



Quackbuster Ben Goldacre's new book reviewed p 822

VIEWS & REVIEWS

Actions speak louder than words

PERSONAL VIEW Michael Paddock, Bernadette O'Neil, Andy Holwell

"I was crying all the time but didn't know why. I couldn't explain to myself how I was feeling, let alone to the doctor. I couldn't eat, I couldn't sleep . . . I just couldn't stop crying." These are the words of a friend of one of the authors who until recently had clinical depression. Unable to say or even write down how he felt, he just looked up at the doctor and carried on crying as he struggled to communicate. Why? He is one of thousands of people throughout the United Kingdom who have been profoundly deaf from birth and who struggle to communicate with healthcare professionals.

It is estimated that there are nearly nine million hard of hearing or profoundly deaf people in the United Kingdom—almost a sixth of the population.

In spite of these figures, thousands of profoundly deaf individuals throughout the UK still struggle to communicate with healthcare professionals on a daily basis. As such, the mental health needs of these people are often undermined. Lack of contact with the appropriate healthcare professionals and subsequent ineffective treatment through miscommunication compromises access to basic health care. The UK has about 60 000 deaf people whose preferred or first language is British Sign Language (BSL). Appropriate communication tactics must be instigated at medical school and should form an inherent part of the medical curriculum to address this inequality in healthcare provision.

Up to 40% of the deaf community, well over three million people in the UK, experience mental health problems at some point, nearly double the proportion in the general population of one in four.

The needs arising from this significantly higher incidence of mental health problems in the deaf community must be met by competent healthcare professionals, to ensure that access to healthcare provision and services is not restricted. Unsurprisingly, a rise in the use of signed communication with deaf individuals seems to be associated with a fall in mental health problems.



In addition, studies of deaf service users have shown that 70% had no interpreters in consultations in accident and emergency departments and 28% avoided going to see their general practitioner because of poor communication. Feelings of confusion and dissatisfaction are reported by the scores of deaf people with whom this issue has been discussed. These difficulties are, however, not particular to mental health.

The use of interpreters in consultations, even more so in emergency situations, cannot be emphasised enough. That said, interpreters must be sufficiently trained in medical terminology to be able to explain it at an appropriate register for the BSL user. Luckily, medical interpreters in the UK must undergo rigorous training set by the Council for the Advancement of Communication with Deaf People to attain the required levels of competency in signing.

King's College London has developed a programme of sensory awareness development and training in its undergraduate medical curriculum. This includes core sessions in year 2 run by visually impaired and deaf trainers, which aim to equip students with the skills to enhance their communication with profoundly deaf and hard of hearing patients (such as checking hearing aids and maximising communication with patients who lip read) and in guiding and communicating with blind and visually impaired patients. These skills are then tested in the end of year objective structured clinical examinations. A special study module on deaf awareness and BSL is

offered in year 3, for up to 60 students.

This comprises a taught BSL component and a written deaf awareness project. By the end of the module students are able to use BSL to explore a patient's health problem at a basic level. Students are encouraged to explore an area of interest for the deaf awareness project and have focused on issues specific to health care (such as access of profoundly deaf and hearing impaired patients to health care, and mental health issues) as well as broader aspects of deaf culture.

The current UK undergraduate medical curriculum strives to produce competent physicians who, as the GMC puts it, "listen to patients and respond to their concerns and preferences" and "give patients the information they want or need in a way they can understand."

Up to 40% of the deaf community—well over three million people in the UK—experience mental health problems at some point in their lives

We hope that the initiative spearheaded by King's College London will prompt other medical schools to follow suit.

Access of deaf people to healthcare provision is restricted on a daily basis through a lack of appropriate awareness and skills among healthcare professionals. Basic instruction in deaf awareness and appropriate communication tactics with deaf people are imperative for the medical students of today. In the case of our friend, would you let a patient who was upset and unable to communicate their feelings walk out of the door?

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The i-patient

FROM THE
FRONTLINE
Des Spence



My brother lay semiconscious, the concrete block from the roof beside him. Blood leaked over his face. When he came round I dragged him—in the style of a matinee war film—inside to Mum. She washed his face, put pressure on his scalp wound, then put him to bed to sleep it off. Next day he was ready for school. We lived 30 km from a medical clinic and had no car. Coughs, colds, earaches all ran their own course. Over time I have come to realise that these experiences have defined my own health seeking behaviour and beliefs about health.

