Reduction of Central Line Associated Bloodstream Infection (CLABSI)

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Introduction/ Background:

Central lines are being used increasingly in the inpatient and outpatient setting to provide long term venous access. Central lines disrupt the integrity of the skin, making infection with bacteria and/or fungi possible.

It was identified that there were a significant number of Hospital Acquired CLABSI Infections on Pediatric unit 2 South 1 (Hem/Onc).

8 Cases of CLABSI events were recorded by the Infection Control Practitioner for 2 South 1 between the 9th of January and 2nd of September 2013.

We were offered the opportunity to form a team and instigate an improvement project linking with "Best Care Always Campaign". We have zero tolerance of CLABSI in Pediatric unit 2 South 1 (Hem/ Onc).

Aim:

Reduce Hospital Acquired Central Line Associated Bloodstream Infection (CLABSI) in Pediatric Unit 2 South 1 (Hem/Onc) to 0 incidence by October 2014 and maintain it for 300 days.

Method:

•Use recommended equipment (needles and dressings) in providing care for patients with CVC.
•Use CVC Maintenance Bundle in providing care to patients with CVC.
•Educate staff, Doctors and Nurses, regarding CVC Maintenance Bundle.
•Monitor compliance with CVC Maintenance Bundle through CVC Maintenance Bundle Checklist.
•Include Patient and Family in the care.
•Multi-Disciplinary Team knowledge regarding Out On Pass/ Care out of hospital.

Actions Taken:

•A survey was conducted to test the staffs' knowledge regarding the CVC Maintenance Bundle, to gauge a baseline of their current knowledge-they indicated that they were all aware of the bundle and why it should be used, but had not used it on the unit.
•Education was provided to the relevant staff ,by the Venous Access Nurse Specialist, regarding the use of the CVC maintenance bundle.
•They indicated that they would want on going teaching to ensure that they became familiar with the process of completing the maintenance bundle correctly.
•The team revised the CVC maintenance bundle checklist with the unit nurses- starting with 1 nurse and 1 patient and increasing until all nurses were comfortable to use it. CVC Maintenance Bundle has been applied in the unit and monitoring of compliance is ongoing.
- PDSA1 (1 Staff Nurse: 1 Patient)
- PDSA2 (3 Staff Nurses: 3 Patients)
- PDSA3 (all patients with CVC in the unit).

•The recommended equipment (right size Huber needle, Cavillon and Chlorhexidine Gluconate dressing) were tested and have been ordered.
- PDSA1 (1 Clinical Advance Nurse Specialist: 1 Patient) 1st Patient.
- PDSA2 (1 Staff Nurse: 1 Patient) 1st Patient
- PDSA3 (1 Clinical Advance Nurse Specialist: 1 Patient) 2nd Patient.

• Education or training was given to staff nurses by the product specialist regarding the use of Huber needle.
• A laminated guide regarding the CVC maintenance bundle is inserted in every patients' file and a poster of the same is displayed on the communication board.
•An Information board is visible to all, up-dating about the project and the number of days since the last hospital acquired infection occurred.

