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EPISODE 3 – Professor Lisa Bero

Ray Moynihan: Hello and welcome to The Recommended Dose, the podcast that promotes a more questioning approach to healthcare. Today we explore how scientific evidence is being biased by commercial interests in a conversation with a global authority on the topic, Professor Lisa Bero. Lisa's work has shown, for instance, how studies funded by drug companies are far more likely to find favourable [00:00:30] results for those company's products, creating a massive bias in medicine's evidence base.

Lisa Bero: Our general impression of drugs is probably over optimistic.

Ray Moynihan: An American based for a long time at the University of California San Francisco, Lisa Bero has recently moved to Australia for a job at the University of Sydney. One of her key interests is the influence of vested interest in science, whether they're [00:01:00] pharmaceutical companies, the food industry, or Big Tobacco.

Lisa Bero: Tobacco really wrote the book in terms of industry influence on science, and so what we learned from doing studies and also when we got access to internal documents was that they really influence science in every way, from how they pose the question to how they publish the research.

Ray Moynihan: And what did that mean for the results of that research?

Lisa Bero: Well, what it meant is that they were [00:01:30] able to really shape all of the information that was coming out in the scientific literature about tobacco, and they did this in a lot of different ways. So, for example, they would refute really influential studies that came out, they would also produce their own data that would give a different perspective or different position on tobacco. They would even attack individual researchers in the scientific literature through legitimate means, like letters to the [00:02:00] editor, but also through more devious means, such as editorials. Then they also even went after attacking the whole way science is done, and to me that was one of the most interesting areas because they actually tried to change policy related to science.

Ray Moynihan: Am I right in thinking it wasn't just the way the tobacco industry were influencing or manipulating, but that a lot of the process was secret?

Lisa Bero: Yes, and this is something that really came out once we were able to delve [00:02:30] into the tobacco industry documents that were released through litigation. So a lot of things that we thought were happening, so for example we thought that studies weren't being published, you could find a document that very blatantly said such and such a study is not going to be published because it doesn't have a favourable result to the tobacco industry. And of course, all of this was indeed hidden for many, many, years and one reason the tobacco industry was able to hide this so successfully is they had lawyers [00:03:00] involved in these scientific discussions, and a lot of what they were doing was protected by attorney client privilege, for example.

Ray Moynihan: Things haven't gone as well as they could have for the tobacco industry and tobacco companies, still obviously very profitable, very powerful, but in some nations very much on the back foot and the defensive in a sense. Another of the very large industries you've looked at, which are directly related to our health, is the pharmaceutical [00:03:30] industry. Now, unlike tobacco, their products can actually extend life, improve life, but in terms of the marketing and the industry influence over science, how do you think the patents that you've seen in tobacco compare to the way Big Pharma operates?

Lisa Bero: Well, I completely agree that the products are very different, tobacco and drugs, pharmaceutical drugs, but the tactics that we've been able to uncover are really exactly the same. So again, we've [00:04:00] seen evidence that the pharmaceutical companies influence the way questions are asked, so for example, they could make unfair comparisons of drugs, they've also influenced the methods of the studies, and then they've also influenced whether the studies get published in full or not. So these are really all the same tactics that have been used by the tobacco industry.

Ray Moynihan: One of the ways Lisa Bero has studied industry tactics is to look at secret internal company [00:04:30] documents made public during court cases revealing serious attempts to distort science, sometimes manufacturing the results they wanted and sometimes attempting to discredit scientists speaking unfavourably about their products.

Lisa Bero: What's interesting about the tobacco documents, and those were the first type of documents released, is that they gave us insight as to what was really happening behind the scenes. And so if we suspected [00:05:00] that something wasn't being published, the documents actually told us that. I mean, they told some incredible stories. One was, for example, there was a very, very, influential study on second hand smoke that was published by Doctor Heriyama in Japan, it's probably the most cited study on the topic, and this was very threatening to the tobacco industry and so they actually set out to create a study that would refute that particular paper, the Heriyama paper, [00:05:30] and they went through many, many, steps to do this. Lawyers were involved in the process, they recruited

academics, the academics later didn't agree with how the paper was coming out so they took their name off of it. They then had to hire somebody else to put their name on the paper to get it published.

