

Ms Lim Voon Ping
NCID ICU

Mission Statement

To improve compliance to NCID Protocol for retrieval of intubated patients by retrieval team from 46% to 100% over a sustained period

Team Members

	Name	Designation	Department
Team Leader	Lim Voon Ping	Senior Nurse Clinician	NCID ICU
Team Members	Li Caihua	Nurse Clinician	NCID ICU
	Nichole Tan Xiu Lang	Assistant Nurse Clinician	NCID ICU
	Lee Wan Lih	Senior Staff Nurse	NCID ICU
	Ling Ging Poh	Senior Staff Nurse	NCID ICU
	Emelin Tan Pei Xin	Senior Respiratory Therapist	Respiratory Therapy

Mentor: Ms Yu Liang

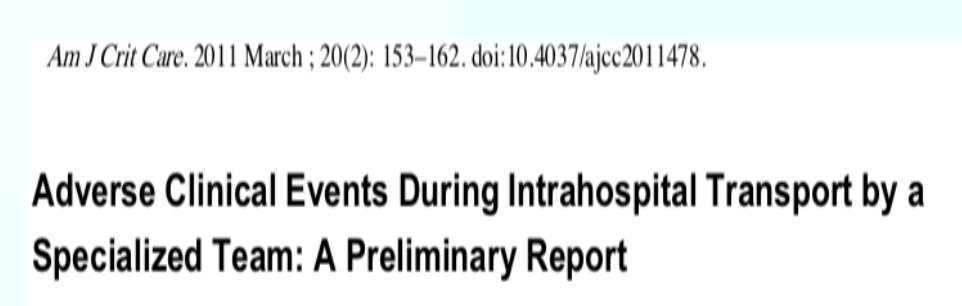
Sponsors: Dr Benjamin Ho & Ms Lorraine Tan

Evidence for a Problem Worth Solving



The importance of having a proper retrieval:
 • to ensure patient's safety and lower incidence of technical problem (equipment)
 • Retrieval team able to transfer sicker patients with fewer and less severe adverse events

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Caring for ill patients during intra-hospital transport is a **high risk activity**:
 • Use of dedicated transfer team can potentially reduce the number of adverse events
 • Causes of adverse event were multi-factorial with mainly human based factors contributing such as inadequate preparation, failure to follow protocol and errors of problem recognition.

