

Inspiring Doctors Episode 9: Ben Goldacre

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Martin

Welcome to Inspiring Doctors, a podcast series brought to you by the British Medical Association. I'm Martin McKee, a professor of public health and the president of the BMA. In this series, I'm joined by people who I see as role models. They've successfully taken their medical knowledge to a wider audience in creative ways. So, what inspired their work? What lessons have they learned? And what advice do they have for young doctors who may want to follow in their footsteps?

There is something magical about the confluence of medicine and communication. My interviewees are only some of the role models who do this work. But they are all people who have inspired me. I hope that our conversations will in turn inspire you.

My guest today is Ben Goldacre. Ben qualified from Oxford and University College London and he trained as a psychiatrist at the Maudsley Hospital. He then spent some time at the London School of Hygiene and Tropical Medicine before returning to Oxford, where he has recently been appointed as the Bennett Professor of evidence-based medicine and director of the Bennett Institute for Applied Data Science.

He is also a founder of the AllTrials campaign and OpenTrials, which call for greater transparency on clinical trials. With Liam Smeeth, he led the development of the OpenSAFELY collaboration that mined NHS records to provide insights into the impact of the COVID-19 pandemic. He was awarded an MBE in the 2018 New Year's Honours list.

But for many people, Ben will be best known for the column he wrote every week in *The Guardian* between 2003 and 2011, a column called *Bad Science*, and what is bad science? Well, to quote from the cover of my copy of the book, 'It's about hacks, quacks, and uncomfortable facts.' It's an excoriating critique of those who have let us down by misrepresenting science, whether through ignorance or through deceit. *The Economist* describes it as, 'a fine lesson in how to skewer the enemies of reason and the peddlers of cant and half-truths.'

The sequel to that book is *Bad Pharma*, which focuses the same degree of forensic attention to the pharmaceutical industry. Welcome, Ben.

Ben

Hey, thank you.

Martin

Well, let me begin by asking you about your column in *The Guardian*. You'd just begun your specialist training in psychiatry. You must have had plenty to do. But you took on what must have been a really challenging commitment, having to come up with new material every week, and always with looming deadlines. Why did you do it?

Ben

Ha! Well, it was ridiculous. And I couldn't have done it if I had children or anything else in life other than work, I suppose. And I was only twentysomething at the time. I think when you're a doctor, your life is very externally driven. So, a bleep goes off and you've got to run and you've got to answer it.

In some respects, having a weekly column brings you the same kind of external discipline. You've got to churn out a piece of work and get it published week-on-week metronomically. And so, in some respects, the only way of getting that volume of work done is to corner yourself into it. And for that, I'm very grateful because it forced me to practice.

Martin

I often feel that we're really bad in medicine at coming up with snappy titles. But *Bad Science* really seemed to hit the nail on the head. It was about science that was bad. No more, no less. But how did you come up with it?

Ben

So, the whole project really was about using examples of people getting science wrong as an opportunity to explain the fundamental principles of stats and evidence-based medicine. But it was also driven by a very deep frustration, because at the time – and I think it was a very different landscape, essentially before the internet was a thing in the way that it is today – there were several deep problems.

First of all, in the media, with people habitually writing things that were simply wrong. Also, with science being very badly dumbed down. Also, at the time, you know, I had a lot of friends who took either left or radical political positions. You know, they campaigned against the arms trade. They campaigned against a car-centric transport policy.

And I agreed with them on a lot of these issues. But they also thought that crystal healing cured cancer. And I found that perplexing, alarming. It worried me that maybe I was as wrong about the arms trade as they were about crystal healing. But also, it was a sort of reminder that a lot of people's views on evidence and science and stats and medicine were driven by political or cultural positions rather than the evidence.

So, *Bad Science* really was just a gimmick. It was a way to talk about how you know if something is good for you or bad for you by using examples of people getting that stuff wrong.

Martin

Now, every newspaper has its columnists, and some are better than others. But yours, I think for many of us, stood out from many of those other ones, at least as far as I could see, by the amount of work it must have involved. Once you got an idea, you had to research it in really quite considerable detail. And of course, you had to make sure that you had got it right. How long did it take you to work up a column typically?

Ben

Well, thanks for noticing. I mean, the real disaster was the number of things that you would start writing and then realise you couldn't finish. So, it was the number of false starts. I guess it

would have been between a day and three days of full-time work, probably for each column. And it was preposterous. And it was done frequently until four or five o'clock in the morning.

It's an interesting thing, isn't it? When it was time to step back, when I had other things I wanted to do and I didn't want to write a weekly column anymore, I had a bit of pushback from editors saying, 'Well, why don't you just do a column where you write down what you think about what's happened in the news this week?'

And I thought I'd rather not, only because in a finite set of days on the planet, you should only do things that only you can do. And you should only do things that are kind of really worth doing. There's no point in... I didn't want to produce any kind of journalistic landfill, ever. So that's not to say that I think that everything I did was particularly spectacular. But rather to say that I only wanted to do things that I thought were as good as I could make them.

