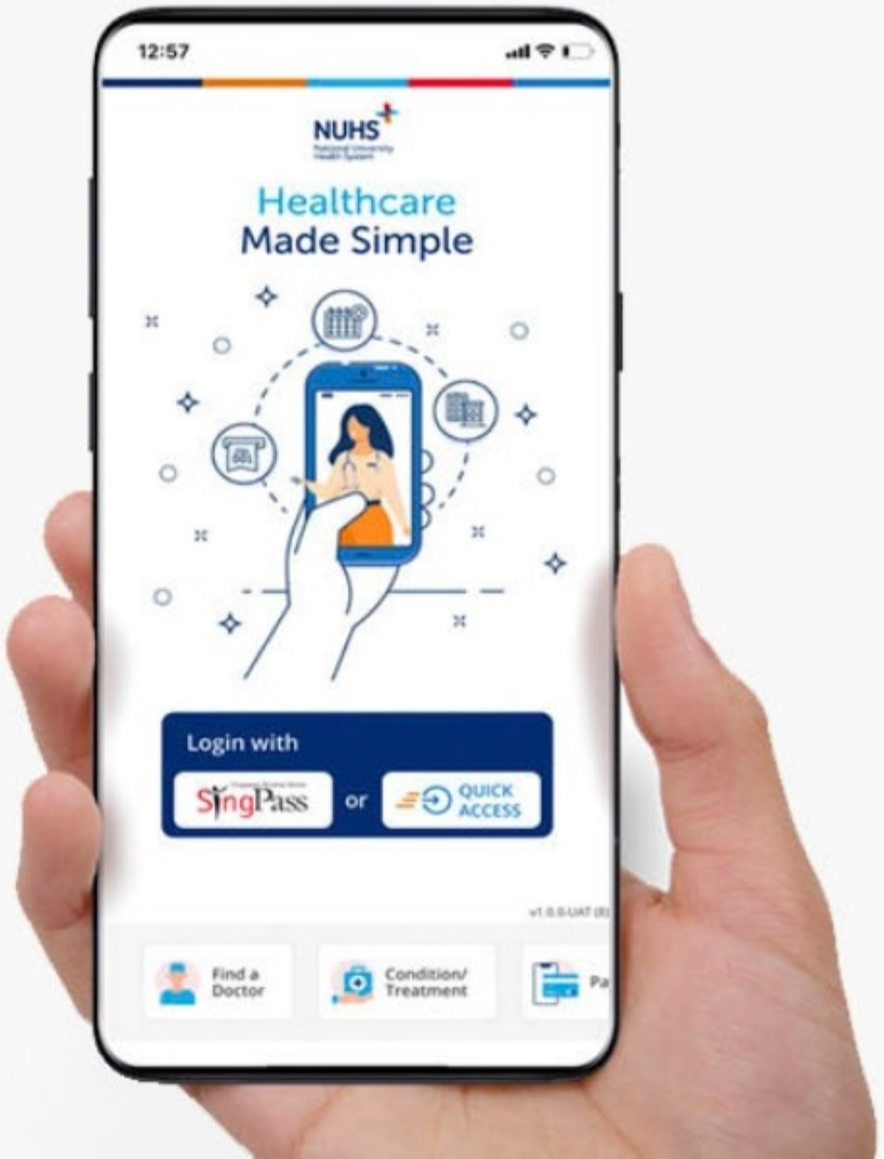
RISE BY DIGITAL BCG ACADEMY

BDA04 Hackathon Presentation

BLOCK 10

NUHS
National University Health System



Meet Our Team

Chow Xue Hua

Wendy Khoo

Stacey Leong

Bryan Fu

Terry Pour

Executive Summary

The OneNUHS mobile app empowers users to **manage their healthcare without hassle**. It offers practical features, and has an appealing and accessible user interface, as further validated by our user interviews.

As the app is newly launched, there is still room for improvement for the awareness and adoption rates. On top of that, users may still prefer physical interactions to digital channels due to the perceived higher level of convenience and personal touch.

Goals

- Create a **more personalised** health management experience for users and their dependents.
- **Raise awareness and adoption** of the oneNUHS App.

Proposal

- An **enhancement of existing features**, as well as a **re-imagination of My Health Map**.
- Ideas on how we can build public awareness to the OneNUHS app.

What we heard from the users

Key Finding 1

The OneNUHS app increases convenience but there is low awareness.

"The ease of use, the fact that I can add appts into my calendar, as well as ability to change/reschedule appts without making calls is convenient"

- Mr Jay Foo, 32

Key Finding 2

Adoption can be increased through enhancements addressing the pain points and needs of users.

"If there are more health management tools/features, i could use it more often. Currently that seemed more lacking"

- Evangeline Ong, 38

Key Finding 3

Users will be encouraged to use 'My Health Map' with enhancements.

"Don't understand what exactly it is other than showing me vaccination questionnaire and subsidised screening eligibility"

- Mr Kelvin Lim, 39

Key Finding 4

Users still prefer physical interaction whenever it is more convenient.

"I will prefer physical, since I am already physically at the hospital. I will feel more comfortable doing that. "

- Mr Leong, 64

Survey insights

Out of 211 people surveyed:
65% use health service apps
35% do not use health service apps

Do not use health service apps:
61% - aged 30 to 39

Use health service apps:
54% - aged 30 to 39

We have identified that this is the age group that has the largest opportunity for conversion, which will be the basis of our persona.

137 respondents **who use health service apps**
Top three reasons on how they became aware:
1) Recommendations from friends/family: **40.1%**
2) Online (social media and Google search): **29.9%**
3) Directly from healthcare institutions (staff word-of-mouth, posters, and/or TV screens): **24.4%**

74 respondents **who do not use health service apps**
Top three reasons identified:
1) Not aware of such apps: **54.1%**
2) Not clear of the features of such apps: **44.6%**
3) Prefer physical interactions with staff: **32.4%**

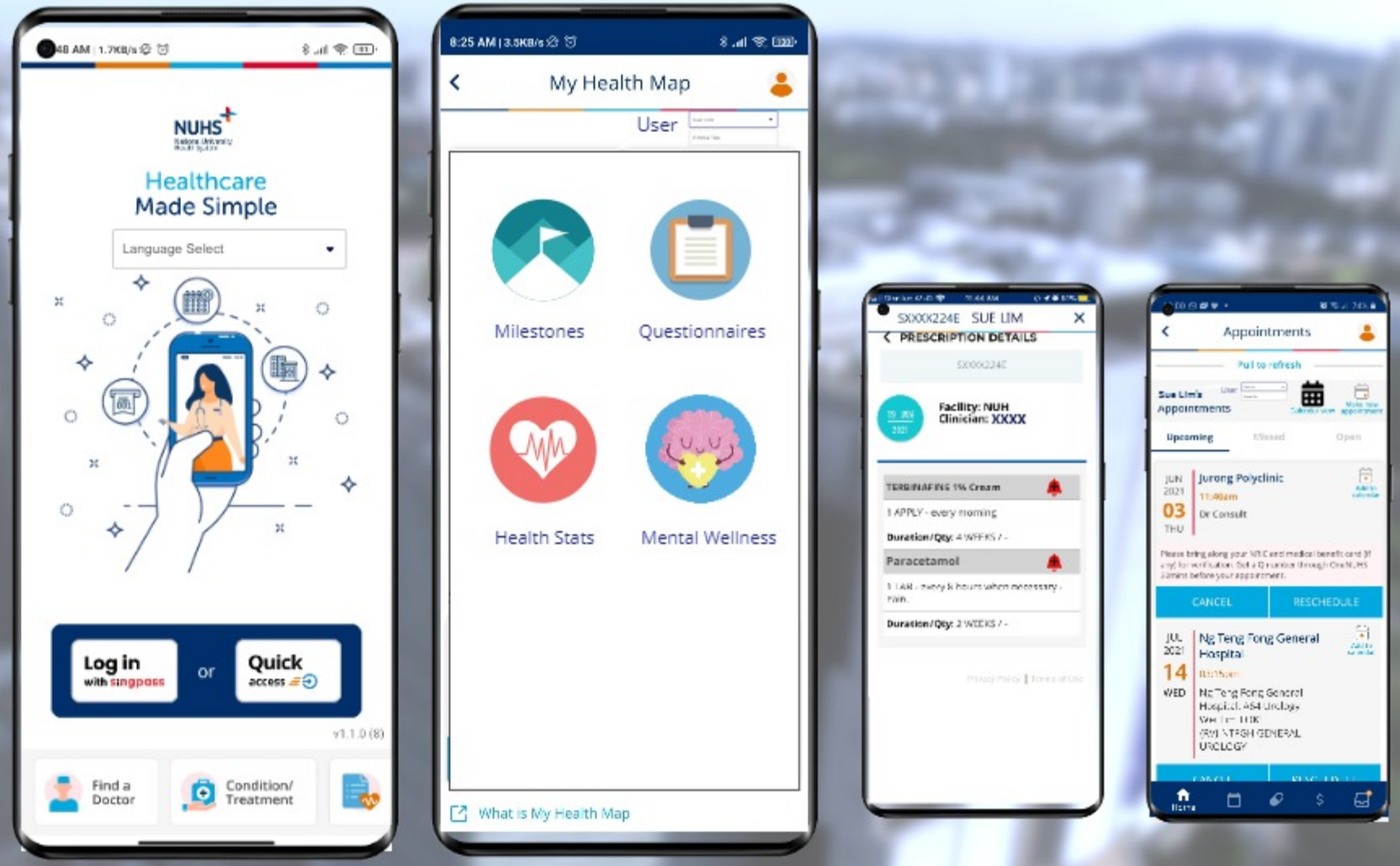
Our findings emphasizes the importance of marketing and helps in developing our marketing strategies to promote the app

OneNUHS
APP
Healthcare Made Simple

How might we create a personalised healthcare management experience for users and increase their awareness and adoption of OneNUHS app?

OneNUHS 2.0
APP

Enhanced features to **increase adoption** and create a **personalised** healthcare management experience for users.



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Meet Sue

PROFILE
Female
39 Years Old
Data Analyst
Married
Children aged 2 & 7
Parents aged 65 & 70

"I want to use digital means to monitor my health and schedule medical appointments for myself and my dependents.

But sometimes physical interactions seem faster or more convenient."

GOALS
Keep herself and family in good health by tracking & identifying health issues via digital means on top of physical activities/ examinations.

To be on top of her and family's medical appointments, vaccinations, screenings and medications.

ENJOYS
Playing with her kids during her free time

Having dinner over at her parents' house

Working out every two days

Checking out new healthy recipes to cook for her family

DIGITAL PAIN POINTS
1. Some health apps were cluttered and slow

2. Frustrated with the multiple Singpass logins even after the initial login into app

3. Three main health apps to choose from but no one true app that ticks all the checkbox

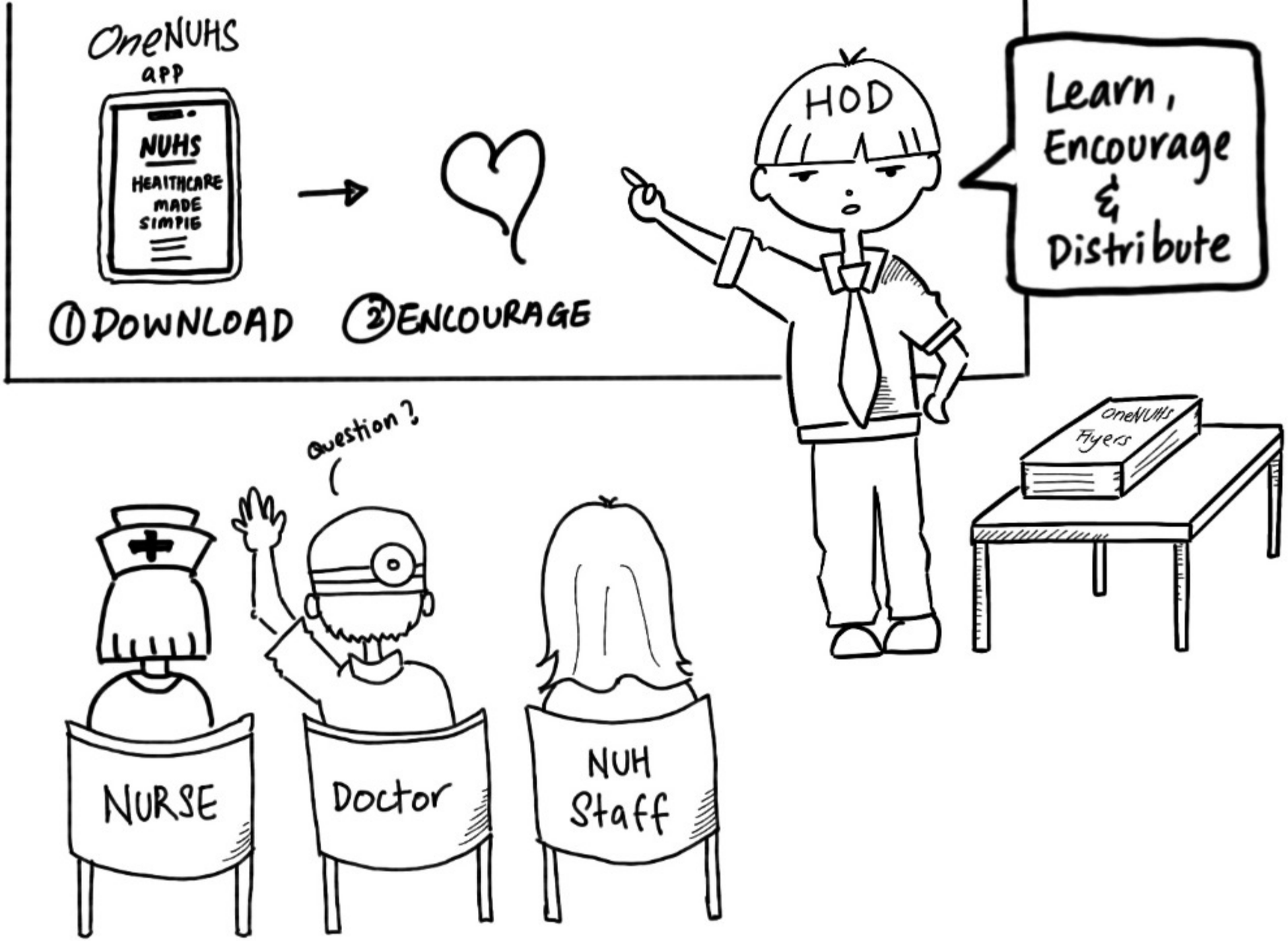
4. Not all appointments can be rescheduled on the app, end up having to call or email clinic/hospital instead

5. Unable to register queue on app before appointment (Did not receive notification even when enabled or unaware of register button)

