

## Reduction in Superficial Incisional Surgical Site Infections (SSIs)

Dr Liu Huimin

huimin\_liu@ttsh.com.sg



### Problem Statement

- Surgical site infections (SSI) are common healthcare-associated infections that are largely preventable. Patients with SSI have prolonged hospital stays, increased costs and decreased quality of life.
- Baseline data of Superficial Incisional Surgical Site Infections (SSI) Rate for Open Emergency Abdominal Surgery Patients in the Department of General Surgery, from March 2021 to October 2021 showed a median of 23.1%.
- American College of Surgeons recommends the use of triclosan antibacterial sutures for wound closure. Changing of new gloves and using new instruments for wound closure, is also recommended.

### Project Aim

Reduce superficial incisional surgical site infections<sup>1</sup> (SSI) for patients undergoing open emergency abdominal surgery from 23.1% to 8% over a sustained period.

<sup>1</sup> Spreading erythema or purulent discharge in or extruding from wound observed on direct examination

### Lessons Learnt

- PDSA cycles need to be repeated after a small sample size, so that we can do interim assessment and make relevant changes.
- Importance of technology - zoom/Whatsapp, quick discussions to implement quick changes and get quick feedback.
- Importance of obtaining feedback and consider the view point of various stakeholders, to increase compliance of wound closure bundle usage.
- Importance of implementing reminders (in the form of posters, message blasts) when making changes to protocols and workflows.

### Potential Solutions

#### Wound Closure Bundle Set



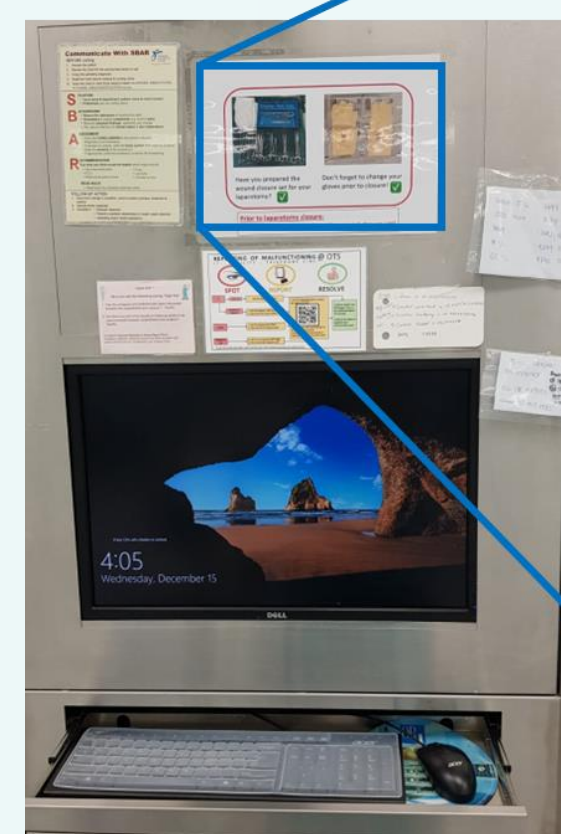
#### Standard:

1. Wound closure set
2. New gloves
3. Penny x 5 pieces

#### To check with Surgeons:

1. Anti-adhesive barrier (eg. Seprafilm)
2. Pre-peritoneal On-Q set
3. Local anesthetic (LA)
4. Sutures for closure
5. Skin stapler
6. Dressings
7. Drain bottles

Visual Reminder to Use Wound Closure Bundle Displayed in Operating Theatre



Have you prepared the wound closure set for your laparotomy?

