U.S. Army Medical Command Sustainability Report

2020

U.S. Army Medical Command (MEDCOM)

A Year at a Glance

For the 29 Medical Treatment Facilities (MTFs) required to report sustainability metrics, the following services were provided in 2019:

- **16,229,378** Laboratory Services*
- **15,905,591** Prescriptions
- **710,154** Immunizations
- **320,374** Occupied Beds
- **99,472** Inpatient Care Discharges
- **8,692** Births
- **4,446,499** Dental Services
- **17,310,217** Outpatient Care Encounters
- **3,104,852** Radiology Services*

These services required:

- **3,353M** kBTUs of Energy at $50.4M
- **11.5K** tons of Municipal Solid Waste (MSW) at $2.2M
- **517M** gallons of Water at $2.8M

* Fiscal Year 2019 data

MEDCOM Sustainability

MEDCOM is proud to present our annual summary of sustainability metrics and best practices. Each year, we gather data and assess our progress as part of continual process improvement. MEDCOM's vision is to deliver world-class healthcare solutions with minimal environmental footprint. The data presented in this year's report demonstrate how targeted sustainability initiatives reduce the total cost of MTF operations by improving efficiency and eliminating waste.

We are able to benchmark performance against our healthcare peers through partnership with Practice Greenhealth (PGH). PGH is a national non-profit that partners with healthcare systems in order to reduce the industry's contributions to climate change, environmental degradation and public health issues. Given healthcare's unique operational context, comparison with other healthcare facilities within the United States healthcare industry is more applicable than comparisons to other military or federal facilities for understanding impact of sustainability initiatives and identifying opportunities to pursue.

Our Calendar Year 2019 (CY19) 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**. This year, we are sharing best practices and initiatives MTFs have incorporated into everyday business, revealing how each and every decision made in the provision of healthcare presents an opportunity to better serve patients, reduce environmental footprint, and avoid costs.

MEDCOM Sustainability Mission

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

MEDCOM Sustainability Vision

We are leaders in delivering world-class healthcare 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 Metrics

MEDCOM performs an annual data call for tracking sustainability progress and compliance. Quantitative metrics help us as we seek to continually improve performance and inform decision-making. The table below depicts the metrics we track and their associated Focus Areas. Major accomplishments for several sustainability metrics are provided on the following page. In early 2020, 29 MEDCOM MTFs completed the PGH Partner for Change award application for their CY19 performance metrics. Awards received by participating MTFs are shown on page 10.

Focus Areas

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
					

Accomplishments

For the 29 Reported Medical Treatment Facilities

Total Cost Savings

23.2M

Fleet Management

51%
of MEDCOM fleet is comprised of green vehicles

Energy Reduction

61%
of facilities more energy-efficient than PGH median

Water Efficiency

64%
of facilities more water-efficient than PGH median

GHG Emission Reduction

4.7%
reduction in Scope 2 GHG emissions from renewable energy consumption

MSW Reduction

5,857 tons
diverted from municipal solid waste

HW Minimization

101 tons
diverted from hazardous waste

Single Use Device Collection and Reprocessing

36 tons
Single Use Devices diverted from waste stream

For the MEDCOM Enterprise Level

Sustainability Training

1,690
training attendees

Sustainable Buildings

21
LEED Certified Buildings

3.26M
Square Feet

12.6%
of Qualifying Square Feet

Sustainability Initiatives

Through Business Practices

Incorporating sustainability into everyday operations

MEDCOM MTFs are continually working to incorporate sustainability into everyday operations. This year we highlight several of these initiatives in business practices, cafeterias, transportation, repurposing and recycling, and waste management. Everyday action reinforces the integration of sustainability into decision making across the organization and leads to engagement of new stakeholders.

More efficient records management, leveraging of communication tools, and smart business practices improve patient care while also reducing the environmental footprint.

- Carl R. Darnall Army Medical Center (AMC) piloted a text messaging system for patient surveys, making it easier for patients to provide feedback while also eliminating paper used in the process, thus resulting in significant paper use reductions.
- Ireland Army Health Clinic (AHC) digitized patient records and implemented an automated contracting management and tracking system, improving accuracy and increasing efficiency while reducing paper usage by 20%.
- Weed Army Community Hospital (ACH) Perioperative Department hired a Medical Supply Technician to ensure supplies are ordered just-in-time or as needed to avoid stockpiling excess amounts of supplies that results in waste generation when supplies expire.
- Moncrief AHC implemented a Business Center with multifaceted copiers, printers and scanners strategically placed in the facility to avoid excessive printer use. The cost avoidance is projected to have a significant savings of $500,000 while reducing the use of paper, ink/toner, ventilation/cooling and energy.