6. Not sure what vaccinations/screenings are available for self and dependents

7. Unable to see all appointments for linked dependents and self in one view

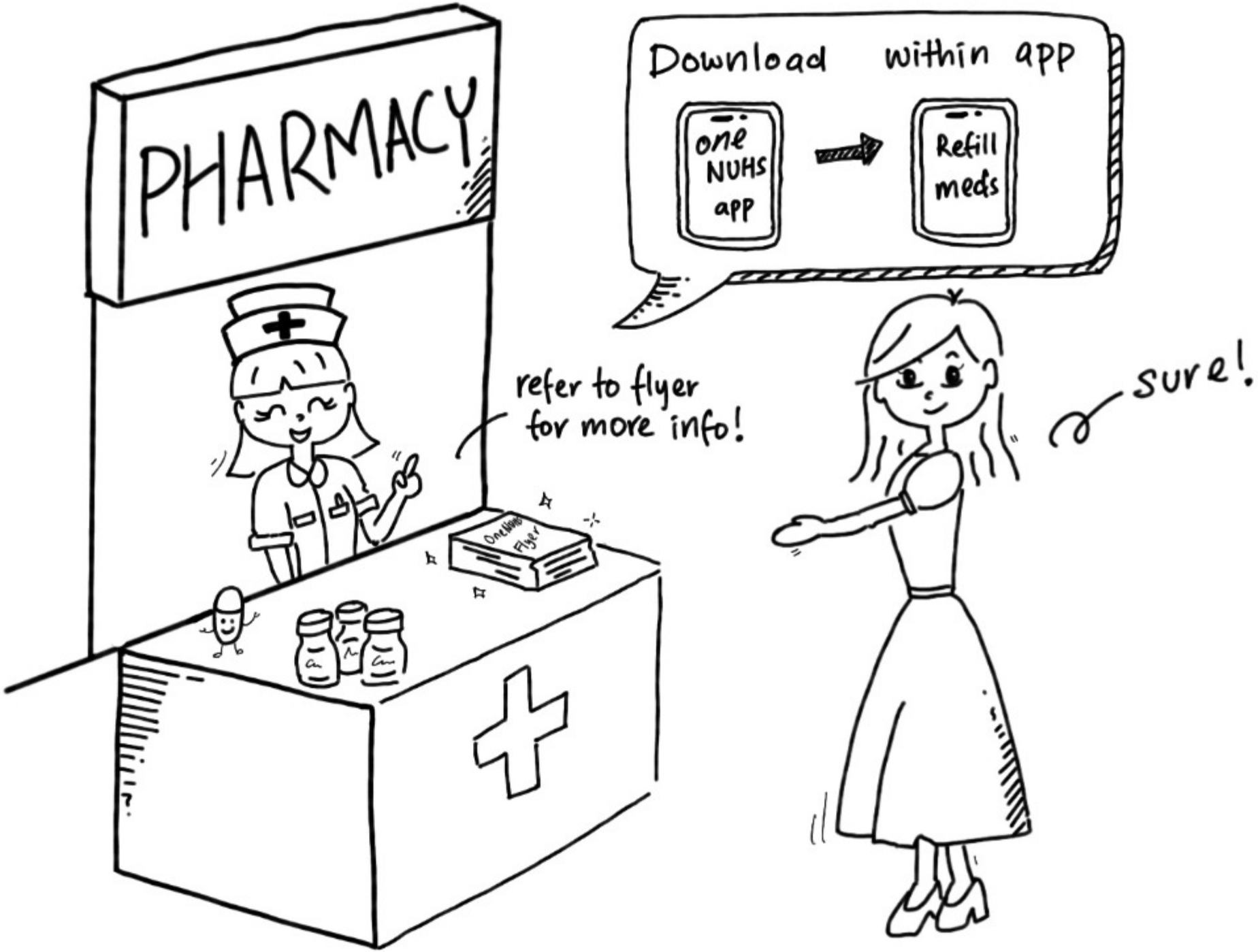
Storyboard :
Staff are briefed on promoting OneNUHS App



Staff members are briefed by their HOD to encourage patients to download and use OneNUHS, and also to hand them the pamphlets.

Storyboard : Introduction to OneNUHS App by staff ambassadors

After her doctor's consultation, Sue collects her medicine at the pharmacy. **Pharmacist hands her the OneNUHS app pamphlet** and encourages her to download the app to manage her prescription.



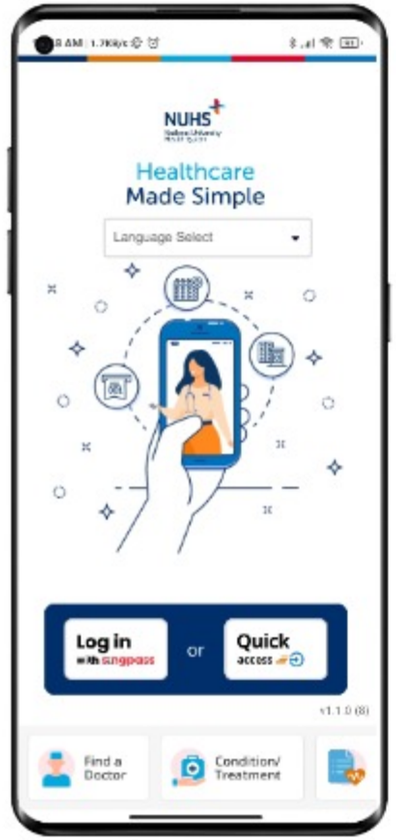
Storyboard :
Sue can find out more about OneNUHS App in many ways

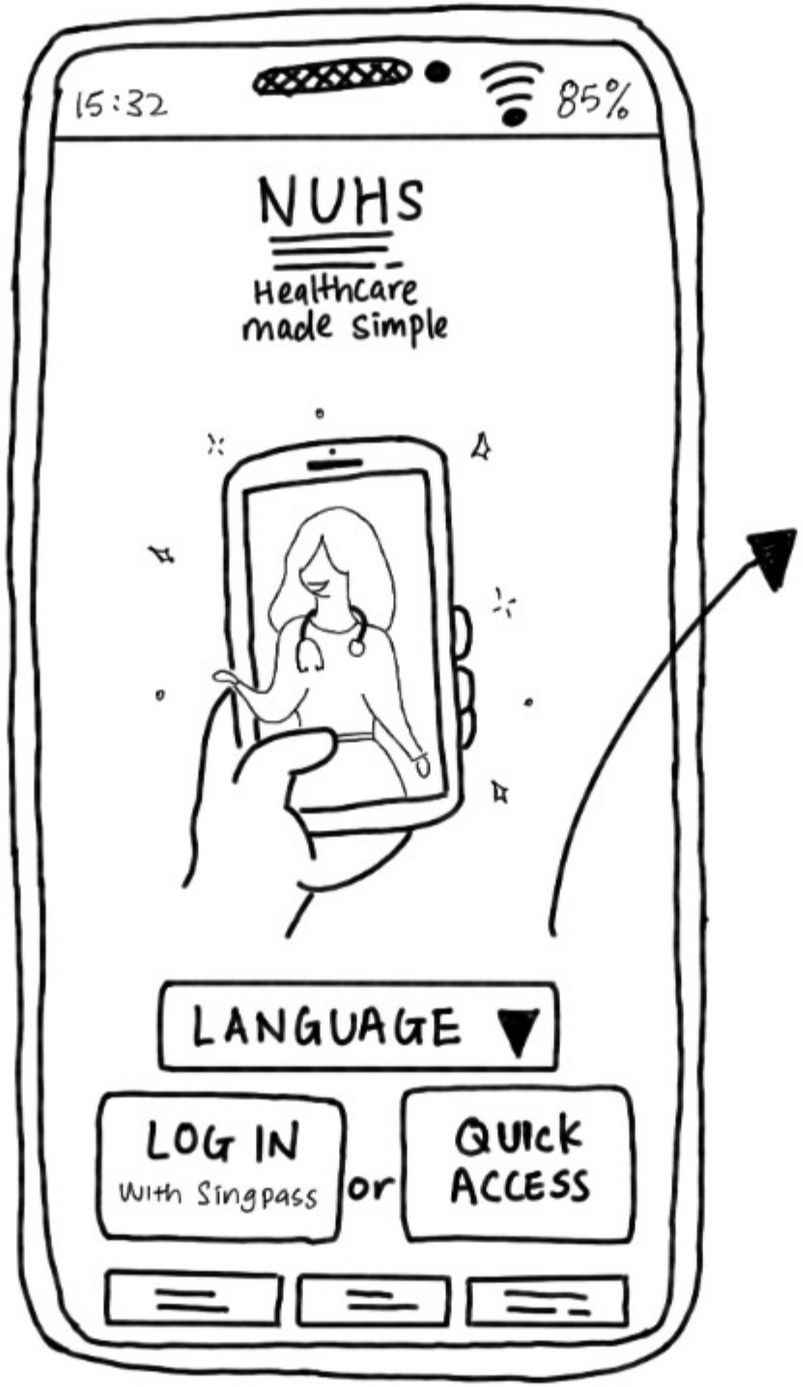
Sue makes payment at the cashier. The **staff reminds her** that if she wants to **make changes to her appointment**, she can do it through the OneNUHS app.

The app tutorial video can be seen on the **TV screen**. There is also a **standee** on the counter with a call-to-action to download the app.

Storyboard :
She tries out the OneNUHS App

Sue downloads the OneNUHS application, proceeds to log in. She sees that there is an **option to change language.**

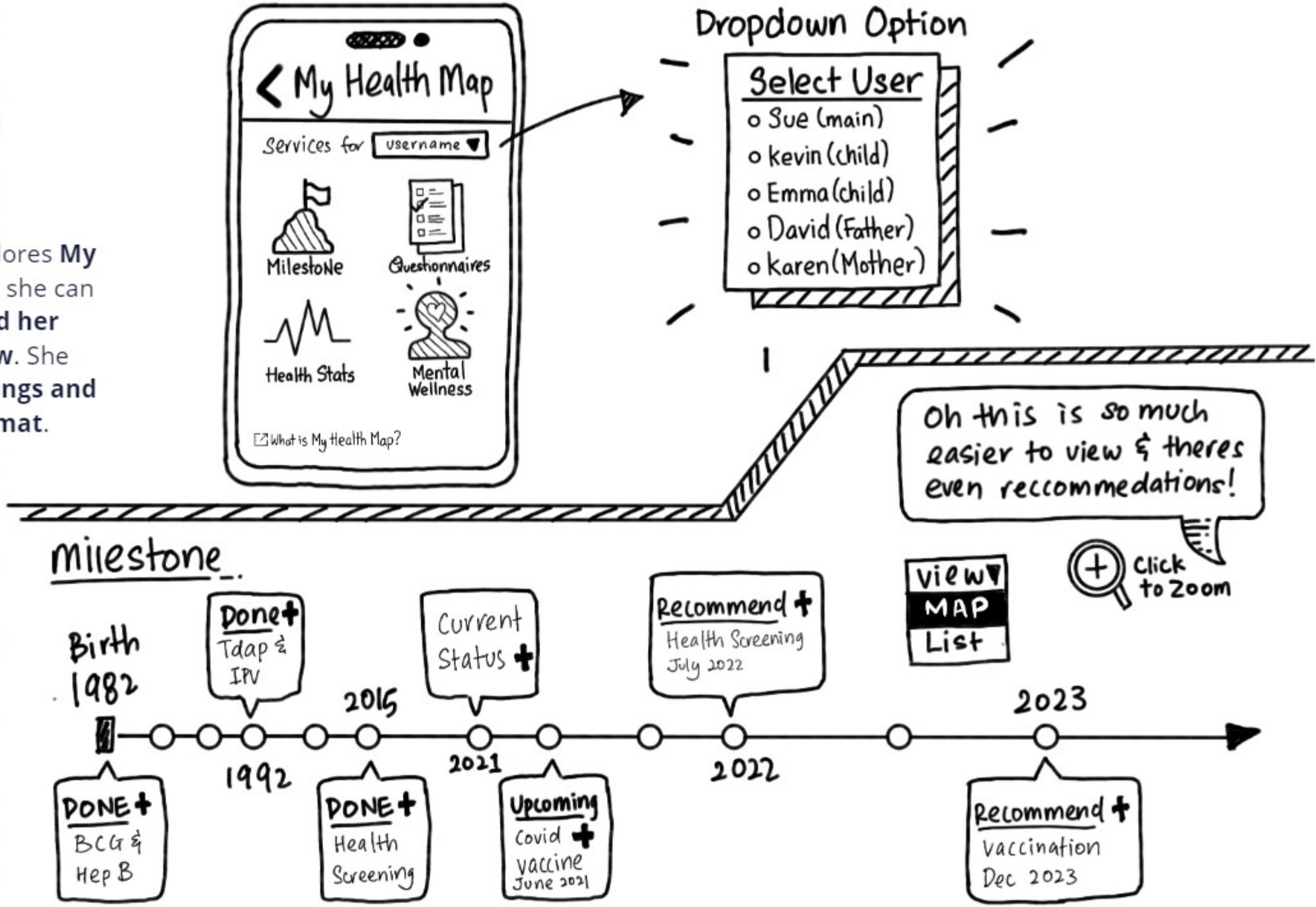




Like that even my parents can use the app in the language they prefer! ♡

Storyboard : Sue explores 'My Health Map' feature

Once inside the app, she explores **My Health Map** and notices that she can **choose between herself and her dependents' profiles to view**. She also notices her **past screenings and vaccinations in a visual format**.



