Health System Sustainability
Regulations and Opportunities

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Healthcare’s Vicious Cycle

Acute / Chronic Conditions

Pollution

Healthcare Utilization
Healthcare Emissions (CO₂e) | % of National Emissions | Comparison
---|---|---
553 MTon | 8.5% | Indonesia (2018)
Climate change is the biggest global health threat of the 21st century.

Climate change is the greatest threat to global public health in the 21st century.
If your solution doesn’t have a disposable, try to reengineer it so it does
We estimate emissions directly and indirectly attributable to the health care sector, and potential harmful effects on public health...These indirect health burdens are commensurate with the 44,000–98,000 people who die in hospitals each year in the U.S. as a result of preventable medical errors...

70,000 Health Care Industry Related Pollution Deaths
Climate change is the biggest global health threat of the 21st century.

Climate change is the greatest threat to global public health in the 21st century.

The greatest threat to global public health is the continued failure of world leaders to keep the global temperature rise below 1.5°C and to restore nature.
In summary, the organizations and individuals that submitted comments almost uniformly embraced the importance of setting goals for reduced emissions and increased climate resilience but also repeatedly requested the following:

- More **timely data to understand threats and health impacts associated with climate change**, especially for vulnerable and marginalized populations, as well as information on cost impacts for care providers.
- **Financing** supports and incentives to help deepen their work in this area (with attention to the needs of different provider types).
- Technical assistance tools to assist **operational and clinical improvements** in this area (with attention to frontline specialties whose work intersects with climate health).
- **Standardized measures and measurement frameworks** to help with progress tracking and reporting (with mixed views on whether such reporting be mandatory or voluntary).
- Updates to/simplification of **emergency preparedness requirements**, conditions of participation and other regulations to help all provider and supplier types to be more responsive to climate-related challenges.
- Attention to the challenges of **different provider types**, already under strain from the pandemic, must address to take on this work and ensure no compromise in the quality of care delivery.
- Attention to the importance of **engaging supply chain stakeholders** in order to fully address the challenge of reducing emissions.
## Proposed Requirements Related to Environmental Sustainability Hospital Program (HAP)

### LD.05.01.01

The hospital decreases greenhouse gas emissions and waste.

### Elements of Performance (EPs) for LD.05.01.01

1. The hospital leaders designate an individual(s) responsible for the oversight of activities to reduce greenhouse gas emissions in coordination with clinical and facility representatives.

2. The hospital measures three or more of the following:
   - energy use
   - purchased energy (electricity and steam)
   - anesthetic gas use
   - pressurized metered dose inhaler use
   - fleet vehicle gasoline consumption
   - solid waste disposal to landfills or through incineration

3. The hospital develops written goals and action plans to reduce greenhouse gas emissions in three or more areas that they have measured.

4. At least annually, the hospital analyzes its sustainability measures (EP 2) to determine whether it is meeting its goal(s) and revises its plan (EP 3) if goals are not achieved or sustained.
| 1 | The hospital decreases greenhouse gas emissions and waste. |

**Elements of Performance (EPs) for LD.05.01.01**

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**HEALTH AFFAIRS FOREFRONT**

- RELATED TOPICS:
  - SYSTEMS OF CARE
  - PUBLIC HEALTH
  - PATIENT CARE
  - GLOBAL CLIMATE CHANGE
  - HEALTH CARE PROVIDERS
  - REGULATION

**US Healthcare Sector Can Decarbonize, Reduce Waste, And Improve Public Health With Thoughtful Regulation**

*Matthew Meyer*

MAY 24, 2023

10.1377/forefront.20230519.772435


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4. At least annually, the hospital analyzes its sustainability measures (EP 2) to determine whether it is meeting its goal(s) and revises its plan (EP 3) if goals are not achieved or sustained.
## Figure 1. Summary of Key Measures and Strategies for Healthcare Decarbonization

