



DANNY LENNON: And here we are David, welcome to the podcast. Thank you so much for taking the time to join me today.

DAVID NUNAN: You're welcome. Thanks for inviting me on.

DANNY LENNON: There is a lot that I want to ask about. And in particular relation to some, I think meta level topics that you've been discussing lately. But before we get to that, I think the current roles that you're in and your background actually really set the stage well for much of what we're going to discuss. Can you maybe let listeners know about the various roles that you're currently involved with, and maybe some relevant background to that point as well?

DAVID NUNAN: Well, I can probably start with my background, which might relate a little a bit to some of the folks listening in in terms of their background. So I've got a background, originally in sports science and exercise physiology, specifically, that was my main interest which I'd graduated from. And then I did an MSc in sports science and exercise sciences as well, where I garnered the interest in training, supporting athletes in their training, particularly both their physiology and their nutrition. So I started to get a bit more of a, an interest as well, in nutrition, which was kind of covered, I would say, at

a sort of upper level across the the sort of degrees that I did up to that point. And then I moved into clinical physiology through my PhD, which was working with heart failure patients and that got me into the route of clinical if you like clinical and medicine. And then I got a role at University of Oxford where I am now back in 2010. So I've been there for about 12 years. And it just so happened that the role that I got there as a researcher was within the Department of Primary Care, and also in the Center of Evidence Based Medicine, which is housed in the Department of Primary Care. So straightaway off the bat of getting this role I was working in or being introduced into the land of evidence based medicine, which I hadn't come across before. And I had one of those eye opening moments where I was like, well, everything I've been doing up to this point I don't ever want to look at again, and please don't ever read my work because from now on, I'm going to be doing things slightly differently. And since then, up till now, I've gradually increased my knowledge and understanding of evidence based practice, evidence based medicine, what it really means to sort of look at evidence in a critical way and try and apply that to practice. And over that time I've like I said, develop the skills and started to lead on programs within our center. So particularly around the teaching of this topic. So you know, as you get more confident and more experienced, you then want to pass that on. So I've now got a directorship role across the program in terms of our teaching teachers how to sort of understand this topic and that's quite an that's where my passion lies now. So which is why I'm sort of really interested in keen to spread that message and come on, you know, discussions like this with you.

DANNY LENNON:

Yeah. And there's much that I definitely want to get into. And I think in particular, some of your ideas about how we can advance this going forward and future directions for evidence based medicine. But before getting into potential changes, or improvements in the future, up to this point, hopefully most people are aware of the concept of evidence based medicine, but as a kind of refresher and to, I think, make an important distinction that sometimes gets lost in

the sense that now evidence based is almost become a buzzword, certainly in some online circles. So for you evidence based medicine, and you discussed how it's going to build on these three pillars, can you maybe describe what would be your overview, intro level definition of evidence based medicine when you start teaching that to people.

DAVID NUNAN:

It's a good point, and I can start my sessions with in the room, what is evidence based medicine and get the feedback from people in the room because it's often we hear different people's interpretations of what seems like a pretty simple, simple topic. So, you know, often when I, I asked my learners. So when you when you're speaking to your family, or friends, or whatever, you say, you're coming on a course, this course. And you tell them the title of the course is evidence based medicine don't they look at you a little bit funny and sort of scratch their heads and go, what do you mean, there's a course on evidence based medicine, like you have to go and learn to make evidence, you know, medicine based on evidence and be evidence based and people are sort of surprised we have a bit of a joke about what happened, there can be such a thing as what's the alternative, non-evidence based medicine. So, yeah, and you're right, you know, evidence based medicine over the years, and the more I've been watching it sort of transcribed as, is become a bit of a meme. So it's very easy just to put in quote, marks evidence based. And for me, I think when I see those often, I feel that I'm not sure when that term has been used. People actually know what they mean, when they say evidence based or can really dig down and get to the level that sort of level that I would be teaching our students to sort of understand and our learners to understand. But yeah, if you're, you asked me what the sort of conceptualization of it is, I often say that, at its broadest level, for me evidence based medicine is the answer you give when someone says why did you make that decision or why did you recommend that intervention or that treatment or that diagnostic test, and I'm talking in sort of medical sort of phraseology here, but you can then apply it to any other area of practice nutrition, exercise science, policing, you can just imagine why he made a that decision

