Implementing a "Bundled Intervention" aimed at reducing surgical site infections post caesarean section.

The highs and lows of the project at the half way mark.

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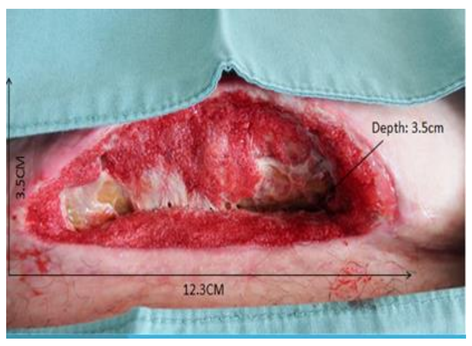
Background

At Tamworth Regional Referral Hospital (TRRH), an increase of Surgical Site Infections (SSIs) was identified in caesarean section (CS)cases at 2.7% compared to 1% Nationally to June 2017. (1)

Figure 1: Surgical site infection post caesarean section



A local clinical audit was completed on all women presenting with a SSI post CS based on The World Health Organisation Global Guidelines for the prevention of SSIs (2016). Common variations in care and gaps in best evidence care delivery across the care continuum treatment as follows:

- Emergency Caesarean section patients did not receive any pre-operative wash.
- The majority of women who acquired a post operative wound infections had a BMI >35.
- A povidone-iodine solution was used as a preoperative skin preparation.
- Antibiotic prophylaxis was not routinely given within therapeutic timeframe and poorly documented.
- All women, were given standard surgical dressings and post operative care, despite some having recognised risk factors such as obesity and diabetes (3).

Study aim

This study aims to evaluate the effectiveness of the implementation of an evidenced based Caesarean Infection Prevention (CIP) Bundle aimed at reducing SSI post CS.

Smith and Nephew Honey comb dressing for women who have a BMI <35 with no other risk factors.(5)

PICO Negative wound therapy for women who have a BMI 35-39 (5)

Negative pressure wound therapy (Prevena-KCI) for women whose BMI is >39 . (6)

Methods

Bundle development
The CIP Bundle combines multiple evidence-based infection prevention interventions into a single "care bundle" *(Figure 2)* based on review of current literature and collaboration with key stakeholders.
The bundle identifies patients with significant risk factors and modifies practice according to risk .

Implementation
Commenced in January 2018 through extensive education across disciplines and relevant departments.

Data collection
- Monitor bundle compliance for 12 months .
- Monitor SSI rate within 30 days of CS.

- ***Figure 2: The CIP care bundle***

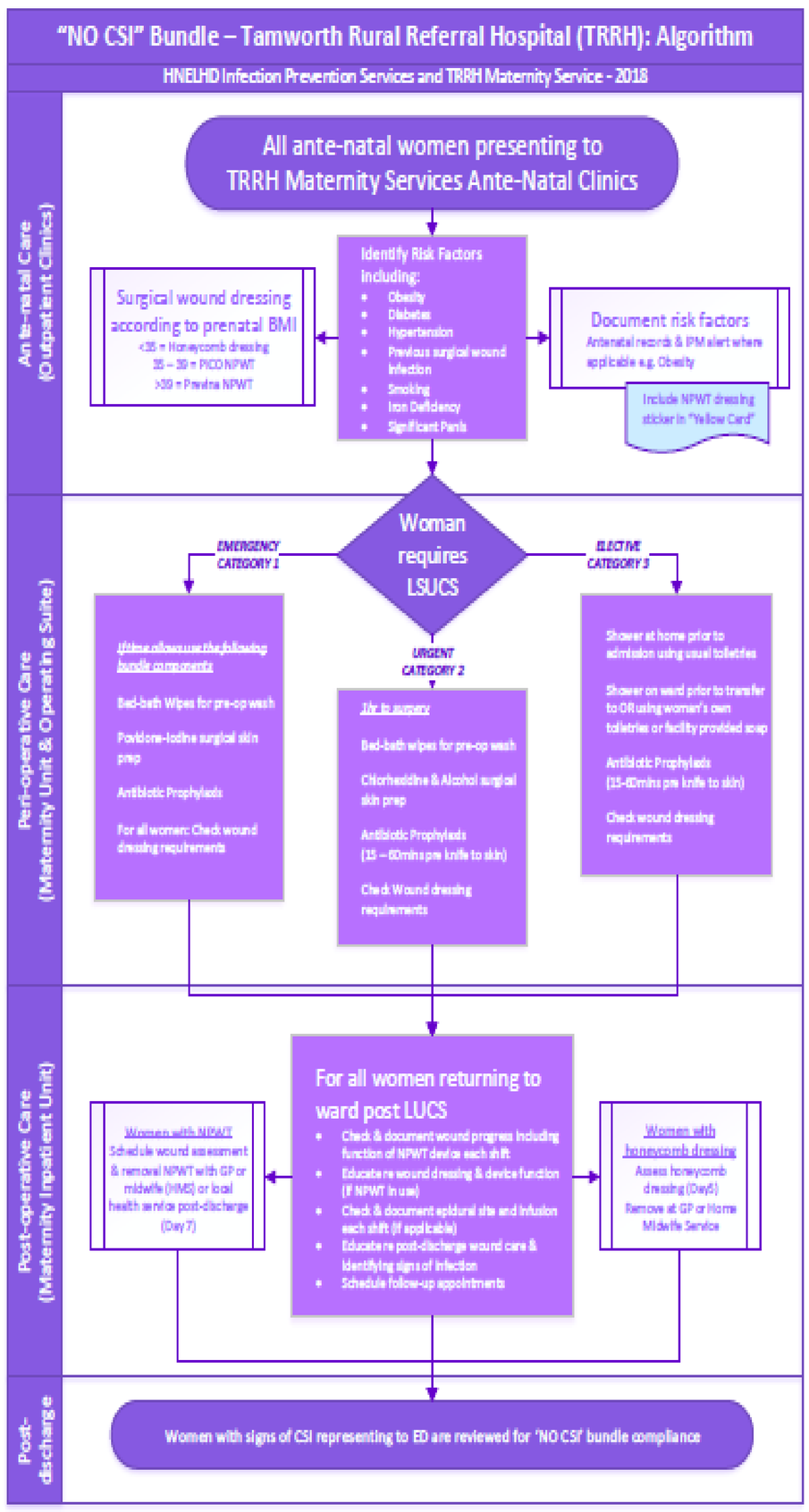


Figure 2: The Bundle components above that include antenatal through to post operative care interventions.

Interim Results to Date

From January 2018 -June 2018 the CS infection rate decreased from **2.7%** to **1.7%.**

The results are encouraging as bundle compliance is not 100% as detailed below.

What works well and is at higher compliance:
- Adoption of alcohol based surgical preparation
- Appropriate dressing choice.
- Choice of antibiotic prophylaxis
- Practice of pre-operative hygiene.

Factors that require improvement to maximise bundle compliance:
- Timing of antibiotic prophylaxis within therapeutic time frame.
- Documentation of antibiotic prophylaxis
- Documentation of knife to skin time.
- Documentation of pre-operative hygiene.
- Documenting post-op wound care progress.

Recommendations implemented to promote bundle compliance:

- Theatre nurses recording prophylaxis antibiotic and knife to skin within electronic theatre notes.

- Antibiotic prophylaxis time given is recorded on theatre white board for surgeon to view before knife to skin.

- Implementation of tick box sticker in theatre checklist to establish pre-operative hygiene has been attended.

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5. Photo reproduction with permission of Smith and Nephew.
6. Photo reproduction with permission of KCI.

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