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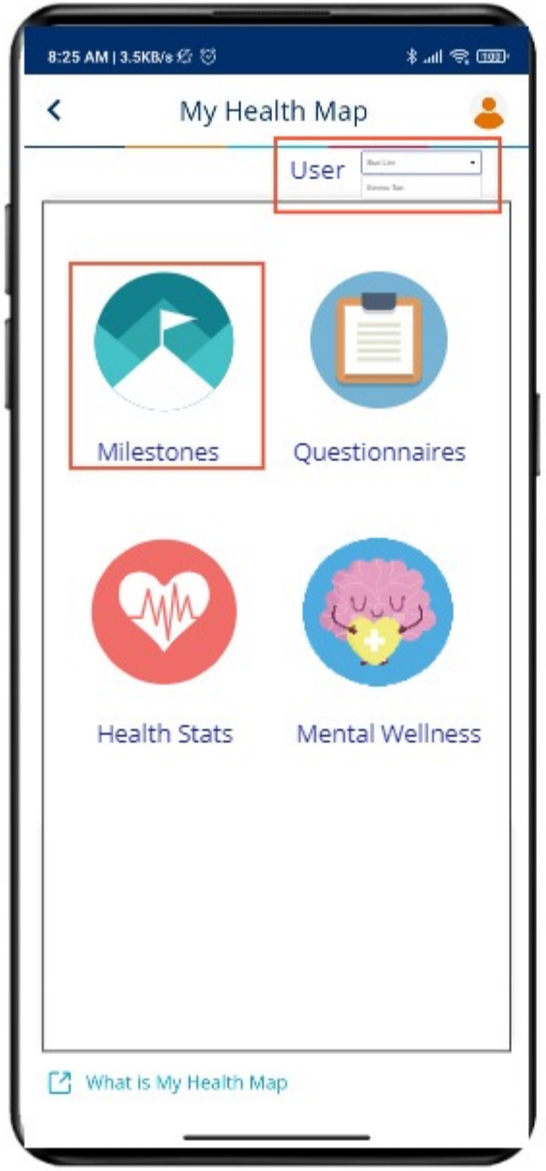
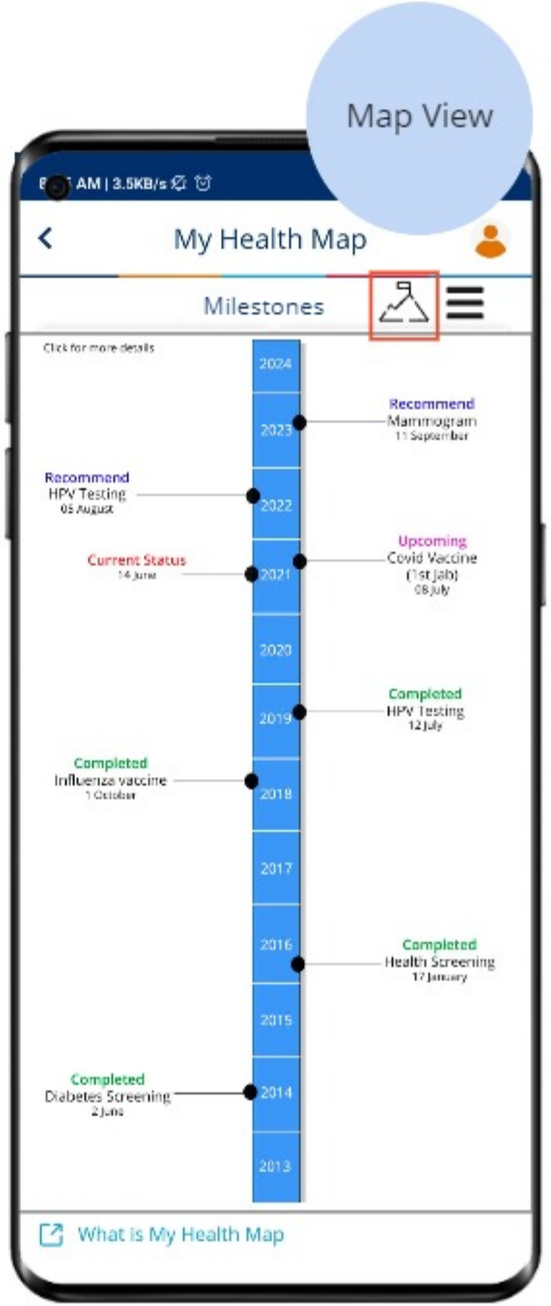
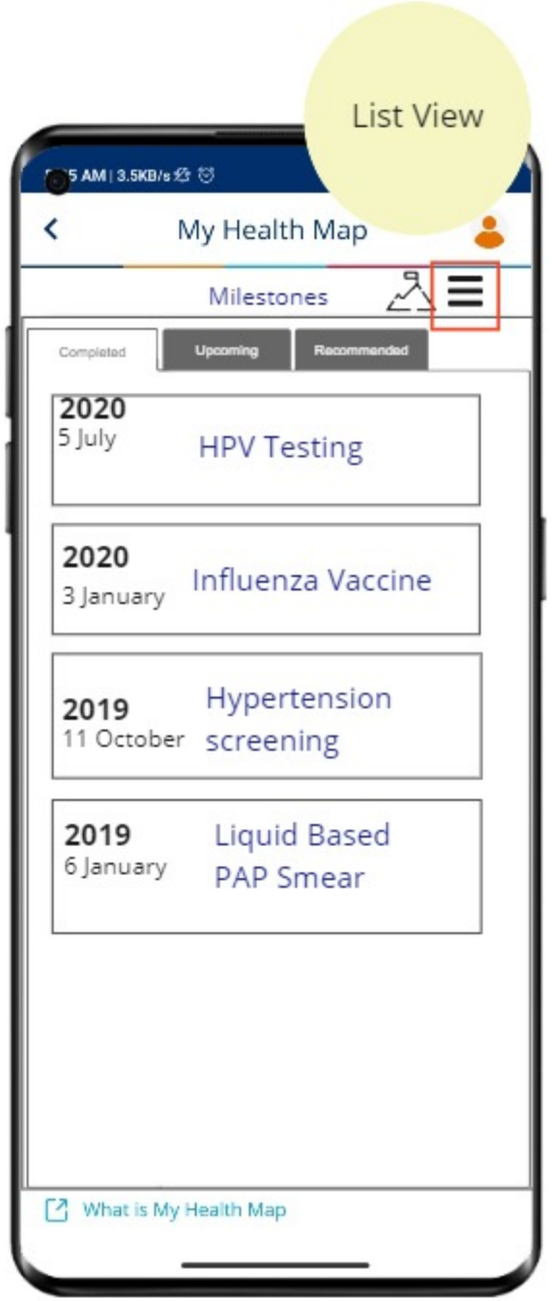
My Health Map: A Deeper Look into Milestones

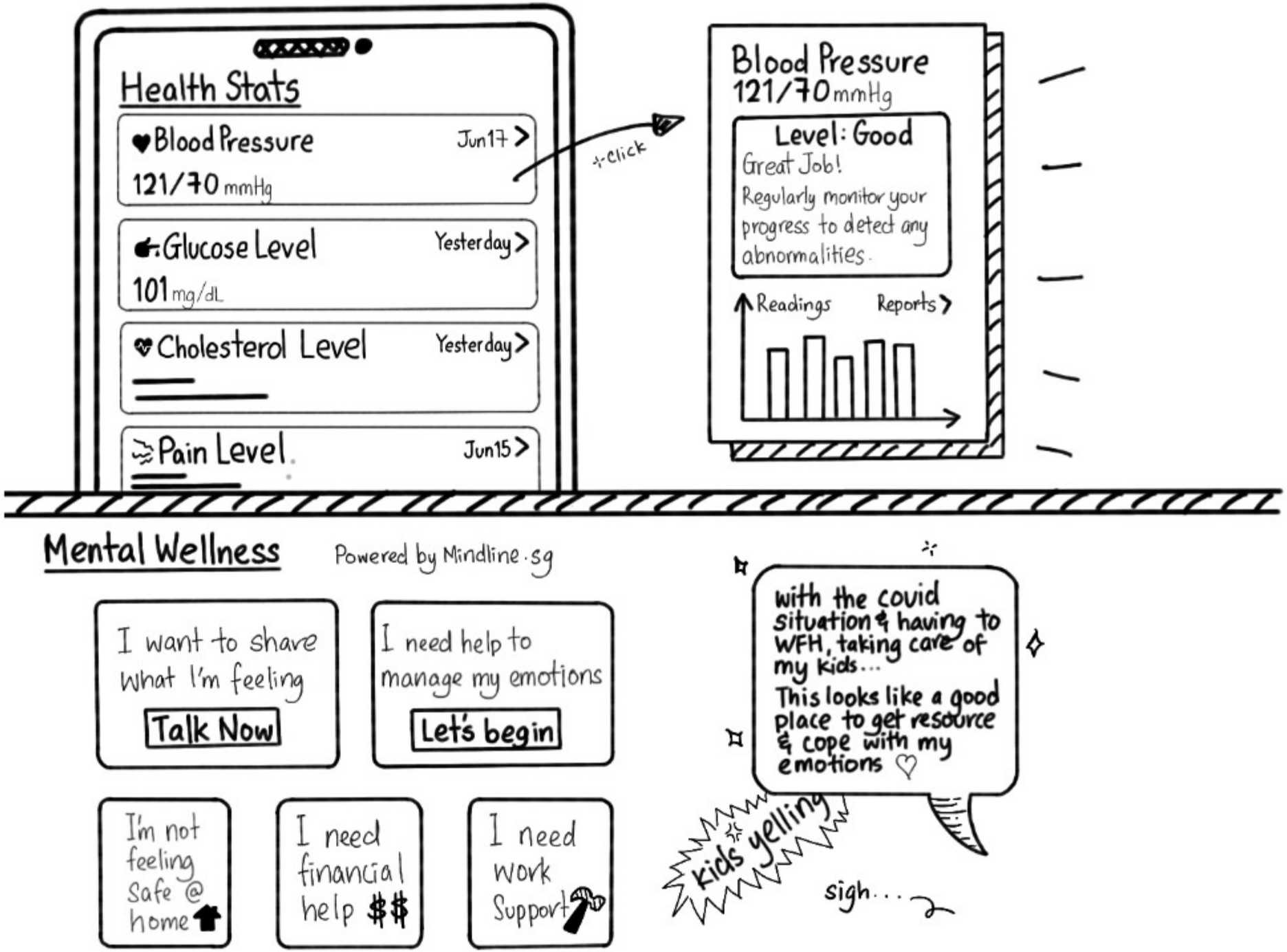






Storyboard : She checks out 'My Health map' further

She can also **input health stats manually** to check if there are any irregular readings for personal health/chronic health monitoring. There is even a section for **mental wellbeing**.



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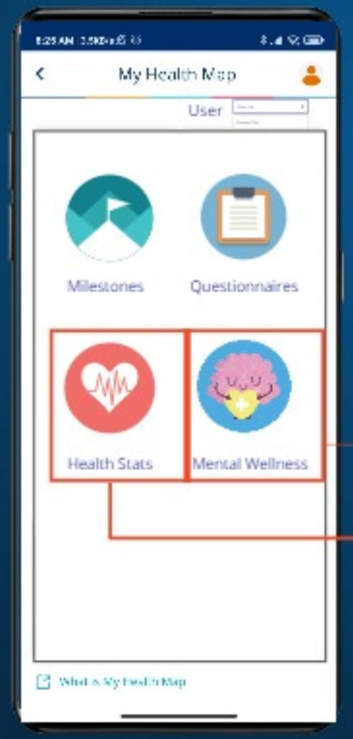
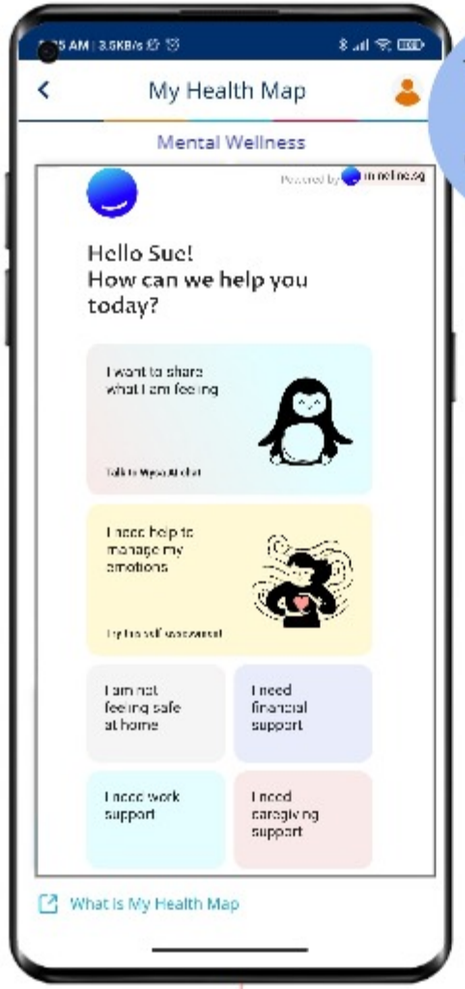
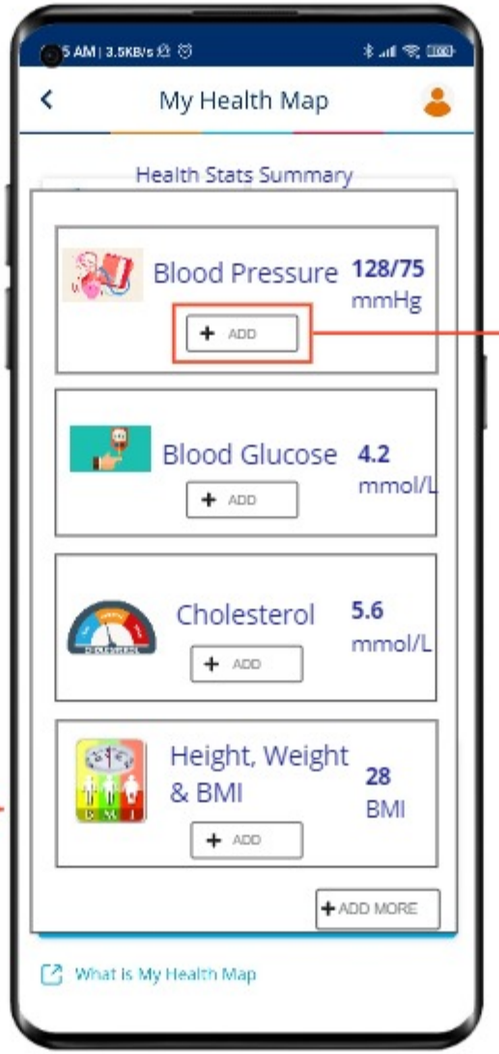
My Health Map: Taking care of yourself physically and mentally





