

Sustainability

The Transformational Domain of Quality

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Weill Cornell Medical College
Houston, Texas

Why is it Personal

Family

Fact (vs Belief)

Future (of Healthcare)

Financial (wasted effort/money)

Fun (it is more engaging than cumbersome)

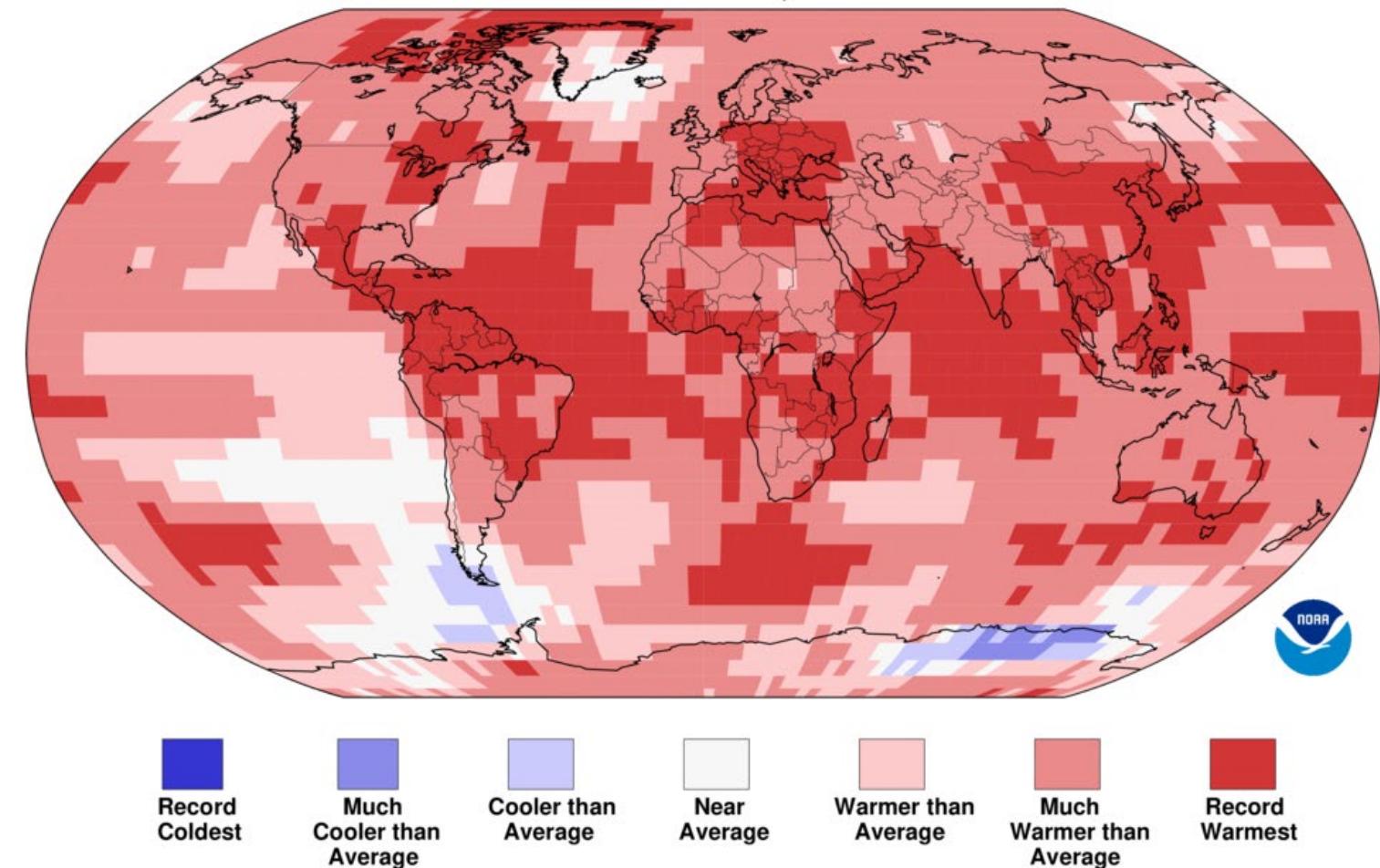
In 2024, global surface temperature was 2.32 °F (1.29 °C) above the 20th-century average. This ranks as the highest global temperature in the period of 1850–2024.

THE 15 U.S. STATES FACING THE MOST EXTREME WEATHER BY 2030

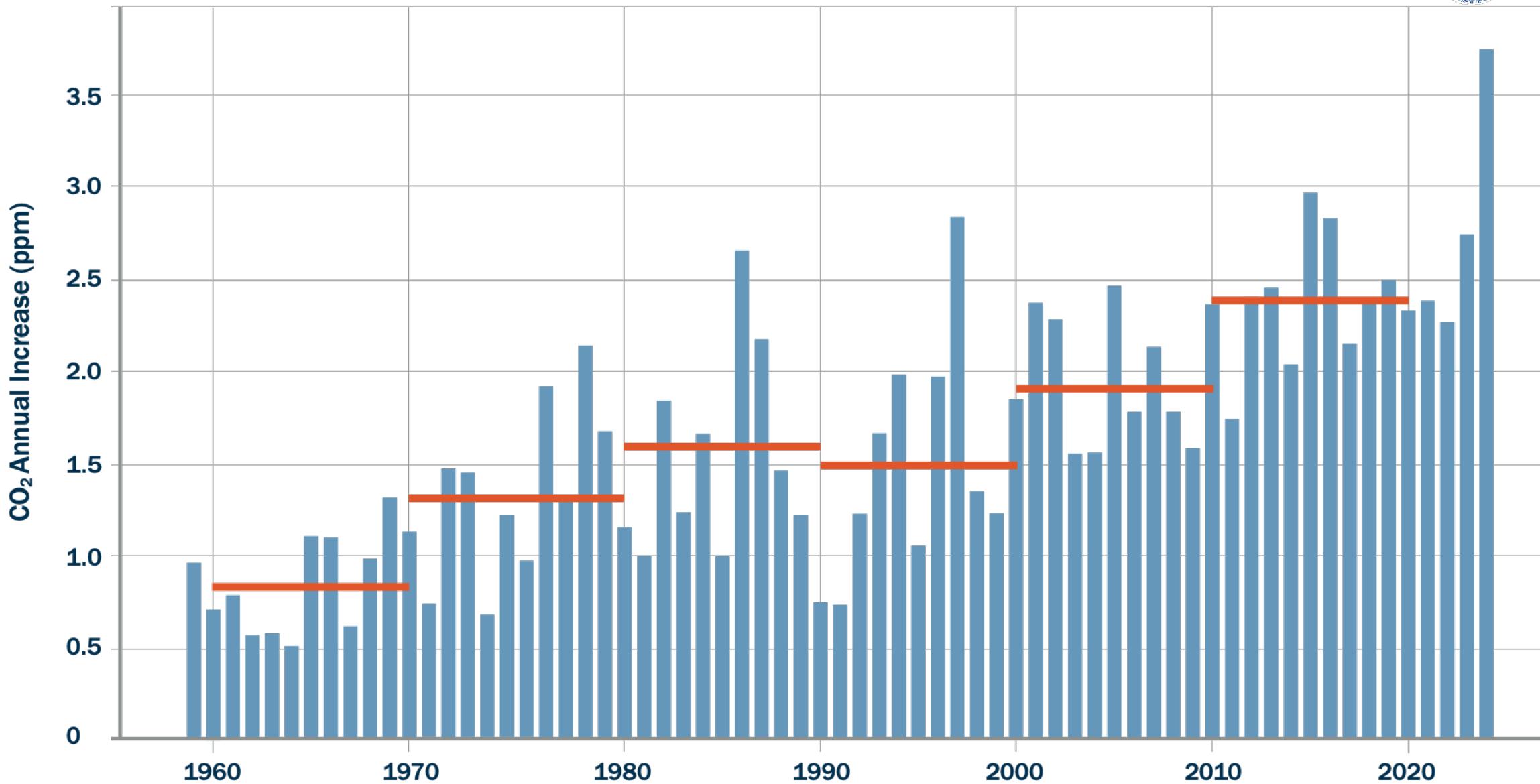
Texas, Florida, Alabama, Oklahoma, Louisiana, Mississippi, California, Georgia, North and South Carolina, Arizona etc.

Land & Ocean Temperature Percentiles Jan-Dec 2024

NOAA's National Centers for Environmental Information



Annual Global Increase of CO₂



Selected Significant Climate Anomalies and Events: Annual 2024



GLOBAL AVERAGE TEMPERATURE

The Jan-Dec 2024 global surface temperature ranked warmest since global records began in 1850.

NORTH AMERICA

North America had its warmest year on record, eclipsing 2023.

EASTERN NORTH PACIFIC HURRICANE SEASON

Below-average activity: 13 storms including five hurricanes.

HURRICANE HELENE

Helene was the deadliest Atlantic hurricane since Maria in 2017 and the deadliest hurricane to affect the continental United States since Hurricane Katrina in 2005, with 219 fatalities.

HURRICANE BERYL

Beryl became the first Category 4 hurricane in the Atlantic Ocean during the month of Jun. It caused extensive damage across the Windward Islands and later peaked as the earliest Atlantic Category 5 hurricane on record.

SOUTH AMERICA DROUGHT

Severe drought conditions affected large parts of South America as record and near-record heat dominated the continent.

SOUTH AMERICA

South America tied with 2023 as the warmest year on record.

GLOBAL OCEAN

Global ocean surface temperature was record warm for 15 consecutive months from Apr 2023–Jun 2024 and was record warm for 2024.

GREAT LAKES

Persistently warmer-than-average temperatures led to historically low mid-Feb ice coverage on the Great Lakes.

ARCTIC

The 2024 Arctic minimum sea ice extent was seventh smallest on record. The Arctic had its second-warmest year on record.

ATLANTIC HURRICANE SEASON

Above-average activity: 18 storms including 11 hurricanes.

SPAIN

An historic deluge of rain in southern Spain in late Oct caused catastrophic destruction and more than 200 deaths in the area of Valencia.

AFRICA

2024 eclipsed 2023 as Africa's warmest year on record.

ANTARCTIC

The 2024 Antarctic maximum sea ice extent was second lowest on record, while the minimum extent tied with 2022 for second lowest.

PERSIAN GULF REGION

An extreme rain storm in April brought up to two years of precipitation in 24 hours—it caused major disruption and more than 20 fatalities in the UAE and Oman and severely impacted neighboring countries.

WESTERN NORTH PACIFIC TYPHOON SEASON

Below-average activity: 23 storms including 15 typhoons.

GLOBAL TROPICAL CYCLONES

Very slightly below-average activity: 85 storms including 42 hurricanes/cyclones/typhoons—23 storms reached major tropical cyclone strength.

