



Infectious Disease Experts Urge Hospitals to Reduce Infections and Protect Patients

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Infectious disease experts speaking at a New York-area seminar on infection prevention, urged hospitals to take steps that protect patients and reduce costs. Left to right: Janet Stout, PhD, microbiologist at the University of Pittsburgh; Besty McCaughey, PhD, chair of the Committee to Reduce Infection Deaths (RID); and Joseph S. Cervia, MD, of Albert Einstein College of Medicine and medical director of Pall Corporation. (Photo: Business Wire)

NEW YORK -- "Hospital infections affect two million Americans every year, costing 100,000 lives and adding \$30.5 billion to the nation's healthcare tab," said Betsy McCaughey, PhD, founder and chairman of the Committee to Reduce Infection Deaths (RID). "This issue is especially critical for New York right now," she said, because infection rates of New York hospitals will be made public beginning in 2008.

McCaughey, legionella expert Janet E. Stout, PhD, of the University of Pittsburgh, and Bruce Farber, MD, chief of infectious diseases at North Shore University Hospital in New York, met with New York-area hospital executives and infection control professionals recently to discuss the latest medical and economic data on infections acquired in the healthcare setting and provide solutions. The seminar, held at the Hilton in Melville, N.Y., was sponsored by RID and the North Shore-Long Island Jewish (LIJ) Health System with an educational grant from Pall Corporation.

Maureen and Marie Daly of Brooklyn, who lost their mother, Johanna, to a hospital infection in 2004, lent a personal perspective to the clinical discussion. Johanna Daly was a healthy, active 63-year-old when she entered the hospital for repair of a fractured shoulder. Within a few days of her discharge she had a raging fever and died three months later from a severe infection caused by a combination of deadly bacteria. Dedicating herself to the cause of reducing hospital infection, Maureen Daly gave up her business and joined RID full-time. "It means everything to me to be able to help prevent this from happening to others," she said.

Stout, a microbiologist at the University of Pittsburgh Department of Civil and Environmental Engineering, educated seminar attendees about a less well-known, but no less deadly, source of infection in healthcare settings. Conveying "Lessons Learned from Legionella," she took participants on a guided tour of hospital water systems – faucets and showers, ice machines, cooling towers, humidifiers and even decorative fountains, where biofilm, legionella and other deadly microorganisms thrive.

"If you have it in your water, you're going to have it in your patients," Stout warned. "It's not even necessary for vulnerable patients to come into direct contact with water," she said. "They can become infected just by breathing the aerosols, which take the form of steam or mist from hospital showers and sinks."

While Legionnaires' disease has been the subject of considerable media attention due to several recent outbreaks across the country, Stout highlighted other waterborne pathogens – bacteria and fungi – that can be as dangerous to patients, including *Pseudomonas aeruginosa*, *Mycobacterium avium* and *Aspergillus fumigatus*.

Infectious disease specialist and seminar moderator Joseph S. Cervia, MD, explained why disinfection is so difficult. "The problem of eradicating waterborne microbes from hospital water systems so that patients are not exposed to them is compounded by the growing threat posed by amoebae that harbor the microbes and protect them from physical and chemical disinfection technologies," he said. "The microbes survive and multiply inside the amoebae and are released into hospital water systems, where they can become a source of serious infection."

McCaughey, a leading national figure in infection prevention and former lieutenant governor of New York, illustrated the cost-effectiveness of infection control. Research shows that eliminating infections can result in a 20-to-1 payback for the hospital within the first year alone, with no or minimal capital outlay. "Good infection control can make the difference between profitability and loss for an individual hospital," she said.

"Hospitals can ill afford outbreaks," said Stout, underscoring the financial impact. "A single outbreak of Legionnaires' disease can cost anywhere from \$880,000 to \$1,630,000, not to mention the cost to a hospital's reputation." Stout reviewed state-of-the-art solutions for reducing legionella and other waterborne microorganisms, noting that no single systemic disinfection technology can completely and permanently eliminate these pathogens from hospital water systems. "Protection for at-risk patients also requires point-of-use filtration technology," she said.

McCaughey focused on cost-effective measures to curb the alarming rise in methicillin-resistant *Staphylococcus aureus* (MRSA), one of the deadliest germs responsible for hospital infection and one of the hardest to treat. She presented success stories from hospitals in Virginia, Pennsylvania, and Iowa that realized significant reductions in infection rates through simple screening programs and rigorous enforcement of staff and equipment hygiene procedures.

There is no more timely an issue than the importance of implementing effective infection controls, according to McCaughey, because of the larger impact that it can have on emerging threats such as bioterror and bird flu. "In the event of a major outbreak, proper procedures, rigorously followed, can help reduce infection in first responders, healthcare workers and patients," she said.

"Minimizing the risk of HAIs is the highest priority of the North Shore-LIJ Health System," said Farber. "The epidemiology and virulence of HAIs change over time, so it is imperative that healthcare providers have control strategies in place to stay ahead of the problem."

Farber, who advises on infectious disease issues throughout the North Shore-LIJ system, added that many infections are the product of novel therapies that are being used to treat diseases that in the past were not amenable to therapy. The North Shore-LIJ Health System has implemented a number of programs to minimize risks, in addition to a myriad of standard policies and procedures that are already in place to accomplish this goal. These include participation in the nationwide infection awareness and education campaign being led by the Institute for Healthcare Improvement (IHI); a control program for addressing MRSA infections, including the use of high-tech screening of high-risk patients; disinfection, notification and isolation techniques to control *Clostridium difficile*, a bacterium that can cause serious bowel problems; employee education on hand hygiene and disinfection; surgeon-specific infection rate monitoring; and computer tracking of HAIs.

Source: Committee to Reduce Infection Deaths