

Project Title

Tan Tock Seng Hospital Central Fill Pharmacy for Medication Delivery

Project Lead and Members

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- Jabigo Mark Anthony Cadinong
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- Aloysius Lim Bing Hong

Organisation(s) Involved

Tan Tock Seng Hospital

Healthcare Family Group(s) Involved in this Project

Pharmacist, Healthcare Administration

Applicable Specialty or Discipline

Pharmacy

Aim(s)

It provides **convenience and saves patients a trip to the hospital**, thereby improving patients' overall experience as medications are delivered to their doorstep. MD also helped **manage the crowd at the Pharmacy** and demonstrated the concept of **removing unnecessary waiting onsite**.

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 – Merit Prize (Operations category)

Project Category

Care & Process Redesign

Operation Management, Inventory Management, Logistics Management, Resource Allocation; Productivity, Cost Saving, Manhour Saving, Time Saving, Quality Improvement, Workflow Redesign

Workforce Transformation

Job Redesign, Workforce Performance – Workforce Productivity, Workforce Sustainability

Keywords

Central Fill Pharmacy, Medication Delivery

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Singapore Healthcare Management 2023

TAN TOCK SENG HOSPITAL CENTRAL FILL PHARMACY FOR MEDICATION DELIVERY

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Introduction

During the COVID-19 pandemic, demand for Medication Delivery (MD) at Tan Tock Seng Hospital (TTSH) grew from 4% to 30% of total prescription load. Post-COVID, MD continues to play an integral part in the model of care to fulfil prescriptions and allow pharmacy to serve beyond the hospital walls. It provides **convenience and saves patients a trip to the hospital**, thereby improving patients' overall experience as medications are delivered to their doorstep. MD also helped **manage the crowd at the Pharmacy** and demonstrated the concept of **removing unnecessary waiting onsite**.



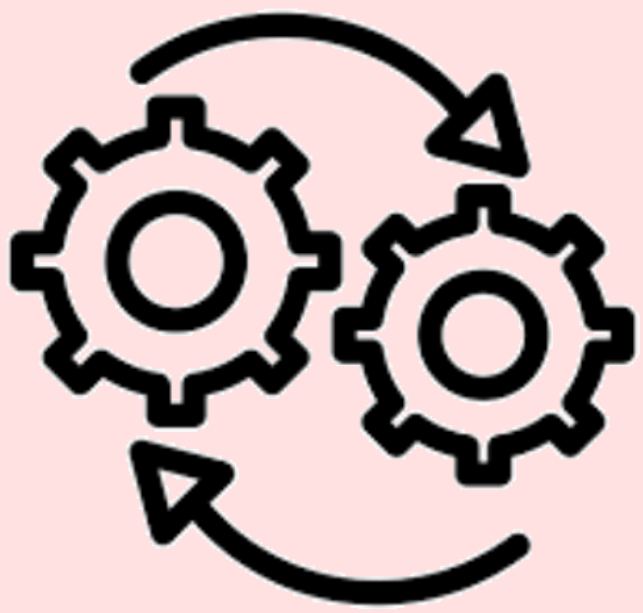
Problem Statement

A time motion study demonstrated that processing a MD prescription order takes 19.4% more time on average than processing it for onsite collection. In addition, **current infrastructure, system, space and manpower are inadequate** to meet the increased demand, leading to **space constraints** and significant amount of **overtime**, impacting staff morale.

To ensure sustainability and business continuity, there was a need to explore alternative operating model to outsource and centralize non-clinical processes while right-siting limited resources to clinical processes, leading to the **setup of TTSH Central Fill Pharmacy (TTSH CFP)**.