TYPHOON YAGI

Yagi peaked as a Category 4 equivalent and was one of the strongest typhoons to strike northern Vietnam and southern China, resulting in widespread damage and hundreds of fatalities.

SOUTHWEST PACIFIC CYCLONE SEASON*

Below-average activity: six storms including two tropical cyclones.

OCEANIA

Oceania had its warmest year on record.

AUSTRALIA

Australia had its second-warmest year since national records began in 1910.

*Cyclone season runs from Jul 2023–Jun 2024

Climate change could become a global economic disaster.

New warnings from financial firms and insurers point to a future defined by profound risks to the global economy from heat, storms and other disasters.



Flooding in Fort Lauderdale, Florida in 2023. By 2049, costs from the effects climate change could total more than \$38 trillion annually.

Climate Change-Related Impacts on Health System Operations

...recent headlines

Wildfire smoke increases borrowing costs for healthcare facilities, researchers find

Team including University researcher says costs of care may be driven higher

[Business & Entrepreneurship](#) |

February 18, 2025

John Seelmeyer

Hospitals scramble to address medical supply shortage from Hurricane Helene

As a result of Hurricane Helene and the backlog from the suspended dockworkers' strike, "the market will be highly constrained," said Jesse Schafer, executive director of the Healthcare Industry Resilience Collaborative.

Alan Goforth | October 08, 2024 at 09:23 AM



Hurricane Milton disrupts infrastructure, could trigger more hospital evacuations in Florida

While Florida hospitals largely withstood the worst of the hurricane's impacts, disruptions to public services could result in more patient transfers in the coming days.

Published Oct. 10, 2024

By [Susanna Vool](#)
Staff Reporter

in X 6 8



Tornado damage to Pfizer factory highlights vulnerabilities of drug supply

JULY 27, 2023 - 2:36 PM ET

By Sydney Lupkin

[3-Minute Listen](#) [+ PLAYLIST](#)



HEALTH CARE

IV shortage 'creates havoc' for hospitals, exposing supply chain 'whack-a-mole'

BY NATHANIEL WEIXEL - 10/17/24 6:00 AM ET

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2 [Pioneers in financial planning? CFP Board wants to recognize those who've 'elevated standards'](#)



Most Popular

1 [Ex-Proud Boys leader Enrique Tarrio arrested near Capitol](#)

2 ['We are the federal law': Trump, Maine governor clash over transgender rights](#)

3 [NOAA sets to release new climate report](#)

Up to 90% of orally administered pharmaceuticals are excreted into wastewater as active substances in the feces and urine of patients.





- The global medical plastic market accounts for 2% of the total market by value and is growing by 6% a year
- US consumes 40% of the medical devices manufactured globally

Microplastics and Nanoplastics in Atheromas and Cardiovascular Events

Authors: Raffaele Marfella, M.D., Ph.D.

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Ph.D., Gianluca Fulgenzi, Ph.D.

Laura Graciotti, Ph.D.

Tatiana Spadoni, Ph.D.

Nunzia D'Onofrio, Ph.D.,

+35 and Giuseppe Paolisso, M.D. [Author](#)



POLLUTANTS IN THE
ATHEROSCLEROTIC PLAQUE
AND CARDIOVASCULAR EVENTS



WHO?

- ASYMPTOMATIC CAROTID ARTERY DISEASE
- UNDERGOING CAROTID ENDARTERECTOMY



OBSERVATIONAL STUDY DETECTING
MICRONANOPLASTICS IN CAROTID PLAQUE
(=MNP_s)

| MNP _s TESTED |
|-------------------------|
| POLYETHYLENE |
| POLYPROPYLENE |
| POLYSTYRENE |
| ABS COPOLYMER |
| BUTADIENE-STYRENE |
| POLYMETHYLMETHACRYLATE |
| POLYCARBONATE |
| PVC |
| PET |
| NYLON-6 |
| NYLON-66 |

Q1 ARE MNP_s DETECTABLE IN ATHEROSCLEROTIC PLAQUE?

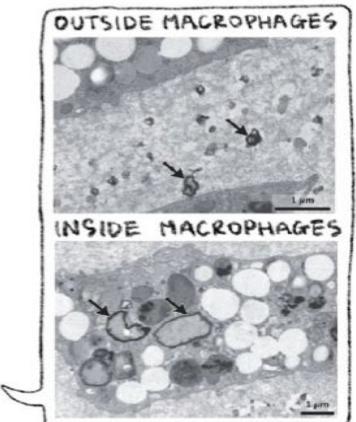
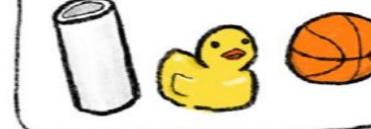
150/257 (58.4%) OF PATIENTS
HAD DETECTABLE

POLYETHYLENE
(HDPE, LDPE)



31/257 (12.1%)
HAD DETECTABLE

POLYVINYL
CHLORIDE (PVC)



Q2 IS THE PRESENCE OF MNP_s ASSOCIATED WITH CARDIOVASCULAR OUTCOMES OVER 3 YEARS?

PATIENTS WITH MNP_s HAD ↑ RISK [ADJUSTED HR 4.5 (95% CI 2.0-10.3)]
CV RISK FACTORS - DM, HTN, BMI ...

OF*:

*COMPOSITE
OUTCOME

MYOCARDIAL
INFARCTION



STROKE



ALL-CAUSE
MORTALITY

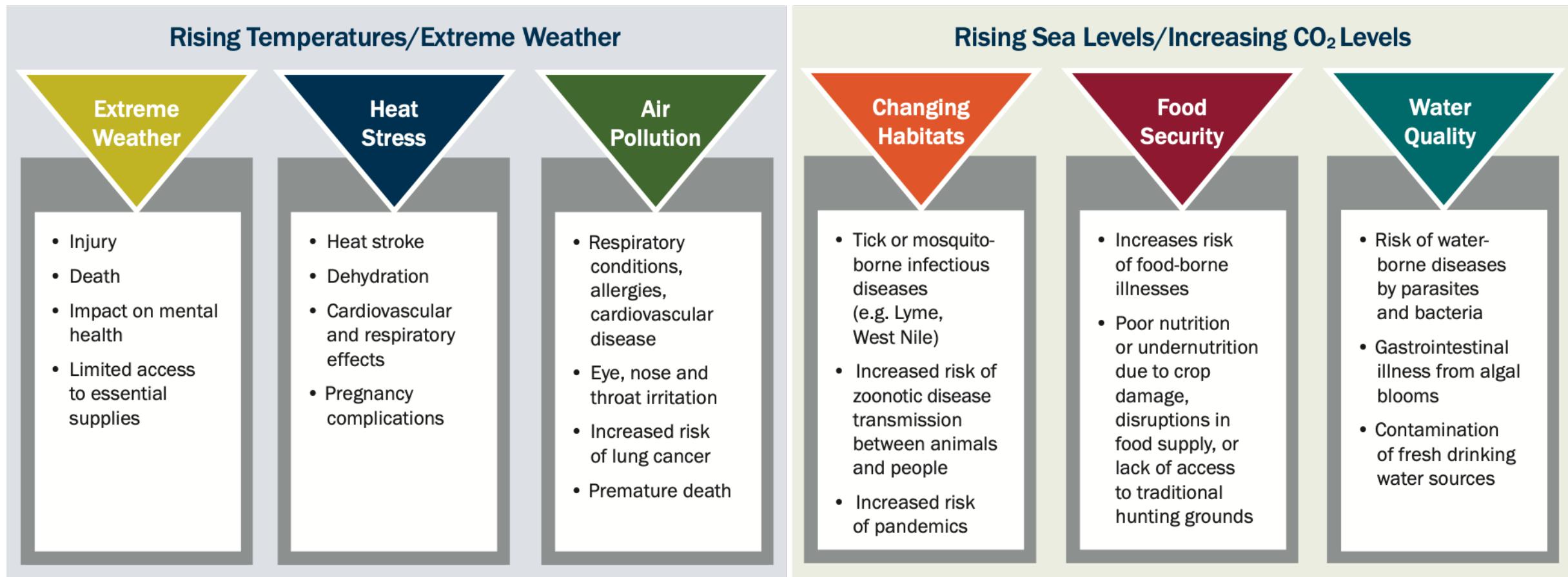


How Climate Change Impacts our Health

Some people are at greater risk of poor health outcomes from climate change.

Risk factors include:

