Wednesday, 18 October 2023

(10.00 am)

LADY HALLETT: Morning, Mr O'Connor.

MR O'CONNOR: Good morning, my Lady. Our first witness this morning is Professor James Rubin.

PROFESSOR JAMES RUBIN (affirmed)

Questions from COUNSEL TO THE INQUIRY

MR O'CONNOR: Can you give us your full name, please.

A. Yes, I'm Professor Gideon James Rubin.

Q. Professor Rubin, you have kindly prepared a lengthy statement for us. We can see the first page of it up on screen. On the last page, which we don't need to see, you have signed the statement, below a statement of truth indicating your belief that the contents of the statement are true, and that is dated 21 August 2023; is that right?

A. Yes.

Q. Thank you.

Professor, you are a professor of psychology and emerging health risks at King's College London, I believe?

A. Yes.

Q. At the very start of your statement, in fact on the page we can see now, you provide a little detail about your personal area of academic expertise, which is of

great relevance to this Inquiry. You describe your personal expertise as being "in understanding how people perceive novel health risks and how those perceptions affect their behaviour and wellbeing", and you then give a list of events on which you have published studies in this area, starting with the 7/7 bombings, and if we can go over the page we can see that the list goes on to cover matters such as the swine flu pandemic in 2009, Ebola outbreak, the poisoning of Sergei Skripal and so on.

The swine flu pandemic is one of the matters that you mention there, Professor, and I think it's right to say that during that pandemic in this country, in 2009, going through into 2010, you served on a committee called SPI-B&C; is that right?

A. Yes, I was an ex officio member of the committee, but yes.

Q. Tell us, first of all, if you will, what the B and C stand for and what that committee did?

A. Yeah, so that's the scientific pandemic influenza committee on behaviour and communications, which is the B and C.

Q. Yes.

A. It was compared by Professor Susan Michie throughout the swine flu pandemic, and it focused on providing

advice through SAGE about issues concerning, as it says, behaviour and communications in the general public.

Q. We're obviously familiar with the structure of SAGE and its subcommittees, as that structure existed in 2020, and we've heard that very similar structures existed in earlier instances where SAGE was summoned and it sounds like that was one of them?

A. Yes.

Q. You said you were an ex officio member of that committee. What did you mean by that?

A. So at the time I was a post doctoral researcher. I was working on a project that was led by Professor Michie analysing the data that the Department of Health communications team were gathering in terms of how the public were responding to the pandemic.

Professor Michie asked if I could join the committee to provide my insights from analysing that data. I was quite a junior member at the time so I think I wasn't rightly a full member.

Q. I see.

A. But I was attending to provide data from the surveys I was analysing.

Q. I see. So you were amongst the independent academic members of the committee but not, at least in your eyes, perhaps, a full member in that regard?

A. I think it was -- yeah, I was clearly not a full member but I was attending the meetings.

Q. That, in any event, was 2009/2010, and you describe in your statement how a decade or so later, in early 2020, right at the outset of the pandemic, you were asked to serve both on NERVTAG and on SAGE. Is that right?

A. Not quite. So I was on NERVTAG prior to the 2020 pandemic.

Q. All right.

A. And then partly as a result of being the behavioural scientist on NERVTAG, I was asked to attend the first SAGE meeting about Covid-19 and then, following on from that, to chair the SPI-B committee.

Q. I see. NERVTAG, of course, as you indicate there, was, as it were, a standing committee, very different to SAGE in fact?

A. Yes.

Q. Which exists regardless of whether there is an emergency under way. We will hear a lot more about NERVTAG this afternoon when Professor Horby comes to give evidence.

So you were, as you say, serving on that committee, and it was as a result of your involvement in that committee you think that you were asked to serve on SAGE when it was stood up, as they say, in early 2020?

A. Yes, I believe so. I had also -- as you had showed on

the first page of my statement, I've been involved in various different disasters and public health crises over the years. I had also been, prior to the Covid-19 pandemic, on several SAGE exercises relating to other issues that might affect the UK, and so I think Patrick Vallance was aware of me, and I think those two things combined led to me being invited to attend the first meeting.

Q. Yes. As you say, as we know, in due course, the committee that became known as SPI-B was established a month or two later. Was it at least in part on your initiative that that committee came to be established in 2020?

A. I think it was convergent thinking in a way. Certainly at the time, because I was aware of SPI-B&C during the swine flu pandemic and the work it did, my feeling was we were probably going to need something similar for the Covid pandemic. I did raise it at one of the early SAGE meetings and I think Sir Patrick and Sir Chris took it away to think about, and I think they agreed that, yes, it was going to be needed. So I can't remember the exact dates but it was set up in February 2020.

Q. Yes. Well, I was going to show you, in fact, the minutes of the seventh SAGE meeting on 13 February, which was the meeting, as we will see, where

the decision was taken to set up SPI-B.

So if we just look on, if we can go -- on that page we see, as I say, SAGE 7 on 13 February. If we can go over to the next page, please, we just can see that list of attendees at the top, many of the names becoming more familiar to the Inquiry at least because of the evidence we've heard.

The fourth name down, Brooke Rogers, Professor Rogers is also a behavioural scientist, I believe and we will hear that she became involved in your committee in due course; is that right?