And we published this whole story that was in the documents and what was really fascinating to me is one of the original investigators, who was taken off [00:06:00] the paper, later contacted us and said, "You know, I never knew that story was published and actually, the data are wrong," and so they wound up, ten years later, publishing the truth on that particular topic. So it's really a 20 year story showing how the tobacco industry created a study to refute another study and eventually, ten years later, the truth came out.

Ray Moynihan: And in fact, there is an archive of these documents that come out in [00:06:30] these court cases and they're extraordinary reading, and we'll put a link up to that on our website. One of my favourites is the one that shows one of the world's biggest drug companies drawing up lists of doctors that they need to neutralize, that's the word, neutralize and even discredit if they're not saying the right thing about the company's products. So the document has a table, it has a list of doctors, and next to the name it has neutralize or discredit. What [00:07:00] do you think when you see documents like that?

Lisa Bero: Well that was, again, a common tactic that was used across companies. The tobacco industry also wanted to neutralize and discredit scientists and so to discredit them means to really sort of go after their work and try to criticise it or even attack their reputation of the scientist in some way. And neutralize is really to produce this counter evidence to create doubt about what the scientist [00:07:30] might be studying. So again, it's this idea of flooding the scientific literature with information that actually comes from the sponsoring company and not the independent investigators.

Ray Moynihan: We'll talk more about the individual ties between doctors or researchers and drug companies later, this area of conflicts of interests and arguably it's a huge area of corruption within medicine. But first, let me ask you, is this issue [00:08:00] of industry influence in science and medicine just an interesting area of research for you and others or is it something more, is it something that we might all take more seriously?

Lisa Bero: Well, I study industry influence because one, I think it is actually effecting the evidence we have on a whole variety of topics, everything from clinical topics to environmental topics to various public health topics, but two because [00:08:30] I think we can do something about it. So by exposing these strategies I think we can actually come up with ways to try to minimize this influence, and it's not just an academic exercise to expose these strategies, we really want to try to minimize that influence.

Ray Moynihan: And is this an issue just in the U.S.? Just in Australia? Just in Europe? What do you think? Is this something that people [00:09:00] in every nation listening should be interested in? I mean, where's the root of the problem?

Lisa Bero: So, I mean, this is absolutely a global issue. And when you think about it now, I mean, science is a global endeavour. A lot of even individual projects involve investigators all over the world and when you're looking at industry influence a lot of it is coming from large multinational corporations, and so they don't stick to influencing science in a particular country or region, [00:09:30] they actually, and again, we've learned this from documents, have huge international networks of scientists who work in different regions of the world and they're up on what's the hot scientific topic in a particular area and they can marshal their resources to fight against that topic. So absolutely every country has to be concerned about this problem.

Ray Moynihan: Another of the industries Lisa Bero turned her [00:10:00] attention to is the food industry, which sponsors research on nutrition and that science is becoming more and more important amidst calls for tougher regulation, whether over sugar content or advertising junk food, and her interest in the food industry has not gone unnoticed. One of Australia's leading newspapers recently revealed that the giant Coca-Cola Company was actually monitoring Lisa Bero's research.

Lisa Bero: What it made me think of was oh, [00:10:30] it's happening again because the tobacco industry certainly did a lot in terms of monitoring my research over many, many, years, ever since I was a fellow, and I guess I wasn't at all surprised that Coca-Cola, once they realized that now my research agenda included looking at nutrition, would be monitoring my work as well.

Ray Moynihan: Did it worry you?

Lisa Bero: No, it doesn't worry me at all, but what was interesting is after the Coca-Cola [00:11:00] article a lot of investigators working in the nutrition area contacted me, and particularly junior investigators. They did ask me that question, they said, "Aren't you worried about this?" And I guess I'm not worried about it because I've been working in this area for over 20 years and I've put up with a lot of scrutiny and unpleasant comments from industry and it hasn't really changed what I do and it makes me think, well, I'm glad somebody is noticing so that's good. But I [00:11:30] can definitely see how for the junior investigators this could have a killing effect on their work, and so that actually did concern me and one of the things I do in terms of mentoring students is to really encourage them, you know, when they're working in this kind of area that gets a lot of scrutiny, to look at it on the bright side. What it really does is make your research stronger because you know that people will be looking at it very carefully.