And I mean, the other problem, of course, is if you're ever criticising somebody else, you've really got to make sure that you've got your ducks in a row, otherwise you're at risk of litigation, but also, you're at risk of looking like a bit of a fool. And once you start writing a lot about other people getting stuff wrong, you quite quickly get yourself into a corner where people would be absolutely delighted if you yourself got something wrong. So, it really was like writing, you know, critical appraisal and pop science on epidemiology with a gun to your face.

Martin

Yeah, these things do take up rather more time than you imagine. So how did you get the ideas for the columns? I get the impression that you got a lot of suggestions and tip-offs, but then you would, as you've said, have to do all of the due diligence. You said you started quite a few; you didn't complete all of them. But how did you decide which ones to even begin with?

Ben

So first up, I would buy all the newspapers most days and skim through them. Maybe one in three, one in four of all the columns was about a piece of bad journalism. So that was usually pretty dependable and you could usually get a good quack story or a good sort of dodgy equation story, or some bad stats in a PR piece or a political statement.

So, there was a lot of hammering through newspapers, which of course I think you probably wouldn't do these days because they don't set the agenda in quite the same way. And there were various things sort of structurally about the column that were a bit odd, not least it appearing on the news page of the Saturday edition.

But also, I had my email address at the bottom of the column from the moment it started. And I really, really pushed for that, because I wanted to make it easy for people to get in touch. Partly with suggestions and ideas, not because I was sort of desperate for content, but also because I wanted to build a bit of a sense of community because I had the notion – maybe grandiose – that I was sort of speaking on behalf of a large number of geeks who were all frustrated about the problems of science being either misrepresented or dumbed down in mainstream culture.

Martin

Now, you've already mentioned defamation, but we know that anybody who is writing for a British audience must think of the ease with which anyone that has been named can sue for libel. You have been threatened with legal action on several occasions, and I've had experience of editors who have been very anxious when we've revealed wrongdoing. But on at least one occasion when you were sued personally, *The Guardian* did fully support you.

Do you think that we're too cautious when we're calling out wrongdoing? And here I'm thinking not only of those who write but also the editors of the journals in which we publish, who often seem to be extremely anxious about what might happen.

Ben

I'm very sympathetic to individuals who are cautious because I think they've got good reason to be cautious. I think if you're a large institution, you should regard it as part of the cost of doing business. So big academic journals, for example, are in a different category.

But yeah, I mean, you say *The Guardian* supported me and of course they did in some regard, and I was very glad of it. They paid all of the legal fees, which amounted to about half a million pounds. But nobody paid for my time to manage all of that case. That's partly a consequence, I suppose, of being a freelancer. But that's also then a part of the decision matrix for an individual, where you kind of say, 'Well, you know, if it came to it and I had to go to court, maybe I wouldn't lose. I might not lose money, I might not lose reputation, but I'll lose weeks, months, years of life.'

And I think anybody who's had any dealings with lawyers in any context will be familiar with that sense of entitlement that the justice system has around other people's time. I mean, it's a real diary trespasser, the legal system. And the lawyers are being paid, the judges are being paid, the court clerks are being paid. But, you know, the person in some dreary neighbour dispute over a hedge – not that I've had one myself – isn't.

So yeah, I'm very sympathetic to people who are anxious about these things. And I must say I've done different types of work at different times in my life. I've worked quite hard to put myself in positions where I can speak freely. So, for example, I kept up my medical work and my medical training and got to CCT and to consultant level at the same time as doing pop science, because I wanted to run the two in parallel. Partly because I wanted to do both, but also partly because I think you're much more powerful, or free, if you've got the ability to walk away.

So, I wanted the ability to walk away from writing, journalism, or books. If it got to the point where I could only make a living by writing things I didn't want to write, I wanted to have medicine as an alternative source of income, frankly. But also, I wanted to have writing as an alternative backup on the off-chance that the medical profession became a despondent, underpaid, demoralised place to be! Or, you know, any other problems arose.

So that's maybe a round-the-houses way of saying, I don't think I would write in the same way today that I did 20, 15 or even 10 years ago. So now I have children, I have assets. I mean, I had no money. If anybody wanted to sue me in 2003 or '05 or '12, you know, what would they get? A travel card and a couple of old synthesisers from the 1980s.

So, if I saw somebody apologising today under threat of libel, I'm not sure I would think any less of them. I'm not sure, honestly, I would believe the apology either. And that is the extraordinary thing about how unhelpful our libel laws are in the UK, because they're not even really a very good way of getting an adjudication on whether something someone has said is true or not. Because if I see somebody forced to back down or if I see somebody who's been found to have libelled somebody else, that doesn't make me think that they were wrong in what they said.

Martin

The truth, of course, is a defence in libel, but it can cost you an awful lot in getting to that. And many people are deterred along the way. Now, I want to stick with that theme for a minute because one of the chapters in the latest edition of *Bad Science* wasn't in the first edition, and this was the one on antiretrovirals in South Africa.

