

Improving cleaning processes at Olmsted Medical Center

Olmsted Medical Center located in Rochester, Minnesota, participated in the MnTAP intern program during the summer of 2007. The project focused on reducing the number and toxicity of housekeeping chemicals used and improving the efficiency of procedures.

Process Overview

Cleaning and disinfecting are some of the most important steps in preventing the acquisition and spread of infectious diseases in hospitals. Hospitals require different levels of clean based on the use and potential patient exposure. General cleaning involves dirt and dust removal similar to that of an office building. Disinfection, a higher standard of clean, is generally defined as reducing the number of microbes on a surface to very low levels. This requires the use of chemicals, which are technically considered pesticides and vary in degree of toxicity based on the level of disinfection required.

Incentives

Prior to the intern project, Olmsted Medical Center (OMC) was using 60 different housekeeping chemicals throughout the hospital. The products were not located or purchased centrally and the cleaning process was not clearly defined. At the start of the intern project, OMC was unnecessarily disinfecting almost every surface in the hospital.

OMC realized that while it generally had good cleaning practices, good staff, and low hospital acquired infection rates, it used too many products and some redundant and potentially unsafe practices. OMC was concerned regarding hazardous waste compliance and disposal costs.



MnTAP sponsored an intern project at Olmsted Medical Center to reduce hazardous chemical use in cleaning.

Waste chemicals need evaluation which requires valuable staff time. Fees associated with proper disposal were high. OMC was also motivated to implement pollution prevention practices by their desire to improve their environmental performance.

Pollution Prevention Project

The Minnesota Technical Assistance Program (MnTAP) intern and hospital staff identified five project objectives: eliminating redundant and hazardous chemicals, establishing standardization, implementing green cleaning and best cleaning practices, improving safety, and demonstrating cost savings.

Eliminating Redundant and Hazardous Chemicals

US Centers for Disease Control and Prevention (CDC) guidance suggests levels of disinfection

Benefits at a Glance

	(reduced)
cleaning bottles disposed of annually	1509
number of cleaners used	63
number of chemicals	40/year
cleaning time	7 min/room
labor costs	\$7,000
redundant chemicals/processes	\$17,000

based on contamination and patient exposure potential. Generally, items and equipment that are “high-touch” or come in contact with broken skin require low level disinfection; typical environmental surfaces such as chairs, shelving, walls and floors only need cleaning. All surfaces to be cleaned or disinfected were tabulated. The level of disinfection for each surface was determined using the CDC “Guidelines for Environmental Infection Control in Health Care Facilities”.

Implement Green Cleaning and Best Cleaning Practices

Green cleaners are generally defined as those that have less environmental and health impacts. “Green Seal” has developed criteria and a certification program for green cleaners. Green Seal certified cleaners are not considered aquatic toxicants, have minimal phosphorus, do not contain smog-producing chemicals, and must be readily biodegradable.

Areas of the hospital were reviewed to determine the different types of surfaces and cleaners needed. A new procedure was created for environmental services staff using resources such as the CDC guidelines and 3M SMART training program. The new cleaning procedure reduced the time spent cleaning patient rooms allowing the housekeepers an extra hour per day to clean other areas.

Purchase of new general purpose, glass, toilet bowl, and floor cleaners at OMC were identified primarily using the Green Seal criteria. Additionally, the cleaning products for OMC were evaluated on pH, flash point, smell, cost, and if they had any other green cleaning certification.

Improve Safety

Disinfectants and cleaning chemicals can often be potent and hazardous. Reducing the frequency of their use increases the quality of the work environment for staff as well as patients and visitors. Reducing the number and toxicity of chemicals also reduces the potential for mixing errors which can result in hazardous fumes.

Benefits

Eliminating Redundant and Hazardous Chemicals

By reviewing what needed disinfection vs. what was

being disinfected, OMC was able to reduce the number of surfaces to be disinfected by 63%. Reducing the quantity of disinfectant will result in a cost savings of \$10,000 annually. Potential annual cost savings by reducing unnecessary chemicals and using green cleaners is approximately \$6,400.

Implement Green Cleaning and Best Cleaning Practices

Using concentrated cleaners in reusable bottles will save OMC an additional \$1,900 annually. Reducing the cleaning time resulted in a potential costs savings of \$6,700. The time saved will be used to clean other areas of the hospital and the housekeeping staff will retain their same number of hours.

Improve Safety

Safety to staff, patients, and the environment was improved by decreasing the number of hazardous chemicals used for cleaning and disinfecting and replacing them with safer and greener chemicals when possible. Reducing the number of hazardous chemicals minimizes potential injury due to splash and spills. Injuries related to chemical burns can cost a company several hundred dollars.

Demonstrate Cost Savings

OMC demonstrated cost savings through reduction of unnecessary chemicals, through improved processes achieved by standardizing cleaning and disinfecting procedures, and eliminating redundant chemical use. Annual cost savings are expected to be greater than \$20,000.

Resources

- MnTAP Disinfection Best Management Practices <<http://mntap.umn.edu/health/73-DisinfectionBMP.htm>>
- Center for Disease Control, “Guidelines for Environmental Infection Control in Health-Care Facilities” <www.cdc.gov/ncidod/dhqp/pdf/guidelines/Enviro_guide_03.pdf>
- Green Seal <www.greenseal.org>
- 3M Smart Program <http://solutions.3m.com/wps/portal/3M/en_US/Commercial/Care/Training-Tools/3M-SMART>



For More Information

MnTAP has a variety of technical assistance services available to help Minnesota businesses implement industry-tailored solutions that maximize resource efficiency, prevent pollution and reduce costs. Our information resources are available online at <mntap.umn.edu>. Please call MnTAP at 612.624.1300 or 800.247.0015 for personal assistance or more information about MnTAP’s Intern Program.