



Maryland Green Registry MEMBER

The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.

University of Maryland Medical Center

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Health Care

Member since April 2013

Management and Leadership



Environmental Principles Statement

“Recognizing that sustaining a healthy environment is essential to maintaining both personal and public health, the University of Maryland Medical Center commits to promote healthy patients, staff, visitors and communities locally and globally by safeguarding the environment.

The University of Maryland Medical Center provides health care to the community in a safe and healthy manner and fulfills its obligation to protect and preserve the earth’s resources by seeking innovative ways to conserve, reduce, reuse and recycle by its own actions and through partnerships with others.

Realization of these principles will be achieved by full participation and the sustained commitment of all our employees, medical staff and vendors.”



Environmental Team

The following comprises Sustainability leadership at UMMC:

Leonard Taylor MBA, MFA, RA – SVP for Operation and Support Services

**Executive Sponsor*

Denise Choiniere RN, MS

Director of Sustainability and Materials Management

Justin Graves RN, BSN

Sustainability Coordinator

The UMMC Green Team, led by the Sustainability Coordinator, is a multidisciplinary team of over 30 active members representing nursing, facilities, food services,

physicians, infection control, safety, operations & maintenance, and environmental services to name a few.

Annual Environmental Goals

UMMC has committed to the following 3 year [Healthier Hospital Initiatives](#).

Goal: Reduce greenhouse gases by decreasing weather adjusted energy intensity from metered energy use by 5% from baseline.

Status: On track

Goal: Reduce regulated medical waste (RMW) to either less than 10% of total waste or less than 3lb per Adjusted Patient Day (APD).

Status: On track to meet early

Goal: Achieve 35% recycling rate compared to total waste.

Status: On track to meet early

Goal: Decrease meat purchasing by 20% of baseline.

Status: On track

Goal: Increase healthy beverage purchases by 20% annually or achieve healthy beverages purchasing of 80% of total.

Status: On track

Goal: Purchase at least 90% Green Seal or EcoLogo certified cleaning products in these four categories (carpet, window, all-purpose and bathroom).

Status: Met

Goal: Eliminate DEHP/PVC from at least (five) product lines.

Status: Met

Goal: Increase expenditures of reprocessed FDA-eligible single use devices by 50%.

Status: On Track to meet early

Environmentally Preferable Products and Services

UMMC seeks to provide the best quality healthcare available while maintain its commitment to the environment. UMMC provides a safe and healthy working environment by eliminating harmful chemicals, solvents, cleaners, paints and coverings and other harmful building materials whenever safer alternatives exist.

University of Maryland Medical Center is able to achieve these standards by implementation of:

1. Integrative Pest Management Policy (IPM)
2. Green Cleaning Policy
3. Environmentally Preferable Purchasing Policy
4. Sustainability Policy

Environmentally Preferable Purchasing

*The following is an excerpt from UMMC's Sustainability Policy:
"Value Analysis Committees will incorporate Environmentally Preferable Purchasing (EPP) strategies when making new purchases and or renewing current contracts. EPP products and services are those that:*

1. *Reduce waste, such as through the reduction of material use, reusable or recyclable products and packaging; recycled-content, remanufactured, or more durable products and packaging; reduced use of disposable, or other methods.*
2. *Are manufactured using reduced energy consumption or with the utilization of sustainable or renewable energy.*
3. *Reduce water use or reduce the creation of contaminated or polluted wastewater.*
4. *Support healthy food systems by sourcing local, seasonal, nutritious and sustainably produced food.*
5. *Minimize chemical use and/or release little to no toxic by-products during their life cycle.*
6. *Total cost of ownership will be considered will all new purchases and contracts."*

"Value Analysis Committees will integrate sustainability criteria into our relationships with our suppliers to improve both our sustainability and environmental performance by:

1. *Indicating a preference for and selecting products that cause the least environmental harm (i.e. during manufacturing, transport, use and disposal).*
2. *Partnering with suppliers who demonstrate a commitment to environmental sustainability in their business practices.*
3. *Collaborating with distributors, manufacturers, and suppliers in designing/refining products to minimize environmental impact while maintaining quality and cost effectiveness in the following areas:*
 - i. *Product make up/ingredients*
 - ii. *Packaging reduction*
 - iii. *Purchasing recycled products with high post-consumer content, recyclable, and reusable products*
 - iv. *Conserving energy and water use in the manufacturing and transportation process*

