

*Via email*

29 September 2023

Dear Lady Justice Thirlwall,

**Re. Statistical aspects of the Lucy Letby Inquiry**

As you are currently in the process of developing the terms of reference for the Lucy Letby Inquiry, we wanted to contact you to highlight the importance of statistical evidence in this type of case.

We are writing on behalf of the Royal Statistical Society – a membership society for statisticians and data scientists with expertise in interpretation of statistical evidence.

Our understanding is that your inquiry will focus on the wider circumstances of the case. Some of the evidence used in the trial was on the face of it statistical in nature – eg, the duty roster spreadsheet of data that indicated Letby’s presence on shift when babies collapsed or died. And, if you are considering ways in which NHS trusts might more quickly act in this type of case, evidence based on statistics and data could well play an important role.

However, it is far from straightforward to draw conclusions from suspicious clusters of deaths in a hospital setting – it is a statistical challenge to distinguish event clusters that arise from criminal acts from those that arise coincidentally from other factors, even if the data in question was collected with rigour. This is an area where the Royal Statistical Society has recently conducted work. In 2022 we released our report, [\*Healthcare Serial Killer or Coincidence? Statistical issues in the investigation of suspected medical misconduct\*](#), which details some of the challenges in using statistics and data to identify criminal activity in a medical setting and sets out some proposals for how statistics might be properly used.

We are writing to propose that you consider including a point in the terms of reference for the inquiry on the appropriate use of statistical evidence in this type of case. Statistical evidence is one type of evidence that NHS trusts might use to identify criminal activity and it is important that the right lessons are learned and that it is used appropriately.

The Royal Statistical Society would be pleased to support you through the course of the inquiry – as we and our members have supported other recent inquiries such as the Covid-19 Inquiry and the Infected Blood Inquiry. We would welcome a discussion of these issues with either yourself or a member of your team to explore how we and our members might be of assistance.

Yours sincerely,



Dr Andrew Garrett  
President



Sarah Cumbers  
Chief Executive

