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Title	The carbon footprint of pathology testing
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The carbon footprint of pathology testing

IN REPLY: We thank Yen, Badrick and Dray et al for their comments on our research. There are a number of points that we would like to elaborate on. We apologise if we gave the impression that pathology organisations are environmentally unaware. Inherent in our statement that there are limited opportunities for reuse and recycling was recognition that pathology organisations are already implementing procedures to reduce environmental waste.¹

Pathology tests should not be avoided on the basis of their carbon footprint; rather, all medical interventions should be evaluated by considering their impact on three factors: health outcomes, cost-effectiveness, and environmental impact, including carbon footprint. The first two are uncontroversial. We are only at the beginning of our knowledge base of the carbon footprint of health care and how to most effectively reduce it while maintaining or improving human and planetary health. Our study is an example of this. To our knowledge, it is the first published, peer-reviewed article about the carbon footprint of pathology tests.

We agree that other health care activities have large footprints, some of which have been measured and reported.² The data from the British National Health Service (NHS),³ however, cannot be directly compared with our results as the analysis to calculate impacts per bed-day was an attributional analysis of the whole NHS based on either economic input/output data, where impacts are calculated on the basis of cost, or on the building energy use, unlike our study which was the consequential analysis of an additional test. An attributional approach would see our results, expressed as impact per test, increasing about three- to four-fold. While this is still a relatively small number, our previous work has shown that many items in health care individually have a small impact, but as they are used in large volumes, the total impact is substantial.

We agree that many pathology tests are vital for ensuring and protecting health, and also that undertesting can be a problem too. There is, however, significant evidence of overutilisation of some pathology tests.⁴ The net number of tests done could be reduced without adverse effects on health outcomes, while still increasing testing where there is evidence of undertesting.⁵

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