The systematic collection and analysis of data on health care-associated infections have yielded critical, evidence-based information that can improve infection prevention and control.

According to the Centers for Disease Control and Prevention (CDC), health care-based strategies that combine monitoring, prevention, and control of health care-associated infections have been underway since the 1950s.

Among the recent initiatives is the Prevention Epicenters program, a partnership between the CDC and seven medical centers that began in 2000. The Epicenters have undertaken a number of projects to enhance patient safety by implementing proven infection-control strategies, including using electronic data to detect infection patterns and interventions to encourage hand washing between patient contacts.

“The Epicenters program allows us to take what is known about preventing infections and apply it in a practical, real-world setting," says Jerome Tokars, M.D., M.P.H., a medical epidemiologist at CDC.

For example, an educational campaign developed by the Washington University Prevention Epicenter in St. Louis explains to health care professionals the risk factors for central catheter-associated bloodstream infections among intensive care patients and methods for minimizing them. Preliminary results show a substantial reduction in the incidence of infection.

“We were able to document a significant change in physician practice because of the intervention,” says David K. Warren, M.D., assistant professor of medicine, Washington University School of Medicine, and associate hospital epidemiologist at Barnes-Jewish Hospital in St. Louis. “Our project helps establish benchmarks. If top management realizes their unit is out of synch with other units across the country, it might motivate them to take action.” The module, piloted in St. Louis, is available through the Association for Professionals in Infection Control and Epidemiology, Inc.

Since 1998, a CDC-funded project has used innovative computer-based methods to monitor and prevent infections. For the Chicago Antimicrobial Resistance Project (CARP), researchers collaborated with three public hospitals of the Cook County Bureau of Healthcare Services to develop a clinical data warehouse using the hospitals’ information systems. The data were used to monitor the prevalence of drug-resistant bacterial infections, to measure use of antibiotics, and to detect health care-associated bloodstream infections. The warehouse also enables researchers to assess the cost associated with treating the infections and to detect errors in prescribing antibiotics.

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This pioneering demonstration project suggests that automating surveillance, transferring data, and reporting infections can significantly improve infection control. Through CARP, a series of quality improvement strategies was launched to decrease antimicrobial resistance and improve antibiotic prescribing and infection control practices.

“CARP will help us address the threat of antimicrobial resistance by developing strategies to prevent the emergence and spread of antimicrobial-resistant microorganisms in hospitals,” says Robert A. Weinstein, M.D., chair, Division of Infectious Diseases, Stroger Hospital of Cook County and professor of medicine, Rush Medical College.

The challenges involved with introducing interventions across many health care facilities are numerous and complex. “If implementing guidelines in a certain way leaves too many patients vulnerable to health care-associated infections, then we must change our approach,” says Tokars. “It’s important to learn from these experiences not just what works, but what doesn’t.”

Experts agree that handwashing is the simplest, most effective way to reduce the risk of spreading infection. Yet a recent survey revealed that up to 30 percent of travelers don’t wash their hands after using public restrooms at airports.

The more widely antibiotics and antiviral medications are used, the more likely it is that drug-resistant microorganisms will emerge.

FACTS

RESOURCES FOR PATIENTS AND PROVIDERS

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