and why we discussing X options. And it comes down to your aren't the answer that you personally can give as the person who's made that decision or made that recommendation or was bringing that to the table. And it can go as far as well it's what we've always done. That's my evidence. My evidence for doing and making this decision is we've always done it this way or I'm making decision because that's what you want to do. This is what you've mentioned to me, and I'm meeting your needs or I'm basing that decision because it's in the current guidelines. So I'm just going off what the guideline says I've read that and I think that that's what I should do, because that's what the current guidelines, say or at the other extreme, you could be saying things like, well, I've actually read the studies, I've read the evidence. I've interpreted it. I've understood what it means. I can tell whether there's an effective going on whether the evidence is good to support this decision. And I'm going to use that to inform my decisions. And I think there's a spectrum along that, that people, if you're skilled in all the skills of evidence based practice, you could go across that spectrum and choose at any time point which one of those sort of levels you want to be at for your decisions as to why you've made that decision. But I think what happens often is that not everyone's got those skills, not everyone can go across that spectrum. And the question also is whether we need all of our everyone who's making decisions to be on that spectrum, or is it okay, just to rely on the guideline, is it okay, just to rely on someone else having done that sort of work for you. But again, I think it comes back to this idea of why; why have you made a decision? And can you what's your answer when someone asks you why? And how far back to the evidence can you go in order to say that's informed by evidence? So I think that that's one way that I sort of described it in class. And then if you want to go back to the sort of typical classical way it was first sort of introduced and written about it's the idea of using the best available research evidence is this triad you talked about, the second part being the patient's preferences and values and then the third part is the context within which you're making this decision. And that can be

the systems around you, the structures around you, the structures and context around the patient themselves and then, if you like covering that three pillared section, those three pillars is something called your clinical expertise or your clinical experience that sort of somehow has worked out a way of bringing those three things into a discussion in some sort of uniform way, in some sort of systematic way that allows you to bring that information all into the decision process, but also the skill to selectively choose which time points to I rely mainly on just what the patient is telling me in there values. I'll keep the evidence out of it for now. But I know I can come to that later or I'll keep the contextual factors out and you've got this skill of pulling them all together, which is actually very, very, very, very tricky. But that would, I would say, would be the sort of the overarching principle VBM, if you were to sort of write that up as what we think it looks like.

DANNY LENNON:

Yeah, fantastic. And I think a lot of those ideas we're going to revisit throughout this particular conversation. And I think one of the striking things that particularly in through reading your work that becomes clearer, and I think, when we have an understanding of what evidence based medicine is, is that it's not only just to show a difference from when we're not looking at the evidence at all, what I think it's particularly useful is making a distinction between how evidence can be abused in the context of pseudoscience where someone can point to certain research or say that they're doing something that is science based, because they're showing you research papers but then that doesn't account for some of the factors that you mentioned like what is actual quality of the particular evidence that's being looked at and is this a accurate representation of all the evidence we have as opposed to just waving a particular research study. Right?

DAVID NUNAN:

Good point. So evidence based medicine, you know as soon as you give somebody a title, they will always get assumed, you know, it will become a badge to sort of achieve so. And that's exactly what's happened with evidence base, the words evidence based and evidence based medicine, it's almost like

you can't be seen not to say the words evidence based because if you don't say evidence based, then you start going down that side of well, you're non-evidence based, you're into the land of sort of anecdote, and possibly that leads you to the land of quackery and so it's a double edged sword, really where, of course, we want to make sure that we are practicing in an evidence base that actually I think the word evidence based also needs to sort of be rethought a bit. And it's more along the lines of evidence informed because evidence alone is never enough for a decision. There is always other factors come into it and I think COVID has been in the sort of sunlight, that shown on that particular point in the sense that good decision making means being informed by what available evidence you have, but you're not slavish to the or be into that evidence. And other factors will drive decisions often, and then sometimes decisions will go against evidence, that's okay. When you come to this idea of, yeah, this sort of this idea of if you are going off the evidence, and you're, you know, when you do decide to come to rely on the evidence, and you do want to sort of say, well, now now's the time when we can bring the evidence into the conversation, and we can start to be informed by it, well, then you need a good set of skills to understand whether that evidence is actually saying what you think it says, And it supports the way that you're framing it in your discussions. And that's the point you're making there about. People say it's evidence based, purely because they found a reference. And I've started to use the term which I've stolen from it from a visiting colleague, reference based medicine. So for most people, evidence based medicine is here is a study and that's problematic, because there's a study for everything, there really is a search for everything. If you give me any question, I can probably find you a study for it. It does not mean that that study supports anything that you're saying about what you think this thing does, this intervention is or has this effect. You've got to be able to know that that study does what it says on the tin and gives you the answer you think it does. And I think the default should be it probably doesn't until proven otherwise. So that's where everyone should

