

The purpose of this initiative was to rapidly identify and mitigate potential underlying drivers to the increased CLABSI rate” Dandoy et al (2015).

Abstract:

**BACKGROUND:** Immunocompromised children are at high risk for central line-associated bloodstream infections (CLABSIs) and its associated morbidity and mortality. Prevention of CLABSIs depends on highly reliable care.

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**PURPOSE:** Since the summer of 2013, we saw an increase in patient volume and acuity in our centre. Additionally, CLABSIs rates more than tripled during this period. The purpose of this initiative was to rapidly identify and mitigate potential underlying drivers to the increased CLABSI rate.

**METHODS:** Through small tests of change, we implemented a standard process for daily hygiene; increased awareness of high-risk patients with CLABSI; improved education/assistance for nurses performing high-risk central venous catheter procedures; and developed a system to improve allocation of resources to de-escalate system stress.

**RESULTS:** The CLABSI rate from June 2013 to May 2014 was 2.03 CLABSIs/1000 line days. After implementation of our interventions, we saw a significant decrease in the CLABSI rate to 0.39 CLABSIs/1000 line days ( $p=0.008$ ). Key processes have become more reliable: 100% of dressing changes are completed with the new two-person standard; daily hygiene adherence has increased from 25% to 70%; 100% of nurses are approached daily by senior nursing for assistance with high-risk procedures; and patients at risk for a CLABSI are identified daily.

**CONCLUSIONS:** Stress to a complex system caring for high-risk patients can challenge CLABSI rates. Identifying key processes and executing them reliably can stabilise outcomes during times of system stress.

Reference:

Dandoy, C.E., Hausfeld, J., Flesch, L., Hawkins, D., Demmel, K., Best, D., Osterkamp, E.,



Bracke, T., Nagarajan, R., Jodele, S., Holt, J., Giaccone, M.J., Davies, S.M., Kotagal, U. and Simmons, J. (2015) Rapid cycle development of a multifactorial intervention achieved sustained reductions in central line-associated bloodstream infections in haematology oncology units at a children's hospital: a time series analysis. *BMJ Quality & Safety*. November 25th. .

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