Streamlining the efficiency of pre-operative nurse led clinic in the development of clinical pathway of a surgical patient

Louise Nortje[1], Consolacion Rhea T. Obado[2]

Nurse-led preoperative assessment has been introduced in different specialty areas to assess and prepare patients preoperatively in order to avoid last-minute surgery cancellations. Not all patients are referred to POACs before surgery, and the benefits of nurse-led clinics are not well documented in Hong Kong. The purpose of this systemic review was to identify the best available research evidence to inform current clinical practice, guide health care decision making and promote better care.

Key words: *Nurse-led preoperative assessment; Clinical pathway*

INTRODUCTION

Nurse led pre-operative clinics have been advocated as one of the effective health care services to conduct the pre-operative assessment in order to prepare and optimized patients for surgery. It is defined as a clinic that provides a general assessment includes history taking, health assessment and physical examination. Such clinics are designed to optimize the medical condition of the patient before surgery and to reduce the rate of cancellations of surgery, thereby supporting the optimal utilization of resources and improving patient's overall experience with the services provided by the PONLC (Pre-operative Nurse Led clinic). In the event of an extended delay between the decision to admit for surgery and the actual admission patients will need to be re-assessed to ensure their fitness for surgery, this will be an integrated team who will also be responsible for the coordination and management of the admission and surgical procedure.

LITERATURE REVIEW

Traditionally, pre-operative assessment is within the remit of the medical professional mainly conducted by the doctors or the anesthetist. Nowadays, some of the Pre-operative assessment clinics are operated and coordinated by the nurse practitioner. Nurse-led pre-operative assessment clinics have been introduced in different specialty areas and widely implemented in the health agency of different countries, to assess and prepare patients pre-operatively in order to avoid last-minute surgery cancellations [1]. The NHS Institute for improvement and Innovation [2] notes that pre-operative assessment helps to ensure that patients understand their procedure and are well informed; in good health before their procedure and have the best chance of good post-operative recover [3].

The Royal College of Anesthetist [4,5] describes pre-operative assessment services as "fundamental to high quality". They advise that all patients undertaking elective surgery should attend a pre-operative assessment clinic, and this assessment should happen as early as possible in patient's surgical pathway so that obstacles can be overcome and discharge arrangements can be made [3].

Highlight the issue/gaps at KFMC including the baseline data

The baseline data for OR cancellation rate in 2018 was > 20%, higher than the target which is <15%.

The project team identified that currently in KFMC, there is no available pre-operative nurse led clinic service to ensure that the patients scheduled for planned elective surgery is optimized.

Increasing OR efficiency through parallel processing while striving to provide high-quality, technologically advanced surgical services is of the utmost importance to the ORSA.

The multidisciplinary project team will focus on streamlining the existing steps that are involved with the perioperative (PO) patient care.

- How to better increase operating room ergonomics and organization.

- How to identify and to eliminate delays in the operating rooms as a whole

- Whether shortening a given variable in the operating room could actually make a meaningful impact on increasing case volume.

PROJECT GOALS

- To achieve greater than 80% of the Operating Room Utilization by the end of the 4th quarter of 2019.

- To reduce OR Cancellation to less than 15% by the end of 4th quarter of 2019.

- To increase rate of Prevented OR Cancellation to greater than 10% by the end of 4th quarter of 2019.

METHODOLOGY OVERVIEW

Method: FOCUS-PDCA Methodology was used in this project.

Opportunity/process for improvement: The baseline data for OR cancellation rate in 2018 was > 20%, higher than the target which is <15%. The project team identified that currently in KFMC, there is no available pre-operative nurse led clinic service to ensure that the patients scheduled for planned elective surgery is optimized.

Organize a team to improve the process: The multidisciplinary project team will focus on streamlining the existing steps that are involved with the perioperative (PO) patient care (Figures 1-4)

Select the potential process improvement:

- To achieve greater than 80% of the Operating Room Utilization by the end of the 4th quarter of 2019.