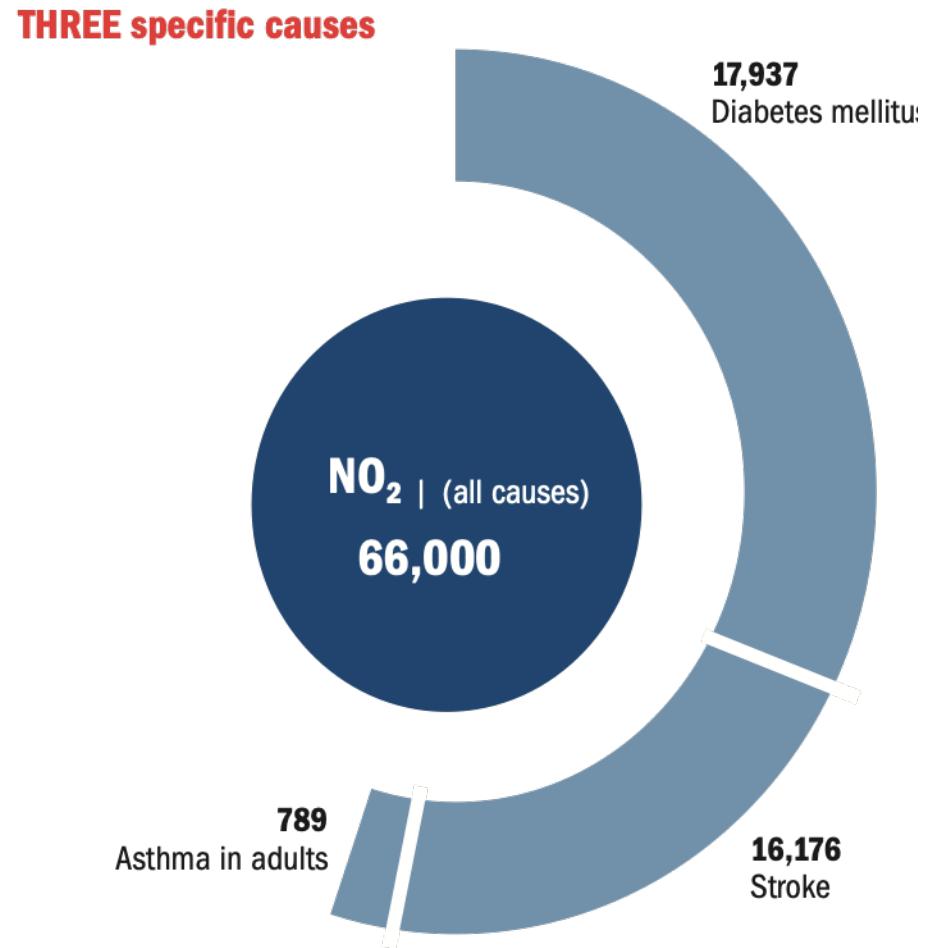
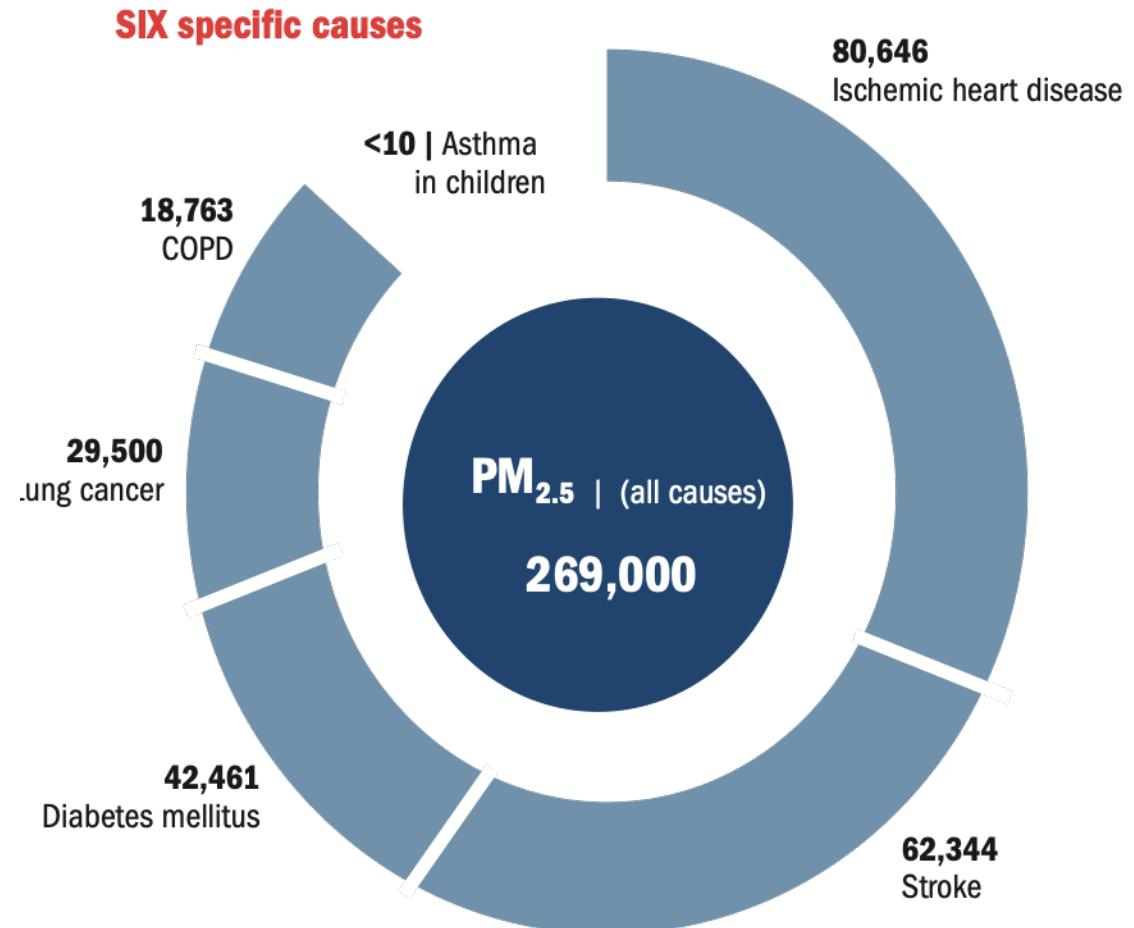
- Low-socio-economic status
- Age (very young or advanced age)
- Pre-existing health conditions
- Geographic location



Mortality due to PM_{2.5} | N₂ 2022 in 41 European countries



Attributable deaths for different cause of mortality



Health Effects of Air Pollution

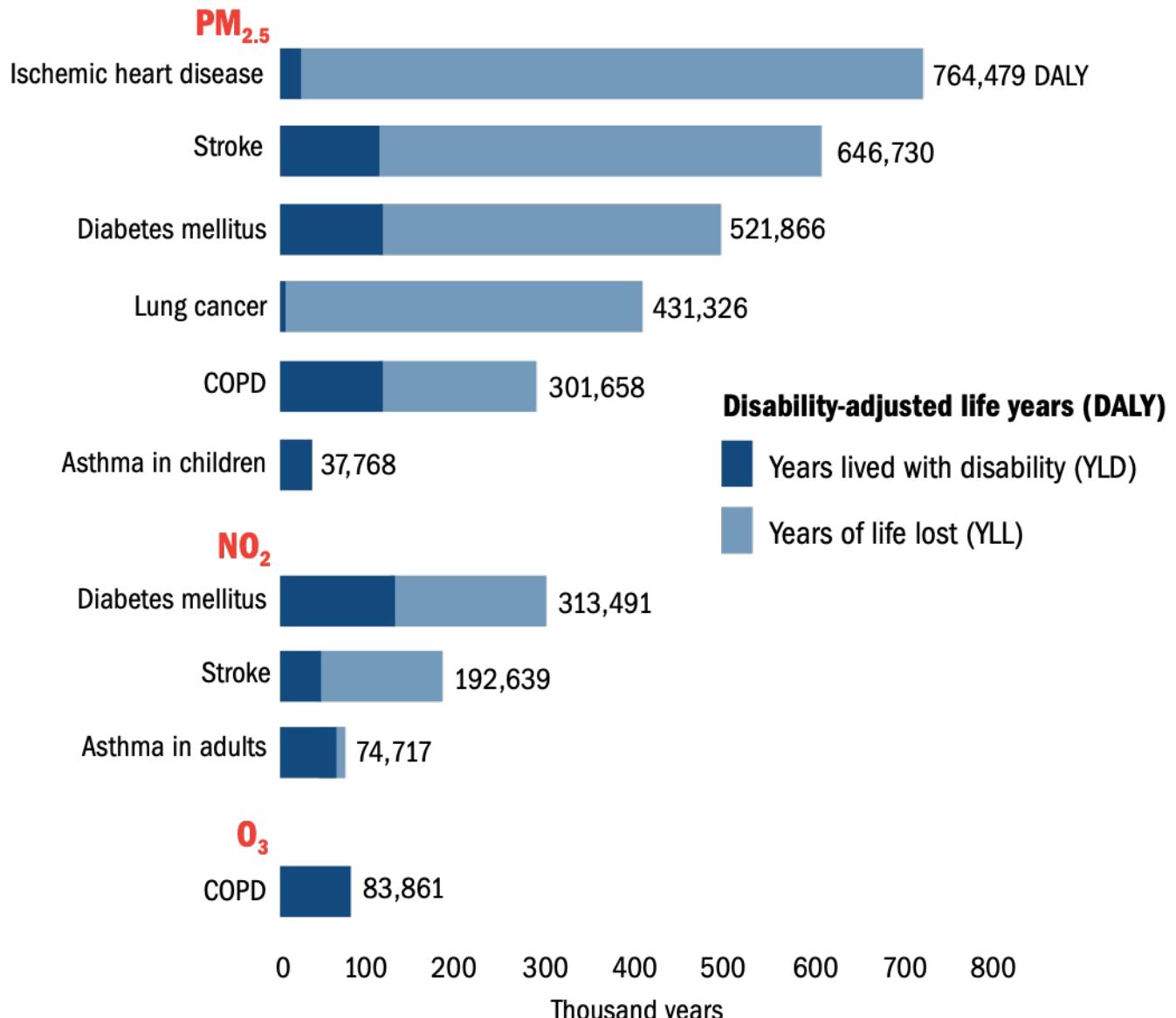
Effective: Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and misuse, respectively). Examples of clinical impact:

Respiratory illness: people suffering from asthma or COPD are [vulnerable during heat waves or periods of bad air quality](#), particularly those experiencing homelessness, low-quality housing, and/or financial insecurity.

Clinical therapeutics alone are no longer enough to help these populations. Effective care must now include multi-sectoral mitigation strategies around the built environment.

- Low value care
- Lots of labs, X-rays, CT scans
- Choose wisely

Burden of disease for PM_{2.5} | N₂ | O₃ 2022 in 41 European countries



US healthcare produces 25 percent of global health care emissions.

- Health care in the United States — the largest industry in the world's largest economy
- “In 2018, the U.S. health care industry emitted approximately 610 million tons of greenhouse gases, or GHGs — the equivalent of burning 619 billion pounds of coal.” <https://time.com/6321357/how-us-hospitals-undercut-public-health/>
- If the US health care sector were itself a country, it would rank 13th in the world for GHG emissions, ahead of the entire U.K

Gloves

- How many gloves does HM system uses on a yearly basis?
 - 128,298,000+ gloves/year
- Glove Waste to Energy
 - 845,000 pounds/year

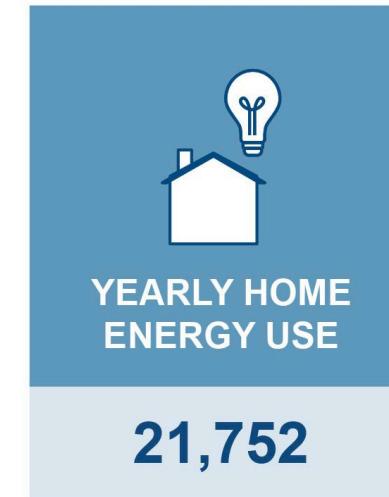
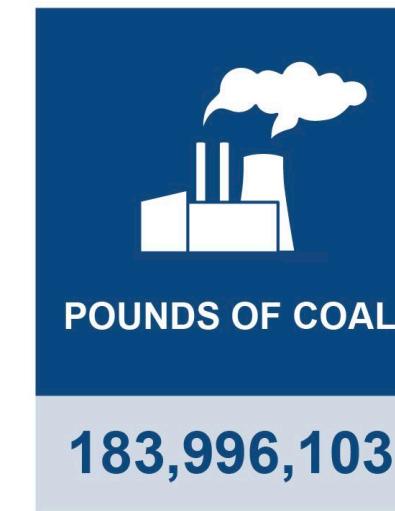
Scope 1 & 2 Emission Equivalents - AMC

166,954 MTCO2e

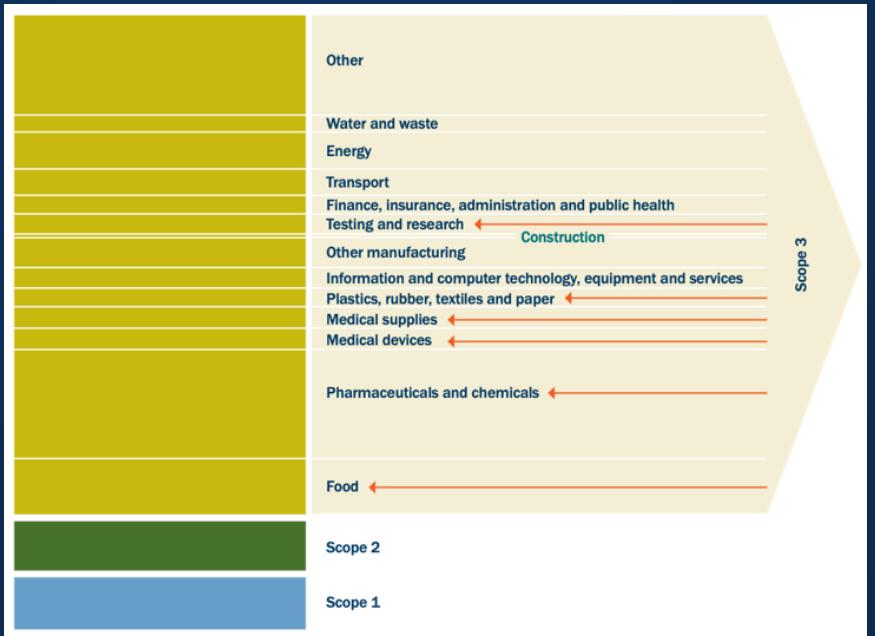
Hospitals are the second-most energy-intensive commercial buildings in the country, after food service facilities.

