

Sustainability: The anaesthetist as an educator

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Module Learning Outcomes

- Education and promotion on a departmental level, including embedding SUSQI.
- Wider opportunities extending beyond the operating theatre.
- Patient engagement and health promotion, making environmentally preferable choices.
- National promotion of sustainability – College, Association, General Medical Council, and other professional bodies.

Anaesthesia has been at the forefront of sustainable healthcare in recent years. This places anaesthetists in an ideal position to act as educators in their own departments, the wider healthcare community, and on the national or international stage.¹ The need for education in sustainable healthcare is increasingly recognised, with both the General Medical Council (GMC) and the Nursing and Midwifery Council having included sustainability in their graduate learning outcomes.^{2,3} The Royal College of Anaesthetists has stated that sustainability and environmental impact will be included in the 2021 curriculum.⁴ In this chapter, we describe the approaches that anaesthetists can adopt as educators, in order to bring about sustainable healthcare changes.

Education and Promotion at the Departmental Level

For many anaesthetists who have an interest in sustainable healthcare, their first experience of acting as an educator will be at a departmental level. A number of different approaches can be adopted:

- Information provision: anaesthetists are well trained in many of the scientific principles relevant to sustainable healthcare but may be unfamiliar with the details.⁵ Simply by being taught accurate, peer-reviewed information, anaesthetists may elect to change their behaviours.
- Advocacy: information alone may not have the desired impact. Making an argument for sustainable healthcare may be required. Opportunities include talks and debates at departmental meetings, the use of posters or other visual reminders (Figure 1), and one-to-one discussions with colleagues. Personal stories that explain why you are interested in sustainable healthcare are a useful approach,⁶ but note that colleagues' autonomy should be respected, and a judgmental approach should be avoided.
- Quality improvement: changes in practice should be measured and communicated. Quality improvement (QI) principles can be used in sustainable healthcare as in other aspects of practice. Sustainable QI (SusQI) aims to maximise health outcomes whilst minimising negative impacts in terms of the 'triple bottom line' (i.e. environmental, social and financial).⁷ By integrating sustainability into QI, the environmental impact of healthcare is brought into the mainstream of departmental business, alongside other aspects of safety and quality. Resources on SusQI are available from the Centre For Sustainable Healthcare: networks.sustainablehealthcare.org.uk/sus-qi-resources



Figure 1: simple visual reminders can be a powerful form of departmental advocacy (photograph used with permission. Credit: Dr Oli Pratt)

Wider Opportunities: Beyond the Operating Theatre

Anaesthetists are the largest medical staff group in secondary care and have links to many other professions and specialties. This places anaesthetists in an ideal position to support others in taking a more environmentally sustainable approach to practice. This may include holding teaching sessions or collaborating on QI projects involving settings where anaesthetists and colleagues from other specialties or professions work together. Examples may include work in the operating theatre focussing on volatiles and waste, or in the maternity setting on nitrous oxide and other forms of labour analgesia. On a strategic level, many healthcare organisations have sustainability committees; representation from clinicians is beneficial to these groups because committee members may not appreciate the considerations of practice. As doctors who work in numerous different settings, anaesthetists are ideally placed to fulfil this role.

Many anaesthetists have roles in undergraduate education; this presents an ideal opportunity to teach medical students about sustainable healthcare. Because the GMC has included sustainable healthcare in Outcomes for Graduates,² many medical schools are seeking ways to include sustainability in their curricula. This could take the form of dedicated lectures or student projects, but it may be more effective to integrate sustainability into other learning.⁶ For example, the environmental impact of anaesthetic drugs could form part of a discussion in the operating theatre about the choice of agents for a particular case.

Patient Engagement and Health Promotion: Shared (Sustainable) Decision-Making

Patient education in the pre-operative assessment clinic is an important part of anaesthetic practice, and some hospitals adopt a 'surgery school' approach to preparation for major surgery.⁸ These contacts with patients provide an opportunity for shared decision-making, and though these decisions should be patient-centred, it can be appropriate to bring environmental considerations into the discussion. In some cases, the environmental impact of healthcare will be important to patients, but if this is not the case, a more environmentally sustainable approach often aligns with better outcomes or superior care. This can be visualised in the driver diagram (Figure 2), which illustrates, for example, that pre-habilitation through increasing physical activity or smoking cessation can minimise perioperative risk and consequently reduce carbon-intensive clinical activity such as post-operative critical care admission.^{1,8} This offers advantages in all three domains of the 'triple bottom line': care is simultaneously less expensive, more environmentally sound, and less invasive for the patient.