Sustainability Initiatives

In the Cafeteria

All MEDCOM Dining Facilities (DFAC) closely monitor sales of items for future forecasting of meals in order to decrease excess food production. Many MTFs are also implementing initiatives such as compositing, reusable dishware, and on-demand patient room delivery to decrease food waste.

- Brooke AMC implemented an OZZI© reusable food takeout container program which allows the staff to wash the containers instead of landfilling them, resulting in 4,475 pounds of waste diverted from landfills, reducing spending on disposal food containers. The program paid for itself (cost of the receptacle machines) in less than one year.
- Tripler AMC has purchased the same system and plans to implement it in 2020.
- Irwin ACH replaced disposable dishware, silverware and condiment containers with reusable items, and Keller ACH replaced many dining facility items with compostable and biodegradable options. Keller enhanced adoption of these alternatives with an education campaign.
- Madigan AMC provides compostable food bags for its DFAC and all food services on site to collect excess food waste, which is then transported to a Joint Base Lewis McChord food composting facility instead of the landfill. Food waste is collected three times per week and transported to an onsite permitted food composting facility called Earth Works.

Tripler AMC OZZI© reusable takeout container system

Sustainability Initiatives

In Transportation

MEDCOM works continually to green its fleet and reduce miles traveled in personally owned vehicles (POVs).

- Landstuhl Regional Medical Center (RMC) purchased seven electric vehicles to replace fossil fuel vehicles used for transporting people and supplies onsite.
- Madigan AMC promoted the use of environmentally preferable commuting options, to include over 21 vanpools, commuter buses, ferries, and shuttle services, through several successful community outreach events and a YouTube video in partnership with GO Lewis McChord board members.
- William Beaumont AMC purchased two electric golf carts instead of relying on gasoline-powered golf carts, and Winn ACH provides three battery charging parking slots for electric vehicles.

Landstuhl RMC electric vehicle

Through Repurposing & Recycling

MEDCOM MTFs consistently look for ways to divert materials from the waste stream, innovating in recycling and taking care to deliver items for reutilization.

- Brooke AMC has successfully recycled 9,000 hard drives by degaussing for use as scrap metal. The medical center also transfers excess equipment to other MEDCOM Activities for continued use and diversion from the landfill. In CY19, Brooke AMC turned in over 7,925 items valued at $16.8M to the Defense Logistics Agency Disposition Support for reuse.
- Kenner AHC successfully had the base Directorate of Public Works (DPW) install scales on base recycling trucks to weigh each recycling container as it is picked up. These recycling data are important for informing collection of recyclable materials going forward.
- Guthrie AHC ensures metal instruments are re-sterilized or recycled instead of being disposed of as waste.

Kenner AHC recycling truck

Sustainability Initiatives

Through Waste Management

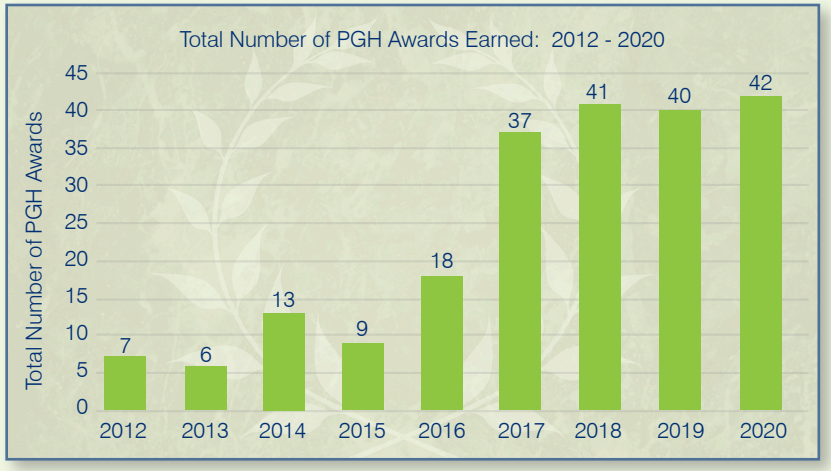
- Blanchfield ACH coordinated with the U.S. Army Public Health Center to characterize the pharmaceuticals dispensed based on their disposition. This has enabled Pharmacy staff to save significant time and resources in characterizing waste, and was shared with the installation's DPW Hazardous Waste Program, improving identification of non-creditable pharmaceutical waste. Overall, this program has immensely improved proper characterization of pharmaceutical waste.
- Madigan AMC reuses buckets to collect universal waste batteries at over 160 collection sites throughout the hospital. Used batteries are consolidated into larger containers by battery type and logged with the earliest accumulation start date. Madigan's program for tracking universal waste has been praised by regulatory inspectors.