Scope 1 emissions are direct emissions from sources a company owns or controls, such as fuel combustion in vehicles or factories.

Scope 2 emissions are indirect emissions from energy purchased, like electricity or steam, that the company uses



SCOPE 3



- Scope 3 estimates. **834,770 MTCO2e**
- Accordingly, would increase these numbers by a factor of 5X.
 - Coal: 3.1 Billion
 - Gas: 315 Million
 - Home Energy: 365,000
 - Oil: 6.5 Million

It is 4X higher per full-time employee than Walmart.

Current Domains of Quality

Domains of Quality



- Agency for Healthcare Research and Quality
- Institute of Healthcare Improvement

“Disease burden from the healthcare pollution is the same order of magnitude as deaths from medical errors and should be taken just as seriously.”

- Jodi Shermann, M.D.

To Err is Human: Building a Safer Health System

Institute of Medicine (US) Committee on Quality of Health Care in America

Linda T. Kohn, Janet M. Corrigan, Molla S. Donaldson

98,000 People Die

1999 Report

Medical Error - the Third Leading Cause of Death in the U.S.

BMJ 2016; 353 doi: <https://doi.org/10.1136/bmj.i2139>

(Published 03 May 2016) Cite this as: BMJ 2016;353:i2139

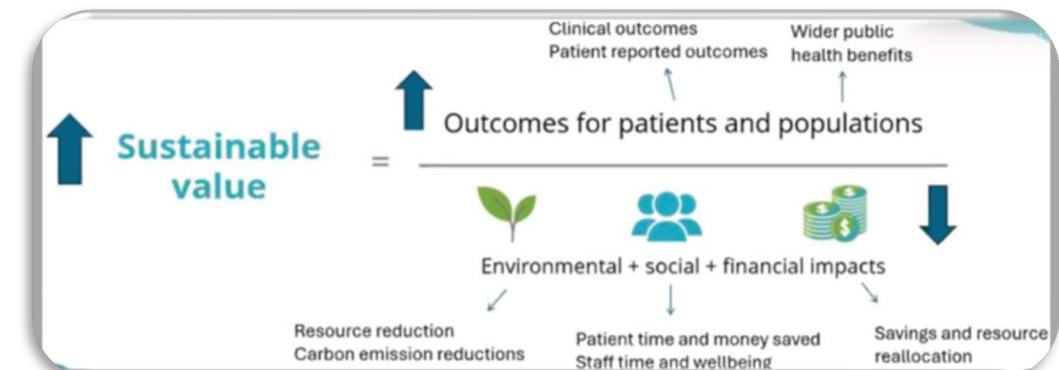
200,000 Patient Deaths Annually Were Due to Preventable Medical Errors.

The Need for Sustainability as a Mainstream Part of Quality Improvement



**Quality is not enough-
we need improve *value*.**

Value =
Outcomes for patients and populations
Environmental + social + financial impacts
(the 'triple bottom line')



Safety Agenda: Early Lessons Learned-IHI

“We believe the connection between environmental sustainability, quality and safety is clear. Consequently, it is essential for us to harness quality and safety functions to improve our processes and protect our planet and those who inhabit it.”

(Dec .20203-By Komal Bajaj, Lara Musser, Eric Wei, Jordana Bailey, Alfredo Jones, and Cjloe Vinoya-Chung)

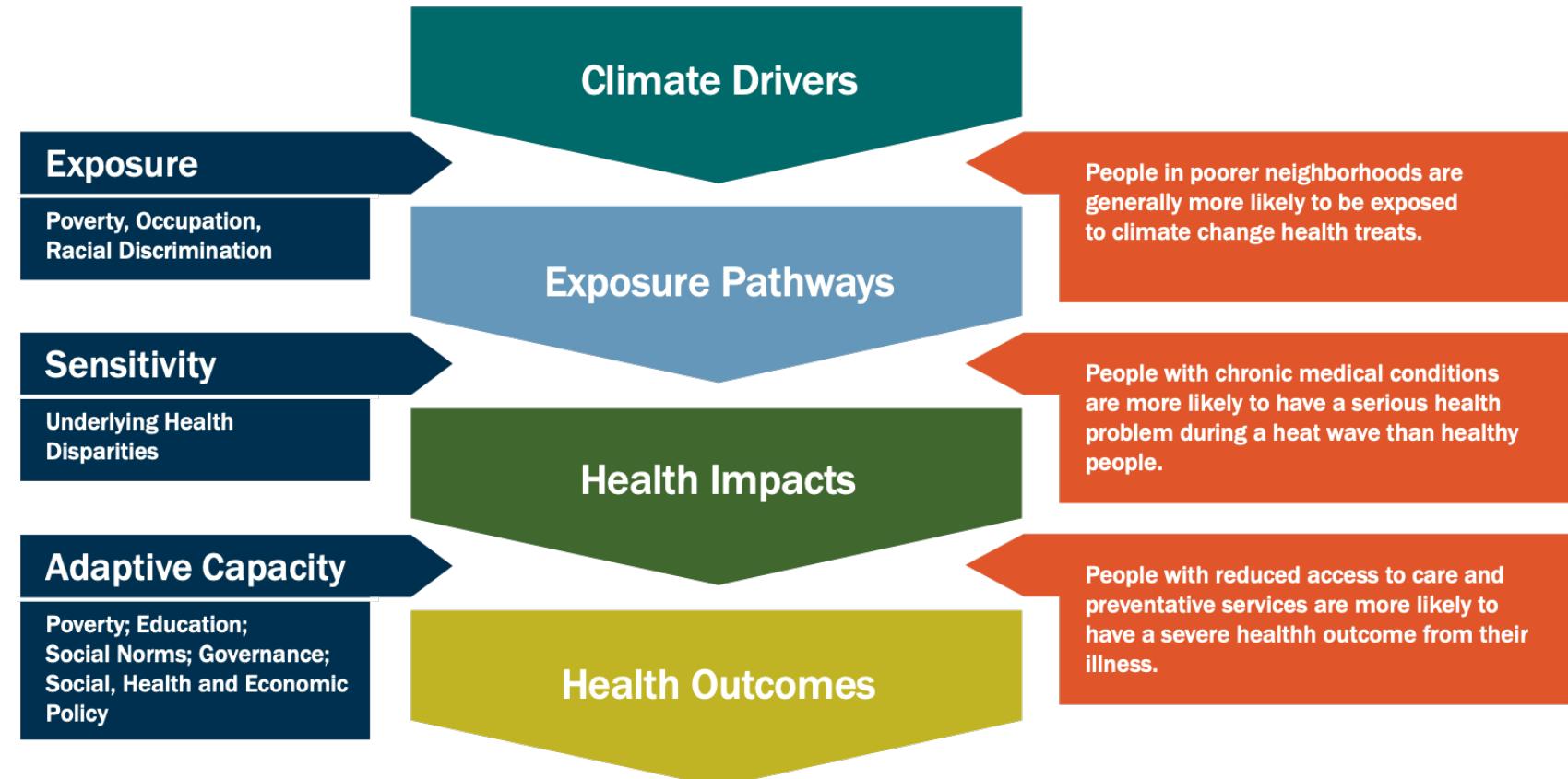
Impact of Sustainability on current Domains of Quality

Providing care that does not vary in quality because of personal characteristics such as geographic location and socioeconomic status

Impact of climate change on vulnerable communities

Hurricanes — Following Hurricane Maria's destruction in Puerto Rico in 2018, [rates of PTSD were particularly high for climate migrants](#), or those forced to relocate, compared to those who chose to stay in Puerto Rico.

Mental health care is important for all those impacted by climate crises, but especially for climate migrants.



Timeliness & Safety

Climate Change-related Impacts on Health System Operations

- Wildfire smoke increased borrowing costs for healthcare facilities, researchers find.
- Hospitals scramble to address medical supply shortage from Hurricane Helene.
- Hurricane Milton disrupts infrastructure, could trigger more hospital evacuations in Florida.
- IV shortage ‘creates havoc’ for hospitals, exposing supply chain ‘whack-a-mole.’
- Tornado damage to Pfizer factory highlights vulnerabilities of drug supply.
- Weather-related disasters — Severe flooding and power outages from weather-related disasters, such as Hurricane Sandy in 2012, forced closures of affected health care facilities across New York City.
- Forced closures not only disrupted services provided to acutely ill patients but also postponed care for emergency and ambulatory care settings, increasing the risk for harm to patients.



Timeliness

Safety

Patient
Experience

Timeliness & Safety

Climate change impact on the healthcare provided to patients

- Losing access to healthcare facilities
- Shortage of drugs due to disruption of supply chains resulting from climate extreme events
- Infections spread
- Increasing occurrence of medical errors
- Emergence of new diseases
- Raising many problems with the safety of drug use
- Increasing patients' vulnerability
- Delay in cancer detection and management, and worsening prognosis of cancer cases

1 in 5 People Say Climate Change Has Impacted Daily Life

New analysis finds the effects of climate change were evident in nearly all regions of the world in recent months.

https://apple.news/AYYjr_5eRSIG54nDmTd2HCA

<https://doi.org/10.1186/s42269-023-01026-9>

‘Choose Wisely’ Campaigns

Low-value care harms patients and stresses the limited healthcare resources.⁽¹⁾

In the United States, an estimated 75.7 to 101.2 billion dollars were spent in 2019 on over-treatment or low-value care.⁽²⁾

1. Brownlee S, Chalkidou K, Doust J, et al. Evidence for overuse of medical services around the world. *Lancet*. 2017;390(10090):156-168. doi:10.1016/s0140-6736(16)32585-5

2. Shrank WH, Rogstad TL, Parekh N. Waste in the US health care system: estimated costs and potential for savings. *JAMA*. 2019;322(15):1501-1509. doi:10.1001/jama.2019.13978

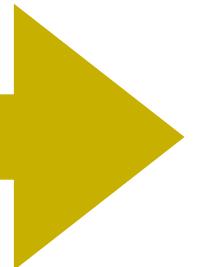
Impacts

Exploring the different types of wastes we see in the system and the impact it has.