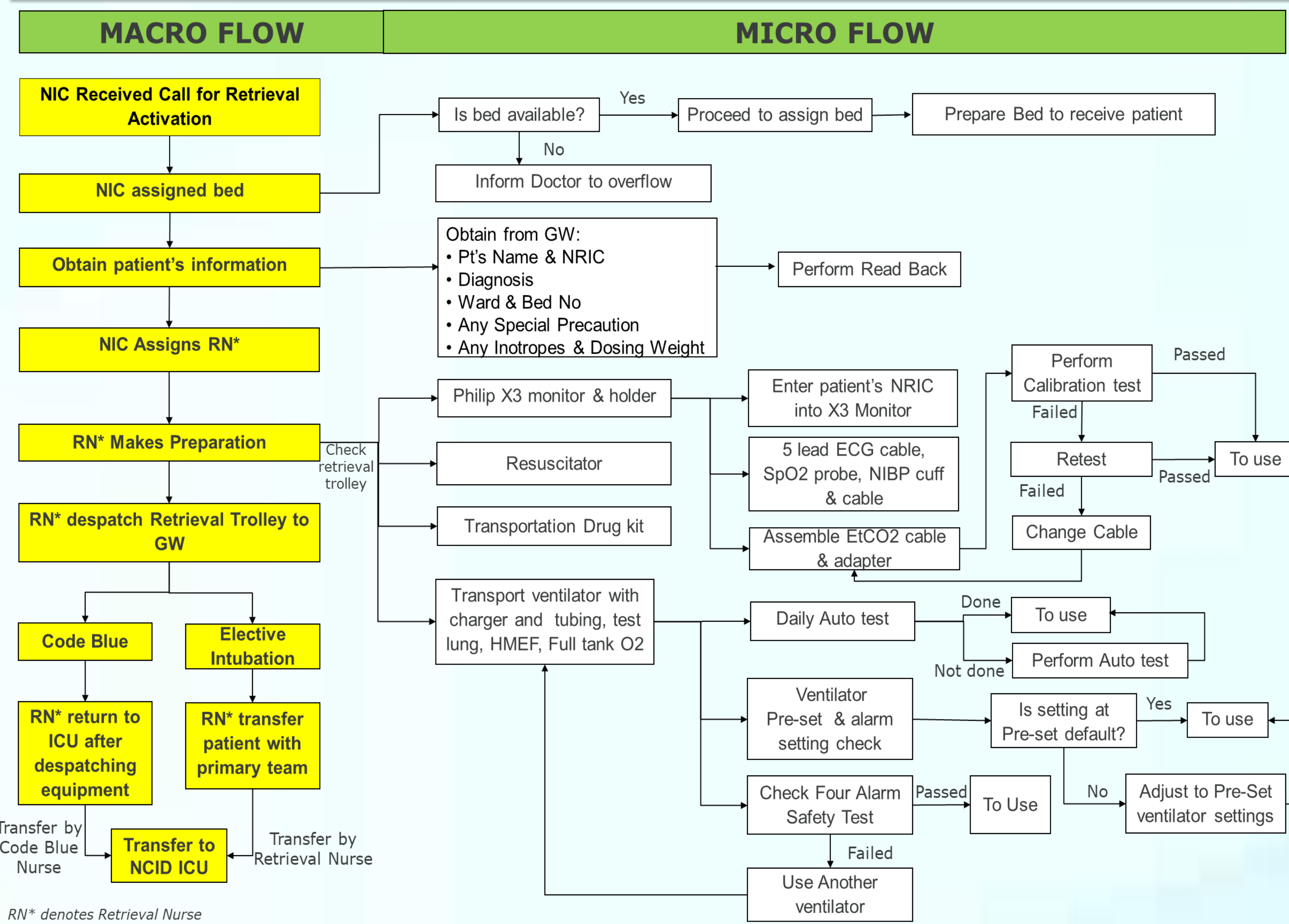
Am J Crit Care (2011) Vol 20

Baseline Data on Compliance to Retrieval Protocol from July to August 2019

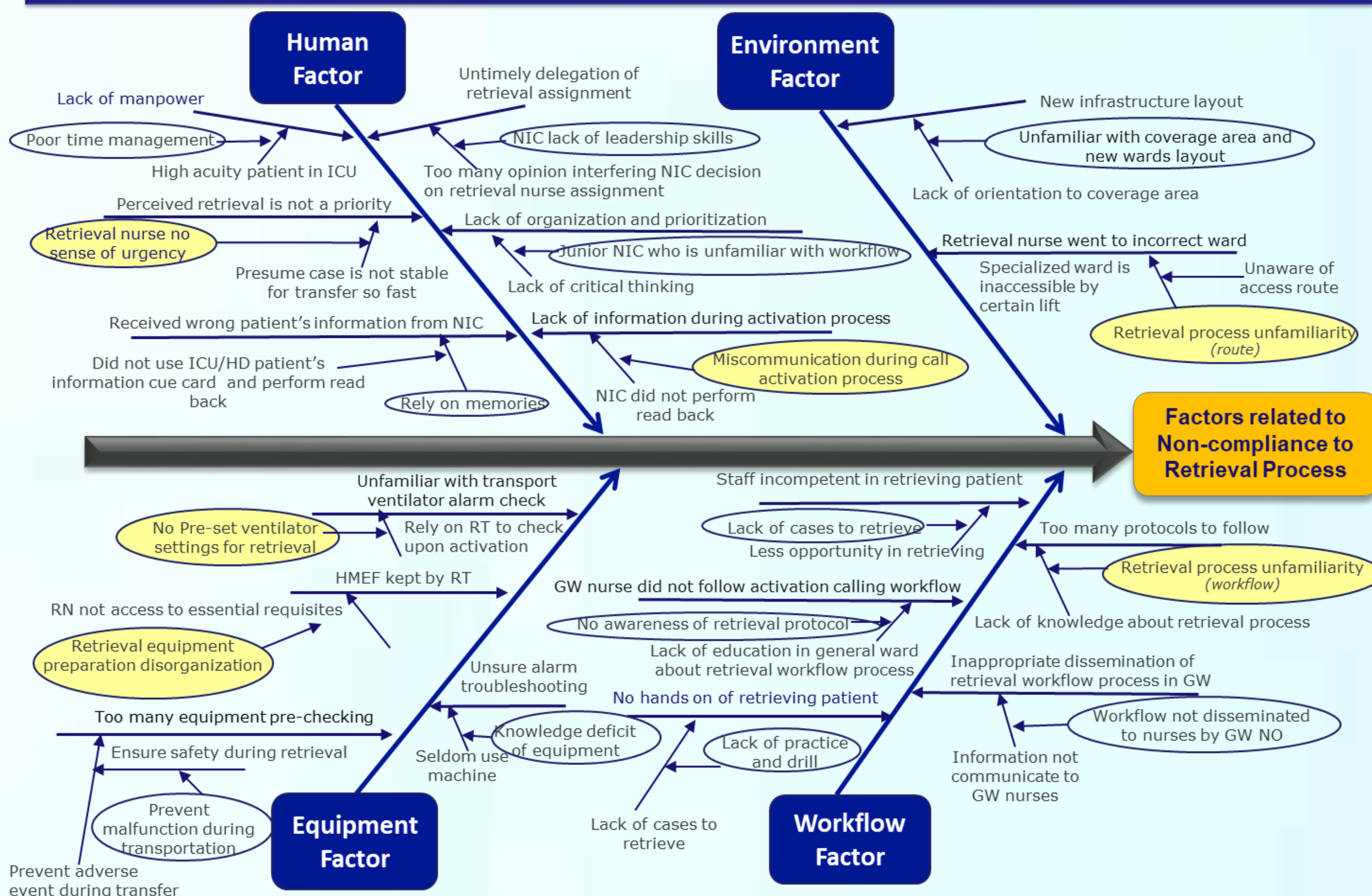
Month	Jul	Aug
Total no of Retrieval	4	14
Met	2	6
Not Met	2	8
% of Compliance	50%	42.85%