Madigan Universal Waste Satellite Accumulation Area


Blanchfield ACH Sustainability Team members

MEDCOM's Sustainability Program Continues to Grow

MEDCOM's sustainability efforts continue to grow over time, as shown in this chart depicting the number of PGH award winners each year since 2012. This trend reflects the ongoing maturation of our program. MEDCOM has earned 214 awards over nine years. See the complete list of the 2020 award winners on page 10.



2020 Practice Greenhealth Awards

2020 Practice Greenhealth TOP 25 ENVIRONMENTAL EXCELLENCE AWARD

Carl R. Darnall Army Medical Center ★★★

2020 Practice Greenhealth SYSTEM FOR CHANGE AWARD

U.S. Army Medical Command
Regional Health Command – Atlantic
Regional Health Command – Central

2020 Practice Greenhealth GREENHEALTH EMERALD AWARD

Evans Army Community Hospital ★★★★★★★

Madigan Army Medical Center ★★★★

2020 Practice Greenhealth GREENING THE OR AWARD

Carl R. Darnall Army Medical Center
Evans Army Community Hospital
Irwin Army Community Hospital
Madigan Army Medical Center
Weed Army Community Hospital

2020 Practice Greenhealth MAKING MEDICINE MERCURY FREE AWARD

Brooke Army Medical Center

CIRCLE OF EXCELLENCE – CHEMICALS

Brooke Army Medical Center
Carl R. Darnall Army Medical Center

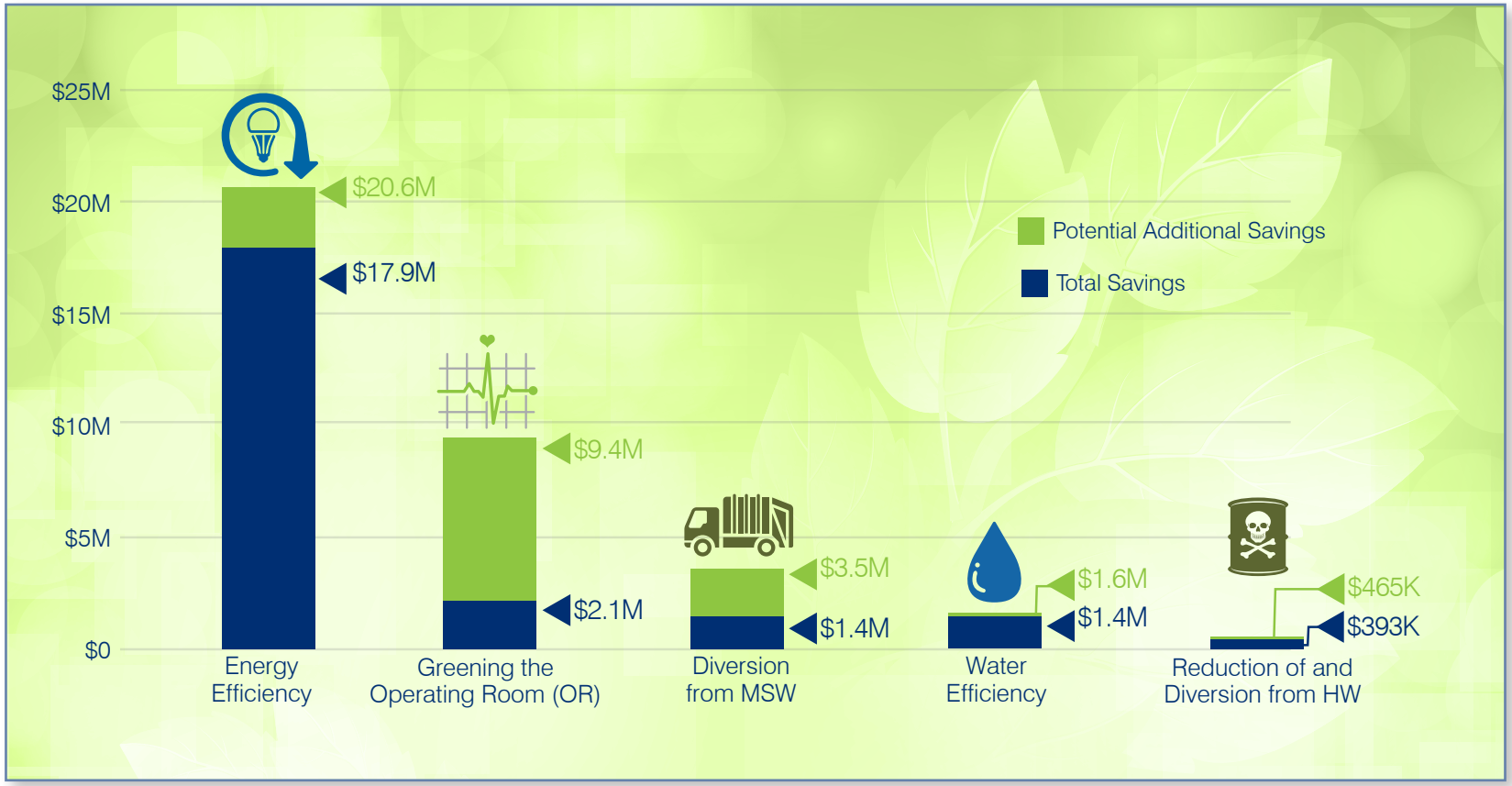
2020 Practice Greenhealth GREENHEALTH PARTNER FOR CHANGE AWARD

