INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY

VOLUME 34, NUMBER 2 FEBRUARY 2013

ORIGINAL ARTICLES

109 **Unnecessary Antimicrobial Use in Patients with Current or Recent *Clostridium difficile* Infection** • Megan K. Shaughnessy, MD; William H. Amundson, MD; Michael A. Kuskowski, PhD; Douglas D. DeCarolis, PharmD; James R. Johnson, MD; Dimitri M. Drekonja, MD, MS

117 ***Commentary:* If Not Now, When? Seizing the Moment for Antibiotic Stewardship** • Lori A. Pollack, MD, MPH; Carolyn V. Gould, MD, MSc; Arjun Srinivasan, MD

119 **Protracted Outbreak of Multidrug-Resistant *Acinetobacter baumannii* after Intercontinental Transfer of Colonized Patients** • Caroline Landelle, PharmD, PhD; Patrick Legrand, MD; Philippe Lesprit, MD; Florence Cizeau; David Ducellier; Cyril Gouot; Paula Bréhaut; Sophan Soing-Altrach; Emmanuelle Girou, PharmD, PhD; Christian Brun-Buisson, MD

125 ***Commentary:* The International Threat of Antimicrobial Resistance: The Perils of Paradise** • Joel N. Maslow, MD, PhD, MBA, FACP

127 ***Clostridium difficile* Infection and Limitations of Markers for Severity in Patients with Hematologic Malignancy** • Michael S. Wang, MD; Charlesnika T. Evans, PhD, MPH; Tulio Rodriguez, MD; Dale N. Gerding, MD; Stuart Johnson, MD

133 **Burden of Bloodstream Infection Caused by Extended-Spectrum β-Lactamase–Producing Enterobacteriaceae Determined Using Multistate Modeling at a Swiss University Hospital and a Nationwide Predictive Model** • Andrew Stewardson, MBBS; Carolina Fankhauser, MS; Giulia De Angelis, MD; Peter Rohner, PhD; Edith Safran, MD; Jacques Schrenzel, MD; Didier Pittet, MD; Stephan Harbarth, MD

144 **Population-Based Incidence of Carbapenem-Resistant *Klebsiella pneumoniae* along the Continuum of Care, Los Angeles County** • Patricia Marquez, MPH; Dawn Terashita, MD, MPH; David Dassey, MD, MPH; Laurene Mascola, MD, MPH

151 **The Potential Regional Impact of Contact Precaution Use in Nursing Homes to Control Methicillin-Resistant *Staphylococcus aureus*** • Bruce Y. Lee, MD, MBA; Ashima Singh, MS; Sarah M. Bartsch, MPH; Kim F. Wong, PhD; Diane S. Kim, BS; Taliser R. Avery, MS; Shawn T. Brown, PhD; Courtney R. Murphy, PhD; S. Levent Yilmaz, PhD; Susan S. Huang, MD, MPH

161 **Quantifying the Impact of Extranasal Testing of Body Sites for Methicillin-Resistant *Staphylococcus Aureus* Colonization at the Time of Hospital or Intensive Care Unit Admission** • James A. McKinnell, MD; Susan S. Huang, MD, MPH; Samantha J. Eells, MPH; Eric Cui, BS; Loren G. Miller, MD, MPH

171 **Distribution of Pathogens in Central Line–Associated Bloodstream Infections among Patients with and without Neutropenia following Chemotherapy: Evidence for a Proposed Modification to the Current Surveillance Definition** • James P. Steinberg, MD; Chad Robichaux, BA; Sheri Chernetsky Tejedor, MD; Mary Dent Reyes, MPH; Jesse T. Jacob, MD