- To reduce OR Cancellation to less than 15% by the end of 4th quarter of 2019.

- To increase rate of Prevented OR Cancellation to greater than 10% by the end of 4th quarter of 2019.

RESULTS AND DISCUSSION

- Opened the first Pre-Operative Nurse Led Clinic at KFMC in November 2018.

- Policy developed for PONLC, to be published as ORSA regulatory document.

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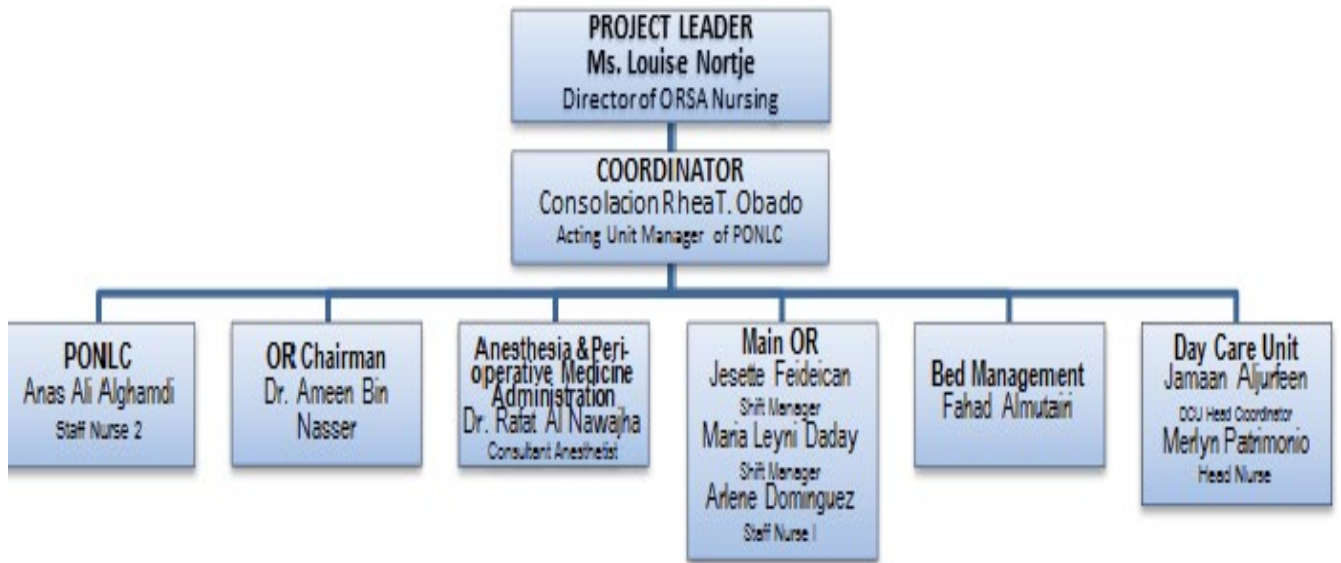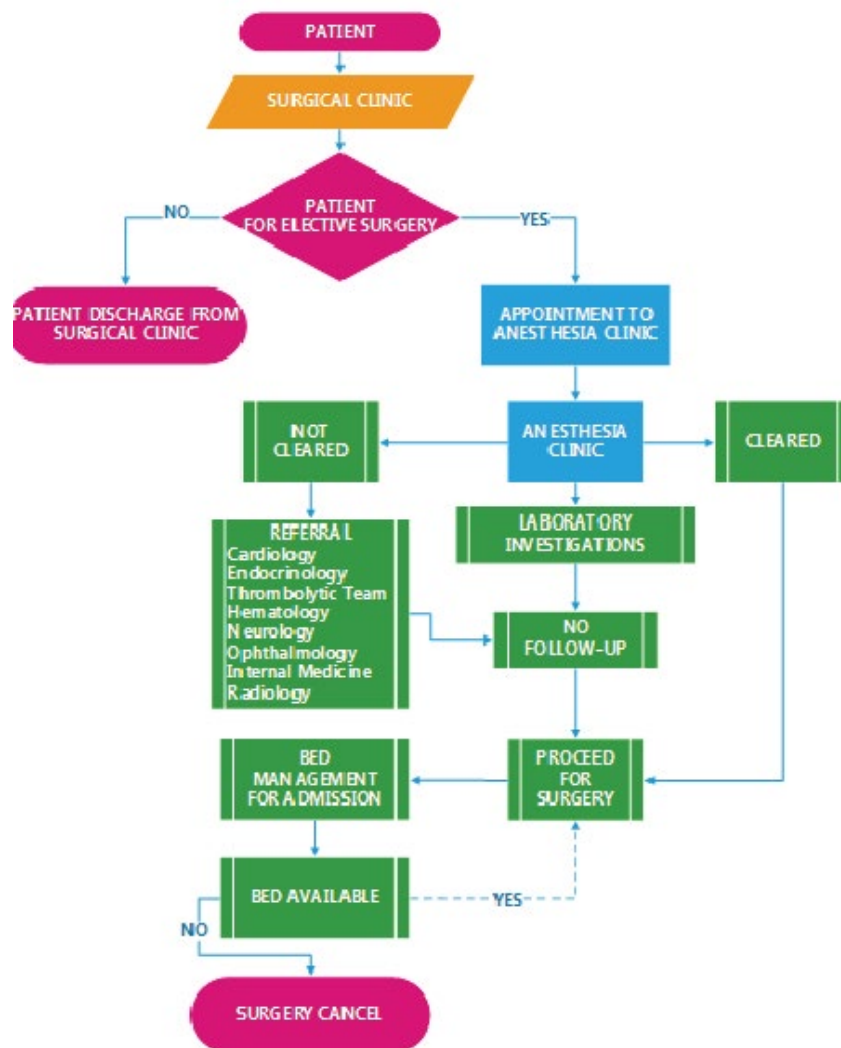
Figure 1) *Organization chart.*

