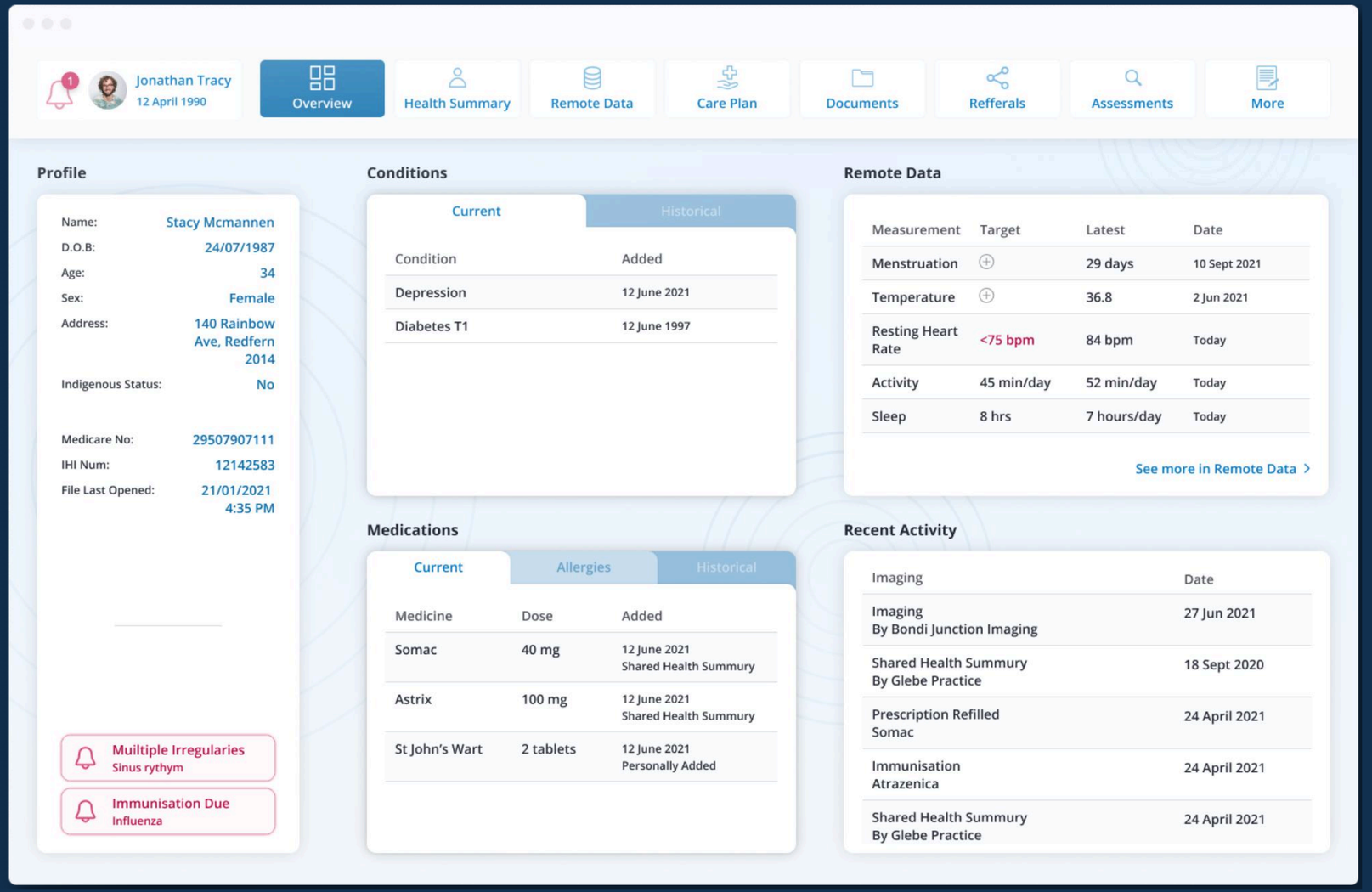
Very broad indication of range of inputs given over a year. Selectable data points for identifying irregular data and communicating it to their doctor.

