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[00:00:00] **Cheryl:** Welcome to the podcast from Cambridge University Medical Education Group, or CUMEG for short. This is a podcast from the University of Cambridge Clinical School, focusing on medical education. We discuss a range of topics that medical educators are dealing with.

I'm your host, Cheryl France, Head of CUMEG.

Today, we will be speaking to Dr Anne Swift, Director of Public Health Teaching at the University of Cambridge Clinical School. Welcome Anne, it's wonderful to have you with us here today.

[00:00:30] **Anne:** Hi, Cheryl. Thank you. It's great to be here.

[00:00:33] **Cheryl:** I think it's really helpful if you could please start out by telling us a little bit more about your role as the Director of Public Health Teaching here at the University. So perhaps your background and your role would be great.

[00:00:44] **Anne:** Sure. Yeah. So I have been here for, about six or seven years now. So I trained as a Public Health Consultant after, so I qualified in medicine from Leicester in 2001 and then did a variety of roles from pathology all the way through to general practice various things and sort of stumbled across public health, really, while I was searching around trying to find my medical niche. And the thing I really liked about public health was that it was so broad. I was able to investigate a lot of the things that interested me and work in a way that I felt would be quite impactful.

It's very different from clinical, but you know, I'm sure we'll talk about that. But so I qualified as a consultant and luckily this role came up very soon afterwards at Cambridge. And so my role is to primarily deliver, plan, assess teaching on public health topics for the clinical medical students here.

But I'm also involved in a lot of other work in the clinical school. So I'm also the Access and Admissions Lead for the Clinical School. I work with the colleges here looking at who we are attracting to medicine at Cambridge and trying to sort of widen the appeal really and diversify our student body.

I have a role with a very exciting project that's going on at the moment reviewing the preclinical taught content. So I have a role in sort of EDI, which is equality, diversity and inclusion in that process. And I also have a small role that I've recently started at Addenbrookes Hospital, working with some of their exec team on issues of public health importance really in health care. So I've got a really lovely variety of things that I get involved in.

[00:02:39] **Cheryl:** Wow. I'm trying to figure out how you have enough hours in the day to do all these different roles, but that's super interesting. And it shows the diversity of public health, but also the opportunity to train within public health, which we will be talking about today.

So I think that will be excellent to hear more about the diversity of your role and what exactly we mean by public health, which I think that would be a good place to start because if we think about the pandemic, you know, all of a sudden people heard the words public health.

[00:03:12] **Anne:** Yeah. We shot to fame. Suddenly we were, yeah, we were there.

[00:03:15] **Cheryl:** The poor relations all of a sudden became very important, which was quite interesting. But I think that's useful to kind of grasp because I did say, you know, public health has often been seen as something you have to know about, but maybe not the sexy bit of medicine.

I think you and I are in the same boat because we think it's really interesting and exciting. Maybe this is where I have to fess up; I also have a background in public health. So obviously, I think this is really exciting too. But I think it's good to uncover what we mean by public health and what that means in an educational setting as well.

[00:03:55] **Anne:** Do you know, I think this is so important, Cheryl, because it's one of those disciplines and subjects that can be very, very confusing, I think, you know, for everybody, for students, for other educators, clinicians working alongside, you know, what is it we're talking about? So trying to clarify that is one of the things that I have been working on.

And I've sort of come up with a, I hope a useful way of describing it using a kind of it's called the countdown model because it's got far too many components, but essentially it there are sort of six key elements. I think that characterize what public health is all about and essentially the first one is that you're working at population level. And that means that the unit of analysis the unit of intervention the unit of anything is a group of people as opposed to the individual.

So that's kind of the first thing. So that means that we work in a very different way to the clinician encounter and maybe what we traditionally think of as medicine being that one to one interaction. There's also a really, really strong values basis in public health, I would say. So equality and fairness is kind of the second thing that I think characterizes public health.

And that obviously then has a lot of implications with the kind of subjects that we get excited about, the sort of work that we end up doing a lot of, you know, around health inequalities. You know, as you said, during COVID, that was highlighted really strongly. And, you know, we saw it, we saw health inequalities by race, for example, playing out in real time in front of us.

And Yeah, I mean, you know, I'm sitting there in public health saying, yeah, we've been kind of, you know, worried about this for quite a while, but you know, glad that you guys are kind of on board now.