CONTENTS CONTINUED INSIDE

SHEA The Society for Healthcare Epidemiology of America

THE OFFICIAL JOURNAL OF THE SOCIETY FOR HEALTHCARE EPIDEMIOLOGY OF AMERICA

THE UNIVERSITY OF CHICAGO PRESS

https://doi.org/10.1017/S0195941700032136

SHEA
The Society for Healthcare Epidemiology of America

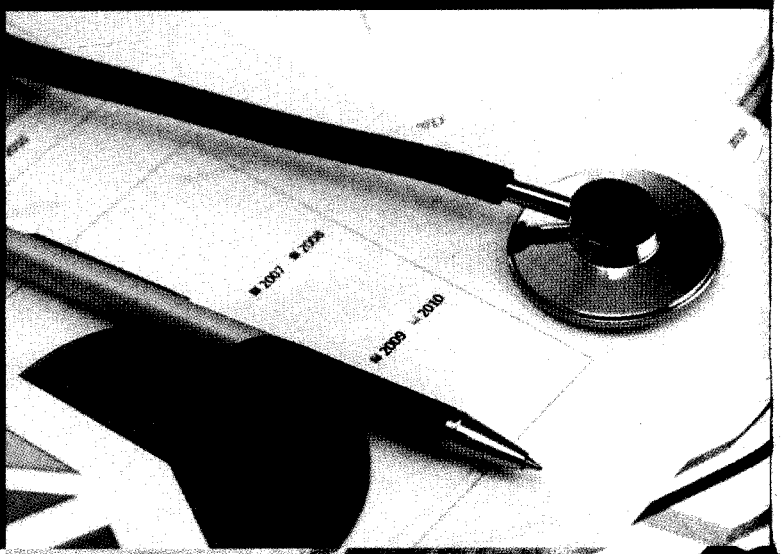
Spring 2013 Conference

May 1 - 4 • Atlanta, GA

shea2013.org

Advancing Healthcare Epidemiology & the Role of the Environment









Featuring 3 Program Tracks:

- Basic Training in Healthcare Epidemiology
- Surveillance: Beyond the Basics
- Role of the Environment in Infection Prevention

https://doi.org/10.1017/S0195941700032136

HOSPITAL EPIDEMIOLOGY

VOLUME 34, NUMBER 2 FEBRUARY 2013

CONTENTS CONTINUED FROM COVER

176 **Discord among Performance Measures for Central Line–Associated Bloodstream Infection** • David M. Tehrani, BS; Dana Russell, MPH; Jennifer Brown, MD; Kim Boynton-Delahanty, RN; Kathleen Quan, RN; Laurel Gibbs, CLS/MT(ASCP); Geri Braddock, RN; Teresa Zaroda, RN; Marsha Koopman, RN; Deborah Thompson, RN; Amy Nichols, RN; Eric Cui, BS; Catherine Liu, MD; Stuart Cohen, MD; Zachary Rubin, MD; David Pegues, MD; Francesca Torriani, MD; Rupak Datta, MPH; Susan S. Huang, MD, MPH; for the University of California Healthcare Epidemiology Collaborative

184 **Patient- and Device-Specific Risk Factors for Peripherally Inserted Central Venous Catheter–Related Bloodstream Infections** • Makhawadee Pongruangporn, MD; M. Cristina Ajenjo, MD; Anthony J. Russo, MPH; Kathleen M. McMullen, MPH; Catherine Robinson, BA; Robert C. Williams, BS, MBA; David K. Warren, MD, MPH

190 **Assessment of Organizational Measures to Prevent Nosocomial Tuberculosis in Health Facilities of 4 Sub-Saharan Countries in 2010** • Jérôme Robert, MD, PhD, MPH; Dissou Affolabi, MD; Fantché Awokou, MD, MPH; Désiré Nolna, MD, MPH; Bilé Adou Philippe Manouan, MD; Yapo Blaise Acho, MD; Martin Gninafon, MD, MPH; Arnaud Trebucq, MD, MPH

195 **Pediatric Infectious Diseases Fellowship Training in Healthcare Epidemiology: A National Needs Assessment** • Thomas J. Sandora, MD, MPH; Jennifer C. Esbenshade, MD, MPH; Kristina A. Bryant, MD; on behalf of the Pediatric Leadership Council of SHEA

REVIEW ARTICLE

200 **Hospital Infection Prevention and Control Issues Relevant to Extensive Floods** • Anucha Apisarnthanarak, MD; Linda M. Mundy, MD, PhD; Thana Khawcharoenporn, MD, MSc; C. Glen Mayhall, MD