Take care of your emotions

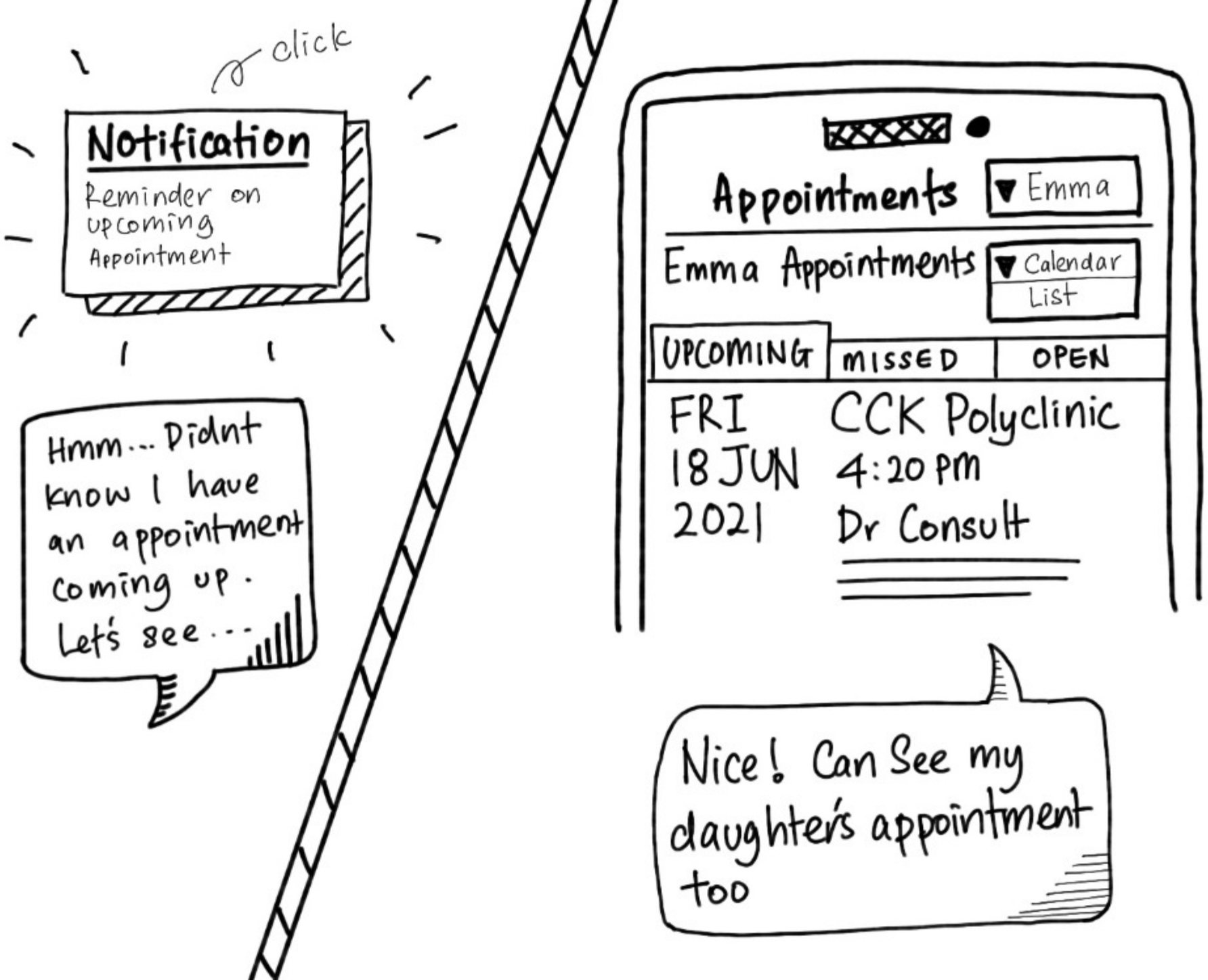


Add readings

Trends & Daily Progress

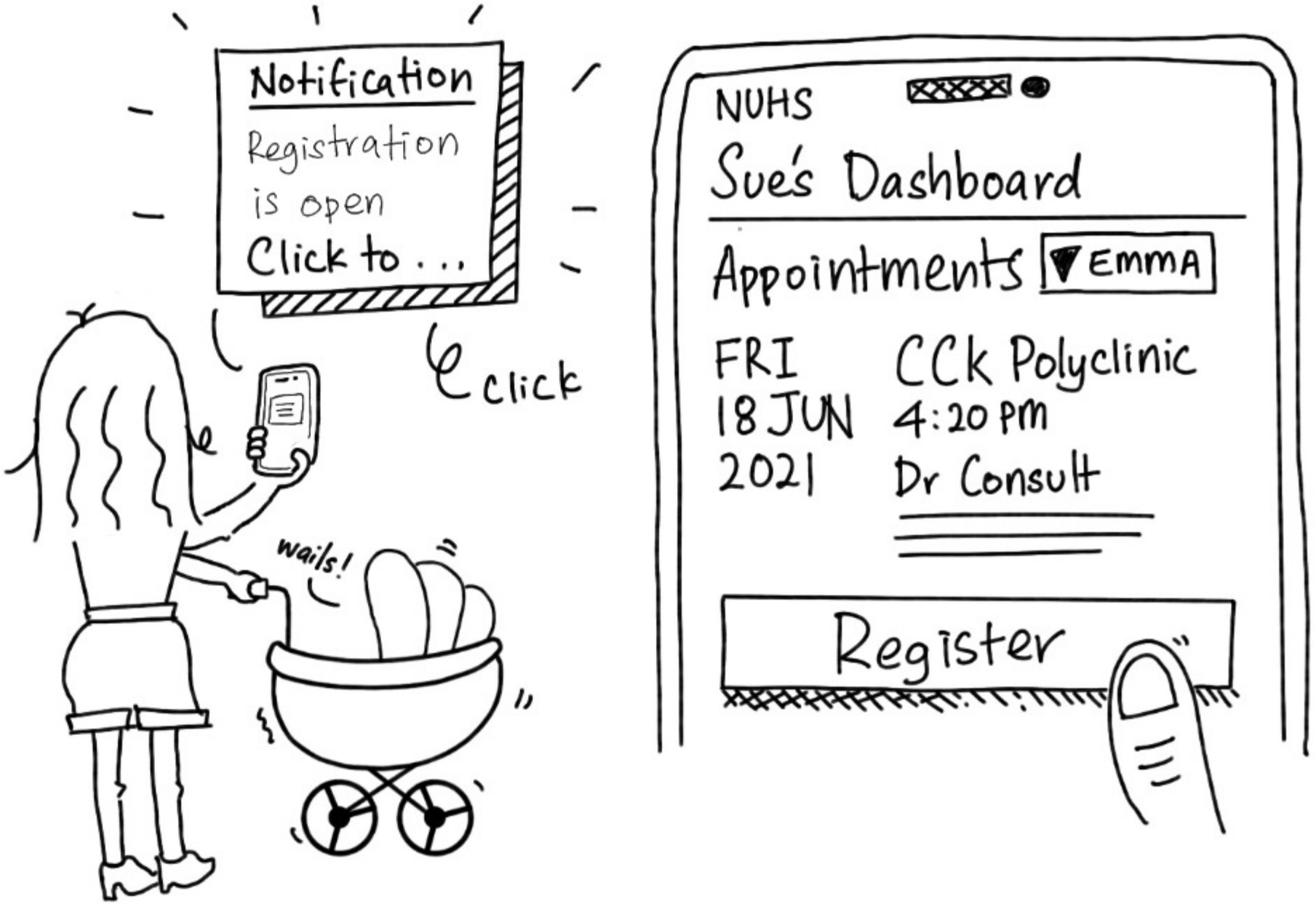
Storyboard :
Keeping track of all appointments in the family

A **notification** appears and informs Sue that her child has an upcoming appointment. She clicks on it and views the details of the appointment.



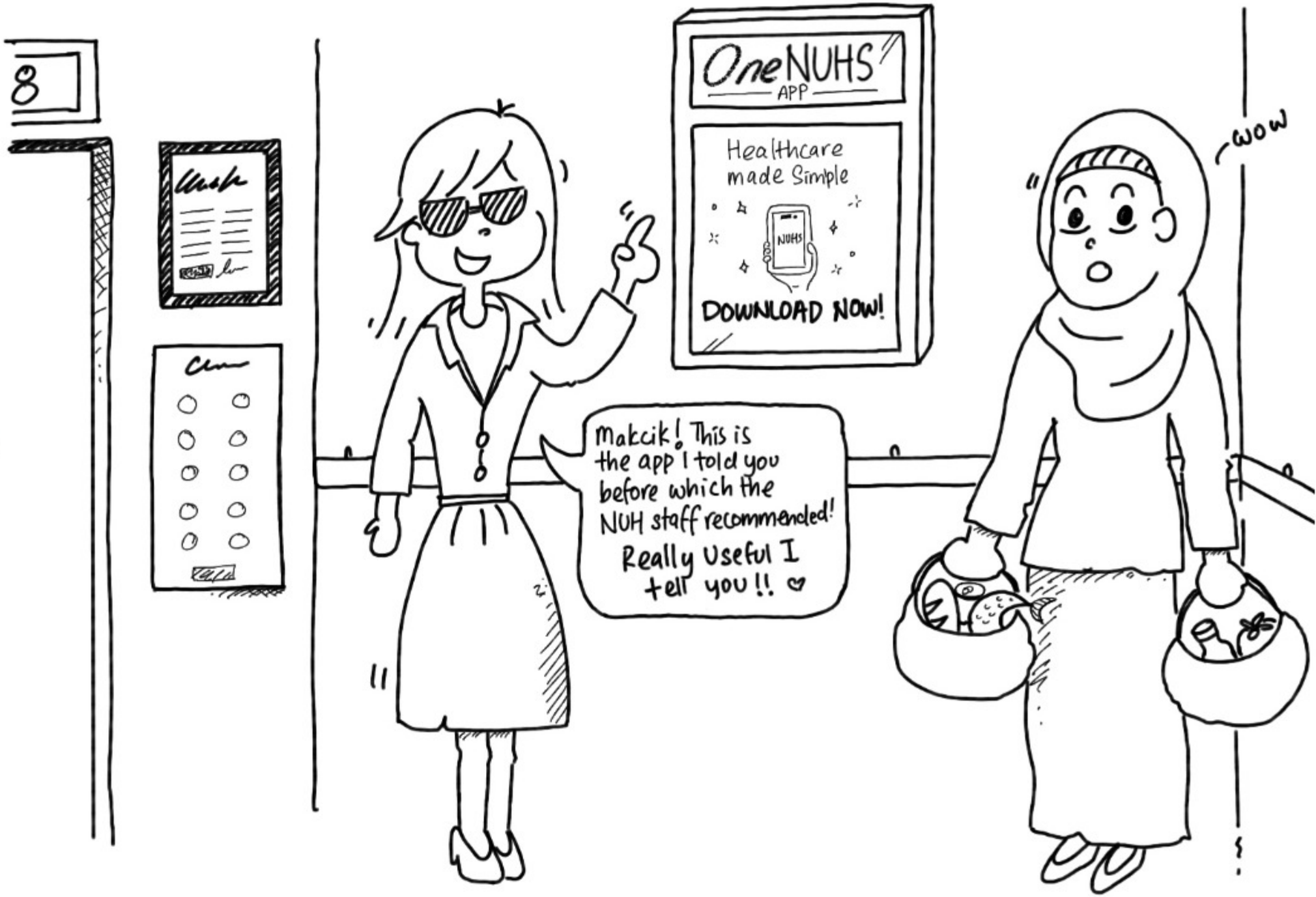
Storyboard : Saving time by pre-registering appointment

On the day of the appointment, **one hour before** the consultation time, Sue receives a **notification** that **registration is open.** She proceeds to register through the app.



Storyboard : Sue spreading the word on OneNUHS App

While in the HDB lift, the **OneNUHS ad flashes on the digital poster** and Sue shares with her neighbour the perks of using the app.



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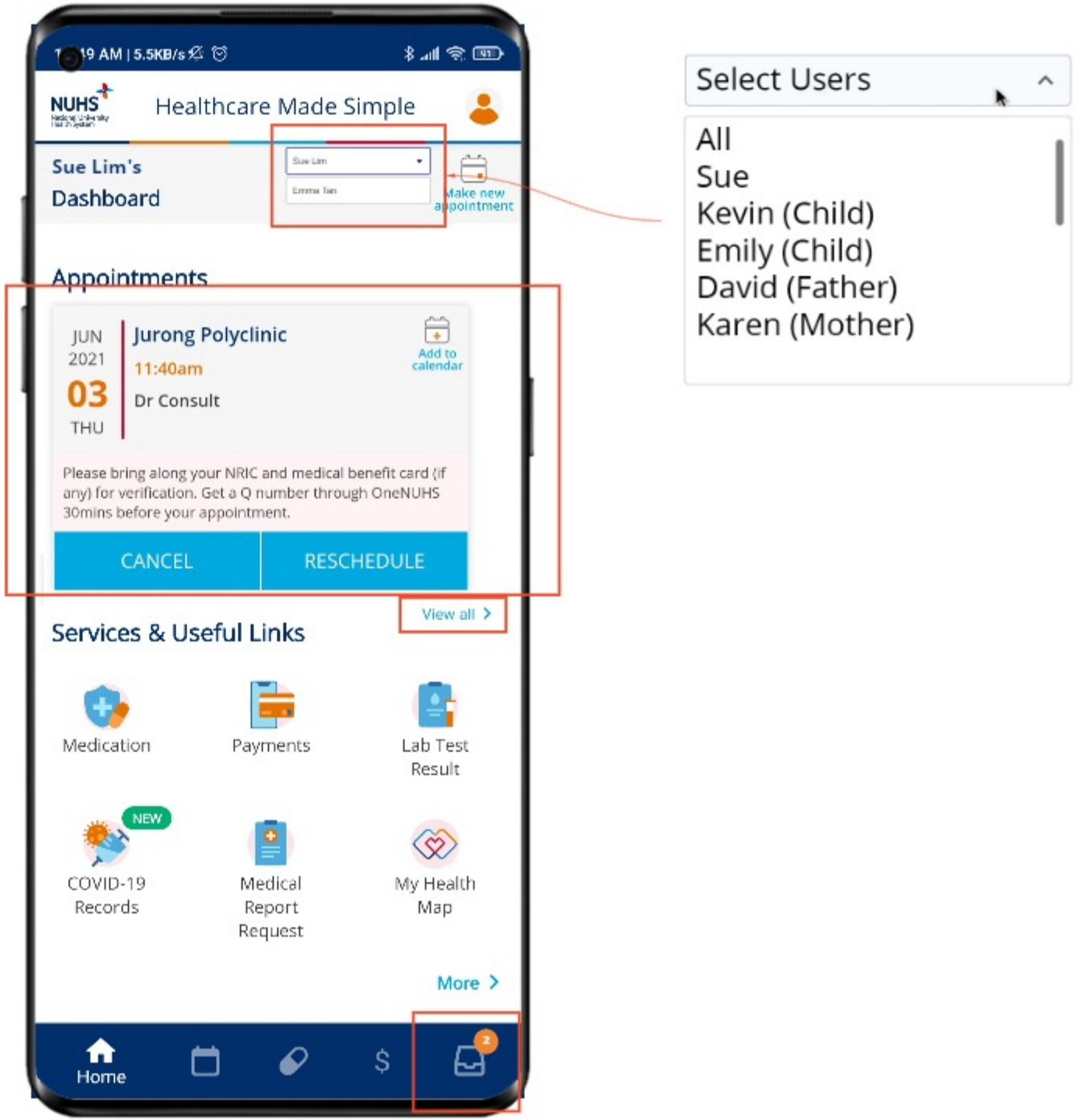
Single Main Page View:

- Option to select user
- Show only the latest upcoming appointment



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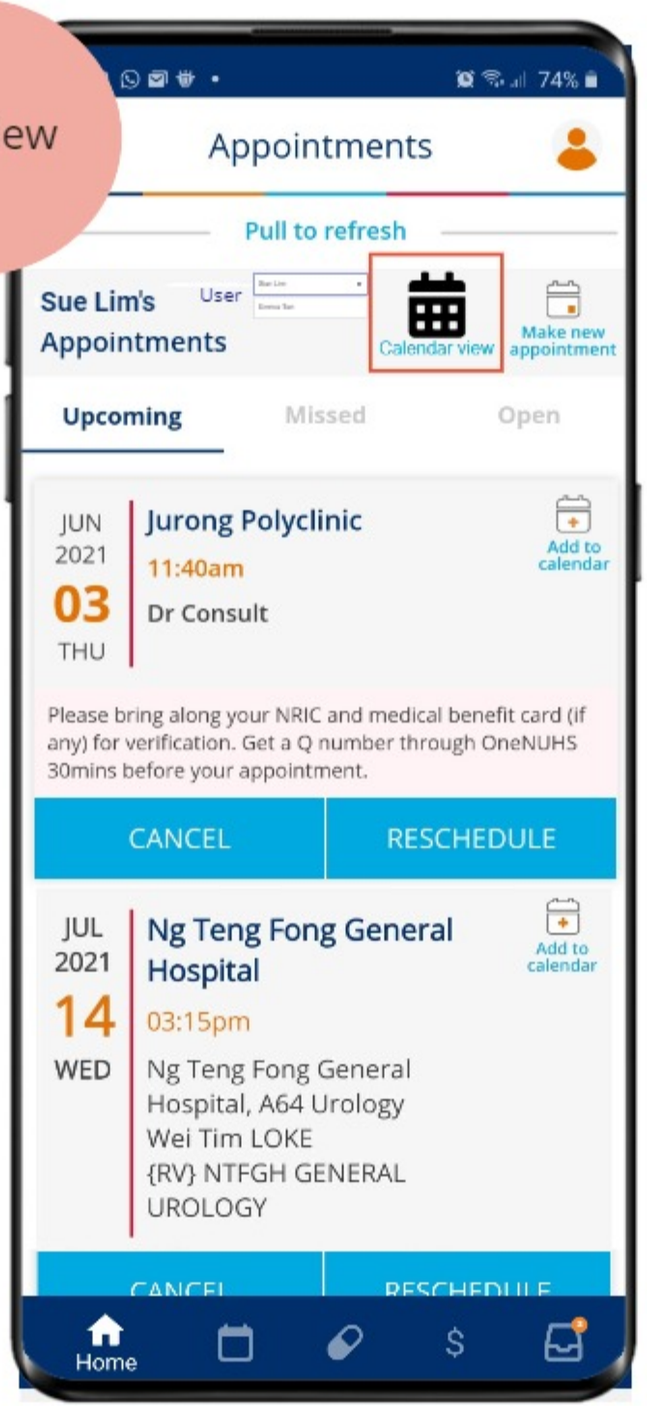
Appointment Page: Calendar View & List View

