Project Title

Nurse-Led Anaesthetic Discharge in Post Anaesthesia Care Unit in Perioperative Settings

Project Lead and Members

Project Lead(s): Dr Lye Soh Teng, Senior Consultant, Anaesthesia

Project Members:

- Lai Foon Wan Anne, Nurse Manager
- Dr Bin Wern HsienSenior Consultant & Head, Anaesthesia
- Adj. A/Prof Edwin Seet, Senior Consultant, Anaesthesia
- Alice Leong Foong Wah, Deputy Director, Nursing Peri-Ops
- Jhoanna Napay Castillo, Senior Staff Nurse
- P. Sivamalar A/P Palaniappan, Nurse Clinician

Organisation(s) Involved

Khoo Teck Puat Hospital

Healthcare Family Group(s) Involved in this Project

Medical, Nursing

Applicable Specialty or Discipline

Anaesthesiology, Peri-Operative

Project Period

Start date: 2018

Completed date: 2022

Aim(s)

To enhance quality and care experience to our surgical patients by transforming care via training & empowering nurses to discharge post-surgery patients from Post Anaesthesia Care Unit (PACU).

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

This project is related to a project titled Nurse-Led Anaesthetic Discharge in Post Anaesthesia Care Unit in Day Surgery Centre (NLAD).

Project Category

Workforce Transformation, Job Redesign

Training & Education, Assessment, Workplace Based Assessment

Keywords

Improvement Tools, Lean Six Sigma

Name and Email of Project Contact Person(s)
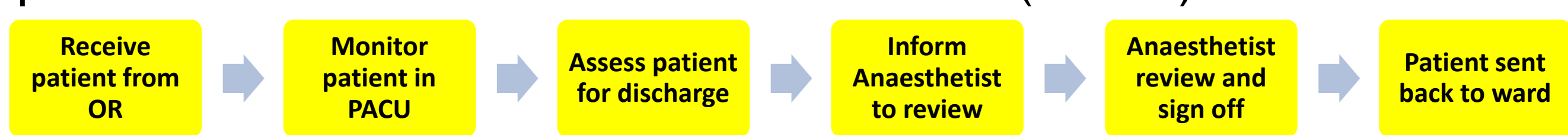
Name: Dr Lye Soh Teng

Email: lye.soh.teng@ktph.com.sg

Nurse-Led Anaesthetic Discharge in Post Anaesthesia Care Unit in Perioperative Settings.
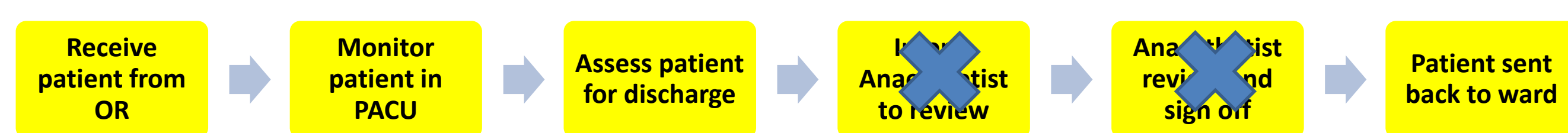
[1]Lai, F.W.; [1]Law, P.S.; [1]Leong, A.; [1]Shao, M.; [1]Castillo, J. N.; [2]Seet, E.; [2]Lye, S.T.; [2]Cheong, G.; [2]Bin, W.H.

Day Surgery Centre[1], Anaesthesia Department[2]

Khoo Teck Puat Hospital
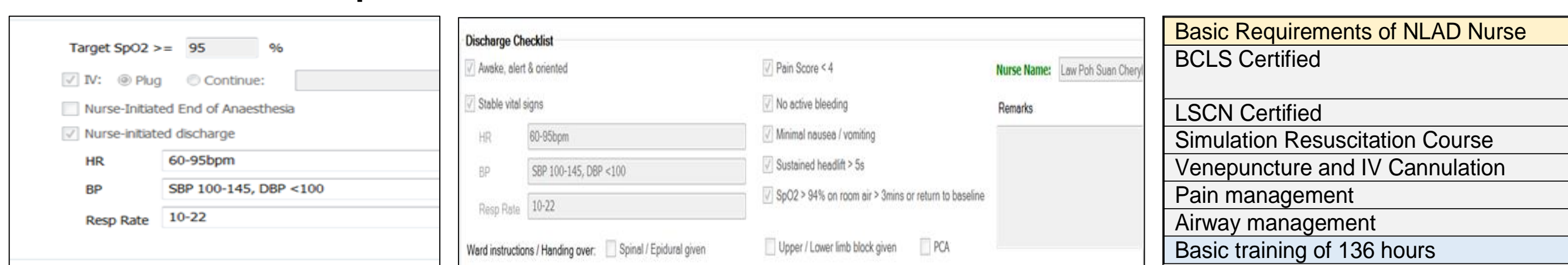
Background and Aims

