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Better Allocation of Nursing Time to Patient Care with Efficient Centralized Stock Management at Department of Diagnostic and Interventional Imaging (DDII) of KK Women's and Children's Hospital

Introduction

KK Women's and Children's Hospital is Singapore's largest provider of specialised medical care for women, babies and children. It is a 830-bed tertiary referral hospital for obstetrics, gynaecological and paediatric healthcare. Department of Diagnostic and Interventional Imaging (DDII) provides ranges imaging services for diagnostic scan, as well as interventional procedures. Nurses are providing the direct patient care, assisting in the imaging scans / procedures and are usually rostered on a rotation basis to different modalities:

- 1) Angiography Suite
- 5) Computerized Tomography Scan
- 2) Fluoroscopy
- 6) Magnetic Resonance Imaging7) Nuclear Medicine Scan
- 3) Ultrasound Obstetric and Gynaecology4) Ultrasound Pediatric
- 8) Breast Imaging

Problem Statement

Aims: Better allocation of nursing time to patient care and efficient stock management

30% of Nurses' time occupied by managing stock supplies

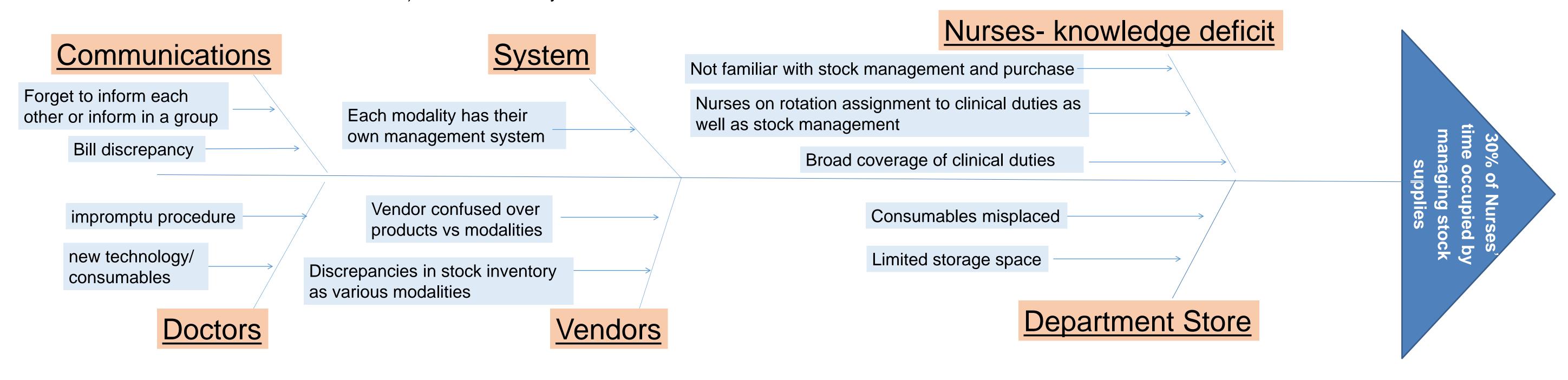
Stock Discrepancies in the 8 modalities and difficult situations: e.g. out of stock usage

- Direct nursing care time reduced
- 2. Frequent overtime to manage stock
- 1. Risk of Compromised Patients'
- care management

Staff distress

Root Cause Analysis Root cause analysis has been used to identify the areas which potentially contributed the current situations:

- 1) Nurses has stock knowledge deficit as a result of assignment rotation
- 2) Lack of communications
- 3) Inefficient stock system



Methodology (PDCA)

ACt- Lean inventory volumes at satellite locations led to reduction of local stock-checks and thus time spent by nurses. Also reduced space at satellite locations for storage

Plan – Centralised control and

→ management of consumables inventory at multiple satellite locations of DDII

DO – Create separate inventory lists at different end-user locations, create a standard operations format for inventory management, area managers/nurses having a reduced inventory to manage, central DDII store has close overview of stock levels at each satellite and able to push out stocks according to ground needs.

Check- Close monitoring of satellite inventory through weekly checks and top up of stocks based on requests put up by satellite location nurses, enabling constant verification of par level versus nominal level of inventory items, expending older inventory first (first-in-first-out system) as a result of central oversight of DDII consumables inventory.

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Result

- 1. As soon as the new system was implemented in 2016, there was immediate relieving of nursing time to patient care. Normally, the nurses of individual room need to spend 30% of their time to manage their stock for their procedures. With the new system, only about 10% of their time per week are used for handling stock. More nurses were able to be trained to take on expanded roles to insert intravenous cannulation for children for examinations and recovering their patients. There was obvious reduction of time spent on the consumables discrepancies.
- 2. Previously, the nurses had difficulty to maintain consumables stock. Staff assignment to a procedure room changed every 2 weeks. They did not do proper handover. The current system has made maintaining of stock easy. It has reduced wastage, urgent request and time spent.
- 3. We were able to pool our nurses together so that they can collectively help to oversee more than one procedure room. Although our workload had increased from 2016 to 2017, we can still manage with the same number of headcount. Thus it helps to reduce manpower cost.

Conclusion

The consolidation of the different modalities' consumables under a team of trained staff has released the nurses' time to patient care. This resulted in manpower cost saving and improved work outcome.

Moving forward, our goal is to continue developing the system for the next generation.