CONCISE COMMUNICATION

207 **Observing and Improving Hand Hygiene Compliance: Implementation and Refinement of an Electronic-Assisted Direct-Observer Hand Hygiene Audit Program** • Luke F. Chen, MBBS, MPH, CIC, FRACP; Charlene Carriker, BSN, RN, CIC; Russell Staheli, MPH; Pamela Isaacs, BSN, RN, MHA; Brandon Elliott; Becky A. Miller, MD; Deverick J. Anderson, MD, MPH; Rebekah W. Moehring, MD, MPH; Sheila Vereen, BSN, RN, CIC; Judie Bringhurst, RN, MSN, CIC; Lisa Rhodes, BSN, RN; Nancy Strittholt, BSN, RN, CIC; Daniel J. Sexton, MD

RESEARCH BRIEF

211 **Microbial Assessment of High-, Medium-, and Low-Touch Hospital Room Surfaces** • Kirk Huslage, RN, BSN, MSPH; William A. Rutala, PhD, MPH; Maria F. Gergen, MT(ASCP); Emily E. Sickbert-Bennett, MS, PhD; David J. Weber, MD, MPH

LETTERS TO THE EDITOR

213 **A Rapid-Cycle Quality Improvement Initiative to Increase Compliance with Infection Control Precautions in a Pediatric Ward** • Pui-Ying Iroh Tam, MD; Amy Bettano, MPH; Zoon Wangu, MD; Dale Ford, RN, MPH; Carol Sulis, MD

214 **Reply to Iroh Tam et al** • Jason A. Fries, BA; Alberto M. Segre, PhD; Philip M. Polgreen, MD

CONTENTS CONTINUED ON NEXT PAGE

https://doi.org/10.1017/S0195941700032136 Published online by Cambridge University Press

HOSPITAL CONTROL

VOLUME 34, NUMBER 2 February 2013

CONTENTS CONTINUED FROM PREVIOUS PAGE

215 ***Acinetobacter calcoaceticus–Acinetobacter baumannii* Complex Is Not Equal to *A. baumannii*** • Shih-Yang Su, MD; Chien-Ming Chao, MD

216 **Reply to Su and Chao** • Cheol-In Kang, MD; Seung Ji Kang, MD

217 **Evaluation of the Reporting Validity of Central Line–Associated Bloodstream Infection Data to a Provincial Surveillance Program** • Patricia S. Fontela, MD, PhD; Isabelle Rocher, BScInf, MSc; Robert W. Platt, PhD; Madhukar Pai, MD, PhD; David L. Buckeridge, MD, PhD; Charles Frenette, MD; Marc Dionne, MD; Caroline Quach, MD, MSc

219 **Avian Ecto Parasite Infestation in the Hospital** • Ratna Rao, MD

https://doi.org/10.1017/S0195941700032136 Published online by Cambridge University Press

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

http://www.journals.uchicago.edu/ICHE

An Official Publication of the Society for Healthcare Epidemiology of America

EDITOR
Suzanne F. Bradley, MD • Ann Arbor, MI

DEPUTY EDITOR
Carol A. Kauffman, MD • Ann Arbor, MI

SENIOR ASSOCIATE EDITORS
C. Glen Mayhall, MD • Galveston, TX
Gina Pugliese, RN, MS • Chicago, IL
William Schaffner, MD • Nashville, TN

ASSOCIATE EDITORS
Carol Chenoweth, MD • Ann Arbor, MI
Ebbing Lautenbach, MD, MPH • Philadelphia, PA
David Weber, MD, MPH • Chapel Hill, NC

STATISTICS CONSULTANT
Rodney L. Dunn, MS • Ann Arbor, MI

SECTION EDITOR FOR GUIDELINES, POSITION PAPERS, AND INVITED REVIEWS
Eli Perencevich, MD, MS • Iowa City, IA

