HOUSE OF COMMONS

Science and Technology Committee

Oral evidence: Work of the Chief Medical Officer, HC 2121

Thursday 6 June 2019

Ordered by the House of Commons to be published on 6 June 2019.

Watch the meeting

Members present: Stephen Metcalfe (Chair); Bill Grant; Carol Monaghan; Damien Moore; Graham Stringer.

In the absence of the Chair, Stephen Metcalfe was called to the Chair.

Health and Social Care Committee Member present: Andrew Selous.

Questions 1-67

Witness

I: Professor Dame Sally Davies, Chief Medical Officer for England.

Examination of witness

Witness: Professor Dame Sally Davies.

Q1 **Chair:** Dame Sally, welcome. Thank you for joining us this morning. Are there any declarations of interest before we proceed?

Andrew Selous: I have two children in medical school.

Chair: Thank you for that; that is now on the record.

As I said, welcome, Dame Sally. In your most recent annual report on preventative medicine, you talk about a composite health index. Can you tell us a little bit more about what that is, how it might work, and how it might improve or shape health policy?

Sally Davies: Actually, I have called for this because I think we need to shape not just health policy but whole-of-Government policy. I argued in that report that health is one of the prime assets of the country and we should treat it as such. If you are going to treat it as such, you have to think about how you have good health and how you keep good health, as well as our illness service, the NHS. What has become abundantly clear to me over the nine years that I have been Chief Medical Officer is that we are very good—well, pretty good—at the illness bit, but we have been very poor in the long term at the preventive, health promotion bit. We are only going to get that if we make some structural changes to society, but we also have to actually focus on it.

I absolutely agree that what gets measured gets done, so I asked for a composite health index to look at the social determinants of health, such as poverty, quality of working and housing; the modifiable risk factors, such as obesity, smoking prevalence and alcohol consumption; and outcomes. If you look at our cancer outcomes, you could compare us to the OECD average. If we got an equitable service for cancer across the country, we would save an extra 10,000 lives over five years.

How do we develop an index that takes in all of that? I want it to look at ratios. Our averages as a nation are not too bad, but what is truly embarrassing and sad is that our least deprived do very well and our most deprived do extraordinarily badly—whether you look at neonatal mortality or obesity prevalence, which is the obvious one. We all know, because we have our wonderful child measurement programme, that obesity prevalence doubles through primary school; I expect you also know that obesity prevalence in reception is 12.8% in our most deprived, versus 5.7% in our least deprived.

If you think about the health problems that that is storing up and look at all those issues, how do you open up a discussion across the whole of Government and get policy focused on making health a primary asset of the nation? The chapter on the primary asset of the nation was written by the director of the IFS. He looked at presenteeism, absenteeism and all sorts of reasons why we need a healthy population—quite separately from

happiness, fulfilment and all the other things that we would wish to aspire to anyway.

Q2 **Chair:** What are the main barriers to achieving that? It sounds marvellous, but we do not have a magic wand. Do you need Government take-up?

Sally Davies: I think there are two barriers. The first is that this is quite a complex technical task and it needs ONS. There is an in-Government discussion with ONS, led by the Cabinet Office, about how you would construct it, and everyone is quite interested. Indeed, it would complement what the Industry Strategy Council is doing. If you look at where the ageing grand challenge is, it is all about old age and everything, so this would fit very nicely.

That is the technical aspect. The second question is: having overcome that, what is the best way for Government to put it into practice? Can we get something that we can put beside GDP and that other countries will find useful and start to come on board with?

Q3 **Chair:** It is in your most recent report. Have you actually had any discussions with the Cabinet Office?

Sally Davies: Yes. We are in discussions with ONS about the technical aspects and how to do it.

Q4 **Chair:** And is there a positive response?

Sally Davies: Yes.

Q5 **Chair:** Good. We will watch this space.

You have also responded positively to measures such as the soft drink levy. What involvement have you had in evaluating the effect of that? Are there other areas where you think that that kind of approach could be used to change, amend, direct or nudge behaviour?

Sally Davies: The NIHR—the National Institute for Health Research, which I set up when I was director general—has commissioned a formal evaluation, which started in 2017 and will report in 2021. I believe that this autumn we may have some early results. All I can work on is the data we have that Public Health England and the Treasury have looked at.

The first thing to say is that there was a lot of reformulation, so much so that the Treasury made rather less money per year than it expected—thank you, Treasury, for making it up, as it is going to children's play, sport and everything. That allows us to model how much sugar has been taken out: 45 million kilos each year. We know there is no magic bullet for obesity. What we need is little bits of the jigsaw, each of which contribute 1%, 2% to reducing calories. We know that it is having an impact, but we will have to watch—and the evaluation will tell us—how people see it. In the last annual report, published just before Christmas, I called for extending it to the sweetened milk drinks.

Q6 **Chair:** That is around drinks with sugar. Are there any other areas where

we could use tax? That has worked with smoking, which I will come to in a minute.

Sally Davies: There is one that I think is obvious. I discovered in preparing that last report that infant foods—prepared ones—can have added salt and can be very sweet. I think a reformulation levy might well be the right approach to that, and I have asked them to look at that. On the rest of obesity, as you know, I have been commissioned to do a report so I am starting to have a good look at all that while I finish my last annual report, which is in preparation. It is a clever way forward; there is a very good report on fiscal measures in health published by Bloomberg, of which the head of LSE, Minouche Shafik, was a member. It behoves Government to look at that and think about fiscal measures to help people to be healthy.