Ray Moynihan: Has the fact that [00:12:00] Coca-Cola might be spying on you in some way, or at least monitoring your work, has that scared you off researching Coca-Cola?

Lisa Bero: No, it hasn't scared me off at all, in fact, at the time that article ran we weren't doing any work specifically related to Coca-Cola, but now we are.

Ray Moynihan: Will Coca-Cola be happy when they see the results of the work you're doing on them?

Lisa Bero: I'm not sure yet. We don't have the full results yet.

Ray Moynihan: You can't talk about it at this point.

Lisa Bero: No. They [00:12:30] probably won't be happy.

Ray Moynihan: You're listening to The Recommended Dose, exploring big questions in healthcare. In conversation today with Professor Lisa Bero. An internationally respected expert on research integrity, Lisa Bero has for the past four years also been co-chair of the governing board of Cochrane, the funder of this podcast, and she and I have worked together on a number of studies. Like Cochrane, myself, and this podcast, Lisa Bero [00:13:00] is driven by a passion to find the best quality and least biased evidence, evidence that we rely on to make everyday decisions about healthcare.

Lisa Bero: And I think that's what really drives me because I have a really, really, firm belief that any decisions that we make about our health and any policy decisions that are made about health should be based on the best evidence and we need to make sure that evidence is not being influenced in some way. And so that's why I'm [00:13:30] not only interested in getting evidence used in policy, but also in what influences the evidence, you know, how do we get the evidence we can use and believe in?

Ray Moynihan: And you're trying to kind of find the evidence that's as least polluted as possible.

Lisa Bero: Right. So I do believe there is good evidence out there on different topics and we just have to sift through all the not so good evidence to get to the good stuff, and then that's what really [00:14:00] we want people to be influenced by. And I've worked with policy makers over the years and, as you know, some journalists and also lay people and everyone gets it, everyone realizes that there's different types of evidence and they actually want to know what to believe, what evidence and information is out there that will really help me with my problem. So it's not such a hard concept to [00:14:30] grasp, but the hard part is that there's just a lot of evidence out there we should be ignoring.

Ray Moynihan: I guess I'm also interested in your personal story in a sense, and how that energy, how that confidence in taking on these large vested interests, where that comes from. I remember meeting your mother and your father almost 20 years ago, when we were both teaching the principles of an evidence based approach to healthcare at a summer school in the Rocky Mountains. I remember them as being very strong, [00:15:00] very determined, very humane, and having a strong sense of humour. I imagine they must have played some role in encouraging your interests along the way.

Lisa Bero: Oh, yes. My parents were the kind of parents that, like, basically from the moment I got up to the moment I went to bed, sort of beat you over the head with this idea that you can do anything. And so, that's just great when you're a kid because I could say the craziest thing I wanted to do when I grew up and that

was all fine for that day, and it might [00:15:30] be something else tomorrow. So I have to admit over the years they've been a little worried by some of the attention put on my work, particularly from industry, and I know when I was at UCSF I didn't have tenure and I'd only been there a year and the dean received a letter suggesting that I be fired.

I told my parents, which was probably a big mistake, and they weren't too happy about that. So, it's not like [00:16:00] they haven't worried but they certainly have given me a lot of that confidence, and it's just this idea that you can do absolutely anything as long as you think it's helping people. And I think that's sort of the underlying message there is you have to be doing this for a good reason.

Ray Moynihan: And I guess as they saw you stand up to those threats, those letters seeking your firing, and as you stood up to them repeatedly and your career became more and more successful [00:16:30] and you became more and more of a global authority on this problem of industry influence in science, they must have been increasingly proud.

