

SUMMER 2024

# GAS NEWSLETTER

Green Anaesthesia Scotland



## Summer 2024

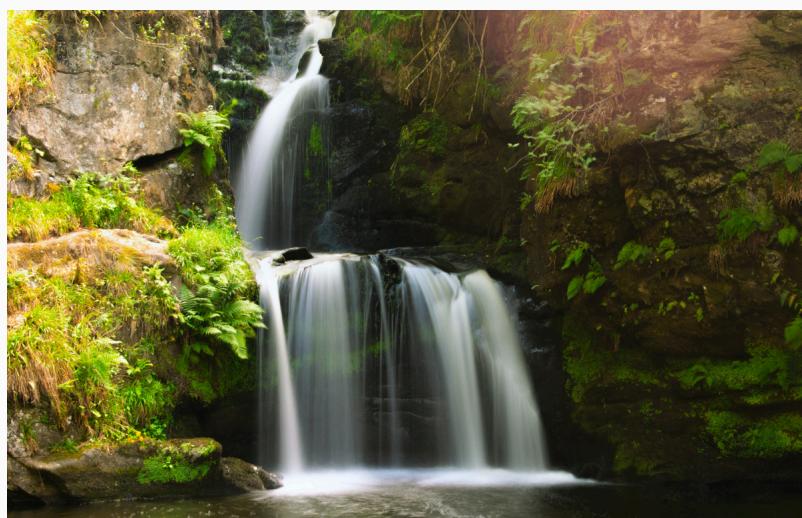
### INTRODUCTION

BY ANDREW RICHARDSON  
NHS HIGHLAND

After a brief hiatus, it is great to be able to bring to you the latest issue of the GAS newsletter.

This edition reflects on the successful 'Dear Green Place' initiative at Euroanaesthesia 2023, which brilliantly showcased GAS's work in promoting environmentally sustainable healthcare. In recognition of the outstanding work being done, there is also a piece proudly showing GAS as a winner at the Scottish Public Service Awards in 2023!

A collection of other noteworthy projects also feature so dive in to discover more about these initiatives that will hopefully motivate and inspire you to carry out similarly impressive endeavours.



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# The Dear Green Place Initiative at Euroanaesthesia 2023



BY PAUL MCCONNELL  
NHS GREATER GLASGOW AND CLYDE

Green Anaesthesia Scotland (GAS) took to the world in stage in June 2023 at Euroanaesthesia in Glasgow, showcasing their expertise, knowledge and how a national network can be built from the ground up.

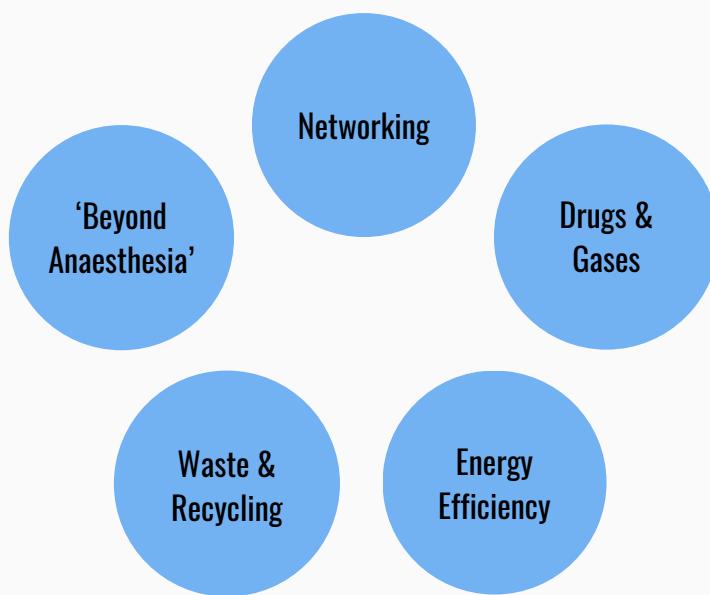
The European Society of Anaesthesia and Intensive Care (ESAIC) and its Sustainiac Committee collaborated with anaesthetic societies and governments across Europe to establish the Dear Green Place global village at Euroanaesthesia and the Glasgow Declaration on Sustainability. This effort was reinforced by the publication of the ESAIC Consensus Document on Sustainability, which will empower practitioners to reflect on their practice and draw on expert advice to improve sustainability in their own areas. Recognising the need for a multifaceted strategy to combat healthcare-related pollution, this comprehensive guidance focused on 4 scopes to achieve more sustainable practice at the start of 2024;

