A Win-Win for Nursing and Operations via Auto Top-Up of Ward Stocks

**BACKGROUND**

Time and motion study revealed that a thumping sum of 11 hours are being spent on checking and requisition of ward stocks each week by nursing officers (NO) or senior staff nurses (SSN). The existing workflow on which that study was done is shown in the flowchart below:

- NO/SSN to check ward stock on every Monday (5 hrs/week)
- NO/SSN to place ward order via share folder (2.5 hrs/week)
- Waiting for MMD to deliver the requisite items (1–2 days)
- NO/SSN check the delivery against the orders and signed off (3.5 hrs/week)

**PROJECT AIM**

This project, an initiative by Materials Management Department (MMD) in collaboration with Nursing, seeks to establish a new workflow for MMD that will free up more time for senior nursing staff to focus on clinical work. The goal is to reduce the time spent by NOs and SSNs in processing ward stock checking and replenishment from 11 hours per week to just 3.5 hours.

**ANALYSIS**

The existing workflow for ward stock replenishment by MMD staff, which will have to be expanded in order to shorten the steps currently undertaken by NOs / SSNs, is shown below (Chart 1).

Chart 1

- MMD receives orders from Nursing via a shared folder
- MMD packs and delivers the requisite items
- Nursing checks deliveries against the orders and sign off

In order to determine the best outcome for an expanded role for MMD even as the role of Nursing is being reduced, the project team found it prudent to examine a closely related issue that arises occasionally: the mismatches between ward supplies and demand for them. The team found several causes for mismatches, which are depicted in the diagram below (Chart 2).

Chart 2

- Failed to order
- System failure
- Supplies out of stock when ward needs to use it
- Mismatch of orders
- Miscommunication

While system failure has been an important contributory factor, the larger number of causes of mismatches are attributed to human failure. These failures and their consequences are important input for MMD team when they eventually take on a bigger role in ward stock checking and replenishment.

**SOLUTIONS**

The team came up with one workflow and then refined it through a few Plan-Do-Study-Act (PDSA) cycles to eventually arrive at the final version shown in Chart 3 below. We like to nickname this “Auto Top-up of Ward Stocks”.

Chart 3

- MMD checks ward stocks every Monday (diaper, bulbous, etc.)
- MMD notes the items that need replenishment and make a record in the shared folder
- MMD packs & delivers the items on Tuesday / Wednesday
- MMD also tops up the store rooms in all the wards
- MMD checks and Sign for receiving
- MMD checks ward stocks on Friday and eve of public holidays
- MMD notes the items that need urgent replenishment over the weekends or public holidays and make a record in the shared folder
- MMD packs & delivers the urgently needed items and also tops up the store rooms in all the wards

**PROJECT’S IMPACT**

After the implementation of the new MMD workflow depicted in Chart 3, the only step required of Nursing in the whole scheme of ensuring ward supplies are available 24/7 is to check each delivery against the orders and sign off for acknowledgment. The checking of ward stock levels and any requisitions that are needed are now performed by MMD staff. The benefit for Nursing is a total saving of 7.5 hours per week which are then re-allocated to direct patient care in the ward.

**SUSTAINABILITY AND SPREAD**

The new workflow for MMD is sustainable as it had been implemented without a need to increase staffing. Existing MMD staff were able to re-align their duties to make the necessary adjustment. None of the other MMD’s current work has been affected in any way. This project is not about shifting work from one group of workers to another with identical skills and roles. Quite the opposite. It’s about demonstrating the non-zero-sum benefits of job-design between two sets of workers whose roles and functions are very different so that the opportunity costs of their time at work are not also vastly different. For nurses, their comparative advantage is direct patient care, not supplies management. The contrary is true in the case of MMD staff.