

healthcare professionals must attempt to promote sustainable practice where possible.

The British Society of Dermatological Surgery (BSDS) sustainability guidelines published in 2022 advocate multiple strategies for improving sustainability in skin cancer surgery, including reduction of activity via prevention measures, low carbon alternatives, operational resource use, and research and innovation.<sup>2</sup> It is recommended that 'see and treat clinics' should be offered, where staff and facilities are available, as one of several methods to lower the carbon footprint of dermatological surgery.

We performed a cross-sectional study in a single tertiary dermatology department focusing on CO<sub>2</sub> emissions associated with travel to and from skin surgery appointments from 1 January 2022 up until 31 December 2022. Our dermatology department is located in an urban area but also receives referrals from rural locations. All procedures performed in our department were identified via departmental records. The distance from the patient's home to the hospital was calculated in kilometres using the mapping application Google Maps. Total CO<sub>2</sub> emissions were calculated using an online calculator recommended by the Environmental Protection Agency of Ireland<sup>3</sup> and were reported in metric tonnes of CO<sub>2</sub>. Fuel consumption was based on the average car with unknown fuel. Among 2184 patients, 2358 procedures were performed; 1180 of the 2184 patients (54%) were male. Total distance travelled by patients was 109 787.94 km, with a mean (SD) of 50.27 (14.3) km per patient. This was estimated to generate 18.74 metric tonnes of CO<sub>2</sub> emissions. Of the 2184 patients, 389 (17.8%) underwent surgical procedures on the same day as their outpatient clinic. Same-day surgery led to a reduction in distance travelled of 35 275 km, with a mean (SD) distance of 90.68 (26.5) km per patient compared with repeat journeys to the hospital if procedures were scheduled on a separate day. This represented a reduction of 6.02 metric tonnes of CO<sub>2</sub> emissions, equivalent to the CO<sub>2</sub> emitted from six transatlantic flights. Two hundred and seventy-six trees would need to be planted to offset the same amount of CO<sub>2</sub> emissions. Our department is currently expanding and we hope to offer increased rates of same-day surgery. Where possible in our department absorbable sutures are used to reduce unnecessary travel for suture removal. Results for benign lesions are communicated via letter to minimize return to the clinic.

This study highlights the reduction in CO<sub>2</sub> emissions associated with same-day dermatological surgery. Limitations of this study include an assumption of travel to and from hospital appointments by car, and an assumption of travel from the stated address in patient records. Dermatologists should consider the environmental impact of skin surgery, and implement sustainable options when service planning.

## Same-day surgery promotes sustainability in dermatology

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Dear Editor, The healthcare sector is responsible for 4.4% of global greenhouse gas emissions.<sup>1</sup> To limit the mean global temperature rise to 1.5 °C as called for in the Paris Agreement, greenhouse gas emissions will need to be significantly reduced. As climate change has been labelled the greatest threat to global health in the 21st century, all

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- 3 Carbon footprint™. Carbon Calculator. Available at: <https://www.carbonfootprint.com/calculator.aspx> (last accessed 14 February 2023).