Figure 2) *Current process clarification.*

- Standardized pre-op checklist for in-patient, walk-in patients and bed management developed and implemented.

Scope of Services developed for PONLC which includes the following:

- Calling of patients

- Visiting in-patients

- Communication with the Anesthesiology team

- Communication with the Surgical Team

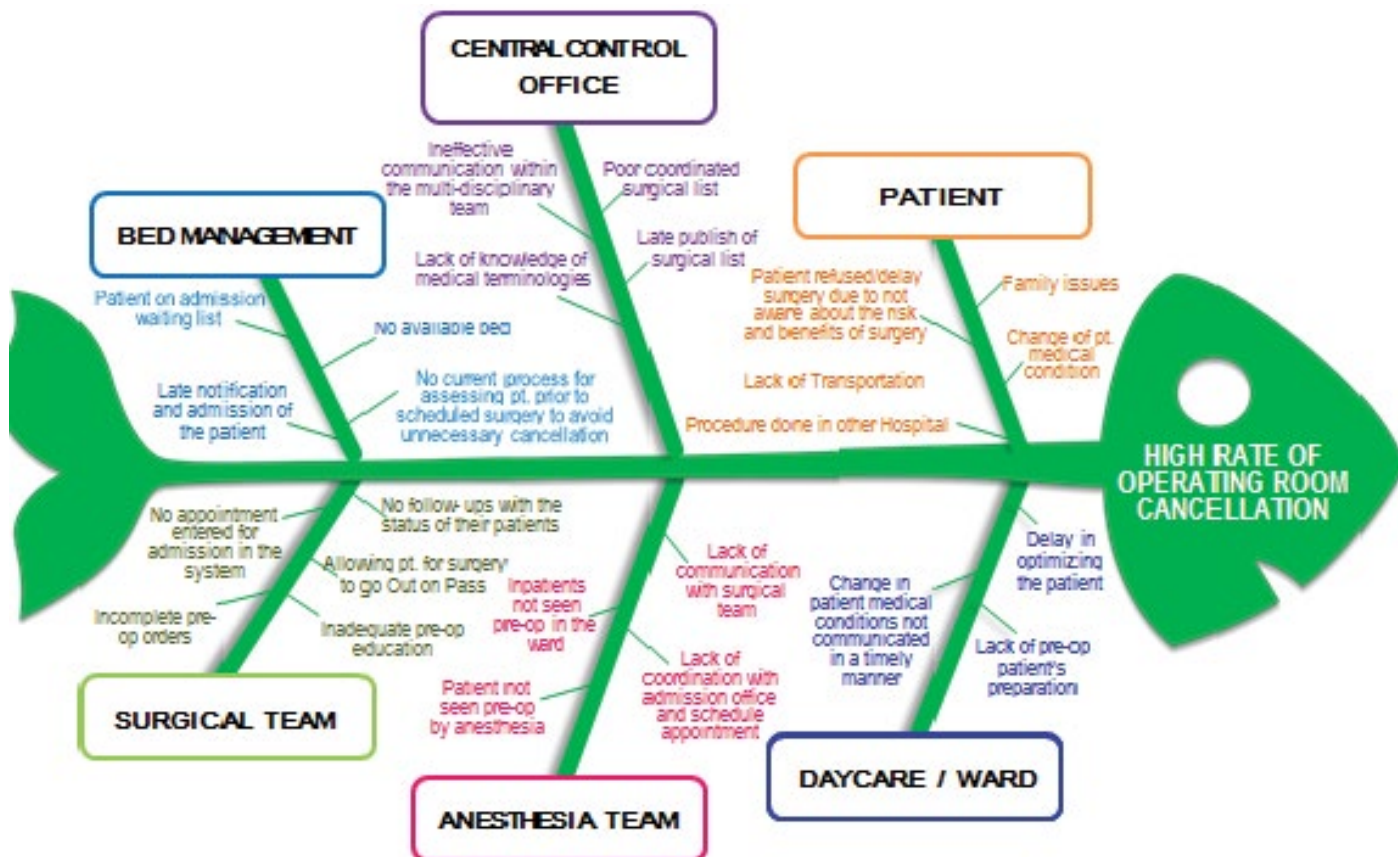- Received patient in PONLC as walk-in

Figure 3) Understanding the problems.

Task	Responsible Person	Status
Formation of project Team	Ms. Louise Nortje	Completed
Pre- & Post Data Collection	PONLC & Project Team	Ongoing
Development of Scope for PONLC	Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Ongoing
Opening of PONLC	Dr. Ahmed Al Ghamdi Ms. Louise Nortje	Completed
Develop Checklist for In-patient and Walk- in patients	Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Completed
Develop Bed Management Checklist for Elective Patient for Admission	Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Completed
Develop PONLC database	Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Completed
Meeting with DCU to improve optimization of patient for surgery	Dr. Ameen Bin Nasser Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Completed
Meeting with Wards to improve optimization of in-patient for surgery.	Dr. Ameen Bin Nasser Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Ongoing
Develop Patient Satisfaction survey questionnaires	Ms. Louise Nortje Ms. Consolacion Rhea T. Obado	Completed

