

INTRODUCTION

Introduction to “Preventing Healthcare-Associated Infections: Results and Lessons Learned from AHRQ’s HAI Program”

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For over a decade, the Agency for Healthcare Research and Quality (AHRQ) has invested in research and implementation projects to prevent healthcare-associated infections (HAIs) in diverse healthcare settings. AHRQ’s commitment to HAI prevention has been expressed in activities within the agency and through its funding of contracts and grants. In 2011, AHRQ funded IMPAQ International and the RAND Corporation to conduct a synthesis of results of AHRQ-funded HAI projects to identify the major results and lessons learned stemming from AHRQ-funded research, disseminate this information, and identify remaining gaps in the HAI knowledge base. To accomplish these goals, the synthesis draws information from AHRQ-funded project documents (final reports, peer-reviewed literature, and HAI-prevention tool kits), in-depth interviews with project leaders, and the AHRQ-published *Advances in the Prevention and Control of HAIs*,¹ which focuses on methods. In addition, the present volume, “Preventing Healthcare-Associated Infections: Results and Lessons Learned from AHRQ’s HAI Program,” is one of two supplements published in peer-reviewed infection control journals. The *American Journal of Infection Control* is publishing the other special supplement. Both publications are key information sources for the synthesis project and the field and serve as valuable mechanisms for disseminating the scientific results of the HAI projects.

This volume presents 18 manuscripts developed by AHRQ-funded HAI project leaders who have agreed to share important scientific findings. The articles examine epidemiological topics such as regional variation in catheter-associated urinary tract infection and urinary catheter use;^{2,3} the spread of multidrug-resistant organisms (MDROs) between nursing homes and acute care hospitals;⁴ risk factors and detection of surgical site infections;^{5,6} mortality among patients with healthcare-associated pneumonia;⁷ age, gender, racial, and ethnic disparities in HAI rates;^{8,9} and resistance of *Staphylococcus aureus* to zinc and cadmium.¹⁰ In addition, the studies included herein report results related to HAI-prevention and quality-improvement efforts, such as effectiveness

of and cost savings from universal methicillin-resistant *Staphylococcus aureus* decolonization versus screening and isolation and targeted decolonization;^{11,12} development of a tool to assess the Comprehensive Unit-Based Safety Program to Eliminate Ventilator-Associated Pneumonia implementation progress;¹³ effectiveness of antibiotic stewardship programs in acute care hospitals,¹⁴ skilled nursing facilities,¹⁵ pediatric primary care practices,^{16,17} and assisted living;¹⁸ and the use of microbiology data to notify infection preventionists about admission of patients with MDROs.¹⁹ Collectively, the articles presented in this volume contribute substantially to HAI-prevention science, and we trust they will be of interest to readers of this journal.

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REFERENCES

1. Battles JB, Cleeman JI, Kahn KK, Weinberg DA, eds. *Advances in the Prevention and Control of HAIs*. Rockville, MD: Agency for Healthcare Research and Quality, June 2014. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/advances-in-hai/index.html>. Accessed August 20, 2014.
2. Greene MT, Fakh MG, Fowler KE, et al. Regional variation in

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- urinary catheter use and catheter-associated urinary tract infection: results from a national collaborative. *Infect Control Hosp Epidemiol* 2014;35:S99–S106 (in this issue).
3. Greene MT, Kiyoshi-Teo H, Reichert H, et al. Urinary catheter indications in the United States: results from a national survey of acute care hospitals. *Infect Control Hosp Epidemiol* 2014;35: S96–S98 (in this issue).
 4. Kahvecioglu D, Ramiah K, McMaughan, D, et al. Multidrug-resistant organism infections in US nursing homes: a national study of prevalence, onset, and transmission across care settings, October 1, 2010–December 31, 2011. *Infect Control Hosp Epidemiol* 2014;35:S48–S55 (in this issue).
 5. Bish EK, El-Amine H, Steighner LA, Slonim AD. A socio-technical, probabilistic risk assessment model for surgical site infections in ambulatory surgery centers. *Infect Control Hosp Epidemiol* 2014;35:S133–S141 (in this issue).
 6. Warren DK, Nickel KB, Wallace AE, et al. Can additional information be obtained from claims data to support surgical site infection diagnosis codes? *Infect Control Hosp Epidemiol* 2014; 35:S124–S132 (in this issue).
 7. Rothberg MB, Haessler S, Lagu T, et al. Outcomes of patients with healthcare-associated pneumonia: worse disease or sicker patients? *Infect Control Hosp Epidemiol* 2014;35:S107–S115 (in this issue).
 8. Eckenrode S, Bakullari A, Metersky ML, et al. The association between age, sex, and hospital-acquired infection rates: results from the 2009–2011 national Medicare Patient Safety Monitoring System. *Infect Control Hosp Epidemiol* 2014;35:S3–S9 (in this issue).
 9. Bakullari A, Metersky ML, Wang Y, et al. Racial and ethnic disparities in healthcare-associated infections in the United States, 2009–2011. *Infect Control Hosp Epidemiol* 2014;35:S10–S16 (in this issue).
 10. Nair R, Thapaliya D, Su Y, Smith TC. Resistance to zinc and cadmium in *Staphylococcus aureus* of human and animal origin. *Infect Control Hosp Epidemiol* 2014;35:S32–S39 (in this issue).
 11. Huang SS, Septimus E, Avery TR, et al. Cost savings of universal decolonization to prevent intensive care unit infection: implications of the REDUCE MRSA trial. *Infect Control Hosp Epidemiol* 2014;35:S23–S31 (in this issue).
 12. Septimus EJ, Hayden MK, Kleinman K, et al. Does chlorhexidine bathing in adult intensive care units reduce blood culture contamination? a pragmatic cluster-randomized trial. *Infect Control Hosp Epidemiol* 2014;35:S17–S22 (in this issue).
 13. Ali KJ, Farley DO, Speck K, et al. Measurement of implementation components and contextual factors in a two-state health-care quality initiative to reduce ventilator-associated pneumonia. *Infect Control Hosp Epidemiol* 2014;35:S116–S123 (in this issue).
 14. Ostrowsky B, Ruiz R, Brown S, et al. Lessons learned from implementing *Clostridium difficile*-focused antibiotic stewardship interventions. *Infect Control Hosp Epidemiol* 2014;35:S86–S95 (in this issue).
 15. Furuno JP, Comer AC, Johnson JK, et al. Using antibiograms to improve antibiotic prescribing in skilled nursing facilities. *Infect Control Hosp Epidemiol* 2014;35:S56–S61 (in this issue).
 16. Szymczak JE, Feemster KA, Zaoutis TE, Gerber JS. Pediatrician perceptions of an outpatient antimicrobial stewardship intervention. *Infect Control Hosp Epidemiol* 2014;35:S69–S78 (in this issue).
 17. Fierro JL, Prasad PA, Localio AR, et al. Variability in the diagnosis and treatment of group A streptococcal pharyngitis by primary care pediatricians. *Infect Control Hosp Epidemiol* 2014; 35:S79–S85 (in this issue).
 18. Sloane PD, Zimmerman S, Reed D, et al. Antibiotic prescribing in 4 assisted-living communities: incidence and potential for improvement. *Infect Control Hosp Epidemiol* 2014;35:S62–S68 (in this issue).
 19. Rosenman MB, Szucs KA, Finnell SME, et al. Nascent regional system for alerting infection preventionists about patients with multidrug-resistant gram-negative bacteria: implementation and initial results. *Infect Control Hosp Epidemiol* 2014;35:S40–S47 (in this issue).