

INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY

VOLUME 35, NUMBER 4

APRIL 2014

SPECIAL TOPIC ISSUE: CARBAPENEM-RESISTANT ENTEROBACTERIACEAE AND MULTIDRUG-RESISTANT ORGANISMS

- 333 **Introduction: Addressing the Emergence and Impact of Multidrug-Resistant Gram-Negative Organisms: A Critical Focus for the Next Decade** • Ebbing Lautenbach, MD, MPH, MSCE; Eli N. Perencevich, MD, MS

ORIGINAL ARTICLES

- 336 **Querying Automated Antibiotic Susceptibility Testing Instruments: A Novel Population-Based Active Surveillance Method for Multidrug-Resistant Gram-Negative Bacilli** • Jessica Reno, MPH; Calista Schenck, MLS(ASCP); Janine Scott, MPH; Leigh Ann Clark, MPH; Yun F. (Wayne) Wang, MD, PhD; Susan Ray, MD; Paula Snippes Vagnone, MT(ASCP); Jesse T. Jacob, MD
- 342 **Statewide Surveillance of Carbapenem-Resistant Enterobacteriaceae in Michigan** • Brenda M. Brennan, MSPH; Joseph R. Coyle, MPH; Dror Marchaim, MD; Jason M. Pogue, PharmD; Martha Boehme, BS, MLS(ASCP)^{CM}; Jennie Finks, DVM, MVPH; Anurag N. Malani, MD; Kerrie E. VerLee, MPH, CIC; Bryan O. Buckley, MPH; Noreen Mollon, MS; Daniel R. Sundin, PhD, D(ABMM); Laraine L. Washer, MD; Keith S. Kaye, MD, MPH
- 350 **Clinical Microbiology Costs for Methods of Active Surveillance for *Klebsiella pneumoniae* Carbapenemase-Producing Enterobacteriaceae** • Amy J. Mathers, MD; Melinda Poulter, PhD; Dawn Dirks, MS; Joanne Carroll, BS; Costi D. Sifri, MD; Kevin C. Hazen, PhD
- 356 **Establishment of a Statewide Network for Carbapenem-Resistant Enterobacteriaceae Prevention in a Low-Incidence Region** • Christopher D. Pfeiffer, MD, MHS; Margaret C. Cunningham, MPH; Tasha Poissant, MPH; Jon P. Furuno, PhD; John M. Townes, MD; Andrew Leitz, MD; Ann Thomas, MD, MPH; Genevieve L. Buser, MD, MSHP; Robert F. Arao, MPH; Zintars G. Beldavs, MS
- 362 **Variation in Definitions and Isolation Procedures for Multidrug-Resistant Gram-Negative Bacteria: A Survey of the Society for Healthcare Epidemiology of America Research Network** • Marci Drees, MD, MS; Lisa Pineles, MA; Anthony D. Harris, MD, MPH; Daniel J. Morgan, MD, MS
- 367 **Understanding Staff Perceptions about *Klebsiella pneumoniae* Carbapenemase-Producing Enterobacteriaceae Control Efforts in Chicago Long-Term Acute Care Hospitals** • Rosie D. Lyles, MD, MHA; Nicholas M. Moore, MS; Shayna B. Weiner, MPH; Monica Sikka, MD; Michael Y. Lin, MD, MPH; Robert A. Weinstein, MD; Mary K. Hayden, MD; Ronda L. Sinkowitz-Cochran, MPH; for the CDC Prevention Epicenters Program
- 375 **Extended-Spectrum β -Lactamase-Producing Enterobacteriaceae in Hospital Food: A Risk Assessment** • Andrew J. Stewardson, MBBS; Gesuele Renzi, MS; Nathalie Maury, MS; Celia Vaudaux, MS; Caroline Brossier, RN; Emmanuel Fritsch, MD; Didier Pittet, MD, MS; Max Heck, BSc; Kim van der Zwaluw, BSc; E. Ascelijn Reuland, MD; Thijs van de Laar, PhD; Eveline Snelders, MS, PhD; Christina Vandenbroucke-Grauls, MD, PhD; Jan Kluytmans, MD, PhD; Patrick Edder, PhD; Jacques Schrenzel, MD; Stephan Harbarth, MD, MS

CONTENTS CONTINUED INSIDE



THE OFFICIAL JOURNAL OF THE SOCIETY FOR HEALTHCARE EPIDEMIOLOGY OF AMERICA

THE UNIVERSITY OF CHICAGO PRESS

TRU-D KEEPS DISINFECTION ON TRACK

TRU-D SmartUVC's new cloud-based usage tracking technology, iTRU-D, uploads data in real time, allowing hospital staff to access customized reports around the clock.

