GOING DEEPER – IMPLEMENTING ADDITIONAL MEASURES TO ENHANCE THE EFFECTIVENESS OF THE SURGICAL SITE INFECTIONS PREVENTION BUNDLE

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CONTEXT

Mediclinic Highveld is a 182-bed private hospital in Trichardt, Mpumalanga, South Africa with 77 surgical beds. The Surgical Site Infection (SSI) care bundle[1] was introduced in the surgical units in July 2012, as part of the Best Care... Always! campaign[2], to reduce surgical site infections. One year after introduction, the bundle was thought to be well established in all the units.

PROBLEM

However, the overall SSI rate did not improve and when the data for the first 12 months of the project was stratified, it revealed that only general surgical infections had improved and that orthopaedic and obstetric patients were still at risk[3]. It was evident that specific issues still needed attention in the obstetric and orthopaedic units.

INTERVENTION

A stretch aim was set for the obstetric unit to have zero post-caesarean section infections.

During January 2014 an informal discussion was conducted with numerous scrub nurses during which a number of pitfalls in hand hygiene were identified. We discovered that the soap that staff suffering from dermatitis were using to scrub was less effective than standard soap and that, in some cases, the scrub time and scrub technique was inadequate with scrubbing being only slightly better than a mere hand wash.

We rectified this by training scrub nurses in the use of alternative soap and to follow it up with alcohol handrub. Automated alcohol dispensers were placed in the scrub area. Scrub time was also discussed with some of the doctors. In addition, patients who had caesarean sections were taught to continue with an antimicrobial soap until their stitches were removed.

With regards to orthopaedic patients, a conference attended by our orthopaedic surgeons at which the SSI bundle methodology was discussed, helped with renewed insight and the doctors showed vigour in helping nurses to apply the different bundle elements. Doctors targeted receptionists working in the surgeries to ensure that patients visit the pre-admission centre where antimicrobial soap was handed out for use prior to admission. The Clinical Risk Manager introduced a method to discuss infections with other risk managers, as well as infection control specialists. This helped to meticulously apply the CDC definitions to every case to ensure the validity of the diagnosis. Although monthly Best Care... Always![2] meetings had started as early as April 2013, in March 2014 they were combined with Infection Control and Antimicrobial Stewardship meetings to make the data more meaningful. Allied health professionals (e.g. laboratory services) were also invited to these meetings and the nursing agency started to attend the meeting in order to give feedback to nursing personnel of the agency. In May 2014, a microbiologist joined our meetings and this gave enormous momentum to our Best Care... Always![2] initiative as well as our Antimicrobial Stewardship initiative. After the meeting the microbiologist visited challenging cases and assisted doctors with management options.

MEASUREMENT OF IMPROVEMENT AND RESULTS

Compliance to process measures of the bundle increased significantly and it was evident that interventions undertaken over a seven-month period impacted on the overall success rate; by the end of July 2014 the obstetric unit achieved 156 days without infection (with a previous best of 66 days) (Figure 1), septic orthopaedic cases dropped from a baseline median rate of 8.1 to a new median rate of 1.8/1 000 cases (Figure 2).

CHALLENGES AND LESSONS LEARNT

Stratifying our data last year showed that SSIs were occurring in particular groups of patients. We could then focus our attention on problems specific to these groups. We learnt we needed the multidisciplinary team to have 100% buy-in. Different people have different views on aspects of the bundle (like scrubbing), and implementation cannot be effective until the different views have been investigated and everyone starts to believe in the Best Care... Always![2] methodology as an improvement methodology. To get buy-in across all units takes more than a quick day's work.

MESSAGE FOR OTHERS

The five bundle elements are an excellent guide, but the bundle is more complex and can only be effective if all role players participate. A bundle is great as a general intervention, but it is important to go down to the coalface to identify and address specific challenges to bring everyone on board. Individual role players and allied healthcare workers should not be ignored when introducing a bundle and role clarification for everyone is very important.

Figure 1: Run chart showing a period of 156 days without infection in the obstetric unit. The arrow marks the start of the renewed intervention focus.