- Examining Direct Emissions
- Energy Optimisation
- Waste and Supply Chain Management
- Wellbeing and Self-care

Members of GAS were integral in developing this guideline, drawing on the extensive work conducted by GAS and the National Green Theatres Programme (NGTP).



The Dear Green Place initiative served as an area within the Euroanaesthesia congress where delegates, industry professionals, and experts could convene to exchange ideas and innovations. It featured 5 'islands', each focusing on a distinct aspect of sustainable healthcare.



Each island had an expert member from the GAS group who would host talks and highlight the Scottish national programme which has co-ordinated nation-wide elimination of Desflurane, decommissioning of nitrous pipelines and a national green theatres project to provide guidance and support innovation in sustainability. The Dear Green Place also offered industry the opportunity to show off the latest in volatile capture technology, minimum waste consumables and other new products as well as hosted research from delegates for ESAIC's first sustainability poster sessions.

At the heart of the Dear Green Place was the "Glasgow Declaration" – ESAIC's commitment to sustainable healthcare going forward. Signed by the outgoing and incoming Presidents as well as the Chair of the Sustainiac group, the declaration focuses on three key areas of anaesthesia care; medicine use, energy consumption, and circularity in process and waste management. It acknowledges anaesthesia's contribution to environmental pollution and commits to reducing this in line with the European Union's commitment of climate neutrality by 2050. The declaration advocates for a practical approach that individuals, departments, and societies can adopt, emphasising the selection of anaesthetics with the lowest global warming potential, optimising energy usage in theatres, incorporating renewable energy sources, minimising waste generation, and implementing strategies to address pharmaceutical pollution in wastewater.

The Dear Green Place initiative was a brilliant showcase for all the hard work the GAS team has put in and how Scotland can stand tall on the world stage leading the way in sustainability and innovation.



**"Delegates, industry professionals, and experts could convene to exchange ideas and innovations"**



# Active Travel in NHS Highland

BY KRISTINA MUIR  
NHS HIGHLAND



Transport is a crucial sector to target for change as it stands as the largest contributor to greenhouse gas emissions in the UK, making up 28% of total emissions. The method of travel people choose has significant public health implications and broader financial impacts on society in terms of healthcare requirements. Physical inactivity is linked to 1 in 6 deaths in the UK, while air pollution from fossil fuels also poses health risks. Therefore, it makes long-term sense to invest time, money, and effort into reducing fossil fuel-based transport and to encourage people to travel actively. Embracing the benefits of personal health and/or concerns for the environment are essential motivators for engaging in active travel.

**“More than half of private vehicle journeys were under 5km”**

NHS Scotland has acknowledged its duties in the climate crisis and has outlined its plan in the document “NHS Scotland Climate Change and Sustainability Strategy: 2022-2026,” which includes a section on sustainable travel. In 2019, more than half of private vehicle journeys were under 5km, and therefore have the potential to be converted to active travel with the right incentives. NHS Scotland is dedicated to reducing the necessity for travel for patients and staff, transitioning to a carbon-neutral fleet, and enhancing options for patients, visitors, and staff to use public transport or engage in walking and wheeling.



