Thursday, 23 November 2023

(9.30 am)

LADY HALLETT: Ms Cecil.

MS CECIL: Indeed, good morning, my Lady, may I call Professor Dame Angela McLean, please.

PROFESSOR DAME ANGELA McLEAN (affirmed)

Questions from COUNSEL TO THE INQUIRY

MS CECIL: Indeed, Professor, thank you for your assistance this morning, and indeed you have provided a witness statement to the Inquiry as well. That's dated 19 October 2023, so earlier this year. It runs to some 51 pages, at the conclusion of which is there's a statement of truth and your signature. Can I just ask you to confirm that the contents are true?

A. Yes, the contents are true.

Q. Now, if you can keep your voice up, not least because we have a transcript being made at the same time, and so it may be that at points we need to take things more slowly, so we will try to maintain a reasonable speed and pace. If I ask you to slow down it will be my fault. Similarly we'll take a break at some point this morning.

So, Professor McLean, you are currently the UK's Government Chief Scientific Adviser; is that right?

A. Yes.

Q. That's a position you have held since 3 April of this year; you succeeded Professor Sir Patrick Vallance?

A. Yes.

Q. Previously you've occupied a number of roles both within government but also within academia?

A. Yes.

Q. You were formerly the Chief Scientific Adviser for the Ministry of Defence?

A. Yes.

Q. And indeed you were at the time and the period with which the Inquiry is concerned with regard to the Covid-19 response?

A. Yes, that's right.

Q. At that point you also acted as a Deputy Chief Scientific Adviser from spring of 2020?

A. That's correct, yes.

Q. Thank you.

In terms of your professional background, you were also a professor of mathematical biology and that's where your expertise lies; is that right?

A. Yes.

Q. At Oxford University, and you hold a number of fellowships in that regard?

A. Yes.

Q. If I may now turn to the pandemic response itself and

your involvement in the various scientific advisory bodies at that stage, you were a participant in SAGE?

A. I was.

Q. That run from 11 February 2020 all the way through to 10 February 2022?

A. Yes.

Q. In conjunction with that, were you also the co-chair of SPI-M-O?

A. That's right, I was the co-chair from 27 March 2020.

Q. And that, again, ran throughout that period until the conclusion of the committee in spring of 2022?

A. Yes.

Q. You were also involved in some task and finish groups. Can you just give a very brief outline as to what those were?

A. Yes, there were three of those. So the first one was on mass testing, we did that in August of 2020. The second one we always called the "four nations task and finish group"; that was looking at what happened before and after the tiers were put in. And then there was one on -- about the science of vaccination, although of course most of the advice, the great majority of the advice about vaccination was handled separately by JCVI.

Q. Indeed, and we will return to the second of those, the impact of interventions, the four nations --

A. Yeah.

Q. -- task and finish group in due course, but you cover the other two within your statement so I don't propose to take you to those today.

With regard to providing scientific advice to government, did you at any point attend COBR, Cabinet, Covid-O or Covid-S?

A. I think I went to a small number of Covid-O meetings, none of the others.

Q. With regard to the later stages of the pandemic, was your involvement with the Covid-19 Taskforce?

A. So later on in the pandemic, towards the end of that first year, Covid-19 Taskforce Analytics became a really important part of our lives as advisers, because it formed a really fantastic sort of network for collaborators. So that was headed up by a man called Rob Harrison, and so I think sort of from about December, maybe, 2020, I started going to their morning meeting every day.

Q. Again, we will turn to that in a little more detail when we come to discuss the roadmap out of lockdown in 2021.

So just very briefly with respect to SAGE, you attended a significant number, some 89 of those SAGE meetings, throughout that period. Initially that was as the chief scientific adviser for the Ministry of Defence

but subsequently as a consequence of your role as co-chair, is that right, of SPI-M-O?

A. That's correct.

Q. What was your role within SAGE at that time?

A. So my role in SAGE at that time was like other people, it was to listen to other people's evidence, so evidence that was being brought to SAGE by attendees that day, and challenge it like any scientist would challenge other scientists. Once I was the co-chair of SPI-M-O, it was also to support my co-chair, Graham Medley; sometimes if he wasn't there I would present the SPI-M-O consensus. And then an important part of the work would be to listen very carefully because straight after SAGE we co-chairs and the SPI-M-O secretariat would sit down and think through: right, what's the new commissions that come out of that? What questions arose in SAGE this week that we think SPI-M-O should be -- start working on and thinking about?

Q. Do you consider that to be a strength of the SAGE system, that the co-chairs of the various committees sat on it and then had these follow-up sessions?

A. I would say that was a strength, yes.

Q. In terms of SPI-M-O, again a large number of meetings, 81 during that period as the co-chair, alongside Professor Graham Medley, who we've also heard from, as

you will know, earlier in the Inquiry.

What was your -- as co-chair of SPI-M-O, what was your role as distinct from that of Professor Medley?

A. So I think my main role was really to be the go-between. I was the person who was at SPI-M-O meetings, very involved in the work they had done and were going to do, but also with lots of access to the relevant civil servants, so particularly in CCS -- what does CCS stand for? -- Civil Contingencies Secretariat to start with, and then later on in Covid-19 Taskforce and then particularly in Covid-19 Taskforce Analytics. So lots of that. But then also supporting Graham in devising workflow, like I just described. I was often there -- well, I was always there, when I was available, for the main meeting -- so SPI-M-O had a main meeting, ended up being on a Wednesday -- to support Graham to be listening very carefully to make sure our consensus statement did reflect the discussion.

Yeah, quite often I would be the one who said, "Listen guys, you think that's interesting but I can tell you that is not interesting with respect to this particular policy question". They're academics, my -- I mean, friends of mine, they would get very interested in some particular detail and I would sometimes say, "Sorry, but move on". And on the other side quite often

they would say "Oh, but that's obvious" about something that they felt was very obvious, just from what they knew about epidemiology, and I would have to say, "Well, that's obvious to you but actually it's not obvious to lots of extremely well-important -- well-informed people who are absolutely involved in managing this pandemic".

Q. With regard -- sorry, if I may just pause you there, just to pick up on that -- with regard to your input from that perspective, was that very much based upon your role and interaction within government as a chief scientific adviser?

A. Very much. Very much so. I mean, I'd been in the civil service since that September, but I had also done quite a lot of work over the years as an academic advising into government, because there are lots of mechanisms where government reaches out for academic advice, so it wasn't just those six months, I had also done quite a lot of advisory work beforehand. So I think I probably had more experience, particularly perhaps with civil servants who weren't completely steeped in public health, than some of my colleagues on SPI-M-O did.

Q. And with that role in terms of policy development and having that understanding, did you find that you were predominantly therefore involved in commissioning

exercises and being that bridge between government and SPI-M-O?

A. I did have a lot to do with commissioning exercises, particularly early on. I mean, I think -- well, actually, I thought Graham put it very well when he said that I was able to talk about things that modelling could do and things that modelling could not do. So quite -- I remember many discussions where I said, "That's just not a good question to bring to SPI-M-O, don't ask them that". And then quite often -- you can imagine we would have a conversation where I would say, "Well, why are you asking that question? What is the policy decision you've got to make here? Is there another way we can frame that question into something that epidemiology analysis and modelling can help with?"

Q. Can I ask you just to slow down slightly --

A. Yes.

Q. -- Professor McLean.

LADY HALLETT: I think we had three minds all the same.

MS CECIL: Indeed. Just because, as I say, there is a note being taken and, as I say, it will be my fault rather than yours.

So just picking up on that, what were the initial problems that you saw with commissioning?

A. So early on with commissioning, so remember this would

be -- when I say early on, this is from 27 March onwards, so actually after the first lockdown was in place, commissions arrived from all over the place. So particularly we would get commissions from Civil Contingencies Secretariat and Number 10 and we didn't know how -- and we wouldn't know how to prioritise those. And sometimes we would get commissions that would string several sort of, "Please tell us about option A and/or option B, that's three possibilities, and then string those together for sort of three or four different things", and quite soon we'd get to sort of 100 or so possibilities. And it was my job to say, "I'm really sorry, but in a week we can't do that. What do you really care about? How will you prioritise these questions? Let's turn this into something where we can actually help you."

Q. Did that process, firstly, improve as the pandemic progressed?

A. It got much better. So SAGE secretariat basically built a commissioning system, which -- one of the things it did was to stop just sort of commissions just arriving just sort of from left field, from department X or ministry Y, so they really helped us a lot by effectively making some rules of the road about how commissioning would work. And then, yes, I think --

A. That's right.

Q. Did you see the fruit of that effectively?

A. I think we did, yes, I think the discourse became much better informed on both sides.

Q. In addition to that, and I appreciate some of us are not so familiar with graphs and graphical representations, but one of the other main developments throughout that period, in terms of communications of the scientific advice and the outputs of SAGE and SPI-M-O, was the production of something that became known as "ready reckoners"?

A. **(Witness nods)**

Q. Again, that was something initially pulled together by a Professor Brooks-Pollock --

A. That's right.

Q. -- within SPI-M-O --

A. Yes.

Q. -- and taken forward by you, as co-chair?

A. Yes, I mean, I think that's a good shorthand way of putting it. I think generally in SPI-M-O and then in SAGE it was felt, yes, this is a useful way of making lots of comparisons all on one page without having to draw thousands of squiggly lines.

Q. Indeed. And perhaps we could have a very quick look at perhaps one of the earliest iterations of that, and

well, I felt that my growing relationship with CCS meant that we got better at shared language and me understanding more why they were asking their questions, them understanding more what kind of thing we in SPI-M-O could and could not do.

Q. Thank you. If I may just pick up, then, in terms of those difficulties that were initially experienced with a lack of understanding, you undertook a number of initiatives, would that be fair to say, to try to assist civil servants and policy-makers and indeed decision-makers in their understanding of both scientific consents but also the outputs of SPI-M-O and SAGE?

A. Yes, we put lots of work into that.

Q. Just to give a few examples of those very briefly, you were responsible for producing explainer documents?

A. We did.

Q. Very short, pithy documents explaining things such as the reproduction number, the R, the R number as it's been referred to, general principles and assumptions on transmission, introduction to epidemiological modelling, which we've all had sight of, and indeed an FAQ on epi modelling to try to imbue some further understanding effectively within the civil service and indeed those decision-makers?

that's INQ000216286.

If we can go over the page, please, what we see here are a sequence of graphs that deal with issues in terms of schools and the mixing outside of home, degrees of school opening, the efficacy or otherwise of contact tracing, and then NPIs that are in place.

Perhaps if you could, just because -- very quickly or very gen -- I say in high level through the first of those graphs.

A. So, my Lady, I've heard you don't like graphs, but this is a beautiful --

LADY HALLETT: Well, it depends on the graph.

A. A very beautiful graph.

I think the way to look at this graph is to think about what can this remind us about how things felt on three different dates.

So before, let's say, mid-March, in 2020, we would have been on the right-hand end of -- I'm looking at the left-hand graph, okay? So the bottom axis says how much active work and leisure contact are people having. So 100 is normal everyday life and the Y axis, the up-down axis, is -- what is this -- here is our R number, and we would like --

MS CECIL: If I could just pause you just very briefly with the R number for the moment.

A. Yes. Yes.
Q. Based on the R number, was that because decision-makers had become familiar with that concept?
A. Yes. Yes.
Q. It was a shorthand, effectively?
A. Exactly, it had turned into a shorthand for: have we got this infection under control, is R at 1 or below 1? Or have we not got this infection under control? Which was the case when R was above 1.

So when R is a long way above 1, you really are in trouble.

Q. And that's why we have the R number along the one axis --
A. That's right.
Q. -- and the active work and leisure contacts on the other.
A. That's right.
Q. And I interrupted you, so please go ahead.
A. Fine, thank you.

So remember this is very early on, nobody vaccinated, the entire population susceptible to infection with bad consequences, particularly for elderly people and also for lots of other people too.

So, there we are, living our normal lives in late February, early March 2020, so we're at -- we're far

over on the right-hand side of the X axis, all the schools are open, so the R number is somewhere between 2.5 and 3, we're in the middle of that -- we're somewhere in that red band up there on the right-hand side. And that was what was driving the rapid exponential growth that we eventually saw in the very rapid rise in hospitalisations that we saw a few weeks later.

I'm going to come on later -- I hope we'll come later to where were we in the middle of the week just after the Prime Minister stood up on 16 March and said "Please stay home".

Q. We will be dealing with that in due course.
A. So under voluntary restrictions, we'll talk about -- obviously it's very important where we were, but from the data we had at the time we were probably at about 60 on the X axis, most children still in school, still R way above 1. Then on March 23, when lockdown came in, we were more like at about -- and all schools were closed, we were more like round about 20 on that X axis. All schools closed, so in the middle of the grey band, the R number round about 0.7.

So this was, this was a very quick and easy way to see, roughly speaking, if we do the following things what will happen. And one of the things you see from

these graphs -- I don't know if it's possible to zoom out a little bit? -- is that -- well, if you compare the left-hand graph -- on the top row, if you compare the left-hand graph and the right-hand graph, you can see that a little bit of contact tracing -- so the right-hand graph is if contact tracing could prevent one in five onward transmissions, 20%, well, that doesn't -- there's not a huge difference, is there? Whereas, if you go to the bottom graph, if contact tracing could prevent four out of five onward transmissions, then we start to have quite a lot more room to sort of roam up and down this bottom axis.

So the bottom axis is sort of how hard you have to intervene, the different bands are how much the schools are open, and the different pictures in this particular representation is how much contact tracing might we be able to build.

Q. Indeed. And on each of the graphs it sets out what the parameters are?
A. Yes.
Q. So, taking the top one, we see that the grey band is "Schools closed".
A. Yes.
Q. Then the blue one, "50% of 5-11 year olds at school" as an alternate.

A. Yes.
Q. Yellow, the 5 to 11-year-old category at school.
A. Yes.
Q. And then "Schools open".
A. Yes.
Q. Then, as you say, you see, if we go to the right one, we then see "Schools closed + 20% [contact tracing]" reduction --
A. Yes.
Q. -- and so on and so forth?
A. And if I could add one further thing: this is actually based on data from I think it -- well, I think it is tens of thousands of people in something that -- a study that the BBC ran, long before the pandemic, on what kind of contacts people have with other people of what age in what context.
Q. And this was a graph, as we will come to later, that was being dealt with at a very early point in time, in fact, in the pandemic, pre-lockdown, but post voluntary measures being announced?
A. I'm not sure we had this particular graph, because actually if you look at the date that these emails were written, I think this is -- no, I think we actually got this representation in more like May. This idea that we needed to be down round about 75% of contacts outside

the home, so the idea that we needed to be way, way down on -- back to the top left graph -- only requires a pretty straightforward calculation.

Q. We're going to move to exactly what that required, as I say, when we start to look perhaps slightly more chronologically --

A. Yeah.

Q. -- at the response, as opposed to these topics.

And perhaps we can take that down now.

LADY HALLETT: Just before you do, and now I'm going to show just how bad I am with graphs. Could we have it back up again? Sorry.

The left-hand graph, you've got -- bottom axis you've got up to 100% contact --

A. Yeah.

LADY HALLETT: -- yet we're looking at the grey line, if schools are closed.

A. Yes.

LADY HALLETT: Well, if schools are closed you haven't got 100% contact, have you?

A. So this is active work and leisure contacts beyond -- so work, adults; leisure, everybody (apart from school). So, yes, you're quite right, this is apart from school. What's everybody doing apart from the children's school contacts. Thank you for reminding me to clarify that.

LADY HALLETT: I was just thinking that obviously when schools are open --

A. Yeah.

LADY HALLETT: -- or schools are closed, there's an awful lot of contact --

A. Yes.

LADY HALLETT: -- that is reduced --

A. When schools are --

LADY HALLETT: -- when they're closed.

A. Absolutely. And I don't think that's in here. So the fact that when schools are closed parents can't go to work, I don't think that was captured in here.

LADY HALLETT: The other thing, can I just ask before -- I'm sorry to interrupt, Ms Cecil.

MS CECIL: No, not at all.

LADY HALLETT: Looking again at the left-hand graph, and remembering that one of the problems I have with graphs is it all depends on how big a gap you give between different measurements --

A. Yeah.

LADY HALLETT: -- when we look at school closures and school openings, the difference isn't perhaps as great as some of us might have expected. So if you've got -- well, let's go for the 100%, just because it's easier -- 100% of other contacts, but you close schools --

A. Yeah.

LADY HALLETT: -- with schools closed, you're still up at an R number of over 2.

A. Yeah, correct.

LADY HALLETT: And with schools open, you've got an R number of 3. Well, you said earlier, anything over 1 we're in trouble. So is that as great a distinction as laypeople like me might have expected?

A. I would look at that and say only closing of schools would have been -- wouldn't have helped us -- well, would have helped us very little, I agree.

LADY HALLETT: Thank you.

MS CECIL: Perhaps that's the advantage of the ready reckoners and the visual comparators on the page, in fact.

But these were incorporated, as a consequence, into both consensus statements and SAGE minutes?

A. They were.

Q. Yes. Just to deal, perhaps, and picking up my Lady's comment in relation to the gaps on graphs, certainly that is one of your primary issues with how politicians and -- not just politicians and decision-makers but policy-makers, individuals that are not acquainted with graphs, potentially utilise them and certainly when it comes to getting a ruler out, for example, that's a very

big no-no to mark --

A. Yes.

Q. -- the gap between them or indeed to take a specific point on many of the graphs that were produced by SAGE or SPI-M-O as being a critical accurate point?

A. I think that was reflected in Graham's comment about knowing what you can't do with these things. I mean, my -- I was showing you earlier, my version of these graphs, that I'm extremely fond of and often carry around with me, actually has little -- I drew myself a little picture of a ruler with a "Don't go there" sign on it. You know, we shouldn't use these things to say, "Oh, well, if we had, you know, 45% active work and leisure rather than 40% and -- we could do precisely this or precisely that". That's not the point. The kind of lesson to learn from graphs like this is: look just how much -- look how good your contact tracing needs to be before it gives you lots and lots of space to have fewer interventions in terms of how much people can be out and about.

Q. Indeed. And was that one of the challenges you and your colleagues faced during the pandemic in relation to the understanding of graphs, and indeed numbers, statistics and other scientific data and outputs?

A. Yes, I think -- I think I would say it's an issue all

your life, as a sort of rather technical person, is that -- to find people as interlocutors who will listen, but also challenge in a really constructive way, is really important. Because it's just as bad if they believe everything you say, because that's not very helpful, if you need somebody -- I mean, most of my academic life was done in collaboration with people who were not mathematicians, not modellers, and by far the best collaborators are -- will listen and criticise and say, "Well, why did you do that? And should I really believe, you know, that confidence level? How did you draw the confidence interval?"

So I think one of the things I would always say to any colleague is if a scientist comes and tells you something and you don't understand what they say, you must say to them, "Say it again, I didn't understand". It's their job -- I think it's scientists' job to explain what it is that they've done.

Q. With regard to that point and understanding, perhaps if I can pick that up here, perhaps if I can take you to paragraph 57 of your witness statement on page 17, we're going to turn to decision-making in respect of NPIs, as I say, in due course, but one of the factors that you identified as being a difficulty during the pandemic was the understanding of two key concepts, the first being

the implications of fast exponential growth and the second being lagged controls.

Can you just explain exponential growth and its importance in this context for us, please.

A. So exponential growth arises when you have a process where what's fixed is not the slope of line but the time that it takes to double whatever the quantity you see. So exponential growth and fixed doubling times go together. So when we say the doubling time is a week, we instantly know: oh, we're talking about exponential growth. And I think as you heard very eloquently from Chris Whitty, you know, exponential growth, once it gets going, grows really shockingly fast.

Q. Exponentially.

A. Exponentially.

Q. Indeed.

A. And lagged controls, well, that was particularly pertinent here because what we were trying to do, we were trying to stop too many people ending up being admitted to hospital, and admission to hospital was something that we expected to happen sort of ten or eleven days after you got infected, so if we have -- so the place where you could make an intervention was people getting infected, whereas the thing that you were worried about happens ten days later. So if you wait

until the thing you're worried about is really, really bad, and growth is exponential and fast, you could very easily end up with things twice as bad at the hospital door, even if you put in a brilliant intervention. So this idea that things where whatever your control measure is doesn't fix your problem until ten days later is a really important part of why this was such a difficult problem, and really, as I point out in this paragraph, needed to be understood because it made "watch and wait" tactics very damaging.

Q. Indeed, the failure to take a decision or to wait is a positive decision in itself when it comes to issues of exponential growth?

A. Indeed.

Q. And from your perspective, that is perhaps one of the most important lessons for the future in terms of developing that understanding --

A. Yes.

Q. -- is that right?

A. I think so.

Q. And as we will see as we move chronologically through that period, that informs what you consider to be one of the most significant shortcomings in relation to decision-making in both -- well, to some extent in the early part of the pandemic but certainly in the autumn

period of 2020?

A. I agree, I think we made the same mistake three times.

Q. Thank you.

Now, with regard to that understanding, do you consider that that requires a scientific mindset?

A. No, I don't think it requires a scientific mindset. I think if you -- you can draw it out in a picture in a way that anybody who's prepared to listen and think about it ought to be able to grasp.

Q. Indeed, you give some examples within your witness statement of the director general for analysis in the Covid-19 Taskforce.

A. Yes.

Q. Somebody with an entirely non-scientific background, but able to pick up those concepts and work with those.

A. Yeah.

Q. Now, just picking up on the scientific mindset aspects, there are also differences that you identify in culture and approach between civil servants and indeed scientists. Perhaps if I can just break it down a little bit further into three categories. You have your scientific advisers, you then have your civil servants and policy-makers, operational and taking a lead from the decision-makers in government?

A. Yes.

Q. So those three categories. And in respect to that can I please bring up paragraph 22 on page 7 of your witness statement, because you describe there two very different cultures. So perhaps turning firstly to academics and scientists, and that culture, you explain that academics tend to focus on points of disagreement, speak pointedly, directly about their views. What was the difference, as you saw it, in terms of your interactions during this period?

A. So really the nicest thing that an academic can do for a colleague is point out why they're wrong before it goes out into the world and somebody unfriendly points out why they're wrong. So that was why under Graham's leadership on SPI-M-O our mantra became "Tell me why I'm wrong", and -- whereas it is very frequent in a civil service meeting that as somebody stands up the very first thing they will say is "I agree with everything that's been said", and you're sat there thinking, "Well, you can't have been listening then". And it's -- I don't think they really mean it, actually, I think it's a sort of a saying that means "I'm here to work with you, we've got things we've got to deliver, I might disagree with some of the details of what you've said, but let's work together". And, I mean, I always found it -- do I still? It's always quite difficult for

an academic who becomes a civil servant to understand why people are saying this sort of weirdly emollient thing, when actually our values are so similar: we are trying to get at the truth. I think it's a difference between: are you really trying to get at every detail of the truth, or are you trying to make something workable that you can deliver? So I think it's summed up quite well by "Tell me why I'm wrong" (academics) versus "I agree with everything that's been said" (civil servants). I think the values are actually very close, but they're different ways of approaching working together.

Q. And, indeed, different ways of communicating.

A. Absolutely.

Q. Did that cause any difficulties during the pandemic?

A. Yes, there were several occasions when I had to paper over the cracks, I would say, because it was usually -- was it usually this way? -- yes, I think it was mostly that an academic on SPI-M-O had told a civil servant why they were wrong in some way that the civil servant felt was rude. And so, yeah, there were occasions when -- when I -- and I felt it was my job, I was very happy to do it -- was in contact with people to say, "I'm sorry that was upsetting for you, that was -- they didn't mean to be rude to you personally, what they -- you know,

they -- what they were talking about was your work", you know.

Q. Indeed.

If I could just call up INQ000215900, it's an email with Professor Medley and it relates to perhaps one of those scenarios that arose during the pandemic with a member of -- a civil servant.