So, could you tell us something about what happened that first stopped you from publishing what was a really important chapter because it related to the avoidable deaths of very large numbers of people, and then what allowed you to get it into a later edition?

Ben

Well, I mean, this was a long and horrible saga in context. I mean, the context, obviously is South Africa had an HIV-denialist leader. As a consequence of that, the government had slow-pedalled on rolling out antiretroviral medication. They had a long track record in government of saying things about antiretroviral treatments and the causes of AIDS that were demonstrably untrue.

So, it was a real public health disaster. And there were some very brave people in South Africa, like

Zackie Achmat from the Treatment Action Coalition, who were campaigning hard to widen access to treatment and also public health preventive initiatives.

So, in this context a German vitamin pill salesman called Matthias Rath began taking out full-page adverts in national newspapers in South Africa, saying that the answer to the AIDS epidemic was here and the answer to the AIDS epidemic was, of course, vitamin pills.

Now, I thought that was unhelpful. And I wrote about it in *The Guardian* and explained why, and that resulted in legal threats. Ultimately, a full libel action with *The Guardian*. It cost *The Guardian*, I think, 500 and something thousand to defend. Ultimately Matthias Rath was unsuccessful. And it wouldn't have been wise to publish those stories at the time, when it was all being litigated. And so that's why there was a chapter in the later edition.

Martin

I want to take you back a bit to your clinical career because as you said, you were doing the two of these roles in tandem, as a journalist but also as a practising clinician. And I was just wondering if you had any reflections on what mental health services were looking like at the time, what they look like now and what needs to be done to change the situation. So, this is

really looking at taking your experience on the clinical front line and looking at some of the policy consequences of that, and then we'll come back to *Bad Science*.

Ben

Look, I'm not a world expert on health service structures in mental health, so I don't think I can give you any particularly valuable insights.

I mean, I think mental health is an extraordinary corner of medicine. And the thing that attracted me to it was partly that I just simply liked the patients. And I think in medicine, it's not a bad idea to find a group of patients that other people find problematic but that you actively enjoy working with. I suppose if it's public health, then it's bureaucrats that everybody hates but you can endure. In psychiatry, it's people with mental health problems.

It's also very interesting just in sheer numbers. So, it's the biggest corner of health expenditure by disease area. It's also the area where evidence-based practice is, I would say, the hardest, because measuring outcomes is much more difficult than in orthopaedics or anaesthetics or cardiovascular medicine.

I think it's also an interesting corner because so much of it crosses over to a degree with everyday life and non-medical life. By that, I don't mean the old sixth form debating topics like: is depression really an illness, and where's the borderline between sadness and depression? I mean also for some of the interventions.

So, for example, one thing that has saddened me a bit over the last 10 or 20 years is the way that management of people with addiction has essentially left the NHS and gone to private providers. So actually, very few NHS consultants are doing addiction services work now.

On the one hand, that's a source of sadness because I think medics and the medical model have a lot to offer, especially with dual diagnosis, because there are so many overlapping challenges. And also, you know, lots of people with homelessness and all of the medical problems that that brings alongside it.

But equally, I think a lot of what's really powerful and effective in addiction services is delivered by non-medical staff and in actual fact, often by ex-drug users and ex-service users themselves. And that's where I think the configuration of services gets really interesting and really complicated.

I think there are enormous opportunities, but also enormous challenges, especially around the kind of government level – allowing services to be diminished. But there are enormous opportunities in going beyond just having traditional outpatient approaches. Anyway, look, I bring nothing of value to this topic today, I apologise.

Martin

I think you do bring quite a lot of insight because I think the challenge we face with ageing populations and multimorbidity is one of how do you actually co-create solutions with patient users, their carers, their family and the health professionals who are on the front line?

Ben

I think that's right. And I mean look, I don't have any crystallised views on this. But there's an interesting challenge, which is, you know, you're a big supporter of co-creation of services and initiatives, you're a big supporter of non-pharmaceutical interventions and social prescribing and you're a big supporter of thinking what's the right way to create a good set of social and organisational structures around reciprocal peer support that manage the risks that that brings.

At the same time, it's nothing to do with party politics. Anybody who's been up close to the way that services work knows that institutions are inherently self-interested, for good reasons, and these are often rational choices. But that can often lead to challenges around buck-passing. So all the things that you'd like to see around peer support and social prescribing that are good are also, I think, always at risk of turning into SOPs or ways of handing off problems.

So I think it's a really interesting and difficult and challenging area. I must say, I mean, with my kind of day job hat of good data architecture for health services, the thing that I feel is really missing still from the whole social prescribing movement is good data structures to support discoverability of things that can be offered through social prescribing, but also to monitor who's getting what where, and monitoring outcomes as well.

Martin

Wearing another hat, I'm heavily involved with work by WHO, which is looking at how we get the right mix of people – health workers with the right skills, the patients, the digital tools and the information in the right place at the right time to make a difference. And it's certainly not easy.

