

Project Title

Secure Messaging and Cost Savings with Personalised Notifications on SingHealth's Health Buddy App

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Organisation(s) Involved

SingHealth Polyclinics, Singapore General Hospital, Changi General Hospital, Seng Kang Hospital, KK Women's and Children's Hospital, National Cancer Centre Singapore, National Dental Centre Singapore, National Heart Centre Singapore, Singapore National Eye Centre, IHIS

Healthcare Family Group(s) Involved in this Project

Healthcare Administration

Applicable Specialty or Discipline

Hospital/Strategic/Service/Clinic/Patient Operations, Marketing Communication, Informatics, Specialty and Ambulatory, Outpatient, Digital and Integration

Aim(s)

- Urgent need to protect patients from SMS Phishing and Provide Trusted Messaging Mode patients will not ignore
- Avenue to save SMS cost by utilizing latest technology of Personalized Notifications (PN) on Health Buddy app
- Enable multiple caregivers to receive notifications for patient, to reduce no shows and missed messages, especially for seniors.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Healthcare Management (SHM) Congress 2023 – 3rd Prize (Operations category)

Project Category

Technology

Digital Health, Cybersecurity-Data Security, System Security; Mobile Health, Digital Apps

Organisational Leadership

Change Management, System Change

Keywords

Secure Messaging, Personal Notification, SMS Phishing, Trusted Messaging Mode, Health Buddy Apps, Communication Platforms

Name and Email of Project Contact Person(s)

Name: Loke Chui Yee

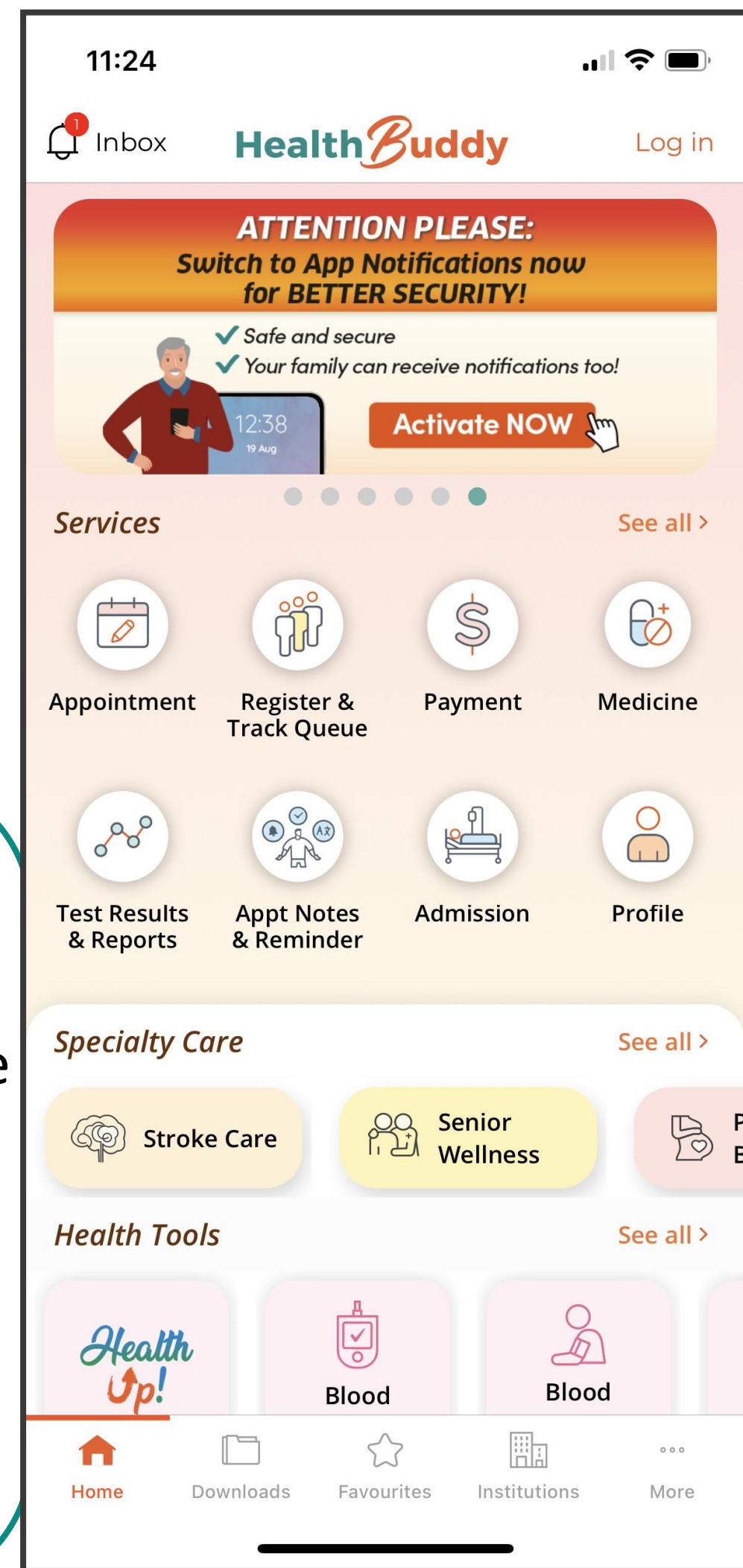
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Singapore Healthcare Management 2023