start. If you see someone's pointing to a study and saying, look, here's a study that's, you know, evidence based, start with the default that it probably doesn't until proven otherwise. And then we've got to go dig in and look at that, or see if someone else has dug in and looked at that study for us to see whether it does actually support. But that's only, like I said, that's one part of practicing evidence based medicine. And we can hone down and spend, you know, lots of time just on the E of evidence based practice, which is the evidence of evidence in evidence based practice, evidence based medicine. But there are other parts of that triad. But yeah, when you get down to the actual evidence, and we want to start to being informed by it. You've got to be clear that you know that that study or that evidence is doing what you think it does.

DANNY LENNON:

Yeah, and I certainly want to revisit this idea of evidence alone not being enough and I think that's particularly important for thinking in the future how medicine and other health sciences are taught which we're going to revisit, but in a couple of the the pieces that you've written and I will link to this in the show notes for people listening. One was an editorial in BMJ Evidence Based Medicine. And there was another piece you wrote called Is it time for Evidence-Based Medicine 2.0. And within both of those you before kind of reimagine in what ways we can advance evidence based medicine and how to teach that in the future you kind of pointed to things that have gone on within the pandemic, and decision making processes around that as really useful examples. And I wanted to ask about a couple of those. So in particular, you had one fantastic line where it said, “the COVID-19 pandemic has undoubtedly been the paradigm shift to end all others”. Can you maybe just perhaps elaborate on that, because I think it's particularly poignant.

DAVID NUNAN:

When EBM was thought of as a concept, or just a word introduced that was introduced by Gordon Guyatt, Masters University, who was a mentee of David Sackett, who kind of started the ball rolling, but at that time, they were kind of calling it critical appraisal, which we all refer to now, but

there wasn't this term of sort of evidence based medicine, and they wanted to bring a term to the table. Interesting, as a side note that Gordon came up with the idea of science based medicine. And when he shared this to colleagues and colleagues within his university and outside, he got big kickback, because you can imagine, well, if you really go down the road of science based and then you're not, the opposite of not being science based, it's also not you know, you're not basing anything on science. And that was really sort of that really rocked everyone's and got everyone's hitting back, you know, backs up. So he backed off from that and just said, okay, well, let's call it evidence based medicine and that hit a little bit softer, but still upset quite a few people. And the reason I introduced it was really, as they said it was a paradigm shift then around the way that they teach and practice evidence based medicine, because they realized that was some individuals and some practitioners could have been using the evidence and would have been skilled enough to do it. It wasn't systematic enough. It wasn't systemic across the board. So some people might have been doing good pockets of practice over here basing on the base of least evidence, yeah over here and some of the part of, even in the country or even the same actual hospital, someone else is doing something totally different. And so patients were getting different levels of care and different decisions being made, either based on evidence or not. So they realize we need a shift in the way that we teach this stuff, because we don't currently teach the students, medical students and health professionals the skills and activating to look at evidence properly, look at the science and research properly. So they turn that the idea of a paradigm shift and then I sort of, you know, using a play on words, I've used that sort of say, for me, COVID has been a real eye opener in the way that evidence and evidence based has been phrased. And if you do a Google trend search over the last year for the word evidence, it's gone through the roof. And as soon as follow the science sort of came out as a phrase. That was it. As soon as I heard, oh, here we go follow the science. And then obviously, from that comes evidence. It's just never been so



you know, on the forefront of everyone's thinking in terms of well, what's the evidence for X and what's the evidence for Y, but as I've said, if you can imagine that we're still in the phases of still making sure that everyone's got these skills in medicine and in other professionals, in other professional practices, where you can imagine decision makers at the political level you can imagine how far off they are any of these skills when it comes to the word evidence. So they really have been relying on everyone else, anyone else to tell them what the evidence means because they don't have the skills. And you wouldn't expect them to have the skills? Why should they have the skills? So they've been reliant completely on other people and other people's skills and telling them what the evidence says. And I think that's what I meant by COVID being a paradigm shift, because it's put the word evidence and evidence based into the public domain like never before. Yet, people still really don't know what evidence what that means I don't think and and what evidence, what counts as evidence towards anything, and how can I tell whether someone is being “evidence based” or not and that's why I think that's been the paradigm shift, because I think it's put it on the agenda. And I think now it's time for us to grab hold of that and really starting to help people understand what we mean by evidence based.

