

Project Title

eBills – A Paradigm Shift

Project Lead and Members

Project lead: James Chew

Project members: Ong Yin Woon, Ng Mui Lim, Stacey Soh, Adibah Aljaru, Angela Chan

Organisation(s) Involved

Tan Tock Seng Hospital

Healthcare Family Group(s) Involved in this Project

Allied Health, Healthcare administration

Applicable Specialty or Discipline

Healthcare administrative

Project Period

Start date: February 2023

Completed date: September 2023

Aims

Healthcare industry is rapidly moving towards digitisation. In alignment with patients' expectations as well, to have greater ease of accessibility and mobility, SKH Business Office (SKH BO) mapped out the eBill strategy for Inpatient and Day Surgery to onboard eBill on 1 February 2023.

Through eBill, the team aims to assimilate patients to using Health Buddy App for e-transactions involving Bills and Payments, while embedding a sustainability mindset in going paper-less.

Background

The healthcare landscape will continue to face challenges presented by an ageing population, complexity of care and a tight workforce. Signaling the urgency to tackle these challenges by embracing innovations and technology rapidly and meaningfully, Tan Tock Seng Hospital (TTSH) introduced its “Future Ward Prototype”, through the Smart Ward.

Singapore’s public hospitals are large and complex, competing stake holder priorities makes it difficult to reach a consensus. Thus, a ground up innovation may take years before it can be scaled in other departments, delaying the adoption and implementation of healthcare solutions. The specific issue addressed by the Smart Ward initiative was the need to enhance patient care and streamline healthcare delivery processes within the acute ward at TTSH. This involved tackling challenges of transforming our current care paradigm that is fragmented, reactive, and transactional care to one that is connected, enabled, and partnered.

Methods

See poster appended/ below

Results

- Volume of bill printing had greatly reduced from 100% (Jan 2023 reference) to 6.43% (average of 8 months) from February 2023 to September 2023.
- With decreased in bill printing, cost of consumables and maintenance is estimated to reduce by \$22,627 annually.
 - Consumables consists of Postage, Envelope, Toner and Paper
 - Lower priced maintenance plan was opted due to lower reliance of mail sealer machine
- Increased in productivity and operational efficiency with workflow streamlined.
- 390 man-hours saved per year in sorting and enveloping. Potential savings of \$10,998.
- eBill resulted in a spillover effect on Mobile Pay (mPay) in Health Buddy. The take-up rate of patients paying through mPay is now higher with mPay transactions increasing by about 18% from February 2023 to July 2023.

Conclusion

Holistic communication, agility mindset, and early engagement with stakeholders were critical to the success of the change initiatives. Openness to listen and learn from failure, fostering a “better tomorrow” attitude is critical to keep team going. This conversation allows on going improvement, highlighting its essence of a learning organisation.

Looking ahead, the team aims to devote more time not only within Smart Ward but beyond TTSH, embracing learning opportunities to adopt innovative solutions that enhance the value of care for both patients and staff. As the team persist in revolutionizing care delivery, they are cognizant of the need for careful innovation, effective change management, and maintaining team’s well-being to tackle challenges that may come along the way.

Project Category

Technology

Digital Health, Mobile Health, Digital Apps, Digitalisation

Keywords

eBill, SingPass, Hospital Bills, Sustainability, Document Output Management System

Name and Email of Project Contact Person(s)