Bassett Army Community Hospital
Bavaria-Medical Department Activity
Bayne-Jones Army Community Hospital
Blanchfield Army Community Hospital
Brooke Army Medical Center
Dwight D. Eisenhower Army Medical Center
Guthrie Ambulatory Health Care Clinic
Ireland Army Health Clinic
Irwin Army Community Hospital
Keller Army Community Hospital
Kenner Army Health Clinic
Kimbrough Ambulatory Care Center
Landstuhl Regional Medical Center
Martin Army Community Hospital
Moncrief Army Health Clinic
Raymond W. Bliss Army Health Center
Reynolds Army Health Clinic
Tripler Army Medical Center
Weed Army Community Hospital
William Beaumont Army Medical Center
Winn Army Community Hospital

★ Consecutive year winner top tier awards

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 CY19, MEDCOM realized over $23.2 million in savings, summarized by the dark blue bars in the graph below, showing sustainability is smart business practice. We also extrapolate potential additional savings if all 29 MTFs perform as well as their peers within the Command, summarized by the green bars on the chart. MEDCOM has the potential to avoid up to $35.6M annually if we improve our sustainability practices at individual MTFs. (Refer to the last page for a description of the methods applied for these calculations).



Calculation Details Actual and Potential

Diversion from MSW. **Actual** - Cost savings are based on average cost of disposal per ton across the Command. The Command achieved $1.2M savings from recycling + $253K savings from food waste diversion in CY19.
Potential - If all MTFs adjusted their solid waste removal Installation Service Support Agreement (ISSAs) to "right-fit" their needs, the Command could achieve $658K savings. If all MTFs recycled at the median rate of those that reported, the Command could achieve $1.5M savings from diversion for recycling. If all MTFs with dining facilities diverted food waste at the median rate of those that reported, the Command could achieve $1.3M savings from food diversion.

Diversion from HW. **Actual** - HW diversion = Universal waste (UW) cost savings (Command saved $375K in CY2019) + solvent distillation cost savings (Command saved $18K in CY2019). UW savings = Cost difference between disposal as HW and disposal as UW. Solvent distillation savings = Savings from not purchasing new solvent + savings from not disposing as HW.
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. Solvent Distillation: Applies only to MTFs with ORs. Divided total dollars saved for conducting solvent distillation by total OR procedures for facilities that reported savings to calculate average savings per OR procedure. Extrapolated to MTFs that do not currently conduct solvent distillation based on number of OR procedures.

Greening the OR and Diversion of Regulated Medical Waste (RMW). **Actual** - Greening the OR Savings = Single Use Devices (SUDs) diversion from RMW (Command saved $42K in CY2019) + purchasing of reprocessed SUDs vs new SUDs (Command saved $1.7M in CY2019) + reformulating OR kits (Command saved $94K in CY2019) + fluid management systems (Command saved $112K in CY2019) + reusable sterilization containers (Command saved $130K in CY2019). 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 2019. 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 current 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. Fluid management systems: Divided total dollars saved using fluid management systems by total OR procedures for MTFs that reported savings to calculate average savings per OR procedure; extrapolated based on number of OR procedures. 5. 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 17 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 11 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 14 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 8 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

Green vehicles: Green vehicles consist of low-emitting and fuel-efficient vehicles and alternate fuel vehicles. Please see the following link for more details on green vehicles: https://practicegreenhealth.org/sites/default/files/upload-files/transportation_toolkit_definitions_0.pdf

Qualifying Square Feet: All facilities operated by MEDCOM in CY19 greater than 5000 square feet and defined as 'medical' or 'utility' in real property database. NOTE: Changes occurred in this value (as well as total number of LEED certified buildings) as facilities transferred from MEDCOM to other agencies in CY19 and are therefore no longer in MEDCOM's real property inventory.

Scope 2 GHG Emissions: Scope 2 GHG Emissions are indirect GHG emissions resulting from the generation of electricity, heating and cooling, or steam generated off-site but purchased by the entity, and the transmission and distribution losses associated with purchased utilities (e.g., chilled water, steam, and high temperature hot water).