To what extent do doctors' personal beliefs affect their clinical practice? Two doctors working in the same healthcare system, same area, and serving the same patient demographic can vary hugely in their referral rates, investigations, and use of drugs. We often blame external forces such as guidelines, pressure from patients' families, and patients' "abnormal" health seeking behaviour for such differences. But another factor is at work. Common sense suggests that doctors who take antibiotics for coughs and colds will duly dispense antibiotics to patients. Doctors anxious about their own cardiovascular health will prescribe more statins and antihypertensives. Doctors worried

about their own pigmented lesions will refer. Doctors, like everyone else, are hostage to life's experiences. Experience and personal health beliefs are reflected in the clinical care we give. To coin a contemporary if entirely unimaginative phrase (pending legal challenges from the Apple Corporation), this "i-patient" effect accounts for the many variations seen in doctors' practice.

It is essential that we seek to understand and quantify this i-patient effect. For, contrary to traditional thinking and teaching, it is not illness that dictates the health seeking behaviour of a population but the healthcare system itself and, most importantly, our actions as healthcare professionals. We cannot prevent doctors bringing their individual health bias into the consulting room, but understanding our own individual i-patient effect will allow us to control for its influence. Western healthcare systems lie prostrate, confused and seeping money. We need to wake up to the fact that there is much more to health care than a simple thing called illness.

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Health tectonics

IN AND OUT OF
HOSPITAL
James Owen Drife



Always alert to innovation, today we introduce you to a new science that fuses medicine with geology. The academic discipline of health tectonics is just a few months old but already has a society and website and will soon have its own journal and a chair at one of our more dynamic universities. An inaugural world congress is planned for 2009.

Here's what it's about. Everyone is familiar with plate tectonics—the idea that Earth's crust consists of land masses that are still in motion—though that theory is only 40 years old. Before it people spoke of continental drift, a process by which all the continents, once united as Pangea, are slowly drifting apart.

With the healthcare sector now the size of a small planet, scientists have realised that it works the same way. Floating on health's molten core are enormous blocks such as politics,

commerce, management, and the professions, each of which moves independently. Health tectonics is the study of these massive shifts.

Just as geological collisions produce mountain ranges and earthquakes, the same happens in health care. Sixty years ago politics, crashing into medicine, formed the high peaks of the NHS. More recently, unexpected grinding of management on medicine resulted in the seismic shocks of MTAS.

Generally, however, health's tectonic plates are separating. Rifts have opened, and the process is accelerating. Attempts to stand on two plates at once lead to grotesque postures and risk of serious injury. Migration is still possible from, say, medicine to management but not in the opposite direction. And the professional plate has begun breaking up at an alarming rate.

Intercontinental communication

used to be feasible by megaphone but now relies on cyber-messages. Giant packages of information are transmitted at 4 30 pm on Fridays. Scientists are concerned that force fields generated by these pulses of e-garbage may be increasing the speed of separation.

So, is health tectonics just another cause of gloom, like global warming? Hope comes from an unlikely source: planet healthcare's dead satellite, the private sector. We know it lacks the one element (teaching) essential for life, but it is held together by the unifying force of patient power. Could this primordial energy source exist within planet NHS? It seems like a crazy idea, but at next year's congress they're planning to think the unthinkable.

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A cool drink for an ardent fever

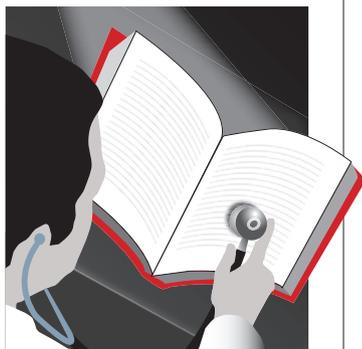
It is difficult not to write the history of medicine as the history of progress; but how is progress measured, and when exactly did it begin? Discoveries were often made a very long time before anyone benefited from them. Is progress an increase in knowledge, in curative power, or in both? When was the first life saved by the anatomy of Vesalius?

These questions came to my mind as I was reading Ibn al-Jazzar on fevers. Ibn al-Jazzar was an eminent physician of the 10th century who practised in north Africa and wrote a compendium of medicine, *Provisions for the Traveller and Nourishment for the Sedentary*, that was famous in its day and was translated into Latin and Greek. It was used in the first Western medical school of Salerno, and I read the chapters (duly translated, I hasten to add) that came from it.

A commonplace of medical history is that, at the time, Arabic medicine was far in advance of that of Western Europe. Judging from Ibn al-Jazzar on fevers, it is not easy to make sense of this claim. It is not, of course, that medicine in Western Europe was advanced—very far from it. The conditions of life in Europe at that time were primitive and appalling. Life for most people was probably nasty, brutish, and short. But al-Jazzar displays no knowledge of the causes of fever, nor is it likely that any of his proposed remedies actually cured anyone. Without either knowledge or therapeutic efficacy, it is difficult for us to understand how his system of medicine can have been more advanced than any other at the time, unless the other was more positively harmful than his.