List View



Calendar View

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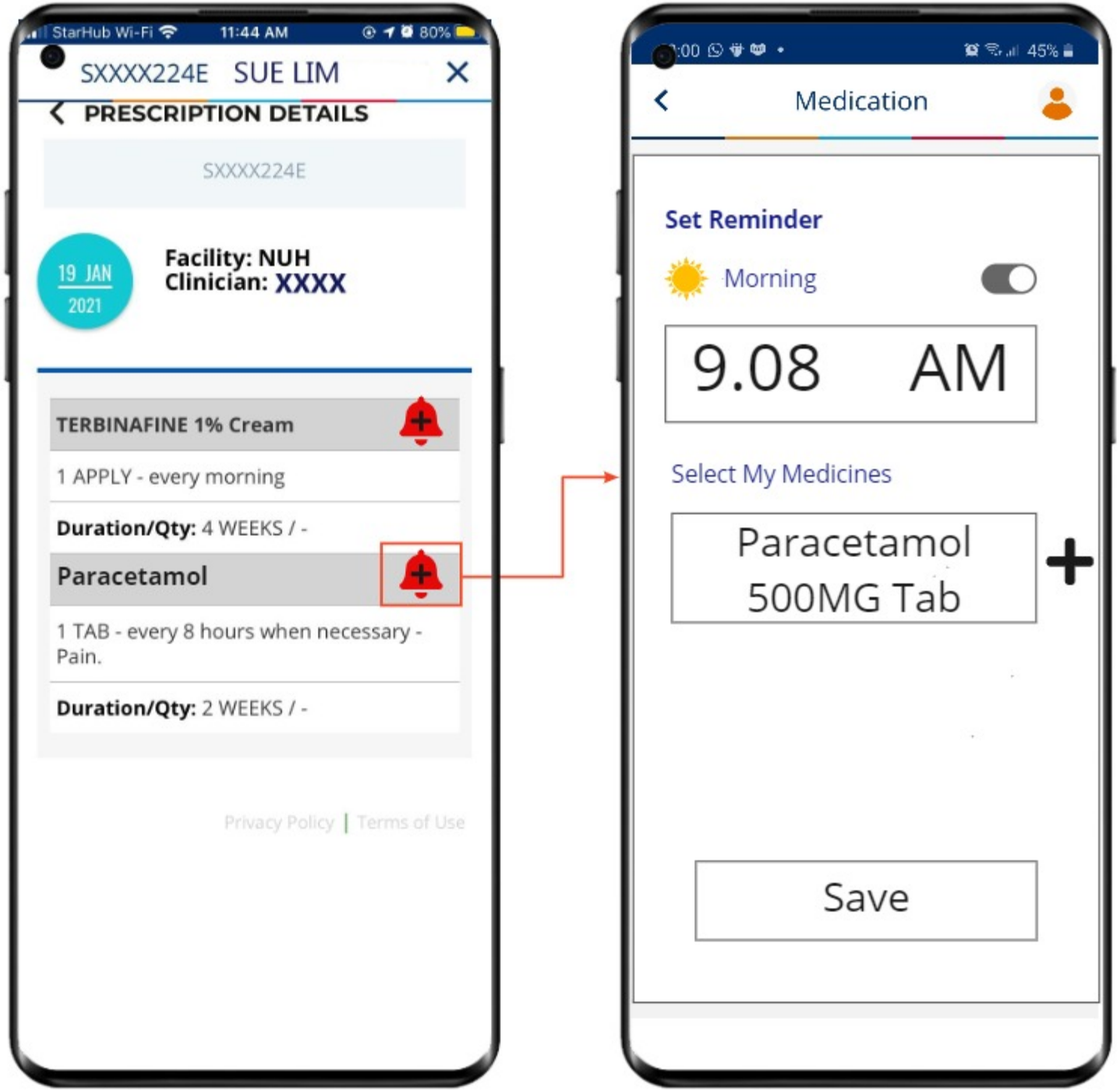
Moving on to: Medication Page



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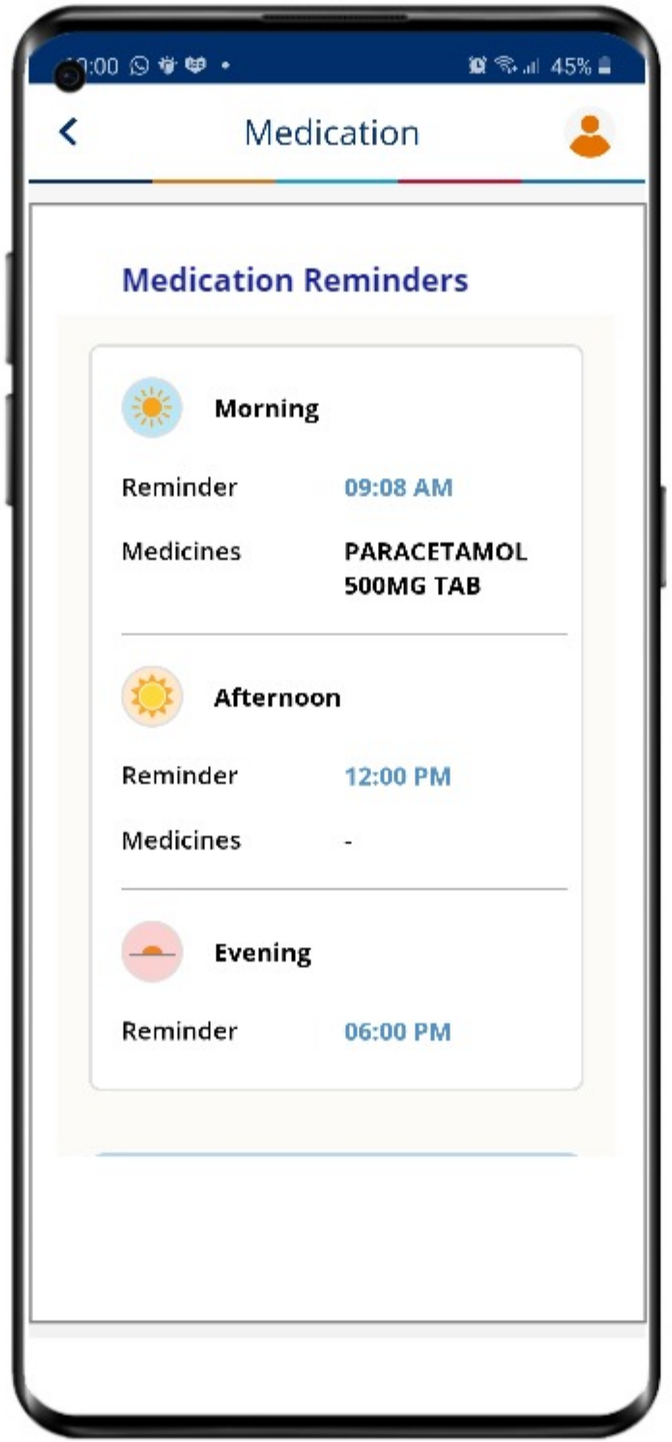
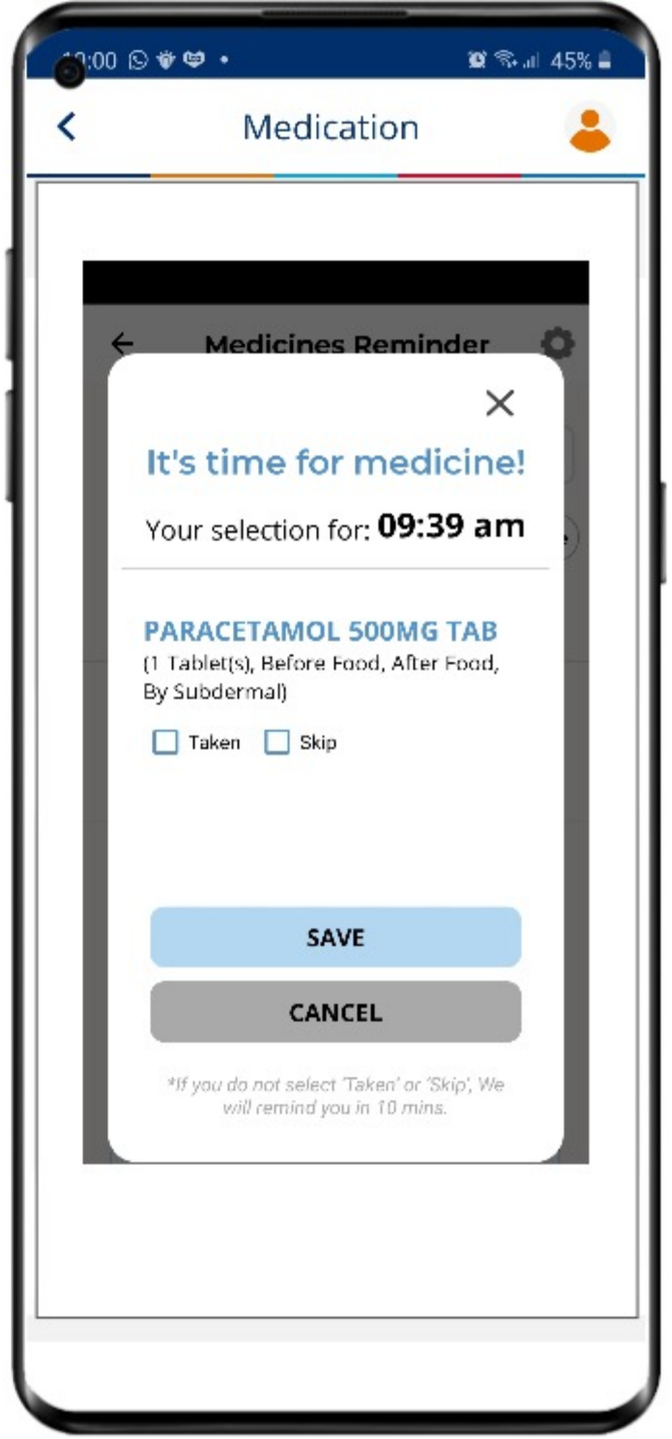
Medication Page: Reminders





Summary of Enhancements

Settings:
- Option to change language (English, Mandarin, Malay, Tamil).
- Under 'Appointments', filter to show all or selected profiles' appointments as a calendar view.
- Dropdown selection for different users.

Notifications:
- Pre-register on mobile an hour before appointment time.
- Next appointment 3 days to 1 week prior to appointment date.
- Consume medication on time.

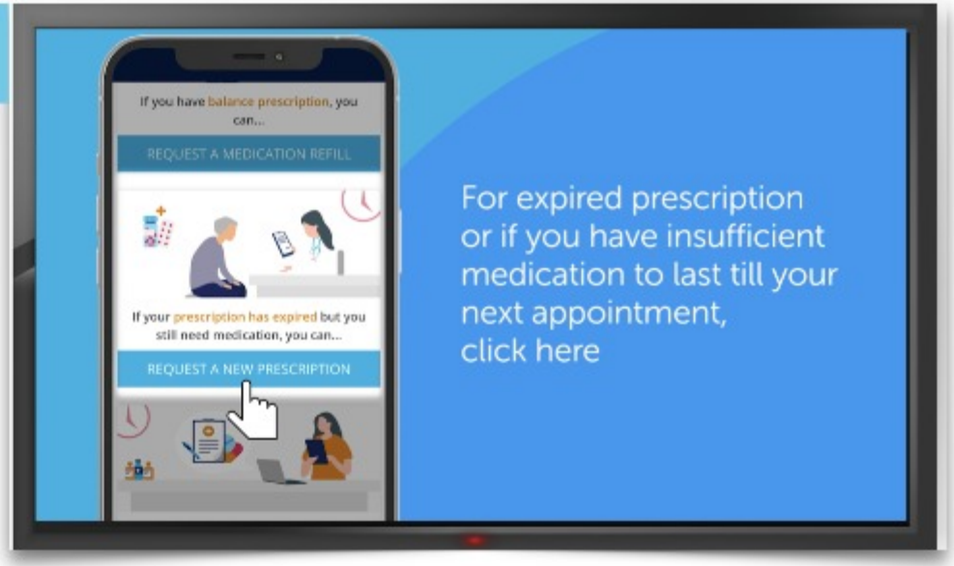
Personalised My Health Map:
- A **milestone map** is available that allows users to see past records of their screenings and vaccinations as well as those upcoming and recommended.
- **Health Stats** allows users to input and monitor their health vitals, empowering them to take an active role in their health.
- **Mental Wellness** to help users assess their mental wellbeing and match them with resources and helplines.

