



**Simon S. Statistical evidence in medical trials: what do the data really tell us? Oxford: Oxford University Press, 2006.**

Janet Martin

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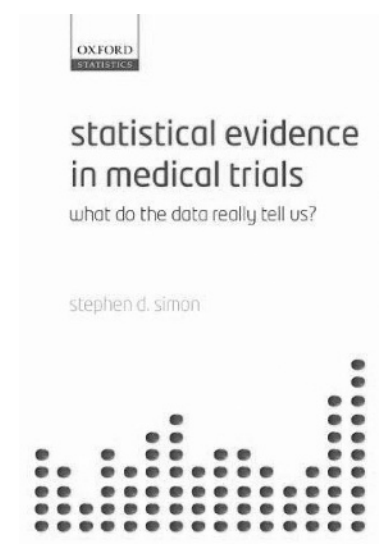
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# Resource review

Simon S. *Statistical evidence in medical trials: what do the data really tell us?* Oxford: Oxford University Press, 2006.



*Statistical evidence in medical trials: what do the data really tell us?* can be obtained from [www.oup.com](http://www.oup.com) for £65.

After reading the first paragraph of this book, I was immediately drawn in, mesmerised, and entertained right through to the end of the book. That says a lot for a book about statistics! It reads better than some of my bedside novels, but is not at all fictional. The book begins with a statistical joke—a perfect introduction for both the serious statistician and the more lighthearted clinician alike—which sets the tone for the remainder of the book. Many chapters are prefaced with a comical pictorial or word sketch that hints at the content to follow, while making the reader hungry enough to read on. That the injection of humour was possible in a statistics book is in itself quite enlightening. This point alone makes the book a worthwhile read. But the worth does not stop there.

The primary purpose of this book is to provide an understanding of how medical literature should be interpreted, despite its limitations. The concepts are useful for all levels, from beginner to expert. In the words of the author himself, this book is for consumers, not producers, of medical research. The book grew from the experience of the author, a statistician, who has provided training and expertise in interpreting medical literature in the hospital setting. The major thesis of the book is that “you should worry more about how the data were collected rather than how it was analyzed.” Fittingly, then, to support this thesis the author writes the entire book about statistics without using numbers and formulas. Concepts are explained with words and pictorials so effectively that the absence of numbers goes unnoticed. As a result, one comes away with an understanding of the very essence—the conceptual core—of what is important for interpreting clinical trials. This is much more than can be said for many books about statistics in medicine.

In fewer than 200 pages (7 chapters), the book covers a sizable range of topics necessary for discerning the literature. Chapter 1 discusses the risk of unfair (apples-to-oranges) comparisons and how to detect them across a variety of study designs. Chapter 2 discusses the implications of selective recruitment, purposeful exclusions of troublemakers, and the vexing problem of incomplete follow up. Chapter 3 discusses how to detect whether trial results can be considered worthy enough to change your practice, or whether they are trivial. Chapter 4 addresses how studies should be interpreted in the context of whether other evidence (or its absence) corroborates or detracts from its message. Chapter 5 discusses ways to properly assess the totality of the evidence when more than one study exists. Chapter 6 provides explanation of concepts such as confidence interval, odds ratio, number needed to treat, correlation, without ever resorting to statistical jargon or complex formulae. Chapter 7 offers a simple strategy for finding clinical trials of highest quality in response to well built clinical questions.

Each subtopic is accompanied by a short explanation and  $\geq 1$  example from the literature. Excerpts from open access journal articles are used as examples so that readers can access the full text freely. The author provides a good balance of point-counterpoint discussions for areas that remain controversial (ie, blinding is important, but can be over-rated). At the end of each chapter, key points are summarised for easy reference. The author’s website provides further examples and opportunity for more advanced learning.

Two detractions in this book should be highlighted so that the reader is forewarned. Firstly, several flaws in the wordsmithing and grammar were missed during the editing process. Secondly, some of the medical terminology or clinical explanations are less than perfect, which is not entirely surprising given that Simon himself admits up front that he is not a clinician. I found that both of these limitations were easy to overlook, and other benefits far outweighed any detractions.

Clearly this book is not “just another statistics book.” Rather, it borders on the side of being revolutionary—a statistics book without numbers! While this might be considered near sacrilege in the world of pure statistics, for the purposes of inciting balanced, practical, evidence-based clinical decision making, it is nearly a 5 star resource. The tasteful humour injected throughout the text is just the perfect spoonful of sugar to make the medicine go down.

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## RATINGS:

Clinical usefulness: ★★★★★ ½

Methods/quality of information: ★★★★★☆