DANNY LENNON:

Right. Yeah. And I think it's such a useful example, because of all the information and probably more so misinformation that has been seen around the place over the past couple of years, you see people debating certain pieces of research and pointing to data and pulling up various studies, and making all sorts of different claims. And again, that creates a huge degree of confusion for people in the sense that, well, this person's talking about certain study or supporting a certain maybe medication or certain intervention or what the certain interventions are doing or not doing. And that seems to be counter to the advice we're getting from certain organizations. And so how do I know what to trust? I think like you say, that really is highlighted that people can point to studies, but unless they have the ability to appraise those both accurately, but also in a kind of good faith manner

you're going to get people be able to push positions that are not actually really accurate. And there's a ton of examples, I think one that you mentioned was this whole issue around Ivermectin that we've seen that has, in particular, is an interesting one, because to varying levels, or has varying different degrees of claims made around them some incredibly strong of like this being the solution to all problems. And again, there are people that can point to certain studies. But again, that is not necessarily appraising this in an evidence based decision making process.

DAVID NUNAN:

I really do feel for folks out there who asked, I kind of, I feel like I've got a little bit more agency about this. But that doesn't necessarily mean that it makes my decisions any easier. It just means that I've got more agency and the reason the way I feel like I've got a little bit more agencies, because when someone says, here's a study, and they start to tell me what that study means, I've got a little bit more behind me to go okay, well, let's see where this goes. Let me see where your judgments and your interpretations and your skill in looking at this evidence where that goes, and to see whether it agrees with my interpretations and my understanding of that evidence. If you haven't been through a journey, where you've had to practice those skills, and understand those skills, you're totally 100% reliant on the people telling you or the person that you're listening to and their judgments, and you're going to get lost, because you're not going to understand, you're not going to know what they're saying, You're not going to understand some of the details and to some degree, maybe you shouldn't, because what are you relying on, you're relying on trust. You're relying on the trust of either that individual or that organization or whoever it is that they want, surely they want the best for us, surely they want the best for our health or whatever. And that's why they're telling us whether this evidence is and for want of a better word good or bad evidence for a certain idea, or for a certain intervention or for a certain policy, and surely they want the best for us. Surely they'll be telling us, you know, and explaining the evidence to us in a way we can understand, but in a way that the evidence actually does

support what they're saying. It's good evidence, and this is why we should do this. And we, you know, we've had to do that for since time began since since we started to become an organized society and start to, you know, start to have these sorts of rules around what we do in society. So I think there are ways that you can upskill yourself, you know, like learning this stuff and that might give you a little bit more agents to understand actually bother making a good argument about the evidence here but sometimes, there's also things just like looking for little logical hiccups in their arguments, even when the evidence, even when, forget about what the study is, but just looking for little logical mishaps like they state one thing over here, but then they totally counter state themselves and another point, you know, three points later on in another sentence, like, hang on, you just contradicted yourself, absolutely 100%. So things like contradictions and flaws and sort of arguments and logic can also be a sign that maybe these people aren't really sticking to what the evidence says and they're just trying to find the evidence to support their view or find something that sort of states but they're quite illogical in their processes. And there are ways you can look at that as well. But I do really feel for the fact that you're relying on trust here. You really are relying on trust. And it gets a little bit more expanded when you realize that actually even the people that you think you should trust, like the organizations and that sort of, kind of responsible for sort of big decisions and policies, etc and even things like drug approval agencies and these sorts of things. Sometimes, because, again, the skills that we have, and that we've learned, you still see them make some decisions that you would go hang on that's not and that's the official agency. So you've got the roads on the left, you know, you've got the roads over here, who are kind of doing their own thing and trying to, you know, make, you know, on the Instagramers, and all that sort of stuff, who are doing all that, doing it all badly as well over here, but you've also got it's not clean cut, and it's not perfect in the kind of in the sort of real world, in the sort of, you know, the trustworthy organizations that we feel and that doesn't help either. So it

becomes really tricky and that's when you have this idea of the infodemic and how do we understand which is, what's right and what's wrong and who do we know how to trust and I actually think that's really, really, really tricky. And trying to find answers to that is what I'm interested in, and how we can dig out what we think is where the trustworthy stuff is coming from. But how do we know that it's trustworthy? What are the metrics and the indicators that will help us understand if that's more or less trustworthy than another source.