MANAGING EDITOR
Rob Blixt • Chicago, IL

PAST EDITORS
Infection Control
Richard P. Wenzel, MD, 1980–1990 (vols. 1–11)
Infection Control and Hospital Epidemiology
Richard P. Wenzel, MD, 1991–1992 (vols. 12 and 13)
Michael D. Decker, MD, 1993–2001 (vols. 14–22)
Barry M. Farr, MD, 2002–2004 (vols. 23–25)
William R. Jarvis, MD, 2005–2006 (vols. 26 and 27)

EDITORIAL ADVISORY BOARD
Miriam Alter, PhD, MD • Galveston, TX
Deverick Anderson, MD, MPH • Durham, NC
Anucha Apisarnthanarak, MD • Pratumthani, Thailand
Lennox Archibald, MD, FRCP • Alachua, FL
Hilary Babcock, MD • St. Louis, MO
Shailen Banerjee, PhD • Atlanta, GA
Elise M. Beltrami, MD, MPH • Atlanta, GA
Jo Anne Bennett, RN, PhD • New York, NY
David Birnbaum, PhD, MPH • Sidney, BC
Marc Bonten, MD • Utrecht, Netherlands
Christian Brun-Buisson, MD • Creteil, France
John P. Burke, MD • Salt Lake City, UT
David P. Calfee, MD, MS • New York, NY
Yehuda Carmeli, MD, MPH • Tel Aviv, Israel
Donald E. Craven, MD • Burlington, MA
Christopher Crnich, MD, MS • Madison, WI
Erika D'Agata, MD, MPH • Boston, MA
Daniel Diekema, MD • Iowa City, IA
Erik Dubberke, MD, MSPH • St. Louis, MO
Charles E. Edmiston, Jr., PhD • Milwaukee, WI
Theodore C. Eickhoff, MD • Denver, CO
Mohamad Fakih, MD, MPH • Grosse Pointe Woods, MI
Jon P. Furuno, PhD • Portland, OR
Petra Gastmeier, MD • Berlin, Germany
Jeffrey Gerber, MD, PhD • Philadelphia, PA
Dale N. Gerding, MD • Hines, IL
Donald A. Goldmann, MD • Boston, MA
Nicholas Graves, PhD • Brisbane, Australia
Donna Haiduven, RN, PhD, CIC • Tampa, FL
Anthony D. Harris, MD, MPH • Baltimore, MD
Elizabeth Henderson, PhD • Calgary, AB
David K. Henderson, MD • Bethesda, MD
Loreen A. Herwaldt, MD • Iowa City, IA
Peter N. R. Heseltine, MD • Brea, CA
John A. Jernigan, MD, MS • Atlanta, GA
James T. Lee, MD, PhD • St. Paul, MN
L. Clifford McDonald, MD • Atlanta, GA
Allison McGeer, MD • Toronto, ON
Leonard A. Mermel, DO, ScM • Providence, RI
Robert R. Muder, MD • Pittsburgh, PA
Linda Mundy, MD • St. Louis, MO
Joseph M. Mylotte, MD, CIC • Buffalo, NY
Jan Evans Patterson, MD • San Antonio, TX
David A. Pegues, MD • Los Angeles, CA
Didier Pittet, MD, MS • Geneva, Switzerland
Issam Raad, MD • Houston, TX
Manfred L. Rotter, MD, DipBact • Vienna, Austria
William A. Rutala, PhD, MPH • Chapel Hill, NC
Lisa Saiman, MD, MPH • New York, NY
Sanjay Saint, MD, MPH • Ann Arbor, MI
Sorana Segal-Maurer, MD • Flushing, NY
Lynne M. Sehulster, PhD • Atlanta, GA
John A. Sellick, DO • Amherst, NY
Kent Sepkowitz, MD • New York, NY
Andrew E. Simor, MD • Toronto, ON
Philip W. Smith, MD • Omaha, NE
Kurt Stevenson, MD, MPH • Columbus, OH
Nimalie Stone, MD • Atlanta, GA
Thomas Talbot, MD, MPH • Nashville, TN
Paul Tambyah, MBBS • Singapore
William Trick, MD • Chicago, IL
Antoni Trilla, MD, PhD • Barcelona, Spain
Robert A. Weinstein, MD • Chicago, IL
Andreas Widmer, MD, MS • Basel, Switzerland
Marcus Zervos, MD • Detroit, MI

Infection Control and Hospital Epidemiology (ISSN 0899-823X) is published monthly by the University of Chicago Press, 1427 E. 60th St., Chicago, IL 60637-2954 (http://www.journals.uchicago.edu/ICHE/). The editorial office is in Chicago, Illinois.