- ✓ TRACK INFECTION CONTROL DATA
- ✓ TRACK USAGE EFFICIENCY
- ✓ TRACK RISK AVERSION

TRU-D is the only automated, no-touch, UV disinfection system that is clinically validated



See the TRU-Difference at tru-d.com

800-774-5799

Disinfection Down to a Science

TRU-D
SMARTUVC™ ROOM DISINFECTION
EPA # 86638-TN-001

INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY

VOLUME 35, NUMBER 4

APRIL 2014

CONTENTS CONTINUED FROM COVER

- 384 Extended-Spectrum β -Lactamase–Producing Enterobacteriaceae in French Nursing Homes: An Association between High Carriage Rate among Residents, Environmental Contamination, Poor Conformity with Good Hygiene Practice, and Putative Resident-to-Resident Transmission** • H el ene Cochard, DN; Benjamin Aubier, MB; Roland Quentin, MD; Nathalie van der Mee-Marquet, PhD, PharmD; for the R eseau des Hygi enistes du Centre
- 390 Carbapenem-Resistant *Klebsiella pneumoniae* Producing New Delhi Metallo- β -Lactamase at an Acute Care Hospital, Colorado, 2012** • Erin E. Epton, MD; Larissa M. Pisney, MD; Joyanna M. Wendt, MD; Duncan R. MacCannell, PhD; Sarah J. Janelle, MPH; Brandon Kitchel, MS; J. Kamile Rasheed, PhD; Brandi M. Limbago, PhD; Carolyn V. Gould, MD; Alexander J. Kallen, MD; Michelle A. Barron, MD; Wendy M. Bamberg, MD
- 398 Risk Factors for Colonization due to Carbapenem-Resistant Enterobacteriaceae among Patients Exposed to Long-Term Acute Care and Acute Care Facilities** • Ashish Bhargava, MD; Kayoko Hayakawa, MD; Ethan Silverman, BS; Samran Haider, MBBS; Krishna Chaitanya Alluri, MBBS; Satya Datla, MBBS; Sreelatha Diviti, MBBS; Vamsi Kuchipudi, MBBS; Kalyan Srinivas Muppavarapu, MBBS; Paul R. Lephart; Dror Marchaim, MD; Keith S. Kaye, MD, MPH
- 406 Multidrug-Resistant *Acinetobacter baumannii* Infection, Colonization, and Transmission Related to a Long-Term Care Facility Providing Subacute Care** • Eva Mortensen, MD; Kavita K. Trivedi, MD; Jon Rosenberg, MD; Sara H. Cody, MD; Janet Long, MS; Bette J. Jensen, MMSc; Duc J. Vugia, MD
- 412 Methicillin-Resistant *Staphylococcus aureus* Transmission and Infections in a Neonatal Intensive Care Unit despite Active Surveillance Cultures and Decolonization: Challenges for Infection Prevention** • Victor O. Popoola, MBBS, MPH, ScM; Alicia Budd, MPH; Sara M. Wittig, MPH; Tracy Ross, BS; Susan W. Aucott, MD; Trish M. Perl, MD, MSc; Karen C. Carroll, MD; Aaron M. Milstone, MD, MHS

CONCISE COMMUNICATIONS

- 419 Outcomes of an Enhanced Surveillance Program for Carbapenem-Resistant Enterobacteriaceae** • Margaret Fitzpatrick, MD; Teresa Zembower, MD, MPH; Michael Malczynski, BS; Chao Qi, PhD; Maureen K. Bolon, MD, MS
- 423 Thirty-Day Laboratory-Based Surveillance for Carbapenem-Resistant Enterobacteriaceae in the Minneapolis-St. Paul Metropolitan Area** • Edwin C. Pereira, MD; Kristin M. Shaw, MPH, CIC; Paula M. Snippes Vagnone, MT(ASCP); Jane E. Harper, BSN, MS, CIC; Alexander J. Kallen, MD, MPH; Brandi M. Limbago, PhD; Ruth Lynfield, MD
- 426 Frequency of *Klebsiella pneumoniae* Carbapenemase (KPC)–Producing and Non-KPC-Producing *Klebsiella* Species Contamination of Healthcare Workers and the Environment** • Clare Rock, MD; Kerri A. Thom, MD, MS; Max Masnick, BA; J. Kristie Johnson, PhD; Anthony D. Harris, MD, MPH; Daniel J. Morgan, MD, MS
- 430 Environmental Exposure to Carbapenem-Resistant *Acinetobacter baumannii* as a Risk Factor for Patient Acquisition of *A. baumannii*** • Rossana Rosa, MD; Kristopher L. Arheart, EdD; Dennise Depascale, MT; Timothy Cleary, PhD; Daniel H. Kett, MD; Nicholas Namias, MD; Louis Pizano, MD; Yovanit Fajardo-Aquino, MD; L. Silvia Munoz-Price, MD