Name: James Chew

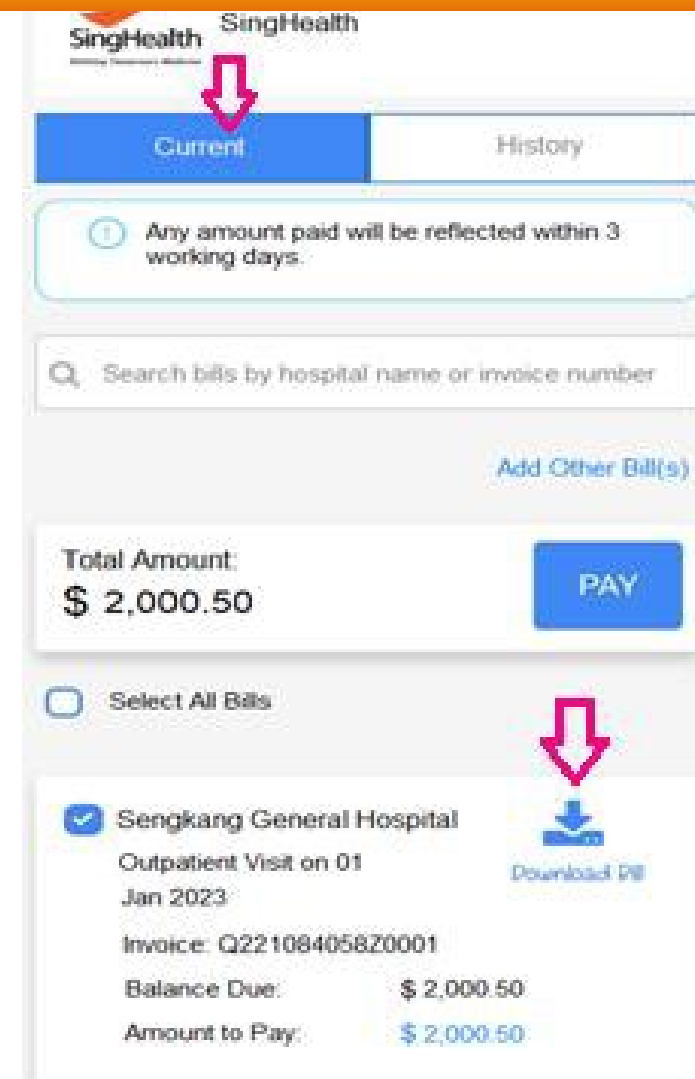
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eBills – A Paradigm Shift

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Business Office

BACKGROUND

- Moving on to eBill will mean that patients are no longer receiving hardcopy bills from Sengkang General Hospital (SKH).
- Patients with SingPass access can conveniently view and retrieve their hospital bills (outstanding and fully paid) from SingHealth's Health Buddy App.
- Effective from 1 January 2023, Health Buddy App increases the availability period of fully paid bills from 185 days to 365 days (1 year).



AIM

Healthcare industry is rapidly moving towards digitisation. In alignment with patients' expectations as well, to have greater ease of accessibility and mobility, SKH Business Office (SKH BO) mapped out the eBill strategy for Inpatient and Day Surgery to onboard eBill on 1 February 2023.

Through eBill, the team aims to assimilate patients to using Health Buddy App for e-transactions involving Bills and Payments, while embedding a sustainability mindset in going paper-less.

METHODOLOGY

Foreigners, non-residents and long-term visit pass holders would have limited access to Health Buddy and are unlikely to have SingPass. Hence, these groups of patients is currently excluded from the eBill scope until the e-platform is ready for non-SingPass users.

In view of this limitation, SKH BO leveraged on an existing program OMS-500 (Document Output Management System) in configuring conditions to auto-segregate bills by patient nationality:

- "Print" for Foreigners and Non-Residents
- "No Print" for Singaporeans and Permanent Residents

(For more details, refer to Step 4 below).

1. Empathize

- Understanding 'as-is' billing processes from stakeholders and patient preferences.
- Identify opportunities to streamline billing workflow for eBill.