Within this, what we see is in the top part it's an email from you. Second paragraph down, you explain that a gentleman was unhappy about SPI-M-O on Wednesday so you sent him an email, which you copied in to Professor Medley just so that he was also in the loop, and you explain:

"I think Civil Servants have different ways of being robust with each other from academics. Perhaps he found our ways of expressing ourselves more direct than he is used to. No action required."

Then you explain you'll try to find out why he's uncomfortable and report back.

So is that an example of what you have been --

A. Indeed.

Q. -- referring to?

A. Indeed. And, I mean, what you can see here is the wonderful Clare Gardiner was able to ring me up and say "Angela, that went a bit far on Wednesday, can you try

to cheer [*Name Redacted*] up a bit".

Q. And the underlying issue there was a meeting in SPI-M-O where members were expressing some level of frustration with the testing and tracing situation?

A. I believe that -- I believe so. Elsewhere there's a response from [*Name Redacted*] saying he's not surprised people are frustrated with the progress of the test and trace system.

Q. Now, if I may turn to separate issue and that's the one in relation to further attempts to assist policy-makers and government decision-makers in a slightly different way, and that was the creation of a toy model. And we've heard a little bit about that already, but if you could just explain very shortly in a sentence what a toy model is, please.

A. So a toy model -- I think the phrase really comes from physicists -- is an absolute caricature. It is something where you keep things as simple as possible, either perhaps so you can do some analytical calculations, you know, on a piece of paper, or in this case we wanted to make something that could be freely available both to policy-makers and, if they wanted it, decision-takers, to build their understanding and intuition about how infectious disease systems work. We knew that we couldn't build for them a full sort of well

parameterised model with lots of the complexities about how different parts of society mixed together. So we were very clear that this was a pedagogical tool.

Q. Indeed, within the toy model documentation itself, it makes clear that it's a teaching tool.

A. Yeah.

Q. It's not designed to give accurate forecasts; it is so that people can play around with it to see what the potential impacts of different interventions could be, but in a very general way.

A. That's right. So going back to this issue that we talked about right at the moment, right early on, that if something is growing very fast and the control lever that you have only acts with a bit of delay, you're going to get this big overshoot after you've made things better, that sort of thing. And when I say "we built", it was built by a team in JBC, a very able team led by Fergus Cumming.

Q. And then quality assured and then sent out to various government departments.

A. That's right. So my role -- so I was incredibly keen that they should have something that was internally correct. I mean, it wasn't a great model but it didn't have mistakes in it, so that it could be relied on in that sense. So yes, sent it out to be basically peer

reviewed by some academics and it was also very carefully reviewed by some modellers at the Defence Science and Technology Laboratory.

Q. We've heard a little bit of evidence already in respect of Clare Lombardelli from the Treasury with regard to an email chain that you were involved in, along with Philip Duffy and Ben Warner, relating to Treasury playing around with and changing that toy model, and what you say there, in relation to that, is:

"Given their inability to spot egregious errors in other things they were sent I do not have any confidence in their ability to hack a simple, sensible model."

As a consequence, anything they have to say about infectious modelling is very much on them, as opposed to quality assured or endorsed by you or SPI-M-O.

A. It was me, this was -- SPI-M-O were actually quite clear that they felt it was not their job to quality assure government work, and I think that was right, they were already doing enough, so it was me as -- really, it was me as CSA MoD, I would say, who took this, found some -- actually, some of them were SPI-M-O members. But -- so that was done outside SPI-M-O, and I think rightly. But, yeah.

But to go back to the -- in the documentation, I think you'll -- there are things saying, "Please don't

change it", because once you've changed it, it is no longer quality assured. You know, we had gone to a lot of trouble to make sure it was correct, and so we said to people, "Please don't change it, please feel free to use it however you like". It had been made into this beautiful, rather easy-to-use thing, I believe, although I never got to play with it myself.

And, I mean, that is a source of some regret to me, because if Treasury had come to us and said, "Oh, this is quite interesting, it doesn't quite do what we need, would you -- if we make some changes to it, properly document and explain to you what we've changed, would you re-quality assure it for us?" And I think I would have sighed because it was a lot of work, but I would have done it. And actually that could have formed the basis for quite an interesting -- a strong interaction.

Q. Indeed. And one of the themes that you do refer to within your witness statement more generally in relation to HMT and Treasury is a lack of transparency over the economic modelling or advice?

A. Yes. I mean, I think there was an issue that the scientific advice that came through SAGE was completely transparent, everything was in the public domain, on the day that a decision was announced, and whatever modelling Treasury was doing to consider the economic

case, I've still never seen.

Q. And with regard to, you may have heard that there was some attempt at epi-macro modelling by HMT?

A. Yeah.

Q. By Treasury. And what you do refer to in your email are "egregious errors in other things". Did they have adequate or sufficient epidemiological modelling experience in your view to do that?

A. I think they could have used some more. I mean, in the same way that DHSC looks for outside help via SPI-M, even in peacetime, and there's plenty of good modellers in DHSC, but they have the, I think, very good sense to go to academics who, you know, who are world class leaders in the subject. So I think it would be sensible for Treasury if they wanted epidemic models to have reached out that way.

Q. Thank you.

Then one final topic before we turn to the governmental response and the response to Covid-19, please, and it's that of data and data flows, and we can deal with this relatively briefly.

We've heard a lot of evidence so far in relation to data and the absence of data, but that's also something that you experienced, certainly at the very beginning of the pandemic but also throughout the pandemic, albeit

getting better as the pandemic progressed. Would that be a fair summary?

A. Yes, that's a fair summary.

Q. If I can just pull up, please, INQ000213194 and go to page 2, what we have here -- it's the bottom of an email from you that I'm interested in. It's halfway down the page:

"That does bring me to the elephant in the room Mike."

This is an email exchange that's taking place towards the end of March --

A. Yeah.

Q. -- of 2020, 28 March:

"You are going to be horrified when you find out what the data flows coming out of the NHS are like. I just want to warn you. I actually choked when Peter Bruce said SPI-M must be drowning in data."

So we are obviously at this point in lockdown. We're there. We still have, on your view, significant issues with the data flows coming out of the NHS. Is that right?

A. Yes, that's right.

Q. How did that impact upon your work at that stage?

A. There was -- there was real trouble with doing the sorts of analysis that we needed because the data weren't

available. It's that straightforward.

Q. Thank you.

A. It did get much better later, so I ... I can't remember the exact dates, but around this time -- I think it -- I never really knew what happened, it was a bit -- it was quite sort of elves and the shoemaker. I came down one day and DSTL had sorted it all. I think what happened was that my very able private secretary in the Ministry of Defence, who came from the defence science labs, what they did was they set themselves up as what I would call a data haven. Anybody would look at them and say: well, surely these people know how to keep very sensitive data secret. So they could be trusted by the NHS to take the data, clean it, make sure that nothing was identifiable to an individual, on the one hand; and on the other hand, they could handle all the non-disclosure agreements that were absolutely necessary from people who were going to access that data.

So they set themselves up that way and they became the people -- a main conduit -- not the only conduit, but the main conduit -- for data, particularly out of the NHS, into idea -- into the modelling groups.

Q. So, essentially, a trusted broker?

A. Exactly.

Q. Something of that nature?

A. Yes. And, actually, I mean, I would like to sing their praises, because I think that act of looking after data, cleaning data, making sure that only people who should access it do access it, is often -- they are unsung heroes, those people. They weren't the modellers; the modellers could not have done their work without them.

Q. And just picking up on two other aspects, if I may, of data. If I can call up, please, an email at INQ000061765. It's an email, again around the same time period, 30 March of 2020 through to the 31st, between you, Sir Patrick Vallance and Professor Medley.

Here, what's being flagged again is, we see from the second email down from Graham Medley:

"... the lack of data from devolved administrations should ... be highlighted."

If we go over the page, please, what we have at the end of that email, the penultimate line before the sign-off:

"A key political issue is that we still have no real-time data from outside England."

So what we're seeing here are significant issues in relation potentially to Scotland, Wales and Northern Ireland.

A. That is correct.

Q. Again, what impact did that have on the early stages and

did that position improve?

A. That was a -- that was a difficult issue for quite some time and it made it very difficult for SPI-M-O to do work that was specifically relevant to other -- to the devolved administrations. It did get much better over time, and in time particularly Scotland and Wales actually created very good analytic and modelling capability of their own and data flows from other parts of the UK did get better.

Q. And with respect to that sharing of data and the data flows, at what point in the pandemic did you see a significant improvement? Obviously not necessarily the date, but just broadly.

A. My sense is that by mid-May it was much better. You have to understand that modellers are a bit like farmers and the weather, you know, there's never enough data.

Q. Of course. Did you or SAGE or SPI-M-O ever experience any difficulties in obtaining data from Scotland, Northern Ireland or Wales, effectively were there any blocks put in the way by any of those devolved nations or was there a free flow of data, once the capacity was there?

A. I don't think I can answer that question because that was -- that would have been handled by my co-chair and the secretariat.

Q. Of course. No, thank you, Professor.

Another area of data, just briefly on ethnicity, if I may, you make it plain within your witness statement that with regard to ethnicity there was insufficient data to account for intersectional disparities, so ethnicity and indeed other aspects; is that right?

A. That -- particularly in these main flows of data that were driving parameter estimation for the big models, yes. There were sometimes other particular questions that we could address with particular datasets but yes I would say in the main data streams there wasn't enough data, and for the kinds of policy questions we were addressing I don't really -- I can't think of policy questions that really would have driven that kind of modelling. Because there's no point in us making a model more complicated if it isn't necessary to address a particular policy question.

Q. Indeed. And similarly there was an absence of data on wider societal outcomes which feeds into those intersectional issues also?

A. Yes.

Q. We --

A. Sorry, can I just --

Q. Of course.

A. I don't think we're going to visit it here, but there

was work done by a different group, not by SPI-M-O, on what Chris Whitty refers to as -- what we always thought of as the CMO's four harms. So because -- so that was handled by Ian Diamond and John Aston.

Q. Yes.

A. So that the -- ways of accounting for the harms wider than Covid hospitalisations and deaths.

Q. And we have heard some evidence in relation to that at the outset of this module as well from Professor Sir Ian Diamond.

A. Good.

Q. Similarly, if I may, data and care homes, just touch on that briefly here. With respect to care homes and data, were you also experiencing problems in accessing data flows and data streams?

A. We had very little data about outbreaks inside care homes, so for a long time the data we tended to see was: yes, this care home is affected, no, this care home is not affected. But that made it very difficult to say anything helpful about what was happening inside care homes.

We did set up a separate care homes group and had modellers specifically on there, so in a sense the care home modelling was -- was delegated to a different group.

Q. Indeed, and really I'm just dealing with the data aspect --

A. Yes.

Q. -- at this moment with you. Perhaps just to round off that topic in terms of your evidence, because we've heard evidence obviously from other individuals too, Professor, but from the outset did you expect that there would be problems arising in relation to care homes and outbreaks?

A. Yes. I think that was -- you only have to look at historical big epidemics, particularly of respiratory infections, that you would have expected that.

Q. Just again briefly, because there will be a module dealing with this in greater detail in due course, was outbreaks, the incidence of outbreaks and problems within care homes, was that something that was a foreseeable issue from the outset of the pandemic?

A. Yes.

Q. Indeed, within both SAGE and the subgroup, we see that testing is --

A. Yes.

Q. -- one of the --

A. That's true.

Q. -- tools that is repeatedly referred to respect to care homes?

A. Yes.

Q. And that concerns were being raised within SPI-M-O?

A. Yes, that's right. It was clearly going to be an issue. Of course, at that very early stage we did not have many tools in our pockets for helping, and testing would have been one of the few things we could do.

Q. Were you and SPI-M-O concerned that not enough was being done in relation to care homes?

A. Yes, and I think SAGE too, I think there were SAGE comments from quite early on about how particular attention would need to be paid to care homes.

Q. And as you've already referred to, we see that a separate subgroup, a working group, was set up specifically to deal with that issue?

A. Yes.

Q. Thank you.

Now, if I may move now to start with the actual Covid-19 response, and so taking you back, if I may, all the way to your first interactions in terms of SAGE, which was on 11 February, I understand that you were aware of Covid-19 prior to that as a consequence of interaction with Professor Edmunds and -- were you concerned at that stage?

A. I think I mention in my statement that on 25 January I remember being at an infectious disease public

understanding of science event actually in Oxford, so there were sort of lots of us together, and somebody asking me about it, and I remember saying, "Well, John's worried, and that makes me worry". Because, I mean, you know, we've lived through all of -- you know, umpteen times that there has been a pandemic and so we know how different people react; the fact that John found it worrying was a pretty strong signal, I would say, even mid-January.

Q. Is he normally somebody that is cautious then, and so a concern in that respect would be a very significant concern?

A. Yes.

Q. Now, if I may take you then to the first few weeks of March, and if I can take you to paragraph 116 of your statement, you explain that you:

"... began to feel that there did not seem to be a plan within government, or a clear sense of how many people were going to die."

Why was that?

A. Where are we ... I'm just trying to look -- "first few weeks" ... it seemed incredible, and from what I've heard now it was incredible, that there could possibly be a strategy of -- of a -- even a slightly mitigated epidemic, that the kinds -- I mean, you've talked quite

a lot about other people's calculations. We might look at some I have made. If everybody could catch it and it spreads quite well, so that you might expect something like three-quarters of the population to get it, even if the infection fatality rate is only 1%, that's just an unbelievably large number of people. And that was what led me to say to Ben on that -- one of those days, the 10 March day, have decision-takers really understood what they're confronting here.

Q. And 10 March that you're referring to is a SAGE meeting?

A. Yeah.

Q. And Ben is Ben Warner --

A. Yes.

Q. -- who was also in attendance. We also know that Professor Riley was there, Professor Ferguson.

A. I think Professor Riley was not there but we spoke about an important paper of Professor Riley's.

Q. Yes, and it was his paper that was being discussed in any event at that meeting?

A. The point about that paper was, remember, Professor Riley had lived and worked in Hong Kong, so he had experience that was lacking for many of us. And, you know, he expressed this very strong view: we're going to have to go into lockdown and stay there. And so that was 10 March.

And, I mean, I actually hadn't heard about Exercise Nimbus until I heard Ben Warner giving evidence to you, and, I mean, actually -- so if I'd known about Exercise Nimbus on that day I would have thought, "Oh, well, they've had an exercise on it". It was a flu pandemic exercise, but it's still a very, very large number of deaths. So if I'd just known that Exercise Nimbus had happened, I might have been encouraged; actually, if I had known who went to Exercise Nimbus, I might have been a bit discouraged.

Q. If I can just pick up on that, please, with Exercise Nimbus, and certainly it was not the case that all of the CSAs from the various departments were present?

A. No.

Q. Certainly you weren't aware of it?

A. No.

Q. So there was no opportunity to feed in from that scientific perspective?

A. I think GCSA was there. I'm not -- I think at least one of the DCMOs were there.

Q. I mean from the CSA -- I mean from the broader CSA community within government.

A. Yes, absolutely. Yes, that's true. I would also -- the people who were present at Exercise Nimbus were not the

secretaries of state who would be sat round the Cabinet table making these decisions.

Q. So at that point did you -- were you concerned that government had not got a grip on the situation?

A. I was concerned that the people who were being asked to make these very consequential decisions that were coming our way very fast may not have got their heads round what it would feel like to have three-quarters of the population infected and 1% of them die. I mean, that's -- it's clearly unconscionable -- whatever the word is -- not something any politician can conceivably agree to. So I wasn't clear what it was they'd agreed to on that -- on that day, on the 10th.

Q. Indeed. And as you say, that's what prompted you to speak to Ben Warner --

A. Yes.

Q. -- about whether or not those decision-makers in government --

A. Yes.

Q. -- ie the politicians --

A. Yes.

Q. -- the Prime Minister and members of the Cabinet --

A. Yeah.

Q. -- secretaries of state had understood the consequences?

A. Yes.

Q. The overwhelming of the NHS --
A. Yes.
Q. -- and the tsunami of deaths that would potentially be coming --
A. Yes.
Q. -- the -- in the way?
Your involvement then continued, and indeed you attended SAGE 15, meeting 15, then on 13 March of 2020, and at that point ICU hospital capacity was being discussed by Professor Edmunds. What was your view in relation to hospital capacity and what you knew about the potential pandemic?
A. So this was the first time I saw a picture that compared potential pandemic and ICU capacity, and it was really shocking. Because -- I mean, you've all seen it now, but it is this line right down at the bottom, not so many at the top. And I did also -- a relative of mine was working in a London ICU then, and from what she described and from what I knew about exponential growth -- you know, they didn't have many people but if the doubling time was less than a week, it was just very obvious that they would be in big, big trouble in a few weeks' time.
Q. Indeed. And that prompted you to send Professor Sir Patrick Vallance an email.

And if I can just pull that up, please, that's INQ000195889.
And this is your own calculation --
A. It's not a calculation, it's just a drawing.
Q. A drawing. I mean, "calculation" places it too high? It's probably --
A. On purpose actually, because it's -- see, I was worried that people were looking at models and saying, "Oh, it's just modelling", and so I wanted to say this isn't really about modelling, this is about have we somehow been making the wrong assumption about where capacity lies relative to what we're going to do.
Because on Friday we'd been shown the picture where the dotted line is way down the bottom, and if the dotted line is way, way down there, all this discussion about are we going to mitigate or are we going to suppress, well, if you're going to stay below the dotted line, to mitigate is to suppress. It was -- it was -- once you -- once -- once you see where that lies it's not a complicated question --
Q. No.
A. -- if you are not going to exceed capacity.
Q. You don't need a model?
A. No.
Q. You don't need modellers?

A. No.
Q. You just need to apply basic facts and, to some extent, that word common sense --
A. I think what modelling might -- would help you with is this sense of how fast is it growing, how long have I got.
Q. Indeed. And this document, you explain that you know there were many uncertainties, you're looking at realistic current capacity versus reasonable worst case epidemiology as well within there, but really focusing in here on just NHS capacity and it being overwhelmed?
A. Yeah.
LADY HALLETT: Sorry just to interrupt again. What made you pose the question: but what if it's here? To lower the line.
A. Yes, the meeting that we'd had on that Friday, where John Edmunds had shown a picture where -- I think he'd had some real data -- I think it was just from one county, actually -- and had drawn, effectively, that picture.
LADY HALLETT: So who had given you the higher dotted line?
A. That was my interpretation of what we seemed to be saying, that the situation was going to be something where we make it a little bit better and then we'd stay within capacity --

MS CECIL: And the NHS would cope, effectively?
A. Yeah.
Q. But actually capacity seemed to be at quite a distance from that?
A. Yeah.
Q. And as a consequence would be overwhelmed and swamped very quickly?
A. But other people who were having conversations -- I mean, this is me at home in Oxford, you know, doing little drawings. Other people who were in London that week were in the process of finding out how far along -- or, in real life, how far along those lines we were, which was actually, as you heard earlier this week, the much more compelling piece of evidence.
Q. Indeed. If I can just then take you down slightly further on your page, this is where you set out what you consider to be the combinations of options:
"If capacity is nearer the low line ..."
A. Yeah.
Q. "... what other combinations of options are there?"
A. Yeah.
Q. This is on 15 March. And we see, at the top: "Lockdown"?
A. Yeah.
Q. "Intermittent lockdown"?

A. Yeah.
Q. Presumably coming into lockdown, coming out, going back into lockdown?
A. Yeah.
Q. "Spread out [over] time to achieve immunity".
What does that mean?
A. Other ways of -- intermittent lockdown is one way to spread out when your infections happen. We could have thought -- I'm sure if we'd applied brain we could have thought of others.
Q. And "Continue contact tracing". We'll come to that a little bit later.
And then:
"Others?"
A. Yeah.
Q. So we see that you are flagging here to Professor Sir Patrick Vallance those options, if this is where we are?
A. Yeah.
Q. You raise herd immunity effectively to demonstrate the numbers that it would take to reach a level of population immunity?
A. Well, actually, if you look at what is happening here, I'm not actually doing any kind of herd immunity calculation. There's no 1 minus 1 over R here, it's just if you wanted to end up with half the population

immune what would happen. And so that's that first row. And that's the sort of numbers that would have been looked at in Exercise Nimbus. It's not exactly those ones but it would have been something like that.
And, I mean, you just get to these numbers that clearly no one's going to tolerate. No one is going to tolerate 2,000 deaths each week.
Q. Indeed.
A. So a sense that -- I guess what I'm saying at this stage is what Chris said two days ago: nobody was ever considering this. And I guess I was getting up to speed with this was not something that could be considered.
Q. Indeed. And then you send this document the same day to Professor Medley?
A. Yes, because that, I did not want to be -- remember I'm not on SPI-M at this stage, so I didn't want to be treading on his toes, just making sure he sees it.
Q. Indeed.
Now, just going back to the NHS data point that we discussed earlier, would you have expected better quality data at this stage to inform these sorts of calculations in terms of ICU capacity bed space?
A. Yes, I think it would have been very useful if, in one of the SAGE -- as I say at the beginning, there's a discussion that I missed that SAGE -- if it has

occurred. So, I mean, that -- I think that's a sort of polite way of saying: why on earth have we not had a discussion in which we look at some of these potential waves we're thinking about and plot them against our known capacity?
I think there's con -- I mean, from other things I've seen you look at, perhaps those conversations were happening somewhere else.
Q. If I can just also just pick up on one further point before leaving the document, you also raised nosocomial infections, so infections take place when an individual is admitted to hospital, and certainly that was also a concern of yours at this stage; is that fair to say?
A. Yes.
Q. We then move through the pandemic in terms of -- in terms of announcements. On 16 March, just so that you're aware, that's when the Prime Minister says "Now is the time for everyone to stop non-essential contact and travel", and by 18 March you, within SAGE, and indeed SPI-M-O as a consequence, had some data in respect to what -- how people's behaviours had changed; is that right?
A. That's right, there was, this was paper -- sorry, this was data that we looked at at SAGE on 18 March. So this is two days after voluntary stay at home.

Q. What we see from that is that they had achieved around a sort of 40% reduction --
A. Yeah.
Q. -- in social contacts, but was that sufficient?
A. No, we knew that we needed about 75% reduction in contact. So I think -- look, this is something I think is quite important to remember, that we did actually data that very day that said that voluntary reductions were not enough.
Q. We see quite significant -- in fairness, we see quite significant voluntary behavioural change in reality. We see that "16% of those with school age children have already stopped their children going to school". We see the public reacting to that announcement?
A. Already.
Q. But as you say, it simply was not enough in terms of --
A. No.
Q. -- what you considered was necessary to prevent the tsunami of potential infection?
A. Indeed.
LADY HALLETT: Did you have enough data? You said you had some data, but I think I have heard other people say that it would take more than just two days to get sufficient data as to --
A. Yes.

LADY HALLETT: -- whether or not it was working. So what conclusions can we get after two days?
A. What conclusions we get after two days is that after two days we haven't got enough. I think there are other -- I mean, that's all we had and a decision had to be made.

So I think there are other data streams that tell us that the voluntary measures weren't enough, and in particular the fact that hospital admissions peaked on April 2nd, and that's ten days after March 23rd. If 16 January had been enough -- sorry, if 16 March had been enough to get R below 1, we would have expected hospital admissions to peak ten days after that.
MS CECIL: And that's your lag point as well?
A. That's the ten-day line.
Q. Indeed.
A. Yeah.
Q. So broadly accurate but insufficient?
A. A big -- I mean, I think all of us who were there -- I mean, actually I have a photograph on my phone of an empty train as I went into London that week. It felt enormous. But actually, I think, if we remember, it was not as enormous as the next week. I mean, the next week it was really sort of wind down an empty street, wasn't it?