CONTENTS CONTINUED ON NEXT PAGE

INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY

VOLUME 35, NUMBER 4

APRIL 2014

CONTENTS CONTINUED FROM PREVIOUS PAGE

- 434 Carbapenem-Resistant Enterobacteriaceae Rectal Screening during an Outbreak of New Delhi Metallo- β -Lactamase-Producing *Klebsiella pneumoniae* at an Acute Care Hospital** • Larissa M. Pisney, MD; M. A. Barron, MD; E. Kassner, MLS(ASCP); D. Havens, MLS(ASCP); N. E. Madinger, MD
- 437 Challenges in the Management of Infections due to Carbapenem-Resistant Enterobacteriaceae** • Dimitri M. Drekonja, MD, MS; Susan E. Beekmann, RN, MPH, MD; Sean Elliott, MD; Deepa Mukundan, MD; Hari Polenakovik, MD; Marnie E. Rosenthal, DO, MPH; Pranita D. Tamma, MD, MHS; Philip M. Polgreen, MD; Scott J. Weissman, MD
- 440 The Effectiveness of Routine Daily Chlorhexidine Gluconate Bathing in Reducing *Klebsiella pneumoniae* Carbapenemase-Producing Enterobacteriaceae Skin Burden among Long-Term Acute Care Hospital Patients** • Michael Y. Lin, MD, MPH; Karen Lolans, BS; Donald W. Blom, RN, BA; Rosie D. Lyles, MD, MHA; Shayna Weiner, MPH; Kavya B. Poluru, BA, BS; Nicholas Moore, MS, MLS(ASCP); David W. Hines, MD; Robert A. Weinstein, MD; Mary K. Hayden, MD; for the Centers for Disease Control and Prevention Epicenter Program

RESEARCH BRIEFS

- 443 Point Prevalence of *Klebsiella pneumoniae* Carbapenemase-Producing Enterobacteriaceae in Maryland** • J. Kristie Johnson, PhD; Lucy E. Wilson, MD, ScM; LiCheng Zhao, PhD; Katherine Richards, MPH; Kerri A. Thom, MD; Anthony D. Harris, MD; and the Maryland Multidrug-Resistant Organism Prevention Collaborative
- 445 Extended Survival of Carbapenem-Resistant Enterobacteriaceae on Dry Surfaces** • Nancy L. Havill, MT(ASCP), CIC; John M. Boyce, MD; Jonathan A. Otter, PhD
- 447 Carbapenem-Resistant Enterobacteriaceae in Pediatric Patients: Epidemiology and Risk Factors** • Sahera Dirajlal-Fargo, MD; Roberta DeBiasi, MD; Joseph Campos, PhD; Xiaoyan Song, PhD

LETTERS TO THE EDITOR

- 450 Pilot Testing of an Out-of-Country Medical Care Questionnaire with Screening and Cost Analysis of Preemptive Isolation for Carbapenem-Resistant Enterobacteriaceae in a Large Canadian Health Region** • Nipunie Rajapakse, MD; Joseph Vayalunkal, MD; Debbie Lam-Li, BSc; Craig Pearce, MSc; Gwynne Rees, MSc; Linda Kamhuka, MSc; Gisele Peirano, PhD; Corrinne Pidhorney, RN; Donna Ledgerwood, MSc; Nancy Alfieri, BSc; Karen Hope, MSc; Dan Gregson, MD; Johann Pitout, MD; Thomas Louie, MD; John Conly, MD
- 451 Establishing Surveillance for Carbapenem-Resistant Enterobacteriaceae in Minnesota, 2012** • Kristin M. Shaw, MPH, CIC; Jane E. Harper, BSN, MS, CIC; Paula Snippes Vagnone, MT(ASCP); Ruth Lynfield, MD

ERRATUM

- 454 Wang et al (2014;35(1):95-98)**

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 Fakhri, 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 Haiduvan, 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 • Colledgeville, PA
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. Schulster, 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 2014 is \$197. 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: \$460 to \$1,150 (print + electronic), \$383 to \$958 (e-only). Institutional print-only is \$489. 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 inquiries, 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. © 2014 by The Society for Healthcare Epidemiology of America. All rights reserved. This publication is printed on acid-free paper.

The Chicago Manual of Style

SIXTEENTH EDITION

“The Sixteenth Edition of *The Chicago Manual of Style* is here, and it’s hard for some of us to contain our excitement. . . . For those of us who spend our days worrying over words, there really is something thrilling—or at least comforting—about the arrival of the newest incarnation of this venerable guide.”