Furthermore, he did not seem to understand the need to provide any

BETWEEN THE LINES Theodore Dalrymple



It is far better to soothe than to cause additional discomfort, of course, but that cannot be the principal aim of medicine

evidence for what he said, except by reference to Galen as an unimpeachable authority. This is not to blame him: he was a man of his time and place, and we who believe in evidence based medicine would have been exactly as he was if we had been of his time and place.

When he tells us that what he calls ardent fever is caused by “the sharp, fiery, yellow bile that has collected in the cavities of the veins that are adjacent to the heart” and that any-

one who has the fever should be administered “juice of tamarind, plums, and jujube with the core of reedy Indian laburnum, manna from Khurasan, preserved violets, a drink made from plums and the like,” it is evident that we are a mental universe away from ourselves.

Yet it is true that al-Jazzar would be preferred to what was on offer in Western Europe at the time. Al-Jazzar believed in cleanliness, for example, and therefore in bathing, often in water infused with pleasant smelling flowers and herbs. This would surely have been soothing, though not curative. And his prescriptions are not obviously repellent (as so many Western prescriptions were to remain for many centuries to come), consisting mainly of cool drinks and perfumed syrups. They imply a high general level of refinement.

But is this enough to call his medical system advanced? It is far better to soothe than to cause additional discomfort, of course, but that cannot be the principal aim of medicine. It is only with the self conscious, disciplined, and systematic search for truth that medical progress can be said to have begun.

Theodore Dalrymple, writer and retired doctor

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MEDICAL CLASSICS

Aphorisms from Latham

By William B Bean Published 1962

Peter Mere Latham, born in 1789, was appointed physician to the Middlesex Hospital at the age of 26 and elected fellow of the Royal College of Physicians three years later. He joined St Bartholomew's in 1827 and became physician extraordinary to Queen Victoria in 1837. His writings, published between 1828 and 1846, have long ranked as medical classics and are now patiently waiting to be made available on the internet. They were favourites with William Bean, former editor of the *Archives of Internal Medicine*, who admired their wisdom and stately elegant style and who in 1962 published their best parts as a collection of aphorisms.

In these aphorisms we find some immutable truths. We should not think ourselves wiser than we are. Nothing is more captivating than new knowledge. We learn more from our patients than from books. We learn by doing, not by reading or being fascinated by popular lecturers; and lectures are a temptation to the more contemplative mind. Medical books are needlessly “complex and multifarious.” It takes more time and trouble to pull down a falsehood than to build up a new truth. Diagnosis is sometimes easy, sometimes difficult, sometimes impossible. Poisons and medicines are often the same substances, given with different intents. The best physicians learn their craft by caring for the poor. Most doctors are not very exact in the use of their language. Considering the many possibilities of error, it would be strange indeed if we were always right. Some patients of delicate and nervous disposition exaggerate their symptoms and are troublesome to deal with, difficult to



Peter Mere Latham

understand, and apt to deceive both the doctor and themselves. With students one should strive not to teach but encourage them to learn.

Latham believed that knowledge can be an encumbrance as well as a help. With Aristotle, he thought that one should not treat a subject with more precision than its nature admits. He thought the practice of medicine was jostled by quacks on one side and science on the other.

He perceived that professions, then as now, have a way of glorifying

themselves by setting forth a vast array of preparatory studies, pretending that these were indispensable in fitting a person for the simple exercise of the practical duties he or she will be expected to carry out.

At the time when Latham wrote there were no antibiotics or anaesthesia, germs were not known to cause disease, typhoid was confused with typhus and was merely part of “fevers,” and doctors had little to give besides opium, mercury, and themselves. Hence the modern reader's difficulty and discomfort in trying to determine what is still relevant in an age where experience is trumped by multinational trials, bedside medicine by the laboratory, and clinical wisdom by government directives and administrative pronouncements.

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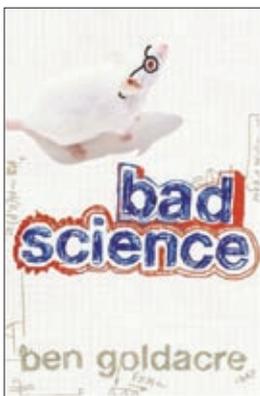
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Becoming Ben

Ben Goldacre's book assembles an impressive array of villains who deal in bad science, finds **Richard Smith**



REVIEW OF THE WEEK



Bad Science
Ben Goldacre
Fourth Estate, £12.99, pp 338
ISBN: 9780007240197
Rating: ★★★☆☆

We're lucky to have Ben Goldacre, and maybe as a result of his book we'll have more people like him. He is fighting what sometimes seems like a one man battle against a tide of pseudoscience and an army of quacks. His main weapons are his weekly column in the *Guardian* newspaper, an impressive website (www.badscience.net), and now this book, which aims "to teach good science by examining the bad."