A. Yes.

Q. Then running down the list, we see your name as well as some others with whom we're familiar.

If we could go over, please, to page 4 of this document, we see the subheading "Behavioural science", Professor, and there are then a series of numbered paragraphs which, in summary, describe the need for consideration to be given to matters of -- relating to behavioural science in the developing pandemic; is that a fair summary?

A. Yes, I think I was asked to explain what the basic behavioural science considerations were at that particular point of the pandemic. Bearing in mind this was quite early, that was my attempt to summarise them

for the committee. And then, as you can see, it was agreed that a group focusing on these kind of issues -- and more, this is only, you know, a potted summary of the kind of things we looked at -- would be useful.

Q. Do we take it then that you drafted these paragraphs?

A. I didn't draft the paragraphs. This is a summary from the SAGE secretariat as what I said during the meeting.

Q. I see. I see. Well, I'm not going to go through it in fine detail, Professor, but just one point I wanted to pick up from these paragraphs was, for example, if we look at paragraph 24 what is said there is that:

"At this stage, public messaging should stress the importance of personal responsibility and responsibility to others, in order to drive positive public behaviours."

Then, just running one's eye down the following paragraphs, the idea of the importance of messaging is repeated many times, is it not?

A. Yes.

Q. Was the idea of messaging then one of the key things in your mind as to what -- the type of area in which this new committee might assist?

A. Yes. During a crisis one of the -- one of the primary tools the government have to help the public to engage in protective behaviour is to communicate with

the public as to what those behaviours are, what they should be doing, why they should be doing it, and so on.

I'd emphasise it's not the only thing we were considering. There are plenty of other things that aren't communication that are important behavioural science, but it is certainly one of them.

Q. So, for example, paragraph 25:

"Public messaging should stress the efficacy of certain behaviours ..."

Paragraph 26:

"National messaging should be clear and definitive ..."

And paragraph 28, the final sentence:

"HMG needs to understand the logic behind those behaviours in order to identify solutions and to improve messaging."

All these points about understanding the best messaging to provide as the pandemic progresses?

A. Yes.

Q. If we can look at the passage immediately below, we see, as you've already indicated, Professor, under "Actions", the decision recorded:

"SPI-B ... subgroup to be established to provide behavioural science advice via SAGE ..."

Just help us, is there any significance in the fact

that, whereas the previous committee in 2009 was called SPI-B&C, the C standing for communications, the C doesn't seem to have made it on to the title of the committee in 2020?

A. Yes. I initially thought we would be a simple replication of the original committee and I think I proposed SPI-B&C. The feedback that we had from Sir Patrick and the secretariat were communication is more of an operational matter and they would prefer that aspect to be dealt with within government and for us to focus on behaviour. Which I think was a reasonable point.

In practice, we did often come back to communication because there is a science behind communication, and so many of our papers did talk about how best to communicate with the public.

So yes, the title was changed. I think the content of what we were talking about didn't change.

Q. It does seem a little odd to see a list or a description of the purpose of the committee in those paragraphs emphasising so heavily the importance of messaging, and then, as you say, for a decision to be taken to exclude communications from the remit of that committee.

A. As I say, my understanding is the concern was that communication was a matter for government. In a way, it

was, I suspect, a misunderstanding of what we meant by communication. We meant the science of communication rather than actually crafting the messages and putting the messages out, which would be an operational matter. So I think it was more crossed wires as to what the C actually meant in practice, and, as I say, in practice it didn't actually alter what we were talking about.

LADY HALLETT: So if they tried to exclude it from your remit, they didn't exclude it from your remit?

A. I think what they wanted to exclude from our remit was actually designing the messages and doing the communicating, which we didn't do, but we did carry on talking about science of communication, because it's such a central part of, you know, the job that we do.

MR O'CONNOR: As we will see, Professor, in fact this is an area that we will be covering in the main with Professor Yardley, tensions did develop, did they not, on the question of government communications and your role in advising on those messages or otherwise?

A. Yes.

Q. Thank you.

Just to ask you one or two more questions, then, about the development of the committee. We see it being set up here in mid-February. Is it right that the committee then sat for the rest of the pandemic?

A. Yes, it did sit for the rest of the pandemic. I think it stood down, I can't remember the exact date, at some point in 2022.

Q. I think it was February 2022.

A. Okay.

Q. You were appointed the chair at the outset?

A. I was appointed as the chair at the outset and then we very rapidly moved to a system of three co-chairs, simply because the workload of chairing was --

Q. Yes.

A. -- very heavy, and I stood down as chair in, I believe, June of 2021.

Q. Yes. As you say, within a few weeks of the committee starting, it appears Professor Brooke Rogers, whose name we saw on that list, and also Professor Lucy Yardley, who is going to give evidence after you, were appointed co-chairs along with you?

A. Yes, Brooke was initially the deputy chair, and then we moved, as I say, into this triumvirate arrangement.

Q. I see. All right.

Can I take a step to one side, Professor, and just ask you a couple of more general questions about behavioural science.

Could we look, please, at paragraph 4.1 of your witness statement, on page 24. You attempt a definition

of behavioural science in that paragraph of your statement, Professor. You say:

"'Behavioural science' is a catch-all term that describes the use of theories, models and evidence to understand human behaviour."

You, of course, as we've said, are a psychologist by training. Can you expand on that description, just a little bit, with particular regard to the work that was undertaken by your committee?

A. Absolutely. I mean, it is slightly tricky because behavioural science, it's not quite a discipline in its own right. I think it's moving in that direction but actually it's, as it says on the tin, it's the science of trying to understand human behaviour and what influences it.