Baseline Median = 46%

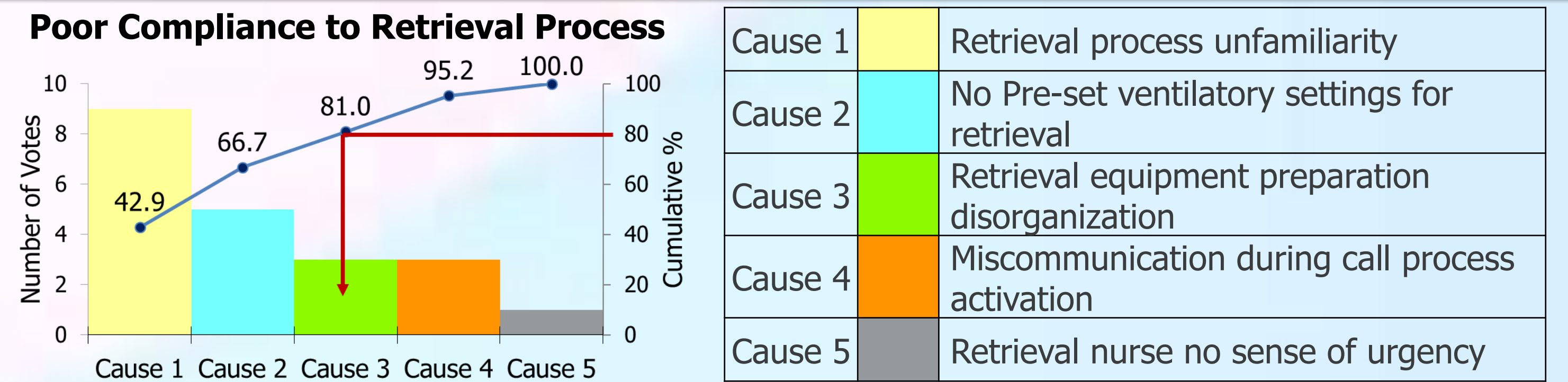
Flow Chart of Process



Cause and Effect Diagram



Pareto Chart

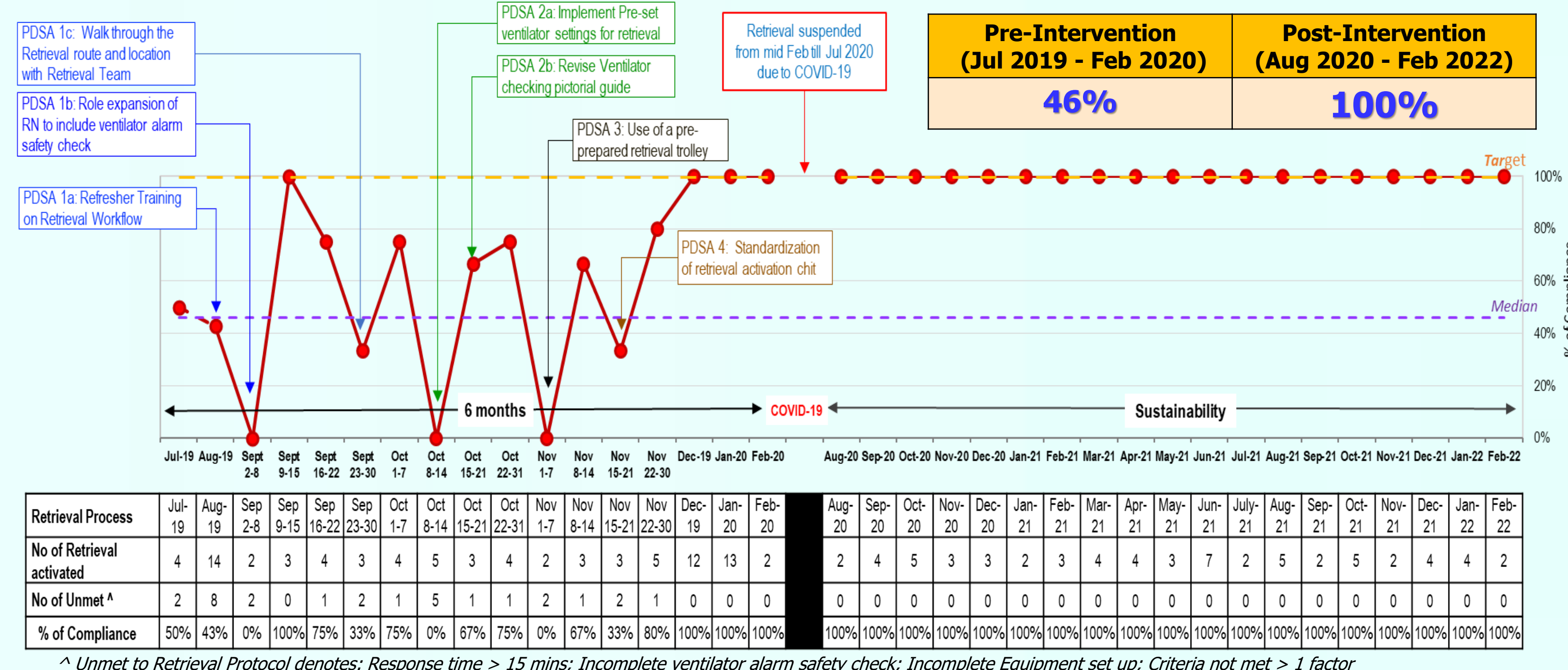


Implementation

CAUSES	INTERVENTIONS	IMPLEMENTATION DATE
Cause 1: Retrieval process unfamiliarity	PDSA 1a: Refresher Training on Retrieval Workflow	15 Aug 2019
	PDSA 1b: Role expansion of RN to include ventilator alarm safety check	7 Sep 2019
	PDSA 1c: Walk through retrieval route and coverage location with all retrieval nurse	23 Sep 2019
Cause 2: No Pre-set ventilator settings for retrieval	PDSA 2a: Implement Pre-set ventilator settings for retrieval	12 Oct 2019
	PDSA 2b: Revise ventilator checking pictorial guide	20 Oct 2019
Cause 3: Retrieval equipment preparation disorganization	PDSA 3a: Use of a pre-prepared retrieval trolley	7 Nov 2019
Cause 4: Miscommunication during call activation process	PDSA 4a: Create standard retrieval information slip for Nurse In Charge	15 Nov 2019

Results

% of Compliance to Retrieval Protocol of Intubated Patient by Retrieval Team in NCID
Period: July 2019 to February 2022



Cost Savings

Task Required by the followings for 1 patient Transfer (in Mins)	Before	After
	Estimated Cost	
RT (Before) / ICU Nurse (After)	Check Ventilator	\$1.29 X 15 = \$19.35 / \$0.97 X 5 = \$4.85
GW Medical Officer	Transfer patient	\$1.41 X 45 = \$62.25 / \$1.41 X 25 = \$35.25