This is a collaborative project by Department of Anaesthesia and Perioperative Nursing Team. The **Nurse-Led Anesthetic Discharge (NLAD) initiative aims to enhance quality and care experience to our surgical patients** by transforming care via training & empowering nurses to discharge post-surgery patients from Post Anaesthesia Care Unit (PACU).

| Receive patient from OR | → | Monitor patient in PACU | → | Assess patient for discharge | → | Inform Anaesthetist to review | → | Anaesthetist review and sign off | → | Patient sent back to ward |

As-was process involves a lot of coordination, communication and hand-over of cases.

| Receive patient from OR | → | Monitor patient in PACU | → | Assess patient for discharge | → | ~~Inform Anaesthetist to review~~ | → | ~~Anaesthetist review and sign off~~ | → | Patient sent back to ward |

To-be process, NLAD utilized a trained nurse to provide post-operative anesthetic care and authorized them to discharge patient under their care, supported by protocol guidance and Anesthetist supervision.

	Basic Requirements of NLAD Nurse
	BCLS Certified
	LSCN Certified
	Simulation Resuscitation Course
	Venepuncture and IV Cannulation
	Pain management
	Airway management
	Basic training of 136 hours

Methodology

Nurses are trained in **Basic Modules 136hours and specific structured curriculum of 13 hours** with E-learning as yearly competency. **Basic training** - Anaesthesia nurse trained with BCLS, ECG interpretation, Life support course for nurses (LSCN), Simulation Resuscitation, Venepuncture and IV Cannulation, Pain and airway management (66hours) and 70 hours of on-the-job training.

Specific training - Structured curriculums (2 hours E-lecture modules were co-developed to train and certify the nurses for the expanded job scopes, 4 hours of NLAD lectures and 7 hours of NLAD OJT, making it 13 hours of specific training. E-learn lectures and modules are formulated and established in the training system.

(Specific Structured Curriculum)

Unfreeze (Readiness to Change)	Change (Implementation)	Refreeze (Integrate and Sustain)
• Educate & Inform all stakeholders • Plan objectives, resources, • time scales • budget • Organize work plans • Appoint team leads and members	• Praise & Encourage • Recognition and Empathy • Coach & Train • Lead & Manage • Regular Feedback • Provide Resources	• Set performance indicators • Monitor & Evaluate performance • Establish systems & control • Reward for new behavior • Consolidate & Sustain

(Lewin's Change Methodology)

Methodology

Unfreeze Process – For new staff, we apply unfreeze to prepare them for change.

Change Process– For existing staff, we encourage and provide continuous support and recognition through completion of their re-accreditation.

Refreeze Process – Continuous monitoring of process is carried out to ensure potential gaps were closed. Competencies were reviewed yearly to ensure new training requirements are included. Cases will be audited retrospectively for tracking NLAD performance.

Results and Project Impact

Since implementation, a total of **7956 NLAD cases** were successfully carried out uneventfully.

Improved Discharge Times
Patient's stay in the PACU is effectively preventing bottleneck.

	As Is Workflow	To Be Workflow
Discharge Time (when patient is ready for discharge)	10 to 15mins	0 mins (no need for Anaesthetist to review)

Dedicated Trained Staff : To date,
19 AU nurses are trained competent to carry out NLAD.

Time Savings: Time needed to review patient is negated.

Initiatives / Measurement and Impact	Hospital savings	Patient savings and care	Productivity
Nurse-led Discharge of Post Anaesthesia Care Patients in Day Surgery Centre	Time-Savings: Time needed to review patient is negated. **GA Time Savings: 40 Mins** **MAC Time savings: 10mins**	**Care process is streamlined.** Patient Savings Patients do not need to stay longer in recovery unit resulting in faster discharges. Cost avoidance of additional charges to prolonged stay in recovery	Productivity savings Anaesthetist do not need to come out from OT to review the case in PACU. **Total time savings for 7956 patients: 119,340 mins = 83 days**

