

U.S. Army Medical Command

Sustainability Report



2022

A Year At A Glance

For the 24* Medical Treatment Facilities (MTFs) that reported sustainability metrics, the following services were provided in 2021:

 **245,696**
Occupied Beds¹

 **73,480** Inpatient
Care Discharges¹

 **11,737,805**
Outpatient Care
Encounters¹

 **11,117,640**
Prescriptions²


 **10,364,646**
Laboratory
Services²

 **2,113,680** Radiology
Services²

 **14,326**
Births²

*25 MEDCOM and 2 DHA MTFs reported sustainability metrics. DHA MTFs are excluded from calculations and 1 MEDCOM MTF was excluded due to data quality issues.

These services required:

²  **1,481M** kBTUs of
Energy at \$40M³

 **7.13K** tons of
Municipal Solid Waste
(MSW) at \$1.4M³

 **535M** gallons of
Water at \$2.9M³

¹ DHA A&E MTF Portfolio Site
² HQ MEDCOM
³ Practice Greenhealth

MEDCOM Sustainability

Maintaining Excellence while Navigating Transitions

MEDCOM is proud to present our annual summary of sustainability metrics and best practices for Calendar Year 2021 (CY21). Each year, we gather data and assess our progress as part of continual process improvement. MEDCOM's sustainability vision is to deliver world-class health care solutions with minimal environmental footprint. Army MTFs continued to pursue sustainability initiatives through the COVID pandemic, seeking creative approaches during this resource constrained period. CY21 also saw increased acceleration in the transition of facility management functions from MEDCOM to the Defense Health Agency (DHA) Facility Enterprise. As with any organizational change effort, MEDCOM MTF staff were challenged to address these changes while concurrently providing safe and effective environment of care and managing day-to-day operations.

In support of Army Medicine and Military Health System (MHS) Medical Reform, we were pleased to partner with DHA on the issuance of the DHA Sustainability Program Administrative Instruction (AI), demonstrating a continued commitment by the Department of Defense health care community to lower our environmental footprint and encourage innovation. As such, this will be the last MEDCOM Annual Sustainability Report. Be on the lookout for more from our Army MTFs along with Navy and Air Force MTFs as DHA continues building on the strong Army Medicine sustainability program.

Our CY21 metrics are presented across six Focus Areas applicable to federal agencies as described in Executive Order 13834, Efficient Federal Operations. The Focus Areas are: High Performance Sustainable Buildings, Resilience, Waste Management, Acquisition, Greenhouse Gas (GHG) Management, and Culture Change. The data presented in this year's report demonstrate how sustainability initiatives reduce the total cost of MTF operations by improving efficiency and eliminating waste.



SUSTAINABILITY VISION

We are leaders in delivering world-class health care solutions with minimal environmental footprint to support those who serve in the defense of our country. We focus on securing a sustainable and resilient future for all.













SUSTAINABILITY MISSION

Enhance Military Health System readiness and resiliency by safeguarding human health and the environment through the efficient use of resources and on-going process improvement.



Sustainability Performance Metrics

MEDCOM performs an annual data call for tracking sustainability progress and compliance. The table below depicts the metrics we track and their associated Focus Areas. In early 2022, MEDCOM MTFs completed the Practice Greenhealth (PGH) Partner for Change award application for their CY21 performance metrics. Awards received by participating MTFs are shown on page 10.

High Performance Sustainable Buildings		Resilience			Waste Management	
Sustainable Buildings	Energy Reduction	Renewable Energy	Water Efficiency	Hazardous Waste (HW) Minimization	MSW Reduction	
						
Acquisition			Greenhouse Gas (GHG) Management		Culture Change	
Chemicals of Concern	Environmentally Preferred Purchasing	Single Use Device Collection and Reprocessing	GHG Emission Reduction	Fleet Management	Sustainability Training	
						