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 NHCS: Lin Jia Hui, Ron Ng; SNEC: Ong Ai Chen, Daren Teo;
 IHIS: Sarah Chan, Justin Yeo, Ong Zheng Ying, Damin Ong;
 Wong Keat Yung, Le Nhon Tranm, Nguyen Van Huan

Health Buddy



Secure Messaging and Cost Savings with Personalised Notifications on SingHealth's

BACKGROUND

- SingHealth incurs \$3.6m in SMS costs a year sending messages to patients
- With the rise in SMS phishing, patients increasingly ignore our SMS messages
- SMS can only be sent to a single mobile number (patient/caregiver).
- SingHealth's Health Buddy (HB) app usage has reached a 50% adoption rate by Patients, Caregivers; which gives Management confidence to leverage the app as a core communication platform.

→ Conceptualised Personalized Notifications on Health Buddy

PROBLEM STATEMENT

- Urgent need to protect patients from SMS Phishing and Provide Trusted Messaging Mode patients will not ignore
- Avenue to save SMS cost by utilizing latest technology of Personalized Notifications (PN) on Health Buddy app
- Enable multiple caregivers to receive notifications for patient, to reduce no shows and missed messages, especially for seniors.

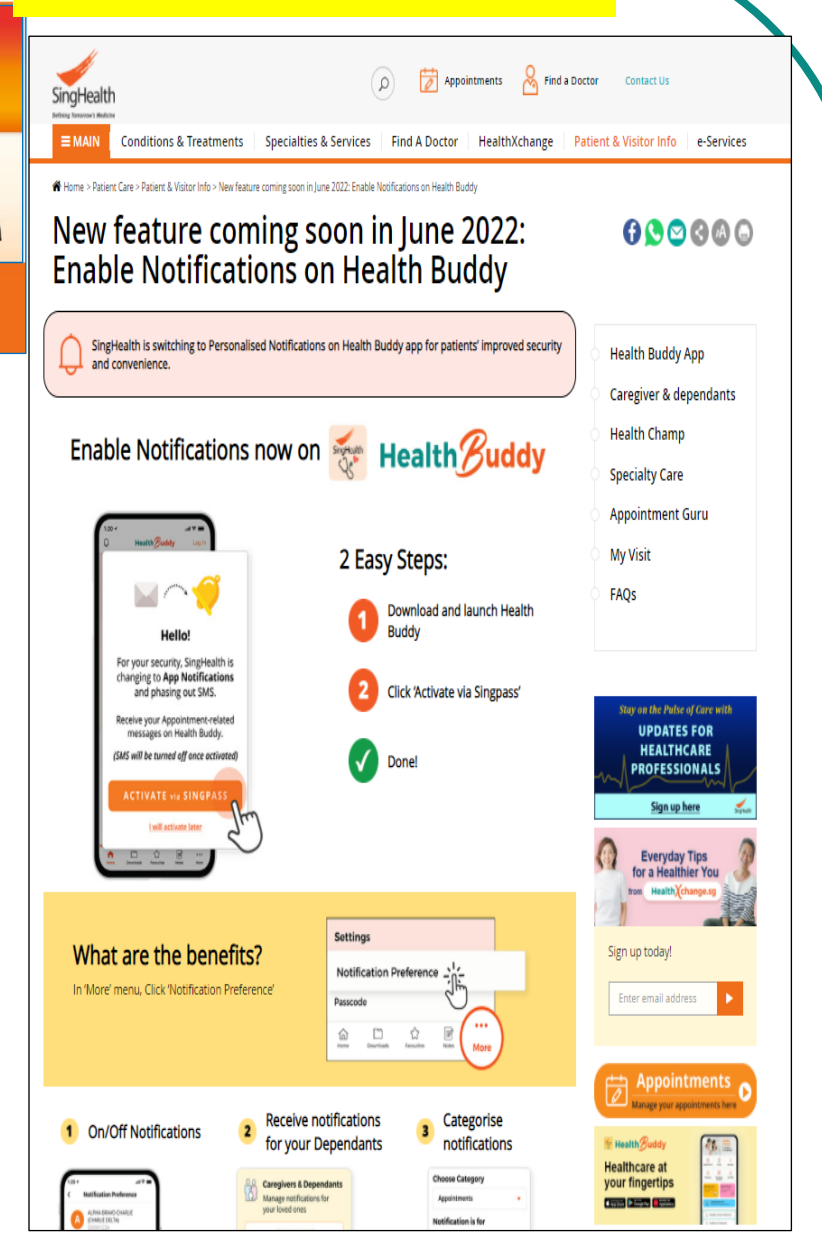
METHODOLOGY

1. Cross-functional cluster workgroup formed to formulate Personal Notifications solution to replace SMS
2. Team did benchmarking and feasibility review to confirm viability
3. Workgroup defined business logics, system and workflow specifications for system development
4. Thorough User Acceptance Testing was performed for validation and quality assurance
5. Phased rollout across institutions to spread system load as forward planning and risk mitigation
6. Institution Operations, Group Marketing Communications and Institution Communications promoted new service on multiple channels and platforms:- in-app, online, on-site and off site.
7. Post-implementation evaluation - feedback from patients, caregivers and staff on the usage and engaging IHIS to implement additional enhancements to further fine-tune and improve in Agile manner.

