

Early Post-Operative Nutrition Optimisation for Elective Colorectal Surgical Patients



Adding years of healthy life

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Mission Statement

To improve percentage of post-operative days that meet nutrition targets on ERAS protocol* in post elective colorectal surgical patients from 44% to 80% (stretch goal 100%) within the next 6 months.

*ERAS Protocol nutrition targets

POD $0 \ge 300$ Kcal, POD $1 \ge 600$ Kcal, POD $2 \ge 600$ Kcal, POD $3 \ge 600$ Kcal

| Team Members | | | | |
|-----------------|---------------------------------|------------------------------|-----------------------|--|
| | Name | Designation | Department | |
| Team Leader | Ms Ong Yawei | Senior Dietitian | Nutrition & Dietetics | |
| Team Members | Mr Wong Hon Guan | Assistant Nurse Clinician | Ward 6C | |
| | Ms Norafida Bte Ismail | Nurse Clinician | Level 11 | |
| | Ms Feng Dongxia | Senior Staff Nurse | Level 11 | |
| | Dr Tham Hui Yu | Resident | General Surgery | |
| | Ms Gillian Chong | Dietitian | Nutrition & Dietetics | |
| Sponsor | Dr Lim Yen Peng | Head | Nutrition & Dietetics | |
| Mentors | Ms Zenne Tng & Dr Heng Wei Quan | | | |

