

Volume 39, No 5

# Infection Control Hospital Epidemiology





MAY 2018



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Volume 39

## 2018

Number 5

## CONTENTS

## **Original Articles**

- **509** Financial Incentives to Reduce Hospital-Acquired Infections Under Alternative Payment Arrangements *Catherine Crawford Cohen, Jianfang Liu, Bevin Cohen, Elaine L. Larson and Sherry Glied*
- 516 The Economic Value of the Centers for Disease Control and Prevention Carbapenem-Resistant Enterobacteriaceae Toolkit Sarah M. Bartsch, Susan S. Huang, James A. McKinnell, Kim F. Wong, Leslie E. Mueller, Loren G. Miller and Bruce Y. Lee
- **525** A Systematic Review of the Burden of Multidrug-Resistant Healthcare-Associated Infections Among Intensive Care Unit Patients in Southeast Asia: The Rise of Multidrug-Resistant *Acinetobacter baumannii* Nattawat Teerawattanapong, Pornpansa Panich, Disorn Kulpokin, Siriwat Na Ranong, Khachen Kongpakwattana, Atibodi Saksinanon, Bey-Hing Goh, Learn-Han Lee, Anucha Apisarnthanarak and Nathorn Chaiyakunapruk
- 534 Long-Term Impact of Universal Contact Precautions on Rates of Multidrug-Resistant Organisms in ICUs: A Comparative Effectiveness Study
  *E. Yoko Furuya, Bevin Cohen, Haomiao Jia and Elaine L. Larson*
- 541 Association Between Healthcare-Associated Infection and Exposure to Hospital Roommates and Previous Bed Occupants with the Same Organism *Bevin Cohen, Jianfang Liu, Adam Ross Cohen and Elaine Larson*
- 547 Urine Culture on Admission Impacts Antibiotic Use and Length of Stay: A Retrospective Cohort Study Molly J. Horstman, Andrew M. Spiegelman, Aanand D. Naik and Barbara W. Trautner
- 555 Risk of Surgical Site Infection (SSI) following Colorectal Resection Is Higher in Patients With Disseminated Cancer: An NCCN Member Cohort Study Mini Kamboj, Teresa Childers, Jessica Sugalski, Donna Antonelli, Juliane Bingener-Casey, Jamie Cannon, Karie Cluff, Kimberly A. Davis, E. Patchen Dellinger, Sean C. Dowdy, Kim Duncan, Julie Fedderson, Robert Glasgow, Bruce Hall, Marilyn Hirsch, Matthew Hutter, Lisa Kimbro, Boris Kuvshinoff II, Martin Makary, Melanie Morris, Sharon Nehring, Sonia Ramamoorthy, Rebekah Scott, Mindy Sovel, Vivian Strong, Ashley Webster, Elizabeth Wick, Julio Garcia Aguilar, Robert Carlson and Kent Sepkowitz
- 563 The Impact of *Clostridium difficile* Infection on Future Outcomes of Solid Organ Transplant Recipients *Ruihong Luo, Janice M. Weinberg and Tamar F. Barlam*
- 571 Role of Hand Hygiene Ambassador and Implementation of Directly Observed Hand Hygiene Among Residents in Residential Care Homes for the Elderly in Hong Kong Vincent C. C. Cheng, Hong Chen, Shuk-Ching Wong, Jonathan H. K. Chen, Wing-Chun Ng, Simon Y. C. So, Tuen-Ching Chan, Sally C. Y. Wong, Pak-Leung Ho, Lona Mody, Felix H. W. Chan, Andrew T. Y. Wong and Kwok-Yung Yuen
- **578** Empiric Antibiotic Prescribing Decisions Among Medical Residents: The Role of the Antibiogram *Gregory B. Tallman, Rowena A. Vilches-Tran, Miriam R. Elman, David T. Bearden, Jerusha E. Taylor, Paul N. Gorman and Jessina C. McGregor*

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- **584** Outpatient Antibiotic Prescription Trends in the United States: A National Cohort Study *Michael J. Durkin, S. Reza Jafarzadeh, Kevin Hsueh, Ya Haddy Sallah, Kiraat D. Munshi, Rochelle R. Henderson and Victoria J. Fraser, for the CDC Prevention Epicenters*
- **590** Use of a Single Xpert MTB/RIF Assay to Determine the Duration of Airborne Isolation in Hospitalized Patients With Suspected Pulmonary Tuberculosis *Husain Poonawala, Surbhi Leekha, Sandra Medina-Moreno, Mala Filippell, J. Kristie Johnson, Robert R. Redfield and Kapil K. Saharia*

## **Review Article**

**596** *Clostridium difficile* Exposures, Colonization, and the Microbiome: Implications for Prevention Sara L. Revolinski and L. Silvia Munoz-Price

### **Concise Communications**

- **603** The Epidemiology of Community *Clostridium difficile* Infection: A Five-Year Population-Based Study on the Bailiwick of Jersey, Channel Islands *Shankar Kumar, Irina Chis Ster, Richard Pollok, Ivan Muscat and Timothy D. Planche*
- **608** Multidrug Resistant *Acinetobacter baumanii*: A 15-Year Trend Analysis *Dana L. Russell, Daniel Z. Uslan, Zachary A. Rubin, Tristan R. Grogan and Elise M. Martin*
- 612 Denominator Matters in Estimating Antimicrobial Use: A Comparison of Days Present and Patient Days Rebekah W. Moehring, Elizabeth S. Dodds Ashley, Xinru Ren, Yuliya Lokhnygina, Arthur W. Baker, Travis M. Jones, Sarah S. Lewis, Daniel J. Sexton and Deverick J. Anderson and the Centers for Disease Control and Prevention Epicenters Program
- 616 Resident Physician Knowledge of Urine Testing and Treatment Over Four Years Shannon L. Andrews, Lilian M. Abbo, James R. Johnson, Michael A. Kuskowski, Bhavarth S. Shukla and Dimitri M. Drekonja
- 619 Time to Detection in Culture Supports Prediction of Low Transmissibility of Tuberculosis and Discontinuation of Isolation for Low-Risk Patients With A Single AFB-Negative and NAAT-Negative Respiratory Specimen