Q. Yes.

A. It draws on these various different disciplines. Psychologists, many of us are very interested in behaviour, but we approach that with a particular lens, a particular set of models and theories. Other disciplines, anthropology, sociology, they bring a different perspective on matters, looking at how culture or how structures within society can guide behaviour and limit behaviour. In terms of how SPI-B pulled all that together, we had quite

a multidisciplinary selection of professors.
Q. Yes. Just to interrupt you, we'll come in a minute -- in part of your statement you have a very interesting list of all the different disciplines that were represented and we will come to that in a moment.
A. Certainly. We were looking at the specific behaviours that would be important during the pandemic. We were looking, for example, at self-isolation, what governs whether somebody is able to adhere to self-isolation or not, or we would look at matters of adherence to social distancing in specific groups. Young men, for example, what are the particular challenges for that group around adhering to social distancing?

I think over the course of the pandemic we produced 94 advice papers or contributed to 94 advice papers for government, they tended to focus on specific topics, specific areas, with a few more general papers about a whole range of different behaviours thrown in. But we kind of looked at individual behaviours in some depth and tried to understand: are people adhering? What are the challenges in adhering? And how can government support people to help them adhere better?
Q. Yes, thank you.

The words that you use in this paragraph, and which you used a moment ago, is "understand[ing] human

behaviour". Understanding why people act in a certain way is, of course, something that can be done after the event. Retrospectively, you look at what someone's done and try and understand why they've done it. But as the SAGE minutes that we looked at a moment ago suggest, at least one of the things that was important in the context of the pandemic was predicting how people would behave in given circumstances, and then seeking to influence their behaviour prospectively, for example through messaging.

Professor Woolhouse gave evidence to this Inquiry earlier this week, and one of his observations was that "behavioural science is not predictive". Is he right about that?
A. Partially. I think if you asked us to predict what percentage of people will adhere to the following behaviour next week, we don't have a crystal ball and I can't give you a number. If you ask us what will influence whether people are more likely to adhere or less likely to adhere and therefore what interventions should we put in place to help people to adhere to this recommendation, we can do that.

So we can tell you what factors predict someone's behaviour, but I can't give you a prediction of, "It will be 37.8% of young men who are going to be washing

their hands", no.
Q. Yes. Professor Woolhouse of course is a modeller, and so perhaps from his point of view you can't provide him with the types of data or statistics that he could feed into one of his models, but I think what you're saying is that you are still able to give some sort of indication as to the likely impact, for example, of certain messaging or direction from the government?
A. I think that's fair. I'd expand slightly. We can also help understand current levels of adherence, current levels of behaviour. I was one of the team that helped Professor John Edmunds, who I think you might take evidence from, looking at his CoMix study, which was a survey looking at how many contacts do people have during their day-to-day life. Designing the kind of questions to capture that is a behavioural science issue, so behavioural scientists can help in understanding the levels of human behaviour. It does become quite tricky, because of the complexity involved, in predicting, you know, next month or next week it's going to be 38%.
Q. Yes. Yes.

Just moving on a little bit, Professor, behavioural science, particularly in the context of large organisations, for example the government, is often

associated with so-called nudge theory. You explain in your witness statement, and perhaps we can look at it, it's paragraph 21.7 on page 91, you explain that SPI-B was not a so-called nudge unit. You say:

"Instead of nudging, SPI-B's work focused on providing support to people to help them to engage with the measures that were openly recommended by public health experts."

Can you help us with this area, Professor: first of all, briefly explaining what nudge theory is and, secondly, perhaps expand on that statement that SPI-B wasn't in the business of nudging?
A. Sure. So, first of all, nudge theory isn't a theory, it doesn't have a set of hypotheses, it's a -- it's a term for a set of interventions that can be used to help people to engage with certain specific behaviours. Those largely relate around making some behaviours easier for people to do. So the classic example is pension auto-enrolment. So rather than having people opt in to receive their pension, instead you say that people will automatically be opted into that pension and they'll have to opt out if they don't want it, and that then increases the rates of people taking advantage of pension provision.

Or you could have what drink do you place at

eye level on a supermarket shelf, is it the sugary drink or is it the diet version of that drink? And that will influence how many people pick that drink from the middle shelf.

SPI-B didn't consider those options, or rather it wasn't a focus for us. There are a whole range of other things that determine human behaviour that aren't to do with that kind of -- it's called choice architecture. So, for example, if we take the example of self-isolation, if we want to improve adherence to self-isolation, one of the big issues is: can people financially support themselves while self-isolating? If that's a barrier to self-isolating, the solution is you might need to give them more money to do that. That's not a nudge.

So SPI-B was focused on the whole range of different things that influence behaviour, one part of which is, you know, the set of techniques you might term nudge. We would have looked at those. I can't think of any actual examples where we did recommend them in our papers. Personally I wouldn't have been averse to recommending them if shown to be effective, but we were looking at a much wider set of factors that affect behaviour.

Q. So the disinclination to think of SPI-B as a nudge unit

is not necessarily that there's anything wrong with nudging, it's that you were looking at things on a much broader level?

A. Well, I think it's fair to say there's a debate within the academics who took part in SPI-B in terms of their views on nudge. My personal position is I have nothing against it as long as it's effective, and that's a big question in its own right.

Q. Yes.

A. But in practice, no, I -- there may be things in our papers that you could label nudge. I can't think of them off the top of my head, and we looked at lots of other things.