Wasted
resources
and
processes

Wasted time
patients,
carers, staff

Wasted
spirit and
opportunities
for staff





Innovation – Spread – Exnovation

Innovation

- Where are care models and processes broken?
- Where do we need new thinking?
 - Innovation labs, design processes
 - Harvesting

Spread

- Where do we need new thinking?
- How can we reliably spread to ensure that we can provide the best care to every patient, where they are?
 - Transparent data
 - Curiosity
 - Spread Model

Exnovation

- How do we stop what doesn't work anymore?
- How will we eliminate wasteful practices and processes?
- It takes courage!

- **Blood** under pressure: how climate change threatens blood safety and supply chains
 - [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(25\)00051-8/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(25)00051-8/fulltext)
- Climate change substantially threatens public health, including the **blood supply chain**, which is crucial for medical treatments such as surgeries, trauma care, and chronic disease management”

Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

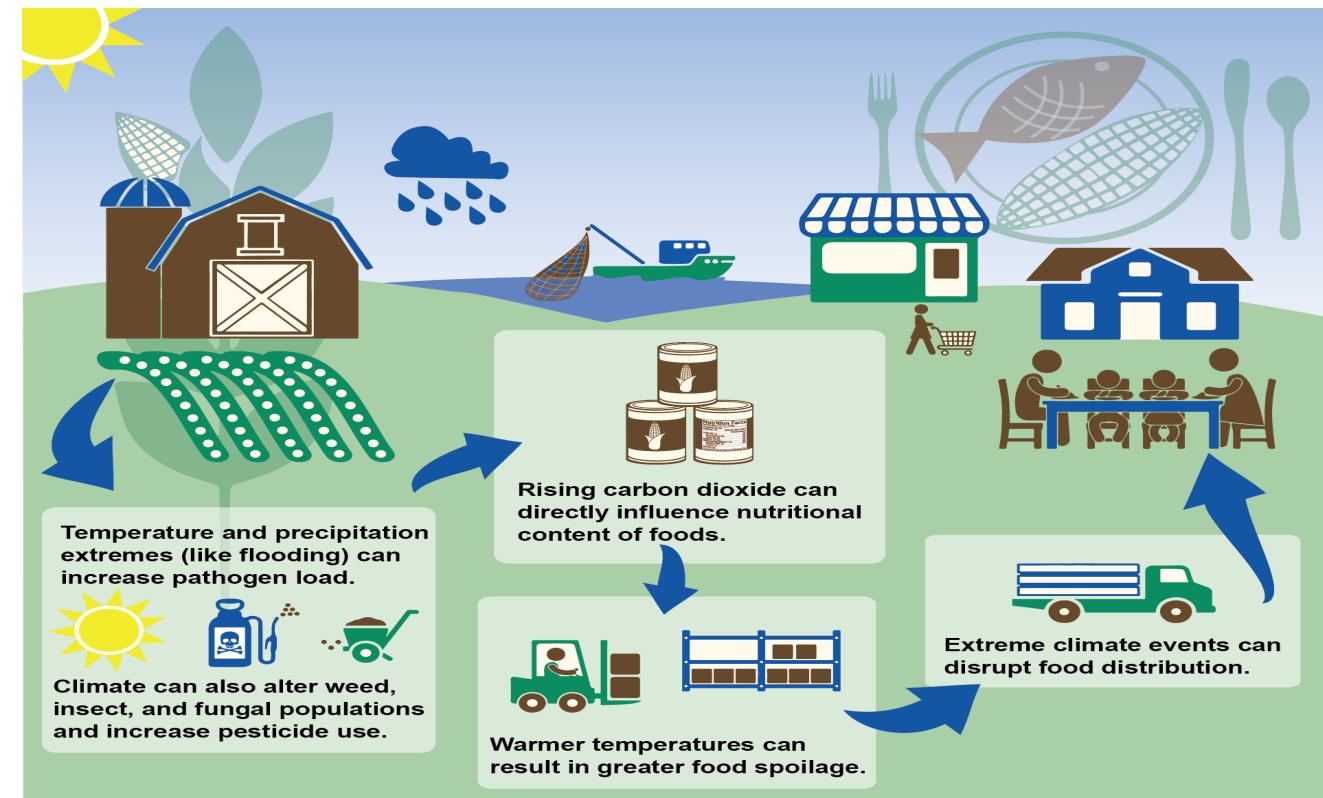
Sustainability – lights, cost of care, access to care.

Impact of plastics on so many diseases.

Chronic disease – For patients with chronic illnesses, such as diabetes and heart disease, patient-centered care can look like implementing a [Lifestyle Medicine Program](#). This targeted program, in part, provides the resources for healthy foods and recipes.

Climate change has reduced the [supply of healthy foods](#), which then affects the health care system's ability to support patients in managing or beating their illnesses.

Farm to Table | The potential interactions of rising CO₂ and climate change on food safety and nutrition



Readmissions: Avoiding waste, including waste of equipment, supplies, ideas, and energy.

Wildfires – Climate change has increased the frequency of wildfires, which are disasters that fill [EDs](#) and [ICUs](#).

[Treating chronic respiratory](#) and cardiovascular illnesses is difficult and inefficient when poor air quality is pervasive, and patients need to continuously enter the health care system for more frequent acute exacerbations.

Concerted efforts to improve environmental performance of health care could reduce expenditures directly through waste reduction and energy savings, and indirectly through reducing pollution burden on public health, and ought to be included in efforts to improve health care quality and safety.” (Jodi Sherman Mathew Edelman)

Water Quality

Avoiding harm to patients from the care that is intended to help them.

- Increasing occurrence of medical errors
- Raising many problems with the safety of drug use

In 2014, [Flint, Michigan found that their water source caused old water pipes to corrode and leak lead](#) into drinking water. Lead and other water contaminants from aging housing infrastructure are especially harmful to children and their developing brains.

Without safe drinking water, how can providers give optimal care to their patients, within and outside of health care facilities?

Sustainability in QI (or SusQI)

Sustainability in QI (or SusQI) recognizes that there are finite environmental, social and financial resources available to deliver a high standard of patient care. The overall goal of incorporating sustainability into quality improvement is to maximize sustainable value.

This means to deliver the best possible health outcomes with minimum financial and environmental costs, while adding positive social value at every opportunity.

As in a standard cost-benefit analysis, the concept can be expressed as an equation, where value = outcomes / costs:

Quantity does NOT Translate into Quality.

The UK's NHS is the world's first health care system to commit to achieve net-zero carbon emissions with aims to reach net-zero emissions

Key actions in the NHS include:

- **Switching to lower carbon inhalers and anesthetic gases** – which accounted for around 25% of NHS emissions.
- **Lowering impact of hospital buildings and facilities** – upgrading to LED lighting, intelligent energy monitoring systems and net-zero requirements for all new builds.
- **Procurement strategies with aligned companies** – from April 2022 all procurement have had to consider Net Zero and wider social value requirements, with all suppliers expected to demonstrate progress to net zero by 2030.
- **Lower emissions travel and transport** – through fleet upgrades, improve public transport and more telehealth.
- **New models of healthcare** – with a greater focus on prevention and management of long-term conditions to reduce overall demand for healthcare.
- **Engage all levels of the health care workforce** (around 1.2M people) – in personal action and delivering system changes.
- **Governance to oversee progress** – with a new Chief Sustainability Officer and regular reporting to the Board on progress.
- **Supporting innovation** – including spread of digital innovation and decarbonization specific awards.



So...what
are we
doing?!

Green Team

(Houston Methodist The Woodlands)

Vision Statement

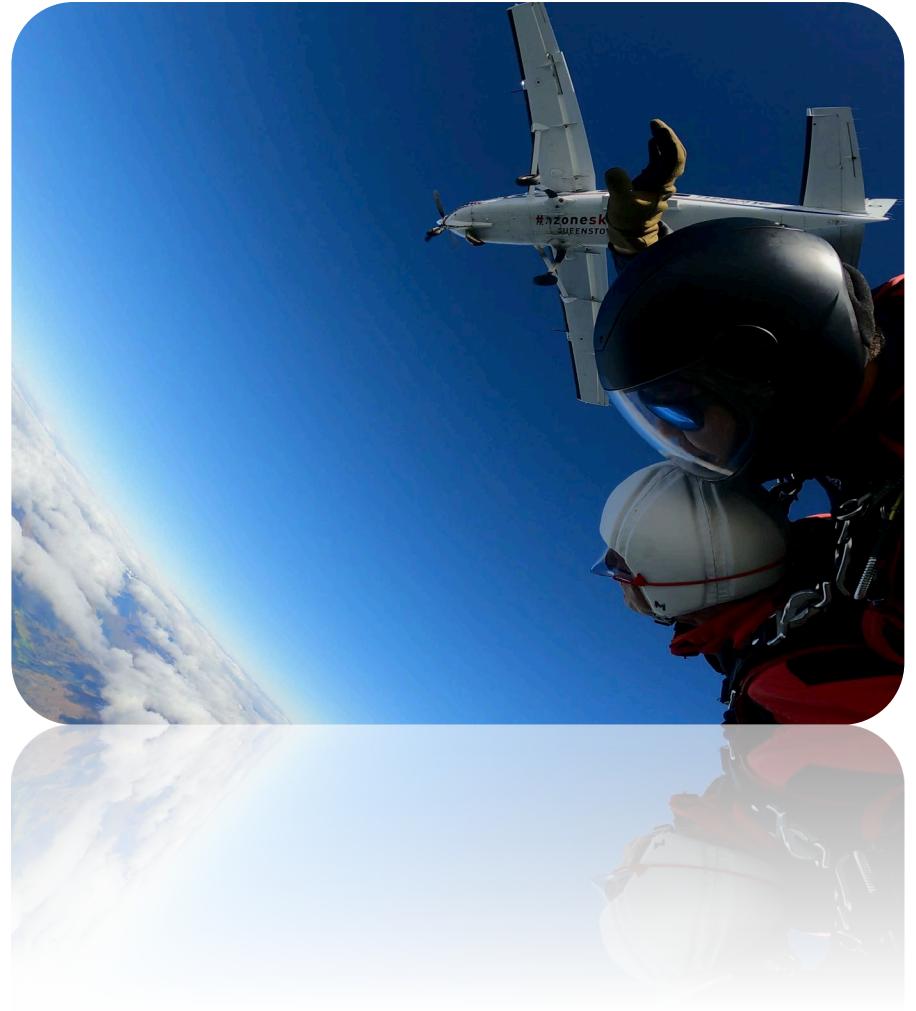
“Our vision is to create a culture of environmental responsibility that enhances professional development while reducing our ecological footprint, ensuring a healthier planet for future generations. We will lead the way in sustainability within healthcare by empowering employees and fostering community connections- because

as Houston Methodist employees, sustainability starts with us.

