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Major article

# International Nosocomial Infection Control Consortiu (INICC) report, data summary of 43 countries for 2007-2012. Device-associated module

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For a list of all the members of the International Nosocomial Infection Control Consortium and all the coauthors of this study, see the Appendix.

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*Key Words:*
Hospital infection
Nosocomial infection
Health care–associated infection
Device-associated infection
Antibiotic resistance
Ventilator-associated pneumonia
Catheter-associated urinary tract infection
Central line–associated bloodstream infections
Bloodstream infection
Urinary tract infection
Developing countries
Limited resources countries
Low income countries
Network

We report the results of an International Nosocomial Infection Control Consortium (INICC) surveillance study from January 2007-December 2012 in 503 intensive care units (ICUs) in Latin America, Asia, Africa, and Europe. During the 6-year study using the Centers for Disease Control and Prevention's (CDC) U.S. National Healthcare Safety Network (NHSN) definitions for device-associated health care–associated infection (DA-HAI), we collected prospective data from 605,310 patients hospitalized in the INICC's ICUs for an aggregate of 3,338,396 days. Although device utilization in the INICC's ICUs was similar to that reported from ICUs in the U.S. in the CDC's NHSN, rates of device-associated nosocomial infection were higher in the ICUs of the INICC hospitals: the pooled rate of central line–associated bloodstream infection in the INICC's ICUs, 4.9 per 1,000 central line days, is nearly 5-fold higher than the 0.9 per 1,000 central line days reported from comparable U.S. ICUs. The overall rate of ventilator-associated pneumonia was also higher (16.8 vs 1.1 per 1,000 ventilator days) as was the rate of catheter-associated urinary tract infection (5.5 vs 1.3 per 1,000 catheter days). Frequencies of resistance of *Pseudomonas* isolates to amikacin (42.8% vs 10%) and imipenem (42.4% vs 26.1%) and *Klebsiella pneumoniae* isolates to ceftazidime (71.2% vs 28.8%) and imipenem (19.6% vs 12.8%) were also higher in the INICC's ICUs compared with the ICUs of the CDC's NHSN.



This report is a summary of device-associated (DA) module data collected by hospitals participating in the International Nosocomial Infection Control Consortium (INICC) for events occurring from January 2007-December 2012 and reported to the INICC by December 31, 2013. This report updates previously published DA module data from the INICC and provides contemporary, comparative rates.[1-5]

The INICC is an international nonprofit, open, multicenter, collaborative health care–associated infection control program with a surveillance system based on that of the U.S. Center for Diseases Control and Prevention's (CDC) National Healthcare Safety Network (NHSN). Founded in Argentina in 1998, the INICC is the first multinational surveillance and research network established to measure, control, and reduce health care–associated infections (HAIs) through the analysis of data collected on a voluntary basis by a pool of hospitals worldwide. The INICC has the following goals: to create a dynamic global network of hospitals worldwide, which conduct surveillance on HAIs using standardized definitions and established methodologies, promote implementation of evidence-based infection control practices, and carry out applied infection control research; to provide training and surveillance tools to individual hospitals, which can allow them to conduct outcome and process surveillance of HAIs, measure their consequences, and assess the impact of infection control practices[6-22]; and to improve the safety and quality of health care worldwide through the implementation of systematized programs to reduce rates of HAI, associated mortality, excess lengths of stay (LOSs), excess costs, antibiotic use, and bacterial resistance.[23-32] In 2013, the INICC switched to an online database platform, which is currently in use in 300 cities in 62 countries for data collection, data analysis, and report generation.

## METHODS

### *Study setting and design*

From January 2007-December 2012, we conducted a cohort prospective multicenter surveillance study of device-associated