In NHS Highland, continuous efforts have been made to enhance cycle parking infrastructure, provide bikes for staff, improve staff changing facilities, offer bike maintenance tools and bike doctor sessions, and assist with the Cycle to Work scheme. Working alongside the Highland Council and HiTrans in 2018, substantial funding was secured from an EU budget (Low Carbon Travel and Transport Challenge Fund) to revamp the cycle storage facilities and bus shelter. In 2023 work was completed on 2 new bike shelters - one for the public and one secure shelter for staff, accommodating up to 80 bikes. Staff feedback has been positive as they feel more assured that their bikes are now safe.

Managing the new bike shelter project has posed challenges. NHS Highland's Active Travel subgroup, part of the Environment and Sustainability Board, relies on the dedication of volunteer members to keep projects moving forward. Their objective is to meet NHS Scotland's sustainable travel targets, but increased prioritisation and funding are necessary for success. If all resources are directed towards addressing health crises and insufficient attention is given to combating the climate crisis, it may lead to more severe health crises in the future.



By harnessing the enthusiasm of individuals who recognise the significance of this work, we aim to ensure strong support for sustainable travel, making it an appealing choice. The installation of the new secure bike shelters at Raigmore Hospital marks a positive step in the right direction.



**“Staff feedback has been positive as they feel more assured that their bikes are now safe”**



# Shining a Light on Theatre Energy Wastage

BY MARK TAIT & HELEN GRANT  
NHS GREATER GLASGOW AND CLYDE



Glasgow hosted the 26th United Nations Climate Change Conference (COP26) in November 2021 focusing the worlds' attention on the impending climate crisis and serving as the catalyst for this project. In NHS England alone, healthcare accounts for approximately 5% of the country's national greenhouse gas emissions, with 10% of this coming from building energy. While grand international policies are important, there are plenty of simple actions that can be taken locally in hospitals to contribute to change. The Anaesthetic Association of Great Britain and Ireland (AAGBI) support "The 5R approach"; Reduce, Re-use, Recycle, Rethink and Research.

**"Healthcare accounts for approximately 5% of the country's national greenhouse gas emissions, with 10% of this coming from building energy"**

One step recommended 'Turning off electronic equipment that isn't being used' and another encouraged audits on 'Energy Usage'. With the above in mind, our small team at Glasgow Royal Infirmary set out to review how many lights and computer screens were being inappropriately left on when not in use across the general theatre corridor.