The Journey

This is how we felt when we started our Green ICU Journey...

- *NO awareness*
- *NO plans*
- *NO engagement*
- *NO measurement*
- *NO accountability*



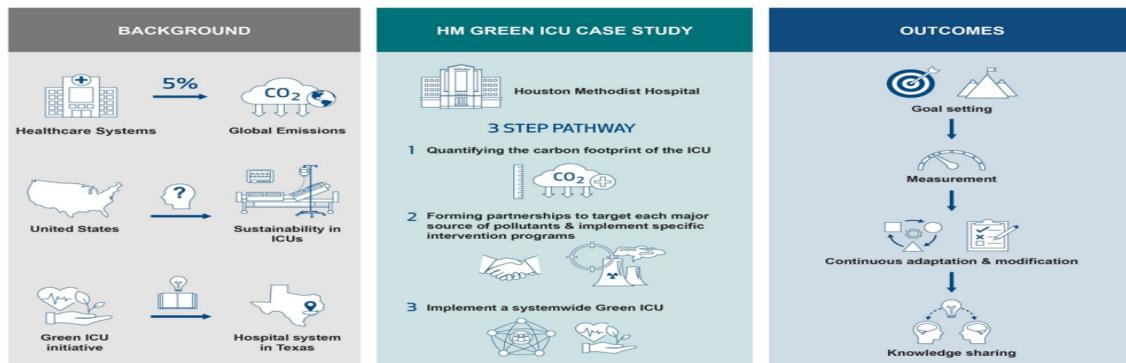
Green ICU Initiative: Publication

Masud et al. *Critical Care* (2024) 28:154
https://doi.org/10.1186/s13054-024-04937-9

PERSPECTIVE

Past, present, and future of sustainable intensive care: narrative review and a large hospital system experience

Faisal N. Masud^{1*}, Farzan Sasangohar¹, Iqbal Ratnani¹, Sahar Fatima¹, Marco Antonio Hernandez¹, Teal Riley¹, Jason Fischer², Atiya Dhala³, Megan E. Gooch¹, Konya Keeling-Johnson¹, Jukrin Moon⁴ and Jean-Louis Vincent⁵



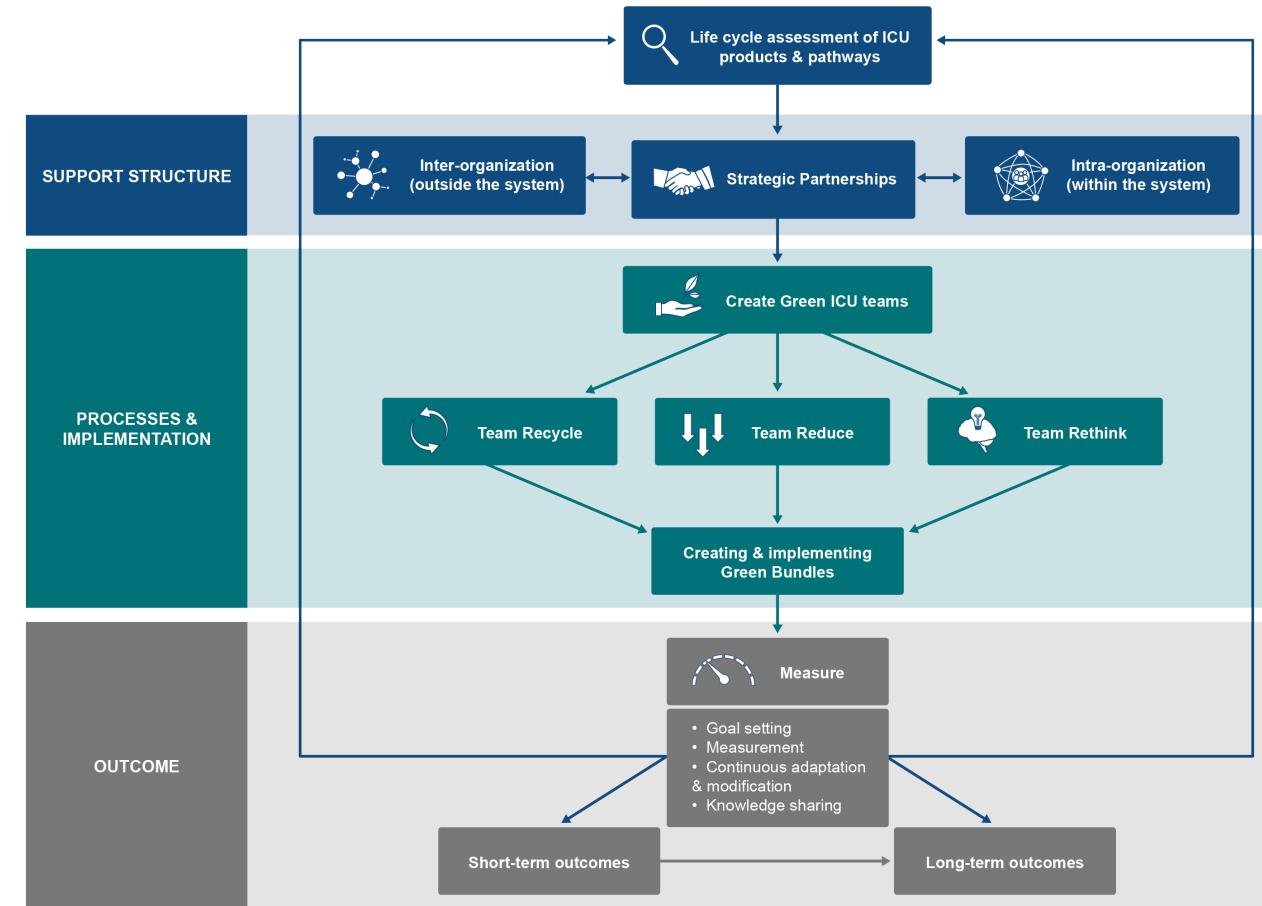
PubMed search results for the publication:

Review > *Crit Care Med.* 2025 Mar 1;53(3):e632-e644. doi: 10.1097/CCM.0000000000006581.
Epub 2025 Feb 21.

Environmental Sustainability in ICUs: A Report From the Society of Critical Care Medicine Sustainability Task Force

Authors: Michele Domico ^{1 2}, Matthew J Meyer ³, Laura Blackburn ⁴, Shari A Toomey ⁵, Megan E Gooch ⁶, Vinay M Nadkarni ⁷, Yvonne Huckleberry ⁸, Andy Draper ⁹, Tina L Palmieri ¹⁰, Lama H Nazer ¹¹, Amjad Nader ¹², E Kate Valcin ¹³, Susan Evans ¹⁴, Tamara Al-Hakim ¹⁵, Srinivas Murthy ¹⁶

Affiliations + expand
PMID: 39982135 DOI: 10.1097/CCM.0000000000006581



Scan to read
publication



What we have done so far...

Devices
collected

109,756

Waste
diverted

18,973 lbs.

CO²
Emission
avoidance
127 metric tons



Keep it Simple + On-Going Communications

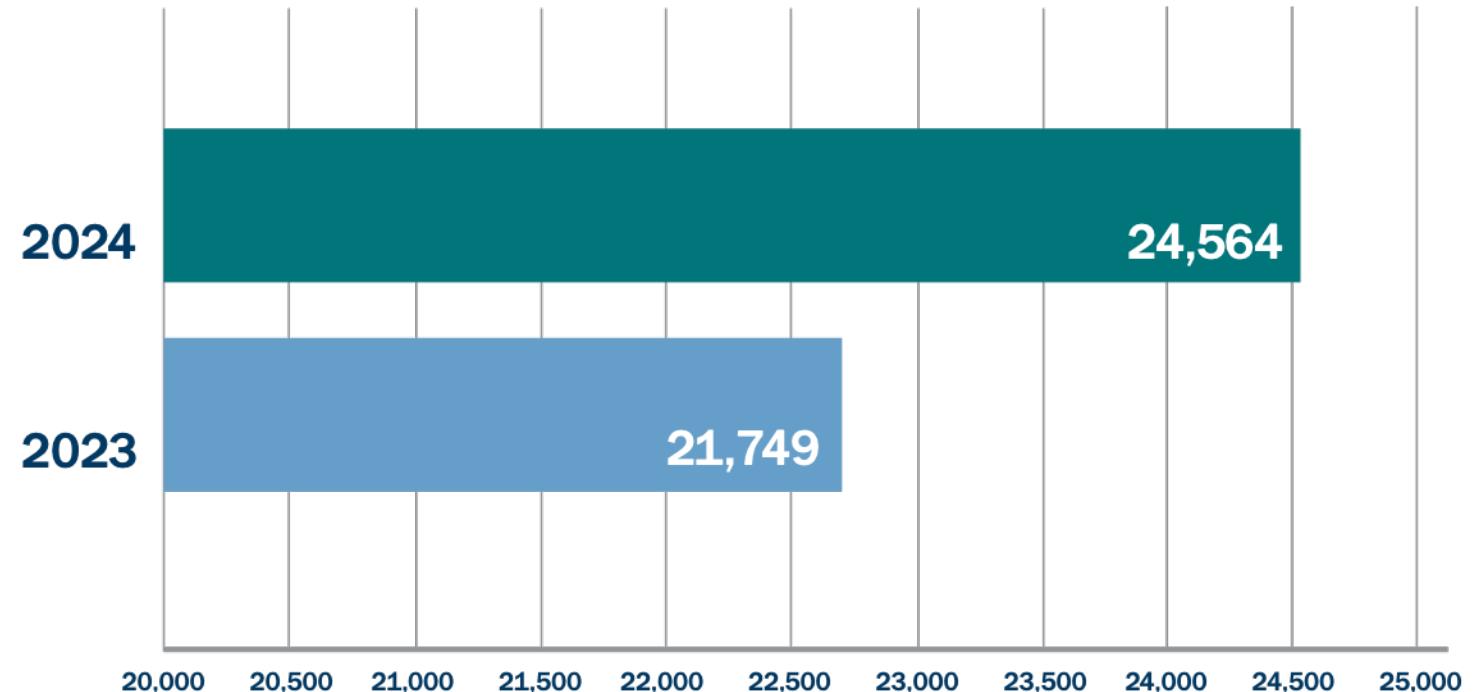
As an entity, we utilize [700,000 flushes a year](#), with a potential of 15,000 diverted from the landfill to recycling.