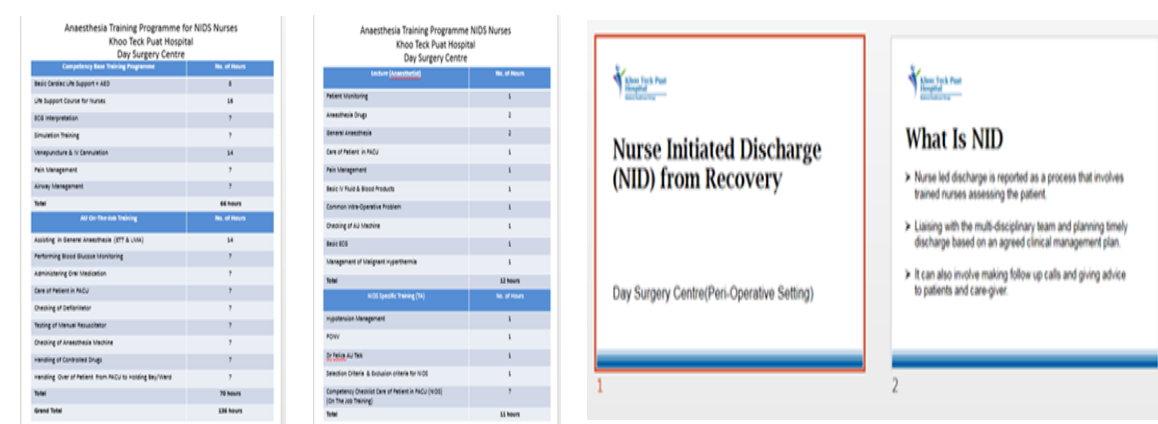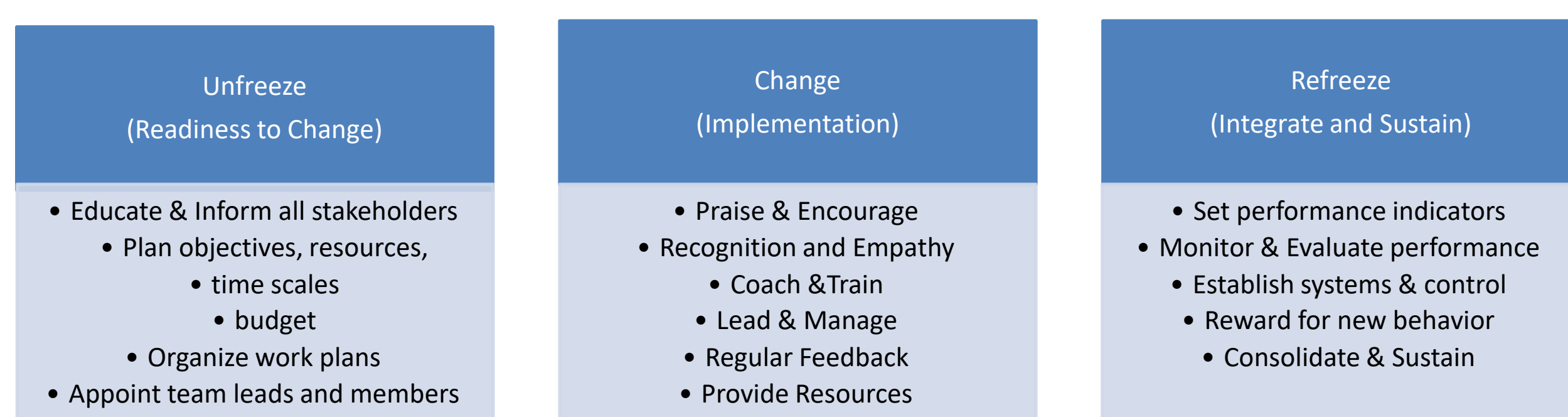**Positive Feedback from Stakeholders:** Nurses are more confident in their work.

Project impact included: Reduced delayed patient discharges, empowering nurses, no added cost involved and streamlined care processes.

Reduced Delayed Patient Discharges
• Nurses are empowered to make decision to assist in timely discharges
• Bottleneck discharges are avoided

Empowering Nurses
• Shape culture of responsibility & ownership to patient
• Initiate the drive to follow through the care

No added cost involved
• Tapping on current resources
• Outsource of traning resources are not required

Streamlined Care Processes
• Both Anaesthetist and Nurse gives undivided care in the surgical episode.

Sustainability and Follow-Up

Control and sustainability plan is via *Lean Six-Sigma* and *Lewin's Change Methodology* to continuous monitor and evaluate the changed process.

| Unfreeze | ⇒ | Freeze | ⇒ | Refreeze |

Process Standardization	• Standardized Training Structure • Standardized workflow
Focused Improvement	• Team members empowered to identify & resolve problem(s) themselves. Problem-solving can be shared retrospectively for case-learning.
Mistake Proofing the Process	• Standardized Operating Procedures • Standardised Training Methodology • Simulation Exercises
Monitoring	• Control Charts to monitor progress

This project involves the integration and coordination to become a standardised care path, communication is done among team members founded on **mutual respect and professionalism, collaborative approach and collective leadership, value-add, patient-centric, coordinated care.**

Conclusion

NLAD success is accredited to 4 main supports namely, **leadership support**, **robust training and accreditation system**, **standardized workflow** and **acceptance of change**. NLAD has consistently achieved optimal operational efficiency, manpower productivity and enhanced nurses' professional standing.