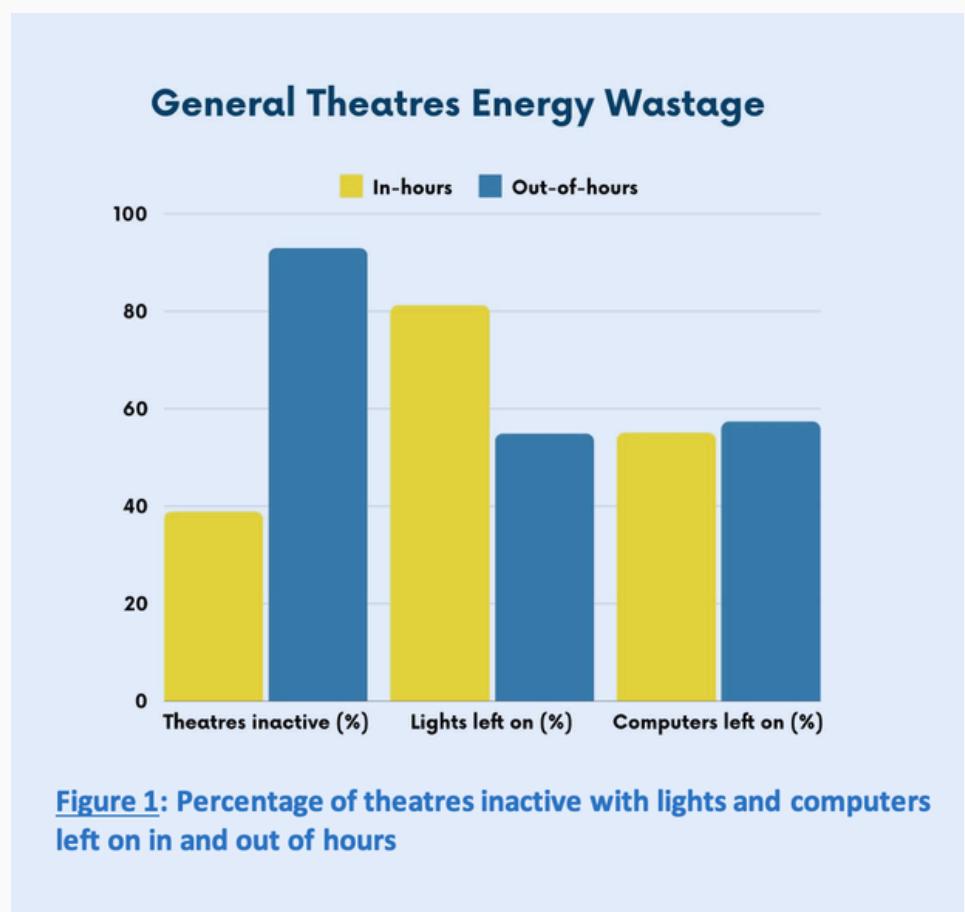
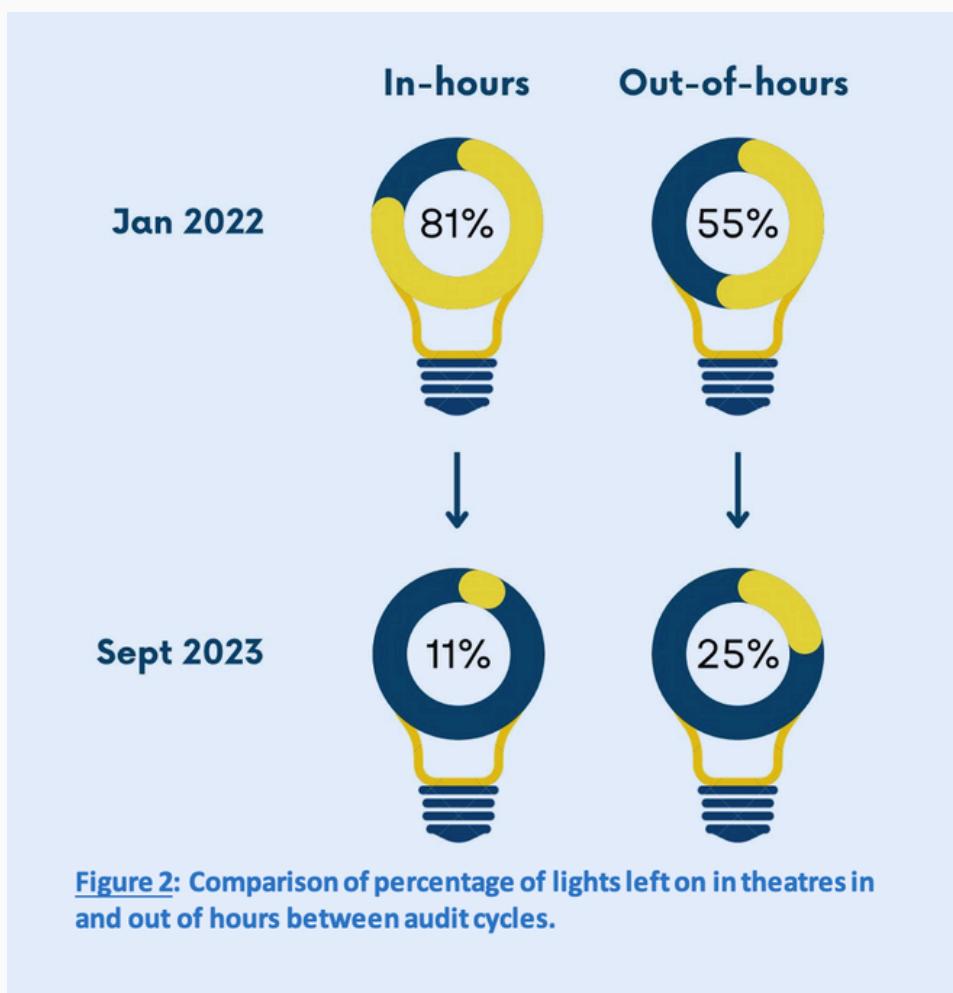