But let's go back to *Bad Science*. In your book, you give many examples of people who peddle really quite bizarre ideas, often with no scientific expertise and in a few cases with so-called qualifications that are not what they might seem. Some of these people have done really very well, they've been courted by the media, their ideas have been spread widely; the public sees these people on daytime TV and elsewhere.

But it's very difficult for someone watching these individuals to check whether they really are credible. Do you have any thoughts about the people who give them a platform? Difficult for the viewer, but do the producers of the shows, do the presenters have a responsibility to scrutinise, do some diligence with the people they invite onto their programmes?

Ben

I would go further, and I would say they're almost the only people in the system who do have that kind of responsibility. And I don't think that every single member of the human race has an obligation to ensure that every utterance from their mouth is perfectly factually accurate. But the people who are paid to be gatekeepers should do that job well.

So, I'm not surprised that there are individuals out there who want to push nonsense magical pseudoscientific treatments, or diet cranks and crystal healers in the world. I am surprised and disappointed, and continue to be so, that there are people in national newspapers or

broadcast television outfits who give them a high-status platform and present them as if they're something that they're not.

Similarly, with Brain Gym for example in schools, which was an absolutely bizarre set of pseudoscientific exercises that were supposed to improve educational outcomes for children, which got picked up enormously across the British education system, especially in primary schools. I'm not surprised that there are some people hawking that kind of stuff. But I am surprised and disappointed if it gets picked up by schools and also by the institutions in education that are there to support what happens in schools and improve standards.

So, yeah, I mean, I don't think gatekeepers hold *some* responsibility. I think they're basically the only people that hold responsibility.

Martin

Well, Brain Gym you've mentioned, but there was a particularly extreme idea that involved children pressing their chests and their abdomens, for example, to improve blood flow to their brains. There was one memorable sentence in your book, you said, 'Children can develop extraordinary talents, but I've yet to meet one who can stimulate his carotid arteries inside his rib cage.' You went on to say, 'That's probably going to need the sharp scissors that only Mummy can use.' I thought that was a very nice turn of phrase.

And then there was the Durham Education Authority that implemented something that at various times was or was not a trial – it was an ultimately unsuccessful attempt to improve children's performance.

So, it does seem to be that there are quite a lot of people in positions of authority, not in the media this time, but in government and in various other authorities that are really pretty clueless about science. And of course, many people have drawn attention to how very few MPs have any scientific training. So what can we do about this lamentable situation?

Ben

Well, I think the first thing is you won't get change by just saying, 'Oh, people should know more about science and evidence.' I think we do need better use of evidence in public policy across the board and, you know, people making stupid statements in one council, or one school, is just a kind of indicator of a deeper problem. But what you need are social structures.

Now, in medicine, it was actually quite a long, slow battle to get evidence-based medicine to take root in the profession and in the community. And it happened bafflingly recently, really. I mean, the big evidence-based medicine movement only got cracking in the '80s and '90s. It required institutions like Cochrane to do good-quality summaries of the hundreds of thousands of trials that have been done. It required organisations like NICE, and it also required teaching and training for practitioners, doctors and other allied health professionals.

I think if you want to see evidence-based practice in other parts of government, in other parts of society, then you need to build similar structures. So, I did a review for Gove in the Department for Education in 2012 I think, on how to replicate the evidence-based medicine

revolution in the teaching profession. And the public-facing part of that work is still out and still available.

A lot of it was about just explaining the basic concepts, but also, you know, a lot of the recommendations were around institutions and structural changes. You've got to have the basics of quantitative and qualitative research on what a systematic review is, and how to critically appraise a trial, and what a trial is and why they're useful, in initial teacher training. You've got to have teaching on that available on inset days and continuing professional development for teachers. You've got to have organisations like, now, the Education Endowment Foundation, doing randomised trials to generate good-quality evidence on what works and what doesn't work.

It's not a matter of personal responsibility, this stuff, I don't think. However, I think it's also equally legitimate and helpful, where people say things from positions of responsibility that are wildly stupid and wrong – it is helpful to point that out and tweak their nose in public. And I make no apologies for that because I think it's a good campaigning device, frankly.

And, you know, when I was writing the column, I wasn't doing it... I mean, I *was* doing it for my own pleasure, but I was also doing it because I wanted to see some change. I wanted there to be consequences for people saying things that were wildly untrue and I wanted things to be better.

Martin

So, a key point that you're making is that we need institutions and structures. Of course, individuals have agency. They can do what they want. They can say sensible things, they can say stupid things. But ultimately, we need to look at the structures, the institutions in which they're embedded to understand why certain ideas fly and some don't.

But I want to take you back a bit to journalism, if I may, because often when we hear somebody saying something that is scientifically illiterate, we're sometimes told, 'Well, you've got to look at things from their point of view.' And sometimes that pushes us into agreeing that maybe there can be competing realities that are all valid.

But as you say, you've often called out people who are, and you've said it in this way, 'intellectually out of their depth'. You describe talking to people who were intellectually challenged when they were trying to explain some of the things that you were talking to them about.

