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Research Letter

Elective surgical services need to start planning for summer pressures

GreenSurg Collaborative

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Dear Editor

The COVID-19 pandemic exposed the fragility of elective surgical and anaesthesia services, resulting in millions of operations being cancelled across the world[1]. As health systems plan post-COVID recovery of elective surgical services, they should identify potential future external risks to surgical services[2]. Extreme weather events resulting from climate change could present an increasing challenge to healthcare systems[3]; surges in injuries and cardiorespiratory complications during heatwaves could reduce capacity to deliver elective care[4]. The aim of this study was to determine the impact of summer pressures on the delivery of elective surgery in the UK.

The authors conducted a cross-sectional survey of surgeons, anaesthetists, and critical care doctors who worked during the UK heatwave of 16–19 July 2022. A total of 271 responses were received from across 20 specialties in 140 UK hospitals. One in five respondents (50 of 271, 18.5 per cent) reported that the heatwave directly resulted in the cancellation of elective surgery. A further third (96 of 271, 35.1 per cent) anticipated that cancellations were likely in the event of a prolonged heatwave. Factors contributing to heatwave-related cancellations included staff shortages (reported by 35.8 per cent of 271 respondents), unsafe theatre environments (30.3 per cent), and bed shortages (22.1 per cent) (*Fig. 1*).

Surgical services were poorly prepared for heatwaves. Ambient temperature could not be controlled in 41.0 per cent of operating theatres. Most hospitals (119 of 140, 85.0 per cent) lacked summer pressure plans to maintain elective surgical safety and capacity. Some 96 respondents (35.4 per cent) reported making adaptations to maintain the routine surgical activity during the heatwave (*Table S1*).

These data demonstrate that even short heatwaves may result in widespread disruption to surgical services. As hospitals tackle post-COVID surgery backlogs[5], they must consider how to safeguard against further climate change-related disruption to the delivery of surgical services. This should be included in the preparation of summer pressure plans to improve the resilience of elective surgery services.

Collaborators

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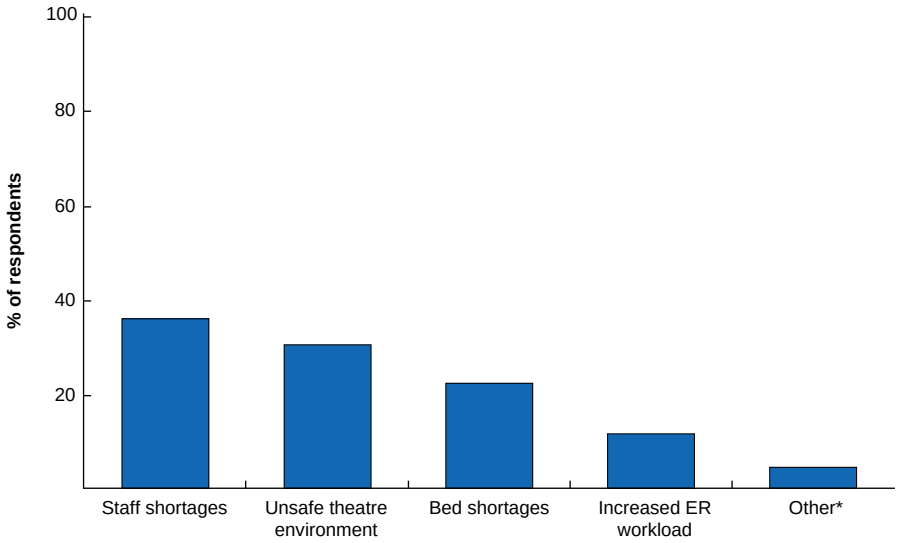

Fig. 1 Factors contributing to heatwave-related cancellations of elective surgery

*IT problems caused by the heat, patients unwilling to have surgery owing the heatwave. ER, emergency room.

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Author contributions

Maria Picciochi, James C Glasbey, Elizabeth Li, Sivesh K Kamarajah, Dmitri Nepogodiev, Joana FF Simoes, Aneel Bhangu conceptualised the study, designed and distributed the study, and provided critical input on the study manuscript. Maria Picciochi was the study lead and wrote the first draft of the manuscript, and James Glasbey and Aneel Bhangu provided senior oversight and editorship. Aneel Bhangu is the overall guarantor. The GreenSurg collaborators completed the assessment for their hospital and reviewed the final manuscript providing critical insight prior to submission.

Disclosure

The author declares no conflict of interest.

Supplementary material

Supplementary material is available at *BJS* online.

Data availability

Anonymised data available upon request of the writing group, and successful completion of a Data Sharing Agreement through an

Application Programming Interface (API) linked to the REDCap data server hosted at Birmingham Clinical Trials Unit at the University of Birmingham.

References

1. COVIDSurg Collaborative. Projecting COVID-19 disruption to elective surgery. *Lancet* 2022;**399**:233–234
2. COVIDSurg Collaborative. Elective cancer surgery in COVID-19-free surgical pathways during the SARS-CoV-2 pandemic: an international, multicenter, comparative cohort study. *J Clin Oncol* 2021;**39**:66–78
3. Bartington S, Bonsu N, Bloss W, Bryson J, Cavoski A, Dove A *et al.* *Keeping 1.5°C Alive*. 2022. Accessed 23 June 2022
4. The Lancet. 2022 Heatwaves: a failure to proactively manage the risks. *Lancet* 2022;**400**:407
5. Nepogodiev D, Acharya R, Chaudhry D, Harris B, Li E, Jolly K *et al.* Forecasting waiting lists for elective procedures and surgery in England: a modelling study. *medRXiv* 2022. https://doi.org/10.1101/2022.06.20.22276651 (accessed 23 June 2022)