

## **Project Title**

Timely Change Of HMEF And In-Line Suction Catheter For Mechanically Ventilated Patients In ICU

## **Project Lead and Members**

Project lead: Peter Dela Cruz

Project members: MC Dayzon Magsino, Michael Vidanes, Mitchell Encarnacion, Kok Sain Yin

## **Organisation(s) Involved**

Ng Teng Fong General Hospital

## **Healthcare Family Group Involved in this Project**

Allied Health

## **Applicable Specialty or Discipline**

Respiratory Therapist

## **Project Period**

Start date: Aug-2017

Completed date: Oct-2017

## **Aims**

To achieve the target of 100% compliance in the timely change of HMEF (within 48 hrs from last change) and in-line suction catheter (within 72hrs from the last change) for mechanically ventilated patients in ICU.

## **Background**

See poster appended / below

## **Methods**

See poster appended / below

## **Results**

See poster appended / below

## **Lessons Learnt**

The study has brought a sharp sense of awareness regarding the timely changing of due items such as the HMEF and in-line suction catheter.

## **Conclusion**

See poster appended / below

## **Project Category**

Care & Process Redesign, Quality Improvement, Workflow Redesign, Value Based Care, Safe Care, Risk Management, Adverse Outcome Reduction

## **Keywords**

Heat and Moisture Exchanger Filter, In-line Suction Catheter, Intensive Care Unit

## **Name and Email of Project Contact Person(s)**

Name: Michelle Encarnacion

Email: [Michelle\\_s\\_encarnacion@nuhs.edu.sg](mailto:Michelle_s_encarnacion@nuhs.edu.sg)

# TIMELY CHANGE OF HMEF AND IN-LINE SUCTION CATHETER FOR MECHANICALLY VENTILATED PATIENTS IN ICU

- SAFETY
- PRODUCTIVITY
- PATIENT EXPERIENCE
- QUALITY
- VALUE

PETER DELA CRUZ, MC DAYZON MAGSINO, MICHAEL VIDANES, MITCHELLE ENCARNACION, KOK SAIN YIN

## Define Problem, Set Aim

Timely change of HMEF and in-line suction catheter minimizes ventilator associated pneumonia among mechanically ventilated patients and increases the adherence to Infection Control.