[00:05:44] **Cheryl:** Yes. Absolutely. Yeah.

[00:05:46] **Anne:** And then, you know, we have different, we have various ways of approaching problems in public health.

So we're very keen on the use of data, the use of evidence, making sure that when we are analysing a problem, we are using the very best sources of information. And so, you know, we're trained in biostatistics and epidemiology. That is part of the skill set that we teach the students as well.

Then there's other elements to our work and that's reflected in our teaching, which is partnerships across organizations. So, you know, if we're thinking about health problems, we recognize that actually healthcare is only a tiny proportion of the contribution to health, about 10%. You know, if you look at the work that's been done to estimate what thing, how much different components actually contribute to the health outcome.

So we're thinking more about the things we call the wider determinants of health. So, you know, and a lot of those are to do with fairness in society, whether people have resources, be that financial resources, time, the resource of living in a pleasant environment that's conducive to good health, they have good work available to them. All of those things impact so powerfully on health. So we naturally look to those things to create the sorts of health outcomes and changes that we want to generate. So, yeah, that's kind of the essence, I would say of public health and in practical terms, what do we do? Well, we work within a whole range of organizations as a public health consultant.

Recently, over the last couple of years, I've been embedded in a trust locally. It's a small sort of district general hospital, about 500 beds. And we have an in house public health team there, which is something that's fairly unusual still, but growing, you know, more and more hospitals are, are having public health in house. We had lovely opportunities there to use data. For example, you know, they have an electronic patient record; we're able to pull data out of the back of that record and use it to analyse our patient population. For example, so atrial fibrillation (AF) is a heart rhythm abnormality. It's fairly common and it's a big risk factor for stroke. And we know that we should have about 4% of our population with AF. We only had about 2% of our population. So my task was to use the data that we had in the electronic record and find ways to try to identify that missing cohort of patients who we knew were likely to have AF but didn't know about it.

[00:08:25] **Cheryl:** Oh, that's interesting.

[00:08:26] **Anne:** Yeah, it was, it was really good. And we used an entirely remote process, which was very exciting.

So having identified the potential patients. We then had an app and we worked with the developers. We sent a text message to our patients and said, would you like to take part in this? They did remote monitoring using this app. And then we had a remote consultation pathway with our cardiologists back at the hospital.

And the patient could go through this entire process, be diagnosed, be put on preventative medication to reduce their risk of stroke significantly without necessarily having ever had to leave the house. So it worked really well in the COVID situation . And obviously that helps with people who have limited mobility or, you know, other reasons for not maybe wanting or being able to come out to healthcare facilities.

[00:09:17] **Cheryl:** Yeah, absolutely. I mean, that's really interesting; and I think that kind of sums up, you got a proportion of the population who perhaps were in need, but you did that through statistics, through data, through evidence based. So that kind of sums up what you were talking about at the beginning and saying that, you know, there are several components to public health and it is about the population. It's about using the data to ensure that you help get the best outcome. But also I thought it was interesting that you also highlighted the fact that there's partnerships. So this is something that is not done in isolation normally. And often you look at your local facilities and, perhaps things that a county council, as we'd call them here in England, but a local council, whatever that may be in different countries, how they provide for their population is really important as well.

[00:10:12] **Anne:** Absolutely, absolutely vital. So there's wider determinants that I was talking about before, things like the planning departments of local government, where are green spaces?

You know, are they available to people and are they available to everyone and not just the well off? For example, we know that actually having access to green space is a huge determinant of good health, both physical and mental. And if those facilities are really only available to you if you are able to afford housing in an expensive area, that is a clear driver of making gaps in health outcomes worse and health inequalities.

So that's one example. Another one would be planning consents around food shops, takeaways, alcohol licensing, all those kinds of things. So public health in the UK about 10 years ago, moved from being within the health service to being within primarily within local government for those reasons and it makes a lot of sense.

But I think there has been a move over the last few years to want to connect back with health care a bit more closely. And so that's, that's one of the reasons why some of these teams are now sort of being established within hospitals.

[00:11:27] **Cheryl:** Oh, that's interesting. So yeah, I mean, ideas change over time.