I did not start here nine years ago, but I have come to the conclusion that we have an unhealthy structured environment. It is really difficult to be healthy—you look at the science on automaticity. I always say to people, "I like food." A nice canapé goes past and I'll say, "Oh, that looks nice," and I will eat it, but then I'll think "Oh no, this was a day when I was not going to overeat!" That is a real example of automaticity. I am not saying to stop canapés—I like the good ones—but we have to restructure our environment so that it is healthy.

I have started to think about health. We are used to the biological determinants—what we are born with and medical interventions—and we talk a lot about social determinants. I am now talking about the third circle of the Venn diagram: commercial determinants, which can be good or bad. We have to work with those to structure our environments so that it is easy for people to be healthy. It is not just about education—I know that I should not eat more than one canapé.

Q7 **Chair:** I think that demonstrates extraordinary self-control. The review aims to reduce child obesity by 50% by 2030—is that one of the aims?

Sally Davies: The Government's target is to reduce it by 2030. I have suggested that we need an interim target, and if we—

Q8 **Chair:** Sorry to interrupt, but what would your interim target be?

Sally Davies: I haven't worked that one out, but I will do, and I have suggested that people should do that. Even if we put in place all the excellent things in chapter 2 of the obesity plan, the modelling is beginning to look as if we will not get there. I am starting to look at what more we should do to hit that target, and I will publish that in September before I demit. What can we do to help our children live healthy and happy lives?

Q9 **Chair:** So, there is the sugar levy. Presumably, you would say that it working, as we have removed—

Sally Davies: Forty-five million kilos.

Q10 **Chair:** That is about 45,000 tonnes of sugar, I think. There is also a

suggestion of plain packaging for sweet foods—treat it like tobacco.

Sally Davies: That would be an approach. Do we really need all the crisp packets? I am not saying I will recommend that, but we will end up having to think about it or we will look back at the young generation and regret that we did not take action. I mean, do crisp packets all have to look different, or could they be standardised? Could cereals be standardised?

Q11 **Chair:** But is one packet of crisps worse than another?

Sally Davies: Some have more salt than others, but you could label them. I am not saying that is what we should do. What I said was I had been commissioned to produce a report, and I had realised that in order to deliver what we need—what we owe our children—we will have to be bold.

Q12 **Carol Monaghan:** Just off the back of the sugar tax, I wonder whether there has been any evidential impact of a difference in terms of childhood obesity since it has been brought in. I know it is early days.

Sally Davies: I don't think we can say that there has been but, as I say, the problem is that there is no magic bullet. If it has half a percent difference, it will be quite different to pull it out and say, "It is that," so we will have to wait for the formal evaluation that is actually looking at children and presumably seeing how they change their habits. However, the fact that that much sugar has been taken out is a healthy move.

Q13 **Carol Monaghan:** It has been taken out of drinks.

Sally Davies: Yes, in this country.

Q14 **Carol Monaghan:** But you only need to go to a supermarket and see the rubbish that people are putting on the belts to know that the drinks are only a tiny part of the problem.

Sally Davies: We have a non-healthy environment.

Chair: Damien and then Graham, then I have a little question, and then I will go to Andrew.

Q15 **Damien Moore:** That was really interesting, Dame Sally. There is a big focus on the recipes, but do you think there needs to be an equally big focus on changing people's attitudes? For example, when I was growing up I would wait until Friday and that is when you got sweets. Now, children are eating sweets at break time, lunchtime and after they get home, and the packet sizes are getting bigger. You used to have a bar of chocolate, but now they are having these bigger bars because they are much cheaper. Do you think it is about the attitude towards that goodie and that rather than messing about with the recipe, we should just have less of it?

Sally Davies: We all need to eat less. I can remember there being one or two small pieces of meat for our Sunday roast when I was a child, but now you see the large portions people have. Actually, it is not just about obesity, is it? It is about sustainability and climate change. These things all come together, and we are going to have to find a way that makes our

environment sustainable, healthy and easy for people. Yes, we do seem to have lost the concept of treats. The advertising is very interesting. A lot of it is aimed at children or women in particular: "You deserve this." When did I deserve sweets?

Damien Moore: I think you do.

Sally Davies: You're very kind.

Q16 **Graham Stringer:** Can I take you back to your very first interesting point? In one sense, you are not saying anything that was not said in the Black report 38 years ago about health differentials, both regionally and in terms of class. Given that the Black report was so powerful, why do you think things have got worse rather than better, and what is what you are proposing going to rectify that the Black report couldn't?

Sally Davies: I am glad you brought that up, because I actually quoted the Black report, and then after him a CMO, Donald Acheson, who built on that. As CMOs, we have very little power; we have some influence. I think he was before his time and we now talk about social determinants, but he did not talk about commercial determinants, so I am trying to shift this discussion by talking about this Venn diagram with commercial determinants. It is profit and commercial determinants that shape our lives so very much, and we have to recognise that and then start to work with it, but it is sad that it always takes us so long to respond to the good science there is. Tobacco is another example.

Q17 **Chair:** I am glad you have brought up tobacco. You said in your 2015 annual report that you were shocked that a large percentage of the baby boom generation had not been offered any smoking cessation options. Can you expand on that a little bit?

Also, we recently did a report on e-cigarettes. I think the conclusions were that e-cigarettes potentially offered a useful aid to smoking cessation, but I think you take a slightly different view, or you have concerns about them.