In particular, you've been quite critical of journalists who were trained in the humanities who are writing about science. So, I'm just wondering if you think that we were too polite. You say you do call people out, but should we do it a bit more?

Ben

It was a different universe, really. I mean, you know, this is before Twitter, before all of the very vindictive and intemperate discourse that you see these days. I don't think there's any shortage of people calling each other out anymore!

And actually, you know, the interesting thing to me now, having spent a lot of time fretting about the shortcomings of the monolithic knowledge producers – you know, newspapers, magazines and TV networks... there were huge shortcomings in that. What we have today is obviously a much more anarchic knowledge ecosystem.

I was a huge supporter of that, and I still am. You know, I always felt that everything gets better when more people have access not just to knowledge, but also the opportunity to disseminate that knowledge. And I think a lot of the more conspiratorial edge of the internet and, you know, utterances from people like Donald Trump about the mainstream media are, to my mind, mainstream media really getting its just desserts because I think it didn't do a good enough job at being the monolith single provider.

But that said, a small part of me does still think, god, it was a little bit simpler in the old days when there was still lots of nonsense around, but at least we were all looking at the same nonsense. Because now you have these sort of micro niche communities which are often very big, in a population sense, of people who believe things that are wildly absurd.

And also, what you see is people adopting the rhetoric and the sort of superficial behaviours of debunking, for example, in order to serve their own needs and to push their own agenda. So, it's now a much more complicated, much more sticky space to operate in. And I'm not sure that all the lessons of the past are still applicable, to be honest.

Martin

This key point that keeps coming through is the role of institutions and structures and the way in which they need to change. But I'm just wondering what individual doctors can do to bring about that change, to encourage it. What skills do they need? What do they need to do to promote knowledge-based learning organisations that actually take the evidence and reject the bad science?

Ben

I mean, that's a really big question. You know, how do you get evidence embedded in the design of services? I think firstly that requires that you have a medical workforce that understands evidence-based practice, and one of the things that I'm increasingly concerned by is the growing absence in particular of public health from health services research.

So, I am not one of the people who think that doctors should always have been running the health service and should continue to run the health service. But public health in the past had basically three legs: health promotion – telling people not to eat too much ice cream; health protection, which is obviously very fashionable these days after COVID; and then lastly, health services research and management.

These days, with the move of public health into local authorities where they have very little contact with health services, it seems to me that that whole community and commons of knowledge – where there were doctors who knew what it was like to be a doctor, who understood the realities of medicine and the technical aspects of medicine, but who also had an interest in using epidemiological techniques to monitor clinical activity and outcomes – that

whole community no longer really has any presence in the world of using data to monitor activity and outcomes, or certainly nothing like what it had before.

And into that breach has stepped a whole raft of consultancies who are often offering tools and services, which are at best rather epidemiologically naive and really kind of black boxes and PowerPoint slide decks.

So again, to come back to institutions, I think individual doctors – sure, they should familiarise themselves with the basics of evidence-based practice and use that to inform what happens in local services. But the thing that really worries me is the social structures we used to have around that – of public health doctors who know about medicine, evidence, stats and EPPI, and how it can be used to optimise the quality, safety and effectiveness of services – that whole community just doesn't really have the same presence and purchase in the health service that it used to.

And I must say, you know, again, obviously I do a lot of work with government and national services these days. Most of what you see going wrong is not really attributable to any party-political issue or any personal issue, and I think a lot of it is just gaps.

Obviously, there was a lot about the Lansley reforms in 2012 that was very problematic. But I think the role of public health in health services research and the loss of that when they were moved to local authorities, I think it was just a clumsy oversight rather than any great conspiracy.

But that was 11 years ago and communities and knowledge rot over time if they're not used, if they're not fed and watered. So, I don't think we've got very long to rescue that community and bring them back into action.

Martin

Certainly you and I had many conversations about the problems that were likely to arise from those reforms at the time.

Ben

Yes.

Martin

I'm having Trisha Greenhalgh on another one of these podcasts, and of course, she's written a very important book on how to read a clinical paper. So, we will be addressing some of these institutional structures.

But let me move on to something slightly different. There were many great stories in *Bad Science* and also in *Bad Pharma*. But one of the stories I liked was that of the Barbie Liberation Organisation, and it was a feminist group that was fed up with the gender stereotypes incorporated in the G.I. Joes and the Barbie dolls. They famously swapped around the dolls' voice boxes and returned them to the shelves so that when children got these at Christmas time, they would get the opposite of what their parents might have been expecting.

And I was wondering what place you see for direct action, and particularly whether you're concerned that there are current measures in the UK that are looking to perhaps criminalise some of the things that are happening; where is the role of direct action in promoting health?

Ben

Look, I think it's really important. I mean, the place where it's most prominent at the moment – and, you know, similarly back in the '90s – is around environmental issues, and I've actually had staff who went off and participated in non-violent direct action with Extinction Rebellion. And rightly or wrongly, I'm not sure I've ever formally requested the view of my own human resources department on this, but I was very clear to them that if they were arrested, then I would do everything I could to make sure that that didn't affect their working life.