Figure 4) *Plan the project, assign tasks.*

KPI'S (OR CANCELLATION) RESULT COMPARISON
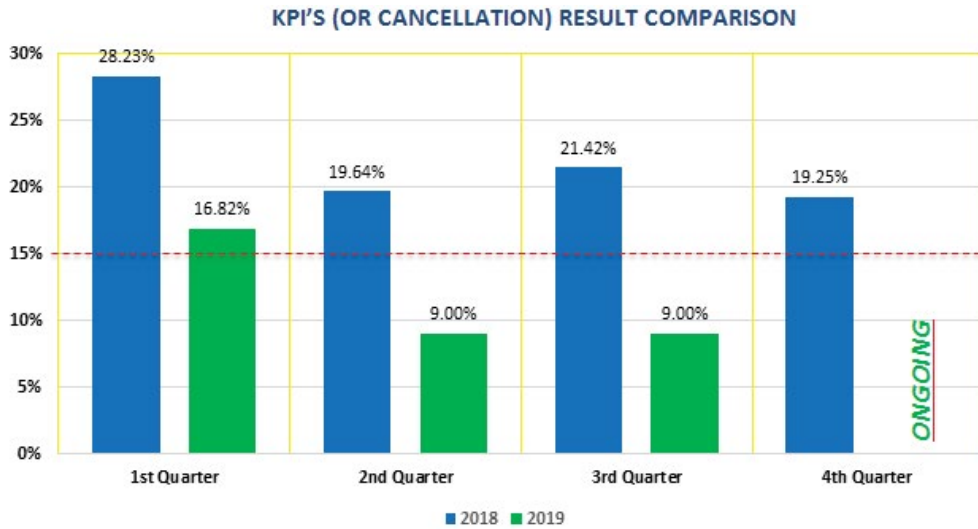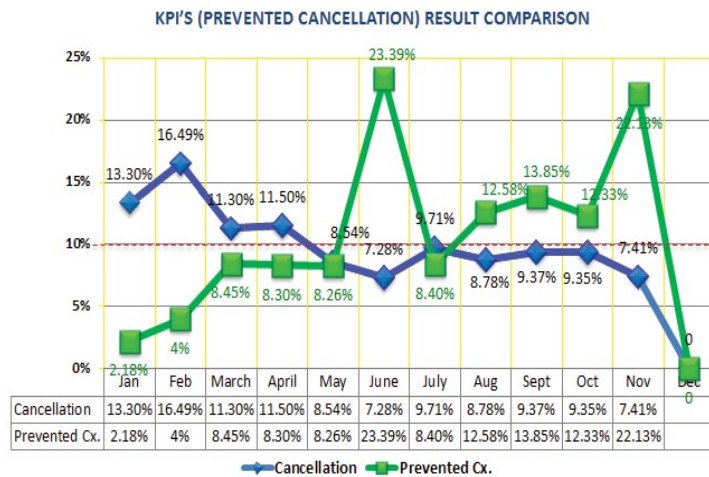

OR Cancellation in the 2nd Quarter and 3rd Quarter of year 2019 has been reduced to 9%

Figure 5) *KPI's (or cancellation) result comparison.*

KPI'S (OR UTILIZATION) RESULT COMPARISON
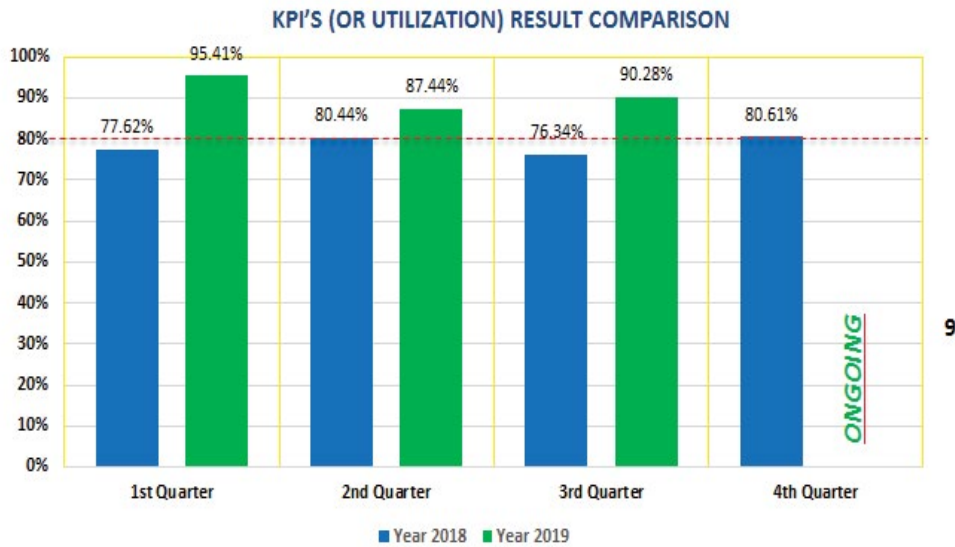
OR Utilization has been achieved to greater than 80% from 1st Quarter & 3rd Quarter of year 2019.