Q. Sure.

Let's move on. Thank you for that.

Back to a few questions about the committee, if I may, and the ways in which the committee worked. We saw then that it, the committee, was established in mid-February 2020 and I think the first meeting was a week or ten days later, I think it was 24 February.

How often thereafter did it meet, and was it a question of having a set rhythm, meeting for example the same day every week or fortnight, or did it only meet when it needed to?

A. The intention originally was for it to meet once

a fortnight. That was hopelessly optimistic of us. We met very regularly during the first period, and I think the kind of battle rhythm, as it were, was dictated by the pace of requests coming from government, which in turn was partly predicated on the nature of the pandemic at that time. So it changed over time. To start with, we were certainly very busy.

Q. Yes. Now, you've mentioned requests coming from the government. We've heard a lot from members of SPI-M-O about the so-called commission basis on which they worked. In other words, it wasn't for them to go away and think up how to deal with the pandemic, but rather SAGE would give them issues that SAGE wanted SPI-M-O to address, they would think about them, and draft some form of statement or paper, and report back to SAGE.

Was it the same with SPI-M?

A. Broadly, yes. So we did take commissions from SAGE, so SAGE would ask us to write a paper on X, Y or Z, and we would do that. We also had commissions, particularly later on in the pandemic, that came directly from departments in government, and again we would tackle those.

We were able to write self-initiated papers, and there are examples where we have done that. Those

particularly came about where participants felt there was a particular issue in danger of being overlooked. I could see in Professor Yardley's statement she gives an early example of easing of restrictions and the need for SPI-B to advise on that, and we did write a paper on that. I can remember our police and security subgroup became quite concerned part way during the pandemic about the rise in tension within certain sections of the public and the potential for public disorder arising from that. They came to me with that issue. I took it to SAGE. We agreed they should write a paper on that and it was discussed in a SAGE meeting and then sent to the Home Office.

So we could and did self-initiate papers. The more normal route was for it to be reactive and to receive commissions.

Q. Yes.

A. I would also -- if I can, I would also say it gets a bit blurry as well because there were also, particularly later in the pandemic, issues where a government department would ask us a question and we would say, "We don't quite like that question, we'd like to change it to something on this", and there would be a bit of negotiation that would go on. There would also be instances where we would raise a problem and it would

then be on the radar for a government department because we had raised it, and then they would ask us what we could do about it. So there was a -- it became a bit of iteration, particularly later in the pandemic, that I think was very useful.

Q. Sure. On a similar topic, again we've heard from SPI-M-O members about the idea of producing a consensus report back to SAGE, the idea being that, rather than reporting back with a document which demonstrated the variety of views held by members of the committee, they would try to arrive at a single consensus position which would then be reported back on whatever the question was.

Again, did SPI-B adopt the same approach or not?

A. Yes, and our papers did report the consensus of the group. Where there were differences of opinion within the group we would simply say that within the paper. And there are some examples, for example whether it was a wise idea to allow alcohol in large gatherings when they were re-opened. There were different views on that within the group, and we simply said, "We have divergent opinions on this".

Q. Did you then, to take that example, explain what the minority views were or did you simply say that they existed without expanding on them?

A. Oh, gosh, it's been a while since I read that paper. I -- yes, I think we did explain, you know, why those different views existed.

Q. Now, you've already told us, Professor, that you think that SPI-B probably produced about 94 papers, clearly an awful lot of work was undertaken during the pandemic, and as you've also mentioned, the membership of the group was very varied. I said I was going to take you to that list that you helpfully provide in your statement, and perhaps we can look at that now.

Yes, so it's paragraph 7.2 of your report, and you say that:

"By the end of the process ..."

So I take it you mean by 2022?

A. Yes.

Q. "... 48 experts had taken part in SPI-B."

Again, we will see the list, but presumably not all of them contributing all the time. Did people come and go depending on what you were considering?

A. Yes. The intention was always that people would join for the meetings that they were experts in and not for those that they weren't. In practice, because these were interesting topics, everyone tended to turn up to everything, and we did, as a result of that, move to a different system part-way through the pandemic. But

yes, people did drift in and out of things for --

Q. As we've all discovered, Zoom meetings are very easy to attend, aren't they?

A. Yes.

Q. But the list, then, we see here the first few, I'm not going to read them out, but psychologists, epidemiologists -- if we can go over the page -- you mentioned anthropology, criminology, marketing, paediatrician, ethicist, so a very broad range of expertise represented on the committee?

A. Yes. And I should apologise to my colleagues as well if I've miscategorised them in this list. It can be difficult with experts to pigeonhole them as "You're an epidemiologist" or "You're a sociologist", but this is my best shot.

Q. Well, you haven't put any names in anyway, so no one knows exactly what you're calling them.

May I just ask, if we can -- I think it's on the same page, actually, if we can go down a little bit, in fact it's on -- yes, down a little bit.

You indicate at paragraph 7.5, so at the bottom, you refer there to the committee having been involved in undertaking work in the context of inequalities and stratification. Is that right?

A. Yes.

Q. Then if we can look over the page, you give some examples of papers that the committee produced in that area, so, for example, number 2 there, the impact of school closures on children from minoritised ethnic communities, and a little bit further down, number 4, unequal policing of communities and of specific groups within those communities, and, underneath that, unequal access to outdoor space according to socioeconomic circumstances.