- v. *Enhancing awareness among staff, members, and the public about chemical exposure and resource conservation, and the linkage to public health*
- vi. *Purchase products from manufacturers that support child labor laws and monitor for compliance.”*

Environmental Restoration or Community Environmental Projects

UMMC has partnered with the University of Maryland Baltimore (UMB) to bring Baltimore City middle school students to the weekly UM Farmers Market. This partnership educates students about healthy and seasonal eating by offering cooking demonstrations, education, recipes, and food vouchers to purchase fresh fruits and vegetables. Additionally this program supports local farmers and local business keeping money within the local economy.

Waste

Solid Waste Reduction and Reuse

Through various source reduction efforts, UMMC has reduced its Total Waste per adjusted patient day (APD):

2011: 36.2 lbs/APD

2012: 34.9 lbs/APD (~3.7% reduction and \$103,000 savings)

Recycling

For 2012:

- *Single Stream (bottles, paper, glass, aluminum): 403 tons*
- *Confidential Paper: 117 tons*
- *Construction & Demolition Debris: 768 tons*
- *Kitchen Grease: 9 tons*
- *Single-Use Device Reprocessing: 88 tons*
- *Reusable Sharps containers: 116 tons*
- *Batteries & Electronics: 33 tons*

Estimated 2012 savings: \$67,000 in waste disposal fees

Composting

The University of Maryland Medical Center implemented composting in October of 2014. To date, the Medical Center has composted over 146 tons of material.

Regulated Medical Waste (RMW) Reduction

UMMC is committed to reducing its regulated medical waste which has significant environmental and economic impacts on the community.

Annual RMW (as a percentage of total waste)

2010 – 35%

2011 – 22% (\$365,000 savings)

2012 – 19% (\$106,000 savings)

Energy

Energy Efficiency

In efforts to meet its 5% reduction, UMMC has implemented many energy savings strategies with significant return on investments.

- *Lighting upgrades including sensors, timers, and LED bulb conversions.*
 - *Estimated annual savings of over \$80,000*
- *Installed highly efficient heat recovery chillers*
 - *Estimated annual savings of \$480,000 (savings in steam, water, and electricity)*
- *Installed signs encouraging use of revolving doors to saving on heating/cooling cost*
- *Revised mechanical and electrical design guidelines and standards to include energy conserving products and methodologies for all construction projects.*

Renewable Energy

The University of Maryland Medical System (UMMS) has partnered with BITHENERGY and Constellation to build and develop a 3.66-megawatt grid-connected solar generation project in Somerset County, MD. This project went online December 2012.

The electricity generated by the solar panels is purchased by UMMS under a 20-year power purchase agreement with BITHENERGY. As part of its purchase agreement, UMMS receives Solar Renewable Energy Credits that help satisfy Maryland's Renewable Energy Portfolio Standard requirements, and in the process serves as a role model for the adoption of clean, sustainable, renewable energy.

Transportation

Employee Commute

By nature of being located in the heart of Baltimore City, UMMC encourages the use of public transportation for its employees by offering:

- *UMMC offers a discounted MTA monthly bus pass for all employees*
- *Convenient & secured bike parking offered (120 spaces)*
- *Priority parking in Medical Center Garage for Fuel Efficient Vehicles (FEV) (34 spaces)*
- *Electric car charging station in Medical Center garage. (2 car capacity)*
- *Carpool matching program shared with UMB.*
- *Access to free UMB Shuttle with Hospital ID*

Water



Water Conservation

Low flow toilets and water faucets are standard installation in UMMC's newly built Critical Care tower. They use about 30% less water than the standard fixtures. Given the large amount of water used in a hospital the use of low-flow fixtures will save 418,000 gallons of water per year.



Stormwater Management and Site Design

The rain that falls on helipad and adjoining roof areas is collected filtered and pumped up to a previously abandoned and now refurbished fire water tank. The tank can hold up to 30,000 gallons of rainwater.

The captured rainwater is used as cooling tower make up water and to water the interior landscaping. By capturing the rainwater, the hospital is reducing the amount of city water it purchases and the amount of stormwater it introduces into the aging Baltimore stormwater sewer system and ultimately into the bay. Additionally use of rainwater eliminates the need for chemicals to treat municipal water normally used for make up water in the cooling towers.

