



There is a substantial body of quasi-experimental evidence to suggest that care bundles may reduce CLABSI rates in the NNU, though it is not clear which bundle elements are effective in specific settings” Payne et al (2017).

Abstract:

BACKGROUND: Central line-associated bloodstream infections (CLABSIs) are associated with increased mortality, prolonged hospitalisation and increased healthcare costs. Care bundles have reduced CLABSIs in adult intensive care units (ICUs) but replication in paediatric ICUs has had inconsistent outcomes. A systematic review was performed to assess the evidence for the efficacy of care bundles in reducing CLABSIs in the neonatal unit (NNU).

METHODS: MEDLINE, CINAHL and EMBASE were searched from January 2010 up to January 2017. The Cochrane Library, Web of Science, Zetoc and Ethos were searched for additional studies. Randomised controlled trials (RCTs), quasi-experimental and observational studies were eligible. The primary outcome measure was CLABSI rates per 1000 central line, or patient, days. A meta-analysis was performed using random effects modelling.

RESULTS: Twenty-four studies were eligible for inclusion: six were performed in Europe, 12 were in North America, two in Australia and four were in low/middle-income countries. Five were observational studies and 19 were before and after quality improvement studies. No RCTs were found. Meta-analysis revealed a statistically significant reduction in CLABSIs

following the introduction of care bundles (rate ratio=0.40 (CI 0.31 to 0.51), $p < 0.00001$), which equates to a 60% reduction in CLABSI rate.

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CONCLUSION: There is a substantial body of quasi-experimental evidence to suggest that care bundles may reduce CLABSI rates in the NNU, though it is not clear which bundle elements are effective in specific settings. Future research should focus on determining what processes promote the effective implementation of infection prevention recommendations, and which elements represent essential components of such care bundles.

Reference:

Payne, V., Hall, M., Prieto, J. and Johnson, M. (2017) Care bundles to reduce central line-associated bloodstream infections in the neonatal unit: a systematic review and meta-analysis. *Archives of Disease in Childhood*. November 25th. .

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