Q. Indeed. And that's when, of course, lockdown was announced?
A. Yes.
Q. Now, with respect to the announcement of lockdown in terms of its timeliness --
A. Yeah.
Q. -- what is your view on that?
A. You've already heard from colleagues that it was too late. So if we're doing a with benefit of hindsight exercise here, I would say it should have been two weeks earlier, you know, that that would have made a really huge difference. Now, we didn't have the data two weeks earlier, so ... by the 16th we had -- we had enough data. In my opinion we should have gone into lockdown on that Monday the 16th.
Q. And that's the critical period from your perspective, the 16th? The 16th is that critical timing, in terms of the datasets that you had at the time --
A. Yes.
Q. -- and the knowledge base that you had at the time?
A. I think on the 16th, given what we knew about how fast this epidemic was spreading, given what we knew and could surmise about the fact that there seemed -- that probably everybody could catch it, I mean, probably everybody was susceptible to catch it, I think there was

enough information on that date to say "We need to stop all non-essential contact".
MS CECIL: My Lady, I'm going to turn to another topic. It's slightly earlier than would ordinarily be the break but it may be that now is an appropriate moment.
LADY HALLETT: Thank you, I shall return at 10.50.
(10.37 am)
(A short break)
(10.50 am)
LADY HALLETT: Ms Cecil.
MS CECIL: My Lady.

Professor, if I may just pick up very briefly on lockdown. We'd just got to the point of the first lockdown and the stay at home guidance. You were expressing your views on the timeliness of that lockdown.

Can I just be clear, is that from a public health perspective?
A. Yes. I'm not entirely sure it's sensible to completely separate out the public health perspective and all the other costs. I think, actually, you had strong evidence from my colleague Tom Hale in Oxford that the countries that did best were countries that kept incidence low, and they had both better health outcomes and better economic outcomes. So the idea that it was this pure

trade-off, one thing or the other, I don't think is a helpful mindset.
Q. Indeed. But, of course, when considering lockdown --
A. Yeah.
Q. -- there are other factors and there are other broader considerations alongside the public health considerations, as you have identified, economics, which may go one way or the other.
A. Yes.
Q. Indeed.

Then just dealing with your point about lagged delays. So we have the announcement of the lockdown on 23 March and stay at home, and we see -- and you've set it out within your witness statement -- that, again, peak hospital admissions then subsequently fell ten days later on 2 April.
A. Yes.
Q. What does that mean in terms of the R number, from your perspective?
A. From my perspective, that tells us that the R number fell below 1 for the first time about ten days earlier, namely on 23 March.
Q. So we're seeing those correlations, and you've given two examples now --
A. Yes.

Q. -- in your evidence so far.

In terms of support for that view, what you also set out is the alternative, if the R number had been higher during that second half of March.

What implications would that have had in relation to the first wave?

A. Well, let's -- there are various possibilities. If it had been higher and above 1, hospital admissions would have continued rising, I think. I mean, that would have been intolerable. We were -- everybody was very, very worried those days in early April. Was it going to peak? Would the stay at home law -- so would the imposed lockdown be enough to bring R below 1? That was the first thing. So that's -- a terrible outcome would have been if hospital admissions had carried on rising.

But even if it had fallen a little bit below 1, say -- we think now it fell to about 0.7. If it had fallen but not that much, that first wave would have been bigger. It would have -- so we'd have had a peak, but it wouldn't have come down so fast.

I think most people feel that the first wave was bad enough.

Q. I suspect that's a view that's broadly shared --

A. Yeah.

Q. -- and uncontroversial.

If I can ask you questions then about your involvement in the exit from lockdown. You've already touched upon one aspect of that by reference to your colleague, Professor Thomas Hale --

A. Yeah.

Q. -- in relation to low incidence --

A. Yes.

Q. -- and the role that that may have played in relation to pandemic response and outcomes.

Now, in April, on 10 April, you attended a working group on the science of exit from lockdown, and at that meeting, that working group, there were two scenarios that were being discussed, weren't there: a low incidence scenario and a high incidence scenario.

Can you just explain for us in simple terms what a low incidence scenario is, and then we'll move in a moment to the high incidence.

A. So I think a good way of labelling those -- we ended up labelling them "hospitals empty" or "hospitals full". So high incidence actually wasn't all that full. And the question -- actually, what we wanted to do was start to have strategic think-through about: what are we going to do? You know, we're in a deep hole here. We've got a nasty infectious disease circulating that is -- makes many people very ill, and sadly kills quite a lot too,

and most of our population is susceptible to it, and we don't know when we might have either drugs that are so great that we can treat infections really well, or a vaccine. So we don't know how long this is going to go on for, let's start to have a think through what we can do about it.

And so in some ways I would say the low incidence and the high incidence comparison that we ended up making was an attempt to start a conversation, both with policy-makers and decision-takers, along the lines of: well, what is your strategy? What's the plan?

Q. Indeed, and a lack of strategy or clear plan or strategic aim is one of the primary themes that's contained within your witness statement.

A. Yes.

Q. If I can deal with that briefly with you now.

You explain that the primary strategy that evolved or the closest thing you got to was the focus on the R number.

A. That's right.

Q. What impact did that have in terms of strategic thinking and your ability within SAGE and indeed SPI-M-O --

A. Yeah.

Q. -- to model interventions and to provide, effectively, options that could be developed to policy?

A. So I think if we were to be very straightforward, we could say the ends were: you will not collapse the NHS. So that was the strategic aim. The ways were: well, we'll control mixing so the R number is slightly less than 1. And my feeling was that was only really half of an explanation of what we were trying to do, because R round about 1 just means that the number of infections each day is flat. So you can have R round about 1 with hardly any infections each day, or R round about 1 with lots and lots of infections each day. So it didn't express an opinion about what those in power thought was the right way to work our way through this very difficult situation, I felt.

Q. For example, by otherwise considering other targets, such as the number of infections each day, or even, as unpalatable as it sounds, the maximum tolerable limit in terms of deaths.

A. Yes, or we could perhaps have had -- I think it would have been helpful if we had had an expression from the NHS of how many people could they manage in hospital at any one time with Covid, whilst also doing all the other things that we need the NHS to do. But there was no appetite ever to express with such clarity what the plan was.

Q. And the consequence of that is that there's no target

that's breached --
A. No.
Q. -- potentially, and effectively a trigger -- or for use of a shorthand, to trigger other interventions or to bring in further aspects of a plan.
A. There were some levels, weren't there? There were those five levels I expect other people have talked to you about. But I don't think we ever had from central government: we want R slightly less than 1 and the number of new infections per day less than, let's say, some thousands of numbers.
Q. And did you request further guidance or a clear strategic aim?
A. I certainly requested them of my civil service contacts, and, I mean, they got to a stage where they knew what I was going to say, you know, because the plans would come back that it was, you know, sort of a tolerable number or something, and they knew I was going to say, "Well, what is a tolerable number? What number is that?" But, I mean, I think it's very clear that that was a choice, not to articulate a number on what was tolerable.
Q. Indeed. So that in itself was a positive decision.
A. Indeed.
Q. The consequence from your perspective -- and

I appreciate this is from a public health or science advisory perspective that I'm asking you to speak about here -- was that it was very difficult -- well, was it very difficult to therefore model and plan and provide a route through?
A. So if you're not told what's the objective, it becomes very difficult to say, "Watch out, you're three weeks from breaching your objective", say. So we always had to impose an objective of our own. So somewhere else in these documents you will see a document where we say, "Well, you're a few weeks from having more admissions every day than you had in the peak of the first wave". That wasn't because somebody else had said, "Please do that calculation"; it was because we felt decision-takers needed to see that calculation because things were getting so bad.
Q. Indeed. So with a clearer goal or level or strategic aim in mind --
A. Yeah.
Q. -- would it have been possible, looking back, to have managed the pandemic more effectively?
A. Looking back, let us imagine that in September 2020 we had breached some then specified level -- actually we did, we breached the reasonable worst-case scenario, which had been specified by Covid-S, not by us -- we --

you could imagine a world where we had said -- well, where decision-takers had said, "Oh, gosh, we've breached the target, let's get a grip", and that is not what happened.
Q. We're going to move to that in due course.
But coming back, then, to 10 April and this working group, this was an effort in terms of low and high incidence --
A. Yeah.
Q. -- running a pandemic, also you've put it, in hot or cold terms --
A. Yes.
Q. -- to engage or get decision-makers and policy-makers to engage with what it was that they saw as a clear strategy.
A. Yes, and the point of that document was to lay out how different things would be with respect to a whole lot of different factors. For example, contact tracing is only really going to be able to make a huge difference if you're running a cold epidemic, if you've got low incidence, because once incidence is really high, it becomes very difficult to do contact tracing well enough to find everybody who's got infected and get them into isolation. So there is quite a long table in that document of sort of careful thinking about what would be

the difference between these two.
Q. Thank you.
A. If I may, there is -- I think really the closing paragraph of that document finished the question for us, in which somebody makes the point or the point is made: well, let's just imagine that low incidence is about one-fifth of high incidence, that means we're accruing immunity five times more slowly, that means -- if we think roughly speaking -- we did think roughly speaking we'd get to a useful amount of immunity in one year with high incidence.
Q. With high incidence?
A. With high incidence. That means if we think we might get a vaccine or a really good pharmaceutical, a really good drug, in anything less than five years, then we should go for low.
LADY HALLETT: Can I --
A. And that was sort of the killer for us. That was the end of the question for us.
Yes.
LADY HALLETT: Sorry to interrupt.
Can I just go back to the point about not having a plan.
A. Yeah.
LADY HALLETT: I appreciate having a plan or a strategy

would make your life and the lives of your colleagues a great deal easier to provide what you considered to be more accurate and sensible advice, but provided the experts advising decision-makers were getting the message across that this was going to be a nightmare, the NHS would be overwhelmed, do you have to have a target that gets breached?

A. No. No, we don't. We might come to that at the end, because there was never any target expressed in the 2021 spring documents. There's no numerical target.

I would say it's probably more to do with politics and values and acting fast. I mean, I think the fact that fast action was required, I think that is a scientific issue, because it's to do with the system science of -- it's basically to do with fast exponential growth and fast talking. Fast exponential growth and lag delays, those are scientific issues. I think articulated targets might have driven faster action, and in that case would have been good from the point of view of pandemic control.

LADY HALLETT: Thank you.

MS CECIL: We'll touch upon that as we come into the autumn period in due course, and then indeed we will turn to the roadmap and the targets and objectives that were outlined there and the policy objectives.

Perhaps just to round off this, if I can just bring up INQ000212100. This is an email from you. It's the one that attaches your paper that we've just been discussing. But you boil it down to Sir Patrick Vallance within this email -- if I can just go down slightly further -- into a very simply dichotomy, in many respects --

A. Yeah.

Q. -- for politicians, so decision-makers:

"Do you want to keep COVID deaths as low as possible until pharmaceuticals produce a solution [that's your vaccine or your medicine]

"Or

"Are you prepared to define a tolerable level of COVID deaths that would allow us to start moving towards an immune population whilst we wait."

And of course, as you say:

"The devil then is how small can 'tolerable' be and still move us towards an immune population at some meaningful rate."

And then you explain further, as you've just touched upon:

"... if you want to be at population immunity within a year, we cannot imagine getting there with any fewer than N deaths ..."

As a simple way of explaining to those decision-makers what the consequences of either hot or cold, low or high incidence, would be.

Now, in terms of SAGE and your colleagues, the general consensus was that the low incidence approach was the preferable one.

A. Correct.

Q. And that was communicated upwards.

A. I assume so. Yes, I think -- so I'm pretty sure that what happened is that Chris and Patrick wrote their own version of this document, which they, I assume, then took to Cabinet.

Q. We touched upon that already in terms of some of the evidence that we've heard.

Now, just if I may now turn to another aspect, that alongside all of this, while you're running through those scenarios, you're also considering the possibility, at least, of elimination.

A. Discussing, yeah.

Q. Indeed, and you raised that --

A. Yeah.

Q. -- on 18 April and indeed on 19 April, firstly in an email to Professor Medley on the 18th, and then secondly in a conversation with Professor Sir Patrick Vallance. In respect of that, you're

essentially saying: have we properly considered it? Have we ruled this out as a potential option?

You also address within that the potential for the health and social care infections to be driving the community epidemic as opposed to the other way round, with the community epidemic driving the health and social care infections.

We've not seen any further material in relation to pursuing elimination as a strategy, but what were your views at that time, and was it a possible strategy to be pursued?

A. So quite quickly, because the infection was so widely seeded across the population, and as we were finding out more about asymptomatic infections, it was very clear that it was not feasible. At that point, I -- we probably had a discussion in which we said: well, we could do a bunch of calculations, we could make a model, we could, you know, do some squiggly Greek letters, but at the end of the day we're just going to say exactly those words. So this was a place where doing some modelling simply doesn't add anything, so let's not do it. So that was elimination.

I think I did feel then: let's challenge that a bit, let's make absolutely clear, because Australia and New Zealand were aiming for elimination, but -- so let's

be clear in our heads why we think it's not going to be possible. And for people like us, the way to be clear in your heads is to think it through with a little model. But it clearly wasn't a useful way to spend a lot of time for SPI-M.

Q. Indeed.

A. Was the -- were the hospital and care home epidemics driving the -- did we need a three -- basically, a three-part model, so a model that had community and care homes and hospitals? I think we probably put that to modellers and they said, "No, we don't think so". One of the big models did end up with care homes in it, but fundamentally I think we ended up with a decision that: no, they weren't driving. They were important in terms of places where large numbers of very vulnerable people gathered together, but they weren't important in terms of driving transmission back into the wider population.

Q. Just touching, if I may, on elimination more generally, this was obviously in April, but looking back now, would elimination have ever been possible on what is known?

A. Certainly not after we'd seeded the epidemic the way we did after half term in February.

Q. Thank you.

Now, as we emerged from lockdown 1, and moving then

into the summer months of then May 2020, you took part in -- well, over the course of the pandemic -- a number of Number 10 Downing Street press conferences.

In May 2020, in reference to coming out of lockdown and any changes in relation to lockdown, you explained that the scientific evidence was clear, and that any changes to lockdown were also dependent the track and trace system being in place.

Now, that was obviously your comments then in May 2020. Was that track and trace system ever in place to an adequate level to enable that to actually take place?

A. I think our estimates in the summer of 2020 was that it was probably blocking about one in five, so 20%, of onward infections, and that in order to have a really -- in order to have so substantial an impact that big changes could be made to how much mixing we could have without driving R above 1, that needed to be more like four out of five.

Q. Thank you.

Further in that press conference, you also said that any lifting of restrictions should be based on observed levels of infection and not on fixed dates.

A. Yeah.

Q. So effectively data not dates, in shorthand. Was that

observed at that period in the pandemic?

A. I do not remember exactly what happened with the unlocking of the lockdown through the summer of 2020. I'm sorry, I can't exactly remember.

Q. Not at all.

A. Numbers were low then.

Q. Thank you.

In terms of any feedback loop that you had, what did you consider the main drivers within government would have been in relation to exit strategies from lockdown and, more generally, the loosening of restrictions?

A. There were very clear indications that, quite reasonably, recovery of economic activity was a very strong driver. We can tell -- we can remember now that getting children back to school for sure for September was a very strong driver, and I can remember debate that if we wanted children back at school -- and clearly we did -- we might well have to put a lot of restrictions on other kinds of activities.

Q. Thank you.

A. Especially given that contact tracing was not ramping up as fast as we had hoped.

Q. Indeed.

Now, if I may take you, please, to paragraph 120 of your statement at page 36. This is dealing with the

position coming out of that first initial lockdown and, indeed, in April of 2020 through to May. You explain there that -- it's about halfway down:

"I do not know what people in government understood the characteristics of Covid-19 to be, but we were worried that for whatever reasons, decision-makers had not taken on board quite how serious it was."

You explain then by reference to an early meeting that you had in the Ministry of Defence, where your comment that it would take at least 18 months was met with disbelief.

Was that a view that you saw more widely across government?

A. I think if we'd been in the room together -- of course, it was all a Zoom meeting then -- I would have used the phrase "you could have heard a pin drop". Perhaps "disbelief" is a little bit hard. But I think people -- I think -- I mean, it was quite shocking, wasn't it, I think, for all of us, the thought that -- that was quite a hard idea to get your head round, that we were in so much trouble that it might take us more than a year to get out of that trouble. And, as I say, there were midway reviews in April which -- we were certainly not midway in April, were we?

But I think in retrospect, one of the things that

I wish we had done is this sort of -- what I think of as the missing commission. So in that summer of 2020 when, you know, things were under control, I really wish there had been a cross-government commission that recognised all this, that said, "Well, we're in this for the long term, it's going to take until we get a vaccine, and then another year, so what are we going to do? There aren't really good options; are there any less worse options?" And I would have -- in retrospect, I think we should have used the expertise that we had, both inside government and had already gathered from outside government, to pause and think really carefully about a long-term plan.

Q. Thank you. Would you describe that as a missed opportunity?

A. I do think that was a missed opportunity. Again, with the benefit of hindsight. I didn't ever ask for it at the time.

Q. That's the next -- indeed, you've already foreseen my next question.

But perhaps then therefore going to the summer of 2020, and you've explained that infections were low, the R rate was around 0.7 or so at that stage in the summer, we then move into the June, July, August period, and of course in July, the Eat Out to Help Out policy was

announced.

We know that SAGE were not consulted on that policy; is that right?

A. That is right.

Q. Was SPI-M-O consulted?

A. We were not consulted.

Q. Indeed, you've been through both the SAGE and the SPI-M-O consensus statements and there's no references to it there.

A. Correct.

Q. Do you have any knowledge at all about what, if any, scientific advice informed that scheme?

A. No, I don't know anything about any scientific advice that went into that.

Q. In terms of your view on that scheme, and the advice that you would have given at the time, what would that have been?

A. It would have been along the lines of advice that we were giving routinely, which is that there wasn't much room for increasing mixing, and the kind of mixing that should be avoided is between households indoors. So we would have said, "Could you not find some other way to stimulate the economy?"

Q. If I can just call up, please, a SPI-M-O paper which deals with social distancing measures. It's dated

22 June 2020, and it's INQ000074930, it's page 1, and if I can go to paragraph 4.

Here, what we see within SPI-M-O is effectively it's looking at how one goes forward and takes NPIs forwards and relaxation, and what's set out here is that:

"Rather than focusing on re-introduction or relaxation of individual measures in isolation, it is necessary to consider a package of interventions as a whole and what implications one measure may have for the choices in [another]."

It's trade-offs, in short; is that right?

A. Yeah. Absolutely.

Q. You explain you could use the ready reckoners that we've already discussed and touched upon to explore the impact on transmission from one intervention to be weighted against other potential relaxations. None of that work, as far as you are aware, was conducted in relation to the Eat Out to Help Out scheme by SPI-M-O or SAGE?

A. Certainly not by SPI-M-O or SAGE, I don't know if by other people.

Q. Then if we go to paragraph 5, you explain here that -- this is SPI-M-O's view.

A. Yeah.

Q. So the committee:

"... do not believe it is possible to return to

a 'pre-COVID' normality, without levels of contact tracing and COVID security effectiveness that would be difficult to achieve without some sort of additional increase in immunity ..."

Or vaccines, and so on.

Just to be clear, Covid security; effectively, NPIs?

A. Covid security is more things like everybody washing their hands very carefully, maybe wearing masks, do you remember there were all those screens that went everywhere, restrictions on how many people were in a room. So it was more the -- yes, those sorts of NPIs, yes.

Q. If we continue at paragraph 5, it states:

"In order to be able to re-open schools in September without causing a second wave, it [is] therefore critical that some measures remain in place."

So that the reproduction number (R) remains below 1 at the start of September when they all return to school.

A. Yes.

Q. That's the position in June; would that have still been the position in July?

A. And August.

Q. And August.

A. And September.

Q. Indeed.

Now, at that point of the advice in June and through July, the R number was 0.7 to 0.9, and it began increasing in August. Indeed, upon school return in September, it was between 0.9 and 1.1, and then increased to an R rate of 1 to 1.2 by 11 September, and then we saw an increase upwards.

So in respect of that second wave, was that second wave foreseeable?

A. Yes, that second wave was foreseeable. I mean -- but because -- for the simple reason that virtually nobody had had it.

Q. And, indeed, winter was also coming.

A. Yes.

Q. And we've heard from Professor Sir Chris Whitty that history has taught us that, in pandemics, second winter waves often far exceed the first wave.

A. They do indeed. Actually, I think most parents know that September is a time of year when respiratory infections are often rife.

Q. Indeed, September to December is constant germ after germ.

A. Yeah.

Q. So if I can then move into the September period, so schools returning, and if I could just take you, please,

to paragraph 153 of your statement. It is on page 47.

You describe this quite acutely as the "worst moment of the pandemic". Why do you say that? Why do you describe it in those terms?

A. It was very frustrating for us to have been asked to advise the government, and to advise the government that the autumn would be difficult and that that difficulty would manifest as rising numbers of infections, and then we had this astonishingly good ability to watch that happening with the ONS Covid infection study, and it proceeded to happen, so we said, "You should do something now", but nothing happened.

Q. Do you recall the earliest point at which you said, "You should do something"?

A. Let's have a think. I ... we had made the -- in the summer, we had made the new reasonable worst case, so that was the one that sort of ran from, I should think, about August into late autumn, and in the reasonable worst case -- which, as I say, was based on actions specified by Covid-S -- cases start to tick up in early September, as we would always have expected it to have done, and I can't remember where the words came from, but in the reasonable worst case, somebody gets a grip, so actually what happens is that cases are then flat through September.

So it would have been in our minds all along that if we wanted this time to keep infections flat whilst they were still low, so not get ourselves into a panicky situation where it's all running away from us, this was when we needed to do it, and, you know, this idea that the interventions that keep an epidemic flat are not as bad, not as damaging, as the ones that you have to impose if you've got to get cases down really fast.

So that was the time to act, we felt, and we kept saying so, and I suppose we couldn't understand: why weren't we explaining clearly enough that this was what we needed to do?

Q. Indeed.

If I could just call up the SAGE minutes from 17 September of 2020.

A. Yeah.

Q. -- it's INQ000061565, and it is paragraph 3 on page 2.

A. Yeah.

Q. What we see here is advice in relation to a circuit breaker, and it explains:

"... where more stringent restrictions are put in place for a shorter period could have a significant impact on transmission. Modelling indicates that a 2-week period of restrictions similar to those in force in late May could delay the epidemic by

approximately 4 weeks."

A. Yes.

Q. So was a circuit breaker the advice that was being given at that point?

A. Yes, that was the SAGE advice. So a circuit breaker is an intense intervention where what you do is you bring cases down, say for a fortnight, and then you let go again.

Q. So something short of, effectively, a full lockdown, or if you were looking at it in a slightly different way and using your earlier terminology, an intermittent lockdown of a shorter period.

A. Yes.

LADY HALLETT: What's the point of doing that if it's just going to come back, if you don't know when you're going to have a vaccine?