Sally Davies: If we start on smoking, we know that the best way to stop smoking is the NHS smoking cessation services up and down the country. That is a behavioural intervention with nicotine replacement, but there is evidence of disinvestment in those services. That is very worrying for people of all ages who smoke, because most people who smoke want to stop.

I am pleased that in the NHS long-term plan they have undertaken to provide smoking cessation services for pregnant women. To go back to the disparities: in Blackpool 27.3%, I think, of pregnant women are smoking at delivery, whereas in our best area in the south-east the figure is 1.8%. That discrepancy is massive. Think of the damage and risks to that mother and child with smoking.

I share your view that e-cigarettes are clearly much safer than tobacco smoking, and they have become a much liked way of stopping smoking. I am quite relaxed about that. If they help people to stop, they are so much

safer so I would like them to use them. I would encourage the NHS smoking cessation services to work with that. There are a few trials that support them as a way of stopping smoking.

But there is a world of difference on: are they safer? Yes. Are they good for smoking cessation? Probably, but that is a personal issue—what works for the individual. And how should we treat them as a general usage issue? Although they are much safer than smoking, I have concerns because we do not know their long-term side effects. Therefore not only do I reserve my position on this, but I would like us to be careful. It took us 50 years, as I said earlier, to discover the harm of tobacco. Being much safer does not mean it is safe.

There is some early evidence from cell culture—it is probably from glycerol or formaldehyde—that they can change cellular behaviour. Inhaling that into your lungs, if you are susceptible, may lead to long-term problems. I am quite concerned about the flavourings, because while they may be safe when eaten, what happens when you inhale them? The story which underlines this is about butterscotch—which I happen to like. Apparently they made butterscotch for vaping and then discovered that it gave people fibrotic lungs. It is well known to respiratory physicians that if you inhale butterscotch, you can get butterscotch worker's lungs.

What else will happen? We don't know. My personal view is that we should treat them as we treat tobacco products, as well as having them there for cessation. I would not have them smoked in public places. I hate it when I walk past someone and they waft vapour over me. We are talking about pollution and we want people to live in clean air, so why do we let them smoke in public places and waft it all over us? It is much safer for them, it is true, but I don't want to inhale it.

I would treat it the same as tobacco. I know we are very careful with strength, volume and where they can advertise, but I find it offensive to see big hoardings advertising them, and showing them as cool and a new lifestyle. I worry that the big four tobacco companies have bought up a number of them, including Juul. Why would they do that? They must be going to proselytise and push them. I think if you put all that together—of course we want them available for people to stop smoking, and I don't mind if in the privacy of their own houses or gardens they continue—I just don't want us to set an example to children of them being smoked or used publicly. I don't want that pollution and I don't want it put over as a cool lifestyle, because it's an addictive product. Why introduce and have openly available a new addictive product? We've got enough.

Q18 **Chair:** If it helps people, though, to move from something that obviously is very harmful, to something that is less harmful—but I think you have accepted that.

Sally Davies: I never disputed that.

Chair: I am not suggesting you did, but anyway, thank you for that answer. Andrew, I'm handing over to you.

Q19 **Andrew Selous:** Thank you, Chair. Dame Sally, you told us just now that 27% of pregnant women in Blackpool were smoking during pregnancy, but we know from a study in 2015 that apparently three quarters of women are drinking during pregnancy and one third of those at binge levels. I think the UK has the fourth-worst prevalence of this in the world. If we are really concerned about children's life chances, this is a pretty huge issue and we are very far off the pace when it comes to addressing it. There was a debate in Parliament on the issue on 17 January. *The Times* ran a story on it that day and described it as a "national emergency". Do you think that is appropriate language for what is happening with foetal alcohol syndrome disorder?

Sally Davies: Clearly, I am very concerned about that. If you look at our Chief Medical Officer guidelines for low-risk alcohol consumption, you will find that we advise against alcohol in pregnancy, so we are quite clear as CMOs that this is a bad thing to do. We have explained that with the Royal College of Obstetricians and Gynaecologists. They absolutely agree, too. So our view is clear that to protect these children—I welcome the fact that as MPs you have been doing quite a lot of work not just around pregnancy, but around the children of parents who are alcoholic. The data is quite interesting, isn't it? There are fewer people drinking, but there is still quite a lot of binge drinking. I think it is worrying.

One of the things we debated long and hard as we wrote those guidelines was this. We didn't want mothers who hadn't known they were pregnant and had had a binge to feel guilty; we want them to enjoy their pregnancies, yet we do want them to stop when they know they are pregnant. So you're back to: how do we persuade the public to drink moderately?

Q20 **Andrew Selous:** I don't think the public have really got this, have they? It used to be thought that a glass of Guinness a day during pregnancy was good, or maybe even a glass of red wine—

Sally Davies: I don't remember that. I never remember, as a doctor—

Q21 **Andrew Selous:** Well, MPs referred to it during the debate.

The University of Bristol and Cardiff University study came out in November of last year. They estimate that between 42,000 and 120,000 children a year are born with foetal alcohol syndrome. It is often misdiagnosed or not diagnosed at all. Canada estimates that half its prison population is affected by it, and in the UK the relevant all-party group had evidence that between one quarter and 30% of children in care in the UK are affected by it. So I am really underwhelmed by what we are doing as a country to grasp this issue. In particular, I would like your views on what you think pubs, restaurants and supermarkets should do, and I would like you to say something about the new labelling guidelines due to come in in September, because frankly I think we are asleep at the wheel on this. Do we genuinely care about children's life chances? These are children whose life chances are being taken away before they are born, because this is often permanent brain damage—it can last a lifetime.