Sustainability Metrics for the 24 MTFs Reporting in CY21

Total Cost Savings

\$
18.4M

Fleet Management



31%
of MEDCOM fleet is comprised
of alternative fuel vehicles

Energy Reduction



79%
of facilities more energy-efficient
than PGH median*

Water Efficiency



63%
of facilities more water-efficient
than PGH median*

GHG Emission Reduction



21.1%
reduction in Scope 1 emissions and
GHG emissions from renewable
energy consumption

MSW Reduction



2,216 tons
diverted from municipal
solid waste

HW Minimization



36 tons
diverted from hazardous
waste streams

Single Use Device Collection and Reprocessing



28 tons
single use devices diverted
from waste stream

For the MEDCOM Enterprise Level

Sustainability Training



757
training attendees

Sustainable Buildings



4.47M
Square Feet

30
Leadership in Energy and Environmental
Design (LEED) Certified Buildings
12.1%
of Qualifying Square Feet*

*terms defined
on page 12



What Does a Top 25 Hospital Look Like?

Carl R. Darnall Army Medical Center (CRDAMC) has been recognized as a “Top 25” hospital by PGH for four years. The Medical Center executes initiatives throughout the year that set it apart from its peers by addressing every topical area of the PGH application and maintaining high quality documentation of successes. Examples of what a “Top 25” hospital looks like in 2021 include:

Aggressive Reprocessed Single Use Device (SUDs) Program.

CRDMAC diverted over 5,000 pounds of waste from the landfill and saved more than \$300,000 through procurement of lower-cost reprocessed devices.

Excess Equipment Diversion. The “One Team, One Dream, Conquering the Hoard” initiative diverted 10 tons of recyclable material such as excess office automation equipment, power cables, peripherals, and medical equipment. Most was recovered for recycling, but some of this furniture and equipment was redistributed, saving money on unneeded items.

Strong Recycling Program. CRDAMC diverted 250 tons of material from the landfill, representing nearly 42% of their overall waste stream. This includes cardboard, paper, plastics, batteries, lead aprons, steel, and 59 tons of food waste for composting. The Radiology Department purged a year’s worth of mammography films to recover precious metals.

Printing Less. The Medical Center reduced printed paper use by almost 15% by targeting electronic means of sharing information and printing reduction efforts. The Pharmacy moved to QR codes on prescription bottles, reducing the need for printed medication sheets.

Greening the Operating Room (OR). CRDAMC executes multiple activities in its ORs to reduce the footprint of surgeries. They divert pre-incision (prior to case) waste, segregate non-infectious solid waste during and after the procedure, and recycle clinical plastics. The hospital uses fluid management systems to divert fluids from regulated medical waste (RMW). All custom procedure packs are reviewed to ensure only the supplies needed are included. The ORs used 25 tons of reusable linens and 62% of the sterilization containers were reusable. All ORs are equipped with light emitting diode (LED) lighting and use HVAC setbacks when not in use.

Energy Use Reduction. The Medical Center uses building management software to optimize the chilled water, steam, and lighting systems. CRDAMC uses standardized computers minimizing the need for multiple power cords and chargers. The IT department applied energy saving protocols (e.g. sleep mode), purchased energy saving monitors, and used a hot aisle/cold configuration in the data center to reduce cooling requirements. In CY21 fluorescent lights in the parking garages were replaced with LEDs.

Community Outreach. CRDAMC recognized Earth Day by holding an event to educate medical center staff and visitors about the differences they can make in their daily lives to help improve the environment. CRDAMC personnel also teamed up with community organizations to improve a local elementary school’s garden and outdoor space.

Green Procurement. Environmental Services replaced all hand soap in the facility with a soap their committee found to be one of the safest and most sustainable products available.

Setting Concrete Goals for CY22. Specific goals have been set by the organization to include more water refill stations, more Water Sense faucets, conversion to networked printers to further reduce printing, reducing the number of low-usage computers, and piloting a reusable container program for sharps disposal.



Surgical instruments in an OR.

Soldiers from CRDAMC volunteer at a local elementary school to green up the school garden.