First of all, with particular regard to these types of papers, Professor, were you aware of any policy changes taking place as a result or driven by the work that your committee did?

A. That was always a particular difficulty for the group. We didn't see what impact our papers were having, so the papers would be delivered either up to SAGE or they would be delivered direct to the department, and then we wouldn't see what would happen behind that curtain. And I genuinely don't know whether -- you know, I assume they were read, but I don't know whether they were weighed up against other conflicting priorities within government or other data they were aware of that we weren't, how it influenced policy. We didn't get feedback on those issues, or where we did get feedback, it was very top line, it was, you know, "Your paper has

been well received", there wasn't much specific detail. So by and large I don't know what impact our papers had.

Q. The phrase you use in your statement is that your papers seemed to disappear into a black hole?

A. Yes.

Q. Did you ask for more detailed feedback on what had happened?

A. We raised it on several occasions with the secretariat. I didn't push for specific feedback from government departments on the basis that, you know, they are very busy as well trying to deal with this stuff and if they wanted to give us feedback, if they wanted to tell us, "You've misunderstood this issue" or "Why aren't you talking about this paper from Southampton that we're aware of that you don't seem to be aware of?", they would have done that.

Sorry, does that answer your question?

Q. Yes. Yes, it does, thank you.

Just sticking with this area of inequality for a moment, did you ever consider issues relating to domestic abuse in the home during isolation and lockdown?

(Pause)

It may be that --

A. I genuinely can't recall, I'm afraid.

Q. I think you make it clear in your statement these are only supposed to be examples, it's not an exhaustive list of your work in this area.

A. We discussed inequalities through many, if not most of our papers.

The other thing we discussed, which I think is also important, is we couldn't hope to cover everything, so one of the key things we kept coming back to time and time again was the importance of co-producing guidance with members of affected communities or affected sections of society. I think I give a list in my statement of just in April the number of papers where we said: you must start co-producing your guidance with people who are affected by it. Precisely for the point you've raised, that those individual groups, who we might have missed, would then be able to discuss how that guidance is affecting them and think of other solutions, things we might not have thought of. And that was a core part of what we were saying to government in our reports.

Q. Did you see a change of approach in that regard?

A. They were certainly interested in various aspects of it. I don't know how effective it was, if I'm perfectly honest with you, no.

Q. Another topic, but still about the way in which

the committee worked, Professor, what contact, if any, did you have with the devolved administrations in Scotland, Wales and Northern Ireland?

A. So the committee provided advice to the UK Government, rather than to the individual DAs. We did have observers from each of the DAs who attended the group sessions. Occasionally they would voice issues about, you know, "We don't think that would work in Northern Ireland, for example, because we have a different community set-up that you haven't considered". We also had two members of the group who sat on the Scottish and the Welsh advisory groups, Professor Stephen Reicher and Professor Ann John, who was one of the co-chairs, and I think that was the extent of our involvement. So we were primarily an advisory group for the UK Government.

Q. You mention the Scottish and Welsh advisory groups. Were they specifically behavioural science advisory groups or more general scientific advisory groups, or don't you know?

A. I believe Professor John and Professor Reicher cover this in their statements. I think they would be better sighted to give you advice on that.

Q. Fine. Well, as you say, we have their statements and we can pick that detail up there.

I next want to cover with you, Professor, just a few points you make in your statement about the remit of the committee and the boundaries of what it was and wasn't doing. So for those purposes if I could take you first to paragraph 6.3 of your statement at page 37, you make a series of points about the way in which the committee worked.

We see here, at the top of paragraph 6.3 you make it clear that:

"... SPI-B focused on behavioural issues relating to the pandemic and on the impact of interventions on wellbeing."

Which we've discussed.

"It did not advise on what interventions should be pursued to reduce transmission rates, except in the context of pointing out where adherence to specific guidance was already high ..."

And so on.

So is the point you're making here that there was no, as it were, epidemiological theme to your work?

A. Yeah, absolutely. And it would have been quite odd if there was, given that we had a panel of world leading epidemiologists also in the group, so we didn't want to step on their turf.

Q. We did notice that there was an epidemiologist on your

committee.
A. Yes.
Q. But with a sort of watching brief perhaps?
A. With a watching brief, and also there is an epidemiology within sociology as well, the two things can be kind of closely tied together, so yeah, the boundaries get blurred but I think the remit wasn't blurred.
Q. Yes. Secondly, if we can go over the page to page 38, and this is a point we've already covered really, you say that SPI-B was largely reactive, the role was to respond to questions that arrived from SAGE or government departments, sometimes you found it necessary to challenge the assumptions that lay behind the questions. Those are points, I think, we have covered already.
A. Yes.
Q. If we can move on to page 39, this is at paragraph 6.5, you say:
"Third, despite the similarity in names, SPI-B did not operate in the same way as SPI-M."
The point you're really making here, Professor, I think, is that there was no function within SPI-B of conducting, as it were, a rolling analysis of data as it came in?
A. Yes, that's correct. We did see data coming in. There

