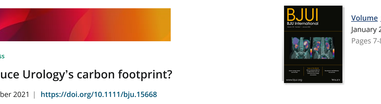
Working off-campus? Learn about our remote access options

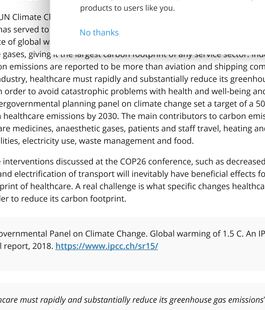
Advertisement


BJUI
BJU International

World News | Full Access

How can we reduce Urology's carbon footprint?

First published: 30 December 2021 | https://doi.org/10.1111/bju.15668



© istock.com/artisteer

WILEY Needs Your Help to Improve

Wiley Wants to Learn About Users Like You

Please consider taking a **5 minute survey**. The results will be kept confidential and analyzed to help us improve and tailor Wiley Online Library and other products to users like you.

No thanks

Take Survey

The recent UN Climate C
November has served to
consequence of global w
greenhouse gases, giving it the largest carbon footprint of any service sector. Indeed, it's global carbon emissions are reported to be more than aviation and shipping combined. Like any other industry, healthcare must rapidly and substantially reduce its greenhouse gas emissions in order to avoid catastrophic problems with health and well-being and to this end, the intergovernmental planning panel on climate change set a target of a 50% reduction in healthcare emissions by 2030. The main contributors to carbon emissions in healthcare are medicines, anaesthetic gases, patients and staff travel, heating and cooling of medical facilities, electricity use, waste management and food.

Many of the interventions discussed at the COP26 conference, such as decreased use of fossil fuels and electrification of transport will inevitably have beneficial effects for the carbon footprint of healthcare. A real challenge is what specific changes healthcare itself can make in order to reduce its carbon footprint.

> Intergovernmental Panel on Climate Change. Global warming of 1.5 C. An IPCC special report, 2018. https://www.ipcc.ch/sr15/

> "*Healthcare must rapidly and substantially reduce its greenhouse gas emissions*"

Reducing Emissions within Urology

There are numerous ways in which healthcare provision can change that will reduce its carbon emissions. Perhaps the most important place that urologists can affect carbon production is the operating theatre; indeed it has been estimated that the annual energy use of a single theatre is equivalent to the annual energy use of more than 2000 homes. Within the operating theatre a significant reduction can be achieved by either switching to low carbon general anaesthetic agents or by using local anaesthetic approaches as an alternative to general anaesthesia. Improved waste recycling and reduced use of water are other ways in which the carbon footprint of the operating theatre might be reduced. One area that remains contentious is the usage of single-use devices such as laparoscopic ports and endoscopes that are increasingly attractive to healthcare systems and clinicians because of cost benefits or technical advantages. However, there remain concerns that they may not always be carbon efficient. There have been a number of publications in this area, with a recent abstract from the annual meeting of the American Urological Association (AUA) appearing to show that the environmental impact of a reusable flexible cystoscope was markedly less than single-use cystoscopes over the life-cycle of the device. The authors compared the carbon footprint of their own reusable cystoscopes with single-use devices and were able to demonstrate the environmental benefits of reusable devices, which persisted regardless of case volumes.

Travel is a significant cause of greenhouse gas emissions and one of the beneficial effects of the pandemic has been the increase in virtual consultations, which has reduced patient travel and its associated carbon footprint. Looking ahead it will be increasingly attractive from a sustainability perspective to assess and investigate patients closer to their home rather than expect them to travel to hospital.

> Koo K, Wincker J, Patel S, Su Z, Potretzke A, Matlaga B. The cost of convenience: estimating the environmental impact of single use and reusable flexible cystoscopes. Paper presented at: 2021 American Urological Association Annual Meeting; September 10-13, 2021; virtual. Abstract PD41-08

Travel Emissions and Scientific Congresses

Travel to educational, training and professional meetings such as congresses, interviews and committee meetings is another area where savings can be made both in cost and in the associated carbon footprint. While virtual meetings have been the norm in the past two years, the most recent meeting of the Société Internationale d'Urologie (SIU) in Dubai was a blended meeting with numerous delegates attending in person and the majority travelling by air. The face-to-face component was combined with virtual and recorded sessions. In a recent abstract from the annual meeting of the AUA, Dr Patel and colleagues calculated that the recent virtual meetings of the AUA and the European Association of Urology (EAU) resulted, simply as a consequence of the reduced travel, in savings of between 11 000 to 15 000 metric tons of carbon dioxide, which equates to more than 5600 passenger vehicles being driven for a year. Clearly there are benefits from meeting face-to-face because we are at heart sociable animals who enjoy meeting people and it's also true that for many attendees as much is learnt between the scientific sessions of a Congress as in the sessions themselves. Furthermore, for many professional associations the face-to-face scientific Congress is the business model that provides the money to support the other activities of the society. Going forward it will be interesting to see what balance is set between actual attendance at a congress and virtual attendance. If a congress does take place in person there remain numerous opportunities for reducing its carbon footprint, including making Congress paper light and increasing the use of plant-based foods during the meeting.

