To improve the process of Intra-hospital Transport of Critically ill Patients in CTICU

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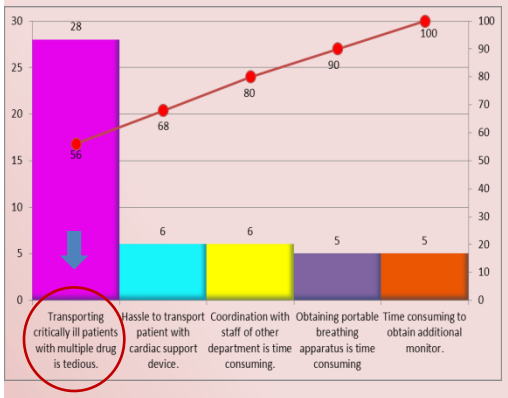
Anne Tok[1], Ismail Sheriff[1], Tan Sin Yain[1], Goh Sye Lin[1], Yeoh Lee Shien[1], Mary Jane S. Poticar[1], Chia Tat Jin[1], A/Prof Goh Meng Huat[2]
(1) Nursing Division Cardiothoracic ICU
(2) Department of Anesthesia

National Heart Centre Singapore
SingHealth

1. INTRODUCTION

After cardiac surgery, patients are transported to Cardiothoracic Intensive Care Unit (CTICU). These patients are usually critically ill and require many drugs to support their various organs. These drugs are delivered via syringe pumps. Sometimes, they also require ventilators, and cardiac assist devices. When their conditions deteriorate, they need to be transported back to the operating theatre for re-opening or other departments for procedures, tests or treatment. To ensure that these drugs are delivered safely to the patient during transit, syringe pumps have to be transferred onto a portable drip stand and to be pushed together with the bed. This project looked into improving the method of transferring patients to achieve better time savings and patient safety.

2. METHODOLOGY

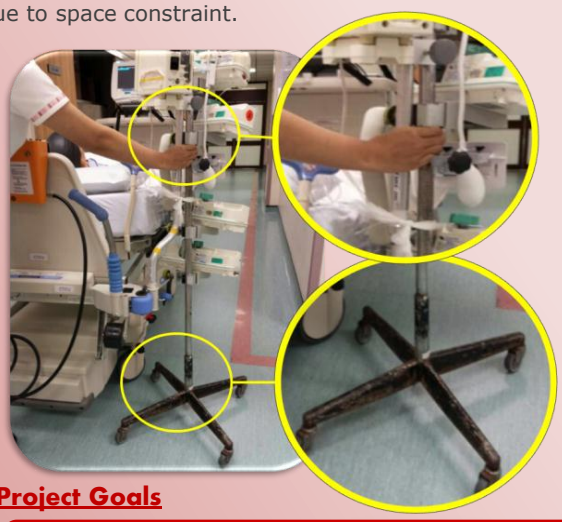


A cross-functional team comprising of nurses and doctors from CTICU and Anesthesia Department was formed for the project.

The **Plan-Do-Check-Action (PDCA)** problem solving methodology was used to analyse the problem. A Pareto Chart was used to determine the factors that caused the tedious process of transporting patients to other departments. Transportation of patients with multiple drug therapy was identified as the vital factor.

Problem with the current intra-hospital transportation

In CTICU, syringe pumps with the medications are attached to bed poles. Before transporting to other departments, time is spent on transferring the syringe pumps to the portable 4-legged drip stand. It is difficult to push and maneuver the bed together with the drip stand along the narrow passageways and in the lift due to space constraint.



Nurse has to hold the bed pole and 4-wheel drip stand

Drip Stand is not steady & it is difficult to push the 4-legged drip pole laden with syringe pumps

Project Goals

To Develop an Alternative Method of Transporting Drip Stand

- To reduce hassles in transporting drip stand during intra-hospital transportation.
- To improve time taken for intra-hospital transportation of critically ill patients, thereby improving patient safety.
- To reduce strain on nurses during transportation.