were rolling analyses of behavioural data being carried out, but they weren't being carried out by SPI-B. SPI-B was a group of volunteer academics, and I don't think it would have been right to ask us to conduct detailed analyses on a rolling basis. And we did not do that.
Q. One of the other themes that comes up in your statement is actually a wish that you had had more access to government data. So perhaps you're making a slightly different point here, but tell us about -- perhaps not in the context of a rolling analysis of data, but were there areas where you wish you'd had more access to government data?
A. Yes, this cropped up a few times. There were issues where we would write a paper and we would submit it and we then discovered afterwards that there was already a report within government that covered that particular topic, or would have been useful for us to see, but because it was stamped "official sensitive" it wasn't shared widely enough, we didn't have access to it, we didn't see it. I'm conscious there are -- you know, we were one group within the government system looking at behavioural science of which there were many other groups. There was the Behavioural Insights Team, there were teams within UKHSA, there was the DHSC

communications team, the Cabinet Office communications team. They were conducting a whole series of focus groups and polling and field trips. I often felt we weren't really seeing all of that data and it would have been useful to see it.
So no, I'm sure there were lots of other things floating around in the system that we could have used but we didn't see.
Q. I want to take you back to some of those other committees and how, as it were, you slotted in to the larger picture in just a moment.
Before we do that, though, let's just finish this list of points you make here. So if we can go over the page again to paragraph 6.9, the last of these points you make about the sort of remit or scope of the committee is you say that SPI-B did not provide behavioural data for use in epidemic modelling. What do you mean by that?
A. I think this is the point we covered earlier in your questions, we didn't provide those data on "38% of people will do X in following weeks".
Q. I see. I see. Well, let's go then, if we may, and come back to that point you just mentioned about, if you like, the overlap with other government -- other parts of government that were engaged in behavioural science.

It's quite striking, what you say about this, Professor, because we have heard from the SPI-M-O witnesses that they found that their committee actually filled a void in government competence, or at least resilience, in the sense that there was no one else to do the basic modelling work of simply just keeping track of the R number, and they found themselves conducting what they regarded as being rather basic work simply because the government had no one else to do it.
As you've said, your position was rather different, because there were many other parts of government that were already engaged in thinking about behavioural science.
If we look at page 56 of your statement, you just mentioned a few of them, and in fact you list them here, do you not?
A. Yes.
Q. So the Behavioural Insights Team, that is or at least was initially part of the Cabinet Office, am I right about that?
A. Yes.
Q. Then we see the other entities: the Government Communication Service, communications teams from the DHSC and Public Health England, and then Public Health England/UKHSA's Emergency Response Department and

others.

You go on in your statement, Professor, to, in summary, describe a fairly arm's length but good relationship with these various bodies. I want to come back to the point you were making, which is the sense that you may have not fallen out with any of these bodies but you weren't perhaps quite sure of how you fitted in to the overall picture?

A. No, I don't think that's quite correct, if I may. So the -- we certainly didn't fall out with these bodies, we had a good working relationship with all of these groups, and they did provide data to us and ask us questions and engage in conversations with us within SPI-B that was very useful. In -- apologies, I've forgotten your question.

Q. It was just really whether your committee -- the words I used were whether you didn't know where you fitted in to the picture?

A. Oh, I see. No, we did. And I think it's -- it would be a mistake to think that all of these groups do the same thing and SPI-B does the same thing and we're all competing over the same space. That's not the case. If you look at it, for example, you've got a communications service, a communications team, another communications team, well, it's quite clear where their remit lies.

And as I've said, SPI-B looked at the science of communication, whereas these teams were working on the operationalisation of that science. So we would provide advice to them on, actually, if you phrase it in this way or you have this kind of trusted communicator, it lands better, and they would have to take that away and work out: well, what does our poster look like in that case?

Behavioural Insights Team, as we've discussed, they have a particular set of interventions they particularly focus on, and SPI-B goes much broader than that. So, again, I didn't feel we were competing with the Behavioural Insights Team.

The PHE/UKHSA Emergency Response Department, I work with them a lot, they have a very good team, but initially very small, and the team that they had were employed on research grants, so specifically focused on that one particular problem rather than the whole broad range of issues to do with Covid. So, again, I don't think we were in competition, and we were helping them to understand what to do.

And the test and trace working groups, well, they were set up during the course of the pandemic. Certainly as these teams, particularly UKHSA and Test and Trace and others, became more established, and

received more funding, and were able to ramp up their capacity to do the kinds of reviewing work and the kind of data integration that SPI-B was looking at, the need for SPI-B did start to fall away, and that was reasonable and fair.

So, yes, we very happily handed over the work to those teams.

Q. Thank you.

Just before we leave this list, a point you've already made, some of these entities at least are involved in communications, and so we're back to that point we were talking about earlier about your interest in messaging, the fact that C wasn't included in the name of the committee, operational communications not being for you.

I think it's right that you did have a subgroup, I forget its name, but was it in fact a communications subgroup?

A. Yes.

Q. As I've said, this is something which we will ask Professor Yardley about more, but there was a problem, wasn't there, at least some members of your committee did feel that SPI-B and the subgroup to do with communications was being cut out of involvement in government communications?

A. Yes, that's true. I think particularly around kind of May/June 2020 this came to a head. It related primarily to the change in messaging from "Stay at home, Protect the NHS, Save lives" to the "Stay alert" messaging, and I think that many participants felt that the advice we had given on issues such as the clarity needed in messaging just wasn't being seen in the output from government communications, and I think that was the particular issue, was that we were providing advice on the science of communication but was that being translated as the actual messages coming out of government. And I think that caused some frustration.

Q. Yes. Well, as I say, that's a theme that we'll explore in more detail with Professor Yardley.

May I move on to a slightly different issue, which is HMG transparency and how that worked with SPI-B. For these purposes, can we go to page 51 of your statement, please, and paragraph 10.4.