2. Define and Ideate

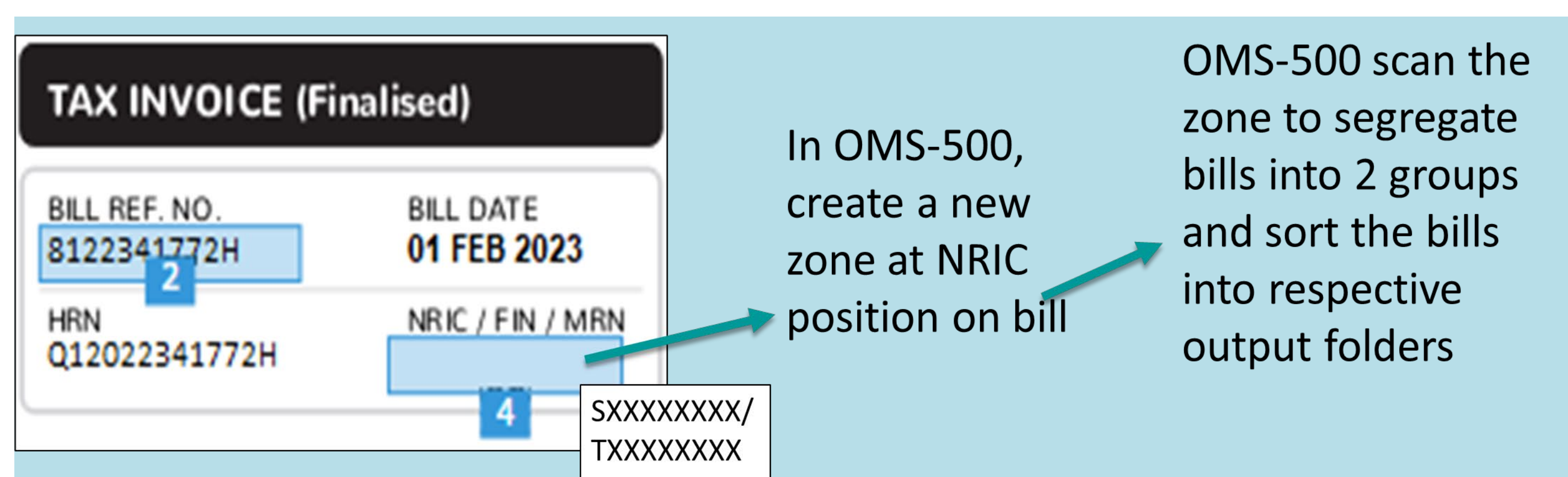
- Define and finalise project objectives, approach, scope and timeline.
- Map 'to-be' workflow supporting eBill.

3. Prototype

- Create and revise action plan – Segregate bills into 2 categories; "Print" and "No Print" categories
- Design solution