For the ICU, the annual impact is around [1600 pounds diverted from the landfill](#) to Stericycle.



More than
\$2 million
saved!

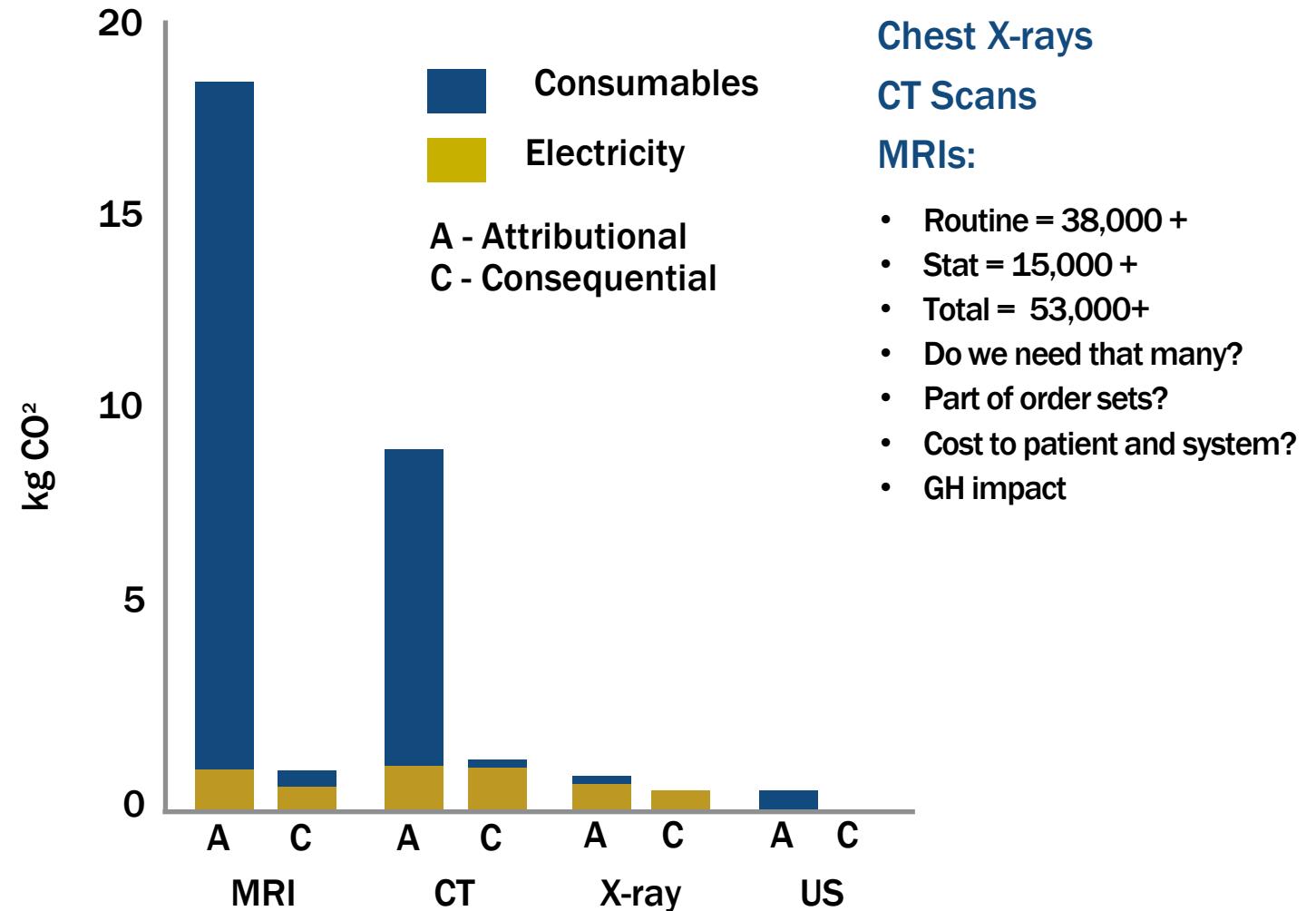
Waste Diverted from Landfills/Lbs.



Team Rethink

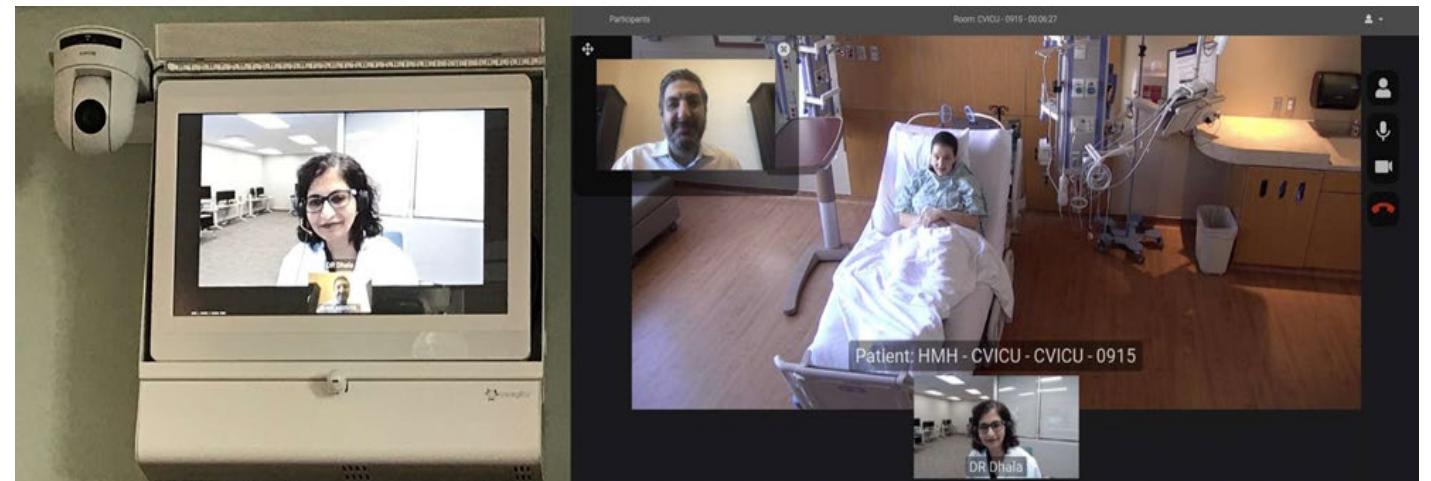
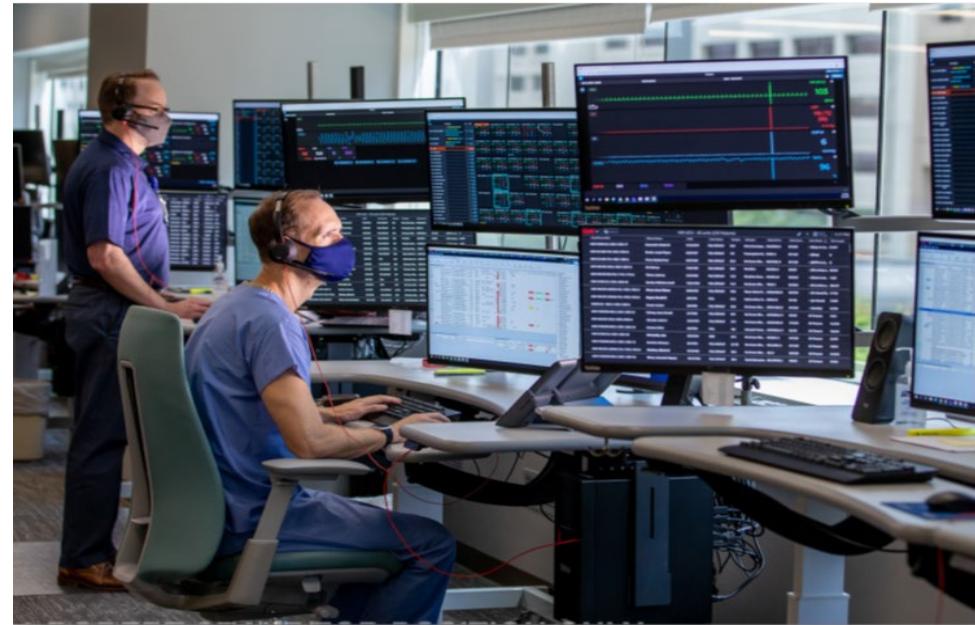
- Lab data
- Radiology data
- VICU (virtual ICU)

CO₂e Contribution of Single Scan



Houston Methodist Virtual ICU (VICU) 2020

Less staff.
Improve quality.
Less ICU admissions.



Team Reduce

Houston Methodist reprocessing program overview (CY2024 YTD)

INCLUDING SYSTEM SUPPLY CHAIN STAKEHOLDERS & NURSING DIRECTORS

| | |
|---|---|
| PROGRAM EXPANSION & COLLECTION OPTIMIZATION |  |
| EXPAND RECYCLING SCOPE | <ul style="list-style-type: none">• IDENTIFY ADDITIONAL RECYCLABLE MATERIALS IN CLINICAL AREAS |
| INCREASE COLLECTION POINTS | <ul style="list-style-type: none">• PLACE MORE RECYCLING BINS IN HIGH-TRAFFIC AREAS TO MAXIMIZE PARTICIPATION |
| STAFF TRAINING | <ul style="list-style-type: none">• CONDUCT WORKSHOPS AND EDUCATIONAL SESSIONS TO ENSURE PROPER WASTE SEGREGATION |
| INELIGIBLE ITEMS TO PVC RECYCLE | <ul style="list-style-type: none">• PVC RECYCLING PROGRAM AT HM COLLECTS AND RECYCLES POST-PATIENT PVC ITEMS SUCH AS NASAL CANNULAS, OXYGEN TUBING, AND SALINE BAGS |
| REPROCESSING PROGRAM HIGHLIGHTS | <ul style="list-style-type: none">• 99.98% OVERALL QUALITY RATING; REPROCESSED DEVICES MEET FDA STANDARDS• 5000+ SKUs ACROSS MULTIPLE CATEGORIES: ORTHOPEDICS, ENT, CARDIOLOGY, PATIENT CARE |
| SUSTAINABILITY IMPACT | <ul style="list-style-type: none">• 109,756 DEVICES COLLECT; 18,973 IBS OF WASTE DIVERTED; 127 METRIC TONS CO2 AVOIDED |
| NEW INITIATIVE FOR 2024 | <ul style="list-style-type: none">• DVT SLEEVE BLENDED PROGRAM REDUCING 28,146 ILBS OF WASTE ANNUALLY• PATIENT TRANSFER MATTRESS CONVERSION LAUNCHING SYSTEM-WIDE IN OCT 2024 |
| THE COST OF NOT WEANING OXYGEN |  |
| PROLONGED | <ul style="list-style-type: none">• VENTILATOR DAYS; ICU LOS; HOSPITAL LOS |
| OXYGEN TOXICITY | <ul style="list-style-type: none">• OBSERVED IN ANIMAL MODELS WITH PROLONGED EXPOSURE (>48 HOURS) TO HIGH FiO2 (>60%) |
| EXPENSIVE | |
| WASTEFUL | |