Lisa Bero: Oh, yes. They're very proud of my work and I do a lot of technical methodological stuff, so it's not the easiest work to talk about over a dinner conversation, but when you can say something like, "Oh, yeah, my daughter tackles the tobacco industry," or as my daughter once said, "My mom fights big corporations," that's the kind of thing you can sum up at the dinner table and they're pretty proud of that.

Ray Moynihan: So your daughter is proud of you too. I guess you're a proud parent as well.

Lisa Bero: Oh, absolutely. Yes, yes. And she's not afraid of taking on anything as far as I know.

So this is the perfect [00:17:30] spot. You come for your early morning swim, you come up here, you get the morning sun, you dry off, you know, it's perfect. No better way to start the day.

Ray Moynihan: After building an international reputation based at the University of California San Francisco, Lisa Bero made the move to Sydney, Australia a few years ago to work at the new Charles Perkins Centre. So instead of rowing in San Francisco Bay, she now regularly swims at an ocean pool at Bronte Beach, which this [00:18:00] morning is being pounded by waves of almost four meters.

Lisa Bero: So the pool is over to the right there, oh, it's got water. That's good. Sometimes they close it. Oh, it is gorgeous. See the fishing boat out there?

Ray Moynihan: Yeah, that's beautiful.

Lisa Bero: We can look for dolphins but the surf is too high, we won't see them. Maybe a whale.

Ray Moynihan: So, are you going to go in today?

Lisa Bero: Maybe. I'm still thinking about it. As soon as I see the water I want to go in.

Ray Moynihan: You've been in Australia for a few years now, it's probably safe to ask you how you're enjoying [00:18:30] it.

Lisa Bero: Oh, I love Australia. I like the people, they're so warm and friendly, I love the climate. I'm a real water person so there's plenty of water around me, and it's just been a great place to do my work.

Ray Moynihan: What about us? What about Australians? What are we like? How are we different from the people in the United States?

Lisa Bero: Well, I think you're less reserved than people in the United States. You know, people here have a great sense of humour, they don't mind teasing you, which I really like, and they don't mind telling you what they're thinking [00:19:00] and I think that's why I fit right in, of course. So I think they're a lot less reserved.

Ray Moynihan: You're working at the Charles Perkins Centre at University of Sydney, Charles Perkins being one of Australia's most famous aboriginal activists. He spent his life fighting for the rights of indigenous Australians, that must be an honour to work in a building named for Charles Perkins.

Lisa Bero: It is, and interestingly, we just got a portrait of Charles Perkins installed-

Ray Moynihan: I saw it.

Lisa Bero: [00:19:30] It's taken a while. A beautiful portrait. And when we had the unveiling we were all talking about what it meant to work at the Charles Perkins Centre and one of the things that I've learned about Charles Perkins is he really liked people who took risks, who didn't go with the flow, who maybe went against the common thinking and everybody at the Perkins Centre is a bit like that. So that's why I feel our work really fits in and I can look up to that portrait [00:20:00] or think about the purpose of the Charles Perkins Centre and I like the fact that we're different than the rest of the university and we're challenging what everybody accepts really.

Ray Moynihan: In what way are you challenging?

Lisa Bero: Well, you know, we're actually very critical about research and I think research is so important for all of the healthcare decisions we make, but at the same time ... excuse that wave, at the same time we recognize that not all research is [00:20:30] worth believing. And so what we're challenging is kind of the common wisdom that if something is published in a peer review journal we should just accept what it says. And that can make us a little bit unpopular with some of the scientists-

Ray Moynihan: Charles Perkins, just getting back to him for a minute, I think I'm right in saying that he was a member of the Freedom Rides in Australia.

Lisa Bero: That's right. That's right.

Ray Moynihan: Similar to what was happening in the Civil Rights Movement in the U.S.

Lisa Bero: That's right. Yeah. Yeah. So, I mean, he was on the forefront [00:21:00] of making Aboriginal rights a very visible political issue, and he had such an interesting background. When I think of him I think it's really unfair, you know, some people get all the talent, because not only was he the first Aboriginal man to graduate from the University of Sydney, but he was also a big sports star and then he became this leader in civil rights. So just an amazing man.