Building Awareness: Leveraging existing assets

Collaterals

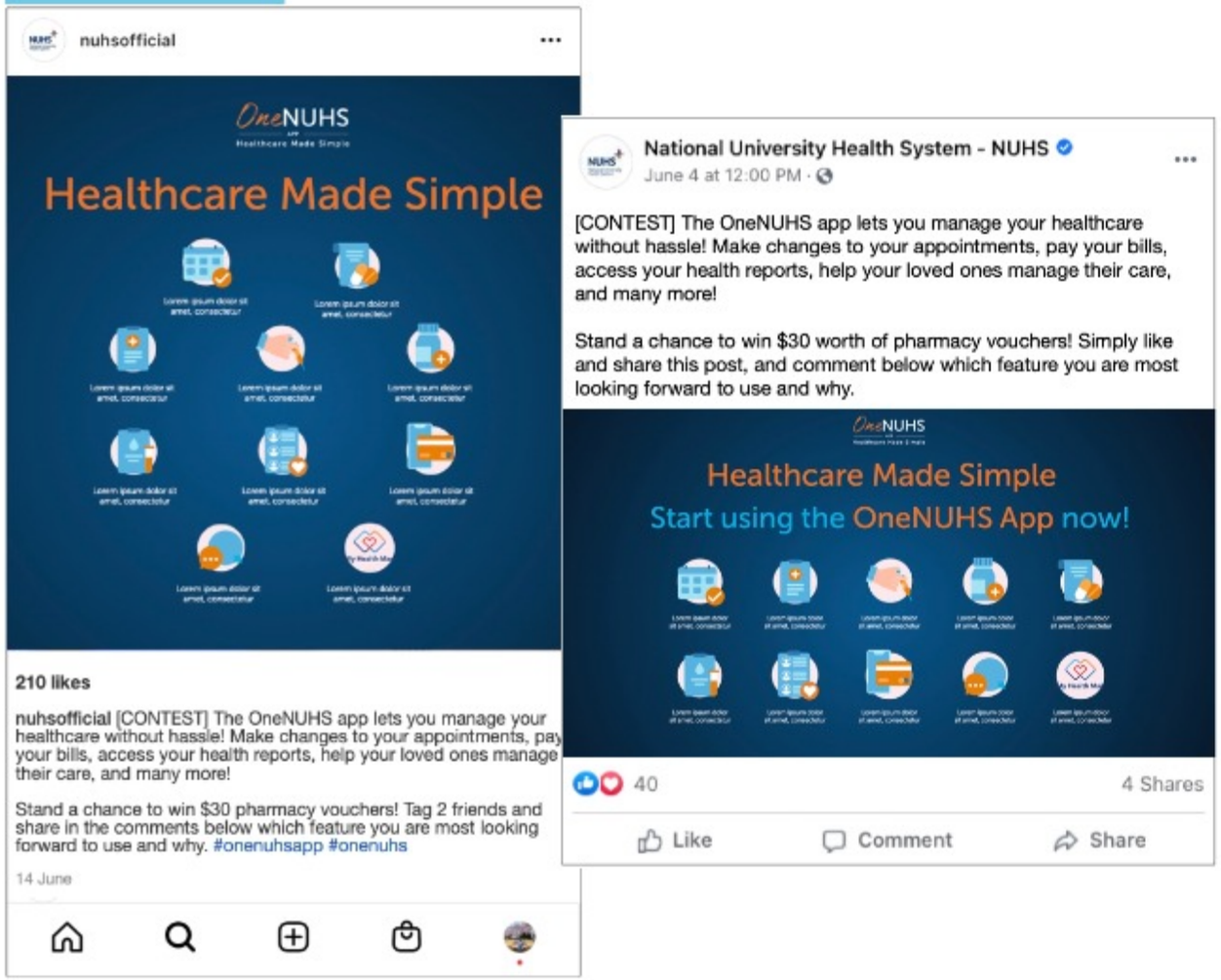
Staff word-of-mouth

In-clinic TVs

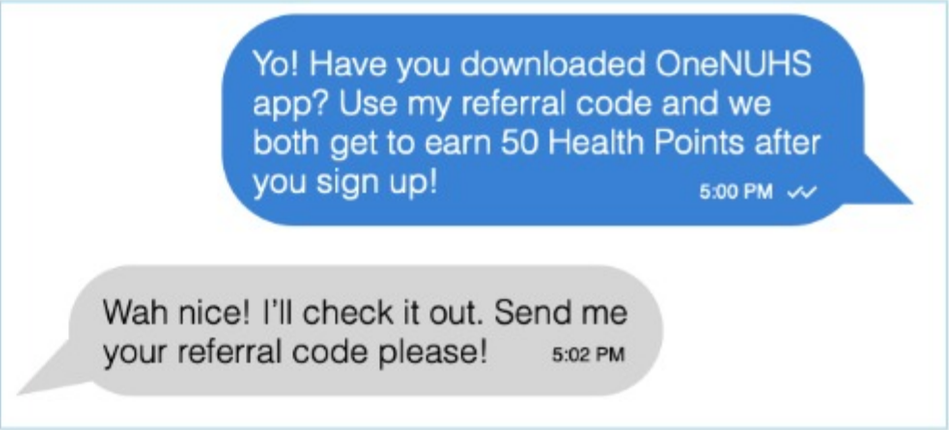


Building Awareness: User word-of-mouth, referrals, and rewards

Social Media

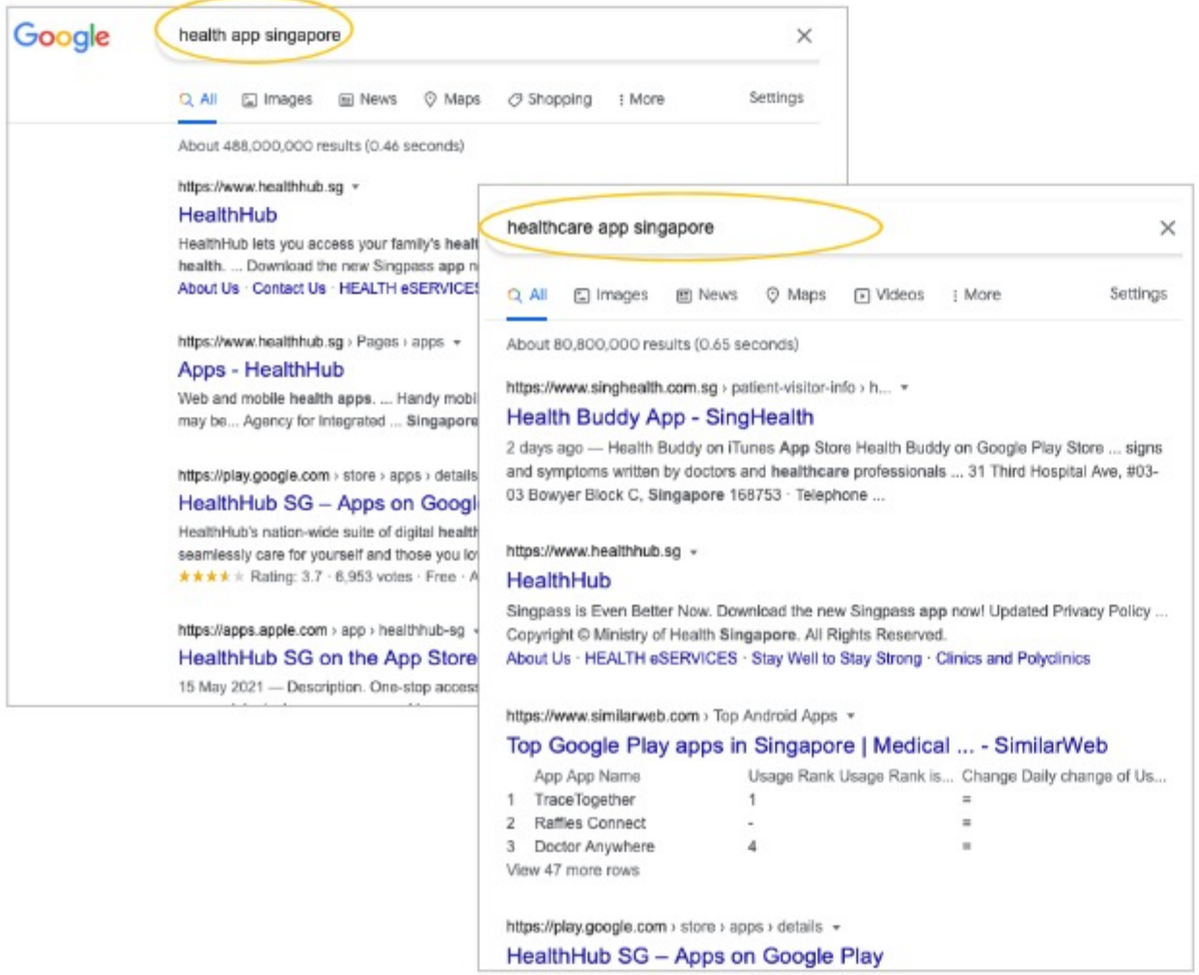


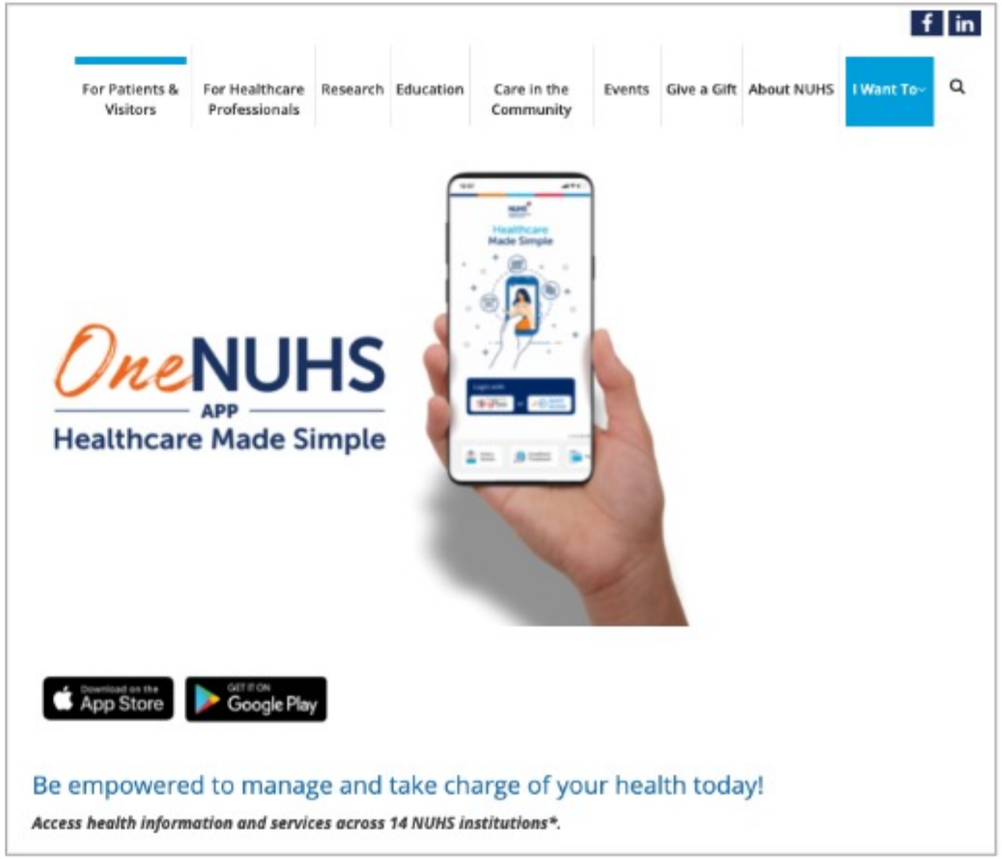
Partner Marketing



Building Awareness: Increase search engine visibility by including relevant keywords

SEO





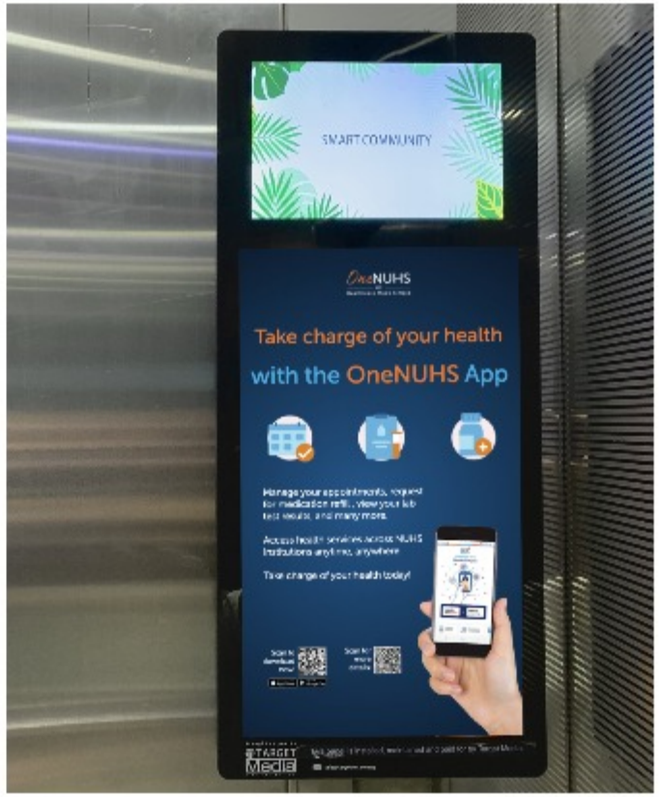
Suggestions (non-exhaustive)

- Health app, mobile health app
- Healthcare app
- Mobile healthcare management
- Digital health services
- Medical app

Building Awareness: Offline marketing

Quick tips with ambassadors

Out-of-Home Advertising



Concept Summary

The Big Idea:
Encourage adoption of the OneNUHS app by **enhancing existing features** to create a more **personalised health management experience** for users and their dependents, as well as **increasing awareness** to the app.

Possible challenges:
1. Users may fall back on using HealthHub which covers all healthcare institutions
2. Users may not want to learn how to use the more in-depth functions
3. Rejection from partner merchants to collaborate

How we know it is working:
1. Increased downloads
2. Increased amount of tasks completed on the app
3. Good reviews on the app store
4. Increased in traffic bandwidth of the app

Next steps:
1. Sync data from 3rd party apps (i.e Apple Health, Garmin App, Fitbit App) to populate Vital Health Stats
2. Sync trackers that are prescribed by doctors to My Health Map for real-time updates
3. Include an option to receive call-back from medical staff after filling up questionnaire

Thank you!

Any questions?

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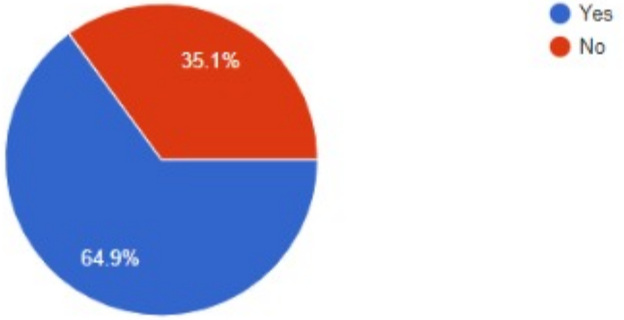
[Appendix] Survey Analysis: All App Users

Google Forms

3) Do you use any health services app?

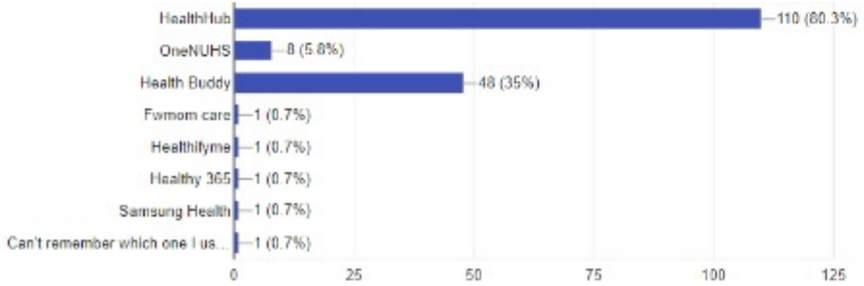
211 responses



"I use health service app(s)"

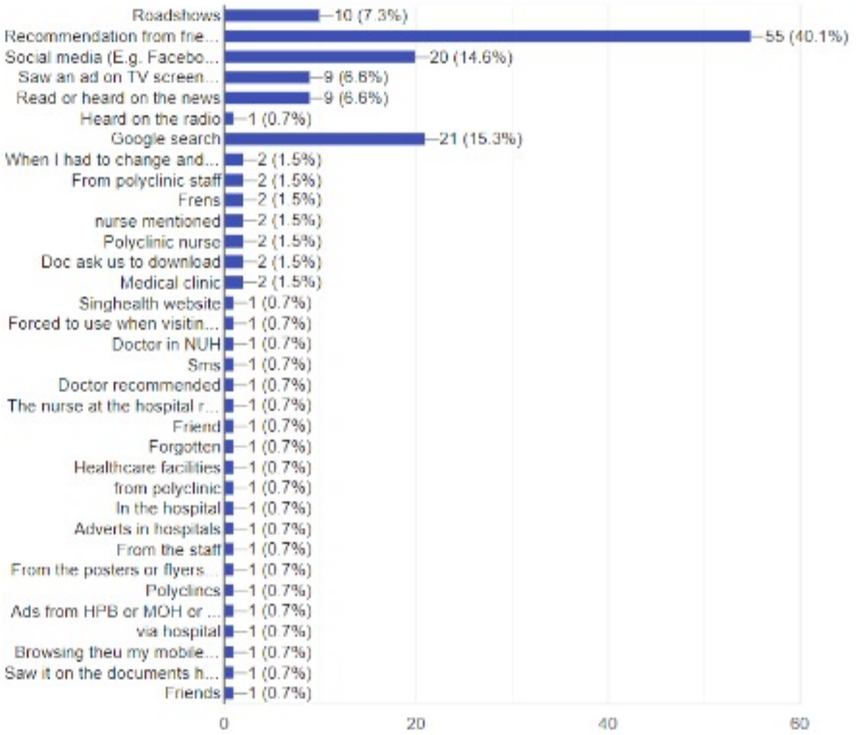
4a) If yes, which health service app(s) do you use? You may choose more than one.

137 responses



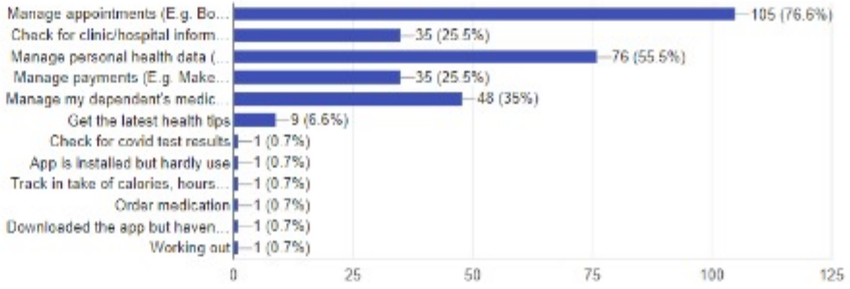
4b) How did you come to know about the health service app(s) you are using? You may choose more than one.

