ABSTRACT

Improving Patients' Accessibility to Their Medication Information via Personalized Medication List

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INTRODUCTION

Movement towards Beyond Hospital to Community and medication delivery increases the need for virtual counselling for medications and administration techniques. Often, patients are unable to retain and understand all the counselling information given by staff via phone call.

Besides having access to reliable medication information via website and other digital channels, there is also a need for a consolidated medication list containing medication information that is patient specific. The Medication Dispensed List (MDL) was created to provide a personalized list of patient's medications with QR codes linking to Medication Information Leaflets (MIL) and drug images. This allows patients to refer to the MDL as the source of truth to access reliable information specific to the medications they are on. It also reduces wastes in printing multiple hardcopy MIL. For drugs with administration techniques videos available (eg. eye drops), QR codes linking to the videos are pasted on the relevant medication packaging for patients to scan and view.

With this initiative, we aim to improve patients' access to their medication information via QR codes on their personalized medication list that link to digital platforms - TTSH Health Library and YouTube by 50% in 12 months.

METHODOLOGIES

1. MIL PDFs are uploaded to SharePoint platform on Health Library website. Videos are uploaded to TTSH YouTube Channel.
2. The hyperlinks for MIL (from Health Library)/ videos (from YouTube) are then uploaded to Pharmacy system Rxpress, which generates a drug-specific QR code.
3. An in-house SSRS (SQL Server Reporting Services) report is developed.
4. Using patient's NRIC, MDL containing QR codes to patient's list of medications is generated, via SSRS.
5. The MDL is printed and placed in patients' medication delivery bags to reinforce virtual counselling and improve patient's education as patients can scan the QR codes to read up about their medications.
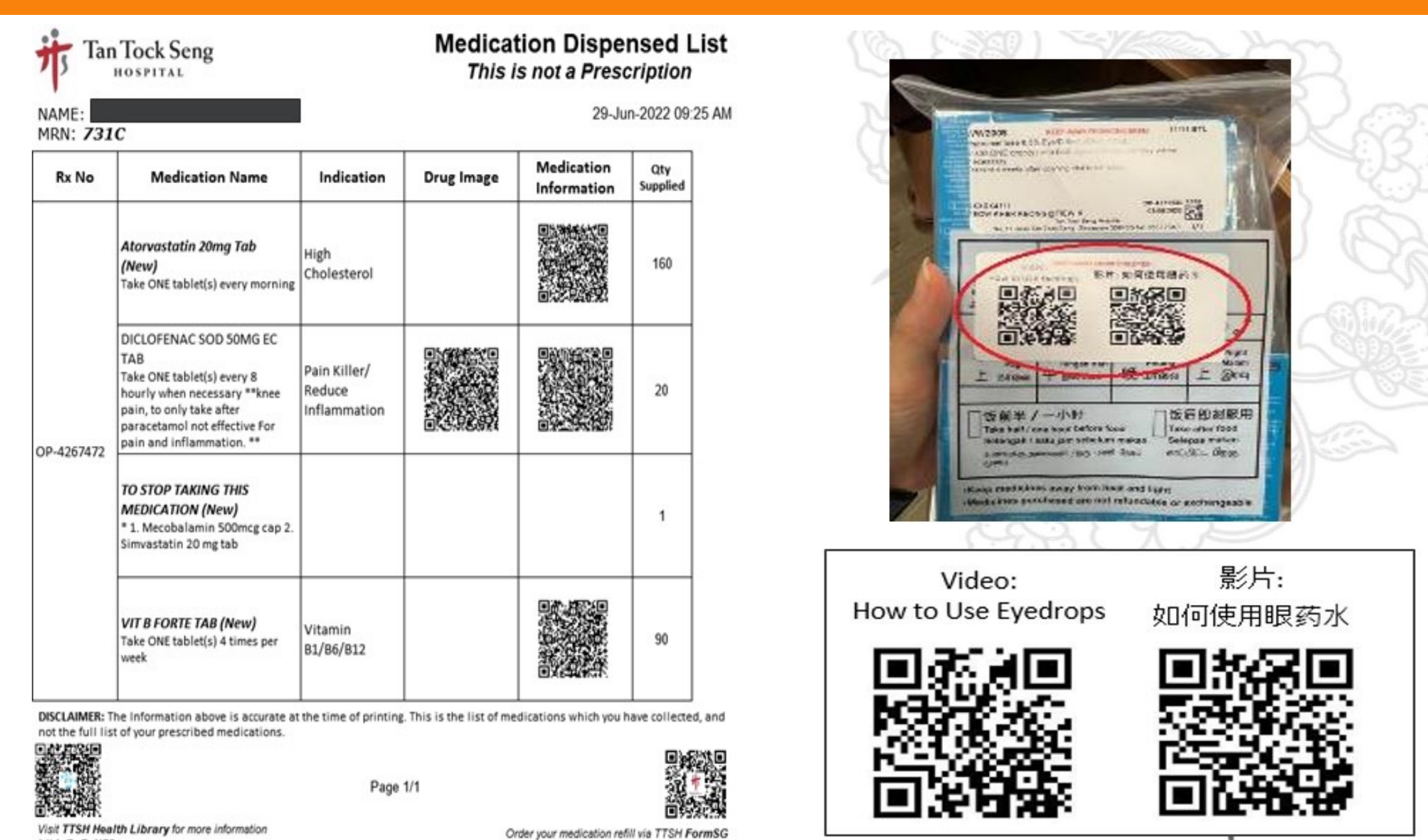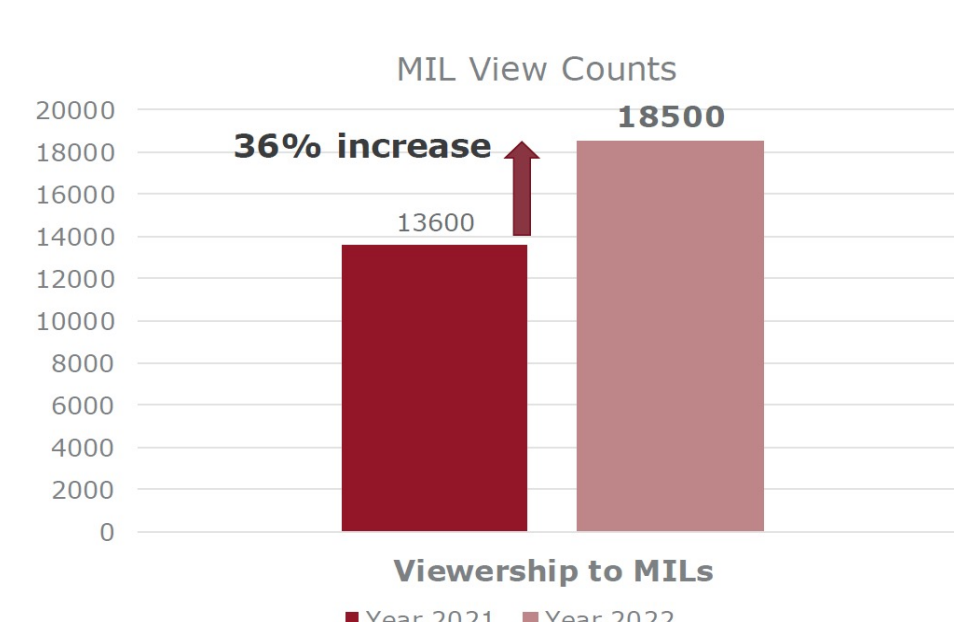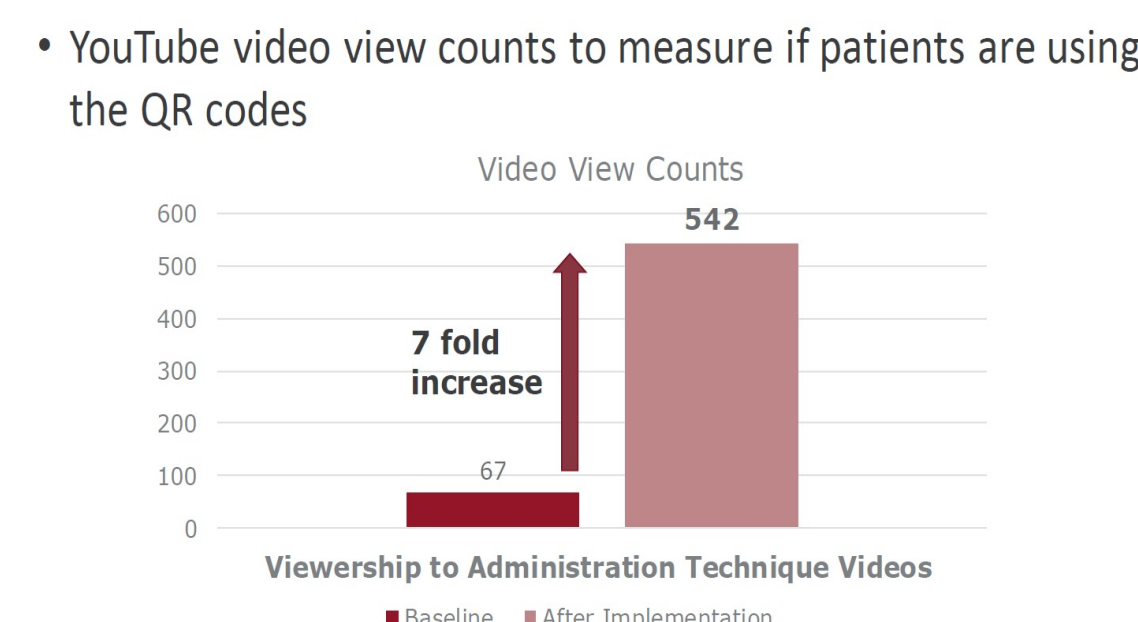