A. That eventually you're going to have to do something. So keeping infections low may be with intermittent lockdowns, so you do circuit breakers for two weeks, you go back to normal life for four weeks, but that is not as damaging as the -- what Tom Hale described as the rollercoaster, where you let infections grow until you're just about to break the NHS, and then you bring in a massive, massive lockdown. So it's a way of keeping infections low whilst not being in lockdown all

the time.
LADY HALLETT: Why aren't intermittent lockdowns a rollercoaster?
A. Because it's a very boring, little rollercoaster. So, I mean, you're just going like this (indicated).
So, I mean, for example, your contact tracing works better because you've never got very high incidence. Your hospitals work better because they're not completely full. I mean, one of the things that we often -- well, that we saw was that fatality rates in hospital were higher when the hospitals were fuller.
There were plenty of good reasons why intermittent, short lockdowns could well have been better than the long, harsh lockdowns that we had to live because we put them off to the last possible moment.
MS CECIL: And that's pulling it back to the low --
A. Yes.
Q. -- incidence rate, as opposed to the high incidence rate, running an epidemic hot or cold?
A. Yeah.
Q. Trying to keep a lower level of infections, albeit they go up and down and rise up and down. They don't meet that peak, effectively.
A. That's right.
Q. Now, you were subsequently invited to a meeting with the

Prime Minister on 20 September of 2020, and I just want to deal with something very shortly before that and prior to the meeting on 18 September.
It is some messages with Sir Patrick Vallance. It's on INQ000229601. It's the bit at the bottom that I'm interested in. It says:
"I have an invite to a zoom with the [Prime Minister] at 1730 on Sunday. I'd be honoured to accept that invitation. However I assume this is the meeting you and Stu were organising yesterday [presumably a reference to Stuart Wainwright at GO-Science]. Does it fit your plan if I rock up and say 'RWCS [reasonable worst-case scenario] assumes someone gets a grip at this stage of things and it would be great if that happened'."
Can you explain in your own words what you were trying to impress upon certainly Sir Patrick at that point and your view?
A. I wanted to -- I'm quite a believer in the single voice of consensus science. So what I was checking here was -- basically running past Patrick what I'm planning to say so that he knows in advance of the meeting. And "[Reasonable worst-case scenario] assumes someone gets a grip at this stage", we just talked about that.
We were all invited to write a single-page

explanation of -- I think the title of the meeting was something like, "Should the government act now?"
Q. Indeed, I'm going to move to that in just a moment --
A. Okay, fine.
Q. -- and we'll discuss the meeting and what views were put across within that meeting and, indeed, your view at that point.
A. Yeah.
Q. And then what we see here, just to round this off so we can take it away, from Patrick Vallance back is:
"This is a meeting where the [Prime Minister] wants to hear from a range of scientists (specifically the Heneghan and Gupta let it rip variety). We have got a rather balanced group to make sure he hears all sides. Message re getting a grip - yes please."
Indeed, I'm going to maybe just deal with that now: do you consider that you got across that message within that meeting?
A. I said those words. I don't know -- I mean, nothing happened, so inadequately at best.
Q. If I can turn to that meeting now, and you were just speaking about speaking with one voice. So Sir Patrick Vallance was on the same page as you, is that fair to say, at that point?
A. I think so, yes.

Q. SAGE and SPI-M-O?
A. Yes.
Q. So all unanimous going into that meeting in terms of that perspective.
Now, if I can just call up the meeting, please. Thank you. This is the "Covid-19 small group scientific discussion", that was the formal name given to it. We see that, indeed, you're right about the question, the essay question, as it may have been posed, or exam question: "Should government intervene now and if so ..."
We see a list there of attendees. We have the names redacted, but the reality is it's all in the public domain in any event and, indeed, we have a statement. The first of those is Professor Gupta and the second of those is Anders Tegnell, the Chief Scientist in Sweden. But we see the Prime Minister, the Cabinet Secretary, who is chairing it, Sir Patrick Vallance, Professor Sir Chris Whitty, Professor John Edmunds -- and we'll move to him in a moment -- Professor Carl Heneghan, who we've also heard from, and then you.
For the purposes of this meeting, as you've just explained, you were asked to set out your views in a one-page document, a very short document.
If I can just deal with the position in relation to

the varying views around the table, or on Zoom, online at that time, but just deal with points of similarity.

Was it the case that at any point anyone in that meeting was expressing a view that the government ought not to do anything at that time?

A. My memory is there were some people who felt more studies were necessary, which was pretty close to nothing, in my view.

Q. Indeed.

Then we have Anders Tegnell. Just pull up his document for one moment. That's INQ000137281, page 11, please. Chief Scientist in Sweden. He set out a short note, as requested, for the benefit of the meeting. He explains in the second paragraph down that his answer to the question, "Should government intervene now and if so ...":

"... in my opinion yes. The myth that Sweden did nothing during the pandemic is false."

He talks about a wide range of activities that were initiated there. He speaks about the public health community. He continues to go down and says:

"I believe there is a strong consensus that with a pandemic a government needs to be active even if we know that most of the non-medical measures have comparatively little effect and the evidence for how and

when they work is limited. But even so there is a possibility to make a difference."

So that's Professor Tegnell's view.

If I can now take you to your view, that's at page 13 of this document. I don't know if we can rotate it. Is this the paper that you prepared?

A. Yes.

Q. We've heard reference already to the reasonable worst-case scenario.

A. Yes.

Q. And you explain that's a Covid-S --

A. That's right. So that little picture at the top left was given to SPI-M-O by Covid-S saying, "Do something a bit like the top -- the red line here", so a difficult autumn followed by a large winter peak. So that red arrow, I think, that I've put on there says: this is roughly where we are towards the end of September. Things were okay in July, they've been getting a bit worse. There it is, with the -- so can you see the dotted red line being flat for a while through October. So that wasn't going to happen without some substantial intervention.

Q. So this is your, as you say, reasonable worst-case scenario.

You then set out a position where with

interventions. At the bottom of that page, to the left, you explain that both scenarios assume that decisive action is taken now.

A. Yes.

Q. And it says -- expands a little bit:

"... assume decisive action in mid-September brings R back to 1 so that new infections remain flat for 6 weeks."

A. Yeah.

Q. You then go on to set out in the middle, "How do numbers compare today?"

A. Yes.

Q. Can you just run us through that very briefly?

A. Very good. So this is sort of the second bit of the argument: where are we? The reasonable worst-case scenario says, roughly speaking -- prevalence is how many people out there are infected. Reasonable worst-case scenario thinks about 78,000, now it happened to be 71,000. The fact that these are pretty close in agreement is kind of irrelevant; the point is that we had made this plan, the first column, that things would get a little bit worse in September and then we'd do something about it, and this is me saying: that has happened, things have got a bit worse, they are about where we were afraid they would be, and then -- and

they're getting worse.

I think the point I was trying to make with these numbers was: you are about to exceed your own reasonable worst-case scenario, and that means all the plans that you have made are going to fail because they were made against the reasonable worst-case scenario. If it has any purpose, the purpose for reasonable worst-case scenario is that it lets government make plans in which the -- and assume that -- on the assumption that the situation here, the disease, the level of infection, won't be so bad as to break those plans. So we're about to break -- things are getting so bad that they're worse than the RWCS. When you specified what you were going to do, you said you would do something now.

Q. This was an internal target, effectively, set by Covid-S, or objective.

A. Up to a point, except -- well, except that there's no numbers on the Y axis in the Covid-S graph.

Q. And you set out below it a short graph which effectively illustrates the fact that hospital admissions --

A. Yeah.

Q. -- are really following the first wave pattern in terms of regions.

A. Yes.

Q. So those that were most badly hit in the first wave are

also being most badly hit in the second wave.

Then finally, in part 3 of your paper --

A. Yeah.

Q. -- you explain what happens next, where does this end up --

A. Yeah.

Q. -- the trajectory.

A. Yeah.

Q. And what you explain here is that under the current trajectory, hospitalisations will increase exponentially, surpassing the first wave by early November.

A. That's right.

Q. Then you go on to explain about the governmental planning, you explain that epidemiology is in line with the reasonable worst-case scenario but infections are still rising, and you explain that you expect that reasonable worst-case scenario to be breached.

A. In days.

Q. In days.

A. And I think that closing sentence is worth noticing:

"[Test and trace] will not function effectively in a large second wave."

Q. And, of course, that's one of the tools in the pandemic toolbox.

A. Yeah.

Q. Now, Professors Gupta and Heneghan put forward an alternative view within that meeting. A large part of that was effectively advanced on segmentation or protecting and isolating vulnerable groups, and establishing a degree of herd immunity.

What were your views in relation to those alternative views?

A. I think our experience had already been that it was extremely difficult to protect vulnerable groups; that first of all it was practically very hard to put in enough protections so that infection never reached the known vulnerable, that's thing 1; and, secondly, there were lots of people who ended up very ill, either with acute Covid or with Long Covid, who were not amongst the known vulnerable. So we didn't think -- I didn't think it was a practical approach at all.

LADY HALLETT: Ms Cecil, I don't know if you're going to come to it, but you've referred us to the Swedish expert's views on the screen, and Professor McLean's views. Are Professor Gupta and Professor Heneghan's views going to be displayed, or are they not in this document?

MS CECIL: They are in this document. I wasn't going to take you to them in relation to Professor Heneghan

because he has explained his views earlier in the evidence, but I certainly can. If I can just call it back, they're in the pages that precede this one. I believe they're on pages 10 and 11, from recollection, I'm afraid, if I can just go to those, but we can certainly have a look at them. **(Pause)**

Back one further page, in that case. Start on page 9.

This is Professor Heneghan's views. We see here that, halfway down the first paragraph, he takes the view that:

"Recent responses are out of proportion to the threat. They are underpinned by a lack of understanding of the data, the role of community pathogens and an overreliance on predictive modelling."

He very strongly bases that on the fact that it has effectively been influenza preparedness, and that that has had a significant impact upon the advice that's been provided, and effectively that advice is wrong.

What are your views in relation to that?

A. I think that we were expecting a large autumn wave and that something needed to be done to prevent it. Sadly, that large autumn wave did happen. I don't really think that's to do with was this influenza or was it a different respiratory infection; it was a respiratory

infection to which there was very, very little immunity in the population at that time because, dreadful though the first wave felt, it actually infected rather a small proportion of the population.

Q. If we can just look a little bit further down this page, please. I touched upon it earlier in relation to the control strategies that they were -- collectively, there are differences between their papers, but one aspect of it was about those targeted measures and segmentation, and there has been a criticism levelled that segmentation was never considered properly by SPI-M-O or SAGE.

What do you have to say about that?

A. It was quite carefully considered. Segmentation can be used in several different ways. One way of thinking about it would be simply on age. Should we have let the over 40s -- sorry, the under 40s or the under 45s live a normal life whilst everybody else was in lockdown? I would say it's very clear. You don't need modelling. You can just look at the data that we have about household composition, so what age of people live with other people, or we have beautiful data about who mixes with whom. I talked a bit about that with the BBC data. It was very, very clear that there was far too much mixing between different age groups for that sort of

segmentation plan to work, because even a little bit of leakage from -- if you had half the population leading a normal life, back into the segmented, is enough to be very, very damaging at this point in time, when immunity in the population was so very low. So that's age segmentation.

Then other ideas about protecting the vulnerable by making sure the people who come into contact with them are doing, say, lots of testing, always seemed to me intuitively appealing, but probably needed to work in a context of very low infection in the community, because they weren't going to be perfect, so if -- they would work best if there was not much infection in the wider community. And, of course, there are the points that have been made to you earlier this week by Professor Whitty and Professor Vallance that those put a huge, huge burden on more vulnerable people.

Q. Just dealing, if I may, then with segmentation. Indeed, there's various different ways of referring to it; we have heard about shielding, we've heard about super-shielding and we've heard some evidence on cocooning as well. But in terms of SAGE, SAGE had indeed sought earlier advice and notes on segmentation --

A. Yeah.

Q. -- all the way back in the summer, effectively, June/July, and indeed shielding conversations had taken place much, much earlier than that.

A. Yes.

Q. Thank you.

One aspect that you may have found some level of agreement with Professor Heneghan in relation to was that relating to care homes that he flags.

A. Yeah.

Q. There is an aspect in relation to nosocomial infections. He's advancing something that is effectively a much less restrictive set of NPIs, with a 50% work at home strategy; on young people, simplify messaging; and then also, in his view, seeking to increase the personal threat perception should also be reconsidered, and that, alongside a couple of others, was considered to be sufficient.

In your view, as at 20 September 2020, would those measures have been adequate or sufficient to have prevented the second wave?

A. I think not. Particularly -- I mean, if you look at what's happening here, the only community-level intervention here is 50% work at home strategy. If you think about those pictures I showed you earlier of ready reckoners, 50% wouldn't be enough. We hadn't acquired

a whole lot of new immunity between May and September that would have made our situation better, and contact tracing was revving up, but was more like 20% efficacy than anything higher.

Q. Thank you.

Then if I can just take you, please, to Professor Gupta, and she is a professor of theoretical epidemiology at Oxford University.

LADY HALLETT: The same department you have been in.

MS CECIL: Indeed, at the department of zoology. She has been a fairly high-profile critic of the approach undertaken by, indeed, SAGE, SPI-M-O and the government during the pandemic.

In summary, her views, as espoused within this document, are that restrictive measures that have been imposed have been outweighed by the cost, particularly for those poorest or most vulnerable, firstly. That is a broader issue, rather than simply the epidemiological position, or the public health position, because obviously that takes -- that's looking at socioeconomic considerations and other considerations. But also refers to herd immunity, if I can just ... It's at page 8 of the document, please.

The starting premise here in terms of the key issue from her perspective in terms of her note was:

"... whether or not it is justified to take extraordinary measures in response to Covid-19 - given that no extraordinary measures are in place for other infectious diseases such as influenza, pneumococcal pneumonia, and ... other coronaviruses."

And that's because:

"We have reached an accommodation with [those] and accept that they cause a level of disease, suffering and death, but not sufficient to change our way of life."

She accepts it's not possible or realistic to attempt to eliminate Covid-19, but that the goal should be to achieve levels of herd immunity.

She then goes on to speak about herd immunity not being a policy and gives a little bit more of a description there.

What is your view in relation to that?

A. I think these issues about: could we -- I think it says here we can't tell -- we don't know how close we are to the herd immunity threshold. I would disagree with that statement. I think we could tell from quite straightforward antibody tests that were available at that time that could be applied in closed populations with big outbreaks, where we could see how extensive an epidemic would be before it naturally came to an end. But we did have reasonable measures of how close we were

to herd immunity and that we were a very long way from it, and could therefore expect a large autumn wave, which indeed did then happen.

Q. At the very end of her document she posits two scenarios, ultimately. The first is to bring in population-wide restrictions to keep infection levels down until the vaccine becomes available. The downside to that for her is that it comes at huge social and economic cost. Not clear that such a policy is sustainable until that development of that vaccine.

The second solution, which is -- and I'm assuming it's the one that was posited within the meeting -- is to:

"... take steps to protect the vulnerable ... while allowing those that are at low risk to accumulate immunity [which is going back to that herd immunity point that you've already addressed] such that the risk to the former is reduced as rapidly as possible to levels that [are acceptable] for other respiratory pathogens."

A. Yeah.

Q. She speaks about:

"... the very low death rates of Covid-19 in much of the population, while permitting and supporting the rest to adopt social distancing measures commensurate with

their risk."

And in fairness, Professor, I think you've already dealt with those issues, because really it's talking about, again, segmentation or cocooning or shielding in some way, and then herd immunity.

So in terms of the meeting or the group and how it progressed, were each of you given an opportunity to present your papers and present your views?

A. That's right, that's how it went.

LADY HALLETT: Looking at your paper, Professor, I heard the expression this week that the advice had to be electrifying if you wanted to trigger the action. Could I confess that I don't find your paper electrifying?

A. Yeah, but you don't like graphs.

LADY HALLETT: No, but your audience may not have liked graphs either.

A. No, that's a very good point. I think it's better than all this text, myself.

Actually, you know, I think you raise a really important issue, which is: how are scientific advisers going to get a whole lot better at communicating what we think? Because, I agree with you. I thought that was a pretty electrifying page, and it's very interesting for me to hear that you don't find it electrifying, and I certainly -- I mean, I ran the experiment and they

didn't do what we said, did they?

So I think -- so, for me, pictures are better than text. I think you're right; one has to remember that there are many people that -- that might be a cultural thing, and there might be people -- there are lots of people for whom text is better than pictures.

MS CECIL: Indeed, in your witness statement, just picking up on that point, one of the lessons to be learned, as you identify it, is that science advisers -- SAGE, whoever it may be -- need to be more unequivocal in their advice; more forceful, effectively, in their advice; is that right?

A. Yes.

Q. And what you say in that is that, as advisers, you should have thought more critically about the state of mind of those who you were advising and -- and this is in the context of delay -- the reasons for that delay, not least because you needed to assume that elected officials do not want to make unpopular decisions, extremely difficult for them to do so.

A. Yes.

Q. And you're talking here about lockdown, and:

"If we had a better sense of how unpalatable lockdown was to decision-makers, if anything this would have expedited strong advice to lock down, rather than

give us cause to delay providing the advice or to weaken its terms."

And you make it very plain that, looking to the future, advisers should err on the side of giving unequivocal advice earlier in the context of advising on time-sensitive matters --

A. Yes, and --

Q. Here specifically about pandemics.

A. Yes, I agree, and clearly more electrifyingly.

LADY HALLETT: I do apologise.

A. No, it's fine.

MS CECIL: In terms of how those views were expressed, obviously that's how they were expressed on paper; you've already explained that you did say to those in the meeting, which of course included the Prime Minister and other senior members of the government, that they needed to get -- that somebody needed to get a grip.

A. Yes.

Q. How was that received?

A. In silence. I mean, they just sat there in silence and listened to us. I don't remember there being many questions, except -- I mean, a few -- except towards the end, where I think somebody said, "What do you think we should do?" They just went round the four of us and said, "What do you" -- well, five of us, sorry, "What do

you think we should do?"
No, there wasn't a lot of discussion, that's what I remember.
Q. When asked, "What do you think we should do?", what was your response?
A. So I actually gave my own personal response, which I realise perhaps I shouldn't have, but anyway, I said I think we should go into lockdown with schools open.
Q. With schools open?
A. Yeah. And I think that was an honest reflection that I didn't really think two weeks was going to be enough.
Q. And in terms of the others in the meeting at that point, so Professor Gupta, do you recall what she said?
A. I don't recall.
Q. No. Professor Heneghan?
A. I'm sorry, I don't remember.
Q. Not at all.
You may not recall in relation to Dr Tegnell, Anders Tegnell?
A. No.
Q. Or indeed --
A. John I do remember, because John said we need to be in lockdown now, and it was unusual -- and I remember thinking: oh, well, gosh, is he right and I'm wrong? Can we sort of afford -- you know, have we got enough --

if we just need to keep incidence flat, can we manage that with schools open?
Q. Indeed, we can bring up -- I've just realised we've not taken you to Professor John Edmunds' paper, but that's on page 7 of INQ000137261, and we see that he sets out the current picture within the UK epidemiologically.
A. Yeah.
Q. In dealing with the herd immunity point, perhaps bullet point 4 is relevant. His view was that only around 7% of the population had been infected. Did that accord with your view?
A. Yes, that's right. No, we had epidemiology. So we knew that 7% of the population had antibodies, but we also knew from a big outbreak that had happened on a fishing vessel that antibodies appear after you have been infected.
Q. It's explained here:
"Yet, around 50,000 have died. Letting the epidemic run in the remaining 93% would result in around half a million deaths."
Explains large incidence, including increase of incidence in care homes. Epidemic is doubling every seven to eight days. It then deals with a need for a package of measures, lockdown and closure of all facilities, et cetera, and all of those in March

combined reduced the R number to about 0.7. Indeed, that's what we were looking at, if you recall, earlier --
A. Yeah.
Q. -- when we looked at what the R number was in the summer, June, when SAGE and SPI-M-O met.
So what he then says is:
"... to meet [Her Majesty's Government's] aim [as it was then] of keeping R below 1 a large package of interventions will have to be implemented, not just one or two."
It talks about educational institutions; if they are to remain open, a very wide package of other interventions will be essential. And then what he talks about is the imperative for speed of action. Response "needs to be fast and large. The harder the measures, the less time they need to be in place for."
A. Yeah.
Q. It then continues to explain that the UK responded slowly in March and paid a heavy price for this in terms of deaths.
"This shows - unambiguously - that the key factor for the large number of deaths in the UK was the lateness of our response. We should not make the same mistake again."

It goes on:
"Immediate action has an enormous impact when cases are increasing exponentially, which they now are."
He sets out his graphs -- more graphs, I'm afraid -- which show the effect of an immediate circuit breaker.
"Any delay will result in far more cases ([and you see the] dotted line on Figure 1b) and therefore hospitalisations and deaths."
Then unequivocally he ends with:
"No intervention would be disastrous ..."
In terms of your views and Professor John Edmunds', did they align?
A. I think pretty much, in that the bit where he says if we want -- well, I certainly agree that no interventions would be disastrous, that's for sure. I think the bit where he says if we want to keep educational institutions open, we will have to have very substantial measures pretty much everywhere else, I think that was a different way of saying the same thing: lockdown, schools open.
Q. He speaks in here about not making the same mistake again in relation to delay.
A. Yes.
Q. Did you consider that government was potentially making the same mistake again at that point in September?

A. I felt we were at that stage at risk of making the same mistake again. If we had acted decisively then, we would have learnt from March, but we didn't; implication: we had not learnt from March.
Q. We know that there was no circuit breaker in September at this stage.
A. No.
Q. Was that in your view, from your public health perspective and epidemiological perspective, a mistake?
A. Yes, I believe that was a mistake. I think if we'd had a circuit breaker in September, we could have kept cases -- cases would have dropped a little bit and then we would have bought some time.
Q. In the absence of a circuit breaker at that stage, again, what were the consequences, from your perspective?
A. The number of infections kept rising through September and October with attendant hospitalisations and, sadly, deaths.
Q. Had there been a circuit breaker, therefore, again, in your view, would the number of deaths have been lower?
A. Yes.
Q. Now, in terms of the remainder of that meeting, were any views expressed by the Prime Minister that you can recall?

A. I don't remember the Prime Minister saying anything.
Q. The Cabinet Secretary?
A. No, I remember one person, but I don't remember who it was, asking this question about: what should we -- meaning they, the government -- do, which we've just talked about.
Q. Did either of Sir Patrick Vallance or Professor Chris Whitty express a view in the meeting?
A. I'm sorry, I can't remember.
Q. Then we also understand that the Chancellor was present.
A. Well, I think perhaps he called in. I'm not certain. I'm sure he was there.
Q. Did he make any contribution?
A. Well, you see, I think it was him who asked, "What should we do?", but perhaps that's just an incorrect memory.
Q. Now, after that meeting, the following day, there was a further SAGE meeting on 21 September, and if I can just pull that up, it's INQ000061566, page 2, please.

It's paragraph 2. It starts by setting out that Covid-19 instances increasing across the country; talks about the effect on schools, colleges and universities; doubling time could currently be as short as seven days.

Then it goes on to make recommendations at this point:

"A package of interventions will need to be adopted to reverse this exponential rise in cases."

And it then goes on to talk about single interventions, coming back to the single or package of interventions that we've discussed:

"Single interventions by themselves are unlikely to be able to bring R below 1 ..."

And we see the confidence intervals. We've discussed those previously in evidence.

A. Yeah.
Q. High confidence in that assertion.

"The shortlist of ... (NPIs) that should be considered for immediate introduction includes ..."

And that's where we see:

"• a circuit-breaker ... to return incidence to low levels.

"• advice to work from home ...

"• banning all contact within the home with members of other households ...

"• closure of all [retail and hospitality, and so on] ...

"• all university and college teaching to be online ..."

So at this point, these are recommendations with schools staying open.

A. Yeah.
Q. So that's the recommendation of the 21st.

We then see, on 24 September, a further SAGE meeting, and that's at INQ000061567. If we can go to page 3, please, at paragraph 16. If we look at paragraph 16, it talks about SAGE's previous advice, the one that we've just seen:

"... a 2-week 'circuit-breaker', where more stringent restrictions are put in place for a shorter period, could have additional impact. A shorter break of a week or less is likely to be less effective in reducing the number of infections and slowing the growth of the epidemic."

So at this stage the advice is still consistent: circuit breaker.

A. Yeah.
Q. At any point was there any alternative advice in September, aside from the need to have a circuit breaker to deal with the rise in cases?
A. No.
Q. So looking and turning to the issue about delay and delay in decision-making, at this stage, no decision had been taken.
A. That's correct.
Q. And that, as we've discussed, is a positive choice in

itself with consequences.
A. Yes.
Q. You've described a period of frustration; how were you feeling at this stage?
A. Very worried, because having lived through the first wave with its horrible consequences, I couldn't understand why we weren't doing things to try hard to avoid a second autumn wave. We'd been telling them since we started that there will be an autumn wave, and I suppose I'd thought in the summer, with the Covid-S scenario, that that had been brought on board, that we would try to do things, inasmuch as we could, to prevent an autumn wave, and nothing was happening.
Q. We subsequently had the tier system that was introduced in October of 2020, 14 October. You described that as being suggestive of a lack of caution on the part of decision-makers. Why is that?
A. Because of the way it was introduced. So if what you do is you introduce a set of tiers where in places where incidence is low, you put in controls that are insufficient to stop incidence from growing, all that will happen is that in all those places, incidence will grow. We sometimes referred to it as the levelling-up scheme. It was a scheme that would allow incidence of infection to rise in many, many parts of the country.