Want to be a Top 25 facility? Contact your Sustainability Team!

Reuse of Crutches Best Practice

Supply chain issues during the COVID pandemic helped initiate and institutionalize a waste reduction best practice. MTFs frequently treat lower extremity injuries requiring crutches. Aluminum shortages made crutches hard to procure, which led several MTFs to initiate crutch collection and reuse efforts. To successfully reuse crutches, the staff review the condition of the crutch, conduct cleaning and disinfection, and perform replacements where needed (e.g., bottom grip, hand grip, shoulder grip, and screws). Crutch reprocessing has reduced waste generation and saved money. Such efforts are helping MEDCOM meet its enterprise-wide sustainability goals while generating community support and ensuring continuation of quality patient care.

Estimated number of reused crutches and cost savings.

Medical Treatment Facility	Estimated Number of Refurbished Crutches	Estimated Cost Savings
Martin Army Community Hospital	130	\$7,400
Brooke Army Medical Center	500-1,000	\$15,000-\$30,000
Irwin Army Community Hospital	120	\$7,000
Walter Reed National Military Medical Center	100-125	\$5,000-\$6,250
TOTAL	850-1,375	\$34,400-\$50,650



Environmental Compliance Baseline Assessments (ECBAs)

MEDCOM has completed a two-year effort to baseline environmental compliance performance at its major MTF locations with particular focus on hazardous waste. The baseline assessments are part of a continuous improvement initiative for management of all waste streams generated at our MTFs. The results are being used to identify compliance issues that could result in fines if not addressed, assist MTFs in improving compliance, share best practices, and ensure a successful transition to DHA.

This map indicates the MTFs where ECBAs were completed. Most were conducted in-person, but COVID necessitated efforts to adopt a virtual approach as well. Following this baselining effort, the goal is to re-assess MTFs soon on progress towards addressing the previously identified issues and assist MTF personnel in adopting DHA processes as needed.



2022 Practice Greenhealth Awards

27 out of 32 eligible MTFs submitted the PGH application. Of those, 11 did not receive the minimum award level (Partner for Change) to be recognized.

