REDUCCTION Project

Initiative Type

Model of Care

Redesign

Status

Sustained

Added

23 January 2018

Last updated

05 May 2022

URL

https://cnxp3cuvtvrn68yjaibaht5ywrxspj7m.clinicalexcellence.qld.gov.au/improvement-exchange/reducction-project

Summary

The National Health and Medical Research Council (NHMRC) funded REDUCCTION (Reducing the burden of dialysis catheter complications: a National approach) Project developed a tool to allow data

capture and monitoring of dialysis catheter related infections across renal units in Australia. The Project implemented a suite of evidence-based practice improvements aimed at reducing healthcare associated infections was also implemented but did not reduce the rate of catheter related bloodstream infections, although the infection rate was much lower than previously reported in the literature. . The implementation was part of a stepped-wedge cluster of randomised controlled trial.

Key dates

Jan 2018

Jan 2019

Implementation sites

Multiple renal units across Australia, including Cairns, Rockhampton, Sunshine Coast, Gold Coast, Toowoomba, Metro North, Metro South and Mater Health Hospital and Health Services

Partnerships

The partnership includes the George Institute for Global Health, NHMRC, Queensland and Victoria Health Departments, multiple renal units across Australia, Kidney Health Australia, KHA-CARI, and ANZDATA.

Key Contacts

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Aim

To reduce the rate of dialysis catheter related infections across Queensland and Australia.

Benefits

1. To define the national, clinical and economic burden of dialysis catheter infections in Australia.
2. To implement an evidence-based and systematic intervention package using a stepped-wedge cluster design with the objective of reducing dialysis catheter related bacteraemia.
3. To establish a framework for monitoring dialysis catheter related bacteraemia and sustaining improvements from the intervention phase.

Background

Healthcare associated infections (HAI) cause significant and life-threatening harm to patients and incur major additional costs. Patients with kidney disease are especially susceptible to HAI, due to the harm associated with central dialysis catheter use. These catheters, essential to the delivery of life-sustaining dialysis treatment, are widely used and are a major driver of blood stream infection and increased mortality seen in patients receiving dialysis. The National Health and Medical Research Council funded program has four stages:

1. Developing an electronic database
2. Baseline data collection
3. Implementation of a suite of interventions to reduce infections
4. Achieve sustainable data collection and maintain improvements

The partnership grant will take around four years to complete.

Solutions Implemented

The project allowed renal units across Australia to compare infection rates for the first time. A suite of evidence-based practice improvements aimed at reducing healthcare associated infections was implemented. A data capture was developed and 37 renal units across Australia entered data on over 6,000 patients including 1.4 million catheter days. The interventions did not reduce the rate of catheter related bloodstream infections although the infection rate was much lower than previously reported in the literature.

Further Reading

Multifaceted intervention to reduce haemodialysis catheter related bloodstream infections: REDUCCTION stepped wedge, cluster randomised trial | The BMJ New England Journal Article - An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU The George Institute Australia New Zealand Clinical Trials The JAMA Network