Sally Davies: It is permanent brain damage, whether mild, moderate or severe. I absolutely agree with you, so we, as CMOs, have asked the drinks industry to put labelling on everything. We have had a number of run-ins with the Portman Group, which refused, although it's interesting that some companies actually have. But I think that they now—

Q22 **Andrew Selous:** Isn't that disgraceful? Would you advise the Government to legislate or go further? The labelling in other parts of the world is clearer. What we have is really not up to the task, is it?

Sally Davies: My personal view is that we should have labelling in line with the evidence-based guidelines we have put out. The Portman Group are well aware of my views. I have written to them on a number of occasions. They started by disputing the evidence and thinking that I did not know how to read scientific evidence, then they moved to negativity. I believe that they are now looking at how they can help, because they have realised that if they don't, there will be more action. So you and I are in the same place on this.

Q23 **Andrew Selous:** Can I just press you again? You go to pubs, restaurants and supermarkets and there is no labelling. There are plenty of non-alcoholic alternatives that pubs, clubs, restaurants and so on can sell and make money from, which are actually very nice to drink. So isn't it rather underwhelming that they simply don't get it? And if they actually genuinely cared about their customers and the future of the communities they are operating in, shouldn't they be doing more in this area?

Sally Davies: I'd love to see them do more, but there's a limit to how often I'll play chief nanny, so please will you do it? I absolutely agree.

The problem is, of course, that labelling on the actual bottles and containers has a bit of an impact, or we would not be so keen to have it, and the evidence is that putting a poster up has an immediate impact but then wears off. So what we really need to find is: what are the nudges to impact this, so that people change their way of life while pregnant?

That takes quite a lot of effort. We probably need things like "EastEnders" and "Casualty" to have episodes that bring this out, because then you get it internalised by the public. At the moment, what we are grappling with is that it is not internalised by the public.

Q24 **Andrew Selous:** Finally, the prevention Green Paper is being worked on at the moment. What would you like to see in that Green Paper, given that—as I have said and as I will repeat—the 2015 study showed that three quarters of women still drink in pregnancy, one third of them at binge levels?

Sally Davies: We need some work about what the nudges are and how we get change in the population. I will have to go and think about that.

Q25 **Andrew Selous:** Could you write to the Committee once you have thought about it, because that would be helpful? You say you don't want to be chief nanny, but you are a very influential and powerful figure as Chief Medical Officer, and it would be helpful to us to have some clear

thoughts from you, which we could then use when we engage with the Portman Group, the British Retail Consortium, and the British Beer and Pub Association.

Sally Davies: I am so snowed under trying to do the obesity review. What I would prefer is to think about it and then we could have a coffee, rather than tell you on the record. I will have a look at it; I am trying to deliver before I demit.

Q26 **Andrew Selous:** I will take you up on that. Thank you.

Chair: And we understand that.

Q27 **Bill Grant:** Dame Sally, I will touch on a subject that I find very complex, which is genomics, in a medical sense. In your 2016 report, you described the "genomic dream". Is the Genomic Medicine Service delivering, or are we still pursuing that dream?

Sally Davies: The Genomic Medicine Service is really exciting. It has been commissioned, and it is beginning to work. There will be 12 centres, with seven laboratory hubs, in this network, but we are not there yet. It takes a while to put these changes in. We are moving from the current industry—I think I called it a cottage industry of laboratories; I was corrected to call it an artisan industry—to a much more slick, factory-type system. But the directory is there, so with any patient who sees a doctor, if the doctor thinks, "Ah, maybe I should do a genomic test," they can look and find out what test, it will be funded and there is a system for making that happen. They have taken my recommendations seriously, and they are making good progress, but change in the NHS is never fast, although this is probably faster than most.

When I travel to other countries and they ask me about genomics, they are all agog with where we have already got to—not just the 100,000, but the national Genomic Medicine Service.

Q28 **Bill Grant:** I sense two things: enthusiasm and contentment with the progress to date.

Sally Davies: Yes. I liked things yesterday, but there is steady progress.

Q29 **Bill Grant:** On the same subject, how can we ensure that the base for genomics sampling is diverse, in terms of age, ethnicity, et cetera? Are we comfortable that we have captured that, or is there more work to be done in that regard?

Sally Davies: It is a really complex area. I am a haematologist, and my specialty is sickle cell disease, although I haven't seen patients since 2006. Some of them have a really rare blood group, and it was always quite difficult to find, because we have not, as a society, found the best way of recruiting some of these ethnic minorities into giving, whether it is blood, kidneys or genomic samples.

A nice piece of work was done out of Genomics England—I am trying to remember what it was called—in which they did a qualitative exploration of the barriers to participation across the black and African community.

They have taken it seriously, and they are looking. One in four samples is non-north European, I am told. It is not good enough, but it is a societal issue: how do we involve them more? One of the things I am very proud of with Genomics England is that we have involved the public and the patients in everything. We have an ethicist on the board of Genomics England to try to make sure everything we do is rooted in the community, is rooted in pull, rather than academic push, and is ethical.

Q30 **Bill Grant:** You are saying that we need some of these ethnic groups to come forward to help you to secure that.

Sally Davies: Yes, but we have to reach out. We have to be progressive. One of the things about the Genomic Medicines Service is that that will get patients the service they need, wherever they are. They don't just have to be in a teaching hospital, which might fall in a middle-class area.

