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Greener and Healthier Medical Facilities

It would seem logical for hospitals and healthcare facilities to be leaders in constructing and operating sustainable, high-performance buildings. After all, the “healing” industry should, one would believe, incorporate every measure possible to protect the health and well-being of patients, staff members, nurses, and doctors. But, more training is needed and some pioneers in this industry’s “Green” movement are stepping forward.

Many studies indicate medical facilities often rank far below others, such as schools, universities, office buildings, and hotels, when it comes to operating in an environmentally responsible manner. And most large medical facilities use huge quantities of energy, water, and chemicals for such necessities as cleaning and other facility operations.



Although medical facilities lag behind when it comes to Green cleaning and sustainability, openness to change is improving and the momentum is expected to increase in years to come.

A need for change does not only apply to older medical facilities, which were planned and developed years ago before sustainability and concerns about protecting the environment became as prominent as they are today, but to new ones as well.

Statistics compiled by USGBC for 2006 show that of 2,758 projects registered for the LEED-NC (New Construction) program, only 73 – or 2.6 percent – concern healthcare. This, in comparison to 1,130 multi-use projects, 569 office buildings, 183 university structures, and 148 K-12 schools.

A closer look into how medical facilities are built and operated reveals why this situation exists and continues to prevail even in new construction. Hospitals are very highly regulated facilities, probably more than any other type of facility. Additionally, they often have razor-thin budgets, making them less likely to be “risk-takers” when it comes to planning or operating their facilities.

What’s the result? Medical facilities are often very slow to make architectural or operational changes. Facility managers fear that by testing a new design, using non-traditional products, or operating in an uncanny manner can open the door to cost increases,

criticism, increased regulations, and even litigation.

Turning Things Around

Although medical facilities lag behind when it comes to sustainability, openness to change is improving and the momentum is expected to increase in years to come.

Many believe the foundation for change occurred in the 1980s, when medical waste, including syringes and other potentially harmful items, washed up on beaches in New Jersey, New York, and other East Coast locations. The waste was apparently dumped into the ocean rather than incinerated or properly destroyed.

Because of this, the U.S. Environmental Protection Agency (EPA) took a closer look at hospital operations. EPA determined that not only was medical waste often improperly disposed of, but hospital incinerators were also releasing far too many harmful toxins, including mercury, into the air. In 1998, the EPA and the American Hospital Association (AHA) developed a program to help hospitals reduce medical waste and air-borne toxins with a goal of trimming it by a third by 2005 and by half by 2010.

More information started to surface about constructing and operating medical facilities in a more environmentally responsible manner. The American Society of Healthcare Engineers, a division of the AHA, introduced its Vista Awards Program, which recognizes medical facilities for excellence in both design and sustainability.

And, the Green Guide for Health Care (GGHC) was developed in 2000. This program emulates the LEED program in many ways, including having categories and a point system to honor facilities which meet specific Green guidelines.

However, GGHC was very healthcare-specific. For instance, credits were given for improved lighting that protected circadian rhythm—cycles that can affect body temperature, sleep patterns, hormone levels, heart rate, and blood pressure—of both patients and the night staff. It also required all major stake-holders in a medical facility, including physicians, nurses, hospital administrators, personnel, and housekeeping staff, have input into how the facility is designed and operated.

Many other GGHC categories and credits focused on how medical facilities were to be operated on a day-to-day basis.

For instance:

- Potable water usage was continuously measured with pumps, compressors, and cooling towers using 10 percent less potable water.
- Energy Star ® rated equipment was to be used to help reduce energy demands.
- Specific materials, products, mechanical systems and procedures, which helped minimize sound and vibration, were to be incorporated.
- Development and implementation of a cleaning policy that included the use of cleaning products and procedures that reduced cleaning's impact on housekeepers, building occupants and patients, and the environment.

Credits for (Green) Cleaning

When it comes to Green cleaning and the use of environmentally preferable cleaning products, the GGHC guidelines were, in many respects, well-ahead of their time and precedent setting. The guidelines required the use of Green cleaning products for floors, walls, furniture, and medical equipment—many of which had never been established at that time.

It also required the use of metal-free floor finishes, selecting cleaning chemical in concentrate form as well as using auto-dispensing systems to help minimize chemical waste. Hand soaps without added antimicrobial agents were to be used by patients and hospital cleaning personnel were to be trained on how to properly use Green cleaning products as well as incorporate Green cleaning systems.

It was this last criterion—training as it related to the use of environmentally preferable cleaning products and systems—which was especially significant. At a time when many facility managers and cleaning professionals believed Green cleaning meant nothing more than switching to environmentally preferable cleaning chemicals, GGHC recognized Green cleaning as a system made-up of several components, which is a vital point cleaning professionals must understand today as well.

For instance:

How healthy can a facility be if Green cleaning chemicals are used, but inadequate entrance matting systems allow hospital visitors and workers to track in large volumes of dust and dirt from side-walks and parking lots?

How protected is indoor air quality if high-filtration vacuum cleaners are used, but floor machines lacking filtration systems allow dust and debris to become airborne and circulate through a facility?

Are patients and occupants of a medical facility safeguarded if the products and procedures used to clean are not as effective as they should be or the disinfectants and sanitizers are used incorrectly?

Therefore, training and purchasing the appropriate Green cleaning system— comprised of top-performing, environmentally preferable products—is the combination many healthcare facilities should strive for. Trained cleaning professionals, who are educated on the latest, most efficient cleaning strategies, are key assets for more healthcare facilities operating in a Green manner and being built with sustainability in mind. By increasing the thoroughness of cleaning, exposure and risk levels are decreased.

The foundation for the development and construction of Green medical facilities is solid. Few have committed, but recent trends and guidelines are easing the transition. Since the well-being and health of the public depends on it, Green measures need to be commonplace in the “healing” industry where medical waste should not have to hurt.

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Tips on Green Cleaning Product Selection and Chemical Usage

- Look for cleaning products certified by credible, third-party certification organizations, such as The EcoLogo Program™ or Green Seal®.
- Know when it is required to disinfect and when it is not (e.g.: when effective cleaning or sanitizing will suffice). This will help decrease the use of antimicrobial cleaning products, which may lead to the spread of “super bugs,” and typically are more expensive.
- Select and work with janitor distributors who are well-versed on Green cleaning products and systems. Often they can be a hospital manager’s guide and consultant to Green cleaning.
- Reject chemicals that contain nonyl-and octyl-phenols to make alkylphenol ethoxylate (APE) detergents. These are possible hormone disrupters.
- Keep updated Material Safety Data Sheets (MSDS) handy on all cleaners used in the facility.
- Know what “warning” labels on cleaning products really mean. “Danger” indicates that the product may be fatal even after short exposure. “Warning” references products that are corrosive, toxic, or may be harmful if inhaled, touched, or swallowed. “Caution” means the product may be a skin or eye irritant.

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