4. Build

- Validation check – Ensure accurate filter of bills for the 2 categories



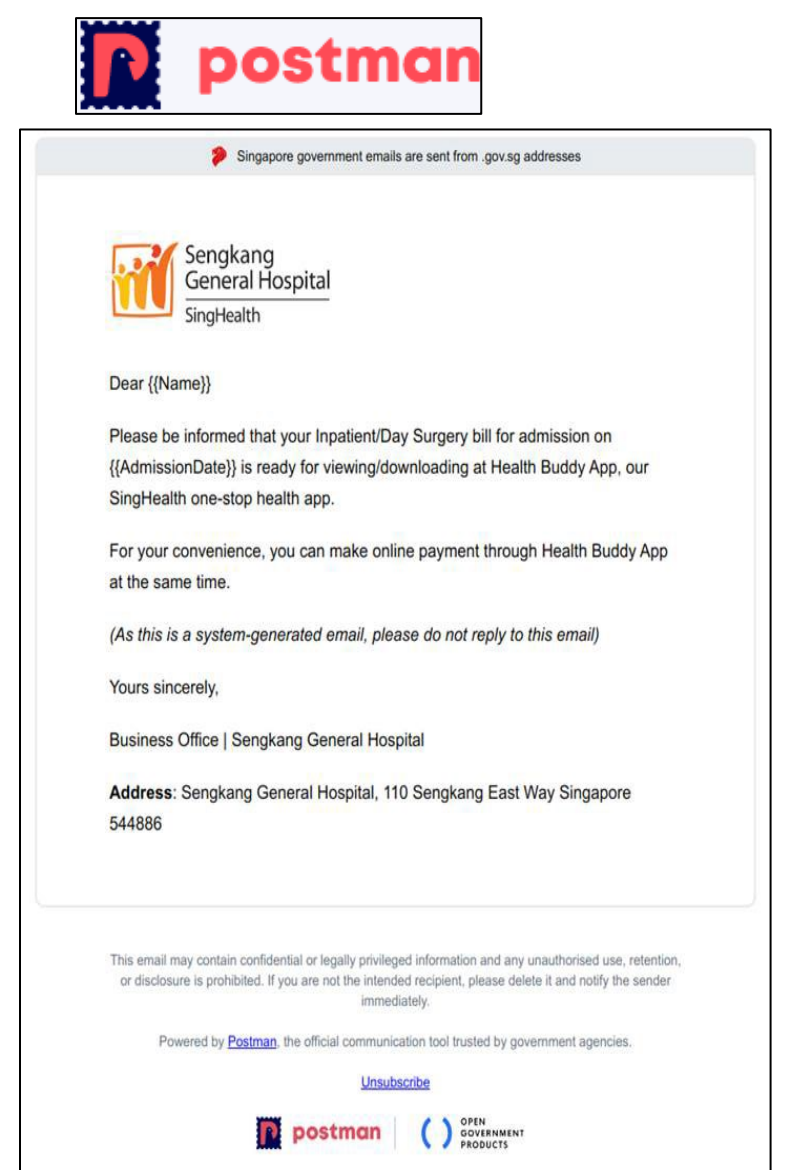
5. Test

- Executed 3 rounds of test on 5-10 sample volume and performed pilot test on 100 sample volume. Then, verify results.

METHODOLOGY (Continued)

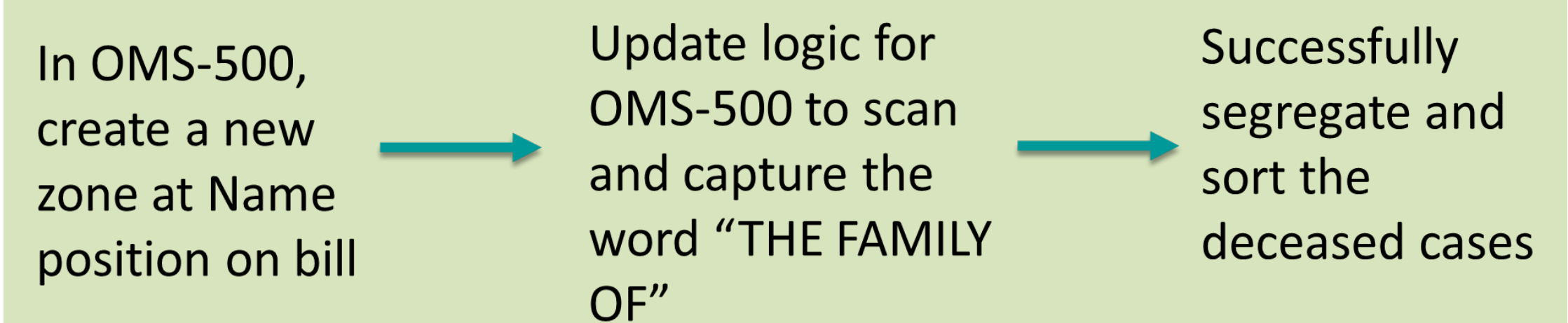
6. Sustain

- Iterative solutioning to make process better
 - Patient who does not require to pay will not receive a bill reminder (payment reminder sent only if there is an outstanding due).
 - Making use of discharge report generated from SAP (consists of patient's email address) and Postman (An Open Government Product Tool developed by GovTech), BO will send a customised email once patient's eBill is ready to be retrieved from Health Buddy.