Figure 1 shows that on average 'In-hours' 81.3% of lights and 55.1% of computers were left turned on in theatres that were not being used. 'Out-of-hours' 54.9% of lights within these empty theatres remained turned on as well as 57.4% of computers.

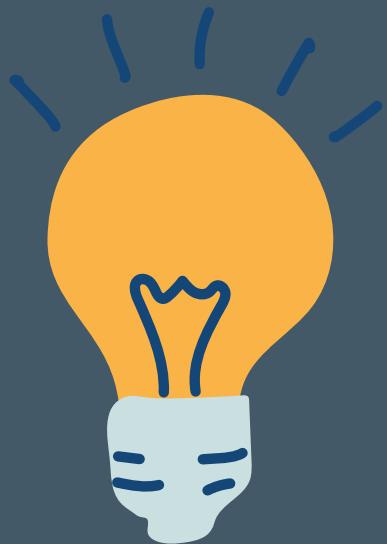
We started a multi-pronged campaign to raise awareness of our disappointing results. This included face-to-face meetings with theatre, nursing and domestic management to get senior level buy in to the project as well as publicising our results with posters around the department. We introduced a "Last out, turn it out" campaign empowering all members of the multi-disciplinary team to turn off lights and screens if they were the last to leave theatre and included it as part of the end of day theatre sign out.



On re-auditing over a year later, we found a dramatic and most importantly sustained improvement (Figure 2). There was a 70% reduction in lights being left on during in-hours (81% to only 11%), and a 30% reduction out-of-hours (over half to a quarter).



**"There was a 70% reduction in lights being left on during in-hours ... and a 30% reduction out-of-hours"**



**“The potential improvements that can be made overnight from very simple interventions”**

Lighting typically accounts for up to 40% of the total energy load of a hospital. Leaving electrical equipment on inappropriately increases carbon footprint and running costs unnecessarily. Our study shows the magnitude of the problem in only one hospital in one UK city and the potential improvements that can be made overnight from very simple interventions. Of course further work is needed to better understand the cost effectiveness of changing our electrical conscientiousness and upgrading our current electrical systems but that is beyond the scope of this project.

Many modern hospitals now use passive infrared technology to activate lights when motion is detected and the long term economic and environmental benefits of universal roll out of this type of technology in ageing hospital buildings would need to be considered. In the meantime and on an ever-tightening NHS budget, hopefully we can all agree turning off the lights when we leave for the day is a good place to start.

Contributors:

M. Baynham; E. Black; C. Clark; S. Chitnis; E. Goodall; K. McCrorie; A. McKinley; M. Morton.



**Please remember to turn lights off!**



# Green Anaesthesia Scotland wins at the Scottish Public Service Awards

BY ANDREW GODDARD  
NHS LOTHIAN

Unbeknownst to many, Green Anaesthesia Scotland (GAS), along with the Scottish Government themselves, were nominated in the Sustainability Award category of the 10th Scottish Public Service Awards held at the Scottish Parliament in December last year. This was specifically in relation to the national work around Desflurane reduction, and recognising Scotland as the first country in the world to remove Desflurane from national procurement contracts.