*DHA MTF, not included in metrics calculations for this report

Carl R. Darnall
Army Medical Center

Chemicals, Greening the Operating Room,
and Transportation

Carl R. Darnall
Army Medical Center



Brooke Army Medical Center
Madigan Army Medical Center



Bassett Army Community Hospital

Blanchfield Army
Community Hospital

Brooke Army Medical Center

Dwight D. Eisenhower Army
Medical Center

Irwin Army Community Hospital

Keller Army Community Hospital

Kenner Army Health Clinic

Madigan Army Medical Center

Martin Army Community Hospital

McDonald Army Health Center

Reynolds Army Health Clinic

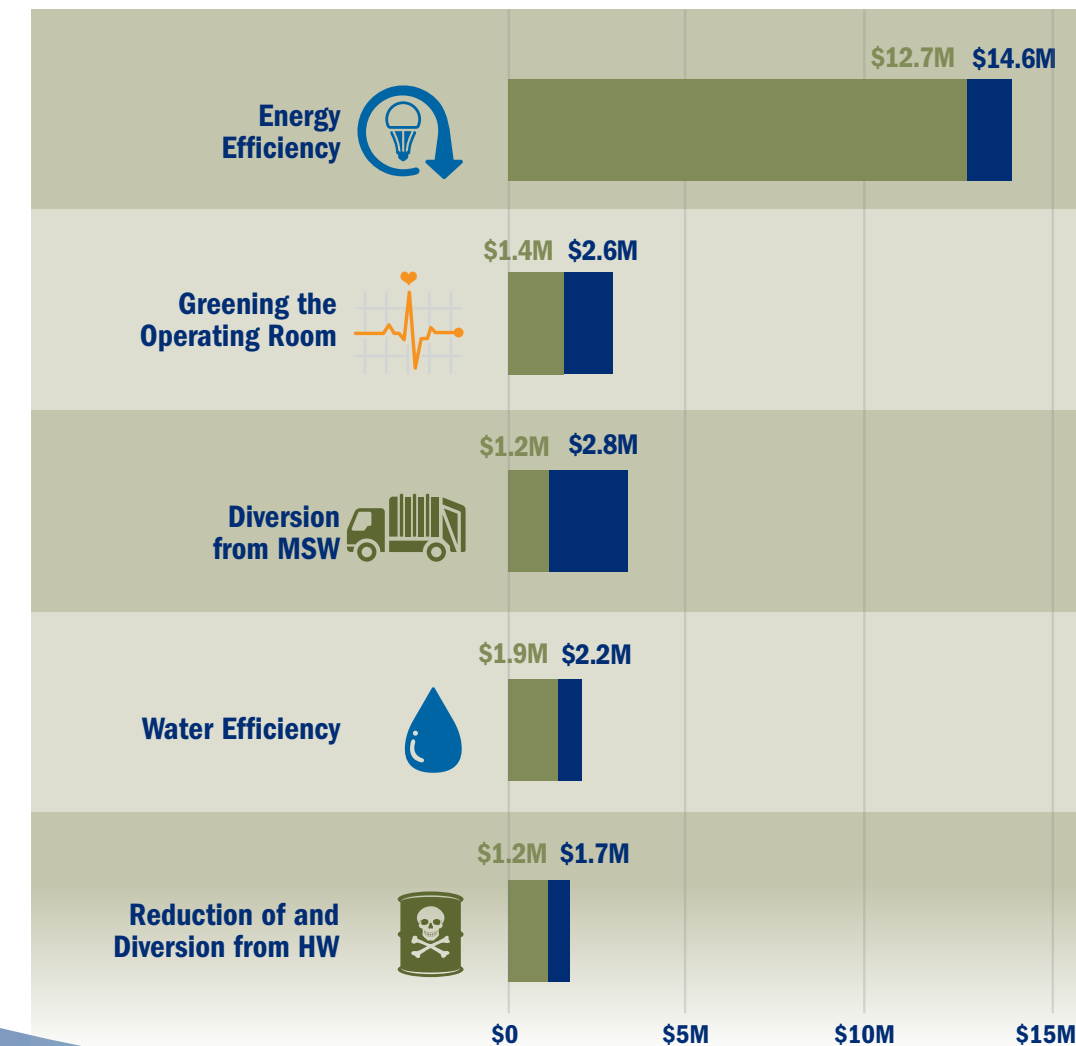
Weed Army Community Hospital

William Beaumont Army
Medical Center

Winn Army Community Hospital

Womack Army Medical Center*

Cost Savings



Part of the analysis we perform using our sustainability data is to estimate the cost avoidance and cost savings associated with operating more efficiently with a focus on a smaller environmental footprint. In CY21, MEDCOM realized over \$18.4 million (M) in savings, summarized by the green bars in the chart, showing sustainability is smart business practice. We also extrapolate potential additional savings if the 24 participating MTFs were to perform as well as their peers within the Command, summarized by the blue bars on the chart. MEDCOM had the potential to realize an additional \$5.5M, or a total of \$23.9M in CY21, if all 24 MTFs improved their sustainability practices. (Refer to the back cover for a description of the methods applied for these calculations.)

Total Cost Savings CY21
\$18.4M
Total Potential Savings CY21
\$23.9M

■ Potential Additional Savings
■ Total Savings

Calculation Details **Actual and Potential**

Diversion from Municipal Solid Waste (MSW). **Actual** - Cost savings are based on average cost of disposal per ton across the Command. The Command achieved \$1.2M savings from diversion of waste from landfills + \$8.8K savings from food waste diversion in CY21. **Potential** - If all MTFs adjusted their solid waste removal Installation Service Support Agreement (ISSAs) to “right-fit” their needs, the Command could achieve \$1.3M savings. If all MTFs with dining facilities diverted food waste at the median rate of those that reported, the Command could achieve \$959K savings from food diversion.