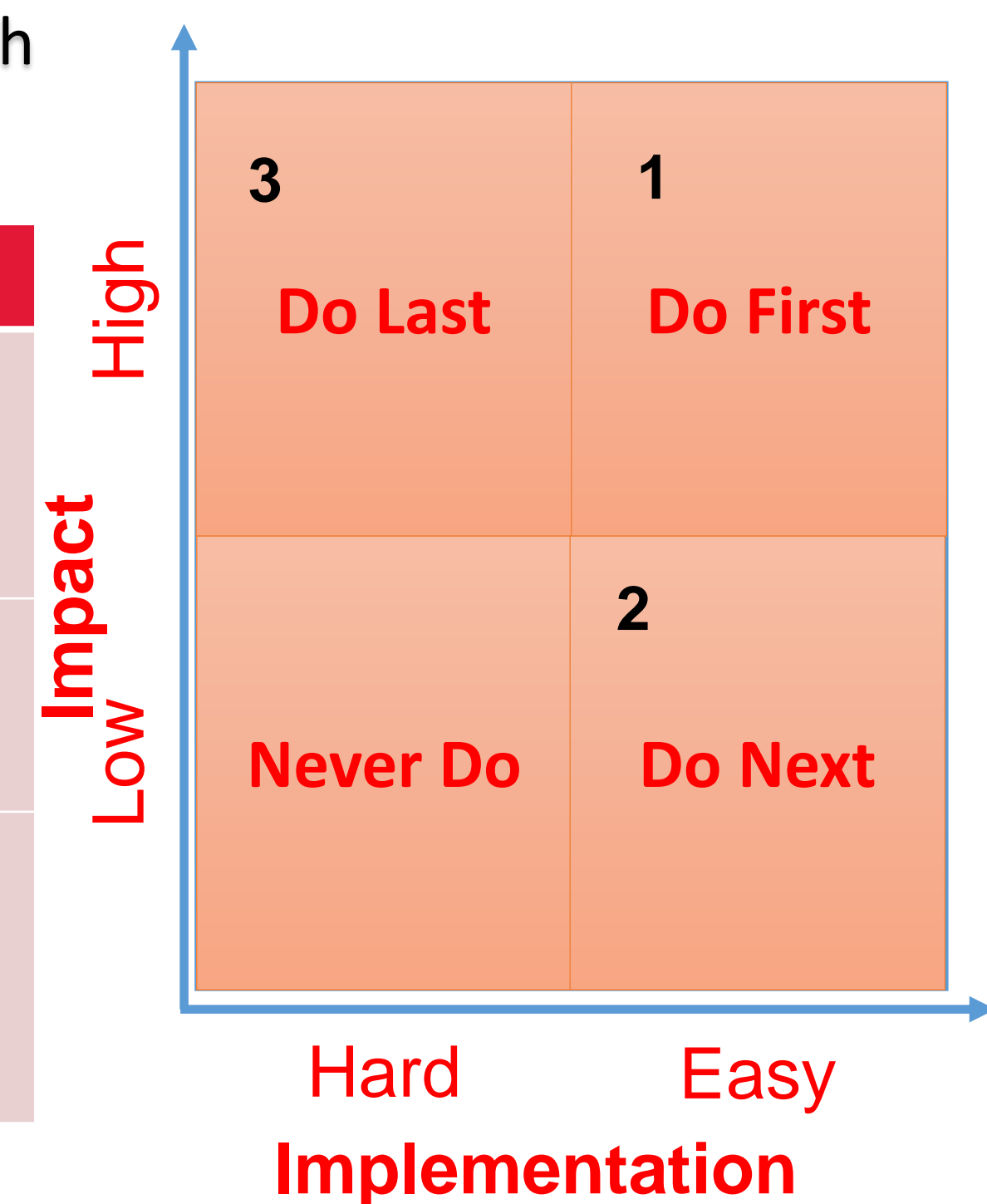
The team started at a monthly compliance rate of 65% for changing the HMEF and 73% for changing the in-line suction catheter from Aug-Oct 2017.

35% and 27% compliance are respectively needed to achieve the target of 100% compliance in the timely change of HMEF (within 48hrs from the last change) and in-line suction catheter (within 72hrs from the last change) for mechanically ventilated patients in ICU.