And the other thing that made me think is that there's a lot here in the UK thinking about traffic control and the whole issue of our emissions. And so, yes, we have a push from the government to be greener and have electric cars, but on top of that, high polluting cities, for example, London, we have a case with asthma.

[00:11:52] **Anne:** Yes, absolutely

[00:11:54] **Cheryl:** and you know, a population that was exposed more. And I think those are the things that are really important to think about that; yes, you get these odd cases that come up, but it's not about those cases. It's about that whole population who's affected by it and why that's so important.

[00:12:10] **Anne:** That's so right.

And you know, those very, very sad cases of, you know, in that case, you know, child dying as a result of exposure to particulate matter and pollution, you know, that that it's sort of it's an iceberg, isn't it? You know, there's a certain proportion of cases that we see like that. But as you say, actually under that water line, there is a huge number, a huge proportion of population who are disproportionately affected by things like air pollution because they are living generally in areas that are less well off or I housing that is close to roads and the factors that contribute to people living in different areas are all things, again, that lead to different health outcomes between groups of people.

So it's a really complex, multifactorial, fascinating sphere of work, really.

[00:13:04] **Cheryl:** Yes, it is. And then I think if you look back in time to factories and all sorts of other things that people have been exposed to, we see these patterns over and over again.

[00:13:11] **Anne:** Exactly. Yeah,

[00:13:12] **Cheryl:** at a different time, different factors.

[00:13:15] **Anne:** Absolutely. I mean, you know, it looks sort of the improvements in life expectancy over the, you know, the last century, for example, and incredible gains in things like reductions in child mortality and improvements in life expectancy and the vast majority of those are to do with really classical public health things, you know, things like sanitation and living conditions.

And like you say, you know, people's working conditions improving so that people weren't exposed to really awful air quality or hazards at work. And it's only sort of halfway through that, all of those improvements that, you know, we see in the UK, the NHS kicking in and universal health care. And of course, things like vaccination and other preventative health care measures, hugely important.

But, you know, they're not the sort of number one story. And that's kind of our approach still, you know, we need to be looking at those; the bigger life factors and thinking about prevention, you know, prevention as a really key approach. And it's nice to see that being reflected in the more recent NHS policy positions, which is another reason I think why public health expertise being situated within hospitals is helpful because we are able to bring this perspective, which is, it's a new way of thinking about health and health care. How can we prevent problems? How can we actually reach out to the population that we serve, rather than waiting for them to come to us when the illness is already established?

[00:14:45] **Cheryl:** So you're right. It is a way that we probably need to think about in detail.

You've been really interesting with how you've described it and I think it's fascinating and to me a very important part of medicine, but is this a topic that medical students are interested in because you often hear, you know, students are coming in and they're, oh, I'm going to specialize in orthopaedics or, you know, because that to them has always been the most interesting aspect of medicine and maybe having not heard of public health.

How do you ensure that interest in the fundamentals of, you know, a course which is so medically focused, how do you get that across the specialties and say, actually, this one's really interesting to, you know, me, me, public health. How do you, how do you do that?

[00:15:35] **Anne:** that is such a great question. And that was my biggest challenge when I started working in this role.

You're right. I mean public health. I mean, to be perfectly honest, I wasn't very enamoured by public health when I was at medical school either, and I was determined to, I was going to be an emergency physician. That was, I was going to do emergency department work and I don't know, you kind of... medical students come in at 18, and 18 is so young, and when you decide to be a doctor, then, you know, there are all sorts of reasons behind that.

But, you know, understandably, most students do come in with that idea of a very clinical career path in front of them. What I've noticed over the last few years, though, with our students, is that more and more, there's a huge amount of social awareness, and a feeling of wanting to... wanting to work for better outcomes in society and just a better way of being sort of across society in our students.

And I don't know if that's always been there or we just didn't have the, I don't know, the opportunity or the language or something to hear that from our students previously. So essentially I've just tried to capitalise on that having realised that it is there. So we've got, we've got various initiatives where we're working with students to help them shape our curriculum.

So for example, we have education sessions that have been instigated by students and are developed and largely delivered by students to their peers on topics like the health of sexual and gender minority populations. We've just last week, delivered a brand new session on sexism in medicine, and thinking about how women's health has been affected negatively, actually, by decades of, you know, lack of research into women's health, and assumptions that we can extrapolate research findings, treatment recommendations, all those things that are based on data from men, essentially. You know, we can't just extrapolate those to women because we are physiologically, culturally very different. So, and that again, that was the idea of a group of students. It was put together by a group of students and it was being led by one of our junior doctors who was a graduate of our course a couple of years ago and she delivered that last week and it was absolutely brilliant.