DANNY LENNON:

Yeah. That's such an important point because in this decision making process, if there are certain sources that we would hopefully have trust in, but have, I think over the last couple of years, have vast majority of them, certainly in some of number of places around the world, have at least shown a number of errors that they've made, at least in my mind and that of others, that has unfortunately given the seeds to some of these kind of pseudoscience circles because they can point to some of these errors in decision making or lack of evidence behind certain policies, etc. And that kind of fuels more misinformation as you point out. And I think one of the things that you highlighted in your piece in relation to this decision making process is he termed that there was a lack of transparency in decision making process, that was a kind of fundamental error, I think, was the the phrase that use. Can you maybe just speak to that, of that a lack of transparency in that process, and why that's so problematic?

DAVID NUNAN:

That was one of the key issues. And, you know, I think I like that I wrote in my piece, you know, trying to find examples of what I would consider good practice was, you know, I kind of put the challenge out there to say, you know, define, you want to find some good examples of this good practice of transparency in decision making. And I think, for me, transparency in decision making is just what's your processes by which you've gathered evidence to underpin a view, because, as you say, a classic tactic of anyone who wants to force an opinion or state that is evidence base, this is just go and cherry pick, it's called confirmation bias, go

and pick the few studies that might support your or at least you think they show data support your argument, I doubt you can pull them apart enough to know whether that data is any good or not. But you cherry pick stuff to show the evidence and science to support your decision. So your process isn't clear as to how you've decided well what not to choose and why did you not include that and you know, what you showing a study over here, but there's four studies over here that counted that one study here, but you're just choosing the one study so that that's a process by which you've decided to choose the evidence you're gathering. So you should make that transparent; how are you gathering evidence to support a decision. Are you doing it systematically looking for all the evidence that would either counter or not because if you look for all the evidence, and it all sort of points in one direction, then that's great. You've looked for all and there's no counter evidence, then you've got a stronger argument because you've said, well, I've tried to find some evidence that goes against my argument here, or what this evidence here says. And I couldn't find any, because I was very systematic in my way of doing it. So that's one step is the processes in which evidence was gathered and then well, what did you go look for, you know, what evidence did you seek? You know, not, you know, how you went to find the evidence? What did you go and look for? And why did you go and look for that kind of evidence? What was it you were trying to do with when you were looking for that sort of science and evidence? In some cases, experts would have been used, of course, because, as I said, the policymakers won't have the skills to tear up, or to pull apart that evidence, whatever evidence they do find. So they would have used some experts. Well, who did you choose? How did you approach them? Why did you approach them? You know, where's that in the decision processes of what you can do along that line of coming up with the policy that you've made? And then what I would like to see if I was putting my evidence based hat on, I want to see clear justifications for the interpretations of any evidence from those experts that you've relied on. So I want to see the experts judgments. But

that's my own personal choice, because I feel I can, I've got some agency, as I said before, to be able to sort of judge their judgments to some degree, but not everyone would. But it still doesn't mean you couldn't have those transparently laid out for everyone to see those. And for the other experts, who may have a different view that's the point there could be other experts that you haven't chose that have a different view well, in order to inform their understanding, and when they come back and say, Actually, I don't agree with that expert over there. Well, they need to have the they need to see in order for them to be fair to, you know, have a fair conversation, you need to see the judgments and the interpretations that others have made. So you can fairly critique and reflect and have a discussion and I think part of the noise in all this between your different experts, the experts can't agree. Well, the activists usually can't agree because they don't share their decisions correctly, or they're not transparent enough about or clear about their judgments about the evidence. So often, the arguments boil down to arguments over the methods, arguments over how studies were done, how they can be interpreted. Well, in order to be able to get a good idea of the arguments being made and why there's not, why there might be some disagreements is you just need to see what everyone said about this stuff. And I think that's also not been very clear or transparent, very hard to find the real clear and transparent judgments that have been made and then when you've got confliction, let's say you've got more than one expert, because that's what you should do. You've got conflicting experts how have you then handled those conflicting views? So imagine you're at the point of decision making, got to make a policy tomorrow and you've got, you know, 10 people in the room and there's a 60/40 split, or there's a 50/50 split in this sort of, you know, where people sit on that particular decision. Well, how do you handle that? Flip a coin. Is there a process by which you go, actually, we're going to go with that decision? You know, it's 60/40, you know, democratically, we just go well, actually, most people in the room or the highest proportion of people in this room agree with that. So that's our strategy.