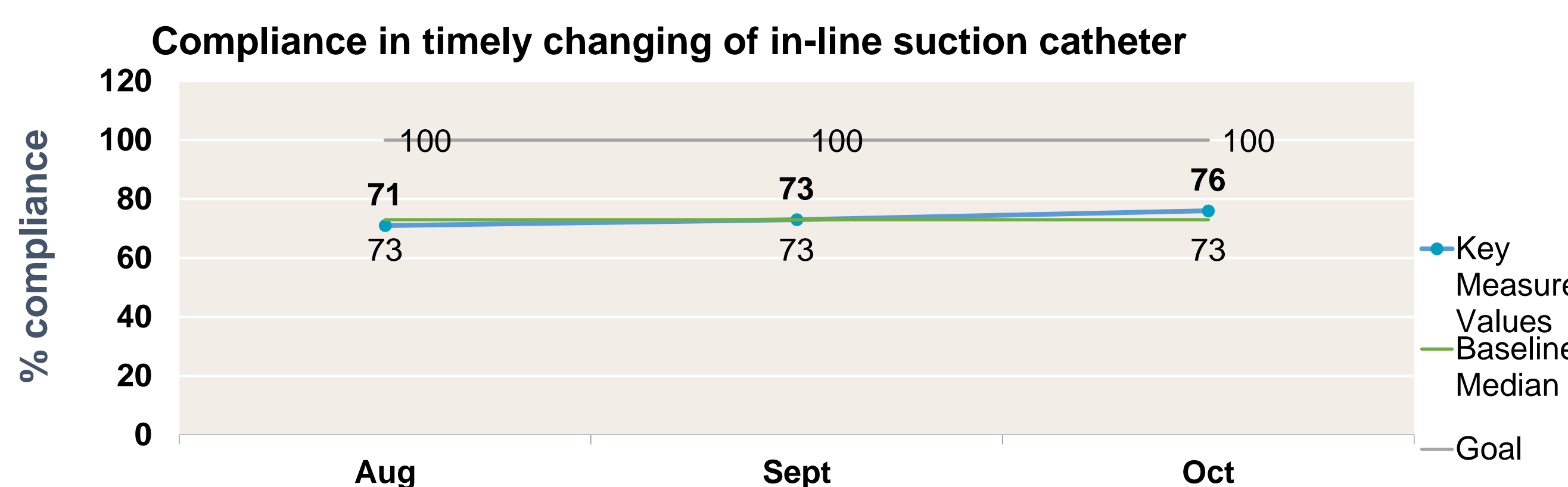
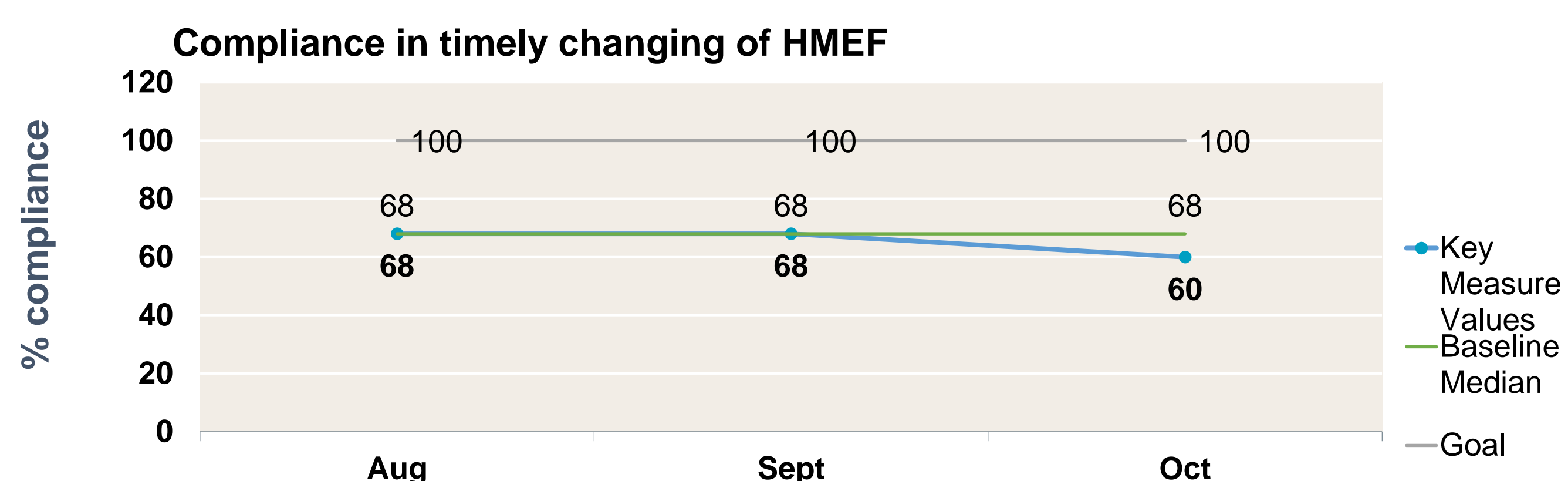
## Select Changes

The group opted to implement this solution as it minimizes wastage from previous workflow especially proper time management for each patients.

Root Cause	Potential Solutions
<b>No suitable storage near patient room</b>	1 <b>Bring HMEF, in-line suction and sticky label in plastic carrier bag during patient rounds.</b>
	2 <b>Passing over HMEF, in-line and sticky label to next shift.</b>
	3 <b>Keep HMEF, in-line suction and sticky label at patient's bedside, on top ventilator compressor.</b>