Editorial Office
Communications should be addressed to the Editor, *Infection Control and Hospital Epidemiology*, 1427 E. 60th St., Chicago, IL 60637-2954 (e-mail: iche@press.uchicago.edu; telephone: 773-702-2538, fax: 773-753-4247). Contributors should consult the Information for Authors, which is available at the journal's Web site.

Advertising
Please direct advertising inquiries to Paul Tucker, Breuning Nagle Associates, 59 Grove Street, New Canaan, CT 06840 (e-mail: paul@bna1.com; telephone: 847-669-1096, fax: 203-801-0011). Publication of an advertisement in *Infection Control and Hospital Epidemiology* does not imply endorsement of its claims by the Society for Healthcare Epidemiology of America, by the Editor, or by the University of Chicago. Correspondence regarding advertising should be addressed to the advertising office in Chicago.

Permissions
Articles may be copied or otherwise reused without permission only to the extent permitted by Sections 107 and 108 of the US Copyright Law. Permission to copy articles for personal, internal, classroom, or library use may be obtained from the Copyright Clearance Center (http://www.copyright.com). For all other uses, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, please contact the Permissions Coordinator, Journals Division, University of Chicago Press, 1427 E. 60th St., Chicago, IL 60637 (e-mail: journalpermissions@press.uchicago.edu; fax: 773-834-3489). Articles in the public domain may be used without permission, but it is customary to contact the author.

Subscriptions
The individual subscription rate for 2013 is $191. Lower rates for fellows, residents, and students are available at http://www.journals.uchicago.edu/ICHE. Individuals have the option to order directly from the University of Chicago Press. Institutional print + electronic and e-only subscriptions are available through JSTOR's Current Scholarship Program and include unlimited online access; rates are tiered according to an institution's type and research output: $455 to $1,438 (print + electronic), $364 to $910 (e-only). Institutional print-only is $455. Additional taxes and/or postage for non-U.S. subscriptions may apply. Subscription agent for Japan: Kinokuniya Company, Ltd. Free or deeply discounted access is available in most developing nations through the Chicago Emerging Nations Initiative (http://www.journals.uchicago.edu/ceni/).

Please direct subscription inquries, requests for back issues, and address changes to Journals Division, University of Chicago Press, P.O. Box 37005, Chicago, IL 60637 (e-mail: subscriptions@press.uchicago.edu; telephone: 773-753-3347 or toll-free in the United States and Canada 877-705-1878; fax: 773-753-0811 or toll-free 877-705-1879).

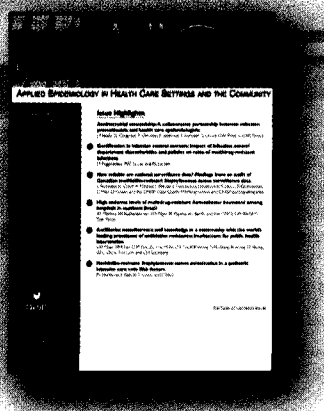
Postmaster: Send address changes to *Infection Control and Hospital Epidemiology*, University of Chicago Press, P.O. Box 37005, Chicago, IL 60637-2954.

Periodicals postage paid at Chicago, Illinois, and at an additional mailing office.