—*New Yorker Book Bench Blog*

Cloth \$65.00

The Chicago Manual of Style Online is available by annual subscription. Sign up for a thirty-day FREE trial at www.chicagomanualofstyle.org

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

From the Society for Healthcare Epidemiology of America

Practical Healthcare Epidemiology

3rd edition

Edited by Ebbing Lautenbach,
Keith F. Woeltje, and Preeti N. Malani

Revised and expanded

Cloth \$185.00

E-book \$60.00

Cloth + E-book \$200.00

Order your copy online at www.press.uchicago.edu

Address infection prevention and quality of patient care with this hands-on guide to epidemiologic principles and prevention strategies.

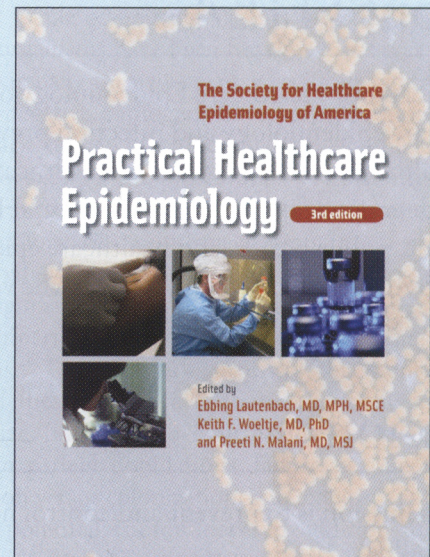
In recent years, issues of infection prevention and control, patient safety, and quality-of-care have become increasingly prominent in healthcare facilities. *Practical Healthcare Epidemiology* takes a practical, hands-on approach to these issues, addressing all aspects of infection surveillance and prevention in clear, straightforward terms. This fully revised third edition brings together the expertise of more than fifty leaders in healthcare epidemiology who provide clear, sound guidance on infection prevention and control for the full range of patients in all types of healthcare facilities, including those in settings with limited resources. A powerful resource for practitioners in any branch of medicine or public health who are involved in infection prevention and control, whether they are experienced in healthcare epidemiology or new to the field.

"A handy desk reference and an up-to-date primer for trainees and experts alike." — JAMA, The Journal of the American Medical Association

"An essential for anyone in the field." — Thomas R. Talbot, Chief Hospital Epidemiologist, Vanderbilt University Medical Center

"A much-needed response to the currently tough challenges posed to healthcare epidemiologists and infection preventionists ... highly recommended reading for trainees and professionals in infection control—and healthcare epidemiologists in particular."

—Clinical Infectious Diseases

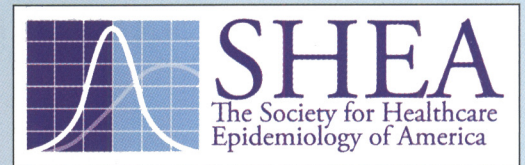


PUBLISHED BY
THE UNIVERSITY
OF CHICAGO PRESS

Join SHEA

Access to the information you need to meet the infection prevention challenges ahead.

- One year subscription to *Infection Control & Hospital Epidemiology*
- Online access to *Infection Control & Hospital Epidemiology*
- Monthly newsletter with abstracts of scientific journal articles and current events
- Online job board
- Online member search
- Continuing Medical Education (CME) and Continuing Nursing Education (CNE) opportunities



About SHEA

The Society for Healthcare Epidemiology of America (SHEA) was founded in 1980 to advance the science of healthcare epidemiology and infection prevention. SHEA works to maintain the utmost quality of patient care and healthcare worker safety in all healthcare settings, applying epidemiologic principles and prevention strategies to a wide range of quality-of-care issues. SHEA is strengthened by its active membership in all branches of medicine, public health, and healthcare epidemiology. The Society's expertise is sought by healthcare regulatory and accrediting agencies, and its scientific voice is influential in guiding decision-making bodies towards rational, effective, cost-conscious policies.

Mission

SHEA's mission is to prevent and control healthcare-associated infections and advance the field of healthcare epidemiology.

Core Values

SHEA as an organization:

- Advances the science of healthcare epidemiology through research and education
- Translates knowledge into effective policy and practice
- Mentors, trains and promotes professional development in healthcare epidemiology
- Collaborates and shares expertise with other organizations
- Adheres to high ethical standards and promotes honesty and ethical principles in the practice of epidemiology

Areas of Focus

- Epidemiologic research and laboratory investigation
- Applying the best evidence for protecting patients and reporting data
- Risk reduction programs focused on device and procedure management
- Policy development and implementation
- Education and information

Please contact info@shea-online.org with membership inquiries.

Join SHEA at www.shea-online.org