137 responses



4c) What do you use the health service app(s) for? You may choose more than one.

137 responses

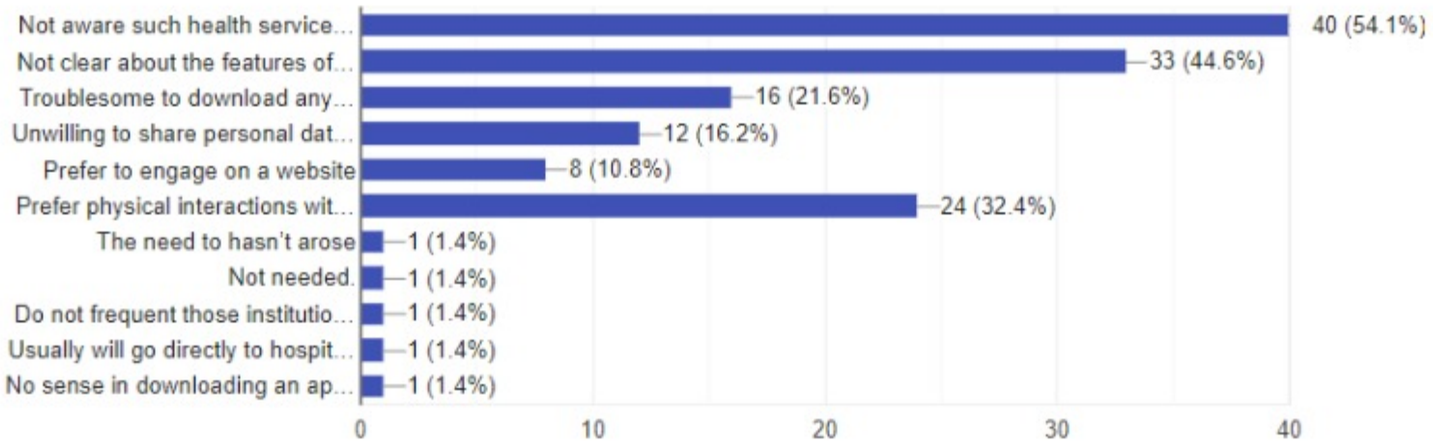


[Appendix] Survey Analysis: All Non-app Users

Google Forms

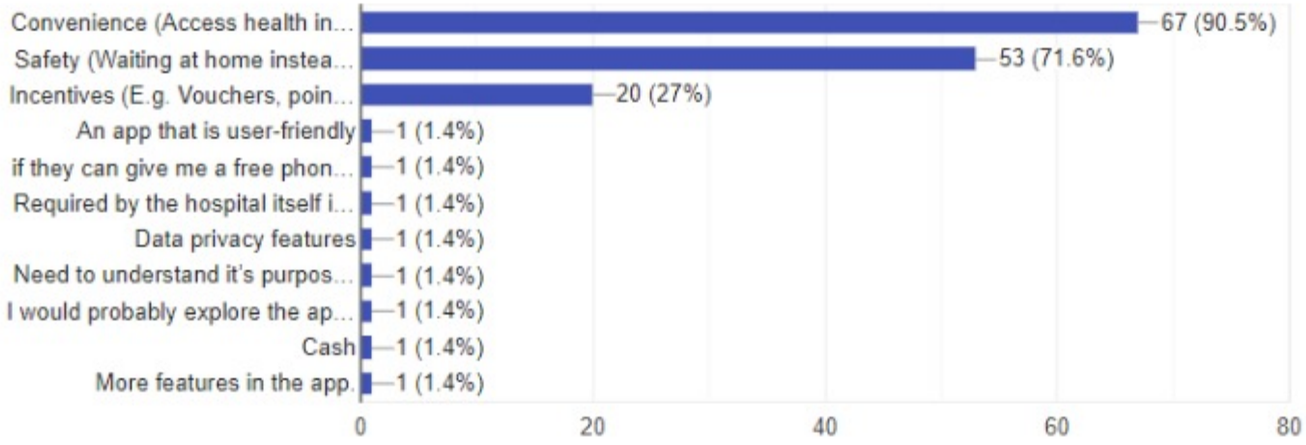
5a) If no, what are the reasons you do not use any health services app? You may choose more than one.

74 responses



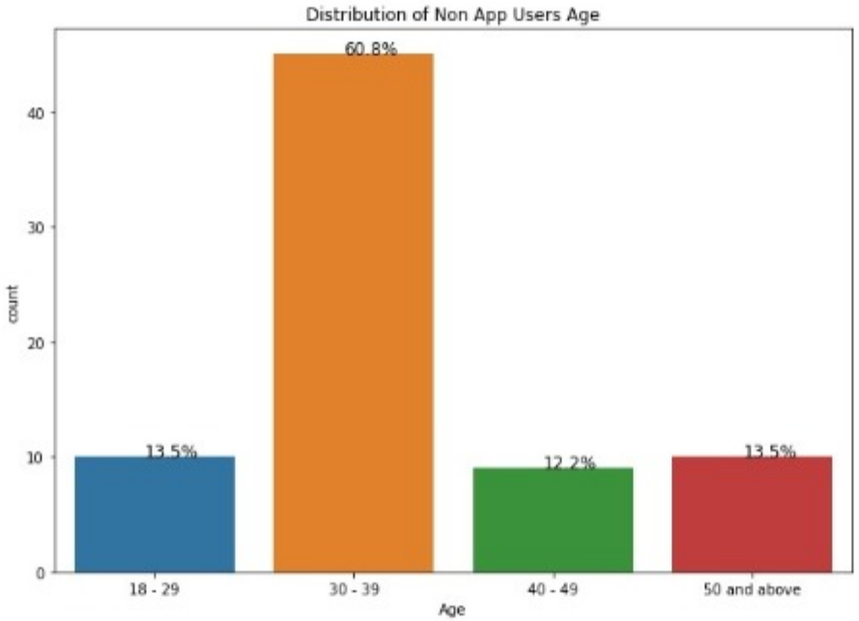
5b) What may motivate you to use a health service app? Please select your top two answers.

74 responses

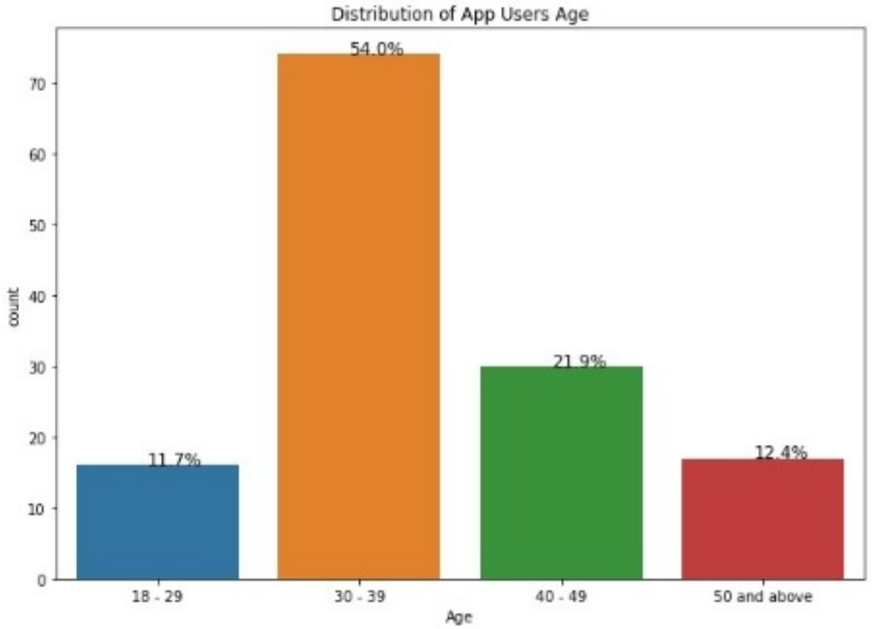


[Appendix] Survey Analysis: Age Distribution

~61% of non App users are in their thirties, showing a large group of potential targeted audience.




```
30 - 39         45
50 and above    10
18 - 29         10
40 - 49          9
Name: Age, dtype: int64
```




```
30 - 39         74
40 - 49         30
50 and above    17
18 - 29         16
Name: Age, dtype: int64
```

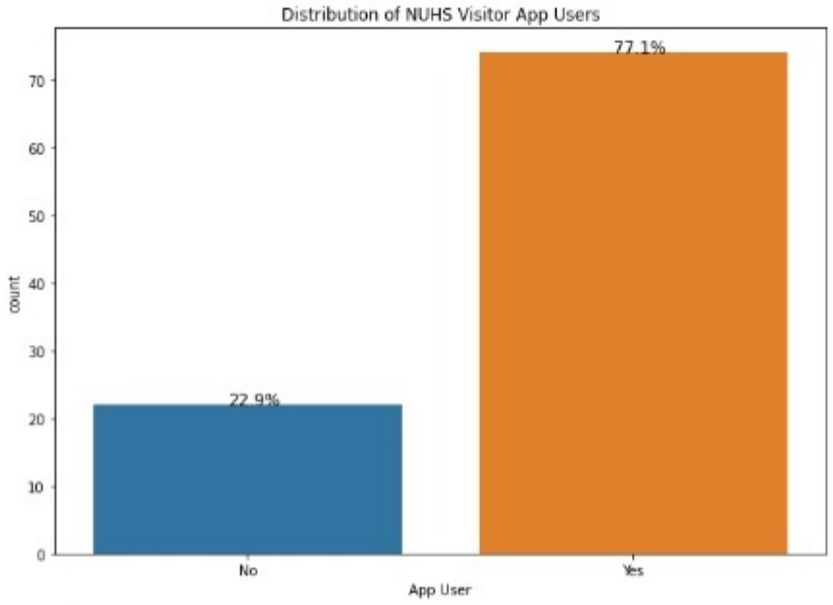
[Appendix] Survey Analysis: NUHS Visitor App Users [1]

77.1% of NUHS Visitors use a healthcare app.

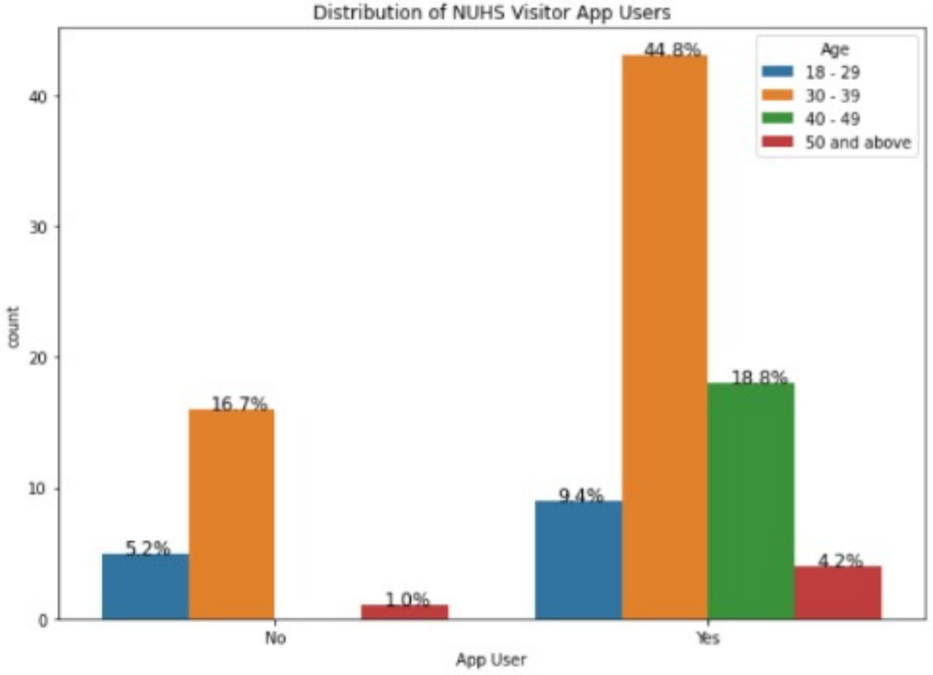
More than the **64.9%** of our respondents, signifying a digital ready audience.

Largest groups of app users are in their thirties and forties.

Largest group of non app users are in their thirties.

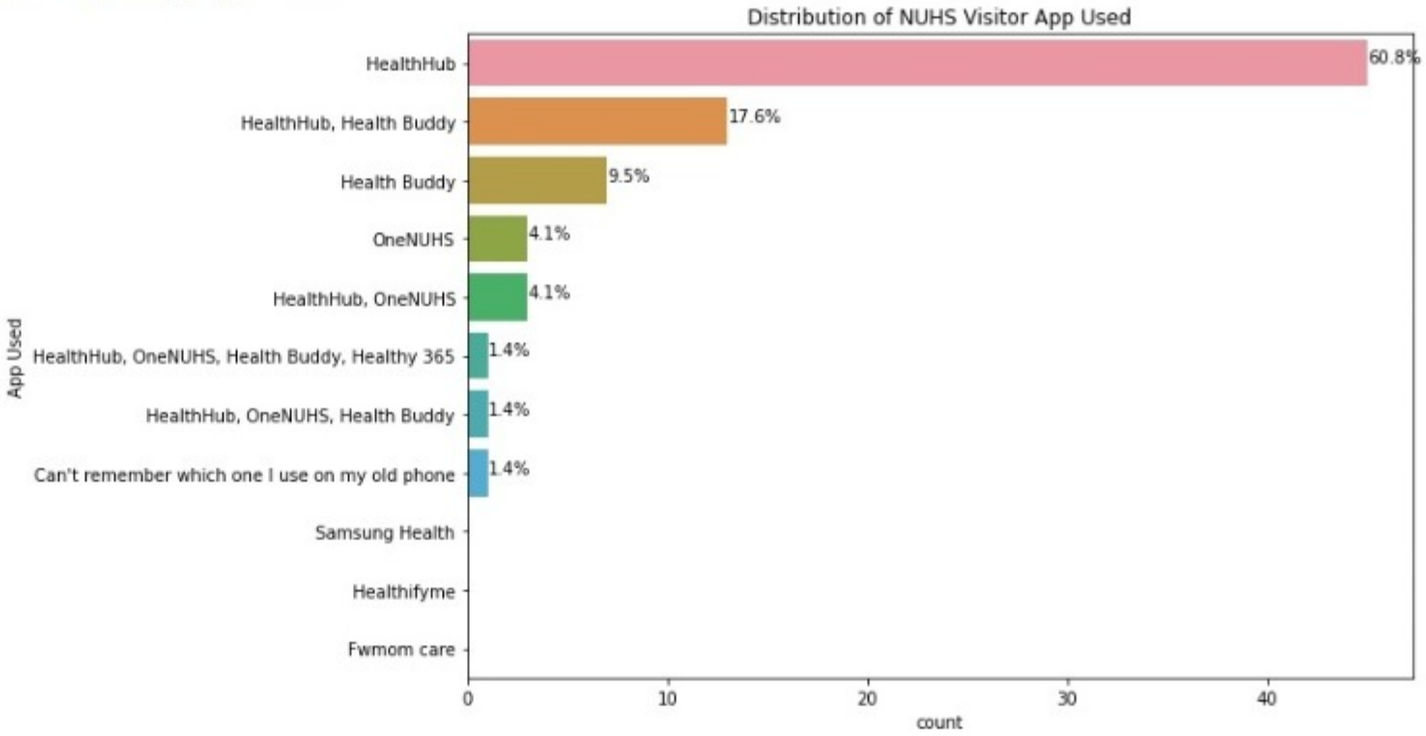



```
Yes    74
No     22
Name: App User, dtype: int64
```



[Appendix] Survey Analysis: NUHS Visitor App Users [2]

```
HealthHub                                          45
HealthHub, Health Buddy                            13
Health Buddy                                        7
OneNUHS                                             3
HealthHub, OneNUHS                                  3
HealthHub, OneNUHS, Health Buddy, Healthy 365       1
HealthHub, OneNUHS, Health Buddy                    1
Can't remember which one I use on my old phone      1
Samsung Health                                      0
Healthifyme                                         0
Fwmom care                                          0
Name: App Used, dtype: int64
```



60.8% of NUHS visitor App users use only Health Hub, followed by Health Hub / HealthBuddy users (**17.6%**) and only HealthBuddy (**9.5%**).