Ray Moynihan: You were at the University of California San Francisco for a long time, became a global authority on research [00:21:30] integrity and conflicts of interest there. You must miss that sometimes.

Lisa Bero: Being at the University of California? I don't know, you know, one reason I came to the Charles Perkins Centre was we're taking a very multidisciplinary approach to tackle health problems, and so at the University of California I worked at a major medical centre, and it was a great medical centre but here I work with people in all sorts of disciplines. So I'm actively collaborating now with philosophers, people in veterinary medicine, [00:22:00] people in information technology, and so actually, for me, that kind of move in work was exactly what I wanted because I feel like we've reached a point where we can't tackle some of these health problems unless we work outside of the health system. So UCSF was a great place to work but it was time for me to get out of the biomedical model.

Ray Moynihan: You also had some time in Geneva, I think at the WHO. You wouldn't have seen too many waves there, but I guess you still continued [00:22:30] to do some rowing, did you?

Lisa Bero: I did and actually I did see some waves in Geneva because I was there in the coldest winter on date at that time and the waves from the lake came up over the sides of the benches and froze. So I saw these frozen waves. It was pretty amazing and I do know people who swim in that lake year round, but yeah, I was just rowing at the time so I was on top of the water, it was a lot safer and warmer.

Ray Moynihan: And did you enjoy WHO or-

Lisa Bero: Oh, I loved working [00:23:00] at WHO. I mean, WHO is an interesting place. It's a big bureaucracy in many ways but it's an organization that really sets standards in healthcare and that's what I'm really interested in, like, how we raise the standards for health research, how we raise the standards for using health research and guidelines, and WHO has a lot of power to be able to do that.

Ray Moynihan: Since working at the World Health Organization over the past few years, Lisa Bero has been co-chair [00:23:30] of the governing board of Cochrane, the international organization that produces summaries or systematic reviews of the best evidence about what works and what doesn't in healthcare.

Lisa Bero: Well, Cochrane Reviews really provide the best and most trusted evidence on a particular topic. So we have extremely good methodologists involved in these reviews, we have people who always know the clinical area, so a topic expert, [00:24:00] and then we have very strict protocols by which the reviews have to be conducted so they meet a certain quality standard, and we also don't allow any funding of a review by an organization that could benefit financially from the outcome and so we produce independent evidence on a topic.

Ray Moynihan: This sounds like a shocking promotion because, as I said, Cochrane is funding this podcast, but the fact is that for many [00:24:30] years now, whenever I or a loved one has some kind of health issue and we need to make a decision about how to treat it or whether to treat it at all, one of the first places that I check is there a Cochrane Review for this problem. I did it recently for some surgery for a fracture. I mean, is that something you do? Do you personally use these reviews yourself?

Lisa Bero: Yeah, well, that's great that you do, Ray, and actually I do exactly the same thing. So anything that comes up I always [00:25:00] check the Cochrane reviews, and in fact, I have this little list I keep of the co-chair's ailments and problems and Cochrane reviews, which met those needs. Unfortunately there are some gaps in the Cochrane Library. I haven't found a review for absolutely everything that ails me, but pretty good.

Ray Moynihan: So some of us are using these reviews to inform our own decisions, but is it possible that people who don't work in the healthcare field, who aren't researchers, is it possible that they could be using these reviews in their daily decisions?

Lisa Bero: [00:25:30] Our goal is to have people all over the world using Cochrane Reviews, and one of the beauties of Cochrane Reviews is they're disseminated in different ways and so even you or I might not want to read some Cochrane reviews in full because they can be 180 pages, but there are also quantitative summaries. So basically the numbers of the reviews are summarized and there's also a lay summary, and lay summaries are available online for free to anyone, and then there's also condensed versions [00:26:00] of the reviews and we cover them in various ways. We have a little journal club series on our website, we do podcasts of reviews where the authors will describe the results of the review in a very accessible fashion. So one of the things we've been trying to do is make the reviews a lot more accessible to people so everyone can turn to them when they have a question.