You just don't see that you just don't see much of how that comes up when you've got a conflict in a decision. And then the final step I think I talked about was the processes by which you're going to monitor and assess and learn from any decision that you're going to make. So okay, right guys, we've arrived at this point now. We think this is what we where we need to go. This is a decision we're going to put, but should we also just see what the impact of making the decision is as we go forward? And should we also make some criterion or some ways of judging what we'll do based on the impact of this decision? And how will change that might change and how we'll come back? And again, where's that sort of transparency in that process? You know, these might not be interest to everyone, but they're certainly the ones that I'm interested in. And they're certainly the ones I would consider would allow us to understand whether we really are being, “evidence based”.

DANNY LENNON:

Yeah, no, I think the implications of this are far reaching even beyond people who are interested in medicine or just healthcare as a practitioner. I think these have societal impacts as it's seen, because they're informing policy particularly at this moment in time. And if we can't have a good process for making decisions, then I think for kind of at the whim of some really unfortunate events going forward. To start concluding, David, I wanted to maybe get to this, this was called the made for an Evidence Based Medicine 2.0. And there's a few different elements to that a number of which we've already touched on at this point. But to touch on a few others, one was around a potential terminology and not just for semantic sake, but because it conveys something particularly important and with relation to evidence based medicine you make this discussion that a more accurate or useful phrase would be evidence informed healthcare and I think that kind of touched on a number of the elements that we've discussed around evidence alone not being enough and the context in which it's done, etc. And many other things. Can you maybe just briefly mentioned what that phrase evidence informed healthcare means to you and why it's important?

DAVID NUNAN:

Some of the criticisms of EBM over the years have been it's this old boys club, is this hierarchical? You know, we slam RCTs at the top of the pyramid and if it's not an RCT, then be damned with it and it's no good. And that's a very divisive way of thinking of things. And to some degree, then maybe a sort of pinch of salt of truth in there. So and within any sort of thinking in any sort of paradigm, you obviously get some players that don't play the ball the way you would like, or don't play the game you would quite like and to the current rules and sort of twist. And so then maybe you can always find that the example of well, maybe that was true in some aspects, but actually, overall, that's not how I certainly view it. And I can certainly point to examples of where that's not been the case. And I think, but also, I think the fact that we've got the word medicine, evidence based medicine, you know, it was started by internal generalist medics. So I'm mindful of the fact that there are more people who wouldn't be classed as medically trained medical professionals, who look after the health care of individuals, and your listeners will be some of those examples. They're not medically trained, but they certainly are involved in the health care of individuals. So I think having the word medicine can sometimes be a little bit of a blocker. Because when we, teach evidence based medicine, we talk about, well this incorporates all of you guys in this room and it's never just the people in medicine when I'm teaching it's policymakers, it's allied health professionals, it's physiotherapists, it's nutritionists, it's, you name it, there's always a big mixed group of the people that we teach and learn who want to learn this topic. So just being more inclusive, just changing that word to healthcare straightaway, is much more broader, much more inclusive. You're not just thinking, it's medicine and its medical practice. I'm trying to be more broad and inclusive. So I think that invites more people into this world, if you like and into this skill set. So that's the reason for I think, why healthcare I prefer. And then I think, evidence based, it's got this connotation that we have to force a decision on ever, you know, the evidence has to be forced onto this decision. And it doesn't, like I say, in the piece of