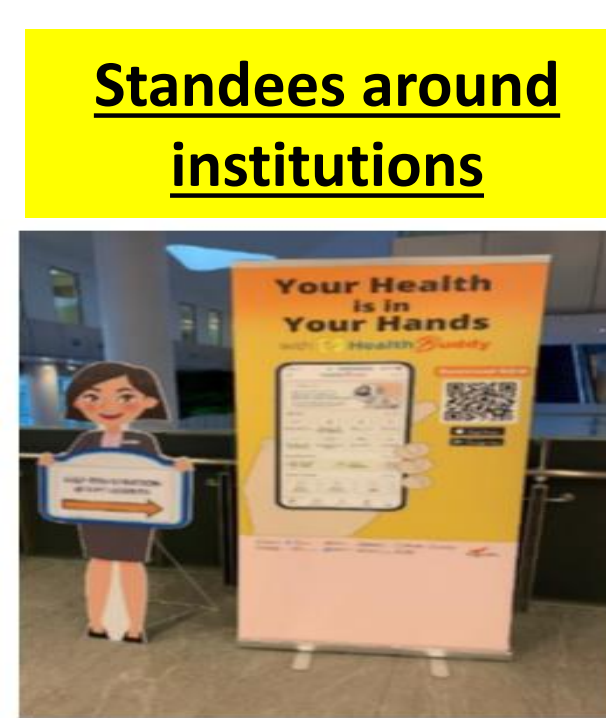
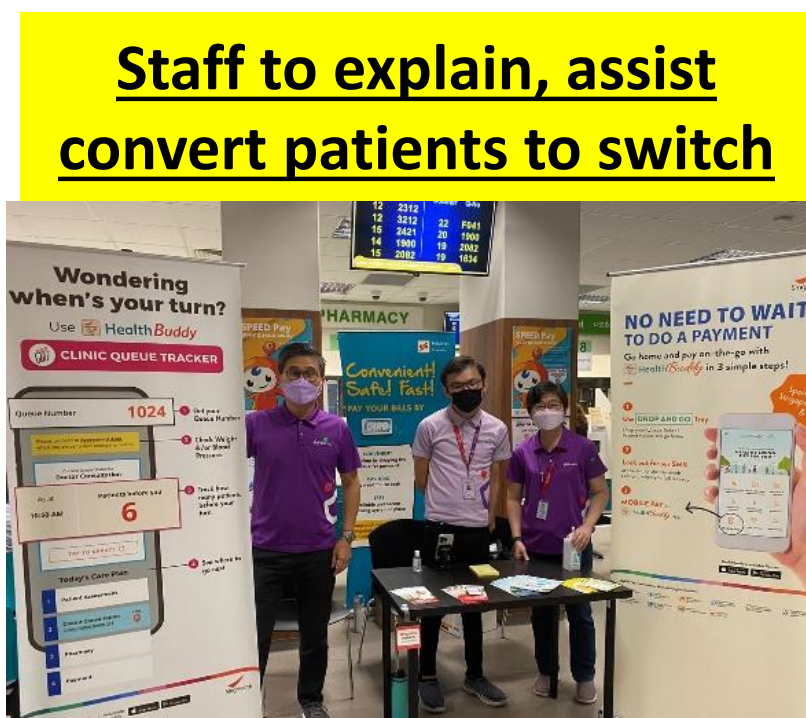
Onsite and Website Banners