You refer here to a "challenge around publication", and what you mean is publication of the papers, the statements that your committee prepared.

You describe it as being a "persistent frustration". You refer to SAGE's early practice of secrecy, not publishing either the people who were on SAGE or the papers that SAGE was preparing. But we've heard

something about that, and also that relatively early in the pandemic that was reversed and the papers on SAGE were indeed published.

But you make the point, as we go on in this paragraph, that even once that moment had passed, there were still ongoing difficulties with transparency as far as you were concerned.

What were those?

A. So there was a principle that everything that was being produced by the group would be published. The frustration was in the timeliness of that publication. And there were often delays, sometimes very lengthy delays, in putting things into the public domain.

I think there were -- as I understood it, there were two reasons for that. The first was where we had said something in a paper that was still being considered by policymakers, it was an ongoing policy decision, that paper would not be published because -- you know, I don't understand how policymaking works but I understand there is a principle of allowing a safe space for policymakers to weigh up different options before putting it in the public domain.

That was one issue.

The second issue was where we cited things in our paper, where we cited other reports produced within

government, other data sources for example, and those had in turn been stamped "official sensitive", then there were questions as to whether SPI-B could release a paper that reports those data.

I was always of the mind that our papers would cite anything we wanted to and we wouldn't hold back in referring to data that we were aware of because our primary audience was Sir Patrick and Sir Chris and they needed to be aware of what we knew.

But in doing that, I think it did result in delays in the release of those papers because the government departments would take time to clear them for approval, and in some cases those delays could go on for, as I say, months. I think there may even have been one -- in fact I know there was one that took years to publish.

Q. The sense we get from your use of words like "persistent frustration" is that, at least from your perspective, this could and should have been done better?

A. Yes. And I think early on I suggested we needed some kind of policy on this where, you know, is it two weeks, is it a month, there should be a deadline beyond which if a paper has been produced by the group it will default go into the public domain unless there is a good reason to withhold it. And I should add that frustration applied to many other things I saw as part

of my role on the group, many other documents -- you know, I think I said government is awash with papers that are stamped "official sensitive" and I often didn't understand the reasoning for that protected marking and why it couldn't be released, there didn't seem often anything particularly sensitive about it to my eye.

So it was a frustration that -- you know, from an academic point of view, publication is built into us, it's what we do, it's what we're marked on. It helps the public debate, it helps our academic colleagues to understand what additional research we might need, it gives us peer review on our papers, it means colleagues from other countries can see the scientific considerations taking place in the UK and they can use it, occupational health teams in industry can use it. Withholding it was a negative thing and I was very keen for it to go out as quickly as it could. So, yes, a persistent frustration.

Q. Some of those examples you've just given us, is your view then that we're not just looking at perhaps a bit of a culture clash between academics who were inclined to publish things and civil servants who are a bit more backward in publishing things, but you felt there were important reasons, during the pandemic, for your research to be made available to as many people as

possible as quickly as possible?

A. Yes. Yes. I think the two key things are, first of all, so that we can get feedback from our academic peers. If we've got something wrong in the paper, we want to know about that, so the peer review is useful. And that did happen when we published stuff: blogs would be written and we would read those and understand other data or things we may have missed, and that was very useful. And secondly, the stuff we were writing was helpful not just for government but for many other audiences as well, and I felt we were restricting it unnecessarily to government.

Q. It was, after all, a global pandemic?

A. Yes.

Q. These problems broke the surface on at least one occasion. I'd like to show you a newspaper article, if I might.

It's INQ000197125.

So this is in May 2020. We will see a few episodes taking place around this time. You've already mentioned the tension over government messaging, but is it right to say, Professor, that those early months, May/June 2020, were difficult times for the committee?

A. I think that might be overstating it actually. There certainly were discussions about how we handled our

approach to media, and I think it's reasonable to say there is different opinions about that, but as a committee we continued to function very well and continued to quite very good papers. So yes, disagreements, but I don't think it interfered with the functioning of the committee.

Q. Thank you.

Let's just quickly look at this incident. We see it's a report in The Guardian describing government scientific advisers, and these are members of SPI-B, are they not --

A. Yes.

Q. -- being furious at what they see as an attempt to censor their advice on government proposals during the lockdown by heavily redacting an official report before it was leaked to the public. There is then a description of the report.

If we go over the page, there is a reference to:

"Several SPI-B members [telling] The Guardian that the redacted portions of the document contained criticisms they had made of potential government policies they had been formally asked to consider in late March and early April."

Various quotes, one from Professor Reicher, saying:

"Personally, I am more bemused than furious ... The

greatest asset we have in this crisis is the trust and adherence of the public. You want trust? You need to be open with people. This isn't open. It is reminiscent of Stalinist Russia. Not a good look."

The next page is a -- I don't know if this is actually the document itself as redacted or something that The Guardian have reproduced, but we get the idea, don't we?

A. I believe it is the document.

Q. Right.

Then if we can go to the next page, we see about halfway down there is a description of SPI-B as including professors in psychology, epidemiology and anthropology. They said they "felt the proposals were too punitive and more likely to result in unfair treatment among people in deprived economic circumstances".

So one of the things we see here is it appears that The Guardian were told some detail of what lay underneath the redactions; is that fair?