## Establish Measures

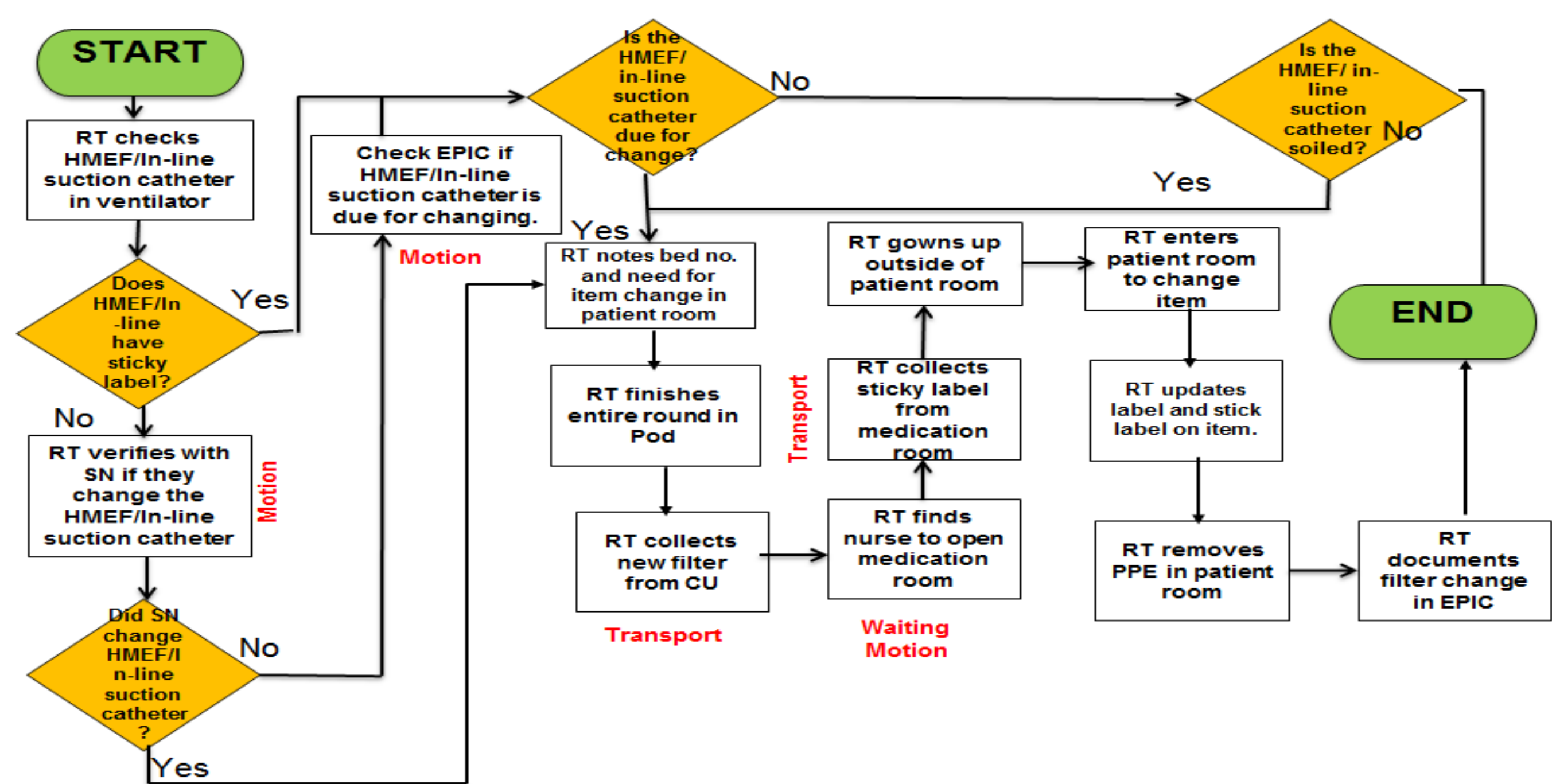


## Test & Implement Changes

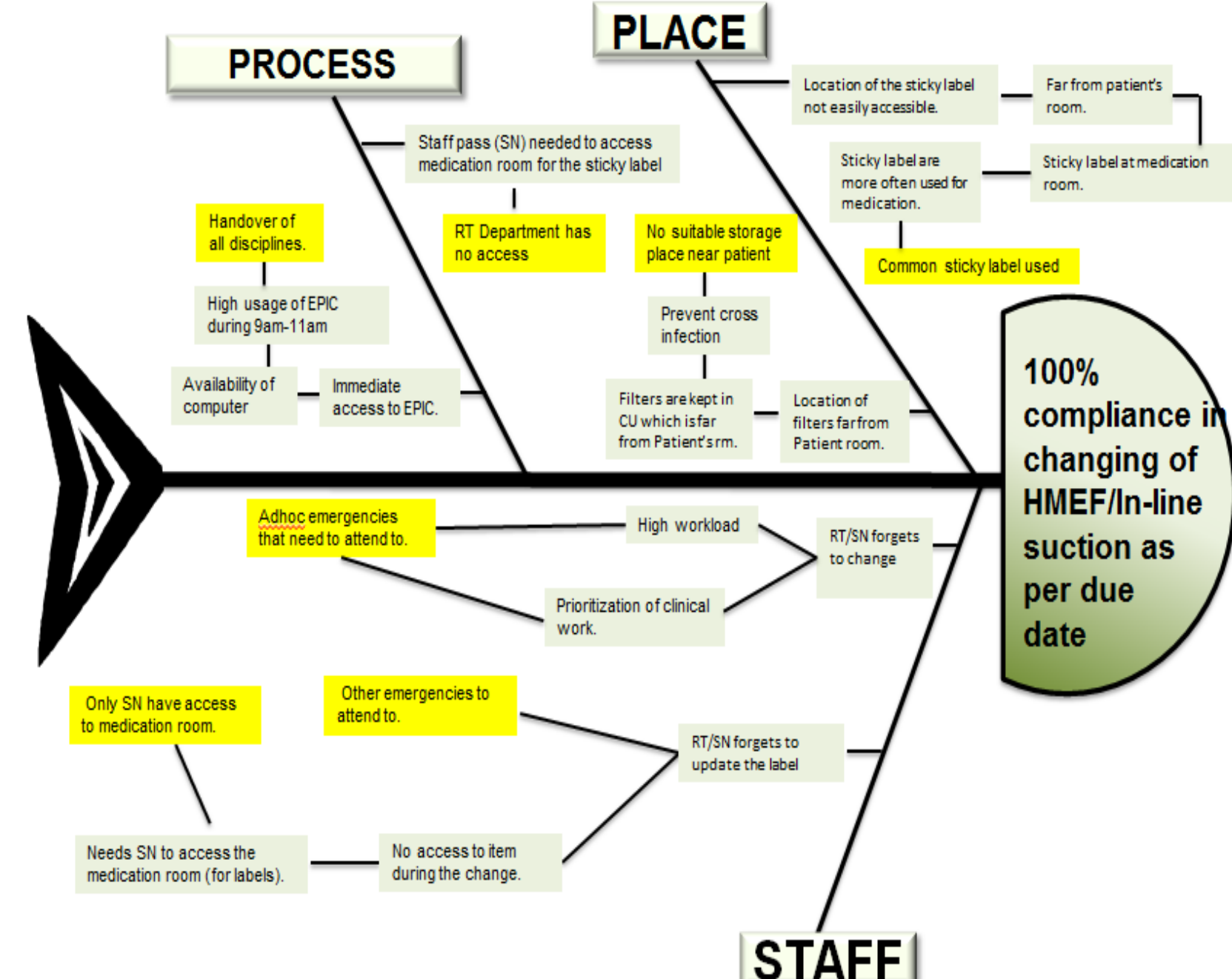
CYCLE	PLAN	DO	STUDY	ACT
1	Allocate HMEF, In-line suction catheter and sticky label in a plastic carrier bag. Station bag outside patient's room during assessment rounds. > RT on duty in each ICU POD.	> Carrying out the plan.	Still with incidence of failure in timely change of HMEF and inline suction in view of emergencies to attend to/ morning procedures and high usage of computer during morning hours.	Test again. Team came up with another plan that night shift will be responsible for changing due items. Next test will commence on December, with same locations (POD2, POD3 and POD5), this is to improve current solution that we have come up with.
2	To change HMEF and in-line suction during night shift.	> Carrying out the plan.	Compliance improved with few lapses on timely change of HMEF for month of January. Full compliance was noticeable on the following months.	Implement change.