And also, I think it's important to say that it wouldn't prejudice your employment decisions if you saw that somebody had been arrested or convicted for that kind of non-violent direct action. Because it's worth bearing in mind that the consequences of the state getting involved and of criminalising that kind of protest are not so much the fact that you might have to go to court or pay a fine or pick up crisp packets underneath a motorway flyover or even go to jail. The consequences are really that it will stop you from travelling to America for work, or that it will stop you from getting a job, or stop you getting your CRB, your criminal records check for a piece of work.

I think when it comes to health, I mean I alluded earlier to the fact that I am now obviously at a stage of life – I think only for a while, while I have younger children – where I have to be a coward. I wouldn't today be brave about criticising an institution or an individual if I thought there was a risk of libel.

And I'm very happy to be open and say that, because I think it's important to say that, because that's a consequence of our libel laws. I do think that there is a lot that people do around kind of protest and civic action in their day-to-day life in the workplace, which should be supported and celebrated and recognised and perhaps even trained around, a little more than it currently is.

I mean on my mind obviously, is the AllTrials campaign, where we set up a global campaign to try and end the problem of clinical trial results being withheld from doctors, researchers and patients, because obviously doctors and their patients cannot possibly make informed choices about which treatment works best if the results are not all made publicly available.

Now, at the time it was energetically expressed to me that it was a career-limiting move in the medical profession. And it is extraordinary to think – I mean, we've largely won that battle – but it is extraordinary to think that it was ever considered a radical act to say that people should report the results of clinical trials conducted on patients.

I think there are things that individual doctors can do to try and make themselves a little safer when they want to speak out. I mean, one is to have an outside option, alternative sources of income. I mean for doctors, actually one of the great things about medicine is it's always going to be a trade in demand to some degree. So, if things go horribly wrong in research, you can go be a doctor somewhere.

But I think, yeah, I mean, maybe in the medical profession, some of the more interesting direct action issues are not so much around supergluing yourself to a runway, and perhaps more around being a little brave about how you address some of the structural problems that you see in your own corner of the profession.

But I don't think that should involve bravery. And I feel like it's a corner of the world that could do with a bit of training and a bit of a commons of knowledge. When I look at the people who've changed medicine over the years who I look up to, a lot of them were regarded as troublemakers to a greater or lesser extent. I suppose I'm thinking of Iain Chalmers, for example, one of the founders of the Cochrane collaboration.

I think Muir Gray even, you know, would have been regarded as kind of persistent... He's a great civil player, but he was also, yeah, he was pushy and indefatigable. I wonder if there's a need for a textbook or a podcast or something on people who are willing to push the limits, to take risks in order to address problems that they think need fixing in their institutions. Short of supergluing themselves to a runway.

Martin

Well, I'm hoping that we will have; we do have some on this series. Interesting to note that both of the names you mentioned – Iain Chalmers and Muir Gray – despite being quite radical and challenging the establishment, have ended up with knighthoods. So, it shows that you can speak out and actually get recognition by the establishment.

Ben

Well yeah, and I must say, you know, I've never actually felt that I've been particularly held back. And I've had sticky moments, especially with AllTrials. I mean, when we were launching it, I remember a very difficult meeting with the presidents of all of the royal colleges, literally in an oak-panelled room with one of them literally saying, 'Now look here, old boy.'

They were expressing great dissatisfaction over the fact that I had pointed out that they had put out a document that gave, to my mind, actually quite serious false reassurance on the problems around clinical trials not being reported. I mean, they put out a document with all of their logos on saying essentially, that the problem didn't really exist.

And I felt anxious. I mean, I was a specialist registrar and the president of my own college was there. But you're friendly, you're polite, you hold the line, you do the right thing. And actually, I think the consequences of fairly substantial perceived transgression are actually not that great after all. I don't think there's as much to be afraid of as some people think.

But that said, I am also very much aware of the fact that I am – and I'm not saying this as woke posturing – but I've got all the privileges. I mean, I'm white, I'm a man, I'm posh, I'm born in the right country at the right time. And so partly as a consequence of that, I feel like I have an obligation to spend my privilege by taking chances, because I can probably get away with taking chances to a greater extent than some other people.

Martin

Now you've written extensively about our difficulty in understanding the concept of risk. And we're living in a country where various governments have minimised the risk of BSE, COVID and much else. But at the same time creating a national lottery where people are told with a huge finger coming out of the sky that it could be you, even though the chances are infinitesimally small compared to many other things that they're minimising.

So how do you think we could help people to understand risk better, when we have all these competing ideas, competing representations of risk coming at us?

Ben

Well, firstly, let me say I'm actually a big fan of the lottery. I've never bought a ticket because I'm superstitious and it's my one superstition, which is that I feel I've been too lucky, and I don't want to push my luck. But lotteries are an interesting one, because although your chances of winning are obviously infinitesimally tiny, there is basically nothing else you can do to expose yourself to a tiny risk of a massive windfall like that.