Green Building



LEED Silver

A new LEED Silver designed Neonatal Intensive Care Unit (NICU) will begin construction this fall to be completed in late 2015.



LEED Gold

In 2012, some services began moving into the new Shock Trauma Critical Care Tower, which is expected to be Baltimore's first LEED designed and built hospital. Every detail in all 135,000 square feet of this project was approached

with sustainability in mind. It has been designed and built to LEED Gold Standards.

Choosing the right materials in the project was extremely important, such as natural rubber flooring that doesn't require chemical cleaning or stripping, thereby improving indoor air quality. The exterior walls are constructed of terracotta, a brick-like material, glass and aluminum. The terracotta is relatively dense and acts as a thermal sink. This, in combination with thermal insulation, retards the rate at which outside temperatures are felt inside the building. Compared to other curtain-wall systems, the building will use less heating and less cooling. Many traditional paints and other building materials contain "volatile organic compounds," or VOCs, which are released into the air and can cause adverse health effects. UMMC chose materials—including caulk, glue, adhesives, paints and carpet—that contain few to no VOCs, which improves indoor air quality. At least 20% of the building materials used was locally sourced, including stone, concrete, framing and ceiling tiles. At least 90% of all construction debris was recycled. Fully 100% of the wood used in building components—sub-flooring, wall frames, cabinets and more—is certified as being in accordance with Forest Stewardship Council's Principles and Criteria. The criteria address issues such as indigenous rights, labor rights, and environmental impacts surrounding forest management. Many other building materials are made from recycled substances.

With energy being the greatest facility cost, much attention was paid to the energy infrastructure in this building. The new lobby and the emergency room and shock trauma waiting areas are located to take advantage of daylight. Natural light is known to be healthful and calming, and reduces the reliance on electricity. The tower's operating rooms are lit with LED lights, which have an extremely long lifespan and require only a small amount of electricity. Additionally, LEDs do not give off heat, so less energy is required to cool the rooms. The ORs all have occupancy sensors which automate lighting and heating and cooling usage. By programming "set-backs", turning the lights and heating cooling down when not in use, UMMC will be able to save a substantial amount in energy. In as many patient rooms as possible, UMMC has installed large windows to increase the use of natural light. Not only does this decrease energy usage, studies show that patients who have views of nature from their windows require less pain medication and are able to return home more quickly. Energy-efficient lighting and lighting controls are used throughout the tower. Occupancy sensors were installed in all office, conference, and meeting rooms, potentially saving up to 30% in energy cost. The building is capped by a roof painted silver to reflect the heat, saving an estimated 2,200 kWh in cooling energy cost.

The design also includes many water conservation strategies. All plumbing fixtures in the new building are low-flow, using about 35% less water than standard fixtures. Given the large amount of water used in a hospital, the use of low-flow fixtures will save 463,000 gallons per year. The roof will also

collect up to 30,000 gallons of rainwater a year to be used in the building's cooling towers, negating the use of chemicals traditionally used to treat municipal water. The captured rainwater will also be used for watering indoor plants..

Services are moving into the new tower addition in stages since last summer, with full completion of the building and the adjoining renovated spaces by the end of 2013.

Other



Practice Green Health: www.practicegreenhealth.org

UMMC is a member of Practice Green Health, a nonprofit membership organization founded on the principles of positive environmental stewardship and best practices by organizations in the healthcare community.

- Partner for Change Award recipient
 - 2010
- Making Medicine Mercury Free
 - 2010
- Partner for Change Award with Distinction recipient
 - 2011, 2012, & 2013

Maryland Hospitals for a Healthier Environment (MDH2E): www.mdh2e.org

- Trailblazer Award Recipient
 - 2009 – Farmers Market
 - 2010 – Implementation of Hazardous Pharmaceutical Waste Management program
 - 2011 – Energy Conservation
 - 2012 – New Mom's Pilot to Reduce Newborn exposure to Pesticides
 -

Maryland Pesticide Network: <http://www.mdpestnet.org/>

- IPM in Health Care
 - 2012

Profile Updated July 2015



Help build a greener, more sustainable Maryland through voluntary practices that reduce environmental impacts and save money.

Learn more at www.green.maryland.gov/registry