A. Yeah.
Q. -- at the moment, just so that we know where we were at the time --
A. Very good.
Q. -- or you were there at the time --
A. Okay, but we would have said -- if we had been asked, we would have said: no, this is the wrong way round.
Q. Now, on 23 October of 2020, you emailed Sir Chris Whitty and Professor Sir Patrick Vallance. It's at INQ000062800. What you ask here -- it is the SPI-M-O chairs and the secretariat that are talking, and you explain here:

"After Sage on Thursday SPI-M Chairs and secretariat asked themselves, how long have we got?"

And then you go on to set out some back-of-an-envelope calculations that you made. Presumably those are the ones that you made out of that meeting.
A. So at --
Q. These are the calculations that you made between you at that meeting, the SPI-M-O -- the --
A. We will have made these by correspondence, yes.
Q. By correspondence?
A. Between the four of us.
Q. Thank you.

Q. Now, just to be clear, neither SAGE nor SPI-M-O were asked to advise on that policy.
A. That's correct.
Q. In your view, at that stage in October, moving through into November, were the tiers working or were they failing?
A. In October? Well, we did a big study on that afterwards. They were failing in the sense that incidence across the country -- in gross measures, incidence in the country was rising, which was not what we wanted. In the parts of the country that were in Tier 3, or Tier 3 and a bit more, which is what some places did, you can actually see that incidence did fall in those places.
Q. Now --
A. Can I just add, I didn't -- there's nothing wrong with geographically targeted measures, it's just this business of starting off with something very low, letting it grow, putting in something that barely keeps it stable, so that it grows in most places.
Q. Thank you.

I'm going to deal with the report --

A. Yeah.
Q. -- that was subsequently written in due course, but if I can just keep to the chronology --

What you explain here, as we go on down, is that you were projected to hit the level of admissions -- and let's just deal with this, this is about the assumption of avoiding the first wave of peak hospital admissions. At that point, that was around the 3,100 mark, just below.
A. That's right.
Q. And you've done some calculations and you explain that you will exceed that on 21 November.
A. Yeah.
Q. To stop that, you need to reduce the R to less than 1 by 10 November.
A. Yeah.
Q. And if you want to do better than the first wave peak, for example 2,000 hospital admissions a day, you have to get the R below 1 by 28 October, so five days' time.
A. Yes. I think this was an attempt for us to arm Chris and Patrick with some numerical reasoning to say: we are running out of time.
Q. So was this an intervention, effectively, by SPI-M, the secretariat?
A. The four of us, yeah.
Q. The four of you.
A. I mean, I don't think we thought Chris and Patrick didn't agree, we were just trying to -- we were

searching for evidence that we could give to them to take to decision-takers.
Q. Were you trying to prompt some level of action at this stage?
A. Oh, yes.
Q. Now, on 24 October, the following day, Wales instigated their firebreaker. Do you consider that that was a success, first of all?
A. It was probably better than nothing. It didn't bring -- if I remember rightly, we might be able to look at it, actually, because there will be a graph of it. I don't think it had a huge -- it didn't cause a great decrease in cases, is my memory. On the other hand, what's the counterfactual? What would have happened if they hadn't done it?
Q. I've been asked to ask: do you consider that that was early enough, the firebreaker in Wales, or should that have been earlier?
A. I think all of these things should have been done in September, so that whilst incidence was low, we could have kept it low and given ourselves time to come to terms with the fact that: yes, we are having an autumn wave, we don't know when we're getting vaccines, what are we going to do about it?
Q. Indeed, you're subsequently tasked with the task and

finish group on the impact of recent NPIs across the UK, and that involves an evaluation of the tier system, firebreaks and other NPIs that were put in place across the four nations.
A. Yeah.
Q. And you present a subsequent paper that is amended or updated slightly later with some new material, but in short, it's broadly the same paper.
A. Yes.
Q. And that's presented to SAGE initially on 19 November of 2020, it's the UK's four nations autumn interventions, the updated version presented to SAGE on 26 November 2020.

In terms of England, what it states in there, if I can just pull it up, please, it's -- thank you very much ... I believe it's towards the end. I'm afraid I've missed off the paragraph reference. But what it says is:

"Throughout the autumn England waited until after prevalence had increased to impose measures just about able to slow or stop epidemic growth. The inexorable outcome was high prevalence in many places and the need for four weeks of national restrictions."
A. Yes.
Q. "For the future a more logical procedure might be to

introduce measures (such as Tier 2) that can be hoped to retard the growth everywhere and maintain low prevalence."
A. Yes.
Q. And that's a reference back to what you've discussed in terms of how to implement it.

"As soon as rising prevalence is detected, measures should escalate to interventions that are associated with negative growth rates (such as Tier 3)."
A. Yes.
Q. So looking back in terms of an evaluation of those autumn interventions, were they successful, in your mind?
A. They were successful in some places.
Q. And what places were they?
A. Tier 3 -- if you look at the places that were put into Tier 3 and look at the epidemic growth rate the week before they were put in Tier 3 and the week after, what you see is that the growth rate is always lower, and usually negative, in places that were under Tier 3.

We do have to be really, really careful because these weren't experiments. Places that were in Tier 3, there was probably something pretty special about them that they needed to go into Tier 3, but this is what we had. So we need to be very careful to say: this was the

pattern we saw, and not -- try really hard not to use words that implies causality. But you can look at the -- you can look at the patterns of growth rate before and after a tier was introduced.
Q. Then we come to the second national lockdown.
A. Yeah.
Q. You described that in your witness statement as a "terrible moment". Why was that?
A. Well, because the thing that we had been trying to avoid by having smaller interventions at lower prevalence had had to be done, and in the same -- it felt like March all over again: we wait till the last possible moment, we delay and delay a decision, and then we have to slam the brakes on as hard as possible with the attendant social costs and economic costs.
Q. At that stage schools were also closed.
A. Is that right? I thought schools were open already.
Q. Have I got that wrong? It may be that I have got that wrong and it's schools were closed in -- schools were certainly closed in the third lockdown. It may be me.
A. Yes, I think that's right.
Q. I'm turning to that now, if I may.

Before we get to the third lockdown after that, we then have the Alpha wave that comes through in December --

A. Yes.
Q. -- of 2020 through to January -- well, indeed, the winter of 2020 into 2021.
You describe some successes there in relation to surveillance and genomics.
A. Yes.
Q. Can you just expand a little bit in terms of surveillance, firstly?
A. So I think we're all really, really proud of what the Office for National Statistics did with their Covid infections survey, so we knew what prevalence of infection was across the country every week, and with actually quite a lot more detailed local investigation of what was happening with infection, much of which came actually from test and trace, we could see -- right as we came out of the November lockdown, we could see straightaway that there was a problem in the south east and that infections were rising very fast in the south east, and that was the first observation, so just there were lots more positive tests in this part of the country, what's happening? And then because of COG-UK, because of the amazing genetic studies that we had, we could see straightaway that the virus that was spreading there was different.
So in a -- you know, it was a triumph of science.

We not only observed right from the early days the Alpha wave, we also knew why we had it.
Q. Indeed, throughout this period you had been armed with much, much greater levels of data.
A. Yes.
Q. Synthesisation of data, all of those things, surveillance. Testing now had a 24-hour turnaround.
A. Yes. We had a good picture of what was happening with this infection in our four countries at this stage.
LADY HALLETT: Could I interrupt? I'm being asked to take a break, which is obviously going to be apparent.
I'm getting very concerned about time, Ms Cecil.
MS CECIL: Of course.
LADY HALLETT: As you know, but others may not, I have to finish at the very latest at 3.45 this afternoon, and we've got another witness. So I'm going to break now for five minutes to give the stenographer a rest, and please can people discuss how we ensure that I leave here at the very latest by 3.45.
MS CECIL: Of course.
LADY HALLETT: Thank you.
(12.09 pm)
(A short break)
(12.14 pm)
LADY HALLETT: Ms Cecil.

MS CECIL: Thank you.
Picking it up in May to December of 2020, again SAGE meets, 17 December, says additional interventions may need to be considered, and that's two and a half weeks before the eventual lockdown that takes place on 5 January. Then on 6 January, that's when we enter the third national lockdown, that's when schools are also closed.
Now, in respect of that, there is a communication between you and I believe it's Professor John Medley(sic) on 17 December in which he expresses the view that you had missed the timing of lockdown with half term -- this is, as I say, 17 December:
"... and today the politicians just went ahead and made policy anyway, without any guidance from SAGE, so it is finally a victory for common sense but actually we have failed to inform policy over the last few months."
Was that a view that you shared?
A. Yes.
Q. Now, as we come out of the third national lockdown, that's when you begin working, certainly just before that, with the Covid Taskforce.
A. Much more closely from then on, that's right.
Q. And there's quite a lot of thinking that is done then in

January and February of 2021, is that fair to say?
A. That's right, I mean, I think the work that was led by Rob Harrison and turned into those plans to unlock from the third lockdown are a wonderful example of using scientific evidence in order to make a long-term plan, and I don't -- I think the reason, if you could take a tiny bit of time to look at them, is I think they make a useful contrast to events in 2020.
Q. Of course. I'll just call that up briefly now. It's INQ000238597.
We have this document, Professor, so please don't think that we won't be looking at it. And indeed you make various of these points in your witness statement, and so even if we don't go into detail now, please be assured that that evidence will be taken into consideration in due course.
If I can go to page 4, please, and for the first time we see, in terms of the roadmap, that coming out of -- I say coming out of lockdown or easing restrictions, there is a roadmap with a test. And that's about a third of the way down, it says:
"This assessment will be based on four tests."
And we see (a) to (d): vaccine deployment, that the vaccine separately sufficiently effective in reducing hospitalisations and deaths, and that those infection

rates do not risk a surge in hospitalisations placing unsustainable pressure on the NHS, and that the assessment is not changed by variants.

To be clear, in relation to that, one of the priorities that is then set out later in the document, on page 10, there are various objectives that also inform this roadmap out. Again, we see (a), (b), (c) and (d). We see again the issue in terms of pressure on the NHS, deployment, protection of the public. But one of the aspects that is a priority is the resumption of face-to-face teaching in schools?

A. It's not just a priority, it's the priority.

Q. The priority.

Firstly, it's a more transparent document, but secondly when we were talking earlier about the lack of strategy and aims in terms of -- from a SPI-M-O/SAGE perspective, with respect to modelling and providing that advice, does this accord with something that you were really looking for, something more like this, with objectives and policy aims?

A. Objectives, things we're going to measure, things that we are actually able to measure, and actually we haven't found it, but the bit that says "and we're going to space these things out, we're going to space these decisions out in a way that is consistent with being

able to measure how much difference did the last set of measures that we lifted make".

Q. Indeed.

A. So I view that as a document that's paid proper attention, and I mean that quite carefully, actually, not too much but proper attention to what can be done with all kinds of scientific evidence, including modelling.

Q. It's a fairly lengthy document, and as you say at the outset it does say that it's based on data not dates. Dates are wholly contingent on data and are subject to change if the four tests are not met.

So what we then have is the deployment of this roadmap, and indeed later, I think it's stage 4, it gets delayed because of concerns about a new variant?

A. That's right.

Q. And so you have those triggers.

As I say, we've heard some evidence already in relation to the roadmap out, but I just wanted to use this as an example of how you say policy objectives and advice can be aligned in a much better way in terms of --

A. That's right.

Q. Deliverability?

A. Yes. Can I just say, so I think some of why this was

possible was that Rob Harrison, through taskforce, put together a team from across government, bringing in advice from all sorts of different people, working together at the officials level, to absorb advice into government at the level of official working.

Q. Indeed. And it's not just epidemiology that we see within the document, we also see analysis of socioeconomic impacts, mental health impacts, all -- other forms of inputs and issues that need to be taken into consideration. As I say, it's a substantial document in that sense.

If I may now just move very briefly to just ask one very quick question in relation to children --

A. Yeah.

Q. -- and transmission. You and John Edmunds wrote a paper on that back in October of 2020 suggesting that children indeed can be infected and do contribute to transmission. Does that remain your view?

A. Yes.

Q. Thank you.

Then finally, if I may just take you to the issue of testing, we know that the will of the World Health Organisation at the time was to test, test, and test, and you set out within your statement that testing plays both a role at the initial stages of the pandemic but

also subsequently, both in relation to surveillance but also in relation to it being a tool in the arsenal.

In terms of testing in the early stages in March of 2020, and the decision to stop community testing at that stage, SAGE was not -- am I correct that SAGE and SPI-M-O did not advise in relation to that?

A. That is correct.

Q. And your understanding is that it was not a clinical decision, it was a resource-based decision?

A. That is my understanding.

Q. Limited tests and therefore a need to prioritise to those areas which were most in need, effectively?

A. Yes.

Q. Thank you.

Just in relation to that World Health Organisation advice and developing and less developed -- more developed and less developed countries, is it as applicable to a state such as -- a western country such as the UK as it is to a developing country?

A. Yes, I would say at least as applicable, in that with our age distribution, where we had many, many more elderly people than many less developed countries would have, testing was even more important for us.

Q. In fact within your statement, I don't need to take you through it now in detail because you set it out there,

you refer to the experiences of both South Korea and Germany as inspiring and examples that the UK should look to?

A. Yes.

Q. Thank you. And indeed that there are lessons to be learnt there in terms of their experiences and the use of that technology and testing, surveillance and tracing?

A. That's still my view, yes.

MS CECIL: Thank you very much.

Thank you, Professor, I've no further questions for you.

Does my Lady have any questions?

LADY HALLETT: No, I don't, thank you very much indeed. And again, I apologise for the -- your evidence was certainly very illuminating.

THE WITNESS: Thank you.

LADY HALLETT: Even if I didn't find the graphs electrifying. Thank you very much.

THE WITNESS: Thank you.

(The witness withdrew)

MR KEATING: Yes, please, thank you.

MS KEMI BADENOCH (sworn)

Questions from COUNSEL TO THE INQUIRY

MR KEATING: Do sit down, please. Thank you.

THE WITNESS: Thank you.

LADY HALLETT: I hope we haven't kept you waiting for too long.

THE WITNESS: That's fine.

MR KEATING: Could you give us your full name, please.

A. Kemi Badenoch.

Q. Ms Badenoch, thank you so much for attending today. Thank you for assisting the Inquiry with its investigations. You have provided a statement dated 26 June of this year to the Inquiry, and it runs to over 38 pages, and you have had the opportunity to check that, you've signed it, and it's true to the best of your knowledge and belief, and you've also provided, as we can see in the top right-hand corner, 87 exhibits. Thank you so much in relation to that.

Before going into your evidence, let's briefly set out your professional background. You're here really in your capacity at the time as Minister for Equalities, which you held that post between February 2020 and February 2022, which is the time -- forgive me.

A. With -- it's not quite. July 2022.

Q. Yes, which is after February 2022.

A. Oh, I see, yes, yes.

Q. Let me run through the timetable with you, and it's my fault if I am confusing.

So you are elected as Member of Parliament for Saffron Walden since June 2017?

A. Yes.

Q. You were Parliamentary Undersecretary of State (Minister for Children and Families) July 2019 to February 2020, and from February 2020 to September 2021 you were Exchequer Secretary to the Treasury and Minister for Equalities?

A. Yes.

Q. And you were on maternity leave for a short period at the beginning of that time period, so it's from February 2020 to April 2020 --

A. Yes.

Q. -- you were on maternity leave, which is relevant because that's at the outset of the Inquiry.

Later on, in 2021, you became minister of state at the Department for Levelling Up, and you held that role until July 2022, and you currently -- outside the Inquiry's time periods, but you currently are Secretary of State for International Trade and president of the Board of Trade, and also in October 2022 you were appointed as Minister for Women and Equalities?

A. Yes, business and trade, not international trade.

Q. Business and trade?

A. More has been added to the role, yes.

Q. Yes.

So thank you so much for attending. And in terms of the role of Minister for Equalities, and that's what we're dealing with, so back during the pandemic, how would you describe the responsibilities for the Minister for Equalities?

A. So I would say that until I took on the role, returning in April 2020 and I'd say in particular June 2020, the role for a Minister for Equalities was actually quite different. It was very much limited to looking at LGBT-related issues and women's issues, in particular around women's economic issues, gender pay gap and so on.

Q. Okay, so your previous responsibilities changed significantly, and you set out what those workstreams are in your statement at paragraph 9. And as an overview of the work you did, we can see that at paragraph 9 of your statement, one of the main areas was quarterly reports on progress to address Covid-19 health inequalities?

A. Yes.

Q. And we will go through those reports, not each report in detail, but we'll touch upon key features of those.

You refer to ad hoc attendance at Covid-O meetings in your capacity as Minister for Equalities, and that

was often discussing disproportionately impacted groups, that would have been a specific phrase term?
A. Yes.
Q. Public health communications, a key feature also. And lastly, one of the significant features, it appears from your evidence, written evidence, is increasing vaccine uptake within ethnic minority groups.
In relation to that, there is a module later on in this Inquiry which is going to deal with vaccines.
A. Right.
Q. So we will touch upon your work but perhaps not in the detail that would be done otherwise.
In terms of the ministry, in terms of the Minister for Equalities, at that stage would it be fair to describe it as a junior ministerial role?
A. My role was.
Q. Yes.
A. It is not -- strictly speaking, it's an odd department because it's not really a department, it's a directorate, currently within the Cabinet Office, but it would move with the department of whoever the Secretary of State, who was also Minister for Women and Equalities.
Q. Which was Liz Truss at that time?
A. At the time, yes. So strictly speaking we were in DIT,

as it was, the Department for International Trade, but there were recommendations made by the Commission on Race and Ethnic Disparities that the unit should stay in the Cabinet Office for consistency and continuity.
Q. So the Equality Hub was formed later in 2020, that was based in the Cabinet Office, we've heard about that, and in terms of the senior minister in this directorate, to use your phrase, that would have been Liz Truss, who was the Secretary of State at that time?
A. Yes.
Q. The quarterly reports on inequalities and how that work was brought about, just a little bit of context. In terms of when you returned -- when you were appointed as minister in February 2020, joining effectively in April 2020, it was around the time of the Marmot Review. Is that something that -- *The Marmot Review 10 Years On,* was that a review that you had been aware of in your capacity as Minister for Equalities?
A. Not initially. I did become aware of it later on in 2020, but I think it's probably worthwhile giving some context as to why that would be the case. The Equality Hub operates a hub and spoke model, even before it was the Equality Hub, it became a bit more broad based, but every department is responsible for managing its own equality work. So we would do perhaps first

principles research primarily in the LGBT and women's space. We did not cover equality across the board. What we looked at was the Equality Act specifications, which is around protected characteristics, and preventing discrimination, rather than inequality that might arise from other areas.
So this -- this work that we started to do was basically expanding what we would normally do in order to provide support to departments like DHSC who were completely swamped at the time. So the Marmot report is not something that would naturally have come to me anyway, but I did become aware of it, at some point, I can't remember exactly when.
Q. The last bit, just by way of context, so *The Marmot Review 10 Years On,* the message around February 2020 was that life expectancy in England had stalled since 2010, and this had not happened since at least the 1900s, and there was concern regarding the health of the nation, and that was one of the features which was touched upon in that review*, Ten Years On*.
Let's move on to the next report which is of relevance, direct relevance, to your involvement. So as you were about to take up your post, you became aware that there had been requests made of the Secretary of State, Matt Hancock, in relation to

a review into factors affecting the health outcomes for ethnic minority groups, especially those who were working on the frontline?
A. Yeah.
Q. And they commissioned a report of Public Health England --
A. Yes.
Q. -- PHE on 4 May 2020, and you set that out in your statement, and that report was published on 2 June 2020 --
A. Correct.
Q. -- the PHE report, which we've touched upon already, *Disparities in the risk and outcomes of Covid-19*?
A. Yes.
Q. Published June 2020. There was an update in relation to that in August 2020 and some updated or corrected data, which perhaps we don't need to worry about too much at the moment.
In relation to the concerns that you note in your statement about that report, if we look at paragraph 17, so we just have the context of how you express it, I just want to seek your clarification. So paragraph 17 of your statement, please, thank you.
The first line:
"The PHE report highlights some apparently

significant disparities in both risk and outcomes from COVID-19."

Can you assist me just with the first part, the word "apparently", which on one basis may be seen as -- may be a caveat. What did you mean by that?

A. What do I mean by "apparently"?

Q. In that context.

A. It was -- this was something that had not been known or verified, and there was anecdotal information, which was the reason why DHSC commissioned the report. But whether the disparities were real or not we didn't know, what was causing them we certainly didn't know, and that first PHE report did not explain why, but also it's about the significance of the disparities, that you can have disparities and they're not significant, so the "apparently" is referring to both the fact that there were disparities not just -- but that they were significant, and it wasn't just in outcomes but in risk as well.

So the outcome you might be aware of, but also the fact that it was a risk situation was something that became apparent because of the PHE report.

Q. As a result of the report, you were tasked by the Prime Minister at the time to investigate this, and carry out work which we'll touch upon.

Let's perhaps just briefly touch upon the report itself, the PHE report, and that's at INQ000089740. We see that's the front page. Page 4, please, thank you, paragraph 1. Thank you.

The third line down, it says:

"It confirms that the impact of COVID-19 has replicated existing health inequalities and, in some cases, has increased them. These results [which were carried out by the report] improve our understanding of the pandemic and will help in formulating the future public health response to it."

Again, just in the context, if we go to page 6, please, thank you, the first paragraph, deprivation is a feature which is touched upon, an important feature, and it says:

"People who live in deprived areas have higher diagnosis rates and death rates than those living in less deprived areas. The mortality rates from COVID-19 in the most deprived areas were more than double the least deprived areas, for both males and females. This is greater than the inequality seen in mortality rates in previous years ..."

Perhaps we could go back to page 4, please, and paragraph 2, then we can move on from this report.

I'm going to summarise, if I may. It talks about

the different disparities. Age being one. Significantly, the older one is the greater the likelihood, sadly, of mortality. It talks about gender, male higher risk than female. And it talks about those in -- to use their terminology -- black, Asian and minority ethnic (BAME) groups, having a higher risk than those in white ethnic groups.

It's really -- this also touches upon those who are in a range of caring occupations, which is later on in this document, those who drive passengers and road vehicles, and security guards, and so forth.

So from your perspective, this report had been -- had highlighted significant concerns regarding a disproportionate impact --

A. Yes.

Q. -- particularly in relation to ethnic groups?

A. Yes.

Q. I've emphasised groups as in plural. Shall we deal with terminology now because it's a feature of your work, your concern regarding the terminology?

A. Yes.

Q. What was the feedback that you gleaned from your work over report 1 and report 2 about the use of the term "BAME" to -- as an umbrella term for ethnic groups?

A. It's -- using the term "BAME" masked what was actually

happening within different ethnicities. By lumping people who are black with people who are Asian, very, very different -- very, very different groups of people, it was -- it made it harder to actually look at the underlying factors. So what the PHE report did was tell us what was -- what we're seeing, it didn't tell us why, and lumping people into one group completely obscures different bits of information, which we were then able to single out once we started splitting -- once we started splitting groups apart.

What BAME basically does is summarise anyone who is not white from a health perspective or even just from any sort of analysis perspective. That's not particularly helpful. It is a phrase that is used if you're starting from the perspective of there is some discrimination taking place, and that is not the perspective that I wanted us to start from if we were to understand exactly what was going on.

Q. So we recognise the terminology and it being inappropriate in that context, and that is a feature of your work. I think we will see the "BAME" term being used throughout.