Team Recycle

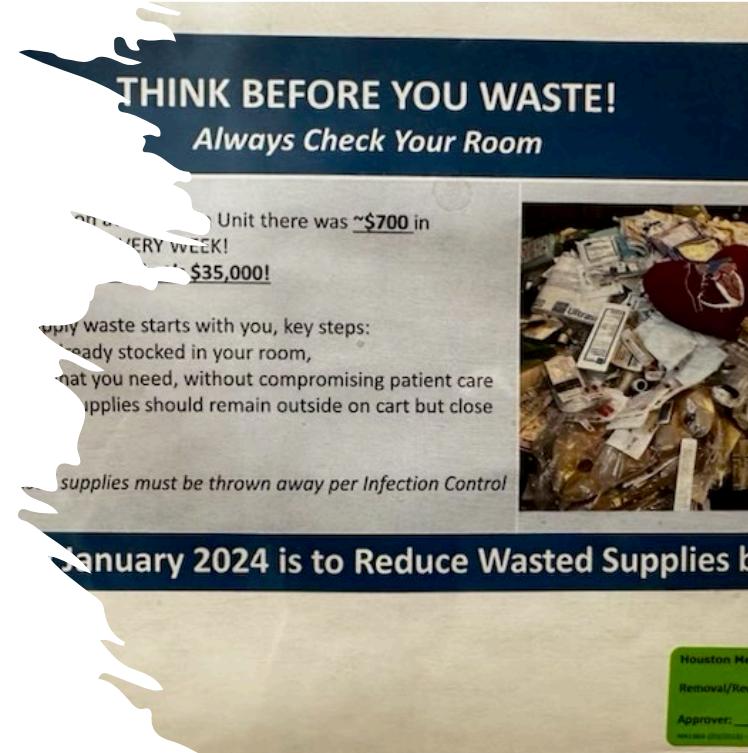
Join the Center for Critical Care as we celebrate National Critical Care Awareness Recognition Month by supporting health heroes in developing countries.

MEDICAL BRIDGES
SATURDAY, MAY 18
9 a.m. - 12 p.m.



Center for Critical Care
I CARE in Action

Green ICU Initiative: Internal Awareness/Reduction



Quantity does not always equal quality!

Measurement

A Holistic Approach





Green ICU Collaborative

Joint Statement on Environmental Sustainability in Critical Care

Environmental factors exert substantial influence in determining the quality of human health and wellbeing, underscored by the imminent and pressing effects of global climate change.

The healthcare sector, even while dedicated to protecting and promoting human health, contributes a significant portion to greenhouse gas emissions.

Intensive care units (ICUs) are a key resource-intensive component of the healthcare setting with a significant carbon footprint.

Through the principles of recycling, reducing, and rethinking, the environmental impact of ICUs can be modified (without detriment to patient safety and quality) to mitigate the effect of greenhouse gas emissions to create sustainable (Green) critical care operations.

We, as leaders in intensive care, resolve to uphold: (a) a shared vision for a *Green Intensive Care* focus worldwide; (b) a high standard for sustainable practices in our intensive care units; and (c) efforts to promote the importance of sustainable critical care practices through impactful initiatives, advocacy, education, and training. The views expressed in this joint statement may not reflect the official position or stance of our organization.

Affirmed by:

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Katri V. Typpo, MD, MPH
Texas Children's Hospital

ICU leaders from these institutions have joined the collaborative.

United in our mission to minimize waste and reduce the carbon footprint in ICUs through recycling, reducing, and rethinking.



Collaborative E-MAIL:
hmccenterforcriticalcare@houstonmethodist.org

Internal Engagement

2025 Green ICU Conference
To our knowledge, this will be the first in-person, full day conference in the world dedicated solely to green/sustainable ICU practices.



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HOUSTON Methodist LEADING MEDICINE

2025 Inaugural Green ICU Conference

The Green ICU Initiative: Sustainability in Healthcare for a Healthier Future.

- Date: 9/17/25
- Location: TMC-3
 - 7255 Helix Park Ave, Houston, TX
- Time: 8:00am-2:00pm CDT
- Agenda: Coming Soon!

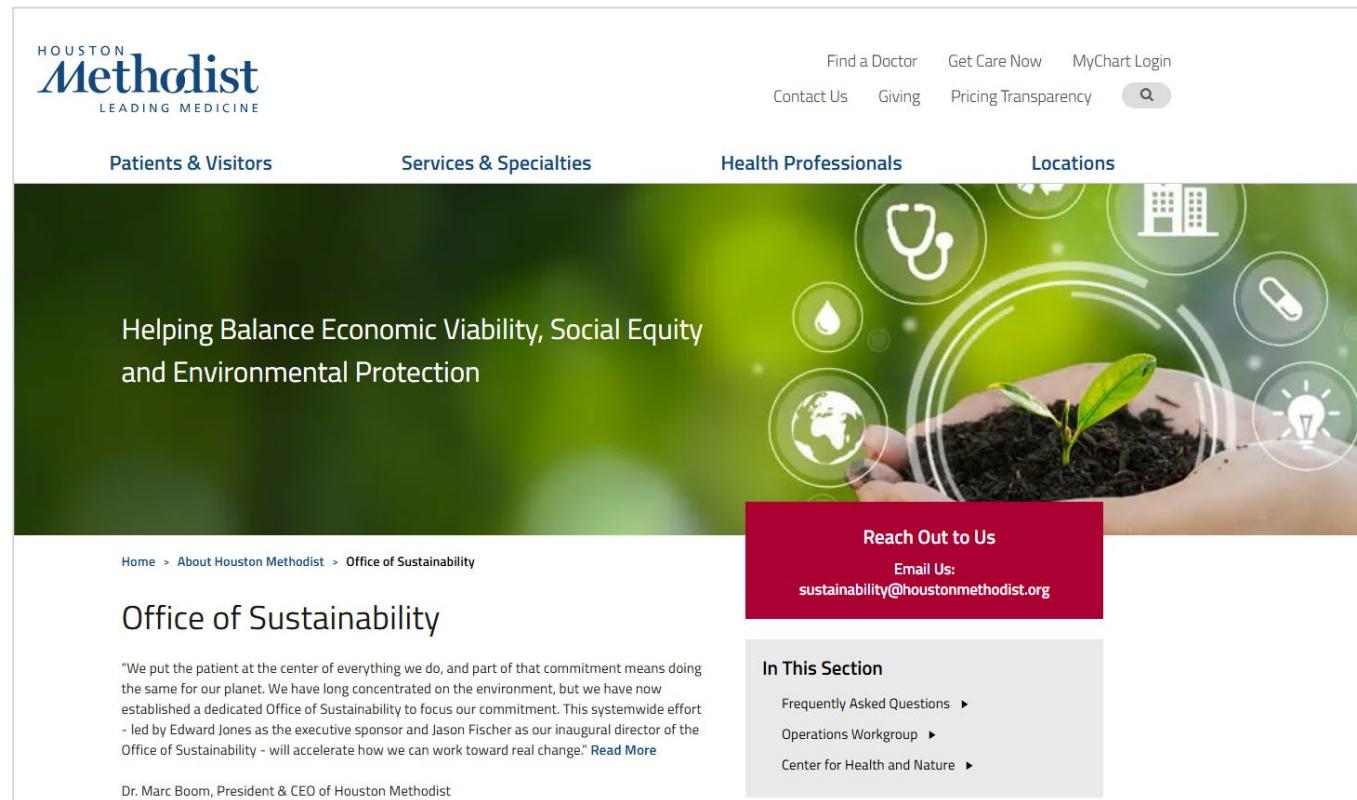
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Registration is free!

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Helping Balance Economic Viability, Social Equity and Environmental Protection

Home > About Houston Methodist > Office of Sustainability

Office of Sustainability

"We put the patient at the center of everything we do, and part of that commitment means doing the same for our planet. We have long concentrated on the environment, but we have now established a dedicated Office of Sustainability to focus our commitment. This systemwide effort - led by Edward Jones as the executive sponsor and Jason Fischer as our inaugural director of the Office of Sustainability - will accelerate how we can work toward real change." [Read More](#)

Dr. Marc Boom, President & CEO of Houston Methodist

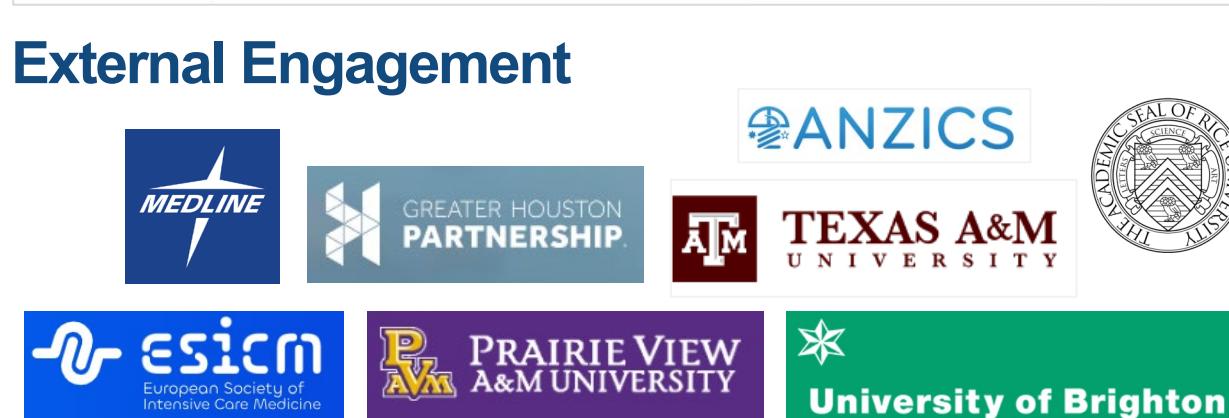
Reach Out to Us
Email Us: sustainability@houstonmethodist.org

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[Center for Health and Nature](#) ▶

External Engagement

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MEDLINE

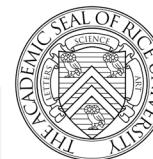
GREATER HOUSTON PARTNERSHIP

TEXAS A&M UNIVERSITY

ESICM European Society of Intensive Care Medicine

PRAIRIE VIEW A&M UNIVERSITY

University of Brighton



Sustainability

The Transformational Domain of Quality



Everyone Needs a Motivation



Green ICU Awareness, and Action:
Come Join Us!!

Think BIG, Start SMALL
Build Unity, Build Trust



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