These constitute at least **78.4%** of NUHS Visitor App users use the Health Hub App, which has a rather similar interface to the OneNUHS App.

[Appendix] Survey Analysis: Health Hub Only App Users

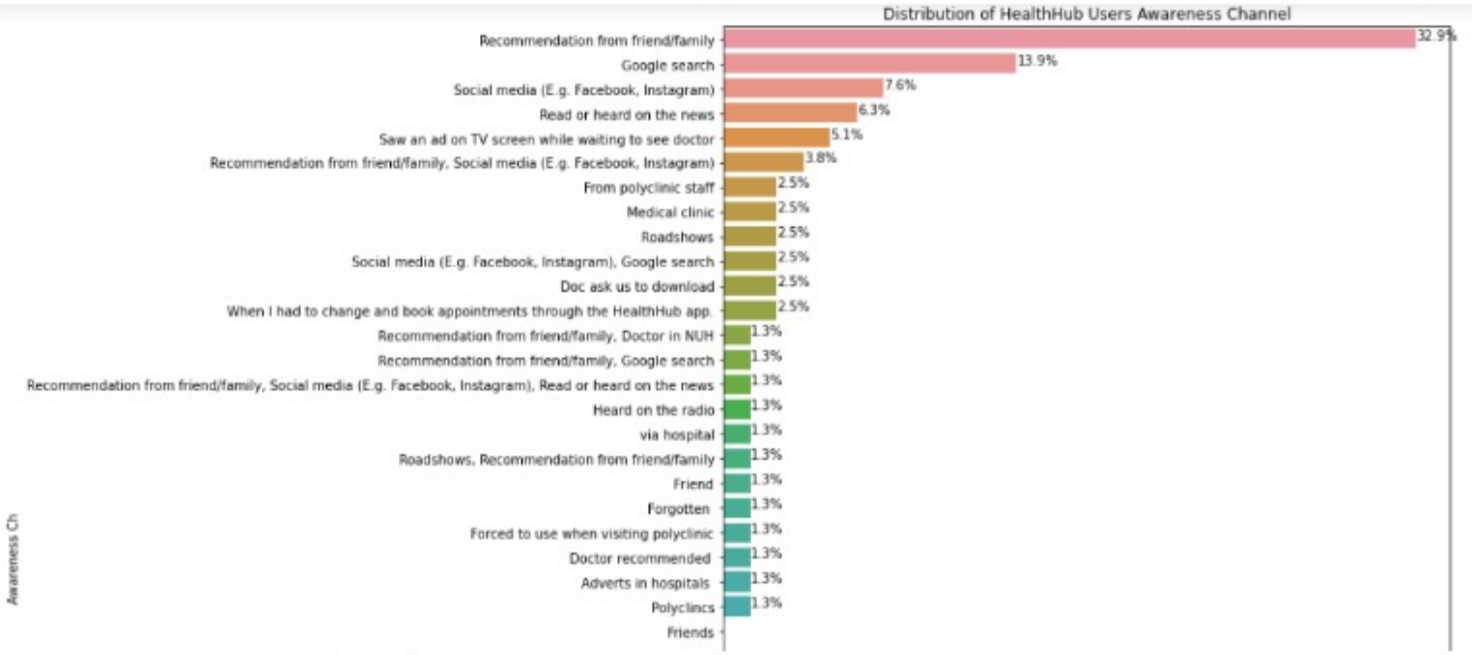
Top 3 channels Health Hub users are aware of Health Hub:

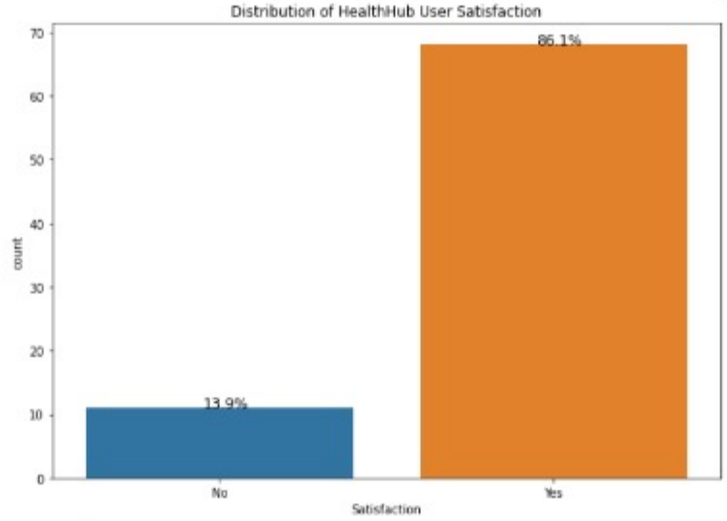
1: Recommendation from friend/family (**32.9%**)

2: Google Search (**13.9%**)

3: Social Media (**7.6%**)

86.1% of Health Hub users are satisfied.






```
Yes    68
No     11
Name: Satisfaction, dtype: int64
```

[Appendix] Survey Analysis: HealthBuddy-only App Users

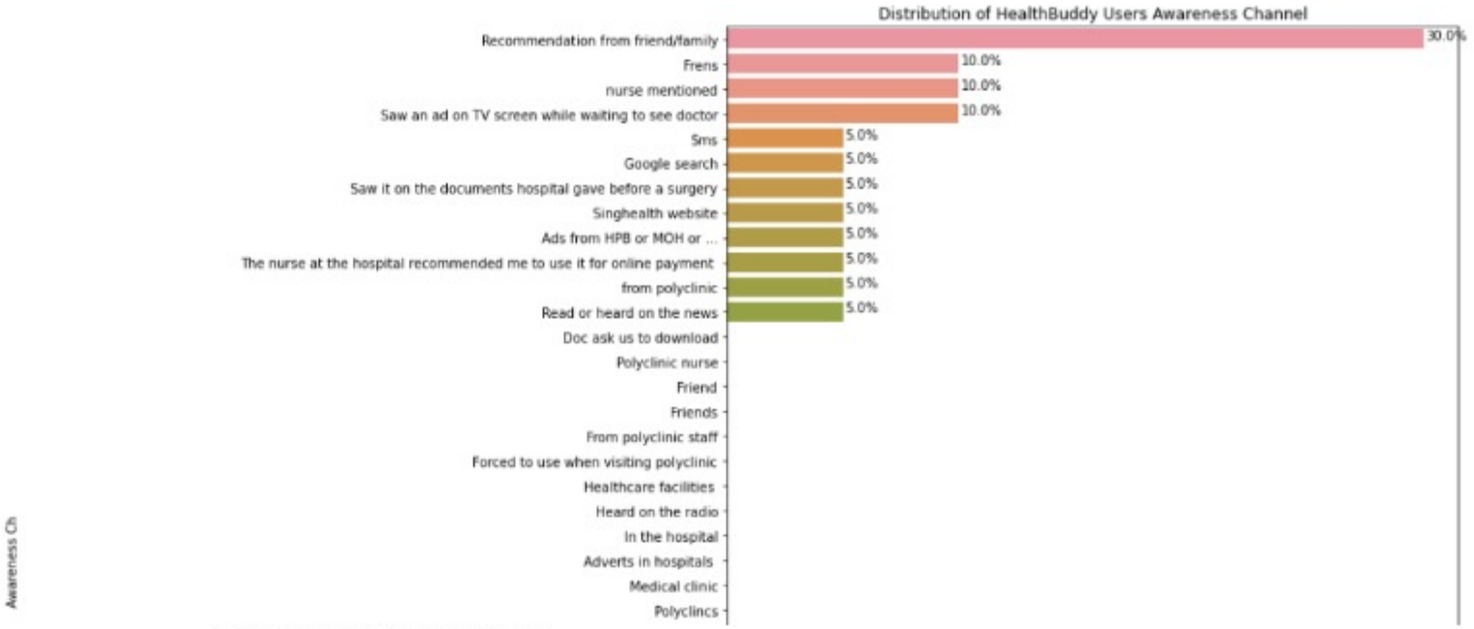
Top 3 channels HealthBuddy users are aware of HealthBuddy:

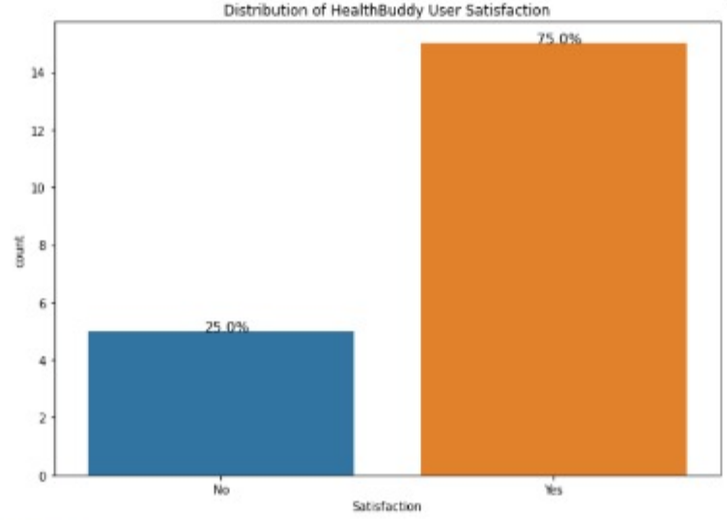
1: Recommendation from friend/family (**40.0%**)

2: Healthcare institutions touchpoints (**35.0%**)

3: Remaining channels (**25.0%**)

75.0% of HealthBuddy users are satisfied.






```
Yes    15
No      5
Name: Satisfaction, dtype: int64
```

[Appendix] Survey Analysis: OneNUHS-only App Users

	Age	NUHS Visitor	App User	App Used	Awareness Ch	Features Used	Satisfaction	Desirable Features	App nonuser reasons	Convert Reason
104	30 - 39	Yes	Yes	OneNUHS	Recommendation from friend/family	Manage appointments (E.g. Booking, cancelling,...	No	The ability to perform payments at other NUHS ...	NaN	NaN
128	30 - 39	Yes	Yes	OneNUHS	Google search	Manage appointments (E.g. Booking, cancelling,...	Yes	Obtain automated medical certificate when requ...	NaN	NaN
157	30 - 39	Yes	Yes	OneNUHS	In the hospital	Manage appointments (E.g. Booking, cancelling,...	Yes	None	NaN	NaN

1. Due to recent launch of OneNUHS App and too little data, it is inconclusive to say which awareness campaign is more effective. (Only 3 samples)

2. It is also inconclusive to say what is the satisfaction level of the OneNUHS App.

[Appendix] Next Steps:

OneNUHS
APP
Healthcare Made Simple

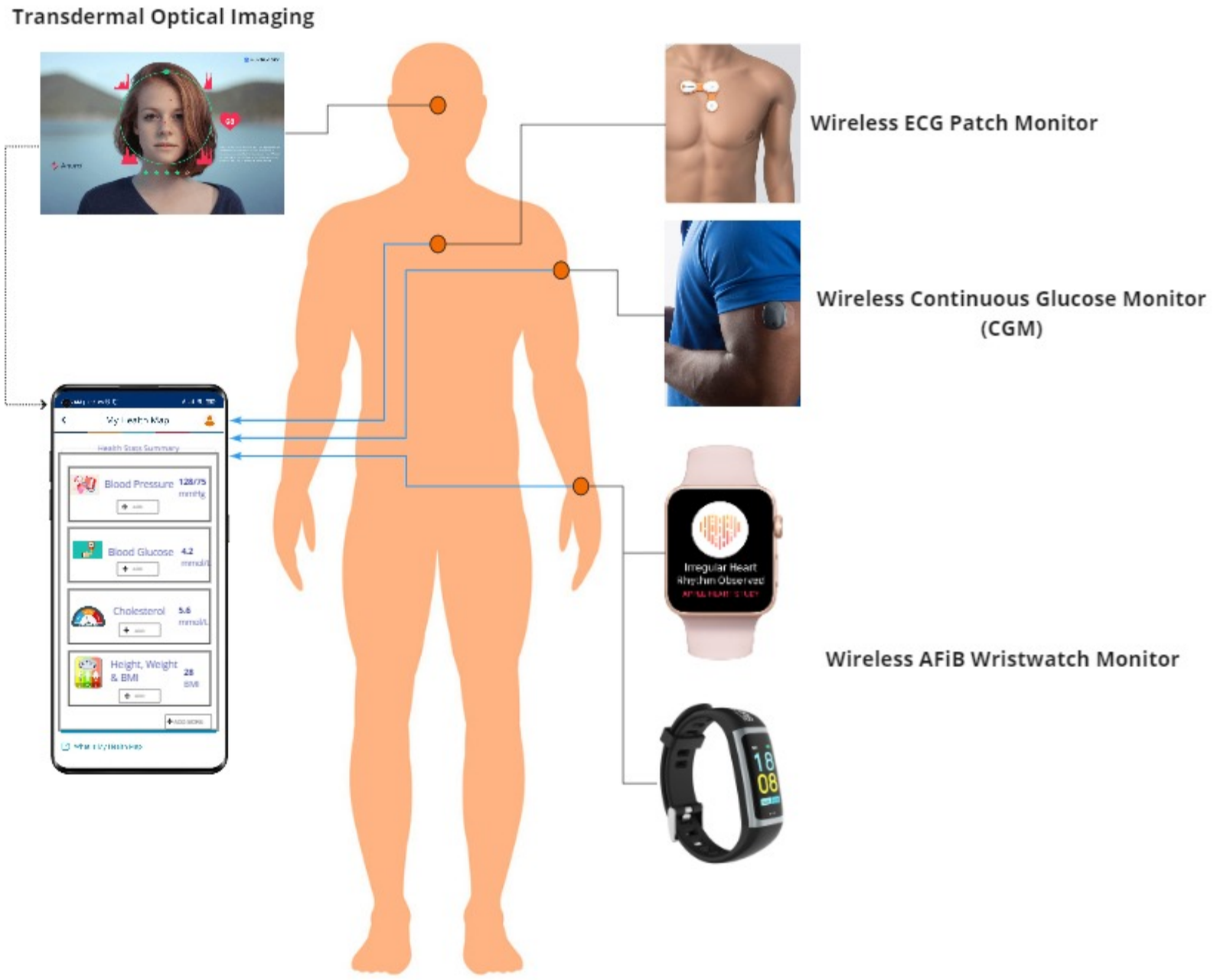
Monitoring Singapore's Top Disease Burden Conditions

1. Transdermal Optical Imaging & AI recommendation

2. Wrist AFiB Sensing with AI

3. Chest ECG Monitoring with AI

4. Upper Back Arm CGM with AI



[Appendix] App Demo

https://www.youtube.com/watch?v=PZGKfxdtHgA