Ray Moynihan: We'll learn a lot more about Cochrane as these podcasts go on, but [00:26:30] in brief, for people who don't know, we're talking about an organization that

involves tens of thousands of people across the globe, most countries on earth involved, researchers, people with policy interests, consumer reps, journalists, it's an extraordinary organization and movement and much of it is based on good will, on people devoting their time on a public interest basis. [00:27:00] I think that's right in saying, is it not?

Lisa Bero: No, that's right. And we've really been built on people's basically self-motivation and interest to get involved. A lot of people get involved in Cochrane because they have an interest in a particular clinical condition, for example, or what's going on in a particular part of the world or they do research on malaria and they want to figure out how to improve that [00:27:30] research. One of the things that's also changed in the last few years in Cochrane is we've been very much more outwardly focused, and so initially we were very, very, focused on producing the best quality reviews that we could. So we wanted our Cochrane reviews to be the best systematic reviews around and they were based on the best evidence, and so now we are actually thinking a lot more about how we can get that evidence used [00:28:00] by people who really need it.

Ray Moynihan: A current reality in healthcare is that much of the scientific evidence has been funded by vested interests, primarily pharmaceutical companies, and as Lisa Bero explained earlier, much of that evidence is tainted by a bias in favour of industries products. But for Lisa Bero, getting the best evidence will mean more independent studies being done in the future and stopping the Pharma funded wining and [00:28:30] dining that passes for so much medical education.

Lisa Bero: Frankly, I never really understood this idea that to go to an educational event you needed to be fed or get free food, and I think all over the world this is indeed a problem because physicians and other health professionals, to some extent, have this expectation that they are wined and dined and it's part of becoming a health professional, and in fact, there's even been some surveys with [00:29:00] health professional students and they've indicated that in the future this is something they're expecting. And so there really needs to be a way to change the culture and I think this is going to come from consumers and people that, you know, this is not acceptable to rely on basically payments from companies to actually get you to use [00:29:30] their information to try to promote certain drugs.

Ray Moynihan: There's been a huge move in many countries in recent decades towards more transparency, more disclosure, so if a scientist now takes money from a drug company and they write an article, they generally have to disclose that. The Sunshine Act in the United States has really set the bar very high. As you know, any company has to disclose every single payment to every doctor now in the United States, and there's a searchable database where people can find [00:30:00] out exactly how much a particular doctor takes from a particular company. Is disclosure enough to fix this problem?

Lisa Bero: Disclosure is absolutely not enough. I think we need that information and the example you gave there of the U.S. is probably I think one of the best examples

now. We know, for example, in Australia we're losing some of that information, we're not going to have data anymore, for example, on payments for food. [00:30:30] So it's great to have that information, but it certainly doesn't eliminate the bias and it doesn't prevent physicians from being influenced by the material that they get. So, that poses a very tough question, if disclosure and transparency aren't good enough, what's the next step? And I would argue that the next step is really to have people not accept those payments and then we know [00:31:00] that they're not being influenced if they're not accepting those payments.

Ray Moynihan: Just to wrap up here, there's a lot of people around the world interested in this, whether they're in the public, whether they're health professionals, or they're in government. But what do you think we can do most effectively, collectively, to really tackle this issue of industry influence in science?

Lisa Bero: Well, I think we have to empower people, no matter who they are, to keep asking questions about sources of funding and where the money is coming [00:31:30] from, because if we do that then it makes it more transparent for people about what might be affecting the decisions. And I think it's okay, we know that money influences people, and so we want everyone to have the guts to ask about where the money is coming from and not buy those arguments that oh, well, you know, it doesn't influence me although it might influence somebody else. And so, we actually know it influences people and we need to keep asking [00:32:00] about it.

Ray Moynihan: You've been listening to a conversation with Professor Lisa Bero. Thanks to Shauna Hurley for production. I'm Ray Moynihan, and if you like the Recommended Dose please recommend it to others and check out more episodes on our website.

So you really are going to go in?

Lisa Bero: I'm going in. I can't wait.

Ray Moynihan: Well, see you next time.

Lisa Bero: See you next time.

Ray Moynihan: Watch out for those waves.

Lisa Bero: Oh, that just makes it interesting.

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