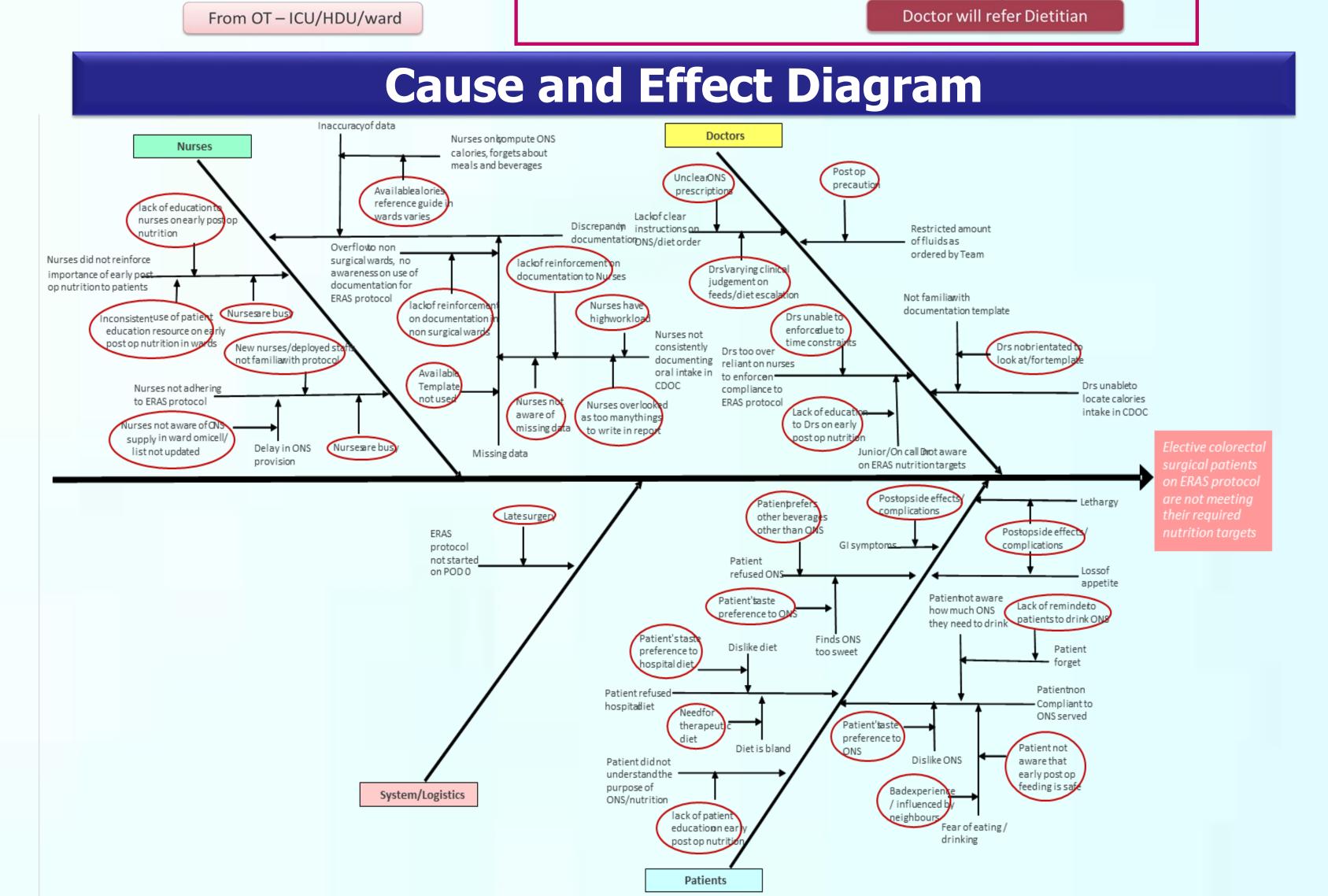
Evidence for a Problem Worth Solving

- Nutrition plays an important role in optimising and enhancing postoperative recovery.
- Studies have shown that early post-operative nutrition has been linked to significant reduction in total complications compared with traditional post-operative feeding practices and beneficial effects on outcomes such as mortality, anastomotic dehiscence, resumption of bowl function or hospital Length of Stay (LOS).
- Better adherence (>70%) to the ERAS protocol (which includes early post-operative nutrition) has shown to improve surgical outcome following major colorectal cancer surgery.

Current Performance of a Process

Observational audits conducted from 1 Feb 2021 to 25 Jul 2021 revealed that the percentage of post-operative days that meet nutrition targets for elective colorectal surgical patients is 44%.

Flow Chart of Process MACRO FLOW **MICRO** Patient seen in GS clinic for Post Op in 6C/GW **FLOW** Nurses will assess patient by taking GS Doctor identify patients arameters and fitness for feeding who require dietetics services (via nutrition screening) Doctor will review patient post Op Patient seen in PACE Pre lurses follow order in Op notes to Admission Counselling If dietitian required - Same Nurses will serve ONS to patient as day dietitian consult in PACE tolerated, starting with 1 bottle and increase as tolerated Day surgery for Operation Nurses will chart calories in I/O chart and at every shift using ERAS template CANNED text in CDOC Patient in Operating theatre for surgery Patients with nil nutritional Patients with nutritional issues From OT – ICU/HDU/ward issues post op post op i.e. poor oral intake