Methodology

Redesign of Processes



Inventory Monitoring & Analysis

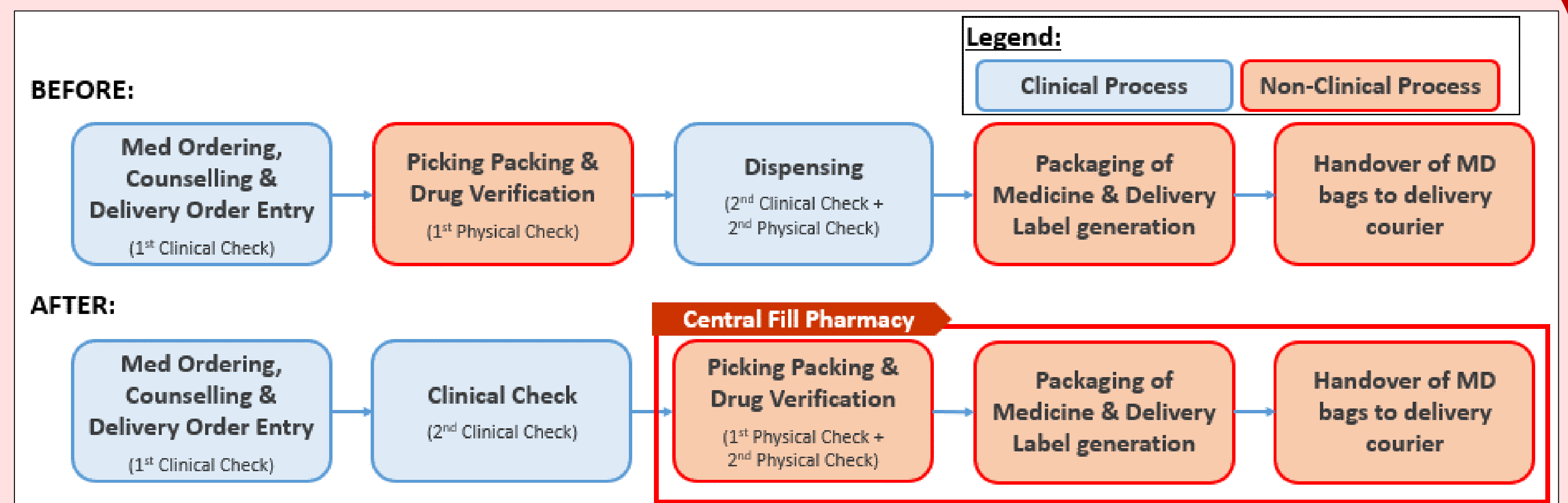


Design of Dashboard & Work Tools



Implementation

MD processes were evaluated to identify activities suitable for off-site CFP. MD processes were then **redesigned and consolidated** to enable the change. **Clinical check** process was shifted to be done before transferring tasks to CFP.

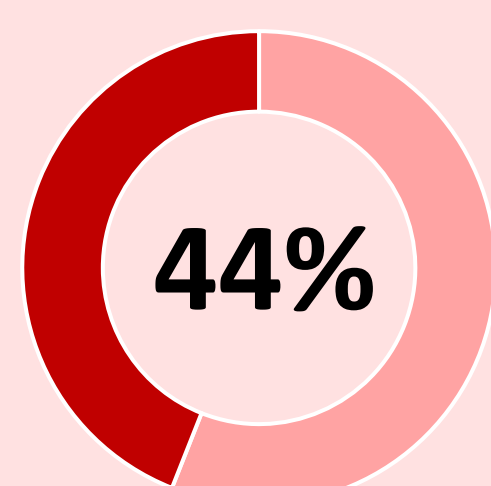


Stock movement, ordering frequency and performance indicators were implemented and tracked monthly to encourage better outcomes. The team worked closely with the partner to track the **consumption of stocked items, addition of items** commonly prescribed and **removal of slow-moving items** based on consumption data.

Dashboard and work tools were created to **support screening of prescriptions** at TTSH CFP.

Prescriber	Patient Name	Age	Sex	Ref Type	Specialty	PRE DATE	PRE CODE	PRE No.	PRE STATUS	PRE TEN STATUS	Pharm Linc	Checked By	PREP BY	PRE PREPARED BY	PREP DATE	PREP STATUS	Item Name	Qty
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
1000-04-04-1	Chow Kwai Ping, Tin	102				10/10/2022	PREV		N	OOD					10/10/2022		1000-04-04-1	1
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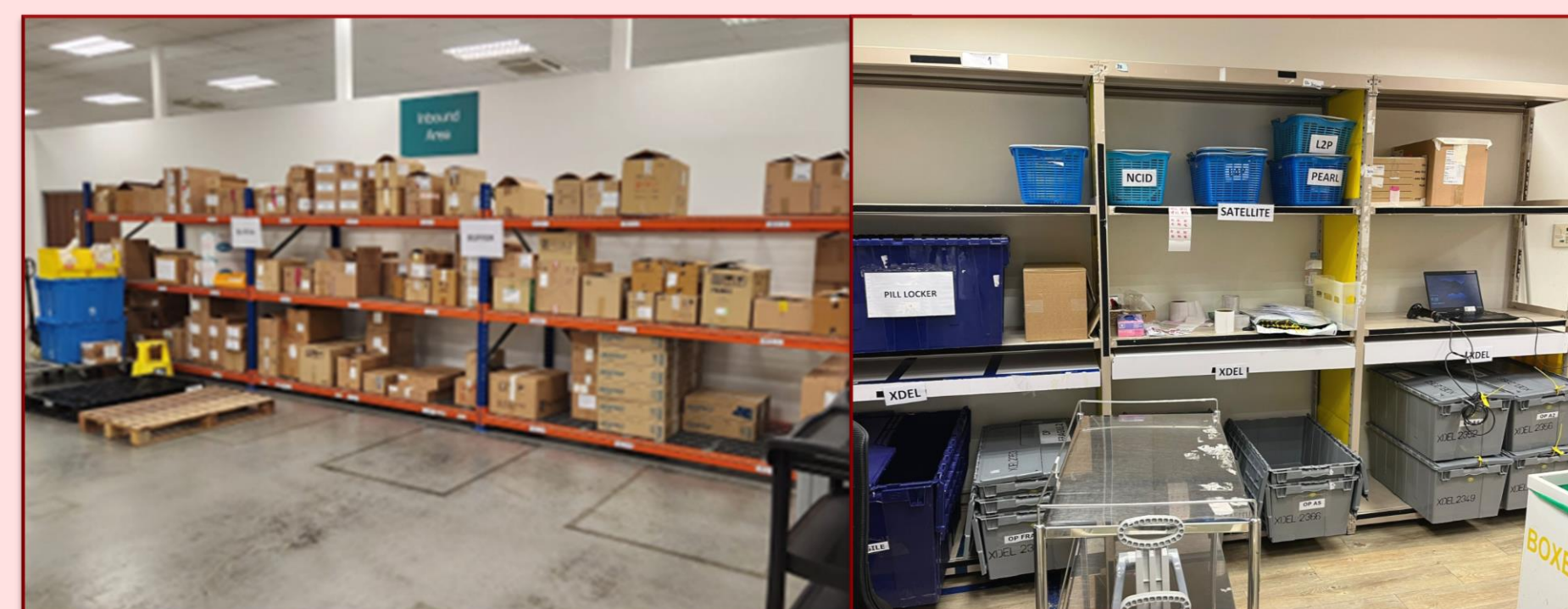
Results