Q31 **Bill Grant:** How is the progress of the staff training of healthcare workers in relation to the embedding of genomics in healthcare now and in the future?

Sally Davies: We have done pretty well. Health Education England have spent quite a lot of money. We have set up a new MSc in genomic medicine in 10 universities, and a new genomic counsellor training programme. Over £1.3 million has been spent on genomics research fellowships, and there are lots of online training modules, which people say are very good, but we have a long way to go. We are teaching genomics in medical school, but we have to democratise it. At the moment, in the service, the clinical geneticists think it is theirs, and they want to own it. We need every cardiologist, renal doctor and orthopaedic surgeon to own it. We have to get them to own it. This is going to be a generational shift

Q32 **Bill Grant:** It's not an overnight switch from one system to a new system.

Sally Davies: I wish it was, or I would have done it.

Q33 **Bill Grant:** It is a transition period of an indefinite time.

Sally Davies: Yes.

Q34 **Bill Grant:** My final one is about the negative side to genomics. We have heard evidence that, in the commercial market, people go into this test, and they may get anxious and panicky, and be very disappointed about what they hear. That then creates a push towards the GP or the NHS. It was suggested to the Committee that that could present an added burden now and possibly in the future, whereby the person goes commercially to source or create a problem, which may not be accurate, and they then expect the NHS to pick up the pieces. Is that a real concern now and for the future?

Sally Davies: I know you are doing an inquiry into this, and I am really pleased that you are, because I worry about this. I expect that, generally, the laboratory quality is all right. When we set up Genomics England, we

thought, at that time, that if you had a BRCA gene, you would, as a woman, get breast cancer. We now know that about 80% do, but not everyone does. What are the moderating factors?

It is a very difficult thing, unless it is something very binary, such as the sickle cell—on or off; you either have it or the carrier state, or you don't. But a lot of these things are risks and are moderated by other genomic issues, by their methylation and perhaps by lifestyle. For commercial companies to come in and do the test, they then need to be within the counselling area and very clear about what they mean. They often talk about percentage risk. Our experience—of course, the expert on communication risk is Professor Sir David Spiegelhalter in Cambridge—is that it is very difficult to communicate risk effectively to the public, so a lot of them will end up in the NHS, and GPs are generally ill-equipped to handle this, so I worry about it.

I do not think that the patients and the public who go to those providers realise that they are not just selling a service from which they make a lot of money, but they want the data. They are crunching that data elsewhere. Here we are, being awfully careful with consents and patient data, yet because you bought a service and signed, they have your data and can be much more cowboy. I am not suggesting that we want to be cowboy, but I think that there are issues there that you might want to look at.

Q35 **Bill Grant:** As those commercial providers increase in number, is it the responsibility of legislators, and not yours as Chief Medical Officer, to look seriously at the service that those providers are offering and regulate or legislate for an improved service that is given to a certain standard?

Sally Davies: Yes. I do not know how you would do that. Through the MHRA, we regulate to a certain extent for the quality of the lab bit. You would have to ask them about the detail of that. There is the question of what you do with the data once you have fed it back, which I think is a legitimate question and area for legislation, like what the social media platforms do with their data, as perhaps is legislating for the service of what they feed back.

Bill Grant: Thank you, Dame Sally. You are now leaving me on a guilt-trip of nibbles, canapés and sweets.

Sally Davies: I enjoy them all, and a glass of good wine, in moderation.

Chair: Excellent. Caroline.

Q36 **Carol Monaghan:** Dame Sally, during our inquiry into the impact of energy drinks on children and young people, most of the evidence presented to us was anecdotal. Obviously, there are ethical reasons why you cannot carry out more robust scientific investigation into that. The Government's response to our report was that there should be a literature review. Do you think that will actually help to develop the evidence base or should the Government sponsor some independent research into that?

Sally Davies: They have commissioned the review and have also commissioned the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment—COT—to look at the potential risks. It is for that committee to come back and say if it wants primary research. We all know that evidence is a social construct. What does the science say about the impact of those energy drinks? I think it is something about age, the developing brain and the environment that they are in, at school. What does that do to their behaviours, and how do teachers and families see that? There are elements to that, and I know that the Government have said that they will consider your report alongside the rest of the responses to the consultation. I presume that they are doing just that.

Q37 **Carol Monaghan:** So you are comfortable with that position at the moment.

Sally Davies: Yes.

Q38 **Carol Monaghan:** If I can move on, we also had an inquiry on the impact of screen use and social media on young people. You have previously described the research base for this as "sparse and contradictory". Following your newly published review, what else should we be doing in this area?

Sally Davies: In that review, we Chief Medical Officers called for a research workshop. Our director general and chief scientific adviser said he would lead one. I have not checked whether he has, but I can find out for you when it is scheduled for. To get in the room the researchers who are expert about what needed doing and how one could do it, we also called on the platforms to be prepared to provide their data for bona fide research, because we need longitudinal data. I think they also ought to assist in funding, but not to control the research. Clearly, I want the research to be independent.

Q39 **Carol Monaghan:** I was going to ask you about that. Do you think the data from social media companies themselves could enrich the research?

Sally Davies: Yes. They are sitting on a lot of data on screen use and what things different age groups look at. If, in signing up to these platforms, the children and young people have given their ages—we know some of them will have not given their correct age, and some mothers sign up for their children so that they can log in—that will give us very useful data.