[00:18:10] **Cheryl:** That sounds amazing and great that the students are so engaged and wanting to do that.

[00:18:15] **Anne:** Absolutely, absolutely. So we've got areas of the curriculum that seem to, you know, really capitalize on the groups of students who are passionate about topics.

And I think one of our, I see one of our jobs as faculty, is to provide an opportunity for students to educate us as well as each other in topics that they may well know a bit more about than we do. So that's sort of that area, and in terms of the sort of the more traditional public health curriculum, yeah, it's a challenge because particularly for our students, they spend three years doing a, you know, really, really solid foundation in sciences, not a huge amount of clinical content because that's what this course you know, that's how we design this course, it gives them foundation.

So they finally find themselves in the clinical school in a hospital and I go, no epidemiology, epidemiology is what you want to know. So yeah, it's a little bit of a challenge, but I think it comes down to good pedagogy in that situation and being really clear, for ourselves as educators, why is this important for a medical student, a junior doctor to know, not just because it's public health and they should know about public health, because that's nonsensical.

We've got too much in this curriculum as a whole in medicine to be teaching stuff for the sake of it. So being really clear about the application of this concept, this knowledge, this way of thinking to medical practice is the first thing for me. And the second thing is to use tricks, I guess. Is it good to call it a trick? Not a trick. I don't know. A technique. Of relating the concept to the clinical encounter. Because I think if you start most of the teaching, as we try to do, with a case study of a patient, and bring in some of the knowledge that is exciting and fresh for the students, You know, they can explore a bit of diagnosis, a bit of management. And then we kind of go into whatever the public health topic maybe just slightly behind that or adjacent to it is, as an example. So we do a session around the organization of the NHS here in England and thinking about access to specialist investigations. Now, for example, in other countries, you might have direct access to an MRI. Let's say a scan for back pain. Here, we have guidelines. We have quite strict criteria, you have to go through a gatekeeper primary care process first. And so we start with a patient encounter; where there's a reasonably, you know, a patient who is strongly advocating for herself, she's come with back pain. She wants an MRI. She wants to know what is causing her back pain. And we talk with the students. We have discussion through what would be the negatives of people being able to directly access an MRI, for example, so we pull in all of their clinical understanding about what the potential serious causes of back pain could be, for example, and what the most likely diagnosis is here.

And then we take it to, well, why are the guidelines there? Who makes those decisions? Who sets them? On what basis? Are they good? Are they not? What are the negatives? To having these processes in place. Yeah, and then we sort of engage in that way and then try to lead them then back down at the end to the one to one clinical encounter where they will see themselves and reiterate the application of those ideas to clinical practice to try to sort of bookend it.

[00:21:57] **Cheryl:** Yeah, and that makes a lot of sense. I mean, one of my questions was going to be, you know, how does public health help them to become a better doctor? And I think you've just described that really well, because you take that case of, you know, these are the reasons that and through those different aspects of, guiding that patient having those parameters as to why you would go and have an MRI or not and what the main causes and all of those things have public health implications throughout, but they may not see it as that. So it's about understanding that for the clinical.

[00:22:27] **Anne:** Absolutely. Yeah, we're trying to train them essentially and it's a very different way of thinking. That's how I see public health in medical education. The medical model, you know, the, the, the clinical education they're getting is, is one particular, you know, it's a cognitive apprenticeship in diagnostics and, and, you know, all of the other skills, communication and, and rapport building and all those sorts of things that are incredibly important with the individual.

We are trying to teach them a different, discreet way of thinking. But that is equally important for doctors of the future. Because doctors are inevitably going to be in leadership positions, even from, even from when they're very junior, they will often be making decisions. As part of the health care team and as they get more senior, that might be more explicit, but the majority of our graduates will be going on to doing, you know, making decisions at the level at which it will affect populations, you know, in their department, you know, or maybe as part of the exec team in a whole hospital or beyond. So I think encouraging them to have those two levels of thinking processes going on as important for medicine is, I think, really, really vital for them.