> Patel S, Gallo K, Becker R, Loeb S. Climate change impact of virtual urology meetings. Paper presented at: 2021 American Urological Association Annual Meeting; September 10-13, 2021; virtual. Abstract PD02-12

> "*For many attendees as much is learnt between the scientific sessions of a Congress as in the sessions themselves*"

Should Carbon Footprint be Part of Healthcare Prioritisation?

In a recent article published in the *BMJ* it was questioned whether, as we look forward, the traditional criteria by which we set healthcare priorities and approve new healthcare products, specifically their efficacy, safety and cost, should be accompanied by an assessment of the new treatment's carbon footprint. Given that a growing number of healthcare organisations are committed to the goal of a net zero carbon footprint, it will be interesting to see the extent to which carbon emissions become integrated into existing priority setting processes. While it is relatively easy to argue in favour of lower carbon anaesthetic gases, increased telemedicine and a move towards prevention rather than cure, other issues are more challenging. For instance, there is evidence that the carbon emissions from conventional laparoscopy are significantly less than from robotic assisted laparoscopy, a difference that is mainly driven by the single use surgical instruments and the energy use associated with robotic surgery. Taking this argument one step forward, the authors argued that when using a measure of economic value that included the carbon footprint, namely disability adjusted life years (DALYs), robotic assisted radical prostatectomy fared poorly when compared with cataract surgery, laparoscopic hysterectomy and emergency Caesarean section in terms of value. This was an illustrative example, but it does emphasise the complexities that will potentially face clinicians and regulators going forward.

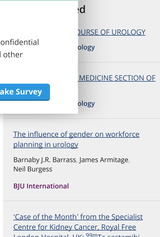
The authors further argued that the carbon footprint of an intervention not only depended upon its inherent approach, technique and results but also on the healthcare context in which it was used. For instance, the carbon cost of cataract surgery in India was 30-fold lower than the same procedure in the UK. Indeed, in terms of its carbon footprint, the US healthcare system is the costliest globally; a challenge that it will likely need to address in the future. The corollary of this is that it could be argued that by allowing more of the global carbon healthcare "budget" to be spent in lower income settings, greater health gains can be achieved more fairly and equitably.

The challenges facing healthcare in this era of increasing focus upon sustainability are considerable, as outlined above and are technical, clinical, financial and political. It will inevitably become a responsibility for all of us, individuals, societies, hospitals and healthcare systems if we are to achieve the ambitious targets that have been set for us.

> Bhopal A, Norheim OF. Priority setting and net zero healthcare: how much health care can a tonne of carbon buy? *BMJ* 2021; 375: e067119

World News was written by Ian Eardley

Volume 129, Issue 1
January 2022
Pages 7-8

Advertisement


Information

URSE OF UROLOGY
ology

MEDICINE SECTION OF
ology

The influence of gender on workforce planning in urology
Barnaby J.R. Barrass. James Armitage. Neil Burgess
BJU International

'Case of the Month' from the Specialist Centre for Kidney Cancer, Royal Free London Hospital, UK: ^{99m}Tc-sestamibi SPECT-CT to differentiate renal cell carcinoma from benign oncocytoma
Jonjo Miller. Nicholas Campain. Anna-Rita Boydell. Hannah Warren. Ivy Vito. Joana Neves. Faiz Mumtaz. Axel Bex. Soha El-Shiekh. Thomas Wagner. Maxine G. B. Tran
BJU International

January's reviewers of the month
BJU International

Advertisement

Download PDF

© 2022 BJU International

About Wiley Online Library
Privacy Policy
Terms of Use
Cookies
Accessibility
Publishing Policies

Help & Support
Contact Us
Training and Support
DMCA & Reporting Piracy

Opportunities
Subscription Agents
Advertisers & Corporate Partners

Connect with Wiley
The Wiley Network
Wiley Press Room

Copyright © 1999-2022 John Wiley & Sons, Inc. All rights reserved
WILEY