

Clinical Epidemiology and Biostatistics Unit

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15 May 2006

Associate Professor Barry Hughes
Executive Director, National Strategic Review of Mathematical Sciences Research
Department of Mathematics and Statistics
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Dear reviewers,

I am keen to take the opportunity to make a brief submission to this review, as a mathematically trained statistician who has worked as a biostatistician in health and medical research in Australia for the past 15 years. I have an active role in a wide range of research, mostly as a provider of expert advice and statistical methodology to multidisciplinary teams but also in small measure as an independent researcher in applied statistics.

I am acutely aware of the decline in academic statistics in Australia over the past two decades. It has been near-impossible to recruit suitable PhD graduates for research and/or teaching positions in biostatistics for some time. Recently I have been involved in the development of a program of Masters-level courses in biostatistics mounted by a consortium of universities known as the Biostatistics Collaboration of Australia (BCA: www.bca.edu.au). This program has expanded rapidly over 5 years to a point where it now enrolls over 150 students. Many of its graduates will make useful contributions to the biostatistical workforce but only a tiny fraction will reach a level of academic standing where they can contribute at the highest level to research and perhaps more importantly to filling future leadership roles in academic biostatistics. To meet these latter needs I think we urgently need stronger partnerships between the health and medical sector and the mathematical sciences, in particular the statistical sciences.

I am concerned that the emphasis of this review may not give adequate priority to the needs of statistics, which although a mathematically based discipline is really quite distinct in many ways. I believe a core difficulty of statistics is that its research focus should be primarily driven by partnerships with the applied areas in which statistical methods are used, not by their usual academic location within mathematics groups. In my opinion, the more that academic statistics groups can be encouraged to collaborate with other disciplines and pursue applied research relevant to these collaborations, the more chance there is that they will continue to grow—or perhaps more to the point, the more chance they have of reversing their decline.

It is also important that research higher degree training in statistics should recognise the enormous breadth of statistical science and the fact that most graduates require substantially more training than an undergraduate degree, ideally in an apprenticeship style, before becoming effective professional statisticians. In this regard I believe traditional PhD training



is often too narrow, and could in many cases be improved by incorporation of formal postgraduate coursework as in the North American model.

In summary, I hope the Review will suggest strategies for strengthening academic statistics in Australia. These should focus on emphasising the importance of strategic collaboration between statistics groups and major areas of application of statistical methods. I believe the biostatistical area may be a particularly fertile arena since it has not developed the same degree of “separateness” that other statistically based disciplines such as econometrics and psychometrics have.

I hope these comments will prove useful and would be happy to discuss further.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Carlin', written in a cursive style.

John Carlin PhD AStat

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