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Transportation

Transportation accounted for 28% of total U.S. greenhouse gas emissions (GHG) in 2022, the largest percentage of any sector (i). Passenger vehicles and light-duty trucks, including ambulances, account for 57% of GHG emitted from the transportation sector (ii). Pollutants from traffic are associated with asthma, nonallergic respiratory morbidity, and cardiovascular morbidity (iii). These pollutants also negatively impact health outcomes through their contribution to climate change.

In the health care sector, emergency medical service operations, with ambulances that are typically powered by diesel or gasoline, emit a substantial amount of carbon per unit response (iv). Staff, patient, supplier, and other hospital fleet vehicles also contribute to the transportation carbon footprint of the health care sector. Taking steps to mitigate transportation emissions plays an important role in reducing the health care sector's environmental footprint.

Interventions for Reducing Transportation Emissions in the Health Care Sector

- Centralize oversight: The Agency for Healthcare Research and Quality recommends that healthcare organizations establish a centralized oversight function to lead redesign of operations and adopt systemwide strategies to decarbonize transportation emissions (v). The National Academy of Medicine specifically recommends the establishment of an executive-level sustainability team that acts as the oversight function with broad representation and engagement among staff, leaders, clinicians, and patients (vi). The centralized department can set decarbonization goals, aid in prioritizing suppliers with commitments to GHG reductions, coordinate department purchasing to cut down on delivery emissions, and utilize route optimization and vehicle informatics for fleet vehicles.
- Transition hospital fleets to alternative fuel vehicles: In 2021, the National Health Service of the United Kingdom announced it would be transitioning to an entirely zero-emissions ambulance fleet by 2040. They are currently running trials with 21 zero-emission emergency vehicles. The transition to a zero-emission ambulance fleet is estimated to reduce emissions by 87 kilotons of carbon dioxide equivalent every year (vii).
- Promote transportation options for employees and patients: Health care facilities can cut down on employee and patient transportation emissions by enabling and incentivizing active and public transportation use. Some potential actions include adding bike lanes and bike rental systems, offering employee public transportation discounts, establishing regional park-and-ride systems, encouraging carpooling, and installing electric vehicle charging infrastructure (viii).
- Utilize telehealth when appropriate: One study of health systems in the Pacific Northwest found that increasing telehealth usage corresponded to a dramatic decrease in ambulatory visit carbon intensity (ix).

Leveraging the Inflation Reduction Act of 2022

The Inflation Reduction Act (IRA) provides billions of dollars in grants, loan programs, and tax credits to help transform the health care industry by significantly increasing access to funds that will create resilient and renewable infrastructure. The IRA includes numerous changes to the tax code that will allow tax-exempt and governmental entities that do not owe Federal income taxes to be able to receive a payment equal to the full value of tax credits for building qualifying clean energy projects or making qualifying investments.

Commericial Clean Vehicle Credit: Purchasers of commercial clean vehicles, including passenger vehicles, buses, and ambulances, are eligible for direct payments of up to $40,000.

Alternative Fuel Vehicle Refueling Property Credit: Alternative fuel vehicle refueling and charging property to recharge electric vehicles or provide clean-burning alternative fuels may be eligible for a tax credit of up to 30% of the cost of the refueling property, subject to a $100,000 limit. To qualify, the refueling property must be located in eligible census tracts, including low-income and non-urban areas.

For more information on eligibility requirements and taking advantage of the credits offered under the IRA, visit: **https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022**

Resources

The Office of Climate Change and Health Equity (OCCHE) Quickfinder for Leveraging the Inflation Reduction Act for the Health Sector: **https://www.hhs.gov/climate-change-health-equity-environmental-justice/climate-change-health-equity/quickfinder-ira/index.html**

OCCHE: IRA Catalytic Program Session: **https://tinyurl.com/53x446xp**

Reducing Healthcare Carbon Emissions: **https://www.ahrq.gov/sites/default/files/wysiwyg/healthsystemsresearch/decarbonization/decarbonization.pdf**

i United States Environmental Protection Agency. Fast Facts on Transportation Greenhouse Gas Emissions [Internet]. [Cited Jun 1 2024]. Accessed at: **https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions**

ii United States Environmental Protection Agency. Fast Facts on Transportation Greenhouse Gas Emissions [Internet]. [Cited Jun 1 2024]. Accessed at: **https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions**

iii Krzyzanowski M, Kuna-Dibbert, and Schneider J, editors. Health effects of transport-related air pollution. Copenhagen: World Health Organization; 2005. **https://books.google.com/books?hl=en&lr=&id=b2G3k51rd0oC&oi=fnd&pg=PR1&dq=transportation+and+health+effects+emissions&ots=O64ybDFm4z&sig=zH_gPY7FJYFZLmosg6YJf24KcT8#v=onepage&q=transportation%20and%20health%20effects%20emissions&f=false**

iv Page D. How Green Are We? Studies measure the carbon footprint of EMS. Jrl Emer Med Svcs. March 9, 2011. Accessed at **http://www.jems.com/articles/2011/03/how-green-are-we-0.html**

v Sampath B, Jenson M, Lenoci-Edwards J, et al. Reducing Healthcare Carbon Emissions. The Agency for Healthcare Research and Quality. Sept 2022 [Cited Jun 1 2024]. Available from: **https://www.ahrq.gov/sites/default/files/wysiwyg/healthsystemsresearch/decarbonization/decarbonization.pdf**

vi National Academy of Medicine [Internet]. Key Actions to Reduce Greenhouse Gas Emissions by U.S. Hospitals and Health Systems. [Cited Jun 1 2024]. Available from: **https://nam.edu/programs/climate-change-and-human-health/action-collaborative-on-decarbonizing-the-u-s-health-sector/key-actions-to-reduce-greenhouse-gas-emissions-by-u-s-hospitals-and-health-systems/**

vii NHS England. Net Zero Travel and Transport Strategy [Internet]. 2023 Oct [Cited Jun 1 2024]. Available from: **https://www.england.nhs.uk/long-read/net-zero-travel-and-transport-strategy/**

viii **https://nam.edu/programs/climate-change-and-human-health/action-collaborative-on-decarbonizing-the-u-s-health-sector/key-actions-to-reduce-greenhouse-gas-emissions-by-u-s-hospitals-and-health-systems/**

ix Imelda Dacones, Colin Cave, Gregg L Furie, Cory A Ogden, Jonathan E Slutzman, Patient transport greenhouse gas emissions from outpatient care at an integrated health care system in the Northwestern United States, 2015–2020, The Journal of Climate Change and Health, Volume 3, 2021, 100024, ISSN 2667-2782, **https://doi.org/10.1016/j.joclim.2021.100024**