Website Info & FAQ

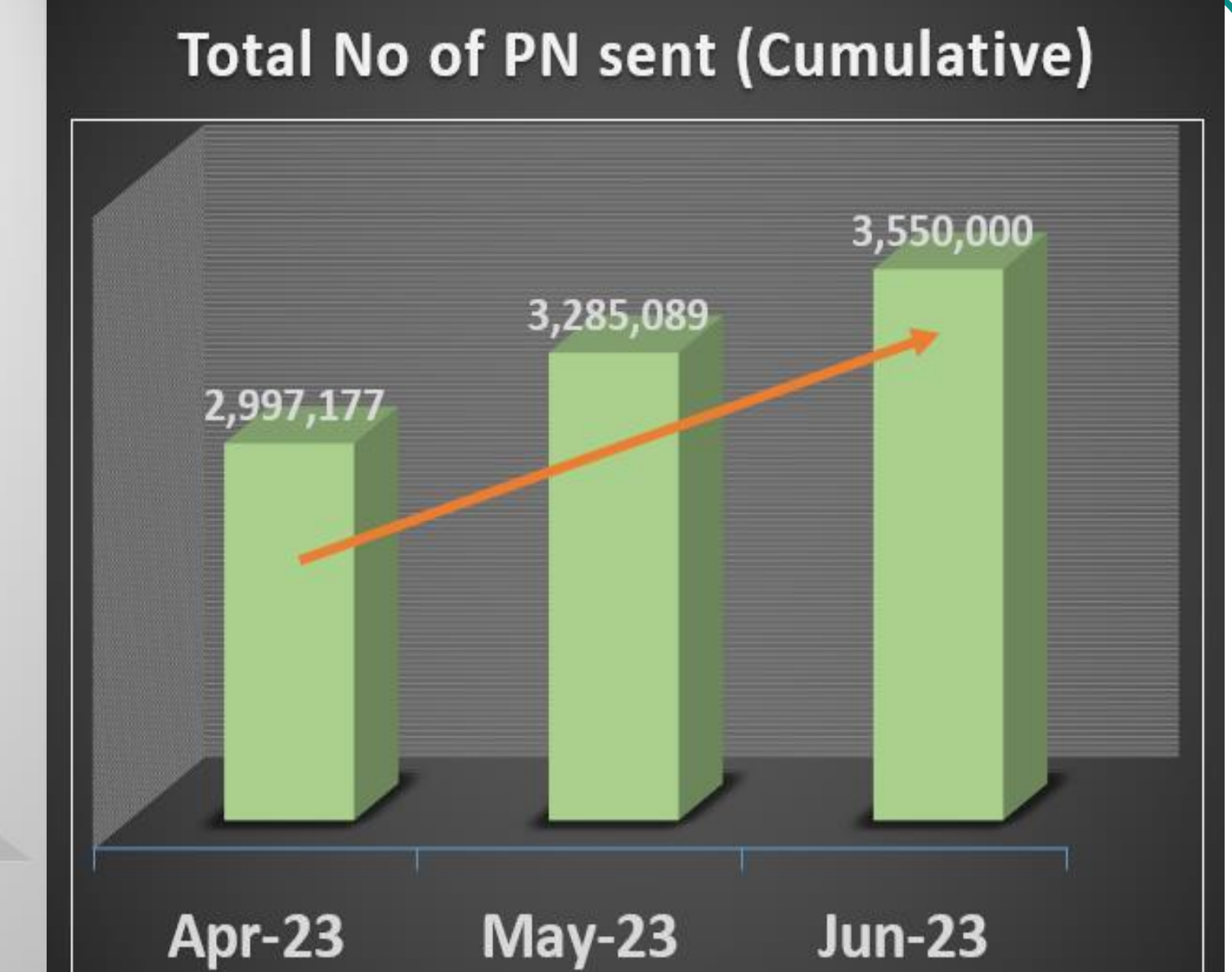
