VA Medical Center

CASE SUMMARY 25

VETERANS AFFAIRS MEDICAL CENTER

Iowa City, Iowa
Johnson County
Intern: Rob Klootwyk
Major: Industrial Engineering
School: University of Iowa

The Company

The VA Medical Center in Iowa City, Iowa, employs nearly 1,100 people, and provides healthcare to the Veterans of our country. It is a patient-centered, integrated organization providing excellence in health care, research and education. The VAMC vision is to be an active federal, state and community partner and a backup for national emergencies.

Project Background

Currently the VAMC in Iowa City does a great job in recycling a large percentage of its paper and cardboard waste. Any hazardous material that is being disposed is documented by the Industrial Hygienist and picked up for disposal by a private contractor. The VA currently has a facility-wide Mercury Control Policy that contains procedures for the safe use, storage, and disposal of mercury-containing products.

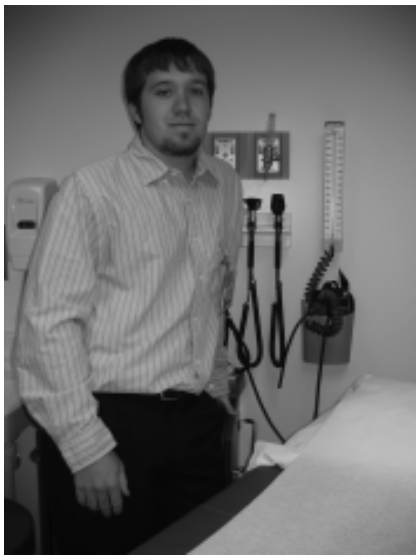
Incentives to Change

A number of devices used at the Medical Center contain mercury or toxic materials that may pose a hazard to human health or the environment if improperly managed. The U.S. Environmental Protection Agency (EPA) and the American Hospital Association (AHA) have committed to a voluntary agreement to virtually eliminate mercury waste in hospitals and health systems by 2005. Reducing mercury in healthcare can reduce the level of mercury in the environment and help the facility avoid the need to increase investment in pollution controls and waste disposal.

Results

All sources of mercury in the facility, and each community based outpatient clinic, were identified and an audit was conducted to form a baseline inventory. Once all sources had been identified, alternatives for each application were reviewed. When any mercury unit on the baseline inventory was replaced, an adjusted inventory was edited to show only those items yet to be replaced. If a device or application did not have a suitable mercury-free alternative, an orange warning sticker was placed to alert any user that the device contains mercury, and to contact the safety office should a repair, replacement, or disposal become necessary.

In addition to the report left with the VAMC in Iowa City, a Mercury Reduction Program Guide was written and published for distribution to other VA Hospitals as a resource for their own Mercury Reduction Program. After the completion of the program the VAMC is now eligible to receive awards and recognition from the American Hospitals Association and Hospitals for a Healthy Environment. The



project summary table shows a list of each device and the amount of mercury prevented from escaping into the environment from each replacement incentive. In total, about 31 pounds of mercury were removed from the facility.

The environmental impact of producing approximately 31 pounds of mercury, which will be avoided as a result of this project, are as follows:

- Nearly 8,500 pounds of CO_2 equivalent is generated as global warming gases
- 13.5 megawatt hours are used
- 117 pounds of conventional air pollutants, including CO, SO_2, NO_2, & VOC

Environmental Recommendations

A new policy was written to include management of mercury reduction, control and pollution prevention. Also, there is now an additional statement on all of the purchase orders requiring each vendor to disclose all information about mercury or trace amounts of mercury found in their device.

Project Summary Table

Project Description	Environmental Impact	Economic Cost Savings	Status
Thermometer Replacement	2.34 lbs of Hg	$102,240	Completed
Sphygmomanometer Replacement	19.2 lbs of Hg	$27,061	Implementation in progress
Manometer Replacement	1.83 lbs of Hg	$6,553	Completed
Barometer Recycling	4.11 lbs of Hg	$5,793	Completed
Miscellaneous Removal	3.69 lbs of Hg	$6,581	Completed
Mercury Switch Replacement	116g of Hg	$4,752	Replacement during upgrades
Dental Amalgam Separator	141,944 kWh/year	$5,678	Recommended
Hand Dryers	15.5 tons of paper and 310,000 gallons of water	$29,100/year	Recommended/Being Reviewed