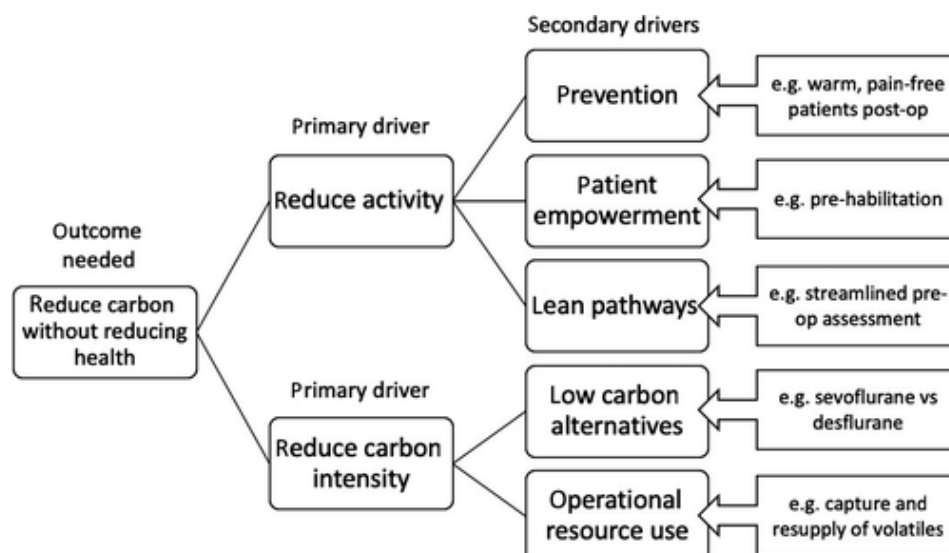


Figure 2: Driver diagram of how the Centre for Sustainable Healthcare principles of sustainable clinical practice can be applied to perioperative care.¹ Reproduced with permission.

The (Inter)National Promotion of Sustainability

The National Health Service has committed to becoming 'zero carbon' by 2050.⁹ This challenging target will require a coordinated effort if it is to be achieved. In a joint policy statement in 2017, the Association of Anaesthetists, Royal College of Anaesthetists (RCoA) and College of Anaesthetists of Ireland acknowledged the environmental impact of our professional practice, and committed to four priority areas for action (Figure 3).¹⁰

1. Position our organisations as leaders in promoting sustainable healthcare, promoting the specific contribution of anaesthesia while working with others.
2. Commitment to providing the latest scientific evidence, education and the sharing of good practice to enable our members to minimise the environmental impact of their anaesthesia practice.
3. Strive to continually monitor and improve the environmental sustainability of our organisations.
4. Promote the reduction of individual and institutional wastage of financial and environmental resources in healthcare delivery.

Figure 3: The four priority areas identified in the Joint Environmental Policy Statement.¹⁰

There are numerous initiatives initiated by these organisations that demonstrate commitment to the environmental priorities, including the appointment of individuals or committees with responsibility for environmental sustainability, numerous educational articles, blogs, courses, and workshops, and the integration of sustainable healthcare into anaesthesia conferences. However, there remains ample opportunity for educational contributions on a national or international footing. This may be as simple as using social media to communicate the impacts of teaching or SusQI to a larger audience, or submitting case studies explaining 'what works' to the Association of Anaesthetists for dissemination via their website (See anaesthetists.org/Home/Resources-publications/Environment/Green-case-studies).

More ambitious projects could include writing for publication in a peer-reviewed journal, membership of a committee or organisation, or presenting work at a conference. However, national and international initiatives may incur a substantial environmental cost associated with travel, so it is useful to weigh this against the benefit of the activity and consider if there may be a more environmentally-friendly way to achieve the same impact. Methods such as online learning and virtual attendance should be considered from an environmental standpoint.

Conclusion

As regulatory organisations bring sustainability into training, anaesthetists will be expected to teach on this important topic. Having access to high-quality information, working with others, and maintaining a patient-centred approach are vital to the successful delivery of education. Driver diagrams and the triple bottom line are useful theoretical models for use in teaching and learning. Using these tools, anaesthetists are well-placed to provide effective education on environmentally sustainable healthcare, not only within their departments but in the wider healthcare and educational setting, and on the national and international stage.

Declaration of Interest

C.S. is a co-opted member of the Association of Anaesthetists Environment and Sustainability Committee.

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