To reduce number of times staff need to call for items from patient's room

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Introduction

Surgical Intensive Care Unit (SICU) in Singapore General Hospital is a 10-bedded unit that provides intensive monitoring and care for patients who underwent surgical intervention, requiring continuous hemodynamic monitoring, ventilator support, inotropic support and continuous dialysis support. As per infection control guideline, a Personal Protective Equipment (PPE) is worn by staff prior to attending to patient, according to patient's contact risk involved. This is to ensure staff is being protected from the infectious diseases and to prevent cross contamination.

Project Selection

While doing our daily nursing routine in the ICU, our team members' notice that nurses who are attending to their patient in the room, tend to call for staff outside the patients room to get items they need at that point of time.

MATRIX

Short Listed Project / Criteria	Urgency	Easy to Implement	Patient Comfort	Reduce Cost	Practicality	Safe Time	Total
1. To reduce overflow of rubbish from the bin in isolation room	1	1	3	5	1	1	12
2.To reduce the frequency to staff calling for items from patient's room	3	5	1	3	3	3	18
3. To reduce the frequency of staff non compliance to hand hygiene when attending to patient	5	3	5	1	5	5	24

1 Meets Criteria Least — 3 Meets Criteria Moderately — 5 Meets Criteria Most

Figure 1 : Matrix

Therefore, in order to prevent performance obstacles such as delay in treatment for the patient and staff's task being interrupted in the ICU, our team decided to embark in this Quality Improvement Project. Our team hopes to improve the work processes in ICU and create a less stressful working environment for the staffs.

Background of the Problem

In SICU, the environmental layout of items and equipment in each room is similar in placement and quantity. Frequently used consumables as shown in Figure 2 are placed in the individual drawer in each ICU room for easy access when required.

However, according to infection control practices guidelines in ICU, all consumable items in infectious-related patient's room are required to be discarded once the patient is out of ICU. In order to prevent wastage of consumables, these items are stocked in the room to a pre-determined quantity as agreed by the ICU staff. This is to prevent cross contamination

Figure 2 : Items kept in drawer at patient's bed-side

to the next patient admitted. Patient Care Assistance (PCA) and Health Care Assistance (HCA) on duty are assigned to top up of these items during each shift.

In acute ICU settings, it is important to ensure that a proper work process is planned to prevent negative effect on the quality and safety care for the critically ill patients. The ICU work system should be designed to ensure seamless work processes, organized physical environment and effective communication among all teams.

Cause Analysis

Our team had brainstormed the possible causes and problems encountered in Figure 3.

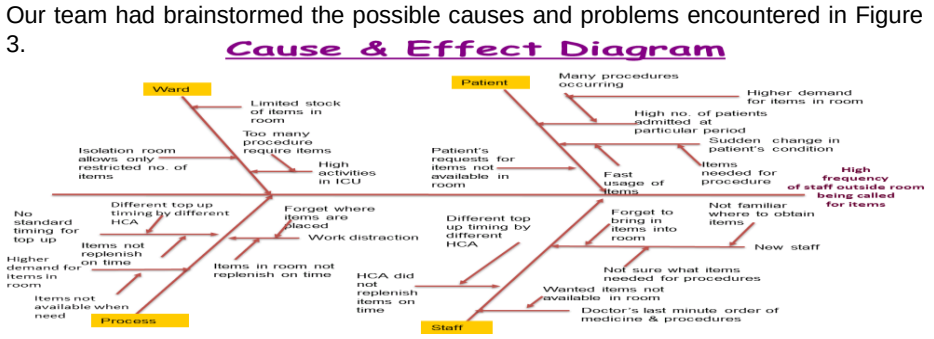


Figure 3 : Cause and Effect Diagram

The team did a multi-voting on the causes derived from the Cause and Effect diagram and plotted the results using Pareto Chart as shown in Figure 4. By using the 80/20 rule, the team identified the main root causes that we would focus our intervention. The roots causes identified as follows:

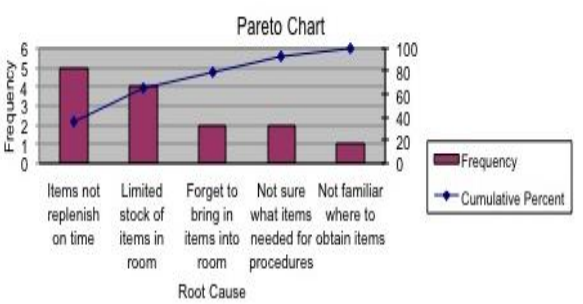


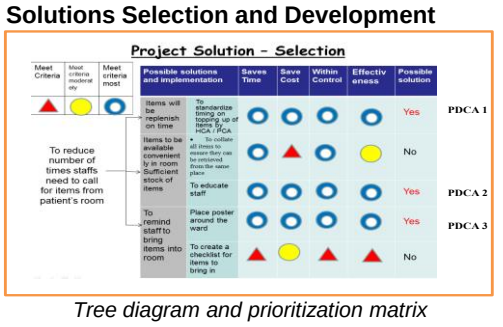
Figure 4 : Pareto Chart

Items in patient's room are being replenished by HCA and PCA on duty. They have been informed on the norm of items in the room and replenishes accordingly. However when being questioned on the timing they perform the task, the team noticed that there is no consistency in the timing.

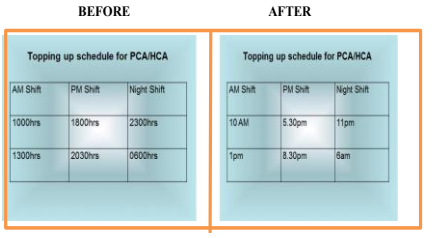
Frequent used consumable items such as, but not limited to syringes, needles, alcohol swabs are being placed in the room. These items are kept to a minimum to prevent wastage. For patient with infection precaution, these items will be discarded once patient is discharged from ICU.

Not all consumables can be stored in patient's room. When performing more complex procedures, staffs are required to prepare the special items that they need before entering to patient's room. Most of the time, staff are unable to foresee the quantity and items that they need to bring in. If inadequate while they are performing the procedure, they will call for items from inside patient's room.

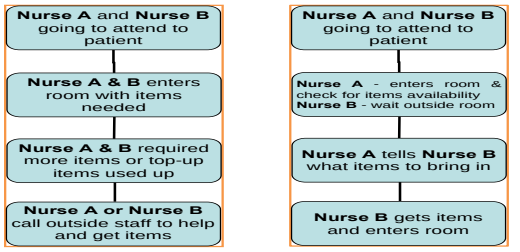
Solutions Selection and Development



Tree diagram and prioritization matrix



PDCA 1 : Standardize timing on topping up of items by HCA/PCA



PDCA 2: Educate Staff on revise workflow

PDCA 3: Workflow Reminder

Post-implementation phase had shown improvements and enhancement applied from the PDCA cycles. The workflow processes had decreased to ensure smooth work performance, which ultimately provides satisfaction to the staffs (figure 5). The waiting time to get the items was reduced and task can be completed on time.

Result

The team had clocked the time taken for each cycle when staff called for items. Timing was monitored based on 2 different scenarios: 1)Staffs get items from the preparation room which is within the patient care area. 2) Staffs get items from the store room which is situated further along the corridor of the SICU.

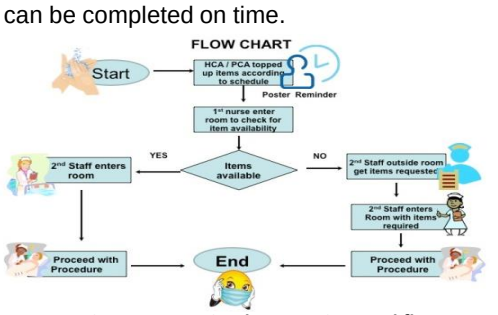


Figure 5 : Post implementation workflow

From the 2 different scenarios, an average timing was taken which is 2 minutes. Timing were also take into account when staffs outside are occupied and not able to help immediately. During pre and post implementation, data collected as shown in figure 6.

Phase	No of Times Staffs Being Called over 2 weeks period	Timing Consumed (mins)	Timing Consumed (hrs)
Pre Implementation	288 times	288 X 6 = 1728mins	**28.8hrs**
Post Implementation	30	30 X 6 = 180mins	**3hrs**

Figure 6 : Time Consumed when staffs called for items

Conclusion

Total time taken for manpower that could be saved in 2 weeks is 25.8hrs. Therefore, in a year the total manpower time that can be save and utilize for other Nursing Care for the patient is approximately

Staffs are able to use their time more productively and deliver efficient care to patient, thus reducing work related errors. This contributes to a positive relationship between healthcare providers with patients and family results in increased satisfaction.

This form of constructive environment supports anxiety reduction and healing for the patient, which then resulted in shorter length of stay and effective usage of existing resources. Subsequently, bed-crunch situation in the organization can be resolved. Hospital's mission to provide excellence quality care and cost effective healthcare service to the patient can be maintained. Patient's best experience and best outcome will enhance organizational reputation as the best recommended hospital.