Figure 6) *KPI'S (or utilization) result comparison.*

KPI'S (PREVENTED CANCELLATION) RESULT COMPARISON

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Cancellation	13.30%	16.49%	11.30%	11.50%	8.54%	7.28%	9.71%	8.78%	9.37%	9.35%	7.41%	
Prevented Cx.	2.18%	4%	8.45%	8.30%	8.26%	23.39%	8.40%	12.58%	13.85%	12.33%	22.13%	

The above graph shows a significant decreased in OR cancellation from 1st Quarter to 3rd Quarter of 2019 through successful implementation of PONLC an increase in prevented cancellation rate is seen

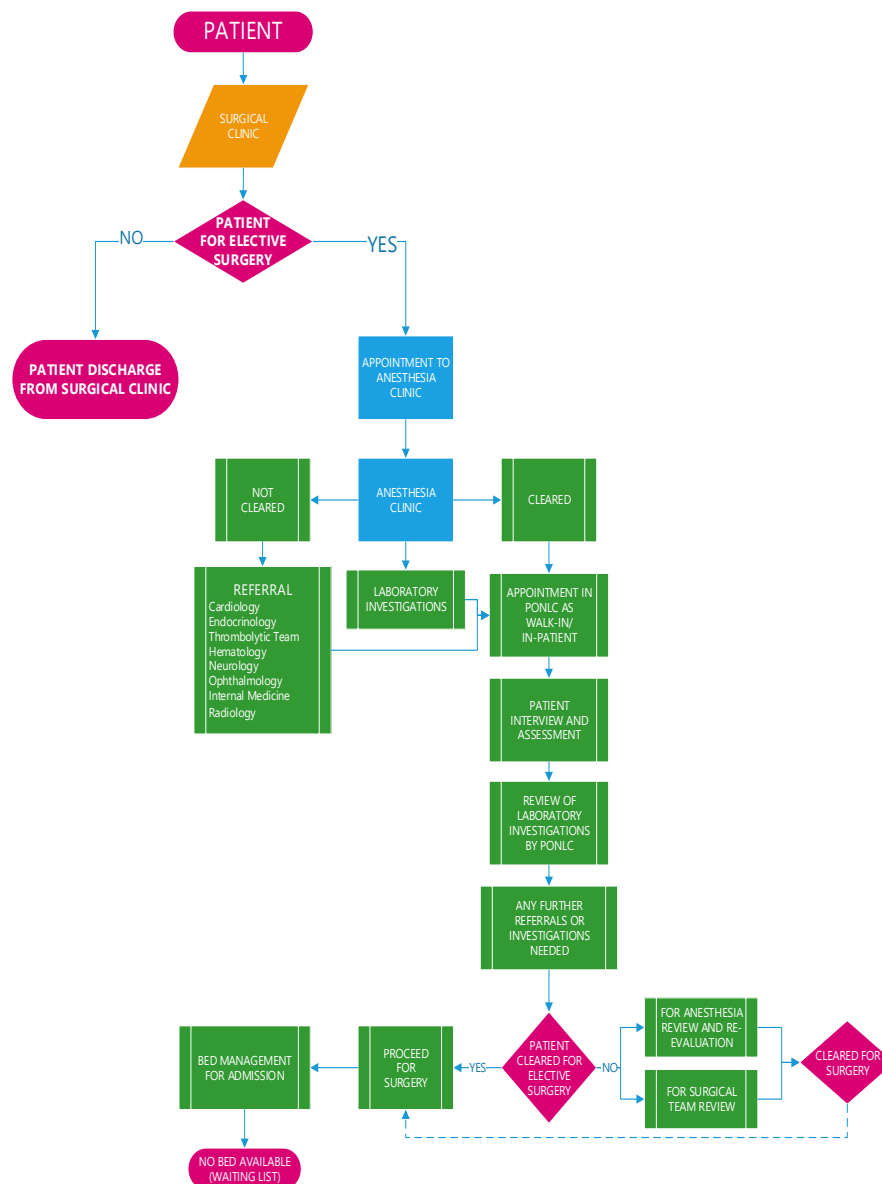**Figure 7)** *KPI'S (prevented cancellation) result comparison.*