I mean, it is basically the opposite of insurance. And it is a facility that, you know, society would need to create if you wanted to have it, and they have, and it's the lottery. And I think it's alright, I'm not sure that I think the lottery is an example of people being bad at understanding risk.

But I do think that having the skills to evaluate evidence and stats is really crucial. So, I'm aware that the people who look after the national curriculum, and also the medical curriculum, constantly have people coming at them with their pet projects that they really want to see in the curriculum. But I do think in schools there are some really big gaps, some of which are being addressed now. I mean, to an extent, people are getting a degree of sociology, economics and also kind of basic life skills around finances in some schools these days, in a way that definitely wasn't true for me 30 years ago at school.

I really dislike the way the kind of three headline sciences of biology, physics and chemistry feel very much like they were fixed in the 19th century. And you know, applied stats, applied evidence is such an obvious thing to teach in schools. I mean, half of all news stories about health are one way or another, epidemiology stories. They're stories about what's good for you or bad for you.

And it combines all kinds of really good teachable stuff, including stats, the hierarchy of evidence and qualitative versus quantitative research, and observational versus interventional research. So, I think all of that stuff should just be taught in schools.

I also think some of our public institutions have not done a very good job around public understanding of science, and there's a rather peculiar context to that. In the '90s there was a really big shift where royal societies and Wellcome and everybody else suddenly woke up and said, god, actually, you know, public understanding of science, it's a bit broadcast only. We shouldn't just be telling people about research. We should be doing something called 'public engagement' with science, and we should be asking people what they think.

And that was a fantastic impulse to have. And there was lots of really good deliberative work. Often, unfortunately, sort of amateur qualitative research where they'd have done better to actually just do some proper qualitative research, but nonetheless some good deliberative research on things like gene therapies and Dolly the sheep and all of that sort of stuff.

But that has now become the dominant norm. And I think some of the big institutions, UKRI, NIHR, Wellcome, the royal societies and the royal colleges have really missed a trick in not getting together and producing just good, straightforward explainers to the public on the evidence for the various different treatments that we offer.

And that kind of knowledge management is hard work. It requires good writing skills. It requires good librarianship skills to make that stuff discoverable. I think the NHS actually, weirdly, does a better job of that through NHS.net than any of the public institutions that are actually materially involved in science and research, like NIHR. But yeah, I think that's a real gap. I mean, again, it's institutions, not individuals.

Martin

But it's not just communicating knowledge, it's not just this information deficit model. I really like the chapter – I like all of the chapters of your book – but one of them is 'Why clever people believe stupid things'. And essentially you took us through a range of what we call cognitive biases. And these explain why two people can read the same information and come to completely different conclusions. And in some cases, this is due to their different political views, for example.

Now we as doctors are often involved in giving advice – you in particular to politicians, to patients and to others. Do you think that we all collectively get it, about these cognitive biases, about the fact that we're saying something and yet they are hearing something quite different?

Ben

I think good communication skills is really prominent now in medical schools, and I think that's fantastic. To me, a lot of what doctors do clinically is basically, one way or another, kind of pop science. You know, when you're setting out the treatment options with a patient, you're translating between the arcane information in the BNF and in systematic reviews and treatment guidance from NICE, and the real patient in front of you. And you're tailoring the information that you give them to make it as intelligible as you can so that they can participate and make informed choices with their doctor.

Similarly, when you're making a diagnosis, you know, patients don't come in and say, 'I've got central crushing chest pain that radiates up my neck.' They come in and describe their bodily experiences in their own language, and you've got to negotiate the mapping of all of that onto the sort of body of technical medical knowledge. So I think it's at the core of everything that everyone does all of the time. I think it's something that gets better with practice. I think it's something that's trained fairly well into people.

When it comes to cognitive biases, I suppose my only worry is these days those have all become a bit too fashionable. I mean, some of the people who did the pivotal research on it in

the '80s and '90s wrote some pop science books, and now you can barely get through an airport for the mountains of books on irrational beliefs. So yeah, if anything, I worry that stuff is overdone, not underdone. Those books are fire risk these days as far as I'm concerned.

Martin

Fair enough. It was interesting that back in 2015 the World Bank did some really interesting exercises where it took those classic studies and applied them to its own staff, and changing the issue that they were looking at. So, when they were doing the classic study, comparing giving people information on the effectiveness of either skin cream or gun control, but they changed the gun control to poverty relief, and they found that the biases were just as much in their own staff as had been described in the classic study. So I wonder if some of the institutions, the structures, might reflect a little bit more on that.

Ben

Wow. Well look, I mean, you know, again, people take shortcuts because they can, or because they feel they need to because they're overstretched. You know, decision-making in large public bodies and small ones is such an organic process in most cases. But anyway.