Diversion from Hazardous Waste (HW). **Actual** - HW diversion = Universal waste (UW) cost savings (Command saved \$1.1M in CY21). UW savings = Cost difference between disposal as HW and disposal as UW. **Potential** - UW: Estimated the savings (delta) of disposing of the UW as recycled UW versus HW, and extrapolated to MTFs that recycled UW but did not report UW costs.

Greening the OR and Diversion of Regulated Medical Waste (RMW). **Actual** - Greening the OR Savings = Single Use Devices (SUDS) diversion from RMW (Command saved \$43K in CY21) + purchasing of reprocessed SUDs vs new SUDs (Command saved \$1.2M in CY21) + reformulating OR kits (Command saved \$36K in CY21) + reusable sterilization containers (Command saved \$80K in CY21). Note: “Reformulating OR kits” is the process of customizing the kits to only include items needed, saving the purchase and disposal cost of unneeded equipment and supplies. **Potential** - All extrapolated savings based on MTFs with ORs that did not report these savings in PGH applications in 2021. 1. SUDS diversion from RMW: Extrapolated data on average weight of SUDs returned for reprocessing per OR procedure and applied facility RMW cost per ton. 2. Cost savings for purchases of reprocessed vs new SUDs based on cost difference between reprocessed vs new SUDs and CY20 procurement quantities. 3. Reformulating OR kits: Divided total dollars saved reformulating OR kits by total OR procedures for facilities that reported savings to calculate average savings per OR procedure. Extrapolated based on number of OR procedures. 4. Reusable sterilization containers: Calculated average dollars saved based on tons of avoided waste per number of instrument trays used in reusable sterilization containers as reported by MTFs that use reusable sterilization containers instead of bluewrap; extrapolated based on total number of instrument trays used.

Energy Efficiency. **Actual** - By operating more efficiently than the PGH median energy use intensity (EUI), MTFs save utility dollars. Savings = Difference in energy consumption costs for the 19 MTFs with lower EUIs than the PGH median EUI vs energy consumption costs at the PGH median EUI. **Potential** - By operating less efficiently than the PGH median EUI, MTFs have the potential for savings if they reduce their EUIs. Potential Savings = Difference in energy consumption costs for the 5 MTFs with higher EUIs than the PGH median EUI vs energy consumption costs at the PGH median EUI. This assumes that these facilities would be capable of reducing their EUIs to match the PGH median EUI.

Water Efficiency. **Actual** - By operating more efficiently than the PGH median water use intensity (WUI), MTFs save utility dollars. Savings = Difference in water consumption costs for the 15 MTFs with lower WUIs than the PGH median WUI vs water consumption costs at the PGH median WUI. **Potential** - By operating less efficiently than the PGH median WUI, MTFs have the potential for savings if they reduce their WUIs. Potential Savings = Difference in water consumption costs for the 9 MTFs with higher WUIs than the PGH median WUI vs water consumption costs at the PGH median WUI. This assumes that these facilities would be capable of reducing their WUIs to match the PGH median WUI.

Definitions

Alternative Fuel Vehicles: Alternative Fuel Vehicles (AFVs) consist of low-emitting and fuel-efficient vehicles and alternate fuel vehicles as defined by Section 301 of the Energy Policy Act of 1992, as amended (4 U.S.C. 13211). Please see the following links for a list of AFVs and alternative fuels, respectively: https://practicegreenhealth.org/sites/default/files/upload-files/transportation_toolkit_definitions_0.pdf and <https://afdc.energy.gov/fuels/>

Qualifying Square Feet: Total MEDCOM LEED-certified square feet built 2011 or later per data from the U.S. Army Corps of Engineers. Percentage calculated by qualifying square feet (2011-2021) divided by total MEDCOM square feet built 2011 or later multiplied by 100.

Scope 1 GHG Emissions: Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, fleet vehicles, refrigerants, and anesthetic gases).

PGH Median: The national median for PGH reporting facilities.