[00:23:47] **Cheryl:** Yeah, I would agree. And I think you've described that really well to help us understand what that could mean and why it's important. And, and you've talked about the fact that these individuals will probably have senior roles, whether that be in the community as well, because it may be within a practice, a GP practice which could have a lot of influence in what happens in a community, for example.

I think going to that and the community level, I know that you have a particular interest in health inequalities and you talked about some of the other roles that you've, you've got, which, which highlight those; that interest. I think from our perspective, it would be really interesting in today's podcast if you could just tell us a little bit more about why that's so important to thinking about the health inequalities and the impacts that that can have.

[00:24:35] **Anne:** health inequalities are, I mean, we mentioned COVID at the beginning of the podcast and it, I think health inequalities have become so much to the fore now people are very, very aware of these disparities in health outcomes between groups. And, you know, that applies; you know, we were thinking a lot around ethnic groups and how there are different outcomes for COVID between ethnic groups.

And I remember early on, there was a lot of debate on Twitter and in the medical press around, you know, what could be behind the differences in outcomes that we were seeing in people from backgrounds that weren't white. A lot of those conversations have pushed things along a lot. I'm slightly concerned now that I think what we're seeing is people getting a little bit fed up with that topic. I think if then maybe not directly involved in it. And there's been such a focus on reducing racism through things like training and eliminating unconscious, unconscious bias that I think we can forget at times that health inequalities have been there an awfully long time and they are getting worse.

And it's not just a question of individual attitudes and training. We've got to work at scale. And again, it's population level to address the factors that are contributing in our society to different outcomes. You know, we know that, for example, black mothers are four or even five times more likely to die in childbirth in the UK compared to white mums.

We know that perinatal mortality for black and Asian mums in the UK is much higher than for white mums. But you cut that data lots of different ways, you see it replicated so clearly by income and, you know, and wealth and sort of social economic status. Things like obesity, you know, we know obesity is this incredibly potent risk factor for so many illnesses and diseases and poor quality of life.

And again, for years, decades now, we've been able to graph the prevalence of obesity and it just is a straight line relationship between deprivation, lack of resources and increased likelihood of obesity. And why is that? It's because of our food environment. You know, we didn't suddenly 20 years ago stop being able to control our intake of cake.

You know, it's that our food environment has changed. The food industry has changed. We have huge numbers of calories available really easily, really cheaply. And if you don't have a huge amount of income to risk on spend on food that maybe your kids refuse to eat or you will need to spend a lot of time preparing for example Then how much easier and I do this myself; we all do it.

You know, you go to the Co-op and they've got; sorry Co-op, other supermarkets do this as well; it's the one that's around the corner from me. So I notice it but you know you go to the Co-op and there is there's a fresh fruit and veg; but actually, firstly, what are you going to make? What are you going to do with it?

How much time? Oh, I really can't be bothered to peel a butternut squash. And around, you know, on a big display, there's, for a fiver, you can have chicken Kiev’s, and I don't know, you know, smiley potato waffle things, and ice cream, and a bottle of, you know? So it just, the whole of our environment has been created to create these situations where we will spend money for convenience and those who have the least money are unfortunately the most likely to need to use those kind of quicker options because of paucity of time, paucity of money, all those other things.

[00:28:43] **Cheryl:** And I think that's not a racial difference either, that you know, that where there's poverty all races are affected quite negatively, particularly when you're looking at some of these later options, like you were talking about the obesity and things like that, exactly the health impacts that that has further down.

[00:29:00] **Anne:** And that's where we need to, we need to be thinking more in a more nuanced way and a more sophisticated way. And I think where medical education maybe needs to have a bit of a look at itself at the moment is that we are very, very biomedical in our approach, we need to be looking to our academic colleagues in sociology and psychology and, you know, other social humanities, because actually we, we, we can't use this sort of 20th century reductionist machine body as a machine type approach anymore.

The problems that we're facing are now much more complex. The diseases that are our patients are presenting with multiple issues, comorbidities and you know, it's no longer okay to be able to fix one bit of the body and send somebody off because it doesn't work anymore. That's not the medicine of the future. It's not the medicine of now. So we need to be expanding our horizons again, I would say to make medical education more; more diverse in the disciplines that we see as pertinent because we can learn so much from social sciences. You know, we learn the different experiences of people, different groups and concepts like intersectionality, which are kind of thrown around a lot, but it, they're really pertinent. I mean, that's a very good example, the one that we just discussed. So poverty, absolutely a massive risk factor for all sorts of things. Being subject to racism, massive risk factor for lots of things. Put racism, being subject to racism and poverty together, and you end up with a whole other level of risk.