evidence is never enough alone. But what I would like all decisions to have is to have the evidence in the room. So I want the best available evidence in the room. And I want some way of knowing that it's good or bad evidence. So the best available evidence can just be really bad evidence, but it's the best we've got. Sorry, we need better evidence. And that's quite common. In fact, I would say that's quite high. And, you know, that's the majority. You're lucky when you've got really good evidence in the room. But I think any decision needs to be informed either way. You need to know what the evidence is when you want to go to that evidence. You need to have it in the room and you want to be able to say I can inform this decision when we need to on evidence, but it's the skill of bringing that together and going well. I'm going to inform the decision, or it's going to play a bigger role or I'm playing off the roles of the context, the patient values, my expertise, all these things with the evidence in the room, and it will be informing that discussion, it will be informing decisions. But sometimes the patient goes, no, I'm not going to do this, even if it goes 100% against the best available evidence, and therefore, you're not practicing evidence based medicine. If that's where the decision arrives at? I would say, yes, you are, yes you are practicing evidence based medicine, because you're doing all those things I've just described. And it just so happens that the decision that you've come out with is not the one that's sitting with where the evidence would suggest you go. And that's okay. Because as long as you've arrived at a good decision, and a good discussion, that's what the patient really values and really wants, within the context of which you can make that decision. That for me is evidence “based practice”, but I think the word based forces evidence too hard and makes it like the evidence is the most important thing in this triad and it's not, it certainly isn't. So I think evidence-informed is a better approach. And I must say I, if you read my piece, this isn't my thinking. I've stolen this from a professor called Paul Glasziou who's a professor in EBM, he was the director of the Center of Evidence Based Medicine when I first joined and now works down in Australia. He coined the term in one of his in the BMJ piece

that, you know, and I agree, and I guess I'm just sort of saying, we haven't taken that on board yet, because evidence based medicine really is the term and it's the one that it gets used all the time. And I think we need to know as evidence based medicine 2.0 even I've called evidence based medicine, you know, crying out loud, 2.0 which I think this idea of evidence informed makes, it just actually fits better with what we're trying to actually do. And it doesn't force the evidence to the top of the agenda which it never should be.

DANNY LENNON:

Yeah, and there's a couple elements I just want to touch on before we finish up here. One, when you mentioned this kind of RCT, or nothing kind of view of us as being a slave to the biomedical model in a way that would have been very traditional with, say, looking at drug interventions and very specific in medicine. And this is a point that we've referenced on this podcast before, when we're trying to look at nutritional science, particularly in an evidence based manner, you can run into real issues if you try and just take a biomedical model and apply that to nutrition because of the differences in those types of sciences and this is actually something that you mentioned where there is a real need for this evidence based medicine 2.0 to partner with other disciplines, again epidemiology or economics, in terms of how we get to causal inference of things. And one of the big things we've discussed in this podcast and listeners are probably sick of listening to is in relation to say nutritional epidemiology, particularly, when you get a lot of criticisms that maybe are unfair of some of the work in that field a lot of that results from people trying to fit this RCT or nothing kind of biomedical model in a very strict sense that we would apply to drug interventions to something completely different, like nutritional epidemiology. And I think what you're getting at here is a much more kind of holistic view of this evidence informed practice that would account for that. So I think there are a couple of big things that maybe people are connecting with previous conversations.

DAVID NUNAN:

Yeah, no, I, because of my interest in lifestyle medicine, which I, again, I actually don't like the term lifestyle

medicine, I've written another piece recently in the BJGP, that people can go and read about my views on the potential gateway that lifestyle, it's not too far from wellness and wellness is not too far from where we don't want to be, or it can be depending on the players in the game. So yeah, because of my background interest I've got a good understanding of, good lay of the land of where sort of nutrition sits in the sort of across the sort of evidence base, if you like, and some of the, some of the pertinent issues and certainly some of the certain players who are discussing certainly some issues. But yes, there is a view I think that along come the EBMer and along come the sort of people who look at methodology and come and start hammering nutrition with the hammer, you know, the RCT hammer and the evidence base systematic review hammer really hard and to be fair, nutrition does get a part a hard hit. And I've often tweeted, I feel sorry for anyone working in nutrition or any researchers working in nutrition and trying to come up with solid answers. It's not easy. It's a bit like I've got a site into, a big interest in this activity. And it's, it's a bit similar to that where the interventions are so complex, you know that they're so broad, they're so complex, pinning it down to sort of a singular element within any given nutrition intervention is very, very tricky because nutrition is not one thing and even any element that you eat is it's got multitude of things that go in and have multitude potential effects and singling anything out it's very, very hard. So yeah, I do get the argument and I have seen them. And I have seen a lot of the pushback against some of the and rightly so I think in some areas, I think some of the arguments have been made are sound adjust. But one thing I would say is that the criticisms that come and it's hard to do this shouldn't be taken personally as the researchers doing the work and the people working in this field are trying to do good work, and are trying to understand some of the issues. I think that's that's key, I think there are really good people to try to understand and trying to do the good work that as best as they can. But on the flip side, one thing you can't forget is that methodology is methodology. And causal effect is causal

