

## Healthcare-Associated Infections

Healthcare-associated infections (HAI) are responsible for significant morbidity, mortality and economic consequences in the United States. Reducing the incidence of HAI will require a collaborative, multi-agency response that includes federal, state and local public health, regulatory and licensing agencies, public and private health insurance payers, and health care providers. The core mission of state and territorial public health agencies includes protecting the public from infectious disease, including healthcare consumers, and their role in healthcare quality assurance. A response that focuses on prevention, disease surveillance and reporting, and education will be integral in reducing the burden of HAI.

The consequences of HAI are staggering:

- It is estimated that out of every 100 hospital admissions, 4.5 patients acquire an infection during their stay.<sup>1</sup>
- CDC estimates that the number of individuals discharged with a diagnosis for *Clostridium difficile*-associated disease (CDAD) nearly doubled from 82,000 to 171,000 between 1996 and 2003.<sup>2</sup> One study showed that CDAD cost a single hospital nearly \$1 million in 2004.<sup>3</sup>
- CDC also estimates there has been a substantial increase in the number of norovirus outbreaks in long-term care facilities between 2006 and 2007.<sup>4</sup>
- The total estimated economic burden on hospitals due to *Staphylococcus* infections increased 11.4% annually from 1998 and 2003, from \$8.7 billion in 1998 to \$14.5 billion in 2003. Each *Staphylococcus* infection results in an additional \$37,251 in hospital costs per individual.<sup>5</sup>
- In 2003, over 70% of hospital-acquired MRSA infections were paid for by public insurance programs: Medicare (57.8%) and Medicaid (13.1%).<sup>5</sup>

Additionally, the transition in healthcare from hospital-based to outpatient procedures has shifted the risk of infection from hospitals to other facilities such as outpatient facilities, endoscopy clinics, cardiology clinics and ambulatory surgical centers. Despite this shift, infection control expertise remains largely hospital-based. The lack of infection control expertise may be a contributing factor behind recent high profile events that occurred after the reuse of syringes and potentially exposed thousands to viral hepatitis and HIV/AIDS. However, the data are very limited on the true burden of infections as a result of these events.

While there are estimates on the number of HAI as a whole, it is less clear how many infections result from unsafe injection practices and other severe breaches of infection control protocol. HAI can be the result of improper infection control, misuse of medical equipment, improper wound care and environmental contamination, among other reasons. HAI are further complicated by the increase of antibiotic resistant bacteria. The emergence of antibiotic resistant bacteria can be largely attributed to the overuse and inappropriate use of antibiotics in humans, veterinary medicine, and agriculture making infections more difficult and costly to treat. (For more information, please see the ASTHO position statement on Antimicrobial Resistance.) Strict adherence to standard infection control protocols such as hand hygiene, appropriate perioperative antibiotic prophylaxis, standard contact precautions, and the appropriate separation of infectious patients as recommended by the CDC helps decrease the risk of these infections.

### **FEDERAL RESPONSE TO HEALTHCARE-ASSOCIATED INFECTIONS**

- ASTHO strongly supports the implementation of the Department of Health and Human Services Action Plan to Prevent HAI, which uses an integrated approach involving all federal health agencies to decrease the burden of HAI.
- Although \$50 million was included in the American Recovery and Reinvestment Act of 2009 to help states implement HAI reduction strategies, there currently is no sustainable federal funding stream to support state health agencies in preventing, reporting and responding to HAI.

Continued federal financial support for state HAI education and reporting programs would greatly increase the understanding of the burden on the health system and help reduce the health burden and cost of HAI.

- The Department of Health and Human Services should fund research at the Agency for Healthcare Quality and Research and the CDC's Division of Healthcare Quality Promotion to identify and understand the most effective measures to reduce HAI.
- Further research is desperately needed to determine the true burden of HAI across the spectrum of healthcare facilities including hospitals, ambulatory care facilities, physician offices and long-term care facilities. Additional research is needed to develop process and outcome measures that will be cost-effective and proven methods to decrease HAI.
- The Centers for Medicare and Medicaid Services should develop and require evidence-based outcome and process measures related to HAI that will reduce the number of infections and, when implemented, will be cost-effective.

