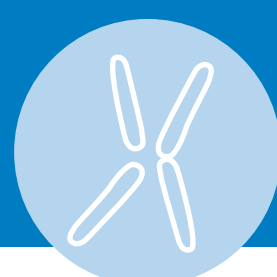
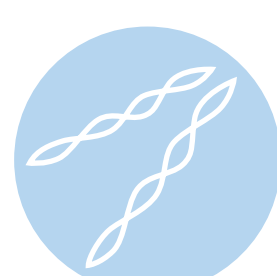




treating **HAI** seriously



Healthcare-Associated Infections: Often referred to as “nosocomial infections,” healthcare-associated infections (HAIs) are new infections that patients may acquire while under the care of a healthcare institution. Typical infections result from inadvertent exposure to bacteria, viruses, fungi, and/or spores. Exposure may be due to transmission from contaminated healthcare workers’ hands, environmental surfaces (e.g., bedrails, sinks), practices related to intravenous/arterial line insertion, site maintenance, and many other factors. Many infections are resistant to some kinds of treatment regimens, commonly known as “antimicrobial resistance.”



Helping all people
live healthy lives

HAIs are Preventable

Fortunately, many of the millions of HAIs occurring every year can be prevented — and unnecessary deaths avoided. Hundreds of individual hospital experiences from around the world document the effectiveness of known infection prevention and control practices in preventing HAIs. Organizations including the CDC, the Association for Professionals in Infection Control and Epidemiology (APIC), the Society for Healthcare Epidemiology of America (SHEA) and the Institute for Healthcare Improvement (IHI) have developed evidenced-based intervention guidelines and “bundles” that are proven to reduce and help prevent HAIs.^{10, 12, 13}

“Healthcare facilities must not accept ongoing multidrug-resistant organism (MDRO) infection outbreaks...as status quo. With selection of infection control measures appropriate to their situation, all facilities can achieve the desired goal and reduce the MDRO burden substantially.”¹⁰



BD is proud to be a Strategic Partner with the Association for Professionals in Infection Control and Epidemiology (APIC) and to support its “Call to Action” to eradicate MRSA-associated infections across U.S. hospitals.

BD. Serious About Helping to Prevent HAIs.

BD is committed to applying its expertise, resources, and technologies toward the prevention of HAIs worldwide. Through collaborations with healthcare institutions, healthcare quality organizations, professional societies, and government agencies, we are certain lives can be saved and excess healthcare costs can be avoided. Helping to prevent HAIs is in perfect alignment with BD’s core purpose of **“Helping all people live healthy lives.”**



HAI: A Serious Healthcare Issue

Healthcare-associated infections (HAIs) are a major cause of morbidity and mortality around the world. An estimated 6 million HAIs occur every year across the U.S., Europe and Japan alone.¹ In the U.S., up to 90,000 patients die as a result of an HAI each year,² making HAIs the fourth leading cause of death.³ Beyond the human toll, there is an enormous financial burden to healthcare systems worldwide.

Pennsylvania Healthcare Cost Containment Council 2005:⁴

12.2 HAIs per 1000 cases

12.9 percent average mortality rate

\$3.5 billion hospital charges

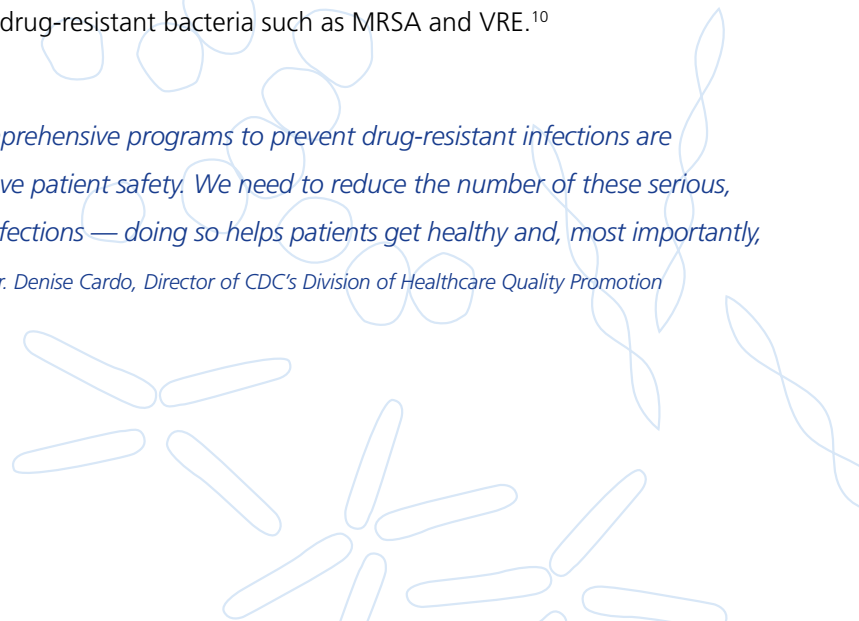
\$185,260 average charge per case

Multidrug-Resistant Bacteria Pose the Biggest Threat

The majority of healthcare-associated infections are caused by bacteria that are resistant to one or more of the antibiotics commonly used to treat infections.⁵ The two most troublesome drug-resistant bacteria are methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus* (VRE). Increased length of hospital stay, mortality and excess hospital costs have been documented for MRSA- and VRE-associated infections.^{6,7} Patients acquiring an MRSA infection have up to a four-fold risk of death, with antibiotic treatment options being very limited.⁸

In many countries, particularly the U.S., MRSA and VRE prevalence rates are rising at an alarming rate. The Centers for Disease Control and Prevention (CDC) reports that 63 percent of staph infections reported in hospitals are now the resistant MRSA strain, up from only 2 percent in 1972.⁹ VRE is following a similar track. CDC issued new guidance in October 2006 calling on U.S. hospitals to make comprehensive infection control programs a priority and to take aggressive steps to reduce rates of drug-resistant bacteria such as MRSA and VRE.¹⁰

*"Effective and comprehensive programs to prevent drug-resistant infections are essential to improve patient safety. We need to reduce the number of these serious, life-threatening infections — doing so helps patients get healthy and, most importantly, saves lives."*¹¹ — Dr. Denise Cardo, Director of CDC's Division of Healthcare Quality Promotion



BD Solutions

The best solution is to prevent HAIs before they can take their toll. However, since not all HAIs are preventable, and many patients are admitted into hospitals with infections already manifesting, faster diagnosis and earlier appropriate treatment are essential to ensure optimal patient outcomes.

