Dr Ben Goldacre earned his reputation for his 2008 book *Bad Science* and his column in the *Guardian* newspaper of the same name. In both he provides an entertaining, accessible and well-researched exposé of poor scientific practices. Compared to his first book, which played charlatans such as Gillian McKeith and homeopathists for laughs, *Bad Pharma* is a much more sombre read. However, as a piece of investigative journalism, and a resource for students, doctors and patients, it is invaluable.

**Food for thought**

Goldacre opens by making a claim that: “Drugs are tested by the people who manufacture them, in poorly designed trials, on hopelessly small numbers of weird, unrepresentative patients, and analysed using techniques which are flawed by design, in such a way that exaggerate the benefits of treatments. Unsurprisingly, these trials tend to produce results that favour the manufacturer. When trials throw up results that companies don’t like, they are perfectly entitled to hide them from doctors and patients, so we only ever see a distorted picture of any drug’s true effects”.

It’s quite a statement.

He goes on to explain that the problems run deeper, into the heart of academic medicine. Doctors’ continuing education is often provided by these very companies: at conferences by their colleagues – who are given ‘honorarium’ payments (without disclosure) by companies; or, through sales reps who have been proven in studies to affect doctors’ prescribing habits (although most doctors claim that their own practices have never been affected, just those of their colleagues). Even journals, which are considered to be an unbiased source of medical knowledge, are not free from this – journal articles are regularly ghost-written by employees of drug companies and an eminent academic is invited to put their name to it; this appears in the journal, again without disclosure.

**Critique**

The title suggests that this book is a critique of the pharmaceutical industry – and it is. It is also critical of a medical establishment that co-operates with the industry in perpetuating practices (such as ghost-writing) that ultimately harm patients. But this book is not full of conspiracy theories and stories about evil people. People who work in the pharmaceutical industry, and those who work in medicine in general, want to help people; they are good people. But incentives are often perverse and encourage practices that
Defining ‘normal’
The theme of normality is one that crops up throughout the book. No one bats an eyelid at sales reps handing out free pens and coffee mugs; no one finds much cause for concern at industry-sponsored conferences; no one cares too much if negative trials get buried and never published, or if the papers themselves have been ghost-written by the industry and an academic’s name attached. The practices described are so widespread and so, well, normal, that it is only when you look in from the outside that you realise they are perverse. Goldacre draws parallels to the MPs’ parliamentary expenses scandal in the UK, where politicians believed that the levels of expenses were normal (one enterprising MP memorably claimed for a moat). Similarly, closer to home, a common defence of banking practices in Ireland in the lead up to the crash was that everyone was doing it, and that such practices were normal. And so it is for medicine. As Goldacre says: “Just because you think something is normal – just because everyone you know is doing it – that doesn’t mean outsiders will agree, when they find out”.

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The mystery of the missing data
The dodgy marketing tactics of these companies (who spend twice as much on marketing drugs as they do on research and development), which involve dishonest advertisements, secret payments and spin, have already received widespread press coverage. The real issue however, Goldacre states, is missing data. Half of all clinical trials are never published, for a variety of reasons, and these are most likely to be the trials with negative results for a company’s drug. However, unlike sales reps or trade advertising, which one can ignore, this misleads everybody without anyone being aware. Goldacre uses the example of reboxetine, an antidepressant. Seven trials were conducted comparing reboxetine against other antidepressants. Only three showed it to be as good as these other drugs, and these were the three that were published. Seven studies showed it to be worse than comparable antidepressants, but these studies remained unpublished. What is more, the unpublished data also showed that patients on reboxetine were more likely to suffer side effects than those on other drugs. This matters because if you are a doctor prescribing reboxetine, if you have read the published papers and critically appraised them – i.e., if you have practised evidence-based medicine – you would think that reboxetine is an effective treatment for depression. You have no way of knowing that the drug is no better than a placebo because the information has not been made available to you. Doctors and patients need all the information to make an informed decision about the best treatment, but if it is not available they cannot do that. Furthermore, is it ethical to tell participants in trials that they are contributing towards medical knowledge and improving treatment for future patients if over half of these trials are not published and the data goes unused?

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Green shoots?
Academic journals and drug companies have pledged to stamp out publication bias, but as Goldacre shows, in reality little has changed. The history of responses to bad practices in the pharmaceutical industry is littered with false starts and broken promises because no one checks up on them to see if commitments to change have been kept once the press fanfare dies down. Ben Goldacre’s book is timely and needed to be written. It has transformed a topic that, to many, is impenetrable – statistics and research methods – into one that is engaging and engenders a sense of incredulity and disappointment that such practices have been able to carry on. But it is not an entirely negative book; at the end of each section he offers ways to fix the problems highlighted. And developments such as the Sunshine Act in the US (which will compel companies to publish how much money they give individual doctors and for what), and a commitment from GlaxoSmithKline to make all of its trial data available, are promising.

Bad Pharma is an easy read. Goldacre has earned his reputation as a very good popular science writer through his engaging style and ability to communicate complex ideas in a simple manner. Although the book is not as entertaining as Bad Science, it is still very accessible and – arguably – more important. It is definitely one that everyone involved in healthcare should read.