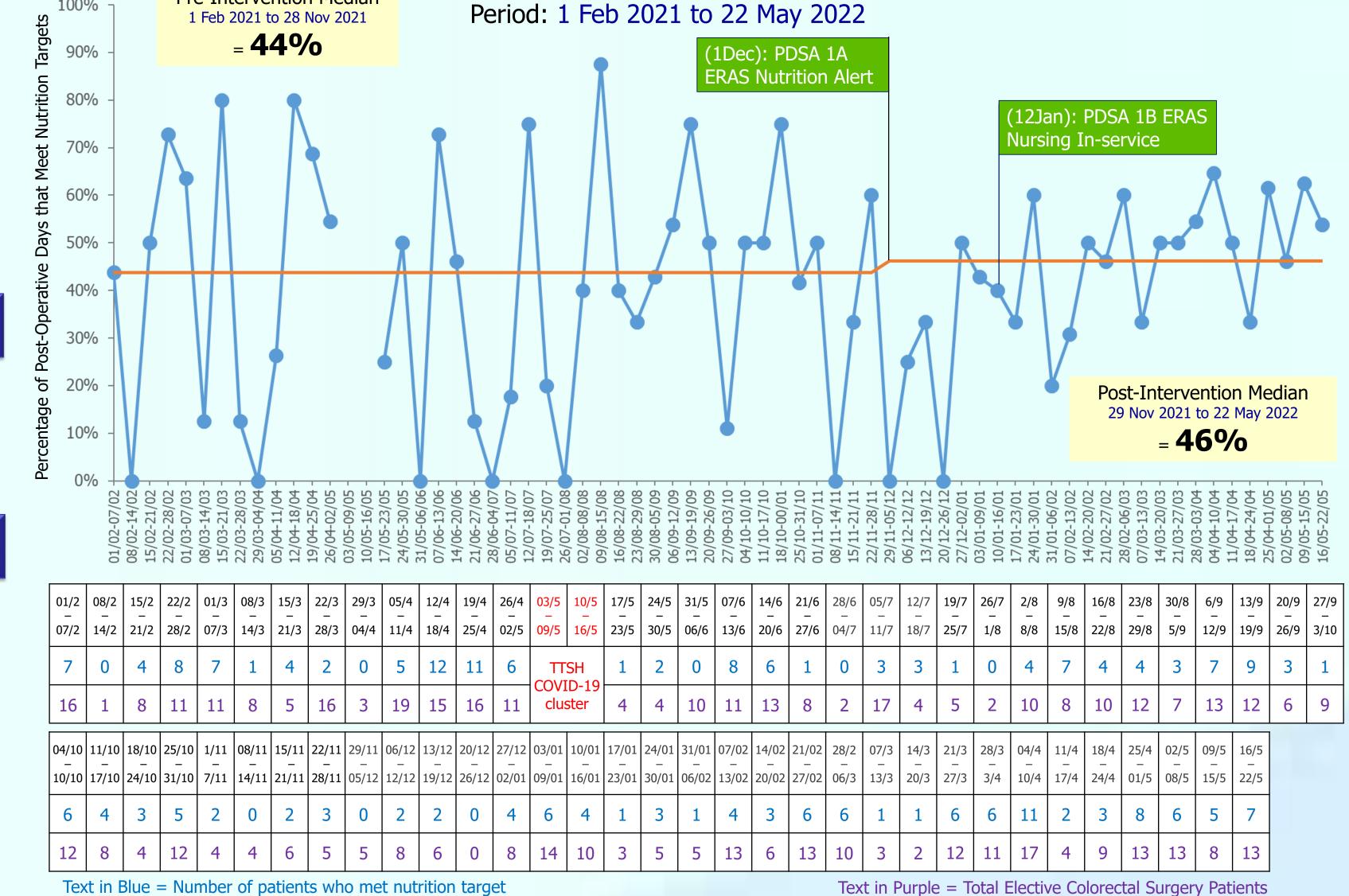
Pareto Chart Causes that led to Colorectal Surgical Patients Lack of reinforcement on **Not Meeting their Nutrition Targets Cause A** documentation to Nurses 100 Patient's taste preference to ONS **Cause B** Lack of patient education on early post **Cause C** op nutrition Nurses have high workload **Cause D** Post op side effects / complications **Cause E** Doctor's varying clinical judgement on **Cause F** feeds / diet escalation Lack of education to nurses on post op **Cause G** nutrition Cause Cause Cause Cause Cause Cause Cause Unclear ONS prescriptions **Cause H Main Concerns**

| Implementation | | | | |
|---|--|---------------------|--|--|
| Root Cause | Intervention | Implementation Date | | |
| Cause A: Lack of reinforcement on documentation to Nurses | ERAS Nutrition Alert (visual cue, easy reference and reminder) | 1 Dec 2021 | | |
| Cause D: Nurses have high workload | | | | |

Results

Percentage of Post-Operative Days that Meet Nutrition Targets for Elective Colorectal Surgery Patients

Pre-Intervention Median



Cost Savings

- Taking reference from literature review (for the analysed group of patients who able to tolerate oral diet on the first post-operative day), the number of bed days saved per patient is 3 days.
- Potential cost savings for inpatient stay per patient: \$3,342 (unit cost for inpatient stay per patient per day = \$1,114).
- Assume that the number of elective colorectal surgical patients that could benefit from the intervention in 1 month is 6 patients.
- Total number of bed days saved in 1 year is 216 days (equivalent to \$240,624 a year).

Lessons Learnt

- During COVID, due to manpower deployment and also closure of wards. The surgical patients are not going to level 11 like they used to. Even though surgical HD (ward 6C) and level 12 was targeted for intervention, some still went to other wards during COVID.
- Even though ERAS champions were engaged to disseminate the information to the Nurses, it was observed that Nurses may not understand the value / intent of the alert. This may indicate the need for in-depth education prior to roll out.

Strategies to Sustain

- Future plans to explore integrating some components of the ERAS Nutrition Alert into NGEMR
- Increase awareness among nurses
- Continue monitoring of compliance data and sharing of data with ERAS champions