**HIGH-LEVEL AIM**

Reduce organizational emissions by 50% by 2030 and to net zero by 2050

<table>
<thead>
<tr>
<th>Core Measures</th>
<th>Elective Measures</th>
<th>Key Strategies</th>
<th>Reduce Emissions Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Total GHG emissions from energy use</td>
<td>• Energy use intensity of health care facilities</td>
<td>• Conserve and optimize energy efficiency</td>
<td>• Transition to zero-carbon fuel sources</td>
</tr>
<tr>
<td></td>
<td>• ENERGY STAR® score of health care facilities</td>
<td></td>
<td>• Meet and exceed the current green building/retrofitting standards</td>
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<tr>
<td><strong>Transportation</strong></td>
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</tr>
<tr>
<td>• Total GHG emissions of owned and leased vehicles</td>
<td>• Total GHG emissions from staff and patient travel</td>
<td>• Centralize oversight to actively manage transportation reduction</td>
<td>• Transition to sustainable transportation systems</td>
</tr>
<tr>
<td><strong>Anesthetic Gas</strong></td>
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<td></td>
<td></td>
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<tr>
<td>• Total GHG emissions from inhaled anesthetics</td>
<td>• Mean fresh gas flow rates</td>
<td>• Minimize fresh gas flow rates</td>
<td>• Manage anesthetic choices</td>
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<tr>
<td>• Decommission or avoid construction of central nitrous oxide piping</td>
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<tr>
<td><strong>Pharmaceuticals &amp; Chemicals</strong></td>
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<tr>
<td>• Overarching Scope 3 Measure:</td>
<td>• Metered-dose inhaler outpatient prescriptions as a percentage of all inhaler prescriptions</td>
<td>• Prevent disease exacerbation</td>
<td>• Maximize lower carbon alternatives for inhalers</td>
</tr>
<tr>
<td>• Total GHG emissions from (or total spend on) goods and services</td>
<td>• Percent purchased goods and services supplied by companies performing carbon disclosures with a science-based target for emissions reduction</td>
<td>• Launch appropriate use campaigns</td>
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<tr>
<td>• Ensure resource stewardship</td>
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<tr>
<td><strong>Medical Devices &amp; Supplies</strong></td>
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<tr>
<td></td>
<td>• Percent purchased goods and services supplied by companies performing carbon disclosures with a science-based target for emissions reduction</td>
<td>• Adopt and expand circular economy policies and practices related to reuse, reprocessing, repair, repurposing, and recycling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Total GHG emissions from food procurement</td>
<td>• Adopt preferential purchasing with suppliers or service providers that perform carbon disclosures and have set a science-based target for decarbonization</td>
<td></td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>• Total GHG emissions from food procurement</td>
<td>• Design plant-forward menus and retail options</td>
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<tr>
<td></td>
<td>• Adopt food waste prevention and diversion programs</td>
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</tbody>
</table>
Measuring & Reducing Carbon Footprint

- What practice & policy interventions are most effective and efficient in reducing the carbon footprint of healthcare organizations and the healthcare supply chain?
- What measures best capture healthcare organizations’ carbon footprints in a way that’s comparable for purposes of reporting and benchmarking, in particular for Scope 3 emissions?
- How can healthcare organizations move to a more circular economy that emphasizes environmentally-friendly purchasing, re-use, and waste reduction?

Increasing Resilience

- What measures of organizations and communities best predict healthcare organizations’ resilience in the face of extreme weather events and other climate-related issues such as supply chain disruption?
- What infrastructure, technology and actions are associated with increased resilience?
- What are the most promising resilience practices to scale up?

Addressing Equity

- How can healthcare organizations and providers use data to identify vulnerable patients and climate-related health threats?
- What are the most effective ways for healthcare providers to engage with patients and communities around climate issues in order to prepare for and respond to threats?
- How can healthcare organizations address historic and structural racism and other inequities in their climate and environmental activities?
Measuring & Reducing Carbon Footprint

● What practice & policy interventions are most effective and efficient in reducing the carbon footprint of healthcare organizations and the healthcare supply chain?

★ What measures best capture healthcare organizations’ carbon footprints in a way that’s comparable for purposes of reporting and benchmarking, in particular for Scope 3 emissions?

● How can healthcare organizations move to a more circular economy that emphasizes environmentally-friendly purchasing, re-use, and waste reduction?
37 billion tons GHG (global)
5.6 billion tons GHG (US)
Health sector is 8.5% US GHG
Scope 3 is 80% of US health sector GHG

US Scope 3 health sector emissions are 1% of global emissions
US Health Sector Scope 3 Emissions
= 1% of Global eCO2

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