Luckily Goldacre, a practising doctor, has all that's needed for the battle: a solid understanding of epidemiology, statistics, and public health; a fluid, engaging way of writing, although with a weakness for bad jokes; a gift for using the web effectively; a taste for glory; a thick skin; good lawyers; and seemingly boundless energy (he tells us in passing about his childhood hyperactivity).

The good lawyers are necessary because Goldacre is regularly threatened with libel actions and even violence. He and the *Guardian* have just had a major triumph in beating off the legal threats of Matthias Rath, a doctor who has condemned antiretrovirals for HIV and promoted his own nutritional supplements as the right treatment (*BMJ* 2008;337:a1710). It seems that Dr Rath has made millions from his treatments and dubious claims and had the money to sue the *Guardian*. It's one of many indictments of the English libel system that whoever has the most money will usually win. The *Guardian's* victory is important for health, science, and journalism and—annoyingly for Rath—will help promote Goldacre's book. And now that the legal threat has lifted he has also promised a book on Rath.

Bad Science is in many ways a primer on using egregious claims and media stories as the raw material for assessing evidence. The book is aimed at the public, and many *BMJ* readers will know the basics—but everybody will learn something. I particularly enjoyed the chapter on "Why clever people believe stupid things." Underestimating the power of chance, we see patterns where none exist and causal relationships where there are none. We overvalue evidence that confirms our hypotheses; and instead of searching, like true scientists, for information that will destroy our hypotheses we look for evidence that will confirm them.

Although repeatedly writing that he blames the system not individuals for the huge volumes of bad science put out by cosmetics firms, nutritionists, homoeopaths, drug companies, and others, Goldacre assembles an impressive collection of villains. *BMJ* readers will, I think, enjoy reading accounts of these people, many of them with fake qualifications, who make fortunes by using the jargon, graphs, and formulas of science to sell simple and ineffective treatments for complex problems. Most of these people, unlike most doctors, are adept at using the media, and Goldacre admits to

admiring their skills and chutzpah.

It is an irony, therefore, that he directs most of his ire against the media. "The blame" for the measles, mumps, and rubella (MMR) debacle lies with the "hundreds of journalists, columnists, editors and executives who drove this story cynically, irrationally and wilfully onto the front pages for nine years." He sneers unattractively at "humanities graduates [who run the media] with little understanding of science, who wear their ignorance as a badge of honour." To Goldacre "humanities graduate" is an insult, which seems silly when his broad mission is to encourage deeper understanding of complex issues.

The MMR story is told completely and well, and the media have undoubtedly driven the story in a wholly unreasonable way. But we get the media we deserve, and I think it's a mistake—made time and time again by desperate politicians—to blame the media. The problem lies deeper, as Goldacre himself observes elsewhere.

"Science," he writes, "is our dominant explanatory for the natural and moral world." Those who seek to influence us—whether politicians, health authorities, journalists, fraudsters, or business people—will turn to science. But science is complex and is becoming more so, and most of the population is scientifically illiterate. Our basic human failings—of irrationality, greed, arrogance, laziness, criminality, and so on—become mixed up with science. "Much of the nonsense in bad science . . . isn't something done to us," writes Goldacre, "[rather] it's a cultural product . . . We do it to ourselves."

And there's nothing new about bad science. As long as there has been science there has been bad science. This is made very clear, for example, in the history of vaccination. I worried when I started reading this book that its author might be in pursuit of a Utopia where bad science was abolished. But quite the opposite: not only does he recognise the hopelessness of trying to eradicate it, he is having huge fun countering it.

He thus stays away from simple solutions, but he does urge better teaching of uses of evidence in schools—and I can see his book and free blogs being used to create learning sessions that would be great fun. This would apply equally in medical schools, where the teaching of epidemiology and statistics is often horribly dull. Goldacre is scornful of "the indulgent and well financed 'public engagement of science' community," but he urges those who understand evidence to start blogs. In the world of web 2.0, scientists can grab attention just as well as those who spread bad science. You too can become a Ben Goldacre.

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Not only does Goldacre recognise the hopelessness of trying to eradicate bad science, he is having huge fun countering it