Q40 **Carol Monaghan:** It might give us information about what they are looking at and the length of time spent, but will it give us information about how it is impacting on their mental health?

Sally Davies: You'd get some information from knowing where they click through to. What are their searches, and what are they using? If they gave us that suitably anonymised data, you could get some feel. The problem we have is: does screen time lead to mental health problems, or do people with mental health problems get caught by their screens and use them to hunt for things? It's chicken and egg, and it is a very difficult one to sort out.

Q41 **Carol Monaghan:** There's also a study from researchers at the University of Oxford that said most links between life satisfaction and social media use were trivial and accounted for less than 1% of a teenager's wellbeing. How would you respond to that?

Sally Davies: I have looked at their papers; there was one recently. I look at the methodology, and I think they are doing a good job. I accept that that is where the evidence is at the moment for most children, but we have to concern ourselves with those children and with the ends of the distribution and the vulnerable children, don't we? I think that is what you are worrying about, and I worry about it, too.

Q42 **Chair:** You have touched on the mental health and screen use issue, and I think you said it needs more investigation. Do you have a view on which one leads to the other? Is it the chicken or the egg that comes first?

Sally Davies: I suspect some people have a tendency to mild-to-moderate mental problems and then use their screens in that way. That is just from the reading I have done and watching lots of young people and their screen use.

Q43 **Chair:** So that would help shape a further investigation.

Sally Davies: I would look at it from that perspective. That is my hypothesis—my prior. What we need is to test the prior.

Chair: Thank you very much. I think Graham has some questions on anti-microbial resistance, which is something that you commented on in previous hearings under this Committee.

Q44 **Graham Stringer:** Since you last spoke to the Committee about it—when there was support from Prime Minister David Cameron, who set up a working group—do you think sufficient progress has been made in dealing with the huge problem of anti-microbial resistance? It has certainly gone quiet in the press.

Sally Davies: I think we are doing a bit better again. The interest of the public, the profession and politicians clearly waxes and wanes. If you look at where we are as a nation, our human consumption dropped by 7.3% from 2014 to 2017. That is very good considering the ageing population and the increase in complexity. If you look at our animal population, in the three years between 2014 and 2017, consumption has dropped 40%, and I have just been told that the latest data shows a much bigger drop.

Q45 **Graham Stringer:** Less good in beef.

Sally Davies: Beef, chicken and pork.

Q46 **Graham Stringer:** Yes, but it is less good in beef. The drop is good in chicken.

Sally Davies: I haven't got the data, but it is more difficult to do in beef. Actually, it is not that high, and our use of critical antibiotics is not particularly high. So I feel they are making good progress on that, but the burden of resistance is going up. I gave a talk in Dublin yesterday, and I

have kept a couple of the slides. We are keeping the proportion of resistance the same, but there are more infections because of the ageing population and the complexity of illness and all of that in hospitals, so our burden of resistance is going up, as are bloodstream infections, so we have more work to do. The new nursing director at NHS England, Professor Ruth May, is personally involved in this and is very effective.

We also have more political activity at the moment. The UN interagency co-ordination group, of which I have been a co-convenor, reported to the Secretary-General in May. The Foreign Secretary has raised it with the director general of the WHO. Our mission in New York has raised moving forward on it. I am supported by the DFID Ministers and our Health Ministers, so there is more political support at the moment in trying to get it to move forward beyond that IACG into making the recommendations happen.

Graham Stringer: Is sufficient money going into the International Reference Centre for AMR?

Sally Davies: We made sure that they got what they asked for. That's what I understand.

Q47 **Graham Stringer:** Which is?

Sally Davies: I'm just looking to see whether I have how much they asked for. The funding is coming mainly from the Fleming fund, because they sort it for other people. I am trying to find where it is. I can't find it at the moment, but my understanding is that we gave them what we understood they needed, so I am not worrying about it. I can't find how much it is.

Q48 **Graham Stringer:** Could you send us the figure?

Sally Davies: Yes.

Q49 **Graham Stringer:** As well as putting public money into dealing with the problem, we also have to deal with commercial incentives within pharmaceutical companies and the fact that they show a diminishing return. Has that problem been dealt with, or is it being dealt with?

Sally Davies: I want to thank you for your support in AMR generally and particularly in this area, but no, it has not been dealt with. As you know, there is another company—its name begins with an "A"—which had some effective drugs that went bust recently. As you know, we are trying a pilot in the NHS, which everyone is quite excited about. When Matt Hancock announced it in January, he said we would start before the summer. We are trying a new way of paying by value for two new antibiotics: one that is in the market, but new, and one that is just coming into licensing. Everyone is very interested in that and I think the methodology looks quite exciting.

The Americans tried to pass an Act, but it fell, so I do not know what they are going to do. Companies are steadily moving out of the area, so I am chivvying like mad. I have been going out and meeting investors. There

are two groups of people that I am aware of at the moment looking at whether they can build investment funds to try and do some pull mechanisms, but I am very concerned about this.

I was sitting in Dublin yesterday, listening to descriptions of where AMR is and how we have allowed it to be normal that there are ESBLs at 80% around the place, so that routine penicillins no longer work. When I started working, you didn't see that resistance. I think that is scary; I don't think I have over-egged this. I hope to continue working on this even when I have stopped being CMO.

Q50 **Graham Stringer:** You mentioned that progress is being made in reducing the use of antibiotics in the system. Has the country gone as far as it can in reducing the over-prescription that GPs made in the past and may well still be doing?