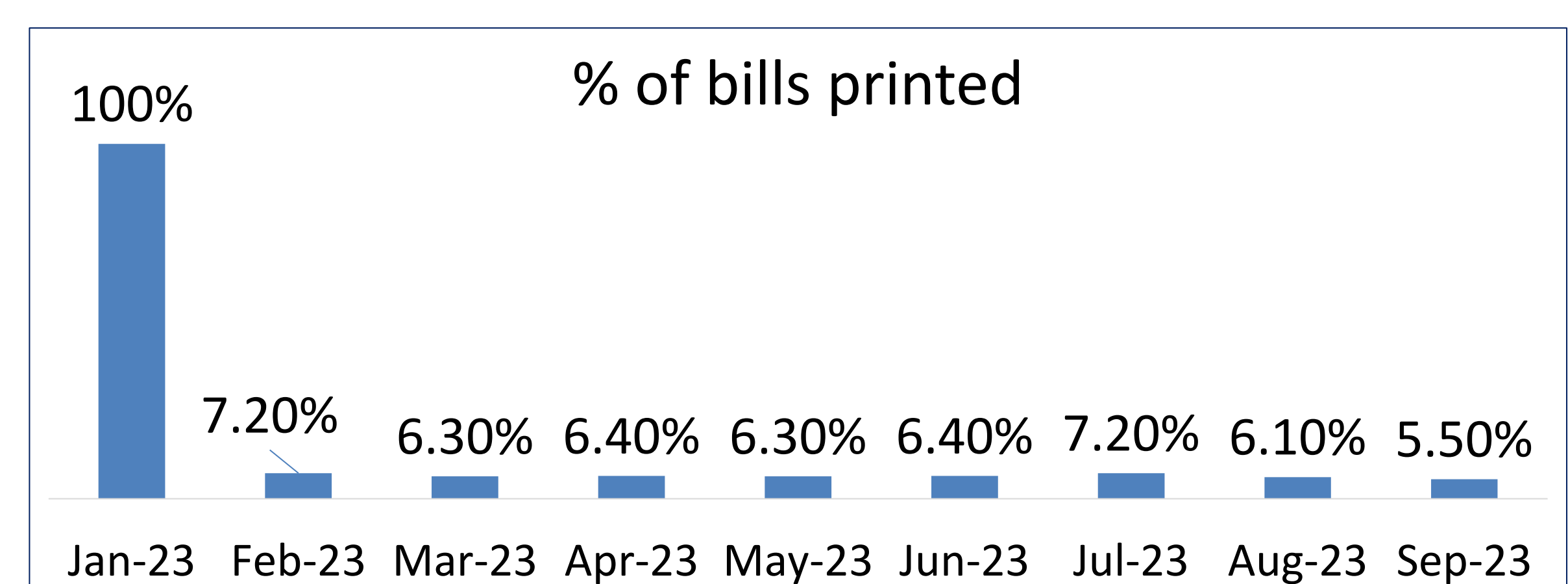
- The team improved from feedback received to tweak the process further.

- Next-of-kin of deceased patients are unable to view bill(s) via Health Buddy if they have not been set as 'Caregiver' prior to the demise. Hence, these cases are to be excluded from eBill.



RESULTS

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- Increased in productivity and operational efficiency with workflow streamlined.
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CONCLUSION

- SKH bills can now be retrieved from Health Buddy in a timely and secured manner, in comparison to possible delays via snail mail. 'Loss in transit' of hardcopy bills can be avoided, hence mitigating PDPA risks.
- Carbon footprint is reduced with lesser printing and usage of papers.
- Operational workflow is streamlined along with eBill. Staff can redirect time previously used to manage paper bills to carry out other pertinent tasks.
- With the successful launch for SKH Inpatient and Day Surgery settings, SKH Emergency Department and Specialist Outpatient Clinics onboarded eBill on 19 June 2023.