A. Yes.

Q. With that context very much in mind, I want to deal with one other matter regarding this publication, this

report. Within a couple of days it was announced in Parliament that you were going to lead this review.
Were you also aware that there was concerns expressed by a number of organisations, including FEHMO and British Medical Association, regarding features of the PHE report which were missing, such as recommendations and also the input from a number of groups who had exchanged and discussed their experiences?
A. Yes, very much so, because I also experienced quite a lot of personal abuse around the non-publication of that, despite -- despite people not understanding exactly why there was a slight delay in publishing. And the reason for that was because there were actually two reports written, and participants assumed that there was only one. One of them was the report which we commissioned, which we published, and the second was a sort of stakeholder report, which was less what is happening but how people feel. And because we hadn't commissioned that, we didn't publish it straightaway, it was something that went into the system for a review understanding what was going on. And the assumption from people who didn't know that there were two separate reports was that the government was hiding something, which was very unfortunate, because it immediately created some distrust, which should not have been the

case, because the assumption was that this was being hidden from people for deliberate reasons rather than additional information which we hadn't commissioned which we were taking longer to respond to.
Q. So in relation to the messaging, using the sort of political terminology, perhaps, the messaging of the two reports, is it fair to say that the PHE report doesn't message that there's going to be another document which is going to run --
A. No.
Q. -- thereafter?
A. No, it did not.
Q. Was it the case that the second report, which we're going to touch upon in a moment, the *Beyond the Data* report --
A. Yes.
Q. -- was that something which was really disclosed thereafter because of this outcry regarding --
A. No, no, that's not true. First of all, this was a report that was written by an independent body, so, irrespective of whether we published it or not, it could always have been published. So it wasn't because of an outcry. It was more the fact that it was being presented as missing data when actually stakeholder analysis and responses, especially the way that those

responses had been captured, I felt was not how it should have been done.
If you go out and ask people who are unhappy "Why are you unhappy?" you can get a totally skewed view, rather than asking everyone how they feel. And as I read that report I could see that the people who already believed that the system was set against them were the ones that were more likely to reply.
I recognised many tropes in the documents and in the responses which were coming from a place -- not from a clinical or medical analysis, but more general social commentary, probably even more political, and I felt that we needed to make sure that we separated the two things.
I'm very keen that we have as much rigour as possible when we analyse data, and we should separate quantitative from qualitative, and the way that it had been published meant that it wasn't easy to do so. Publishing them in stages meant that we could look at what was happening and deal with that and then talk about the stakeholder responses after.
Q. Thank you for that answer.
Let's look at the report very briefly, and I'm just going to follow up on your answer in a moment. So if we could turn to INQ000176354, and that's *Beyond the data:*

Understanding the impact of COVID-19 on BAME groups, and that was published on 16 June, two weeks after the first report.
Perhaps if we could go to page 6, please, I'm just going to do two passages in relation to this. The second paragraph. Stakeholders -- there was a significant amount of input in relation to this, which -- under the umbrella of stakeholders. It states this:
"Stakeholders acknowledged that while actions are already being undertaken, the results of the PHE review and other studies should be used to strengthen and accelerate efforts moving forward. Clear, visible and tangible actions, provided at scale were called for now with a commitment to address the underlying factors."
Lastly in relation to this report, if we could go to page 9, please, and the final paragraph, halfway down we see:
"The engagement sessions highlighted the BAME groups deep concern and anxiety that if lessons are not learnt from this initial phase of the epidemic, future waves of the disease could again have severe and disproportionate impacts. All were united in the commitment that urgent, collaborative and decisive action is required to avoid a repeat of this in the future."

I have extracted two parts to it, not controversial, you would agree --

A. Well, I don't disagree with some of the explanations and assessments, and certainly in terms of what stakeholder groups would have been feeling. That's something that I very much recognise.

Q. Were you listening to these concerns which were being expressed about how certain groups felt that they were being treated and felt that they were exposed to Covid-19?

A. Absolutely. So if you -- if we go back to the first clip, I think you said it was page 6 or paragraph 6, I can't remember.

Q. That's correct, it was, I believe --

A. Many of the recommendations in that report were what informed our decision to publish the four quarterly reports. It was quite clear to me that the recommendations were things that would be needed in order to provide assurance the government was taking this seriously. But one of the reasons why I was quite keen to do the work -- so I wasn't just asked to do it, I did speak to other ministers and let it be known that I would be happy to take on some of this work to help with capacity, because these were concerns that I was having as well. I am a black woman. I was reading that

this was something that was impacting black people. That's my family, that's my friends, and so on. And I felt that having that personal interest would mean that I would be not just focused, but also be able to provide reassurance to many of those groups who feel that people who don't look like them can never represent them, that they were having a minister who was black, who was of the community, if you're speaking strictly on race, looking at this work and leading on it.

And I was also quite keen that Professor Kevin Fenton, who at the time -- also a black man -- head of PHE in London, worked closely and certainly was involved in how we were pulling together the terms of reference for the report and how we ended up making sure that we could communicate it in a way that would provide reassurance to people who, for whatever reason, had genuine concerns which I felt needed to be addressed.

Q. So with that in mind, that you were listening, you were personally invested in this, you touched upon the terms of reference we can see these in your statements at paragraph 18(a) to (g), if we could bring that up in a moment, please. A number of terms of reference but the first point I suppose is the terms of reference there are important to scope the work that you're dealing with?

A. Yes.

Q. And that there was accountability; is that fair?

A. Yes.

Q. We see, I'm not going to read them all, there was a number of terms of reference, eight in total, the first one, to:

"Review the effectiveness and impact of current actions being undertaken by relevant government departments and their agencies to directly lessen disparities in infection and death rates of COVID-19. Factors to be considered -- but aren't limited to -- should include age and sex, occupation ... "

And so forth, and includes ethnicity at the end.

So in terms of the first term of reference, a wide term of reference?

A. Yes.

Q. Summarising the rest of them, it's to consider whether there's going to be modifications to new policy. Data key feature, at terms of reference 3, to "commission further data" and to examine the collection of existing data and its quality. And engagement with other departmental ministers, further stakeholder engagement, and to improve public communications, at the bottom of the page.

A. Yes.

Q. And at that stage, so we're June 2020, we're in the stage that we're still in lockdown number 1?

A. Very much so.

Q. In your view, it was an area that still required work to improve public communications?

A. Yes. And in coming up with these terms of reference I was very keen -- this is probably my engineering, project management, et cetera, background -- that we don't try to duplicate work that other people are already doing, that we provide support and assistance, we don't -- we are ambitious but not so ambitious that it is not feasible for us to deliver, and look for where there are gaps that we can add -- we can add value.

And by the time this report -- pardon me, this terms of reference was being drafted, I could already see the comments about people not understanding -- if you remember, we had those sort of daily 5 pm announcements and who could shield and who didn't need to, and so on, and I knew that communications was an area where there was lot of talk about people not necessarily understanding or not watching the same channels. And making sure that we were able to be as inclusive as possible, I wanted to review how we were communicating, not just what we were doing on the BBC, and that's why I added 7 to it. What I did not want to do was try and

be the Department of Health. That's not what the Equality Hub does.

Q. No. At paragraph 76 of your statement, you touch upon that your work on Covid-19 disparities was "primarily limited to England only", and you referenced that, as we know, health is a devolved matter in Northern Ireland, Scotland and Wales.

A. Yes.

Q. It's a question I have been asked to clarify, is the use of the word "primarily". Was any of your work not exclusive to England, in other words that it would have involved the devolved administrations?

A. Well, the -- if you think about the agencies that we work with, it's NHS England, at that time it's Public Health England, that's -- that was where we had levers. What we did was communicate to the devolved administrations, "Here's what we're doing if you would like to replicate".

As much as I would have liked to get into every corner, actually there is often resistance to that from devolved administrations, they don't want UK Government telling them exactly what to do or sticking their fingers into every pie. So it was about providing the transparency and, where we could get data from devolved administrations, doing so and sharing, sharing the

information.

Q. You used the word "communication" and "sharing information". The statement paragraph, which is open, suggests that was really having material which was available online, transparency as you describe it. Was there any more active communication with the devolved administrations?

A. Certainly when reports were published we informed them. But given -- I think certainly given capacity there would not have been anything to do beyond letting them know what we were doing.

Communication is two-way, it's what lessons are being learned, it's how were things going. A lot of that we knew already, so that wasn't any need to provide additional activity in that space. We were at capacity. So I'm not sure what more we could have done with devolved administrations, given that they were also quite overwhelmed dealing with the pandemic in the various nations.

Q. And one has to be realistic. You say you were at capacity twice in that answer, and it was during the heart of the pandemic. In hindsight, was this not an area, especially something like public communications, where there would have been synergies between the work you were doing and perhaps the work the

devolved administrations were doing?

A. Yes, but I don't think that -- I don't think that this was work that was being done in isolation. A lot of the government communications work was spread out, it was shared, they were attending the Covid-Os, they were getting updates at the same time. And I think that those fora were probably sufficient for the kind of thing that we were doing.

Q. Still on scope, we've dealt with devolved administrations, we've dealt with your terms of reference, two important groups, children, number one. How did work on children, how was that weaved into the work on disparities over those four quarterly reports?

A. So if we take a step back and look at the framework of the Equality Act, it's in terms of protected characteristics, age is one of them. But our purpose is primarily to prevent discrimination and, in some cases, disproportionate impact if we think we have a lever into that.

The disproportionate impact was very much on the elderly, not on children. That's something that came across very quickly and very early. So there was limited -- there was a limited need to look at how the disease itself was impacting children. There would have been indirect impacts such as schooling, for example,

and later on, as we discovered, children living in multigenerational households we knew were actually passing the disease on to their elderly relatives, and as we discovered that sort of information we made sure that it was taken into account whether in risk assessments, in communication that we were passing on. We tried to get into channels looked at by young people, letting them know that they might be at risk or they might be creating a risk for their family members. But beyond that I would not have expected -- unless you have some examples -- I would not have expected children to be much further in scope for the work that I was doing.

Q. Well, it's your answer. The focus, for the reasons you set out, were on other groups, and when one considers age, the focus was on those who were older, rather than children.

A. Yes.

Q. That's your evidence.

Disabled is the second group I wanted to ask you about, and really what part, if any, your remit included consideration of the impact on those who would fall into the category of disabled persons, disabled people?

A. It was limited because there was already a minister of, Minister for Disabled People, Justin Tomlinson, who I believe has already given evidence.

Q. Yes.
A. As I said earlier, making sure that we weren't duplicating efforts was quite important, and he already covered that part of the brief quite well. Where I did look into disability was where disability interacts more on the health -- much more on the health side. So where we discovered that diabetes, for example, was a significant risk factor in terms of whether people died from the disease or not, those sorts of things we looked at. But disability generally, across the board, no, that would not have been within my remit.
Q. What sort of interaction would you have with Justin Tomlinson, the Minister for Disabled Persons around that time?
A. Update meetings and we had Equalities ministers meetings where we gave updates on our work across the board. The senior Minister for Women and Equalities as well as myself, Minister for Women, and the Minister for Disabled People would have been present in those meetings.
Q. Yes.
A. And at official level all of that information of course would have been shared.
Q. Yes, and in relation to those meetings which were -- were they regular or irregular, these meetings, Equality

Ministry meetings?
A. I think we had regular meetings and then anything else that was needed in between would have been often enough. But also I was quite keen that we didn't have meetings for the sake of them. If we didn't have anything to say, we wouldn't have the meeting just because it was in the diary, and -- this is me trying to recollect.

I know that when we did speak there was an agenda item that needed communication between us, but quite often a lot of that would have been done at official level as well. I'm also very conscious of other ministers' time and it's not that easy to schedule things into the diary, so as and when necessary.
Q. So there's no mystery, you have been asked to obtain that information, you've kindly agreed that your team will go away and obtain the documentation in relation to the agendas for those meetings --
A. Yes.
Q. -- any read-outs?
A. But I would like to stress the frequency of meetings does not necessarily indicate the level of action that's taking place. You can have lots of meetings and nothing happens.
MR KEATING: Well, actions is something we're going to talk about, but that may be a suitable moment, my Lady. I'm

about to move on to a large topic.
LADY HALLETT: Certainly, of course, I was just thinking about the comment about how meetings don't necessarily prove productive.

I shall return at 1.50.
MR KEATING: Thank you, my Lady.
(12.57 pm)
(The short adjournment)
(1.50 pm)
LADY HALLETT: Mr Keating.
MR KEATING: Thank you, my Lady.

Welcome back. We were, before luncheon, dealing with the PHE reports, the terms of reference for the work you were doing investigating the apparent -- to use your phrase -- inequalities in relation to certain groups, and we'd dealt with the terms of reference and the scope of your work, which was from June 2020 onwards.

So the next part of our timeline really moves on to September 2020, and it's a Covid-O meeting which you were present at -- and I'm very grateful, it's right in front of us there -- chaired by Michael Gove, and we see Justin Tomlinson, who is the Minister of State for Disabled People, and overleaf, top of page 2, you're there in your capacity as Minister for Equalities.

But if we could go to page 5, please. In terms of context at page 5 of this document, we see that the first and second paragraphs, it's discussing that the first wave of the pandemic, BAME communities had seen higher case rates than their white counterparts. This was being repeated in the second wave of the Covid pandemic. There's reference to data being perhaps skewed as a result of testing, but reference still that a BAME person -- that's their terminology -- was still more likely to die from coronavirus, even once the socioeconomic factors had been removed, with black men twice as likely to die as their white counterparts. It talks about:

"The increased death rate of BAME communities was linked to the fact that these ethnicities were over-represented in eight of the twelve most high-risk coronavirus occupations."

If we could just scroll out, please, and look at the third paragraph.

So against that context, this Covid-O meeting then refers to disabled persons, and it says this:

"... 60 per cent of those who had died from coronavirus identified as disabled and, even once accounting for other risk factors, disabled people were 1.6 times more likely to die from coronavirus."

And that spikes considerably when one considers age, and it talks about the difference in relation to gender.

So, Ms Badenoch, just ploughing on from your work in terms of looking at the disproportionate impact on ethnic minority groups and disabled people, that huge group as well, was this not an opportunity for your work to align with the work which was going on in relation to disabled persons, bearing in mind the high death rate which has just been highlighted there?

A. I don't think so. I mean, if I understand your question, what you're asking -- correct me if I'm wrong -- is that given that there were bad statistics on the disabled side as well as on the equalities side, why didn't we encapsulate it all together.

Q. Correct.

A. There was no need to. They were doing work, certainly from my perspective, that would just have been a duplication. Simply adding it to our workstream would not have provided any additional insights. They were still part of the broader equalities directorate, and they were focusing on a particular area, and given that the work that my -- by which time the quarterly reports that I was doing were focusing on comorbidities and multivariant analysis, it was taking into account other things like age, like sex, like geography, for instance.

So we were looking at this in its entirety. Whether or not it was in a particular workstream or another I don't think would have made much of a difference.

Q. What would you say to the concern that the interests of disabled people was actually secondary and wasn't given sufficient prominence at that stage in September 2020?

A. I would disagree with that. I think just because you're looking at things separately doesn't mean that there is a hierarchy of need. The evidence showed that disabled people were more impacted, and we were keen to ensure that it was the people who were most impacted that got the most attention, and that was roughly in order of priority: the elderly, and then disabled people. This was something that was a factor, and in terms of interventions being made, those would have been considerations that DHSC would have taken into account.

Q. It's an obvious point, but of course disabled persons will fall within ethnic minority groups as well.

A. Yes. Yes.

Q. Let's move on to your first quarterly report, which is dated 22 October 2020, and that's INQ000089742 -- thank you, right in front of us.

So published on 22 October, and you touch upon in your statement how you wrote a letter to the Prime Minister setting out the work you were doing.

A. Yes.

Q. What we're going to do is we're going to draw out some aspects of this. It's a significant report in terms of length.

Perhaps if we could turn to page 5, please. That's the introduction there, and the third paragraph sets out the work which was ongoing, and:

"Given the stark findings in relation to ethnicity, the RDU ..."

Perhaps you could explain to everybody what that is.

A. It's the Race Disparity Unit.

Q. Yes, thank you:

"... main focus has been to consider why this virus has had such a disproportionate impact on people from ethnic minority groups, and in particular men from within those groups."

It talks about a separate strand of work when government is considering other disproportionately impacted groups, that being disabled persons.

A. Yes.

Q. The report makes 13 recommendations. If we could see those at page 6. We see the first two at page 6, and perhaps we could just focus on some of those, not them all. But we see there the recommendations which you made to the Prime Minister at the time, which had been

accepted in full.

The first two -- and I'm going to summarise them, if I may -- is that:

"NHS England must ensure that Trusts implement plans for the next stage of the pandemic, and that these plans continue to reflect the latest evidence about ethnic disparities and risk factors."

And recommendation 2:

"Departments must put in place arrangements for the effective monitoring of the impacts [of] their policies ..."

So October 2020, these are quite broad recommendations, would you agree, in terms of: you must have plans and you must be monitoring the impact of your policies?

A. Yes, they are broad, but I don't think we should assume that they would have been done if it hadn't been explicitly set out. But also, what these recommendations are doing are letting it be known that there is someone else marking the homework. It's very easy for people to say, "Oh, don't worry, we've got some plans in place", but by formalising these recommendations, they were things which we were going to be going back to check up on later, and it's almost that evidence-checking process that is being validated with

recommendations.
Q. So you describe this as an evidence-checking process, because one would expect that these are matters which would be in place in any event.
A. Yeah.
Q. Or should be in place in any event.
Let's turn overleaf, please, and look at recommendation 4:
"Departments should continue to work at pace to develop new policy interventions to mitigate COVID-19 disparities, informed by the latest evidence."
You touch upon that in your statement, that this was -- paraphrasing -- a personal issue to you, and your view -- and perhaps you could paraphrase it or say it yourself -- was that you considered more needed to be done; is that correct?
A. Yes, certainly so.
Q. So in relation to work to mitigate Covid-19 disparities, as of October 2020, your view was that more needed to be done and government needed to work at pace?
A. Yes, and I think that what's also -- it may not be obvious, but what's also being emphasised there is that departments should continue to work at pace, and I think that sometimes in government there is an assumption that, "Well, somebody else is looking after this, so we

don't need to", and it was reinforcing that principle that equalities work is done by every department, not just the Equality Hub.
Q. And it may be civil service or political phraseology, but "work at pace", what does that mean?
A. Quickly.
Q. Yes, that's pretty much common usage.
A. Yes.
Q. In terms of metrics and using your project management background, if we look -- was there metrics to measure these recommendations? Was there something in place to make sure that, as you say, the homework was being marked?
A. Yes, the actual process of the quarterly reports was the metric checking, effectively. That was how we were measuring. So, routinely, my team within the Race Disparity Unit would ask departments to report back: "What have you done? We made these recommendations. Can you send us a list of actions that show how you are meeting this", which is all part of the homework marking.
Q. Yes.
A. I would say part of the process.
Q. Let's go to page 10, please, in relation to this theme as to metrics and monitoring. We see at paragraph 8:

"For some policies [this being October 2020, as we're in the tier system], departments have yet to establish effective metrics and monitoring arrangements. While this is understandable with more recent initiatives, this must be a priority for departments over the coming months. This will enable the [Race Disparity Unit] to monitor and assess short and longer term impacts and to assess which interventions are most effective."
So the work you had done had revealed that there was an absence in certain quarters of effective metrics and monitoring; is that correct?
A. Yes. We -- and -- but this was part of what we were looking to identify. Where there were gaps, where some departments weren't doing as well as they could or should we wanted to highlight that. And I imagine the way we write these documents might seem odd, but there is a lot of reading between the lines. We don't want to demoralise or overcriticise the people that we're working with, but effectively what this paragraph is saying is that some people haven't yet done what they should be doing, and in the context of everything that was going on at the time -- many departments overwhelmed, lots of officials being pulled from their day-to-day work to support in the pandemic -- I don't

think it was surprising, which is why we said: well, this is understandable. But there was more that we wanted to see and we knew that people weren't moving as quickly as we would have liked.
Q. That last part of your sentence, "We knew that people weren't moving as quickly as we would have liked", just keeping that in mind for a moment, because the question was going to be this: bearing in mind the concerns regarding certain groups being disproportionately impacted, May 2020, it raised -- and a report ordered by the Department of Health and Social Care, PHE reporting back in June 2020, we're in October 2020, in the grip of a moving second wave, and you're concerned here that people weren't doing -- moving as quickly as we would have liked.
A. Yes, there would have been more detail -- I can't recall off the top of my head, but there would have been more detail in the report about what specifically -- there would have been specifics. So this -- I can't remember, I'd need to read the report again to remember exactly, but we commissioned this in June. I think we took about a month just to get everything together, get the right people into the RDU to carry out the work, put the terms of reference, so first report comes out in October. This is after there has been a lull. If you remember,

we had a summer where there was a lull in terms of infections and there was some easing generally.

So this was just the assessment that was being made in terms of: if there's a new spike, have we got everybody ready, I think perhaps to do risk assessments and so on. And departments need to answer for themselves specifically why that was the case, but we had looked at what they were doing and we felt that, by the metrics we were measuring, not everything was being met.

Q. Was there, in your view, sufficient capacity to deal with these matters during summer 2020 so that we were prepared for the second wave?

A. I don't think so. I think that -- it's -- a pandemic like that, and the amount that we were doing, I'm not sure there would ever have been enough capacity. Because on the one hand, government is doing everything it can to support those who were dealing with the disease. But even we, whether it's the officials, the civil servants, we're also being impacted ourselves. Within the cohort of people working in the civil service were people who were shielding or who had family members who were dying and so on.

So I don't think that this was a case of people slacking off or people not doing as much as they could

do. Sometimes it would be people just not having in themselves their own personal capacity, literally no other person to join or perhaps those with the right skillset. And you can't skill up quickly for a pandemic and you can't have pandemic-sized response capacity just sitting there waiting all the time.

Q. I won't repeat the chronology points again, but the last point on metrics is that one of the recommendations -- we don't need to look at it -- recommendation 10, was that you were going to work with other departmental colleagues to establish metrics going forward.

We're going to move on to one last point, which is recommendation 3. So if we could go back, please, to page 5, or page 6 it's probably on, so you have it in front of you. And overleaf, thank you.

"There should be a rapid, light-touch review of action taken by local authorities and Directors of Public Health to support people from ethnic minority backgrounds, in order to understand what works at a local level."

If we fast forward to page 9, please, just to help you, because I'm conscious these are long documents which you have seen recently, but some of them are more in the past.

Page 9, please, thank you. The last paragraph.

Thank you.

This relates to this point, is that:

"There is a significant amount of work being carried out at the local authority level and by Directors of Public Health which is not currently being captured centrally. Capturing this will be a focus in the coming months."

So, again, drawing that together, your work revealed that there was a lack of visibility in central government about what local government colleagues were doing in relation to these areas?

A. I'm not sure whether that was about the central government visibility. I think it might have been the RDU's visibility into -- being a separate department, into what was going on. I suspect that DHSC would have known what directors of local -- local directors of public health were doing, and probably in MHCLG, as it was at the time, there would have been some insight. But making sure that we had that information and we were able to capture that in our work I suspect is part of what we were looking at.

I can't remember exactly, but that -- reading that now, I think that that is what we were saying. I don't think what we were saying was that nobody knows what anyone is doing.

Q. We'll read in context, but you don't like duplicating other people's work, but one of your recommendations is: we need to do a review, we need to know more.

A. Yes.

Q. Dealing with the last themes very briefly, but they're important points, data, data remained an issue, which --

A. And -- sorry to interrupt -- if I was to refer to -- that's point 5. If I was to refer to point 3 on that page, we document what we did, asking for a set of returns, and it could also have been that departments sent us some but not all of what they had, and making sure that we're reviewing what information they had as opposed to what they were sending was also part of it. Sometimes they just didn't send us everything. They might have thought it wasn't relevant. Sometimes a particular team may not even know what another department -- what another part of the department has. Government is very big, and the bigger it is, the harder it is to find information.