Figure 8) *Modified clinical pathway of surgical patient.*

- Collaboration with:
- the Anesthesia team for process improvement
- the Day Care Unit to discuss optimization of patient pre-op
- Central Control Office to receive initial operative list on daily basis
- Surgical team to inform of any cancellations and for replacement
- Bed management to ensure bed availability of booked surgical patient
- Developed database for PONLC
- Modified Clinical Pathway of Surgical Patient (Figures 5-8)

Act to maintain the changes

- First PONLC successfully implemented in KFMC.
- PONLC database created and ongoing KPI monitoring.
- PONLC policy and scope of services developed.
- PONLC developed and implemented a standardized checklist for in-patients, walk-in patients and Bed Management.
- Continuous collaboration with the multi-disciplinary team (Surgical, Anesthesia, Day Care Unit, Central Control Office and Bed Management).

CONCLUSION

We were successful in the implementation of the first Pre-Operative Nurse Led Clinic in KFMC and collaboration with multidisciplinary team has optimized the patient's pre-operative journey, with a steady increase in the number of prevented cancellations. The impact thereof is evident through the increase of OR Utilization and decrease of OR cancellation on daily basis.

LESSONS LEARNT

Major lessons learned from our experience and through our project implementation include the following:

- Encouragement of patient adherence to comply with the scheduled surgery.
- Effective communication with the surgical and anesthesia team to improve patient satisfaction and promote good rapport within multidisciplinary team.
- Awareness of the staff experiences and skills to deal with challenges that optimized the efficiency and effectiveness of PONLC.
- Active engagement of the staff in the understanding of Clinical Pathway of a surgical patient journey to Operating Room.
- The nurse-led practice has led to optimization of patient's condition before surgery through early communication with the respective

surgical team and anesthesiology team and hence minimized elective surgery cancellations.

RECOMMENDATIONS AND SUSTAINABILITY PLAN

What is the main message based on the experience that you would like to convey to others?

There is huge significant impact of the importance of continuity collaboration and communication with the multi-disciplinary team to improve process in the clinical pathway of a surgical patient journey to the operating room hence improving overall patient experience in delivering high quality of care that increases OR Utilization thus decreasing OR Cancellation.

How do you sustain the improvement and ensure the continuity of this project in the future?

The sustainability of our achievements is ensured through the following initiatives:

- Designated Pre-Operative Nurse LED clinic with staffs.
- KPI Monitoring
- Database for PONLC
- Patient Satisfaction Survey
- PONLC Pre-operative checklist for In-patient, Walk-in patient and Bed Management.
- Calling of elective booked patient as per Operating Room official OR list.
- Campaign awareness in the Surgical Clinic, Anesthesia Clinic, Day Care Unit, Wards and Central Control Office.

- Modification of the current process of Patient Surgical Clinical Pathway.
- Mandatory Pre-Operative Assessment of all elective patient in PONLC.
- Standardization of Surgical Patient Flow for Elective Surgery.
- Implementation and Standardization of parameters in pre-operative assessment of Elective Patient.

To ensure multidisciplinary team the existence of the Pre-Operative Nurse Led Clinic in the journey of a surgical patient for elective surgery. Campaign Awareness has been initiated to multidisciplinary team members to deliver awareness and optimization of patient's readiness. This project aimed to produce a more patient- centered service by increasing standard of work to increase efficiency of patient safety and effectiveness of the PONLC.

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