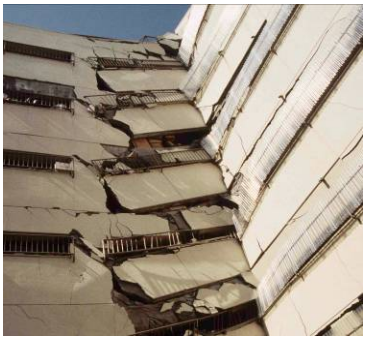

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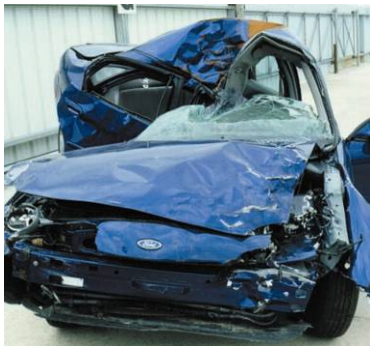
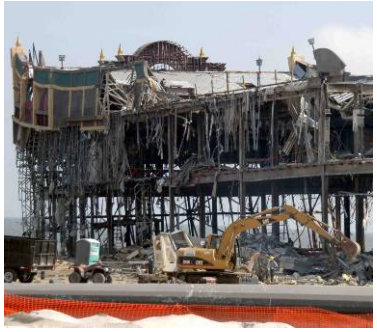
Fire Investigations

Environmental Consulting



Specialty & Consulting



Catastrophe Response

Reducing Healthcare Associated Infections

A Healthcare Industry Update

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EFI Global
Complex Issues • Solid Solutions

The benefits of reducing health-care associated infections (HAIs) are well documented, impacting both the general health of a facility and its bottom line. According to the CDC, HAIs cost the healthcare system $37 to $45 billion annually and account for an estimated 1.7 million infections and 99,000 deaths.

Recent legislation includes several provisions, including financial incentives, for reducing HAIs, also known as nosocomial infections. These include increased measurement and reporting as well as financial penalties for health care facilities with high HAI rates. The Patient Protection and Affordable Care Act of 2010 (ACA) and the American Recovery and Reinvestment Act of 2009 (ACA) both address reducing HAIs through a variety of funding programs and financial penalties for hospitals reporting high HAIs.

The CDC estimates that instituting an effective infection control program can prevent up to 70% of HAIs, reducing extended hospital stays and direct costs associated with treatment. Additionally, more states are requiring public reporting of infection rates, increasing the public relations pressure in reducing HAIs.

In addition to changing certain health-care worker and medical procedures (such as altering catheter procedures and increased hand washing, hair covers, gowns and gloves), establishing an effective **bioaerosol and airborne infection control program** is essential.

Change and **EFI Global, Inc.** have partnered to assist health-care facilities and hospitals in reducing bioaerosols and airborne-caused HAIs. We consult directly with the facility managers, building engineers, and infection control department to identify building system and system operation issues that warrant corrective action. This process includes:

1. Establishing baseline data of bioaerosols and airborne infectious disease causing agents and identifying the normal flora of hosts.

2. Inspection of building systems and their operation, as contributing factors on indoor air quality.

3. Testing of sensitive receptor locations in the facility through air and wipe sampling methods and the use of real-time read.

4. Establishing a management plan to control and reduce bioaerosols-related HAIs.

Our staff includes Ph.D.-level human health risk assessors, Certified Environmental Infection Control (CEICS) consultants, Toxicologists, Professional Engineers in HVAC and MEP systems, Certified Microbial Investigators and Consultants (CMI, CMC), Certified Industrial Hygienists (CIH), and Indoor Air Quality scientists.

An effective Bioaerosol and Airborne Infection Control Program is based in both facility management and the infection control program. Building systems and building materials greatly

impact indoor air quality and if managed properly, can reduce the levels of viral, bacterial, fungal and particulate bioaerosols. Effective bioaerosol control is accomplished through an **inspection and testing process** that includes the following, which emphasis in the most sensitive receptor areas such as surgical, ICU and CCU:

- Gaining historical knowledge, locations in the facility of nosocomial infection rates
- Review of HVAC equipment and systems, filters, installation and use
- Review of water humidification, steam supply systems, hot water systems and cooling towers
- Inspection for vapor entrainment, exhaust systems (equipment, sewer, water systems, etc.)
- Review of water intrusion, moisture control, water damage, porous building materials and potential microbial growth concerns
- Review of facility engineering and maintenance response activities

As part of the site inspection and based upon information received related to the building systems, sampling would include:

- Laser particle counter to measure filter efficacy
- Airborne fungal, bacteria, cultivated to evaluate species
- Hot water systems and cooling towers for Legionella, PCR and/or culture
- Carpet and wall cavity microbial sampling
- Surface wipes, MEA plates with Anderson impactor and total fungal levels
- Thermal imaging and moisture mapping of water impacted areas
- Real-time analysis of Volatile Organic Compound, VOC, for vapor or fume entrainment

For more information about implementing a Bioaerosol and Airborne Infection Control Program in your facility, please contact:

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