

# Allen Memorial Hospital

## COMPANY BACKGROUND



Allen Memorial Hospital, a member of Iowa Health Systems, was established in 1925. Allen has grown to its current size of approximately 750,000 square feet with the addition of the 70,000 square foot Pauline Barrett Pavilion that opened in March 2009. Allen Hospital is one of the largest hospitals serving the Cedar Valley area, caring for more than 50,000 patients a year in its many service programs. The mission of Allen Memorial Hospital is to improve the health of the people and communities they serve through healing, caring and teaching.

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### PROJECT BACKGROUND

Allen Memorial Hospital produces a large amount of solid waste every day, and has consistently searched for ways to reduce its waste generation through source reduction and recycling. The hospital turned to the Pollution Prevention Intern Program for additional assistance. The main goals of the intern were to reduce biohazard waste, and to conduct a waste assessment to find other potential areas for savings.

### INCENTIVES TO CHANGE

Allen Memorial Hospital established a "Green Team" about two years ago. This team, along with representatives of Iowa Health Systems, encourages the entire facility to decrease its environmental impact. Allen has recognized increases in its regulated medical waste output and associated disposal cost. Allen's goals were to reduce this waste stream and investigate other ways the institution could reduce its environmental impact.

### RESULTS

**Biohazard Waste Reduction:** The reduction of regulated medical waste, also called biohazard waste, was the intern's main objective while on site. By conducting a waste assessment, it was shown that 13 percent of the hospital's overall waste was composed of regulated medical waste. The Center for Disease Control estimates that a hospital's regulated medical waste should be approximately 3 percent to 5 percent of its total waste output. After observing the collection procedures, monitoring the volumes produced, and assessing the articles placed in biohazard containers, it was determined that through clinical staff education, container relocation, and posting signs, biohazard waste output could be reduced by 38 percent. By implementing these changes, Allen hospital will save \$25,177 annually.

**Occupancy Sensor Installation:** Using blueprints, 487 locations including public bathrooms, patient bathrooms, offices, meeting rooms and storage closets were identified as potential areas for occupancy sensor installation. This would reduce Allen's electrical usage by 450,745kWh per year.

**Lighting Upgrades:** The intern uncovered several other opportunities for electrical savings. These include the mass replacement of incandescent bulbs with compact fluorescent bulbs throughout the facility, the



substitution of incandescent exit signs with LED exit signs, and the de-lamping of vending machines utilized by visitors and staff. These changes would save Allen \$3,314 per year.

**Sterilizer Water Reduction:** One of Allen Memorial Hospital's four sterilizers is not capable of recycling its discharged steam. Because of this, a continuous flow of cold water is used to cool the steam for discharge into the sewer. Through the installation of a water tempering device, the temperature of the steam would be monitored and cold water would be added only when necessary, which would significantly reduce the amount of water used per hour.

**Solvent Recycling:** The on-site laboratory serving Allen Memorial Hospital and its affiliates uses xylene for the preparation of slides. The solvent is used once and disposed of as hazardous waste. By introducing a solvent recycling system that utilizes fractional distillation, the lab could reduce its xylene purchasing and disposal cost by 95 percent.

### AIR POLLUTANTS DIVERTED IN TONS

Total for all sectors	
SO2	3.254
CO	0.333
NOx	1.544
VOC	0.054
PM	0.081

### GREEN HOUSE GASES DIVERTED IN TONS (CO2 Equivalent)

Total for all sectors	
CO2	601.135
CH4	22.612
N2O	0.301
CFC	7.39

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
BIOHAZARD WASTE REDUCTION	\$25,177	56.6 TONS	IMPLEMENTING
OCCUPANCY SENSOR INSTALLATION	\$17,599	450,746 KWH	RECOMMENDED
LIGHTING UPGRADES	\$3,296	121,657 KWH	RECOMMENDED
STERILIZER WATER REDUCTION	\$3,314	328,500 GALLONS	RECOMMENDED
SOLVENT RECYCLING	\$2,984	247 GALLONS	RECOMMENDED