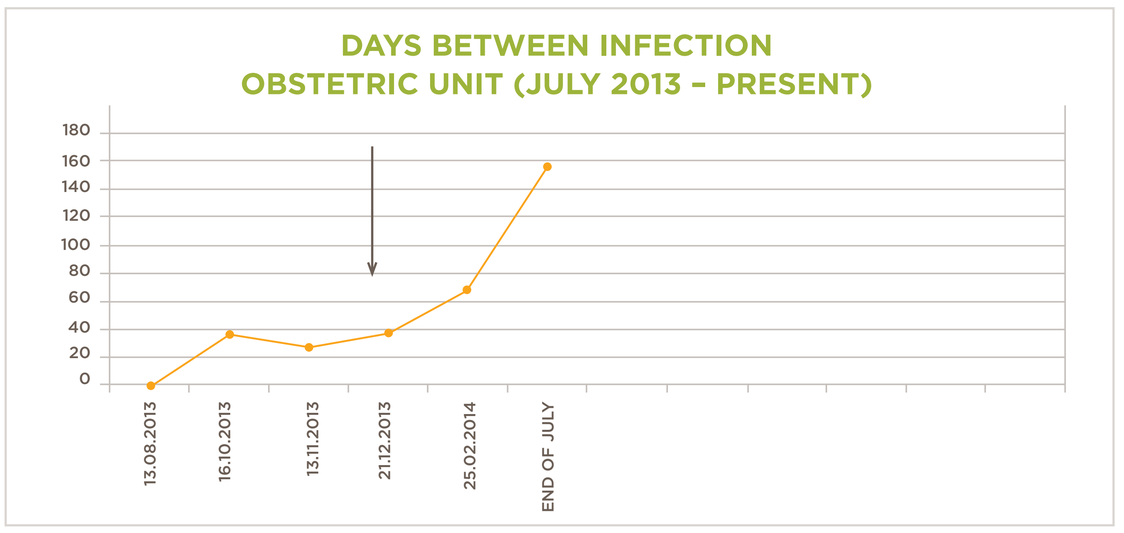
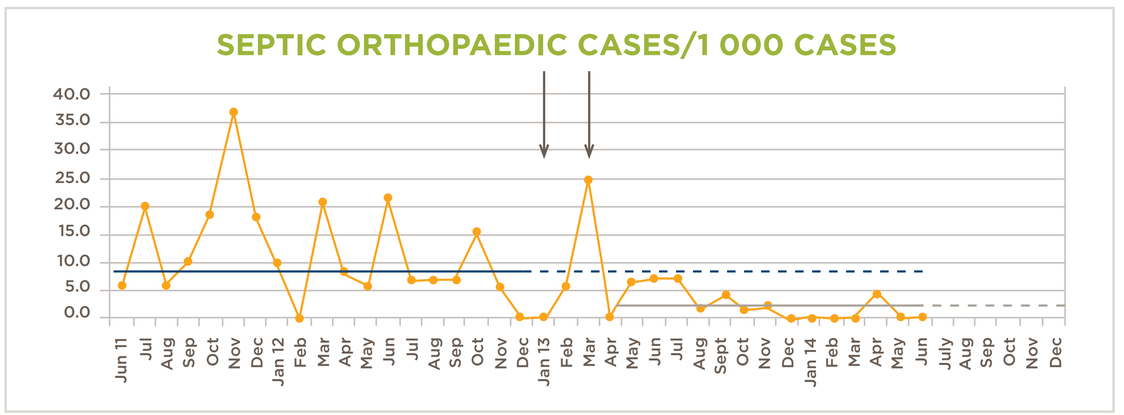


Figure 2: The figure shows the improvement in septic orthopaedic cases.



CONFLICT OF INTEREST

None.

1. Getting Started Kit: Prevent Surgical Site Infections. www.saferhealthcarenow.ca
2. Best Care... Always! www.bestcare.org.za
3. Coetzer S, Everton C, Buitendag H, Walsh Y. Stratifying data reveals improvement in SSIs in rural Mpumalanga. Abstract presented at the South African Quality Improvement Summit, Cape Town 2013.

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