And so it was on a typically dark, wet and windy evening in December 2023 that two GAS and two Scottish Government representatives made their way to the Garden Lobby within the Scottish Parliament. The other two shortlisted category finalists were the City of Edinburgh Council's Granton Waterfront Regeneration project, providing benchmark net zero carbon homes, and the IQVision Building Energy Management System implementation within South Ayrshire Council's estate.

In the end it was GAS and the Scottish government who won. This was a team effort requiring a great deal of determination for quite some time and it is an achievement that we can all be proud of. Well done! Representing GAS were Consultant Anaesthetists Sarah Cross and Andrew Goddard, and representing the Scottish Government were Alifia Chakera, Head of Pharmaceutical Sustainability and Stuart Duncan, Deputy Director, Leading Improvement Team, Sustainable Care.



**“Recognising Scotland as the first country in the world to remove Desflurane from national procurement contracts”**



# Impact of Environmental Awareness on Medical Student Electives



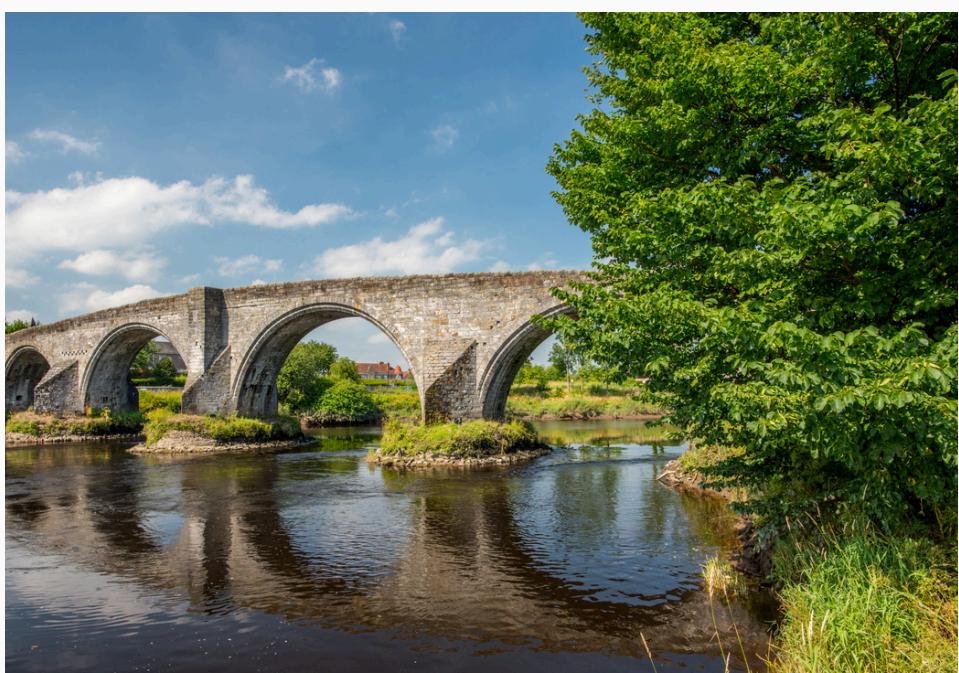
BY LEWIS MITCHELL  
UNIVERSITY OF ABERDEEN MEDICAL SCHOOL

Climate change poses a growing threat to humanity, impacting public health and healthcare systems worldwide. Medical students today will therefore have an increasingly important role to play in tackling this global crisis in the future. As outlined in the GMC Outcomes for Graduates, further education around sustainability in healthcare is necessary to prepare tomorrow's doctors for the environmental challenges that lie ahead.