Published by the University of Chicago Press, Chicago, Illinois. © 2013 by The Society for Healthcare Epidemiology of America. All rights reserved. This publication is printed on acid-free paper.

https://doi.org/10.1017/S0195941700032136 Published online by Cambridge University Press

Find the latest in infection control research and practice information in AJIC



American Journal of Infection Control

EDITOR: **Elaine L. Larson, RN, PhD, FAAN, CIC**

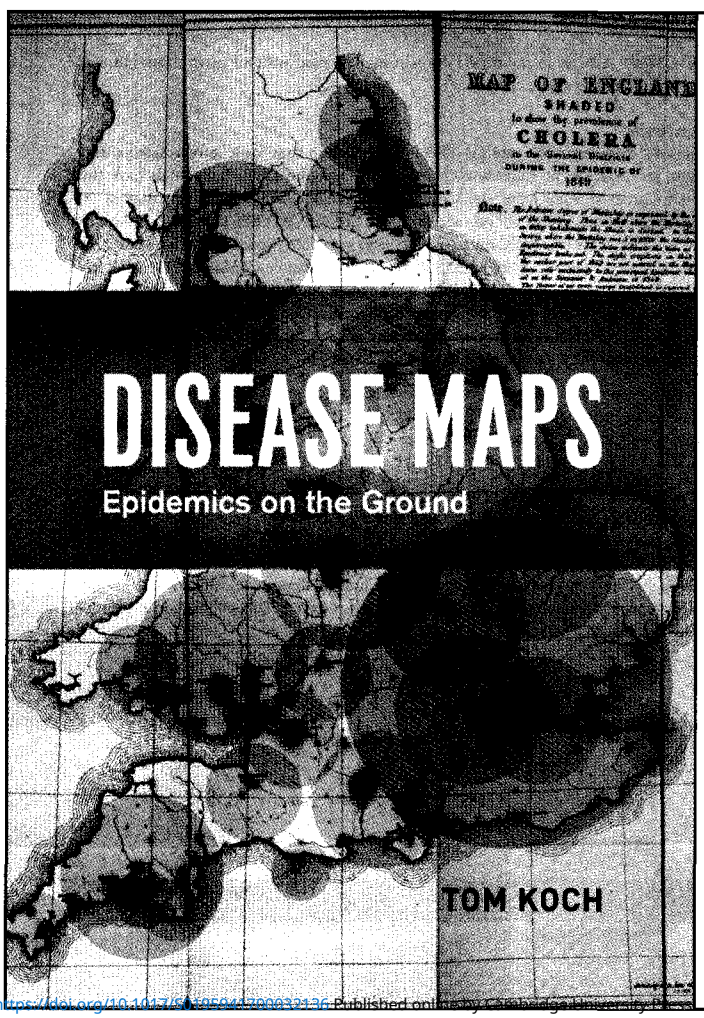
AJIC covers key topics and issues in infection control and epidemiology. Infection control professionals, including physicians, nurses, and epidemiologists, rely on **AJIC** for peer-reviewed articles covering clinical topics as well as original research. As the official publication of the *Association for Professionals in Infection Control and Epidemiology, Inc. (APIC)*, **AJIC** is the foremost resource on infection control, epidemiology, infectious diseases, quality management, occupational health, and disease prevention. **AJIC** also publishes relevant infection control guidelines. **AJIC** is included in Index Medicus and CINAHL.

Official Publication of the Association for Professionals in Infection Control and Epidemiology, Inc.

Register at ajicjournal.org to receive free access to Tables of Contents and all article abstracts; free access to select full text articles; free e-alerts and search personalization, and more!

ELSEVIER

Submit your manuscript at: http://ees.elsevier.com/ajic/



FORTHCOMING IN MAY

"*Disease Maps* is an extraordinary visual and narrative treat. I have come to look forward to Tom Koch's books for the wonderful and unique way that he can synthesize data and present it visually and in the process tell us magnificent stories."

Dr. Abraham Verghese,
Stanford University School of Medicine

"This is a masterful book in conception and structure. It is also extremely well written. What we find on reading is an exquisite telling of the history of the medical science of disease. The collection of medical maps, diagrams, and other illustrations is impressive in scope—there are many disease maps shown that have not been publicly available before or collected in one place."

Michael Friendly,
York University

CLOTH $45.00

The University of Chicago Press
www.press.uchicago.edu

https://doi.org/10.1017/S0899490500033136 Published online by Cambridge University Press