

Peer Review Advice on “Overview of statistical evidence to the Bristol Royal Infirmary Inquiry concerning the nature and outcomes of paediatric cardiac surgical services at Bristol relative to other specialist centres from 1984 to 1995 (David J. Spiegelhalter et al)

I have read the document “Overview of statistical evidence presented to the Bristol Royal Infirmary Inquiry concerning the nature and outcomes of paediatric cardiac surgical services at Bristol relative to other specialist centres from 1984 to 1995” with authors David J. Spiegelhalter, Stephen Evans, Paul Aylin and Gordon Murray, dated September 2000.

In my view, the scrutiny of the various data sources, their comparison and synthesis; the data analyses, and the reporting of the conclusions from the analyses are of the highest professional standard. The analyses have been exhaustive and have been based on appropriate and up-to-date methodology. In their interpretative role, the authors have steered a careful route, balancing the possible misinterpretations of the available data because of biases in the collection and collation stages with the need to derive robust conclusions where this is possible. The authors have studied the sensitivity of their conclusions and recommendations to the inadequacies of the data. This has been done in terms of both possible biases in the data and the representation of the inevitable random variation in the outcome measures. In no place could I identify areas where the authors had been other than cautious in their findings.

I can therefore confirm that I believe the authors have fulfilled their remit. The analytical approach is statistically robust and fit for purpose. I have found no errors or ambiguities of a statistical nature. I believe the overall conclusions to be reliable and valid.

In §10, the authors have raised questions about future data systems and the future monitoring of performance. This is clearly a vast subject with many initiatives being discussed at this time. There remains much to be done and the experience of the statisticians involved in the BRI Inquiry and others needs to be urgently and fully involved in this difficult area.

The Inquiry will obviously be interested in determining whether any of the improvements in the mortality rates over the relevant years at the centres other than Bristol can be attributed to specific changes in technique or care that were not implemented at the Bristol Royal Infirmary.

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October 4 2000