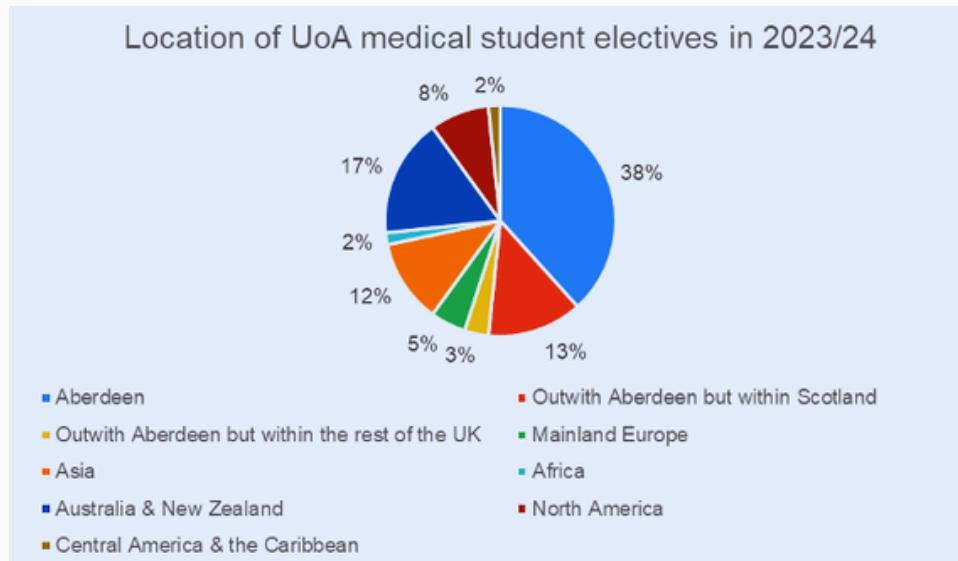
**“Further education around sustainability in healthcare is necessary to prepare tomorrow's doctors for the environmental challenges that lie ahead”**

My elective project looked at current perceptions of sustainability in healthcare amongst final year medical students, specifically around how this related to their medical elective choices. Furthermore, I wanted to assess the current level of satisfaction around sustainability and planetary health teaching and whether there was a desire amongst students for this to be more prominent within the medical curriculum.

In order to achieve these goals, a questionnaire utilising a 5-point Likert scale was developed that considered final year medical students current views of climate change and its importance within healthcare. Details about their electives including destination and travel arrangements were collected as well as an assessment of their level of satisfaction with sustainability and planetary health teaching within the curriculum.



During this project 60 responses to the questionnaire were collected. As shown below, 54% of students undertook their elective within the UK, including 38% of students staying locally in Aberdeen. The other 46% of students travelled abroad for their elective including to Africa, Central America and Australasia.



The motivations reported for choosing elective projects abroad included the perceived benefits of experiencing different healthcare systems and cultures. While those that remained within the UK reported financial costs and the ease of organising a project as the main factors behind their decision, with only one student commenting on environmental concern.

For electives undertaken abroad, there was a greater reliance on air travel and motor vehicles to reach their destinations, indicating a potentially greater carbon footprint. Overall satisfaction was also higher amongst these students due to a larger proportion of their electives being spent face-to-face rather than online which was more often the case for those who remained locally within the UK. The adventure of travelling abroad and improved climate were also factors. However, from the questionnaire all the students agreed that environmental sustainability was an important consideration for the delivery of healthcare moving forward. Although, interestingly a greater proportion of the students who undertook their elective within the UK compared to abroad (91% vs 63%) indicated that they would like more teaching on this subject suggesting that they were open to learning more about the issue. Environmental considerations may therefore have played a role in their choice of medical elective.

This project has demonstrated that there is an awareness amongst final year students of the importance of environmental sustainability in healthcare. There is also an appetite for expanded teaching on this topic and, with further education, environmental concern may play a greater role in medical elective choices in the years to come.



