

## **Written submission from Professor Sir David Spiegelhalter (STI0007)**

1. I am Sir David Spiegelhalter FRS OBE, Emeritus Professor of Statistics at the University of Cambridge. I have mainly worked as a medical statistician, and in recent years have engaged in explaining statistical ideas through various media. I am submitting in my personal capacity.
2. I have contributed to a number of public inquiries:
  - a) I led the statistical team at the *Bristol Royal Infirmary Inquiry* into deaths of babies with congenital heart disease.
  - b) I was part of the statistical team for the *Harold Shipman Inquiry* where we found that, had data been collected and properly analysed, he could have been detected as 'unusual' after only around 40 deaths, possibly saving over 200 further victims.
  - c) I was a lead author of the Statistical Report for the *Infected Blood Inquiry*, in which we concluded that around 30,000 people had been infected, and around 3,000 subsequently died due to their infection.
3. In each case a dedicated team of statisticians were commissioned by the Inquiry to answer a series of questions concerning the events of concern. The statistical contributions took the form of written reports, often requiring substantial data analysis and modelling, followed by public appearances before the Inquiry and examination by counsel.
4. In all these inquiries the statistical team has worked well with the legal and administrative team running the Inquiry, and I believe the contributions from statisticians have been of fundamental importance.
5. I have watched the development of the UK Covid-19 Inquiry with some dismay. Statistics were vital in the pandemic, whether concerning the risks from Covid, the effectiveness of vaccines, the number of cases, the efficacy of counter-measures, and so on. We were awash with

data. And yet so far I have not seen evidence of any serious independent analysis of what went on, and what was known at the time, in the manner of the Shipman Inquiry. Perhaps I will be proven wrong, but the Inquiry appears to be entirely reliant on personal and institutional testimony.

6. I believe the problems arise from the legalistic framework of Inquiries, leading to their mimicking of court cases – understandable, as they are run by lawyers. And there is a vast and apparently uncontrolled expenditure on legal staff pouring over every single document that can be salvaged.
7. My personal view is that the legal approach to evidence, rooted in documents and testimony, is often inappropriate to investigation of complex past events involving large numbers of people. Statistical evidence is essential.
8. My conclusions:
  - a) Any Inquiry's Terms of Reference should be explicit about how statistical evidence will be investigated and handled.**
  - b) Inquiry teams should include people with sufficient statistical expertise to know when external input is necessary.**
  - c) It should be standard to commission external independent statistical investigations when appropriate.**
  - d) Greater effort should be made to control the costs of excessive legal work, particularly regarding analysis of past documents.**

**21<sup>st</sup> March 2024.**