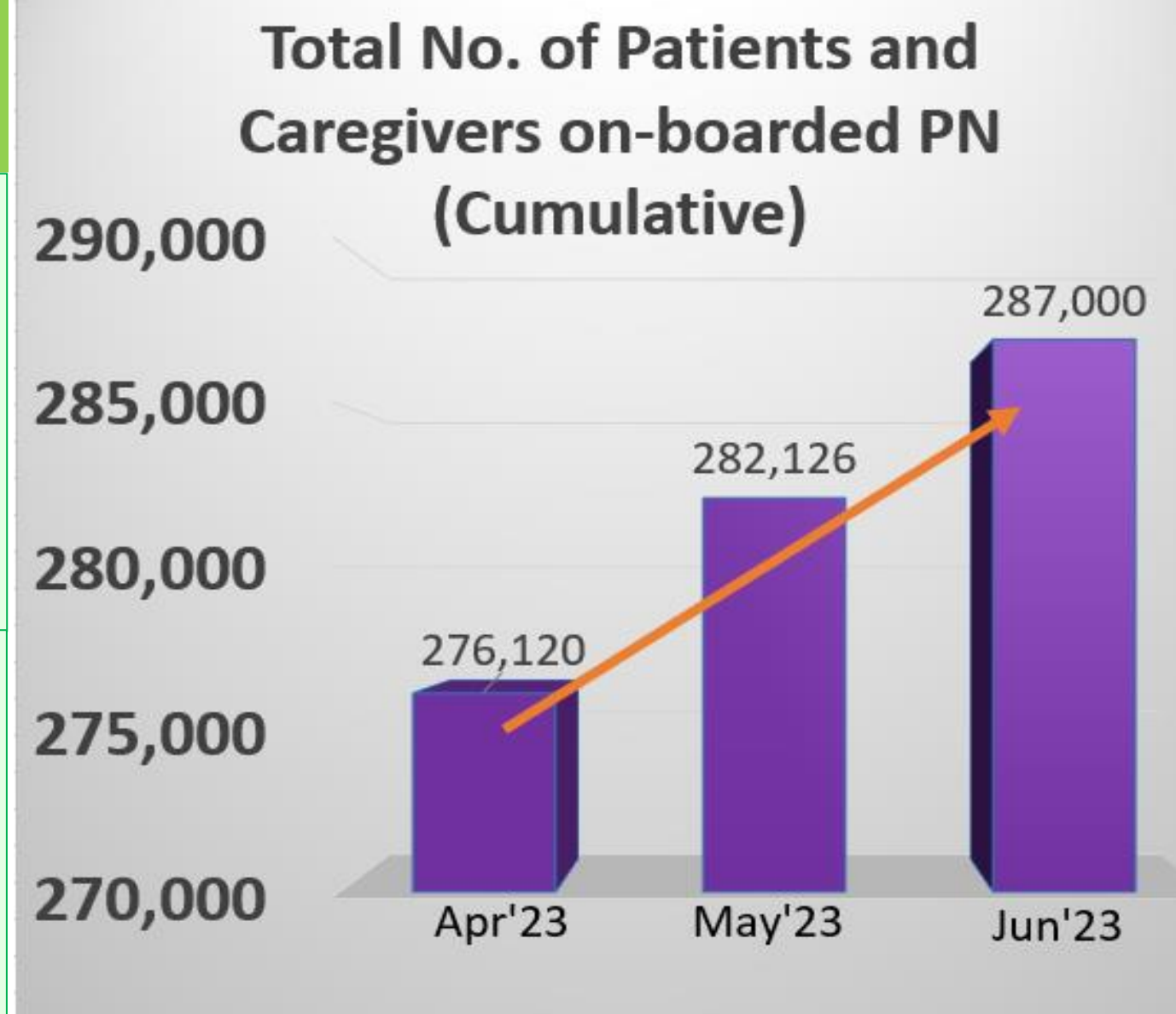