Saahir Khan, Audrey Nakasone, Minoo Ghajar, Mariam Zhowandai, Sunita Prabhu, Rick Alexander, Julie Low, Ellena Peterson and Lauri Thrupp

**622** Comparing the Bioburden Measured by Adenosine Triphosphate (ATP) Luminescence Technology to Contact Plate–Based Microbiologic Sampling to Assess the Cleanliness of the Patient Care Environment *Elizabeth Salsgiver, Daniel Bernstein, Matthew S. Simon, William Greendyke, Haomiao Jia, Amy Robertson, Selma Salter, Audrey N. Schuetz, Lisa Saiman, E. Yoko Furuya and David P. Calfee* 

### **Research Briefs**

- 625 Reductions in *Clostridium difficile* Infection (CDI) Rates Using Real-Time Automated Clinical Criteria Verification to Enforce Appropriate Testing *Kathleen A. Quan, Jennifer Yim, Doug Merrill, Usme Khusbu, Keith Madey, Linda Dickey, Amish A. Dangodara, Scott E. Rudkin, Margaret O'Brien, Daniel Thompson, Nimisha Parekh, C. Gregory Albers, William C. Wilson, Lauri Thrupp, Cassiana E. Bittencourt, Susan S. Huang and Shruti K. Gohil*
- 627 Pneumocystis jirovecii Exhalation in the Course of Pneumocystis Pneumonia Treatment Laurence Pougnet, Anne Grall, Marie-Christine Moal, Richard Pougnet, Yohann Le Govic, Steven Négri, Gilles Nevez and Solène Le Gal

## Letters to the Editor

631 An Undiagnosed Index Case Leading to a Nosocomial Scabies Outbreak: How Mass Single-Dose Ivermectin Treatment Can Help Control a Nosocomial Epidemic *Pierre H. Boyer, Stéphanie Deboscker, Céline Hernandez, Morgane Ramsheyi, Pauline Schneider, Jacinthe Foeglé and Thierry Lavigne* 

- 632 Lifesaving *Streptococcus bovis* Surgical Site Infection *Walter Woznick, Jessica Woznick and Hari Polenakovik*
- 634 "It's in Your Hands—Prevent Sepsis in Health Care": 5 May 2018, World Health Organization (WHO) SAVE LIVES: Clean Your Hands Campaign *Hiroki Saito, Tcheun Borzykowski, Claire Kilpatrick, Daniela Pires, Benedetta Allegranzi and Didier Pittet*

An Official Publication of the Society for Healthcare Epidemiology of America

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*Infection Control & Hospital Epidemiology* (ISSN 0899-823X) is published monthly by Cambridge University Press, One Liberty Plaza, New York, NY 10006, USA.

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Postmaster: Send address changes to *Infection Control & Hospital Epidemiology*, Cambridge University Press, One Liberty Plaza, New York, NY 10006 USA.

## About the cover:



Since 2015, the cover format of each volume of *Infection Control & Hospital Epidemiology* has been designed to honor one of the many professionals throughout history who not only recognized how disease might be spread but also how to apply those principles to reduce healthcare-associated infections.

John Snow (1813–1858) was 1 of 9 children born to a working-class family in York, England. At the age of 14, he was apprenticed as a surgeon-apothecary with a family friend in Newcastle. He was sent to tend the afflicted in a nearby mining town during a cholera outbreak in 1832. He pursued his medical degree at the University of London, with the sponsorship of a wealthy uncle, and he initially set up a general practice in Soho. He gained fame as a practitioner of the new discipline of anesthesia and tended to Queen Victoria during the births of her children.

On August 24, 1854, a baby died of cholera on Broad Street near Soho. Shortly thereafter, 700 deaths from cholera occurred within a radius of 250 yards, and Snow happened to live

nearby. As an anesthetist, he recognized how gases dissipated, and he rejected the prevailing dogma that cholera was spread through the inhalation of atmospheric vapors from decaying material because it would not explain how patients were affected miles away from the source. Snow hypothesized that water, contaminated with some cholera agent in feces, was the more likely explanation.

Using epidemiological principles, he identified who was affected using death certificates and where the illness was acquired (e.g., where case patients lived), then he determined what water supply they had used. He discovered that most households with a cholera case obtained water from the Broad Street pump. Snow ordered that the pump handle be removed. A local curate, Henry Whitehead, initially sought to disprove Snow's suspicions through further surveillance. Instead, Whitehead found that 8-fold more case patients had drunk from the pump than had not. Furthermore, he revealed that deaths occurred more often among residents who resided closest to the pump than in houses located farther away or that used a different water source. Ultimately, a leak between the Broad Street pump and a neighboring cesspool was discovered.

John Snow continued to carefully study the relationship between water contamination and cholera. Unfortunately, his work in epidemiology was ignored or pilloried in editorials in major journals. Snow would not live long enough to be recognized as a founder of modern epidemiology; he died of "apoplexy" or stroke at the age of 45 years. The John Snow Inn and a replica of the Broad Street pump can still be found in what is now called Broadwick Street in Soho, central London.

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