Table 1

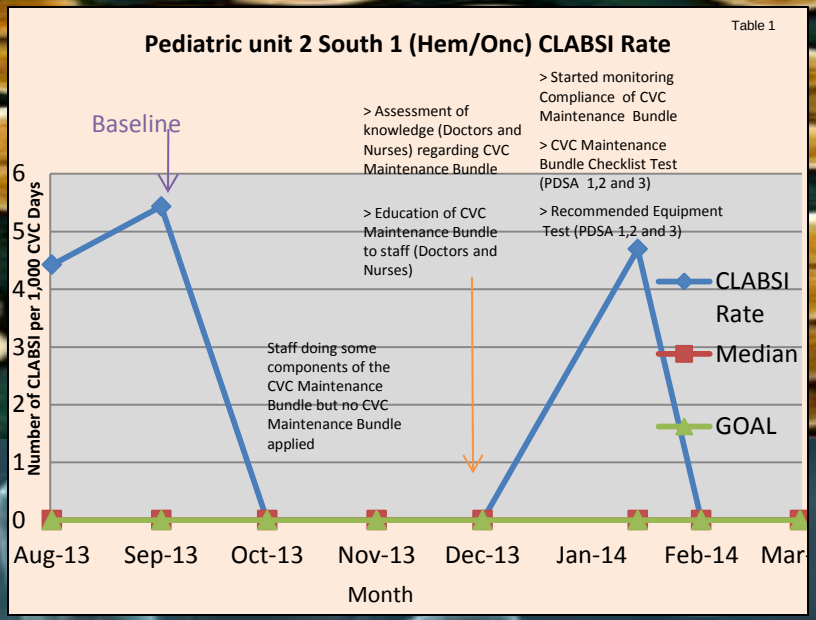
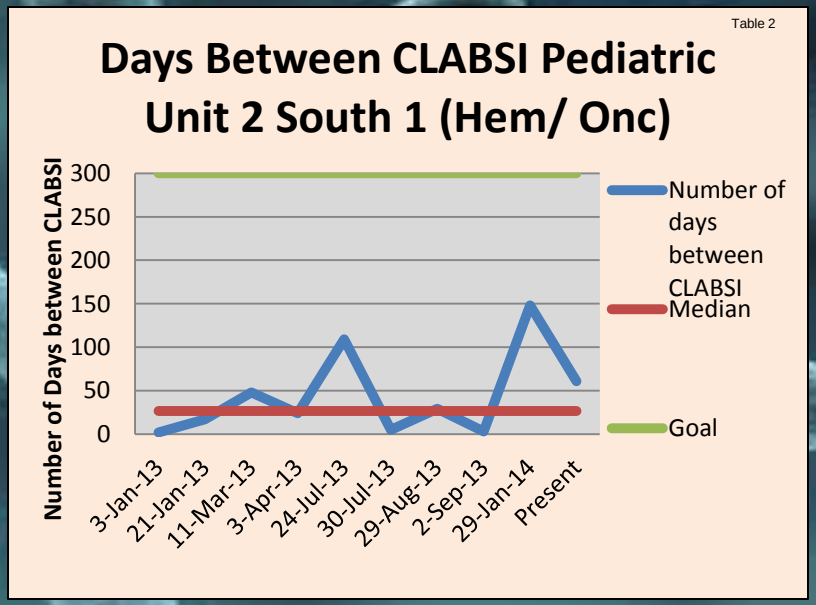


Table 2



Results to date:

• There have been 3 Hospital Acquired CLABSI events since August (See table 1)
1- August
1- September
1- January
•149 days without an infection between September 2nd 2013 and January 28th 2014 (See table 2)
•The Maintenance Bundle Compliance monitoring started on 1st January 2014.
•The Charge Nurses of the unit observe and encourage staff to complete the bundle according to the care provided to the patient.
•The Infection Control Practitioner for 2S1 and the CNS Hematology/Oncology monitor the compliance data and this is recorded weekly.
•Measuring the Maintenance Bundle reflects whether the patient receives all components of the bundle during their care.
•77.7% of patients received all components of the maintenance bundle in January rising to 85% in February then increased to 88.5% in March.

Replication Potential:

This project is applicable to any unit that has Central Line Associated Bloodstream Infection incidences. PICU has a number of CLABSI occurrences, this project will be applied in the unit to reduce Hospital Acquired CLABSI event.

Conclusion/ Lessons learned/Next steps:

• Review of the data so far has helped us identify the reason why the event happened in January.
•The patient involved had not been washed with the identified cleaning agent- Chlorhexidine wash
•Further investigation showed that the family were not familiar with this practice and necessitated the team to improve communications and information to the family respecting their culture and wishes.
• We are looking at supplying information leaflets in a number of languages and improving how we inform the families of the importance of the child's hygiene and other areas.
• We are planning to have white boards for each child to encourage staff to involve the child and family in planning their care-
• Blood results, hygiene, dressings, and OOP, safety re visits.
•Monitoring compliance of the CVC Maintenance Bundle must be continued because all elements of the bundle must be received by the patient for quality care.
•A survey will be done to reassess the knowledge of staff (Doctors and Nurses) regarding CVC Maintenance Bundle, to find out the need for continuous teaching.
•When there is an event of CLABSI, investigate the cause of the event, work to eliminate the cause, and prevent CLABSI reoccurrence.