### **SURVEILLANCE, INFECTION REPORTING AND PUBLIC DISCLOSURE**

- State health agencies should have access to the National Health Safety Network data from hospitals in their state that participate in the program.
- Hospitals should report process measures that, when implemented, have been proven to reduce the number of infections associated with hospital stays.
- Facility reporting requirements should include HAI and process measures that lead to improvements in infection control practice, a reduction in the economic burden on public insurance systems and the health system overall, and an increase in the quality of healthcare.
- State public health agency involvement is crucial in the evaluation of public reporting of HAI rates and process measures to determine their benefit. State public health agencies can help prioritize and increase investment in infection control practices proven to decrease HAI rates.
- Appropriate information technology should be developed in an integrated manner to support efficient and timely reporting of relevant data.

### **RESPONSE**

- State health agencies should play a vital role in limiting transmission of infection and recommending best practices when HAI outbreaks occur. Agencies should also have the legal and regulatory authority to investigate HAI outbreaks.

Response to healthcare related outbreaks requires extensive cooperation between regulatory entities, healthcare epidemiologists, and public health investigators. State public health agencies should receive cooperation from licensing and regulatory entities and accreditation bodies that accredit invasive ambulatory care centers.

### **PREVENTION**

- Infection control expertise at facilities such as long-term care, ambulatory surgery centers, infusion centers and dialysis centers is severely inadequate. ASTHO strongly supports increased investment in infection control at these types of facilities.
- ASTHO strongly supports implementation of the CDC's Healthcare Infection Control Practices Advisory Committee (HICPAC) recommendations.
- Appropriate personal protective equipment should always be available to healthcare workers and be employed to prevent the transmission of disease within healthcare facilities.
- ASTHO strongly believes that healthcare personnel should receive vaccinations specific to healthcare workers including the Influenza, Hepatitis B, Measles/Mumps/Rubella, and Tetanus/Diphtheria/Pertussis vaccines as recommended by the Advisory Committee on Immunization Practices.
- Safety and infection prevention should be engineered into the design of medical devices, medication packaging, and environmental controls to decrease HAI.
- ASTHO strongly supports the development of regional partnerships to address local or regional HAI problems.



### WORKFORCE EDUCATION

- Healthcare education curricula should incorporate a focused and robust infection control component throughout the education process to ensure proper techniques are learned in the classroom and reinforced during the clinical component of education.
- ASTHO strongly supports including infection control education as part of continuing education requirements for healthcare personnel. This education should reinforce best practices and include updates on new infection control recommendations.

### APPROVAL HISTORY

*ASTHO Position Statements relate to specific issues that are time sensitive, narrowly defined, or are a further development or interpretation of ASTHO policy. Statements are developed and reviewed by appropriate Policy Committees and approved by the ASTHO Executive Committee. Position Statements are not voted on by the full ASTHO membership.*

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*Executive Committee Review and Approval on August 19, 2009.*

*Policy expires on August 19, 2012.*

*For further information about this Position Statement, please contact ASTHO Infectious Disease Policy staff at [infectious@astho.org](mailto:infectious@astho.org). For ASTHO policies and additional publications related to the Position Statement, please visit [www.astho.org](http://www.astho.org).*

### RELATED ASTHO PUBLICATIONS

ASTHO General Policy Statement  
Infectious Disease Policy Statement  
Immunization Policy Statement  
Antibiotic Resistance Position Statement

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<sup>1</sup> Klevens, et al, "Estimating health care-associated infections and deaths in U.S. hospitals, 2002." *Public Health Reports*, 2007. 122(2): 160-166.

<sup>2</sup> McDonald, LC, Owings, M and Jernigan DB, "Clostridium difficile infection in patients discharged from US short-stay hospitals, 1996-2003." *Emerging Infectious Diseases*, 2006. 12: 409-415.

<sup>3</sup> Redelings, MD, Sorvillo F and Mascola, L "Increase in *Clostridium difficile*-related mortality rates, United States, 1999-2004." *Emerging Infectious Diseases*, 2007. 13(9): 1417-1419.

<sup>4</sup> "Norovirus Activity-United States, 2006-2007." *Morbidity and Mortality Weekly Report*, 2007. 56(33) 842-846.

<sup>5</sup> Noskin, et al, " National trends in *Staphylococcus aureus* infection rates: impacts on economic burden and mortality over a 6-year period (1998-2003)." *Clinical Infectious Diseases*, 2007. 45: 1132-1140.