



## Why are you reading about study design in *Climacteric*?

Robin J. Bell ASSOCIATE EDITOR

To cite this article: Robin J. Bell ASSOCIATE EDITOR (2020) Why are you reading about study design in *Climacteric*?, *Climacteric*, 23:4, 317-318, DOI: [10.1080/13697137.2020.1767390](https://doi.org/10.1080/13697137.2020.1767390)

To link to this article: <https://doi.org/10.1080/13697137.2020.1767390>



Published online: 10 Jul 2020.



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EDITORIAL



## Why are you reading about study design in *Climacteric*?

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ASSOCIATE EDITOR

Given that *Climacteric* is the journal of the International Menopause Society, I expect that most regular readers of *Climacteric* are busy clinicians working in women's health. So why is *Climacteric* including articles about study design? How much do clinicians really need to know about the details of study design or epidemiology more broadly?

I recently had the experience of a clinician assuring me that a particular medical procedure was evidence-based because there was a systematic review about it. I read the review only to find it was restricted to a number of small trials all of which were described as having *high levels of bias*. I realised that, to this clinician, a systematic review provided a stamp of approval, even if the quality of included trials was poor. The literature needs to be read with a critical eye, and a working knowledge of the strengths and weaknesses of study design is an integral part of that.

I am not a clinician. My chosen career in public health has been across a golden age of epidemiology. In 1972, the year I started medical school, Archie Cochrane published his book which covered, amongst other things, the use of randomized trials to identify which health service interventions were more likely to do more good than harm<sup>1</sup>. In 1979, he wrote: 'It is surely a great criticism of our profession that we have not organized a critical summary, by speciality or sub-speciality, adapted periodically, of all relevant randomized controlled trials'<sup>2</sup>. The first Cochrane Centre was established in Oxford in 1992 under the leadership of Iain Chalmers. However, his work started earlier with a team of volunteers hand-searching medical journals and writing to individual practitioners to put together, in 1989, the results of published and unpublished data on 600 different interventions in the area of pregnancy and birth<sup>3</sup>. Over the last (nearly) 50 years, we have witnessed the evolution and strengthening of research methodology which now underpins modern evidence-based medicine. My impression is that medical students think that much of epidemiology is self-evident and that studies such as randomized controlled trials have always been done the way they are done now ... but epidemiology as we now know it, although having very old roots, for example with the work of James Lind in 1747 on scurvy<sup>4</sup>, is a relatively modern science and one that continues to evolve.

My first-year medical students occasionally ask me why I no longer practise clinical medicine, asked in a way that communicates that clearly clinical medicine is the pinnacle of

any medical graduate's career – the implication being that I am wasting my time in public health. I have a number of responses to that question, including the apocryphal story about the person standing on the bank of the river who sees a child floating past screaming for help and jumps to the rescue. But then another child floats past screaming and so that one needs to be saved too and then even more children appear. I explain that the epidemiologist is the person who runs upstream to see why children are falling in the river and does what they can to prevent it. So, this is the concept of working 'upstream' rather than 'downstream'. Another answer to contemplate is that the decision a clinician might make with a patient usually only has the capacity to impact the health of one of them. However, the practice of public health has the capacity to affect the lives of many. A contemporary example in the context of COVID-19 is that decisions about social distancing made on the basis of modelling done by public health experts have changed the lives of literally millions of people.

Who would have guessed that 2020 would see the start of the COVID-19 pandemic? And who would have thought that a pandemic would see an outbreak of armchair epidemiology? I walked past a couple of people in the street recently having a discussion (1.5 meters apart) about effective R values! Who would have envisaged that would become the new normal? I was delighted to see people vigorously discussing 'flattening the curve', but even more delighted to hear them using terms like R value! I suspect my lecture in first-year medicine on why public health is important may not be necessary for the medical student intake of 2021, let alone the tutorial on outbreak investigation and epidemic curves.

My *Climacteric* editorial in 2017 was titled 'What is wrong with the medical literature?'<sup>5</sup>. At that time, I wrote that we train clinicians for many years to practice clinical medicine but they are allowed to do research without any formal training, something that Douglas Altman complained about bitterly<sup>6</sup>. The downsides of naively done research include wasted resources, 'muddying the water' or unreproducible results that can send other researchers 'down a rabbit hole' which could delay research progress for years. Not every clinician is actively involved in research. But even clinicians, who are reading the medical literature to ensure that their clinical

practice is evidence-based, need to understand the strengths and limitations of what they are reading.

I encourage you to set aside a little time for our series on study design. Our aim was to produce a series of short papers on study design for the clinician, with an emphasis on recent developments. We hope you find them useful.

**Potential conflict of interest** No potential conflict of interest was reported by the author.

**Source of funding** Nil.

## References

1. Cochrane AL. *Effectiveness and Efficiency: random reflections on health services*. London: Nuffield Provincial Hospitals Trust; 1972
2. Cochrane AL. *1931–1971: a critical review with particular reference to the medical profession*. Medicines for the Year 2000. London: Office of Health Economics; 1979:1–11
3. Ault A. Climbing a medical Mount Everest. *Science* 2003;300:2024–5
4. Bhatt A. Evolution of clinical research: a history before and beyond James Lind. *Perspect Clin Res* 2010;1:6–10
5. Bell RJ. What is wrong with the medical literature? *Climacteric* 2017;20:22–4
6. Altman DG. The scandal of poor medical research. *BMJ* 1994;308:283–4