Addressing the environmental impact of hematology care

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An In-Focus analysis in *The Lancet Hematology* calls for greater understanding of greenhouse gas (GHG) emissions, to inform effective and prudent health practice in hematology care.

The analysis was authored by Dr. Stephen Hibbs from the Wolfson Institute of Population Health, with colleagues Dr. Stephen Thomas from the NHS Blood and Transplant service, and Dr. Andrew Hantel from Harvard Medical School and the Dana-Farber Cancer Institute. It proposes the use of Life Cycle Assessment (LCA) methodology to address environmentally unsustainable practices in hematology.

Health care processes account for 5–6% of greenhouse gas (GHG) emissions. While the NHS and other health care organizations have set carbon-neutral targets, progress towards these goals requires a clear understanding of emission sources and effective mitigation strategies.

Life Cycle Assessment (LCA) methodology quantifies the GHG emissions associated with a process, and has been used successfully in health care, as evidenced by the withdrawal of the anesthetic gas desflurane (with 26 times the CO_2 equivalent GHG emissions of the clinically similar sevoflurane), and to the widespread switch in asthma inhalers from solvent-propelled devices to dry powder inhalers.

Advocating the use of LCA to assess hematology practice, Stephen Hibbs and colleagues cite a previous paper which used this methodology to determine the carbon footprint for red blood cell transfusions in England.

The study showed that each transfusion generated ≈7.5 kg CO_2 eq (equivalent to driving 40km in a petrol-fueled car) and identified refrigeration, transport, and plastic blood bags as the largest emission contributors.

They note that other LCAs relevant to hematology have also been undertaken, including decentralized outpatient cancer care, emissions of common laboratory tests, and non-clinical professional practices such as international conferences, but the environmental impact of many

hematology practices remain unexplored.

Author Stephen Hibbs said, "Life cycle assessment (LCA) methodology is a powerful tool to understand where health care practices generate carbon emissions. Those working in clinical or laboratory settings are uniquely positioned to contribute to LCA processes, and to lead efforts in identifying and implementing effective actions."

More information: Thomas, Stephen et al. Environmental impact of haematology care—measurement and mitigation. *The Lancet Haematology* DOI: 10.1016/S2352-3026(24)00255-2. www.thelancet.com/journals/lan … (24)00255-2/abstract

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