HAI Prevention

Preventing the spread of drug-resistant bacteria is essential to any infection prevention and control program. Active surveillance testing for MRSA and VRE colonization is a proven, essential intervention strategy for preventing multidrug-resistant organism-associated HAIs, and is recommended by CDC, SHEA, APIC and IHI.^{10, 12-15}

BD GeneOhm™ MRSA Assay. With results in just 2 hours, versus 24-72 hours required for traditional microbiology cultures, patients carrying MRSA can now be identified upon admission and immediately put into isolation, managed with CDC-recommended contact precautions and treated accordingly — to prevent subsequent MRSA infections to themselves or others.^{10, 12}

“PCR [rapid molecular] screening for MRSA on admission to Critical Care Units is feasible in routine clinical practice, provides quicker results than culture based screening, and is associated with a significant reduction in subsequent MRSA transmission on the unit...4.90 transmissions per 1000 patient days using the PCR rapid molecular test versus 13.89 transmissions when using traditional culture method.”²⁰

Catheter-related bloodstream infections (CRBSIs) are a major concern, as the reported 80,000 CRBSIs annually in the U.S. have an estimated mortality rate of 12-25 percent.^{21, 22, 23} BD has a long-standing leadership role in intravenous (IV) therapy and closed IV access systems designed to help prevent bloodstream infections. Our latest technologies — **BD Nexiva™** Closed IV Catheter System, **BD PosiFlush™** Prefilled Syringes, BD split septum IV access devices, including **BD Q-Syte™** IV Access System and **Interlink®** Needleless IV Access Devices — were all engineered with infection control and prevention of HAIs in mind.

CDC/HICPAC and SHEA Guidelines recommend implementation of single-use disposable medical devices, when appropriate, as an integral part of infection prevention and control.¹⁰ **BD Vacutainer®** products include innovative, single-use specimen collection systems designed to help reduce pathogen exposure — BD Vacutainer® Push Button Blood Collection Sets, BD Vacutainer® Eclipse™ Blood Collection Needles and BD Vacutainer® Stretch-Latex Free Tourniquets.

Faster Diagnosis for Earlier Appropriate Antibiotic Treatment

It makes sense that the earlier a patient presenting with symptoms of an infection is put on the proper antibiotic, the better the outcome.²⁴ BD is committed to enabling earlier actionable diagnostic information.

The **BD BACTEC™** 9000 series blood culturing instruments used with patented resin-containing media have shown higher rates of organism recovery, allowing for proper diagnosis and treatment of bloodstream infections.²⁵

The **BD Phoenix™** system, with its unique technology for susceptibility testing, provides high accuracy combined with rapid time to result. Because MRSA, VRE, and Extended Spectrum beta-lactamase (ESBL) are the most important resistance markers linked to HAIs, the performance of the laboratory's ID-AST system to detect these mechanisms is critical.

The **BD EpiCenter™** Microbiology Data Management System provides unique software that enables microbiologists, infection control professionals, pharmacist and physicians to work in a collaborative, integrated fashion to optimally manage Health Care Associated Infections (HAIs) in their facilities.

The **BD Vacutainer®** Urine C&S Preservative Plus Plastic Tube, with its unique preservative formula, doesn't allow bacteria to overgrow, helping the clinician in identifying the pathogen of a urinary tract infection sooner.

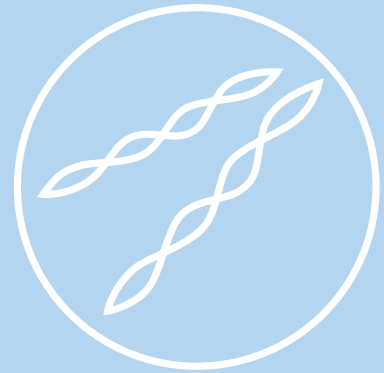




Up to 15 percent of patients admitted to the hospital are carrying MRSA, yet are asymptomatic^{16,17}



Patients carrying MRSA bacteria have a 1 in 5 chance of developing a life-threatening MRSA infection¹⁸



An MRSA infection poses up to a 23 percent mortality risk¹⁹

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BD. A History of Collaborating to Address Fundamental Healthcare Issues.

BD is collaborating with the U.S. Fund for UNICEF to protect newborn children and their mothers from maternal and neonatal tetanus, which remains a deadly public health threat in 51 developing countries.



With Save the Children, BD donates medical supplies and money to establish clinics in Eurasia, where infection rates are rising faster than anywhere else.



Through its active association with the Global Business Coalition on HIV/AIDS, BD is helping to mobilize the business sector in the fight against AIDS.



BD is collaborating with Project HOPE on its China Diabetes Program to combine training for medical professionals with public awareness campaigns to improve care to slow the spread of diabetes in China.



The International Healthcare Worker Safety Center is working with BD to protect healthcare workers globally.



www.BD.com/HAIs

See reverse side of pocket for complete list of references.

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