And you could say the same for gender and race, you know, or gender and poverty, for example, because women tend to have to do more unpaid work in the home. And so if a woman is poor and doesn't have you know, sort of other or a woman has fewer resources; she is likely to do worse health wise than a man in a similar situation because there are so many other pulls on her resources.

So we've got to be able to think in a much more. Yeah, much more nuanced and holistic. Holistic is overused as well, but a much more holistic way about the problems that we see as well as the individual patients that we see.

[00:31:14] **Cheryl:** Yeah. I mean, that's fascinating. That's really interesting. I love the way that you've presented that today because it's helped us to understand the complexity.

I think you started out by saying public health is not just one thing. It's quite complex, and yes, it is. And you've helped us to understand that multifactorial levels of things that you would think about and consider, when thinking about public health and why that could be of interest in terms of teaching public health to medical students and why they could potentially be interested. And I love that you said, you know, there are students here who are already leading the way on different topics or ideas, which is brilliant.

[00:31:54] **Anne:** The students are amazing here. I am; I genuinely, this sounds, this sounds a bit sycophantic, but genuinely, every single day, every interaction I have with any of our students just leaves me in awe of their energy and their passion and, you know, just how really good these individuals are. And yeah, it fills me with hope.

[00:32:17] **Cheryl:** I was going to say, that's great because they're going to be our doctors of the future. Exactly. We want that. No, that's been fabulous. Thank you.

Do you have some take home points that you would like for our listeners to take away from today's podcast?

[00:32:31] **Anne:** I guess for, you know, whoever, whoever's listening to this, I guess then, you know, medical students, I think if you're...if you are a student and, you know, maybe you're already interested in public health and sort of justice and, you know, wanting to improve things at population level, then just keep hold of that passion because it can be hard to keep that sort of almost idealism going throughout through medicine. Medicine is tough, but you can make such a difference regardless of whether or not you go into public health or do sort of leadership work, you know, by having that awareness and yeah extending that awareness to your individual patients, you know, your resource yourself. So, you know, be mindful about how you use your own time and your own resource in relation to individual patients, but definitely keep the passion and push for change because change is needed in all sorts of ways.

Oh, for other educators, gosh, I think maybe, I hope that if you've not understood maybe what public health is all about and how it relates to clinical, which is entirely reasonable because it's, it's not always obvious. I hope maybe this has helped a little bit. Maybe, I think my message is around thinking a bit more broadly, really, about, about what a medical education needs to be for the future because we're not in sort of the times of the 20th century where the technology of medicine and the biomedicine was really the essence, you know, is that we're making huge strides, drug discoveries, we've come through that era now and we have to, I don't know, we have to kind of let go a little bit of that and understand and recognize that we've got to change the way that we educate for the future. So that's probably my message there.

And then for everybody, you know, we're all people as well as doctors or medical students and I think it's we all need to think about what sort of society we want to live in and bring our kids up in and the increasing inequalities that we are seeing all around us are only going to change if all of us come together and decide that we need; we need things to change.

So I think, I think educating ourselves, understanding that medicine can go so far and doctors can go so far with helping health problems. We need to be able to help ourselves, help our fellow people and, you know, create the conditions for health in our communities and our countries. So that everybody, everybody can be healthier and go forwards together on a more even keel.

That would be great. That'd be my dream.

[00:35:07] **Cheryl:** Yeah, absolutely.

Thank you. That is super. I really enjoyed talking to you today. So Dr Ann Swift, thank you so much for being with us today.

[00:35:17] **Anne:** Thank you. Thanks.

[00:35:18] **Cheryl:** For further information about public health or medical education, please visit the CUMEG website at www.cumeg.cam.ac.uk. If you would like to listen to our previous podcasts, you will find these on the CUMEG website or wherever you get your podcasts. We are grateful to you, our listeners. Thank you for taking time out of your busy schedules to listen to us today. If you would like to hear more from this and or our previous series, please like and subscribe to our podcast.