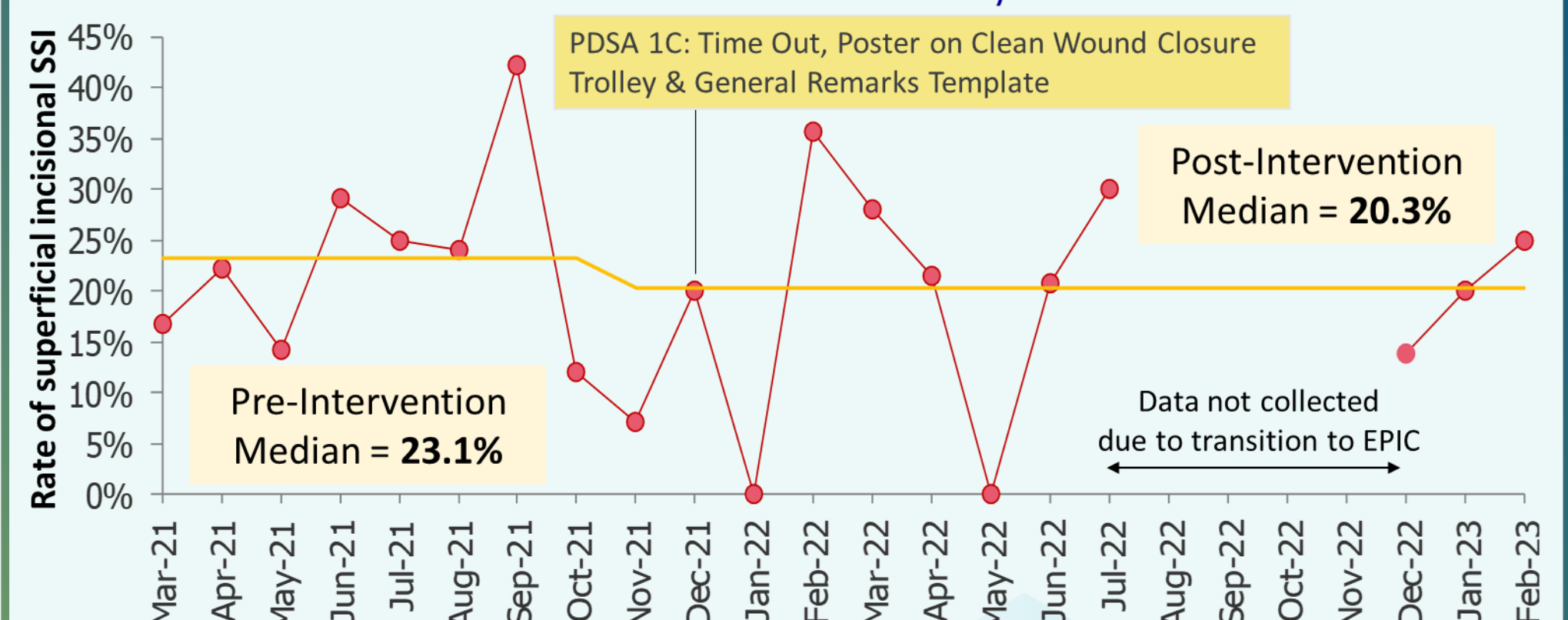


Don't forget to change your gloves prior to closure!

### Outcomes & Impacts

#### Monthly Superficial Incisional Surgical Site Infections (SSI) Rate

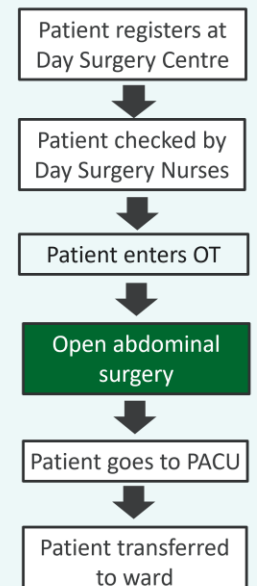
Period: March 2021 to February 2023



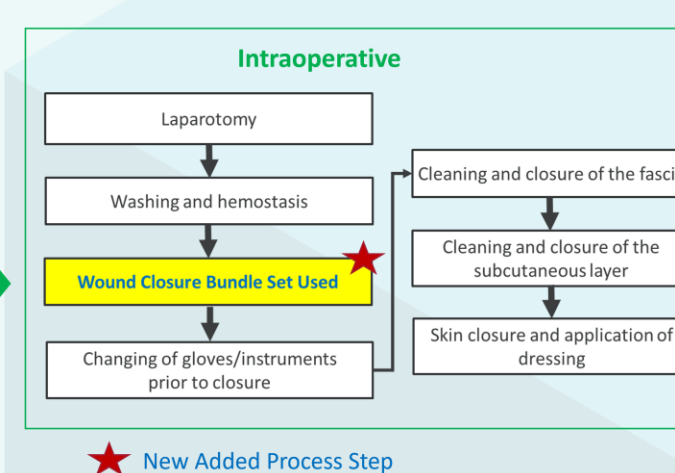
PDSA 1A: Introduce wound closure bundle | PDSA 1B: Briefing & Reminder on wound closure bundle

Month	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21	Sep '21	Oct '21	Nov '21	Dec '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	Jun '22	Jul '22	Aug '22	Sep '22	Oct '22	Nov '22	Dec '22	Jan '23	Feb '23
No. of Wound Infection	5	4	2	7	8	6	8	3	1	4	0	5	7	6	0	6	6	6	4	7	4			
No. of Abdominal Open Surgery Cases	30	18	14	24	32	25	19	25	14	20	16	14	25	28	21	29	20	29	35	16				

#### MACRO FLOW



#### Systemic Change



432 hospital bed days saved

Overall annual cost savings \$481,248