



Title: A Greener Future for Surgery: 2024 Research Conference Abstracts

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The Research for Greener Surgery Conference took place on 17 December 2024 at the University of Birmingham, attracting 382 in-person attendees and over 350 virtual participants. The event highlighted the urgent need to integrate sustainability into surgical practice, presenting ongoing research efforts funded by the NIHR to create environmentally friendly operating theatres in the NHS. Discussions also focused on local sustainability initiatives within NHS trusts and the broader potential for collaboration and expansion.

The conference featured a range of abstracts showcasing local projects across the NHS and Europe, highlighting efforts to make surgery more sustainable. A selection of these abstracts have been published in this special edition of *Impact Surgery*, offering valuable insights into the practical implementation of sustainability measures at the institutional level.

Experts in sustainability and healthcare, including representatives from Greener NHS, The Lancet Countdown on Climate Change, and Imperial College London, shared updates on progress over the past year. Among the key findings was the completion of the Cheetah trial carbon model, confirming that a previously proven surgical intervention is not only clinically effective and cost-efficient but also significantly reduces carbon emissions. This combination of benefits strengthens the case for global adoption.

Discussions also covered the DRAGON trial, assessing reusable versus disposable drapes and gowns in surgical theatres. The newly introduced NOBLE trial is investigating how nitrous oxide is delivered during anaesthesia, aiming to refine its use for minimal

environmental impact. A broader global anaesthesia needs assessment is also in progress to understand sustainable practices worldwide.

Clean energy remains a pressing issue, with expert panels examining its role in hospitals across the UK and internationally. Reliable, sustainable energy is essential for safe surgical care, maternal health services, and vaccine distribution, particularly in resource-limited settings. The 100-4-100 project, led by Professor Adewale Adisa from Obafemi Awolowo University in Nigeria, was launched to introduce clean energy solutions in 100 hospitals in low-resource areas, starting with pilot sites in India and Nigeria.

Sustainability efforts extend beyond surgery to include hospital-wide and primary care initiatives. A session on behavioural change explored strategies for implementing sustainability in clinical settings, while another on plastic waste examined opportunities for hospitals to reduce their environmental footprint. A fireside chat encouraged collaboration between primary and secondary care providers in advancing green healthcare policies.

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References

1. GAIT 2024 Collaborative Group. Generative Artificial Intelligence Transparency in scientific writing: the GAIT 2024 guidance. *Impact Surgery*. 2025 Jan. 29;2(1):6-11.