

# CLABSI prevention efforts result in up to 200,000 infections prevented in intensive care units

May 13 2013

---

New research from the Centers for Disease Control and Prevention (CDC) estimates that as many as 200,000 central line-associated bloodstream infections (CLABSIs) have been prevented among patients in intensive care units (ICUs) since 1990. The study, published in the June issue of *Infection Control and Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America, suggests that this progress is likely related to prevention strategies now common in hospitals across the United States.

CLABSIs are caused when bacteria or yeast enter the bloodstream through a tube called a central line that is placed in a large vein in a patient's neck or chest to give medical treatment. Central lines are commonly used in ICUs and can remain in place for weeks or months. When not put in correctly or kept clean, central lines can become a route for [germs](#) to enter the body and cause serious bloodstream infections. CLABSIs result in thousands of deaths and significant excess costs to the U.S. [healthcare system](#), yet research shows that these infections are preventable.

Substantial progress has been made over the past two decades in reducing the number of CLABSIs that occur among patients in ICUs in the U.S. This study, which estimated between 462,000 and 636,000 CLABSIs occurred in non-neonatal ICU patients during 1990-2010, found that reductions in CLABSI rates led to between 104,000 and

198,000 fewer CLABSIs than would have occurred if rates had stayed the same as they were in 1990.

"These findings suggest that [technical innovations](#) and dissemination of evidence-based CLABSI prevention practices have likely been effective on a national scale," said Matthew Wise, PhD, lead author of the study. "These successes help bolster perceptions that healthcare-associated infections are preventable."

New technologies have been developed over time to prevent healthcare-associated infections in general and CLABSIs specifically. [CDC guidelines](#) have promoted better central line insertion and maintenance practices. Infection control bundles, which are groups of prevention practices that are put into place at the same time and use collaborative networks of healthcare organizations to educate providers about best practices, have been used to improve adherence to recommended practices.

Cultural change and the transformation in behaviors of healthcare workers significantly affect the reduction in healthcare-associated infections, as seen in the 2006 Michigan Keystone Project. The project implemented five evidence-based preventive strategies recommended by the CDC and focused on changing provider behavior through addressing safety culture, incorporating a centralized education program for team leaders at each institution, and closely collaborating with infection control personnel. The intervention was extremely successful, nearly eliminating CLASBIs in more than 100 ICUs.

Despite apparent success, this study estimated that about 15,000 CLABSIs still occurred in ICUs during 2010. Seventy percent of these infections occurred in teaching hospitals with more than 200 beds. The concentration of CLABSIs among ICU patients in medium and large teaching hospitals suggests that a targeted approach may be needed to

continue reducing CLABSIs among ICU patients nationally.

In a commentary published alongside the study, several limitations of this research were also noted, including the use of definitions by CDC for purposes for which they were not originally designed, the idea that every CLABSI is preventable, and the possibility that zero infections may not be an achievable goal in all circumstances.

However, Eli Perencevich, MD, and colleagues stated that "this is encouraging news.... Anyone who has spent the past 10-20 years as an infection preventionists or hospital epidemiologist can attest to how evidence-based methods and cultural change have had a real and lasting impact on infection rates." As improved prevention efforts are identified for healthcare-associated infections, including central line associated [bloodstream infections](#), SHEA and [CDC](#) will continue to work together to improve the National Healthcare Safety Network to meet the challenges ahead.

**More information:** Matthew E. Wise, R. Douglas Scott II, James M. Baggs, Jonathan R. Edwards, Katherine D. Ellingson, Scott K. Fridkin, L. Clifford McDonald, John A. Jernigan. "National Estimates of Central Line–Associated Bloodstream Infections in Critical Care Patients." *Infection Control and Hospital Epidemiology* 34:6 (June 2013).

Provided by Society for Healthcare Epidemiology of America

Citation: CLABSI prevention efforts result in up to 200,000 infections prevented in intensive care units (2013, May 13) retrieved 27 April 2024 from <https://medicalxpress.com/news/2013-05-clabsi-efforts-result-infections-intensive.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.