3. SOLUTION

CTICU Team developed a metal bar to secure portable 5-legged drip stand to bed

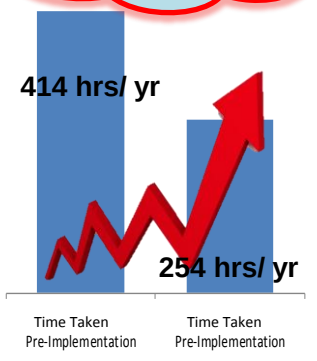
- Detachable metal bar is attachable to the bed
- Portable 5-legged drip stand with syringe pumps can be attached to metal bar for ease of transport.

- The 5-legged drip stand wheel is hanging and can be folded for ease of transport
- Staff need not hold the 5-legged drip stand during transport.

4. RESULTS

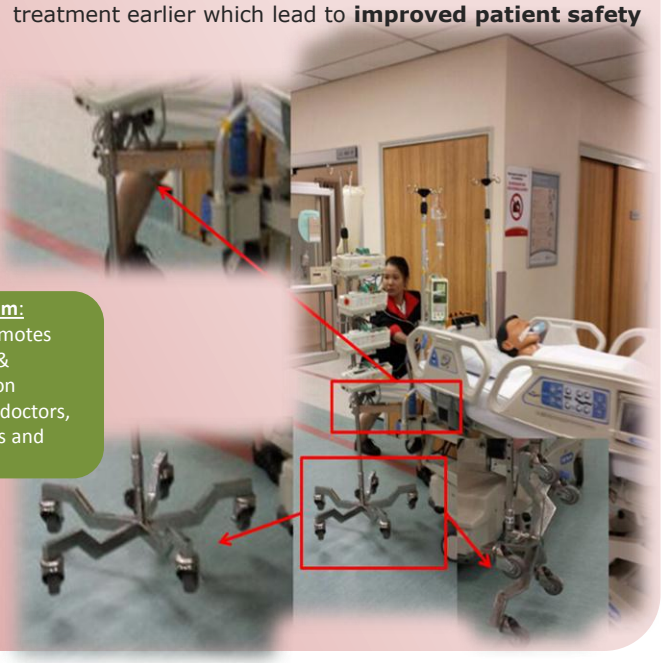
Time Savings for Simplified intra-hospital transport	Before Implementation (A)	After Implementation (B)	No. of times per year (C)	Total Time Saved/yr [(A)-(B)x(C)]
Time taken to receive patient after surgery	17 mins	11 mins	1300	130 hr/yr
Time taken to tranport patient back to OT or for treatment	53 mins	18 mins	52	30 hr/yr
Total Time Savings				***160 hr/yr***

Saves 160 hrs / yr in intra-hospital transport



Tangible Benefits

- The new method has **improved the speed of intra-hospital transportation** of critically ill patients.
  The **process is simplified.** With the new and steady 5-legged drip stand, there is **no need for staff to transfer syringe pumps** from bed poles to drip stand and vice versa when transporting patient.
- The **metal bar attaches the drip stand securely.** It eases transport of patients.
- Patients will be able to receive post-operative care or treatment earlier which lead to **improved patient safety**



Doctors & Anesthetists: Delay in sending patients to OT or for follow-up investigations / procedures is minimised .

Project Team: Project promotes teamwork & collaboration among the doctors, anesthetists and nurses.

Nurses: Project reduces the strain on staff when they push the heavy drip stand along the narrow passage way.

CONCLUSION & PROJECT SPIN-OFF

The new method of intra-hospital transport has improved and speed up the process of transferring critically ill patients from CTICU to OT and other procedures/treatment area. The new method will be implemented in NHCS new building for Post anesthesia patients.

- *Post Anesthesia Care Unit (PACU) is situated in new building.*
- *Patients from new building PACU are transported to CTICU or wards via sky bridge.*
- *Implementation of new method will reduce time taken to transport the patients post operatively to the wards and ICU.*
- *Patient will be able to receive post-operation care earlier without delay.*