RESULTS

Patients' Acceptance:
1. MIL on TTSH Health Library: Increased from 13,600 views in 2021 to 18,500 views in 2022 (36% increase)
2. Administration technique videos on YouTube: Increased from 67 views in 2021 to 542 views in 2022 (709% increase)

Viewership to MIL on TTSH Health Library

Viewership to Administration Technique Videos
- YouTube video view counts to measure if patients are using the QR codes

Patient Satisfaction :
1. 87% scanned QR codes to access medication information
2. 80% agree that they understand more about their medications
3. 80% used the MDL to check the quantity of medications received
4. 73% find the MDL useful
5. 100% wants this initiative to continue

Savings:
As MDL is a consolidated patients' medication list with QR codes for patient to multiple information, this initiative reduced the number of leaflets printed out from an average of 3 to 1 leaflet per patient/delivery.

Improvements:
There has been continuous improvements to enhance MDL based on staff and patients feedbacks.
1. Drug image QR codes included, to allow patients to check their medication packaging (eg. change in brand/ packaging)
2. Information on quantity supplied, to allow patients to counter check the quantity of medications receive
3. Inclusion of "New" indicator, to alert patients of the newly started medications
4. "To stop taking this medication" indicator, to alert patients of what medication(s) to stop taking
5. Dosing instructions, to allow patients to use the MDL as a consolidated medication list for ease of reference
6. QR code for Medication Delivery, to enable easy access to the online medication delivery order form for medication refills
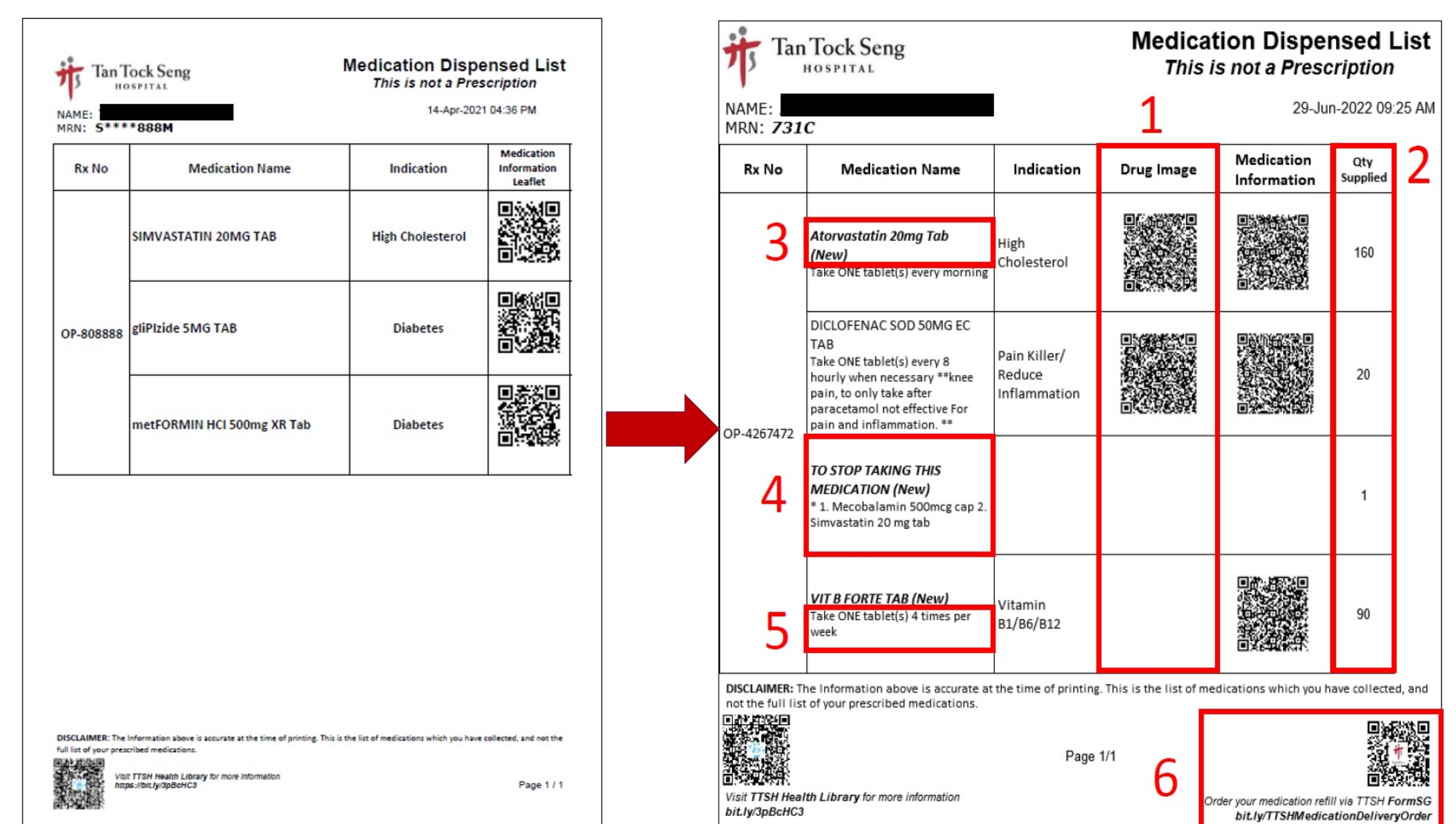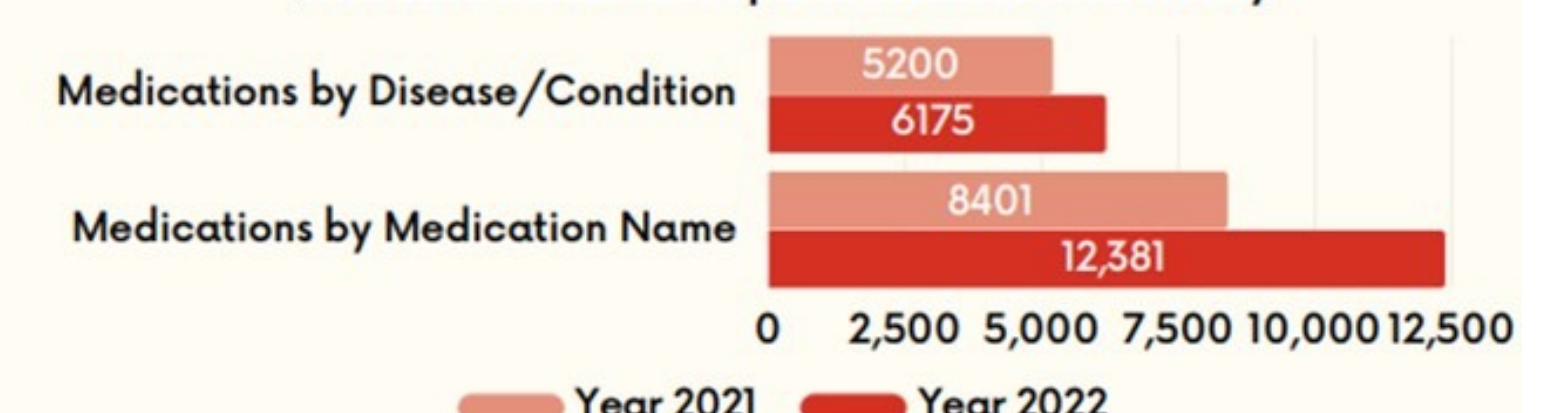
Expansion of the MIL repository on TTSH Health Library increases the number of drugs with QR codes from 454 in 2021 to 576 in 2022 (26.9% increase), which increased the number of drugs QR codes available on patient's MDL.

Before PDSA

After PDSA

Increase in Total Number of MILs

Increase in Viewership on TTSH Health Library

CONCLUSION

This project demonstrated that patients are open to using digital solution, in particular QR codes, to access their medication information and learning about administration techniques. The MDL reflects patients' desire to know more about their medications and the need to have easily accessible referral points.

The team will continue to explore ways to improve patients' accessibility and look into barriers deterring patients from using QR codes. In future with the readiness of various systems, the MDL can be presented in a fully digitalized format.