Q. That goes back to the question before lunch about your role as Minister for Equalities and whether that had a sufficient seniority and importance to get a response from other departments. Was that an issue?

A. I think that was not an issue because this was a report commissioned by the Prime Minister, so it had his

authority behind it, and remember I was not the only Equalities Minister; there was a more senior Equalities Minister as well.

I never felt that they did not take this work seriously, but I did feel that they were very much at capacity.

Q. Okay.

Data, and I'm going to summarise. Data was a real issue. There was:

"... no single dataset [which held] all the variables needed to gain a full understanding, different organisations have been linking datasets over the last 4 months ..."

We don't need to turn to that, it's page 14.

It says later on at page 20:

"... the emerging picture points to areas of general concern about data quality ..."

So a real feature was: we don't have one dataset, we're merging a number of datasets; secondly is that there's issues regarding data quality, data collection, and the need for harmonisation of data standards.

A. Absolutely.

Q. And that's a feature of the work through the quarterly reports thereafter; is that right?

A. Yes, I remember that.

Q. Communications. We discussed it already, it was in your terms of reference. Another one of your recommendations for this first quarterly report was to continue to improve public communications. It was an ongoing issue. Is that fair?

A. Yes.

Q. And risk. Perhaps we could turn to look at this. Page 16, please, second paragraph, thank you, risk factors, and how some occupations carry a higher risk of getting infected. We touched upon this when looking at the Covid-O report:

"... as the job cannot be undertaken at home; people still need to commute to work in order to provide essential services for the community."

These figures are significant:

"1.4 million key workers were from ethnic minorities, making up to 14% of all key workers (5% of the total workforce) and 20% of those in high risk occupations compared to their 11% involvement in the total workforce."

So there is a recognition there of risk, risk being a factor, and risk being a factor linked to the occupations where certain ethnic groups were more prevalent in; is that correct?

A. Yes.

Q. We touched upon already that the 13 recommendations in this first quarterly report in October 2020 were accepted in full by the Prime Minister, and that this formed the framework going forward for your work, is how you said in your statement.

I want to fast forward now to the second quarterly report --

A. Right.

Q. -- which is in February 2021, so we're now in the third lockdown in terms of the narrative, and if we could open up, please, INQ000089744. We have it there, thank you so much.

This was published on 26 February and, as you summarise in your statements, looked at causes of higher infection and mortality rates for ethnic minority groups in greater detail, and the work undertaken to mitigate risks. You explain that the impact on ethnic groups had changed between the first and second waves.

Did you want to, rather than me summarising everything, explain your assessment at that stage? That was quite a significant part of your work.

A. Yes. I don't have the exact page in front of me, but I do recall that there had been a change between what we saw for black males and -- or at least the black cohort and whites, there was an equalisation in terms of risk,

whereas on the side of Pakistani and Bangladeshi groups, I think -- I can't remember whether it stayed the same or it had got worse, but suddenly black African and white British men, there was no disparity, but it continued within the Asian groups.

Q. Yes. That's a fair summary. We have it in front of us there.

Perhaps, in fact, if we pull out for a moment, I think page 6, paragraph 3 is probably a better reference. I may be wrong. Okay. Let's go with this reference.

It says overall the direct impacts of Covid-19 improved for ethnic minorities as a whole during the early second wave, and it describes the difference in the first wave, and how in the early part of the second wave the risk of death was the same for black African and white British men, what you've just said to us.

A. Yes.

Q. To underline the second part:

"At the same time, however, the second wave has had a much greater impact on some South Asian groups. Work is underway to consider why the second wave to date has had such a disproportionate impact on Pakistani and Bangladeshi groups. Relevant considerations include regional patterns in first and second waves ...

household occupancy and multigenerational households, deprivation, and occupational exposure."

It says later on in the report, at page 23, that the continued higher rate of mortality in people from Bangladeshi and Pakistani backgrounds was alarming and required focused public health campaigns and policy response. Can you help us in relation to that?

So we see an increase in mortality in relation to the British Pakistani/British Bangladeshi groups. What was done to require focused public health campaigns?

A. The -- if we go back to what the information was telling us, up until really that second quarterly report, the why of -- why people were disproportionately impacted was not clear, and if you look at the PHE report, especially the stakeholder analysis, much of the belief was that this was due to prejudice, discrimination, racism. What we were finding there was that something different is going on because we're seeing improvements in some groups and worsening in other groups.

So a lot of focus was around compliance with social distancing, whether people understood a lot of the advice that government was giving, and at that point we were spotting the correlation, which we think was quite a huge causation, about multigenerational families. The big difference between those two racial groups which

were previously roughly equally impacted was how many of them had grandparents effectively living with the family and exposure to young children.

So we put out lots of communication around -- to diaspora communities, by this point the community champions programme is starting where we know that clearly with some of these groups, not all of them are going to be going to gov.uk to read through all the long bits of advice --

Q. Just pausing there, we have a remote stenographer, so I'm just --

A. Oh, sorry.

Q. No, not at all, just to give a pause to your answer.

A. Yes.

Q. You were dealing with communication --

A. Yes.

Q. -- and community champions, which is one of the topics I was going to deal with.

A. Okay.

Q. Explain to those who are listening what community champions were and how that was brought about.

A. Right. So if I take a step back and provide some more context.

At this point we can see that there are multigenerational households who were particularly

impacted, we can see certain areas in the country having a higher rate of incidence, and we decided to target the problem and be as focused as possible. Given the terms of reference that I had, a lot of that was to do with communications.

The community champions programme was one which identified that, even with the best will in the world, government can't get everywhere. There are some places that you need other people to do the communicating. So the community champions programme was to find people who were trusted in their communities who could help seed information around looking after yourself and, in particular, your family.

Q. So in relation to that --

A. Yes.

Q. -- the community champions was something which was an important part of your work. You mentioned in your reports that funding was granted in January 2021, so just at the beginning of the third lockdown.

A. Yes.

Q. This is your report in February 2021. Community champions and that trusted voice for different communities, was that something which perhaps should have been done at an earlier stage?

A. I don't see how we would have done that. If you

remember, the Equality Hub doesn't have delivery levers. It's almost, effectively, a research ad policy recommendation unit. So community champions was delivered by the communities department. Finding out which communities are impacted -- this is by the second report -- looking for who the right community champions will be, they're not just waiting -- you know, it's not a set of people waiting, getting people to do the work, making sure there's the data on where to go, where the incidence is, looking at places where there's high morbidity data, high incidence of death, low levels of English speaking, all of that needs to be captured as well.

So you can't just press go and start a project. The departmental co-ordination needs to be there, Treasury funding needs to -- you need to go through the right process. Treasury needs to look at the proposal. You can't --

Q. Just to pause there, because I'm just going to follow up, if that's all right.

A. Yes, fine, okay.

Q. I understand the mechanics --

A. Yes.

Q. -- that these things -- to use your phrase, "pressing go".

What would you say to the challenge to that, which would be: we're a country rich in diversity, and there always would be a need to have different communication channels to reach different parts and different communities, and that should be something which should be in place already?

A. I think it is something that should always be considered, but I don't think that even government can create a system that would be in place already to deal with that.

If I give you an example, I -- and this is where my own personal experience was feeding into this, and I know this was something that was very common. I'm in a family WhatsApp group with family members across the world, from Africa to the US, all of us experiencing the pandemic, different bits of information being shared, clips of people saying, "This isn't real, it's a government -- this is a government agenda", lots of conspiracy theory, having to rebut very well educated people who are bringing in arguments that they're seeing on the internet.

The government can't get into my family WhatsApp group. It's just -- there are some channels which you cannot break into in the information age that we live in. What we can do is try and make sure that as many

people as possible have access to the right amount of information ad hopefully that eventually transmits, but there are some things that you cannot rebut.

Community champions was a way of reaching those people, perhaps, who might not be -- might be digitally excluded, might have low levels of English, hopefully are slightly distanced from a lot of the conspiracy theory spread and misinformation spread, but who would perhaps go to a church or a mosque or a religious institution, perhaps a clinic, people who were coming face-to-face with those who might be suspicious of intervention from government.

And remember, within ethnic minority populations, there is a very high level of first generation immigrants who come from countries where people don't trust the government, and there is no reason to assume that just because the government is saying something, that they will take it as verifiable information that they have to act on, especially with the backdrop of conspiracy theory.

Q. The lack of trust and the need for trust is something you have mentioned a number of times.

A. Yes.

Q. And it's a feature of your work how this community engagement, community champions, was one vehicle to

address that.

I'm going to move on, if I may.

In terms of areas in which positive measures were implemented as a result of the second quarterly report, we mentioned community champions, community testing, which was taking place, piloted at places of worship in ethnically diverse areas, and trying to enable more identification of higher numbers of cases.

I want to turn to page 11, if I may, of this report. I've highlighted the progress which has been made and the efforts which were being implemented, and we see at paragraph 7 -- thank you again for the references, which are correct -- it says this:

"While good progress has been made to address COVID-19 disparities, government departments must redouble their efforts, taking account of the latest available data and evidence. In particular, departments must consider measures that will benefit those most affected by the second wave of the virus, and in particular those from the Bangladeshi and Pakistani ethnic groups."

So, again, this report recognises and identifies that more needs to be done; is that right?

A. Yes.

Q. We talked about metrics, and one of those, if you fast

forward to page 49, was your recommendation 10 from the first report. There was an update in relation to recommendation 10 which you wrote to colleagues in December 2020, encouraging departments to establish metrics for assessing the impact of their policies, accompanied by a technical annex, and you also met the minister for Covid-19 vaccinations.

There isn't anything exciting, I don't believe, overleaf. Yes, as I recollected, nothing really more to add in relation to that.

Where were we with metrics? You sent the information out. Were metrics established to gauge what different departments were doing to address these issues?

A. I believe they were, although I can't recall exactly what they would have been, certainly not off the top of my head. By this point, metrics -- a lot of intra-departmental metrics were not necessarily things that we would have been looking at, it was making sure that they were monitoring and checking that what they were doing would have been effective, and a lot of what we were focused on by this point was: what is the data telling us about who is impacted? What can we do in order to make sure that they're protecting themselves?

I seem to recall by this point we were heading into

periods where religious festivals were taking place. We knew that large gatherings of people were occurring, especially in certain minority communities; how to make sure that people protected themselves and did not -- you know, did not end up in a situation where large non-compliance activities were taking place.

But in terms of metrics, not off the top of my head, no. I'm sure they are there, but I can't recall at the moment.

Q. Let's hope that confidence is borne out, but in relation to the time period where we are, we are in lockdown 3, it's February 2021, and next steps -- I can outline them rather than invite you to turn to it -- was: more recommendations on data and evidence, more recommendations on engagement , more recommendations on tailored communications.

Let's move to the third quarterly report. It's 25 May 2021. We're into summer 2021. Things are improving relatively, INQ -- it's right in front of us, thank you so much. Page 3, please.

We see there in the last paragraph:

"This report summarises work across government and through national and local partnerships, to improve vaccine uptake among ethnic minorities."

It describes:

"A data-informed approach, targeted communications and engagement and flexible deployment models are the cornerstones of vaccine equalities delivery."

It refers to supporting it during Ramadan, extending the use of places of worship, and out of completeness, at the bottom of the paragraph, refers to further funding, £4.2 million:

"... to local sustainability and transformation partnerships to enable targeted engagement in areas with health inequalities and with communities ..."

By this stage, your work -- is this a fair summary -- in May 2021, the huge focus of it was in enabling vaccine uptake?

A. Yes.

Q. Why was that?

A. Because many of the non-pharmaceutical interventions -- I think that's what NPI stood for.

Q. Yes, it does.

A. Yes. Many of the NPIs were things that we were trying to do to help prevent, but in terms of efficacy, we couldn't control a lot of it. You can't control how people behave. In some cases, it's impossible for them to shield, depending on their living circumstances.

Vaccines, on the other hand, were proven, and looking at some of the things that I felt would have

been contributing to ethnic minority disproportionate impact, fear -- not participating in clinical trials would mean that: what if people were getting the vaccine and then it wasn't working because of genetics or something else? So increasing vaccine uptake, but also encouraging people to understand what vaccines are about, that they're safe, taking part in clinical trials was really important to me. I took part in clinical trials myself. I trialled -- I went on the Novavax vaccine trial, publicised that, to let people know that this wasn't something that they should be afraid of.

There was a lot of fear by this point that the government wants to -- or the -- how can I put this? There was a fear that a lot of the communication about disproportionate impact was actually a secret conspiracy to scare ethnic minorities into taking vaccines, which was a way of the government culling the population. So even the things which we are doing in order to identify risk were being manipulated into conspiracy theories to deter people from doing what would have helped them mitigate that risk, and that was something that I was particularly concerned about.

Q. You recognised that there was mistrust in the communities, not one community, and there were efforts which are set out in this report to address that and

improve communication and improve vaccine uptake.

What do you say to the question regarding whether the balance was right? Was too much of the effort at this stage into addressing ethnic minority disproportionate impacts on vaccines? Should more have been also done in relation to other areas, such as financial support, for instance?

A. I disagree, and I think that we would need to be very careful in this -- at this point about stigmatisation, which is something that I had very much at the back of my mind.

Vaccines worked. This was a fact, this was proven, and to spend time away from what we knew worked to do things which were less viable, less effective, in order to deal with the emotional feelings of people who didn't -- either didn't like vaccines or wanted other levels of support I think would have been wrong.

But I also think that -- I remember reading lots of recommendations and lots of reports at the time. What people were suggesting was racial segregation: let's treat black people differently because they're disproportionately impacted, let's give them the vaccine first -- something that we didn't do, for example -- or let's target support packages for ethnic minority communities, and I think that a lot of this -- it goes

back to the point I was making about use of the word "BAME". Ethnic minorities don't just exist as communities of segregated people. We are part and parcel of this country. We are related to people who don't come from our ethnic background. My husband is white, my children are mixed race; there are families like ours all across the country. Targeting ethnic minorities in this way rather than targeting households and families would have been completely the wrong thing to do, and that applies to both the clinical interventions, as well as things like economic packages and so on.

Q. Let's pause there for a second, because it's just -- we're on points.

A. Yes, okay.

Q. And you're talking about support packages for ethnic minority groups.

One of the features from your work is that recognition of the higher rate of mortality in relation to --

A. Yeah.

Q. -- British Pakistani, British Bangladeshi, and in the type of occupations they work more in, and we talked about key workers as well.

So, against that background, was it not the case

that earlier in the pandemic, perhaps before vaccines, there should have been greater financial support to help people in areas, such as in the north of England?

A. So I would say no, and I say this -- at the time I was a Treasury minister as well as an equalities minister, so it was quite a useful intersection, and I would say one of the advantages of having equalities ministers sit in other departments. What the evidence has shown is that being an ethnic minority was not the cause of being disproportionately impacted; it correlated with what the causes were, the comorbidities. So you have to tackle the actual cause, not the thing that comes in common with it. If you provided support packages to particular minority groups, you would have left quite a lot of people out who desperately needed similar support, rather than targeting the people who were most affected.

So, for instance, you could argue that: let's give extra money to all Pakistani men, they're disproportionately impacted. I think that would have been a terrible waste of money. There would have been a lot of --

Q. I don't think that was the suggestion, in fairness.

A. I'm giving examples, I'm not saying that's what you are suggesting.

You could have said: let's give money to the taxi

drivers, who are particularly exposed, who are from that background. But they are no more exposed than taxi drivers of another background. You could say: well, let's give extra money to all taxi drivers. But then there are other groups of people, not least of all health workers, who are also similarly exposed. There is no perfect way of finding a particular group to give extra cash to, and extra cash in and of itself would not have solved the problem which we were trying to resolve of making sure people were protected and away from the virus.

Q. Just --

A. If I may, there is one extra point. What this highlights is the trade-off, that is the trade-off that we, as government ministers, have to balance.

Deprivation is one of the reasons why people say that there is inequality. Making sure that people can stay economically active -- it's not just about the earning of the money but also the things that come with it. If you reduce that, you also create factors that can lead to inequalities later. So we have to look at all of those things in the round and find the right balance and --

Q. Can I ask you a question in relation to this, because I'm conscious that there was a long answer and I don't

want to lose it all.

A. Right.

Q. So one of the areas which is an alternative was whether there should have been more financial support in relation to those occupations, or people generally -- putting ethnicity to one side -- who may have been self-employed or working in low paid areas which, if they were sick, they would get sufficient financial support so they could self-isolate. That's the vehicle for this sort of support, which I'm sure you're familiar with. Was that not something that your work should have included or at least explored?

A. That was work that was taking place in the Treasury. I wasn't the minister responsible for that, but that was looked at in the Treasury. I'm afraid I only have the Equality Hub notes for this module, but that definitely was done, and I remember standing at the despatch box and explaining how we came to devise the packages which we did. There always has to be a cut-off, and there is a cost to everything.

So the package -- the furlough and a lot of the quantitative easing and money printing which we did then is directly related to some of the issues that we're seeing now with high interest rates, with inflation. So more interventions are not without cost or consequences,

and there needs to be at some point a line that was drawn.

Q. Yes.

A. Even where we drew the line, people asked that it should have been for people earning slightly more. They felt that the £50,000 cut-off which we had was too low. There's always -- no matter where you draw the boundary, there will always be people who feel that they're on the wrong side of the boundary and should be included, and if you take that to its logical conclusion, we should do it for everybody.

Q. Well, let's draw a metaphorical line under this for the moment. We're still on your third report, and I want to move on to page 5, if I may, which is the third line, and just draw out what we're discussing. We're discussing British Pakistani/British Bangladeshi and what the data was showing here, and by this stage -- I think it's the third line:

"This third report summarises the data for deaths in the second wave up to 31 January ... which was not available ... The latest data confirms the finding from the second report that people from South Asian ethnic groups, particularly the Pakistani and Bangladeshi groups, were at the greatest risk of death from COVID-19 during the second wave."

In terms of those numbers, I would summarise it, at page 22, is that compared to white British men and women, Bangladeshi men and women were 6.1 and 6.3 times more likely to die from Covid, Pakistani men and women were 4.4 and 3.8 times as likely to die from Covid, and that they adjusted -- they reduce, but not significantly, for other factors as well.

In relation to one other feature which arises in this report for the first time -- and it's an interest to groups which are core participants -- is at page 29, Long Covid. That's something which is raised for the first time in this third report. I'm just going to touch upon it briefly, if I may, and ask you what work, if any, was done.

It describes Long Covid as "an emerging phenomenon that is not yet fully understood", and describes the impact of that, which I can summarise. The prevalence rates for self-reported Long Covid were highest for (a) people with a pre-existing activity-limiting health condition and (b) health and social care workers, and we see that in the middle of the page. In very simple terms, those in the white ethnic groups had the highest prevalence rates of Long Covid compared to the Asian ethnic groups.

Quick question on an important topic, but in

relation to your work -- this was the third report -- was there any work done to explore Long Covid in terms of its impacts on ethnic minority groups?

A. No, I think for several reasons. One, it would have been outside our immediate terms of reference. This is very much health work, and by that I would say sort of frontline research analysis, whereas the analysis that's done within my unit is more statistical. But it was something that we thought was worth highlighting, especially -- certainly in my personal opinion, the health and social care workers was emphasising that this is something to do with exposure, you know, being exposed is likely to -- or the frequency of exposure is likely to trigger Long Covid. But we would not have been the right place for that kind of work to have taken place, but it was something that we thought was worth referencing in this report.

Q. Thank you.

We fast forward to the final report, which is the fourth quarterly report, which is dated 3 December 2021. So just as we are -- Omicron is around at that time, December 2021. This was a long report, even for the report you undertook on our behalf, 133 pages.

We see, if we could turn to page 5, please, the understanding is much clearer, in your view, and the

work that was undertaken on your behalf.

"The main factors behind the higher risk of COVID-19 infection for ethnic minority groups include occupation, (particularly for those in frontline roles, such as NHS workers), living with children in multigenerational households, and living in densely-populated urban areas with poor air quality and higher levels of deprivation."

So occupation, deprivation, and household make-up, significant factors:

"Once a person is infected, factors such as older age, male sex, having a disability ..."

And we touched a lot on disability:

"... or a pre-existing health condition (such as diabetes) ..."

And you've touched upon that:

"... are likely to increase the risk of dying from COVID-19."

And in relation to the work you've done, your summary was, in the statement, that vaccination was the most significant measure, in your view, to protect ethnic minorities.

A. **(Witness nods)**.

Q. Was that the position?

A. Sorry, vaccination was taken in a sufficient enough ...?

Q. No, I'll say it again, it's my fault if it's lost.

What you say in your statement is that vaccination was the most significant measure to protect ethnic minorities.

A. Yes, yes.

Q. And your point, if we perhaps could turn to page 6, please, is that the conclusions in this report really form your recommendations going forward.

A. Yes.

Q. And you describe how there's a number of wider public health lessons to be learned in relation to ethnic minorities, including: talking about vaccination deployments in other public health programmes -- in other words, the lessons we've learned in relation to Covid vaccinations can be used for other work -- reference to using community champions or respected local voices to build trust and tackle misinformation; a point you've made, and we recognise at the outset: not to treat ethnic minority groups as a homogeneous group, and there is not a one-size-fits-all approach.

A. Yes.

Q. Not controversial.

A. No. I hope not.

Q. No, not that aspect. Recognising that there is more than one community.

In relation to -- thank you for turning overleaf --

avoiding stigmatising ethnic minority groups by singling them out for special treatment.

We've mentioned it a couple of times. Perhaps this is the opportunity to deal with that and stigmatisation. What were the concerns regarding stigmatisation during your work in relation to the impact on ethnic minority groups?

A. So one of my duties as the guardian of the Equality Act is looking at social cohesion, and it is important that we don't let the good intentions take us to -- down a path that's actually counterproductive to what we're trying to do. And quite often very well meaning people think, "We need to do this for this group so that they can see that we care".

But that often has other unintended consequences, and one of them, I remember, was -- for a certain period, there was a large belief -- or a significant number of people believing that it was ethnic minorities who were spreading the virus. Because they were talked about so much, they're the ones catching it, and if they're disproportionately impacted, they must be disproportionately spreading it as well.

Anything that looks like certain groups are being treated better than others does not work because it goes against the principle of equality before the law, and

everyone being treated regardless of their ethnicity. And the Equality Act states very explicitly that positive discrimination is illegal.

And many people don't understand that lots of these ideas, well intentioned as they are, are positive discrimination and they don't help in the long run. And certainly, given the way that we were lumping together lots of groups, they didn't help in the short run as well. When you mixed all the different ethnicities you lost the insight about multigenerational households and you ended up spending time looking at problems like who was being racist or if there was a racist that was causing those problems. We would not have fixed the problem by focusing on the wrong issue.

So stigmatising is something that I am very concerned about. I believe that it is my job to make sure that people treat ethnic minorities in a colour blind way, you look at the individual, you look at their circumstances, not start off with their skin colour and start to make deductions based on that.

Q. And a final point here is in relation to a feature which is about data, improving the quality of health ethnicity data so that patterns and trends can be spotted quicker in the future.

A. Yes, and one of the recommendations -- I think that

would have come in an earlier report -- was even about recording ethnicity on death certificates, which was something that we discovered was not being done, and was a big issue. So --

Q. Just in relation to that, because that's one matter that I would like your assistance on --

A. All right.

Q. -- because this was something which was around -- just to help you in timings, it was one of your recommendations in the first quarterly report.

A. Yes, I think so, first or second, yes.

Q. I believe it was the first, but we can --

A. Okay.

Q. If we're wrong, it's my fault but it's the first quarterly report. Why was that something which you were of the view needed to be recognised and ethnicity would be noted on death certificates?

A. Because I felt that if we had had that -- and I don't know why it wasn't recorded, I don't know if there was ever a reason, it was just something that wasn't recorded -- if we had had that, we might, not certainly, but we might have been able to spot the disproportionate impact a little bit earlier. But this -- this was certainly speculation, reasonable speculation on that basis for that problem. But it seemed an odd place to

not capture it, given that we capture it in all sorts of datasets.

