



Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major Article

International Nosocomial Infection Control Consortium report, data summary of 50 countries for 2010–2015: Device-associated module

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

The funding for design, development, maintenance, technical support, data validation, and report generation of the Surveillance Online System, and the activities carried out at International Nosocomial Infection Control Consortium headquarters, were provided by VDR and the Foundation to Fight against Nosocomial Infections.

All authors were involved in provision of study patients, critical revision of the manuscript for important intellectual content, and final approval of the manuscript. VDR was responsible for study conception and design, drafting of the manuscript, software development, technical support, report generation, data validation, data assembly, data interpretation, and epidemiologic and statistical analysis.

Conflicts of interest: None to report.

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Key Words:

Hospital infection
 Health care-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

Background: We report the results of International Nosocomial Infection Control Consortium (INICC) surveillance study from January 2010-December 2015 in 703 intensive care units (ICUs) in Latin America, Europe, Eastern Mediterranean, Southeast Asia, and Western Pacific.

Methods: During the 6-year study period, using Centers for Disease Control and Prevention National Healthcare Safety Network (CDC-NHSN) definitions for device-associated health care-associated infection (DA-HAI), we collected prospective data from 861,284 patients hospitalized in INICC hospital ICUs for an aggregate of 3,506,562 days.

Results: Although device use in INICC ICUs was similar to that reported from CDC-NHSN ICUs, DA-HAI rates were higher in the INICC ICUs: in the INICC medical-surgical ICUs, the pooled rate of central line-associated bloodstream infection, 4.1 per 1,000 central line-days, was nearly 5-fold higher than the 0.8 per 1,000 central line-days reported from comparable US ICUs, the overall rate of ventilator-associated pneumonia was also higher, 13.1 versus 0.9 per 1,000 ventilator-days, as was the rate of catheter-associated urinary tract infection, 5.07 versus 1.7 per 1,000 catheter-days. From blood cultures samples, frequencies of resistance of *Pseudomonas* isolates to amikacin (29.87% vs 10%) and to imipenem (44.3% vs 26.1%), and of *Klebsiella pneumoniae* isolates to ceftazidime (73.2% vs 28.8%) and to imipenem (43.27% vs 12.8%) were also higher in the INICC ICUs compared with CDC-NHSN ICUs.

Conclusions: Although DA-HAIs in INICC ICU patients continue to be higher than the rates reported in CDC-NHSN ICUs representing the developed world, we have observed a significant trend toward the reduction of DA-HAI rates in INICC ICUs as shown in each international report. It is INICC's main goal to continue facilitating education, training, and basic and cost-effective tools and resources, such as standardized forms and an online platform, to tackle this problem effectively and systematically.

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The first report of health care-associated infection (HAI) rates was published by the Centers for Disease Control and Prevention (CDC) 40 years ago, and has been published uninterruptedly until the present,^{1,2} using standardized methods and definitions^{3,4} that serve as the basis and inspiration for the International Nosocomial Infection Control Consortium (INICC).^{5,6}

This INICC report is a summary of device-associated (DA) module data collected by hospitals participating in the INICC for events reported to INICC occurring from January 1, 2010-December 31, 2015. This report updates previously published DA module data from INICC and provides contemporary, comparative rates.⁷⁻¹¹

Founded in Argentina in 1998, the INICC was the first multinational research network established to measure, prevent, and control

HAIs at an international level through the analysis of validated data collected prospectively using standardized forms provided by INICC (on a voluntary basis) by a pool of hospitals worldwide.^{5,6} Since 2003, INICC has been publishing HAI rates and consequences per individual country,¹²⁻¹⁴ and since 2006 as international reports.⁷⁻¹¹

The goals of INICC include the development of a dynamic global hospital network that applies standardized systematic prospective, active surveillance of HAIs, using a form provided by INICC, with standardized definitions and methodologies of the CDC National Healthcare Safety Network (NHSN) to promote evidence-based infection control practices and to conduct applied infection control research to reduce the incidence of HAIs and associated mortality, excess length of stay (LOS), costs, and bacterial resistance.^{5,6}

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