Dashboard

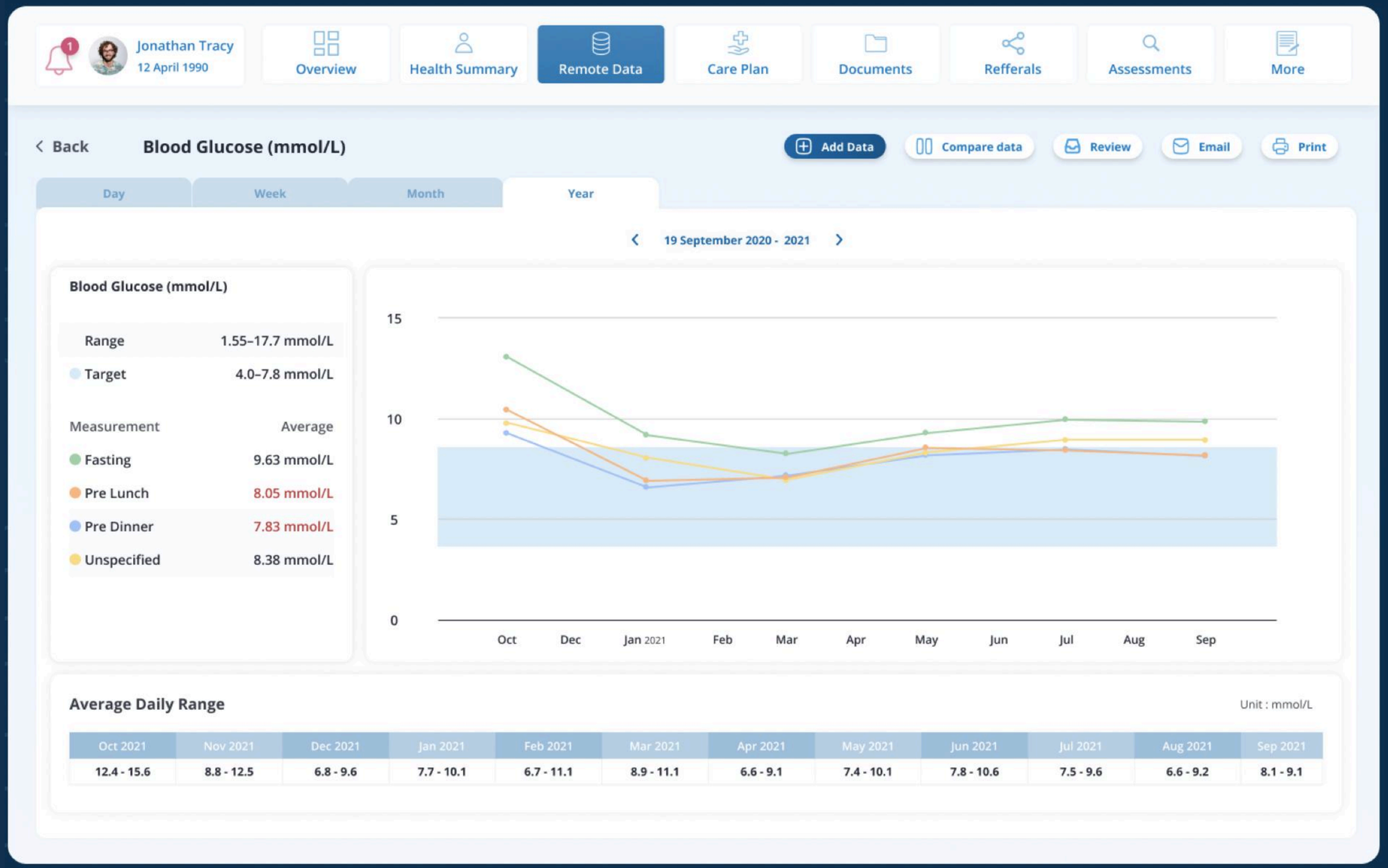


Mobile dashboard focuses on last input, with average and recommended range displayed on scannable graph.