Q. Two final questions. First one, your view of the greatest success of the work that your team achieved in relation to this area?

A. Yes, I think we had a -- I think we had a lot of successes actually. I'm very proud of the work that my team -- my team did. I think under a lot of pressure and with very high expectations, I think that they delivered. I think the work that they did was rigorous, it was very carefully done, it was very sensitive. They won an award, in fact. They won an ONS award in research excellence for the analysis that they did, and that was in competition -- the other shortlisted people were universities, so the quality of the work they produced was very high.

And it was -- and it was a very painful process because I went through all of these reports line by line making sure that they were written in a way that people would understand. You quite often get a lot of documents in what I call officialese, where the information is obscured, and I hope that that has been helpful, actually, to the Inquiry, the way that the documents were presented.

I think we saw things like greater vaccine uptake

because of the work that we did, and some of the recommendations we made, family jabbing, for example, so that people felt more comfortable doing this because they had -- taking the vaccine because they had people who they cared about and who they trusted going along with them. Things like increased participation in clinical trials by ethnic minorities which I think is important if you're going to get vaccines that work and pick up the right data on health issues.

So I think there are a lot of successes.

Q. Thank you.

And the other side of the coin, with the view to learning lessons, what do you think is the greatest lesson we can learn to improve going forward in relation to this area?

A. Where does one start? I think for me I am still very, very concerned about the issue of misinformation and just how -- and I say this even as a constituency MP, the number of people who come up to me in the street and tell me that I am part of a grand conspiracy to infect them and so-and-so died because of the material that we were putting out is very disturbing. I don't think government's got a handle on dealing with misinformation. I don't think that we have adapted to this age of social media carrying -- you know, where

information travels at lightning speed across the world. I don't know how we solve it. But in terms of gaps, I think that that is -- there was a lesson in the pandemic that this is an area that needs more addressing. And I hear of a lot of work being done in departments, whether it's Cabinet Office or DSIT I'm not sure, but I don't see -- I don't see it. So maybe there is lots of being work being done and it's covert, but it's hard, if that is the case, to know what is being done. So I think that's an area.

I think another area that we should have done more on was on the economic impact. We were looking very much at the health side, and I think that we should have had an economic impact of lockdown, I think that now we are seeing many -- many outcomes which are related to, you know, the missing children in schools, for example, what happened to them. No one's quite got to the bottom of that. The economic impact of lockdown, how that might have triggered even more inequality further down even if people had furlough or a safety net immediately. I'm not sure that that work was done because we were very, very, very focused on the health side. And I think when we have these sort of grand problems, we need to have multiple lenses through which we're looking at them.

And this is hindsight analysis, but the fact that we looked at things purely from a health perspective without the -- without opportunity costs analysis or what was happening looking at it through another lens, I think we should not have done.

Q. And you were a junior Treasury minister during that time as well, that was an observation you recognise.

A. Yes.

Q. I said that was my last question. I will keep my promise.

My Lady, there are the questions, all I have. You have granted permission to core participants, but it may be that my Lady wants to have a short break before we move on to that.

LADY HALLETT: No, I'm going to carry on. If the stenographer has to take a break, then she'll take a break.

MR KEATING: I understand.

LADY HALLETT: So if Mr Thomas is ready, I am.

Thank you.

Questions from PROFESSOR THOMAS KC

PROFESSOR THOMAS: Ms Badenoch, let me introduce myself, I am Leslie Thomas and I act on behalf of FEHMO, the Federation of Ethnic Minority Healthcare Organisations.

I have a small handful of questions, but can I just

pick up on something you said to Counsel to the Inquiry just a moment ago, you were talking about tackling the cause as opposed to just looking at the issue, why certain groups were affected disproportionately. One of the reasons for that surely would be structural inequalities, would you agree?

A. I'm not sure that I do agree because it depends on what you mean by structural inequalities --

Q. Poverty --

A. Yes.

Q. -- for example --

A. Yes, but we don't -- we don't have a cure for poverty. If we did, we would have done it.

Q. I hadn't finished.

A. Okay.

Q. Poverty, for example, discrimination based on race, perhaps gender, perhaps other factors such as, you know, we know that some people suffer from disability suffer from discrimination, so factors such as that, that's what I mean by structural inequalities.

A. Okay, so you mentioned discrimination as an example. That was not something that was found in any of the evidence that we carried out. And these are things which there are processes in place to address, but in terms of the issues around deprivation, poverty, health

comorbidities, a lot of work was done to look at things that we could do to tackle that. But we can't cure diabetes, we can't remove poverty. So saying that structural inequalities had an impact on incidence, yes, that is true, but that doesn't mean that there is a silver bullet to resolve them.

Q. Do you remember in your evidence this morning, I think we can agree on this, you said that the label "BAME" is unhelpful because it is kind of like a one size fits all and you need to look at the situation and the impact and it's much more nuanced. We can agree on that, yes, that "BAME" is an unhelpful term?

A. That is what I said.

Q. Yes. So with that in mind, and I'm referring -- I'm not going to call up the documents unless you want to go to them, but I'm referring to your witness statement, and just for the record paragraphs 44, 47, 48, where you discuss disparities and they're highlighted. My question is this: how were the intersection of ethnicity with other factors such as gender, disability, socioeconomic status, dealt with?

A. So if by intersectionality you're talking about a coincidence of protected characteristics, that would have been taken into account just by looking at the cohort of people that were being sampled.

So, for example, when we looked at the intersectionality of age and gender, we found that being male was a bigger issue than being female in terms of catching the disease and in fact dying from it. We looked at the intersectionality of things like age and disability. So that was all taken into account. We may not have called it "intersectionality", but there were lots of multivariant analyses that took place, including things like geography which don't always get taken into account.

Q. Let me cut to the chase. If you took into account the intersections between certain factors and you've outlined some of them, did you have, in government, targeted strategies to address those disparities comprehensively and if not why not?

A. The strategies we had would have dealt with intersectionality in and of themselves, there was no reason to believe that there was something -- that there was a gap. Unless you can give me an example of a gap that you have identified. I would be quite keen to hear it.

Q. I'm going to ask you this: do you accept that gathering and understanding the data was important?

A. Yes.

Q. So we can agree on that. Can we also agree that because

of the importance of data, particularly data in how it related to disparities, efforts should have been made to make sure that data was accessible and transparent to the public? Can we agree on that?

A. Yes.

Q. How was this done?

A. Well, the reports that we published provided our assessment of the data, but we don't hold data, data is held by public authorities by the ONS. Is there a specific data that you feel was not published that should have been published?

Q. Given the heightened risks faced by certain groups, and you've mentioned in particular men of Pakistani origin, and because I represent healthcare workers, I'm just interested to know that some of these disparities were highlighted very early on. We know that, for example, the first ten doctors who died from the virus were doctors of colour. We know that and we've heard evidence.

Can you just help the Inquiry with this: if this was known fairly early on, what specific initiatives or measures were taken and implemented to prevent those demographics from that high -- disproportionately high risk of exposure and mortality?

A. Well, the first thing we did was the report that we

commissioned by PHE to check what was going on. That was one of the anecdotal pieces of information that alarmed me. But knowing that the first set of doctors who died were from an ethnic minority background doesn't tell you why they are dying, it just tells you that that is happening. So finding out the "why" is important to address the issue. And as we've seen from all the research that has been carried out, if we had simply made an assumption that being an ethnic minority in itself was the risk factor -- it wasn't, this was not a disease that targeted people on that basis -- then we would have carried out the wrong interventions.

Q. On 4 June 2020, following the publication of the Public Health England's review on the Covid-19 disparities, it was put to government by Gill Furniss that the report simply confirmed what was already known and failed to make any recommendations. She asked government whether government were listening to the calls for employees to risk assess black, Asian and minority ethnic workforce, and in response you said, on behalf of government, that you needed to wait to ensure that "we do not take action that is not warranted by the evidence", "we must widely disseminate and discuss the report before deciding what needs to be done".

Question: in the light of the substantial and severe

disparities in the infection and mortality rates, which was evident from the widely publicised datasets and statistics from late March 2020 onwards, why did the government feel the need to wait before taking any action in response?

A. I'm sorry, I lost the thread of the question.

Q. Let me break it down.

A. Thank you, yes.

Q. All right.

So we've got the report in June, 4 June 2020, highlighting the disparities. It was put to the government by Gill Furniss that the report was --

A. Was that when it was published or at what point?

Q. It was published on 4 June 2020.

A. And when did Gill Furniss --

Q. Shortly afterwards. I can't give you the exact date, but shortly afterwards what Gill Furniss is putting to you and government is: well, the report is simply confirming what's already known. Okay?

And the response was -- she was suggesting it was important for the government to risk assess, to urge -- call on employers to risk assess black, Asian and minority ethnic workforce. And in response you said on behalf of government that you need to wait to "ensure that we do not take action that is not warranted by the

evidence", "we must widely disseminate and discuss the report before deciding what needs to be done".

My question is: in the light of the substantial and severe disparities in the infection and mortality rates evidenced by the publicised and stats since late March, why the need to wait?

A. So we didn't wait --

MR KEITH: I'm not at all sure that this is an area on which you have given permission in the Rule 10 process.

LADY HALLETT: I was thinking the same, Mr Thomas. This wasn't a matter that was raised in Parliament, was it? Who is Gill Furniss?

PROFESSOR THOMAS: My Lady, I'm surprised at the intervention, because we were given permission to ask this question.

LADY HALLETT: It may be that I have the wrong copy, Mr Thomas, it may well be.

PROFESSOR THOMAS: So I'm looking at the permission and it clearly says "CP may ask this question, however please reformulate the question" --

LADY HALLETT: I remember saying that.

PROFESSOR THOMAS: Yes.

LADY HALLETT: The only other concern was, it's not to do with proceedings in Parliament, is it?

PROFESSOR THOMAS: No.

A. Gill Furniss I believe is an MP, a Labour MP, am I correct?

PROFESSOR THOMAS: Yeah?

A. Right. Okay.

So, first of all, the point of the report which she was referring to was about understanding whether what was suspected was actually the case. So her saying these were things that were already known, they were not known, they were suspected, they were assumptions, there was no data. And so the report had to be done.

In terms of the point I was making, it wasn't specifically to risk assessments. The risk assessments -- we didn't wait to start the risk assessments, they were already in train and they went on for an extended period of time. So that was not a problem.

What I was referring to was not knowing why something is happening means that you don't know how to fix it. And that means looking at a report and getting the data out. And as it happened, I didn't think that the report that PHE published answered the question why, which is why we carried out our piece of work.

PROFESSOR THOMAS: My Lady, those are the questions that --

LADY HALLETT: I'm very -- and I'm sorry to interrupt you, Mr Thomas, you know the concern about we're not allowed

to trespass --

PROFESSOR THOMAS: I understand, I was just surprised at the intervention bearing in mind that it was clearly within the document.

LADY HALLETT: Indeed. I apologise.

THE WITNESS: She asked me the question in parliament, I believe. I don't think there would have been any other place that she would have asked it.

LADY HALLETT: Right, anyway, it's done now, Mr Thomas. Anyway I apologise for interrupting if you had permission. By the sounds of it, it probably shouldn't have been given permission, and that's my fault.

Right, next, I think, it's Mr Stanton.

Mr Stanton's over there. Don't worry, all the advocates that sit over there understand they're going to get a back to them every so often, but can you please make sure that we still record -- you still use the microphone. Thank you.

Questions from MR STANTON

MR STANTON: Thank you, my Lady.

Ms Badenoch, please don't feel any need to turn to face me, if it's slightly awkward. I think it's more important that you're able to speak into the microphone.

A. All right.

Q. I'd like to briefly revisit an issue that Mr Keating

addressed with you earlier in your evidence in connection with the Public Health England report of 2 June, and the concerns that you made reference to, or of a number of organisations, about the possibility that information had been withheld from that report.

I'm asking questions on behalf of the British Medical Association, the BMA, and you may be aware that the BMA was one of the organisations that made representations to you. You may recall -- maybe not the dates -- it was on 5 and 7 June.

A. Yes.

Q. On 12 June, the matter was escalated to Matt Hancock in the Department of Health, and I'd just like to bring up for you that letter on screen, which is INQ000097872, and just to draw your attention to the first paragraph, which states:

"I am writing to express our serious concern at reports that 69 pages covering seven recommendations for change were removed from last week's PHE's report on inequalities and disparities in the impact of COVID-19 on certain groups. A clear response is needed as to why these pages and important recommendations were omitted from publication, especially when it is so critical that action is taken to save lives now and reduce race inequalities."

Subsequently, four days after this letter, a 69-page report was indeed published, with seven recommendations.

I appreciate what you've had to say about the circumstances of this publication, but was it not the case that the fact that information had been removed from the original planned report had become an open secret and that forced the government's hand to publish?

A. Absolutely not, and I'm actually grateful for the opportunity to set the record straight, because this was something that caused an immense amount of frustration, and when I referred to personal abuse in the earlier session, this is what it was about.

The health department commissioned a report, but two reports were received, it was not one report. However, people who were contributing were not aware of that, so they assumed that their contributions had been withheld.

What we did was we published the first report immediately, what we'd asked for, and taking away the second one, which had recommendations which were actually not that easy to understand -- things like cultural competency, there's no clear definition of what that means -- meant that it took some time for us to look at what our response to it would need to be, and that was one of the reasons why, in addition to the first report being a "what is going on" rather than how

we fix it. That's one of the reasons why we carried out the second piece of work.

But I would like to state on the record that it is absolutely not the case that anything was withheld and only published because we were concerned about complaints. The fact of the matter is this report was not written by government. It could not have suppressed it anyway. PHE could have released it if it wanted to, it could have been leaked. So it would not have been a sensible thing to even have tried to suppress it in the first place.

Sometimes things don't happen quickly. It doesn't mean that there is a conspiracy to hide information, and that's the response that I gave to the BMA at the time and which I would like to put on record.

Q. Thank you.

A. Thank you.

Q. The 69 pages deal exclusively with the issue of disproportionate impact on ethnic minority groups and, as you will know, the BMA became very concerned from an early stage, from April 2020, about this issue, particularly as early data had shown that, among the doctors who had died in the early months from Covid-19, 94% were from a BAME background.

Given the seriousness of this issue and the

seriousness of the BMA's concerns, what was it about this particular area that necessitated a separate report?

A. It was qualitative analysis, not quantitative analysis, and the recommendations, as I said, were actually not very clear, although we did in the end understand, after a lot of engagement with PHE and with Professor Kevin Fenton, who was the London regional director. But when you have recommendations like having cultural competency, that could mean any number of things. Simply publishing that without a clear response or a clear idea of how to carry out those things I don't think is a responsible thing for a government to do.

But also, the BMA was rightly concerned. They are a trade union for doctors. If doctors are dying, they should be concerned. I was concerned. My father, who was alive at the time, was a black doctor. If doctors who were black were impacted, this was something that would impact me. So I did care about this issue. But I think that there is so much suspicion now around the motivation for something being published that aspersions were cast which didn't need to be. We took this very seriously and we worked closely with them in order to get those recommendations acted on, and they were.

Q. One of the, perhaps, areas in which misunderstanding has

been allowed to creep in is because the original terms of reference of the review included a requirement to make recommendations --

A. Yes.

Q. -- and recommendations only appeared in the second report.

A. Yes.

Q. Was that part of the problem, do you think?

A. No. No, and in fact I did get an apology from PHE for doing that, because they mixed the two things together. They didn't provide -- and that for me was actually highlighting the fact that they didn't know what to do on the substance of the findings which they had. They didn't make recommendations as we had commissioned; instead, they did a separate piece of work that was different and made recommendations there.

Q. Thank you very much for clearing those matters up.

A. Thank you.

Q. I just want to move to a separate topic, very quickly.

Recommendation 4 of the second report concerned the need to accelerate the development of culturally competent occupational risk assessments. I'd just like to ask: in the work that you undertook following the report, what progress were you able to make in this regard, particularly having regard to the impact that

a risk assessment can have on safety for doctors and healthcare workers?

A. So one of the things that is a limitation for me as equalities minister is that I don't have levers, and this was not a report for me, this was a report for the Department of Health, so I would not have dealt with that recommendation. However, I do recall that areas like PPE and how they might have fitted on people of different ethnicities and, in fact, people of different sexes and so on, a lot of work was done in that space. It was then -- I remember it was discovered at the time that some PPE which was just uniform was unsuitable, and this was for lots of different demographics. That's one example.

So I do know that that work took place, but it wouldn't have been within the remit of my department.

MR STANTON: Thank you.

Thank you, my Lady.

LADY HALLETT: Thank you very much, Mr Stanton.

Mr Friedman.

Questions from MR FRIEDMAN KC

MR FRIEDMAN: Thank you, madam.

Secretary of State, I act for four national disabled people's organisations. We have listened to your evidence carefully today and you've explained that

disability as a matter of generality was not in your remit and you not wanting to duplicate, but you've said that you were interested in how disabilities, in your words, interact with health outcomes, and you gave the example of diabetes.

A. Yes.

Q. My questions are about how government struck the balance between non-duplication and the important matters of interaction that, as it may be, needed joined up thinking.

A. Right.

Q. Firstly, when Justin Tomlinson gave evidence to the Chair, we asked him what he understood the reason at the time was for why disabled people were not included in Minister Badenoch's investigation and the published reports across 2020 and 2021, and his answer was "I don't know". That's Day 20, pages 223 to 224, for the record.

So was he consulted on that matter?

A. I don't remember whether he was consulted on that matter. However, the Minister for Women and Equalities, I was senior minister, who had overall responsibility for this area, would have known about it. I can't recall. However, if we look again at the genesis of how this report came to be, and it relates to the previous

question on intersectionality which was asked by the previous counsel, you need to be able to disaggregate data before you can look at them in the multivariant analysis, you can look at the way that they interact. So whether or not we took this work into account, the data -- within our workstream or they looked at it separately, the data would still have been there. So if the question --

Q. Well, I just -- I'm going to come on to it, I'm only interrupting you just because I'll come on to that. But I think the answer you've given is that you don't know about Justin Tomlinson but you think maybe Liz Truss, in her position --

A. I don't recall whether or not Justin Tomlinson was but Liz Truss would have been.

Q. Right, because I'm going to ask a second question following that, if I may, which is that we have seen none but was there a documented decision along those lines around disabled people in relation to your investigation or is it a more informal consultation that you're recalling?

A. I don't think it is either. If we look at the -- one of the quarterly reports where we talk about a separate workstream --

Q. It's the final one.

A. Yes.

Q. December 2021, in a footnote.

A. Yes, where we talk about a separate workstream. This is a directorate that has all these units working together, but the knowledge of disability as having such a severe impact meant that it didn't need to be in -- it didn't need to be within my bit of work.

Q. Okay.

A. If I may?

Q. Yes.

A. With the bit of work that I was doing, my workstream, we're trying to understand why ethnicity would've had an impact. For disability it's a lot more obvious. There were fewer questions to be asked about why disability is having an impact. It's clear to see. So there was no need to mix those two workstreams together and in fact I would not -- knowing what I know now, I would not recommend it.

Q. Well, I understand that. How much discussion, though, did you have with Minister Tomlinson or indeed the Disability Unit about how disability or disabilities interact with health and, in your work, how the various ethnic minority groups could also be parts of disabled groups and vice versa when it comes to risk and outcomes?

A. I would not have needed to have those conversations because that happens anyway. If you are disabled and work is being done around disability, ethnic minorities who are disabled will be captured and vice versa. So we don't need to have a discussion to make sure that this happens. This will simply be the case.

Q. Well, we don't need to study all your published reports, but you don't deal with it in any way at all in your reports?

A. We don't reference it because we are speaking specifically -- the report is about ethnic minorities, so we are talking specifically about that.

We didn't -- there are nine protected characteristics. Age is a huge -- was the biggest factor, that is also not mentioned in the report. That didn't mean that older people were neglected during the pandemic.

Q. Then lastly this, you have been asked about intersectionality and perhaps the difference between how much it was considered in substance as opposed to definitional form, but the Oxford English Dictionary defines intersectionality as:

"The interconnected nature of social categorisations such as race, class and gender ..."

We would add disability.

"... regarded as creating overlapping and interdependent systems of discrimination or disadvantage; a theoretical approach based on such a premise."

Secretary of State, do you recognise intersectionality as a matter that all inequality related ministerial portfolios ought to have taken into account during Covid response decision-making?

A. No, I would disagree with that, in fact.

Q. And in the short time we have, could you say why to the Chair.

A. Because as -- I think if we go back to the question around BAME, the sort of work that we do requires quite a lot of disaggregation. The whole purpose of multivariant analysis is that it's looking at different -- it's looking at different incidence rates and it's -- it then looks at them in terms of how they interact.

So starting off with the intersectionality is not how you should do it. You start off with the disaggregation. You can layer the data together to come out with what intersectionality may be occurring, but if you do it the other way around you get a mixed picture, so I certainly wouldn't recommend that. And I wouldn't start off by using the term "intersectionality" as a way

to find out exactly what the answer is.

What we are doing in government is trying to use our resources as effectively as possible. So we start out with the measures that will help the largest number of people, not the measures that will tackle the most niche groups, whose intersectionality of race, of gender, of sex, of class and so on. That is very complicated data that actually -- an analysis that actually requires a lot of work. If you are dealing with a pandemic and there is a lot going on, you need to be able to manage resources effectively, and starting off with work that is the most complex means that you will help the least number of people. And that is why I would not recommend that.

Q. I think you've taken my question as: always do it first.

A. Right.

Q. I think your answer is "I never recommend doing it first", for the reasons you've just given, but you don't seem to be excluding its relevance once you have done, as it were, the more disaggregated work?

A. Yes, but you use the term "intersectionality", epidemiologists would talk about multivariable analysis -- multivariant analysis. They are not different things.

Q. Yes, but am I right: never first, but a formula of that

kind relevant to all work within the scheme of things?

A. I think -- I think it's probably safe to say that that is something that is routine, I don't think it's something that is neglected.

MR FRIEDMAN: Thank you, madam.

LADY HALLETT: Thank you, Mr Friedman.

I think there was a matter that wasn't covered by Counsel to the Inquiry's questions and therefore, Ms Sergides, I think you're going to ask a question.

Can you see the questioner?

THE WITNESS: Yes.

Questions from MS SERGIDES

MS SERGIDES: Can you see me?

A. Yes, I can.

MS SERGIDES: I'm grateful, my Lady.

Secretary of State, I appear on behalf of Southall Black Sisters and Solace Women's Aid. I only have one question for you, relating to the overall responsibility for victims of domestic abuse in government.

Can you see me?

A. Yes, I can.

Q. Your role as Women and Equalities Minister is not a Cabinet position, but looking at the wider needs of victims of domestic abuse during lockdown and their children, including for example housing, just one of

many examples affecting domestic abuse victims, is it correct that these issues are spread across various departments without there being ultimate responsibility in one minister or department?

A. I don't think that is true. We have a Minister for Safeguarding who put through domestic abuse legislation, and that would -- what you have described would primarily sit with that minister, but there was a Minister for Women, the ministers -- and there was a Minister for Women and Equalities as well, separate to me as Minister for Equalities, so actually I think that this is something which is covered by one minister but loads of others actually provide support in that space.

MS SERGIDES: I'm grateful, my Lady.

LADY HALLETT: Thank you very much indeed.

I think that completes the questions.

MR KEATING: It is, my Lady, thank you very much.

LADY HALLETT: Secretary of State, thank you very much indeed for all your help. I'm sorry I had to ask you to come back after lunch, but ...

THE WITNESS: No, not a problem, thank you very much.

(The witness withdrew)

LADY HALLETT: Very well. I think that completes the evidence for today, and we shall return on -- 27 November?

MR KEATING: Sounds good.

LADY HALLETT: I'm losing track of the days and months.

MR KEATING: Next Monday.

LADY HALLETT: 27 November at 10.30.

Thank you, everybody.

(3.20 pm)

(The hearing adjourned until 10.30 am on Monday, 27 November 2023)

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