Sally Davies: No, we can go further. We know that at least one in five prescriptions—probably for virus infections—is not needed. Some of the work we have done and continue to do is really exciting. The behavioural things like the letter from the CMO—from me—to people saying, "You're in the top 25% for prescribing" has reduced it, and interesting focus group work showed that a lot of patients demand antibiotics because they see that as a validation of illness, so Public Health England have made these tear-off prescription sheets that get filled in, torn off and given to validate the illness.

We have a way to go on this. Of course the reason I care about this is that I want antibiotics to be there when we need them. You have to balance "Am I getting it right?" against the risks of, "Oh dear, is this early sepsis?" where the antibiotic will save their life. It is a very difficult issue, but we can go further.

Q51 **Chair:** Do we need to focus on developing better testing in advance so that we know sooner what we are dealing with?

Sally Davies: Yes. We need to do as much surveillance as we are doing and more of that sort of testing. Can we then get to much better diagnostics that help us? The Longitude prize was set up to do that. We surely can, but they need to be easy, cheap, quick, at the bedside or in the general practice. But we will still need the judgment of a doctor, because I bet if you looked at the back of my throat you would see some pathogens you would give antibiotics for, but I am clearly not ill. So you need not only to find the pathogen but make that clinical judgment of "Does it need treating?"

Q52 **Chair:** Thank you. Before I pass to over Damien, who has returned, to ask some questions on vaccination, I want to ask you about the proposed roll-out of 5G. A number of bits of correspondence have been sent to us individually—I have certainly had them—and to the Committee generally raising health concerns around 5G. Is there sufficient evidence to demonstrate that the roll-out does not present a public health risk?

Sally Davies: Yes, I think there is at this time. We have long-term had concerns from individuals and families about radio waves and links with leukaemia and other cancers. We have never proven that, though I would have to check the literature about acoustic neuroma, because there was more concern about that.

I know the Government has accepted that we should adopt the international commission on non-ionising radiation protection guidelines for limiting exposure, which apply to under 300 GHz—I imagine that is gigahertz. Actually, 5G will be only a few tens of gigahertz. We know that our present system is safe and this is only going up a bit—it is well under those guidelines—so there is nothing to suggest that devices will produce an exposure that is a risk, but clearly Public Health England will need to keep monitoring this on behalf of all of us.

Chair: Thank you. That is suitably clear.

Q53 **Damien Moore:** One of the recommendations in our report on the flu vaccination programme is to ensure that health and social care workers get vaccinated. Should they be encouraged to take the flu vaccination? Should it be mandatory?

Sally Davies: We have given free vaccine, or the NHS has, for the past two winters to social care staff, and they have agreed to fund it for next year. I absolutely support that.

Should flu vaccination be mandatory for staff? I feel quite strongly—no, I feel strongly; there is no "quite" about it—that if you look at the GMC guidance and the nursing guidance, we have a duty of care to our patients, and we should therefore be vaccinated. To date, by steady progress the vaccination levels have gone up, but you will know as well as I do that they are very variable between hospitals. I think it would be very difficult to make it mandatory, bang, although I like the idea they were developing and starting to put into practice last winter, which was that someone working in a high-risk area should be moved from that area if they are not vaccinated.

I do think consideration should be given to making it a contractual duty, just like the hepatitis B vaccine is, so that as you are contracted to work, you accept that unless you have a medical reason not to—that is about eggs, and we are moving to cell culture vaccine steadily over time, so that issue will disappear—you will be vaccinated on an annual basis. Just saying, "Now you have got to have flu vaccine," will not work It has to be a contractual obligation as you join a hospital or something.

Q54 **Damien Moore:** Is there a reason why you think people might not get vaccinated? Do you think there is one particular reason or various reasons?

Sally Davies: When I inquired why Alder Hey, the children's hospital in Liverpool, had such high rates, I was told they have a team that goes around week after week to the wards, the operating theatres and everywhere. They do not just say, "We'll catch who's here." They say,

"We'll catch who's here, and we'll be back at a different time or a different day, because you're all on shifts." They really put in the effort. You have to go out to the staff, because a lot of them say, "I do not want to go and get and vaccinated. This patient needs me." You have to make it really easy for the staff and you have to not give them an excuse. You have to recognise that they are on shifts and that they may not be there one week, and there the next.

Q55 **Damien Moore:** How do you think we can monitor who is and who is not vaccinated, or is there no monitoring?

Sally Davies: The hospitals and the GP practices can monitor and they do give us feedback on a regular basis on their vaccination levels. It is more difficult for social care workers, but I know that NHS England has been looking with Public Health England at how they can do that. It will be much more difficult.

Q56 **Carol Monaghan:** Dame Sally, I have slight concerns about this. Obviously we want health workers to be vaccinated, and you have described situations that might make it easier for them to be vaccinated, and I understand that, but what if they do not want the vaccination? I am worried that that personal choice is taken out.

Sally Davies: What about the 18 patients who died in the winter of 2010 from flu that they caught from one of the health workers in their hospital? What does the nurse who did not have the vaccination because she did not feel like it or fancy it say to the patients who died? The papers said that there were 18, as I remember it. I feel very strongly that we have a duty of care. I go and get vaccinated because I go out to the frontline. I probably also get vaccinated because I am over 65, but I do get vaccinated. Choice? Patients do not have a choice. They are there in the hospital and we are looking after them. We owe it to them. I clearly care.

Carol Monaghan: I get that.