General Ward Nurse 1	Transfer patient	\$0.97 X 45 = \$43.65 / \$0.97 X 25 = \$19.40
General Ward Nurse 2	Transfer patient	\$0.97 X 45 = \$43.65
ICU Nurse	Patient retrieval	\$0.97 X 25 = \$19.40
Duration (Average)	60 mins	30 mins
Total Cost (Per retrieval)	\$168.90	\$78.90
Time Savings (Per retrieval)		30 minutes
Difference in Cost (Per retrieval)		\$78.90 - \$168.90 = - \$90.00
Based on 2 Retrieval per month		
Cost savings (Monthly)		- \$90.00 x 2 = - \$180.00
Cost savings (Annualised)		- \$180.00 x 12 = - \$2160.00
Time savings (Annualised)		30 x 2 x 12 = 720 min (12 hours)

Lessons Learnt

- Enhanced communication between various platform
- Buy in!!
- Working as a team
- Commitment to a changing behaviour both as an individual and to the organization
- Conducting weekly drill is challenging yet it empowered the ICU staff with higher efficiency in care

Strategies to Sustain

- Continue to review each retrieval through retrieval log, evaluate and monitor gaps if any.
- Staff compliance to the protocol
- Maintain routine of frequent retrieval drill for staff and provide debriefing session
- Continue engagement with general ward team to provide updates on areas performed well or share any concerns to improve patient's safety
- Include retrieval drill as part of NCID ICU unit-based competency for new staff