effect. It doesn't care about how, it doesn't care about whether you think if I do this particular method over here, it's just as causal as it is over here. No, no, it doesn't care it, you know, the bias is the bias and the method is the method and whether the intervention you're doing doesn't fit with that method, doesn't mean that the method is wrong. It means that we have to just tailor the answers that we get. And we have to be comfortable with tailoring the answers that we get and where to go where maybe we can't get the same answers that we can get with a medical model. My argument would be when you start to force the answer down a causal route or down a medical model, because you feel that's where you want to go, because that's what gets most traction, the kind of medical model of cause and effect gets into guidelines, gets into recommendations. So we in other fields, where we can't necessarily produce that same kind of evidence, try and force other evidence down a similar route in the same sort of certainty and the same sort of answer. And I think that's the magic trick of trying to get to, or what can we really say about whether this is kind of causal, whether this there is a good relationship here between X and Y, when we get into these more complex ideas, which I would put nutritional along those unless you're doing something like a simple vitamin A supplement versus no supplement that's totally different. There are, you know, you can definitely apply the kind of medical RCT model. But when you get to things like fuller, broader things like dietary macros, and dietary interventions, and broader kind of, you know, high carb, low carb, low fat, high fat, all that sort of stuff gets lost in the ether, because it becomes much harder to have that kind of higher, if you like, certainty evidence of X causes Y. And I think my argument is that we've got to meet in the middle, certainly, we've got to meet you where you are at, you know, this idea of EBM has to sort of meet you in the middle. Absolutely. But also, it's a job of these other fields to understand the limits within which they can work and currently was the best they could hope to get to in terms of this idea of causal inference and where in the future could we get to but where right now is that is the best we can

get to and what are some of the uncertainties that we can probably never really remove and we just have to kind of be okay with the fact that we can't really maybe undo some uncertainties here. And let's just say, you know, let's just express that let's converse about that. Because what we end up doing is just going down the sort of epistemological rabbit holes of, well, if we treat this method over here, it gets us as close to you know, randomization is, the beauty of randomization is the beauty of randomization. It undoes all that bias. And that's just the way it is. It's just unfortunate that we can't randomize everything. We can't randomize everyone to one COVID policy and another COVID policy over here. We can't. So there were just things some things where we if we could get the certainty of answer, and we could randomize, it would reduce uncertainty, but we can't. And I think nutrition is in that kind of ballpark, certainly for some nutritional questions. Not all. I think there are some nutrition questions where you can do that sort of random process and undo some of the uncertainty. But for a lot of it, we're just going to have to understand that, you know, what's the best methodologies we can arrive at to get us as close as we want to this sort of idea of certainty around a relationship, but also just acknowledge that we may never actually or we certainly can't get there right now in certain areas, and just acknowledge that and accept it and, and deal with and express the uncertainties fairly.

DANNY LENNON:

Yeah, David this is a topic I could talk to you for multiple hours about, I think, but we're just up on time here. So we will wrap up. For people who are looking to find more of your work, maybe find you on social media or anything like that where are some places on the internet, you'd like to send their attention?

DAVID NUNAN:

Yeah, Twitter, dnunan79. That's my Twitter handle. So I'm quite active on that in terms of sharing my thoughts and ideas and papers, where I'm available in the Center for Evidence Based Medicine website, and Department of Primary Care Health Sciences website, not currently got any sort of things like you have in terms of blogs, blog programs,

and anything I'd like just yet, but they're the two sort of main avenues that you can sort of access some of the things that were that I'm talking about, I'm writing on.

DANNY LENNON: Fantastic and for everyone listening, I will link to all of that in the show notes this episode, so you can go and check that out. David that leaves us with the very final question of the podcast, I always end on a very quick one. It can be do with something completely outside of what we've discussed today. And it's simply, if you could advise people to do one thing each day that would have a positive impact on any area of their life what might that one thing be?

DAVID NUNAN: Great question. Laugh.

DANNY LENNON: I like it. Perfect. It's as well I agree with. A great way to end. And, David, let me say thank you so much for number one, taking the time out to come and talk to me today. Your time is very valuable and very much appreciated on my end. And thank you for the work that you've done and put out it's been very informative for me and has influenced my thinking in a number of ways. So thank you for that. And yeah, thanks for giving up your time.

DAVID NUNAN: Now, again, you're welcome. And thanks for having me on. And yeah, if we want to ever follow up on a point. So if someone comes back then do just just reach out to me.