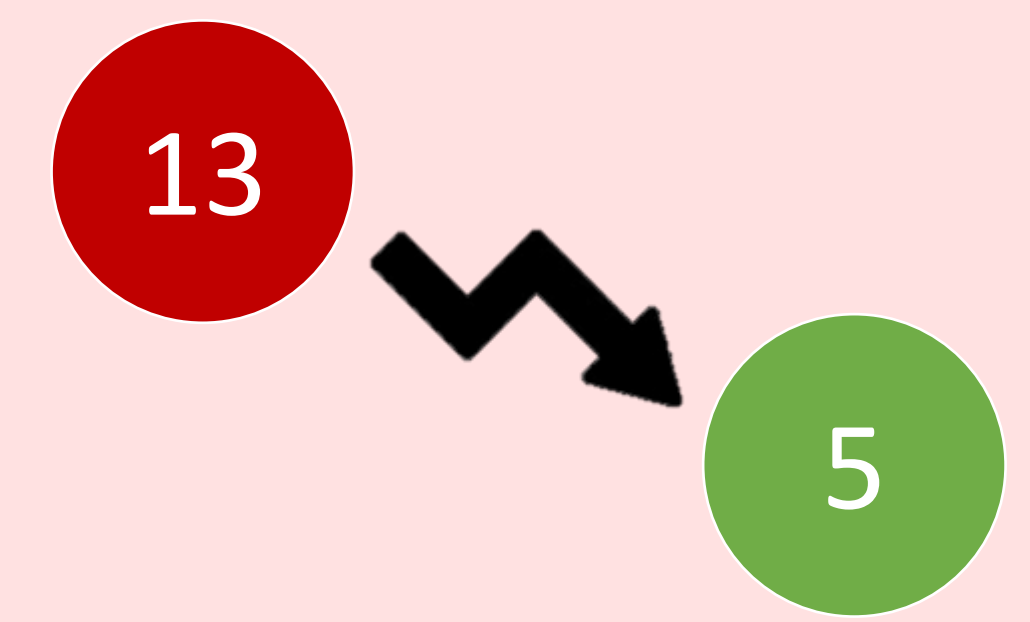
- **44%** of total MD activity time was **outsourced to CFP**.
- **Overtime** was reduced by about **50 hours per day**.



Enabled **consolidation and streamlining** of MD processes at **7 Satellite Pharmacies** to the main pharmacy



Better **infrastructure** at CFP to handle packing of MD parcels, sorting, and handover to courier. Revamped handover area at main pharmacy as space is freed up.



Delivery turnaround time improved from **13 to 5 working days**.

Conclusion

This novel outsourced TTSH CFP model alleviated Pharmacy resources, particularly manpower and space required, for last mile MD. Consequently, manpower was better optimized towards more value-added patient care work. It also helped reduce staff burn-out due to reduction in overtime. To ensure sustainability & scale-up throughput to meet the MD demand, workflows and inventory at TTSH CFP will be continually reviewed and adjusted.