Q57 **Chair:** You do. Just before I hand back to Damien, you mentioned in an earlier answer about mandating staff to do it in their contract. Would you apply that retrospectively?

Sally Davies: I will leave that to the unions to negotiate, but ideally, yes. I want the staff to be vaccinated. If they won't do it easily, then—

Q58 **Damien Moore:** I am going to ask two questions. On that point, do you think that patients have a right to know if a care worker or nurse is not vaccinated?

Sally Davies: Yes, and there is a quite nice study from a hospital in the States where they said, "All right. If you will not be vaccinated, you have to wear a mask." We all know masks do not protect the patient for longer than about three minutes, if they are paper masks, but it actually shows you. I think you could have a label, "I haven't been vaccinated", and the patients could ask. I do not understand it. That paper was quite clear—18 patients caught flu and died of the flu in the winter of 2010. We do not normally look at how many catch it and die from staff, but because it was

the third wave of the pandemic from 2009 we did. If that was my relative, I would feel as strongly as I do for them.

Q59 **Damien Moore:** So are you saying that the concerns of the anti-vaccination movement are incompatible with working with patients who might contract flu?

Sally Davies: We do not seem to get much anti-vax around flu vaccination, interestingly. The uptake has dropped a bit this year in pregnant women but is doing well in children and working people. I do not think they are the issue in flu; I think it is preference and it is not made easy enough, a lot of the time. I also think, if our own staff do not understand why they need it to protect themselves and their families, let alone others, we are failing in our education. It may be that some of this is that we are failing in our education.

Q60 **Graham Stringer:** We had a fascinating inquiry into flu, basically, and flu vaccinations about nine months ago. Is it too soon to say how effective the latest flu vaccination campaign was for last winter?

Sally Davies: We have had the data, and I thought I had it here. It is not too bad; I think it is running at about 44%. Shall I send it to you? I will send it.

Q61 **Graham Stringer:** So it was a successful campaign?

Sally Davies: Yes.

Q62 **Graham Stringer:** And you will send us the details?

Sally Davies: Yes.

Q63 **Chair:** On resistance to being vaccinated, you could say—I am putting words in your mouth now—it would be like a member of staff opting not to wash their hands before treating a patient, which we would find totally unacceptable.

Sally Davies: We do, but is it not interesting that we have to re-teach NHS staff every five years how to wash their hands? Again, I think that will change. I try not to bring my family to work, but I am very proud that my daughter has just passed her finals. She has been taught quite differently from the way I was taught, and she has been taught how to wash her hands, and she does know—she tells me off. They have learned how to communicate to patients. They learn very differently, and I think the students who are coming out are impressive.

Q64 **Chair:** On that issue of students who are coming out, are they being taught the value of vaccination, so even if the staff who are currently working are resistant, there is at least an acceptance among those who are being trained that it is part of the job?

Sally Davies: I think they are, yes. I think they do get that.

Q65 **Chair:** I have a pair of final questions, which are about your successor. What advice would you give them generally and more specifically about

ensuring that evidence is embedded across the whole health policy spectrum?

Sally Davies: As you know, I have tried to make the USP of my time being evidence based. I would advise that that is the best position to take, and to be open and honest when we do not have the evidence or when it is still in dispute. It is very important that the post continues to be, and to be seen to be and recognised as, independent and an independent adviser to Government. That is about building the social capital and being accepted. The rest I will probably think through over the summer and write on one of those letters I leave on the desk.

Chair: Yes, quite. Try to make it slightly more constructive and less humorous than that one left nine years ago.

Q66 **Graham Stringer:** I realise this is a sort of unanswerable question, but I think it is important question. You have quite properly made a major point of being evidence-based in policy, but there is increasingly, both in medical trials and in psychiatric and psychological trials, a real problem of reproducibility. In other words, the evidence is not the evidence you think it is. How concerned are you about that? In the most general sense, is there anything you think the scientific authorities and the Government can do about that?

Sally Davies: On the psychological side, the journals have really picked up on that, and there is increasing work to try to increase rigour. In the more clinical area, which is generally where I am functioning, the fault is that we often do not have many women in, we have very few black and ethnic minorities, we rarely use pregnant women, and we often do not use the elderly—where products will be used—or the young. We need to think, as we go forward, about not just licensing trials but reality and how it plays out. We are all aware of those things, and the push by pharma to use real-world data will help us with some of that, but there are issues, even in clinical trials. Once you put them into meta-analysis, you get rid of some of the noise, but they are still usually middle class, middle aged, healthy and often male.

Q67 **Chair:** As this is almost definitely the last time you will appear before this Committee, are there any other thoughts, reflections or comments you would like to share with us or get on the record?

Sally Davies: No. I would like to thank you. It is very helpful to have a scientific Select Committee that looks at the issues and offers independent advice to Government, because the more places it comes from, the better. You play a valuable role, and I have found it helpful. I also find it interesting, because when you interrogate me, you always come up with things that I have not thought about and it is clear I should think about. I have enjoyed not only the job—clearly, I have enjoyed that—but thinking about things differently because of these discussions. I appreciate that, and I want to thank you.

Chair: Thank you very much for that. Thank you for your attendance today, and thank you more widely for the work that you have done over

the last nine years, the way you have gone about doing it and the robust way you have presented your views. In the same way we have given you some food for thought, you certainly have given us food for thought over that period as well, and for that we are grateful. Thank you very much indeed.

Sally Davies: I appreciate that. I think we are all public servants together, trying to do our best.

Chair: Indeed. Thank you.