## Analyse Problem

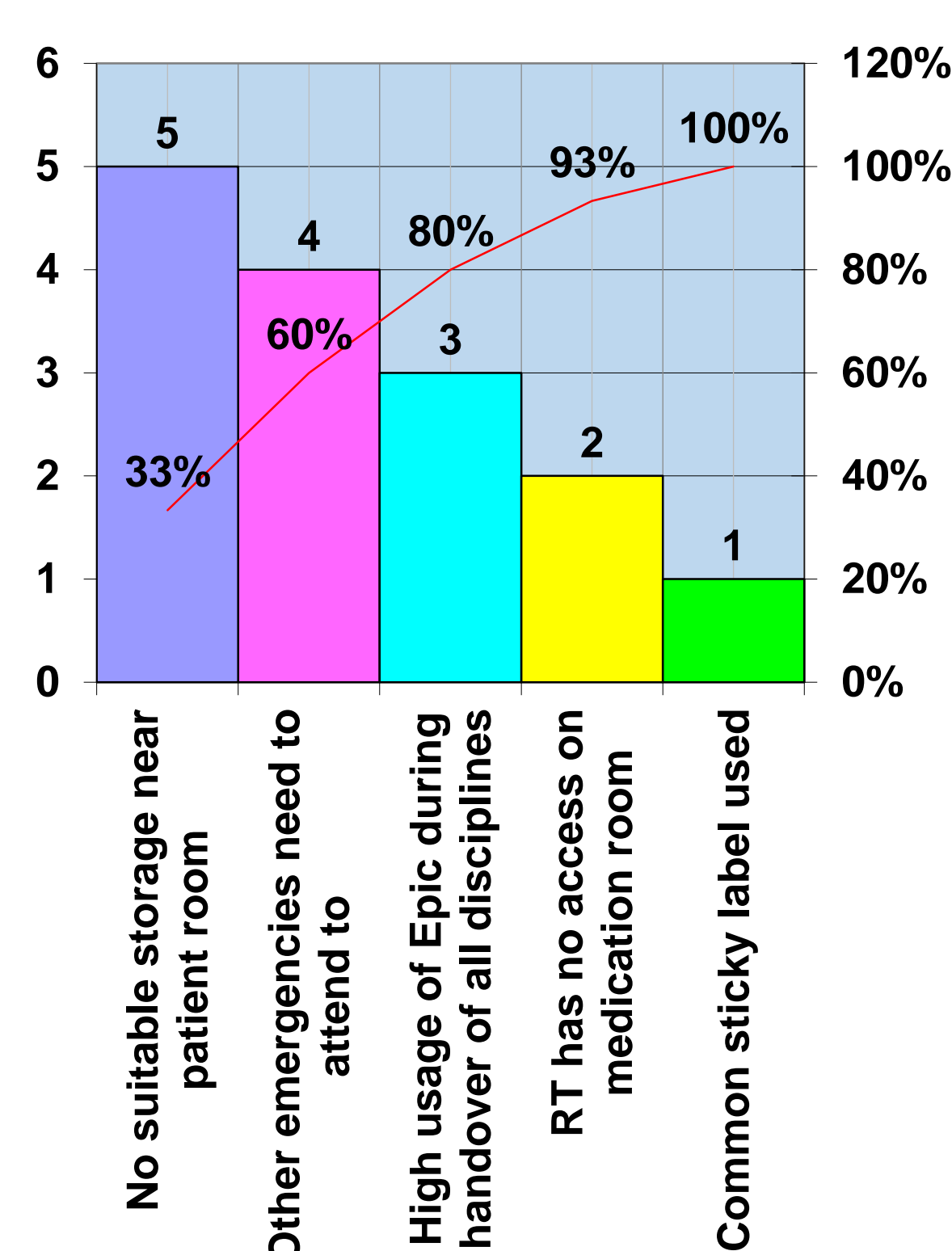
### Workflow



### Fishbone diagram



### Pareto



## Spread Changes, Learning Points

After the implementation, the leaders have engaged to spread change by means of information dissemination through our monthly meeting and was relayed through our communication logbook as a reminder.

The study has brought a sharp sense of awareness regarding the timely changing of due items such as the HMEF and in-line suction catheter.