Martin

We're getting almost to the end of the podcast. So, I've just got a couple more questions. You were really busy during the pandemic creating OpenSAFELY, but there was an awful lot of bad science going on. In fact, there still is. One major newspaper is essentially rewriting history, and a number of our medical colleagues are promoting some really quite dangerous knowledge, attacking the safety of vaccines, for example.

Have you thought about restarting your column or do you think that somebody else should be doing this, to expose some of the myths that are circulating? Because there clearly would be plenty to write about.

Ben

It's a really difficult one because it's such a different space now. I mean, one thing that's much clearer today – and much more true today than it was 20 years ago – is that if you demolish someone's false claims, you're also platforming those false claims. And some corners of society have become so unhinged from the basic rules around, I suppose, propriety, and distinguishing between what's right and what's wrong. Are so focussed just on eyeballs and presence in the discourse and penetrance into culture.

I think the act of debunking morons these days is much more risky. Not because of the personal risks around libel or pushback, but because of the kind of three-dimensional chess of thinking, 'am I doing them a favour by pointing out where they're getting it wrong?' Because so many people are just in it for the attention. I mean, I spend a lot of my time worrying that I'm having the feelings about the modern world that Vladimir Putin and his disinformation teams want me to have.

It's a really difficult and peculiar and complicated place, the world, very, very suddenly. I don't think that it's more difficult than it was to know what's right and what's wrong. But I think it is

more difficult to know the right way to fight back when people are doing and saying things that are wildly misleading in the various different platforms that they're able to today.

And as you say, I've been busy during the pandemic and I kind of noped out, strategically, of being involved in the public discussions on what works, what doesn't, because I just thought that's a lifetime's work. You can't do that as a hobby.

My main criticism, I must say, of colleagues who have spent a lot of time on Twitter getting into squabbles is that I'm not convinced they found the right halfway house between making that a trivial part of their life and the dominant part of their life. You know, if you really wanted to help, you might have set up a service doing really good summaries of the evidence rather than shouting about a single issue on Twitter, for example.

Yeah, I mean, it's a dreadful mess, but it's not a dreadful mess that I've sat down and thought about. And I feel like untangling that mess is a 60-hour-a-week job for a year. It's not a three-minute job.

Martin

You've already mentioned some of the role models that you have. This is very much about doctors as role models. You've been selected because for many people you are a role model. You mentioned Iain Chalmers and Muir Gray, but I just wondered, was there anybody else that you wanted to include?

Ben

There are so many. I mean, Liam Smeeth, who is now director of the London School of Hygiene, which is a fascinating experiment really in what happens if you put somebody really lovely in charge of a major public institution. I'm not sure how often that's been tried before. He is truly magnificent. He's incredibly breezy and conversational with the depth of his technical knowledge. And I think that's always a beautiful thing to see in anyone.

I'm a real kind of gadfly for ways of being, ways of thinking and ways of speaking. I mean, I very consciously throughout my career in medicine, as much as in writing, have listened very carefully to the way that colleagues have expressed themselves and thought, ah that's a great way of explaining that. That's a great way of talking to a frightened elderly person at three in the morning. That's a great way of explaining a treatment.

I'm not sure I have like a shortlist of singular heroes, but I do feel that one of the amazing things about being a doctor is that first of all, you are exposed to so many extraordinary experiences, not just of your own, but of your patients vicariously. I mean, it's a phenomenal window onto all of human life.

But you're also exposed to a huge number of really, really extraordinary people in your colleagues, medical and non-medical. Because they're all people who have not just a lot of intellectual horsepower but they've also got some drive, some humanity and some interpersonal skills that make them extraordinary people to learn from.

So, you know, hundreds – thousands – of people I've been inspired by and borrowed from, very consciously, and every now and then I worry that they'll come back and go, 'Hey, that line there. I remember saying that to you in a lift in 2010.'

Martin

And of course, that's what this series of podcasts is all about, which is to encourage younger doctors to look at ways in which they can communicate in innovative ways. So, my very final question is, what advice would you give to someone who's just graduated in medicine and looks to you as a role model and would like to follow in your footsteps?

Ben

I think the single best piece of advice I could give, if you're interested in writing, is don't approach it as a way of making money, because then you'll be much freer in what you do. Not that I think people are distorted by, you know, seeking a shilling to have a particular view. But rather, you won't be worrying about, oh, I've got to write some dreadful column for some dreadful newspaper and I've got to write the kind of stuff that they want rather than the kind of stuff I want to write, because I've got to pay the mortgage. I think you've got to find a way to detach your writing from the daily necessities of life.

And I think the other thing is you've got to find a way to corner yourself into doing it regularly. So having something that holds you accountable. Having a regular outlet, no matter where it is, whether it's a college newsletter or your organisational intranet or whatever it is, you know, anything where you're writing regularly and you have to write regularly, I think is the key.

So, find a way that you're forced to write regularly, but avoid being forced to write stuff you don't want to write.

Martin

Ben Goldacre, thank you very much.

Ben

Thanks, boss.

This podcast is hosted by Martin McKee, produced and edited by Alex Cauvi. For more information visit bma.org.uk/inspiringdoctors