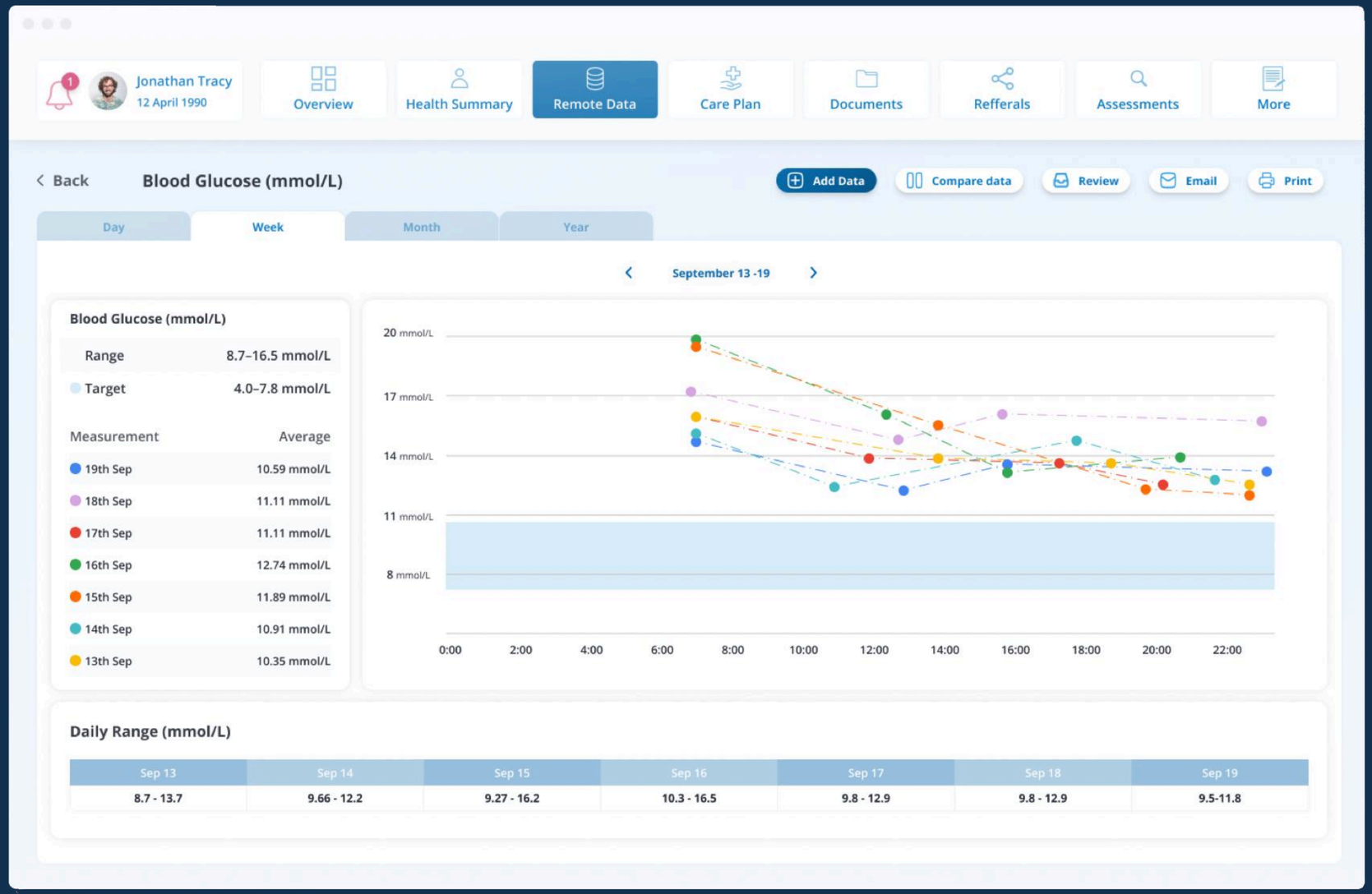
Final visualisations - Doctor’s Portal



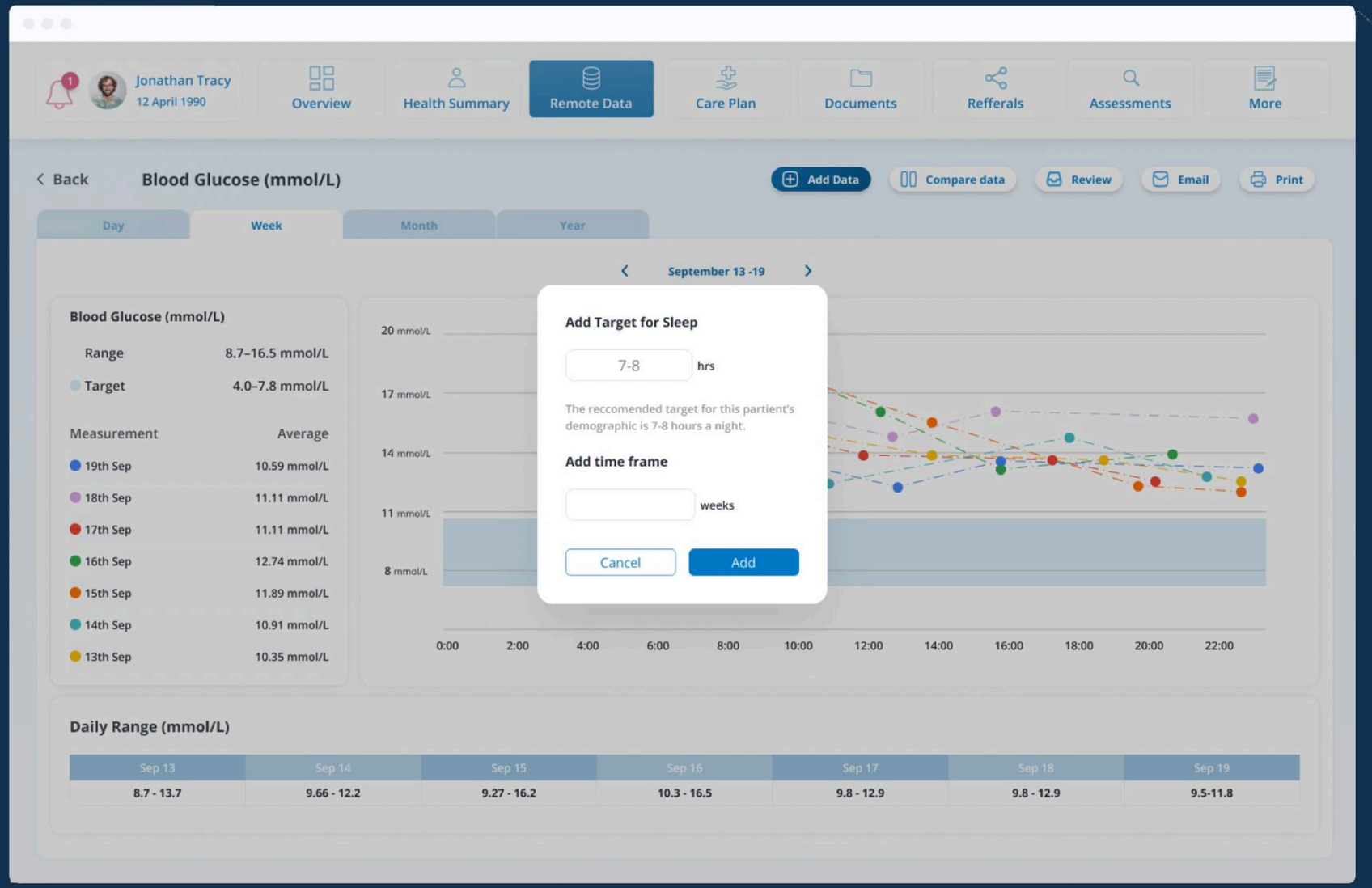
Final visualisations - Doctor’s Portal



Final visualisations - Doctor’s Portal



Final visualisations - Doctor’s Portal



Final visualisations - Doctor’s Portal