**“All the students agreed that environmental sustainability was an important consideration”**



# Gloves Off Campaign

BY KIERSTEN HENDERSON, LINDA FRASER  
& EILEEN GODDARD  
NHS HIGHLAND

In September 2023 we launched a Gloves Off Campaign within the ICU of Raigmore Hospital to address inappropriate glove usage for three primary reasons:

- Decrease infection rates
- Reduce our carbon footprint
- Promote human contact and compassion

Several unnecessary practices involving gloves were identified, such as repositioning patients, closed circuit endotracheal suction, patient assessments, completing paperwork, and the opening of doors and cupboards. Research indicates that inappropriate glove use can lead to increased infections, as hand hygiene is often neglected when putting on and removing non-sterile gloves. Additionally, using the same pair of gloves for multiple tasks can result in cross-contamination. In a study observing 278 procedures, gloves were deemed unnecessary in 59% of cases and posed a risk of cross-contamination in 49% of instances (Linberg et al., 2020).

Findings like these help to reinforce the message that clean hands are better for patients than contaminated gloves”



Research on staff perspectives suggests we have lost our ability to risk assess. In 2022 Jon Otter, an epidemiologist specialising in infection prevention and control (IPC) at Imperial College Hospitals Trust, summarised it well here;

“There’s a dogma in IPC that gloves are required for all direct patient contact for a patient being cared for under some type of transmission based precautions (e.g. contact or respiratory precautions). But let’s check the logic here. A patient who is on contact precautions may well have a pathogen on their skin, and that pathogen may well find its way onto your hand if you touch their skin. But since you are going to do hand hygiene after patient contact, where’s the risk? Let’s say you decide to wear gloves instead. The organism that would have been on your hands is now on your glove, and you still need to deal with it (by removing your gloves and doing hand hygiene). So, you’ve slowed down the patient interaction, created plastic waste, and missed the opportunity to make your patient feel a bit more human by touching their skin with your bare hand”.



**“Make your patient feel a bit more human by touching their skin with your bare hand”**





**“Latex gloves decompose in 5 years, while nitrile gloves take a century!”**

In the Critical Care Department, we go through 60 boxes of gloves every week! All gloves are placed in orange bags, heat-treated (not incinerated), and then sent to landfill. Latex gloves decompose in 5 years, while nitrile gloves take a century! If we could reach the objective of Great Ormond Street Hospital's original Gloves Off campaign to decrease glove usage by a third in its first year, we could prevent 20 boxes of gloves from going to landfill every week. And this is in addition to the costs saved through reduced infections in our patients.

#### How We Executed Our Campaign:

- We announced a launch date and sent emails to all medical and nursing staff as well as AHPs in the department.
- Regular updates were shared through our nursing staff education WhatsApp group.
- Signs like the one below were placed on all chart tables and patient folders to reinforce the message.

We have seen some progress with instances of inappropriate glove use now less frequent. However the reflex to wear gloves when attending to patients still persists, prompting us to place signs on the glove dispensers and provide an information sheet for visiting staff. While there is still room for improvement, we are steadily moving forward.

#### Reference

Lindberg, M. and Skytt, B. (2020). Continued wearing of gloves: a risk behaviour in patient care. *Infec.Prev.Prac.* 2(4), 100091.





# Announcements, Events & Updates

## Training opportunities

For those interested in learning more about sustainable healthcare, below are some useful resources well worth a look.

### Centre for Sustainable Healthcare

The CSH engages with healthcare professionals, patients and the wider community to promote sustainable and environmentally conscious healthcare. As part of this work they offer a range of courses including one on 'Sustainable Anaesthetics'  
[Sustainable Anaesthetics | Centre for Sustainable Healthcare](#)

### Doctors for Greener Healthcare Network

This network offers doctors the guidance and training needed to support them in implementing sustainable healthcare within their own clinical practice.

Membership is FREE!

[Doctors for Greener Healthcare | Health Care Without Harm \(noharm-europe.org\)](#)

## How to get involved with the next edition

This newsletter is a collaborative project written by, and written for, all involved in theatre sustainability across Scotland.

If you've got an article for the next edition of this newsletter, or you'd like to be involved in editing, then get in touch by email:  
[newsletter.greenanaesthesia@gmail.com](mailto:newsletter.greenanaesthesia@gmail.com)

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