Walking 'Sandwich' Board



RESULTS - full cost recovery within 1 year ! 😊

- ✓ PN was **launched in June 2022**. As at Jun'23, SingHealth successfully **on-boarded 287,000 patients and caregivers**.
- ✓ **Over 3,550,000 notifications** were sent in the same period.
- ✓ **Achieved average monthly savings of \$68,000** for period Dec 22 to Apr 23
- ✓ **Full Development costs were recovered within year 1 of implementation**
- ✓ Feedback from patients and caregivers showed **majority were satisfied** as:
 1. **Security was assured**
 2. **More family members can get updated simultaneously on a patient's needs**
 3. **Function to organize messages by category – new enhancement that SMS could not offer**



Activation button
 One direct login allows patients to switch easily from SMS to Personal Notifications

Personal Notifications

My Caregivers | My Dependants

Receive personalised notifications for your Dependants:

- DELTA ECHO FOXTROT SXXXX555E Active
- ECHO FOXTROT GOLF SXXXX666F Not Active

Safe and Secure
 Hyperlinks can be accessed safely

Categorise messages
 Patients can now better organize their healthcare messages and matters

Notifications

- Myself**: You have an Appointment! Your appointment with SingHealth Pol...
- Father**: You have an Appointment! Your appointment with SingHealth Pol...
- Payments**: Your bill is ready! Your bill for your appointment is ready...
- Daughter**: Your bill is ready! Your bill for your appointment is ready...
- Uncategorised**: Dear ALPHA BRAVO your SGH...

Dependant's messages
 Caregivers can see their dependant's SingHealth appointment-related messages neatly tagged.

ACHIEVEMENTS & SUSTAINABILITY

With Personalized Notifications on Health Buddy app, patients enjoy **improved security and assurance** that in-app messages are authentically from SingHealth. **More caregivers can now receive notifications** to care for their loved ones. We **successfully onboarded 30% of users in the first year** of launch and **reaped \$600,000 SMS cost savings**. Thanks to the **great cluster-wide collaboration**, we have achieved **efficiency in operations** with cost savings for cluster. → Positive Outcomes and Momentum to onboard more patients, with **strong ground support received from all institutions** 😊