A. Yes, that's fair.

Q. Then the response from the government stating that the redactions had been carried out by officials, suggesting that members of the committee had been told about this, although, as we see further on down the page, they said

they weren't given advance notice:

"... we still haven't been given a satisfactory explanation ..."

So questions, for example, about process and so on.

So it does appear that this was a serious incident. What was your sort of reflection on it?

A. My understanding of the reason those redactions were in place was to allow the paper to be released. So this was one of those areas where what was underneath the redactions were issues that were still being considered by policymakers, and the decision that was made by the secretariat to release the paper with redactions was precisely to allow it to go out but withholding those bits that couldn't go out because they were still under consideration, and the alternative would have been it doesn't go out at all until those are all sorted.

That said, yes, I completely agree it was heavy-handed and it was not a good look. We did discuss it with Sir Patrick, I raised it with Sir Patrick, and he agreed and he made it very clear that he wanted as few redactions to papers as possible and the revised version of that paper was released pretty quickly afterwards with lots of that taken out.

Q. Yes.

A. So I kind of agree with my colleagues in that thing, it was not a good look and I think it did need to be explained better when it was released as well. To be fair to the secretariat, it is true that they did alert the committee a couple of weeks in advance that the redactions would be in place. I think most people missed it but they did tell us.

Q. Thank you. So an episode there focusing on the redaction of paper, of that particular paper when it was published, but we also see another feature which was to become something that was -- that raised concerns, which was next of your committee talking to the press about what the committee was doing. You address this issue on page 49 of your statement, if we could go to that, please, at paragraph 10.3. Yes.

You describe it as a challenge around public statements, you say:

"The group met to discuss this [issue] early on and agreed that discussions in SPI-B must remain confidential."

But you go on to say that there were then occasions where members of the committee made public statements even if they weren't about what was happening in SPI-B, but about government policy more generally.

A. Yes.

Q. Then, picking it up a few lines further down, you say:

"[Your] impression was that, within Government, there was disquiet about this. The group received suggestions from Sir Patrick Vallance that vocal, public criticism of Government policy might not be the best way to encourage policymakers to engage with [your] advice."

Is that a fair description, then, of that, the start of that concern about members of the committee speaking publicly about government policy?

A. Yes. And it was a legitimate tension, it was a difficult issue, and I still don't have an answer to it. Academics have academic freedom, and we fight very hard for that, and it's part of our identity, and I think it's very important in forming the public debate, and part of that academic freedom is the freedom to comment on public policy. At the same time, if the committee is to be trusted by government and we're to have government departments come to us and be frank with us about the quandaries that they have or the dilemmas or the uncertainties and to give us information that they may not necessarily want to disclose in the public domain, while it is making those kind of -- a running commentary on public policy, does that detract from the government's ability to approach the group? So there is that tension there and

I must admit I was never able in my own mind to resolve that tension, although I was quite clear throughout that as academics, everybody on the group did retain the right to talk to the media about whatever they wished.

LADY HALLETT: In their personal capacity?

A. Within their personal capacity and -- apologies, you're right -- not what was being discussed within the group, because we had all agreed that must remain confidential.

MR O'CONNOR: Yes.

If we go on to the next page, please, you provide a couple of examples of incidents where this matter was raised. The first one is the one we've just looked at, with The Guardian article, but we can see you saying here that as a result of what was written in the press, and the fact that members of the committee had clearly been telling the media something about what lay underneath the redactions, the secretariat informed you that a leak inquiry was going to be set up; is that right?

A. Yes.

Q. What happened with that leak inquiry?

A. I was never told anything further about it.

Q. Did you think that was an overreaction?

A. I don't know, I've never been in that situation before, so I don't know how government handles these things.

Q. Moving on, though, just reading on in the statement, in terms of impact on your committee, there is the suggestion that this sort of leak, if that's what it was:

"... was taken very seriously within Government and that if SPI-B was viewed as 'leaky' then it might reduce the desire of people within Government to engage with us."

So that was one of the problems that was raised by this sort of matter?

A. Yes, it -- it's all part of the same kind of issue: the need for us to maintain the trust of government so that they will approach us and ask us for advice and to feel comfortable doing so.

I think a leak obviously oversteps the boundaries, it was an official sensitive document, it should not have been leaked, I'm quite clear on that, but it also combined with other issues around more general comments about public policy which I think played into the same kind of issue.

Q. Yes.

A. And we were certainly told on at least three, possibly four occasions by senior members within the secretariat that we did run the risk of losing the trust of government over these issues.

Q. Yes. Then below that, another is -- I don't want to get into the detail of that one, save to point out that what you are describing here is an incident where actual details of SPI-B discussions were revealed to the press, contrary to the agreement you say had been reached amongst members of the committee?

A. Yes, and I did discuss this with Professor West, and my understanding is it was a -- he appreciated that he shouldn't have made the comments in the way that he did, and we accepted that and we moved on from it, but -- but yes.

Q. There is one more aspect to these set of problems that I want to ask you about, which is Independent SAGE, and if we could look, please, at page 51 of your statement, subparagraph 3 at the top there, you refer to the decision in June 2020, so at around about the same time as, for example, The Guardian article and the concerns about messaging that we mentioned:

"The decision in June 2020 of multiple participants of SPI-B to join a subgroup of independent SAGE took me by surprise and put us in an awkward position."

I'm going to take you to a couple of emails, but in summary did this raise a similar problem in the sense, first of all, of course these committee members were entitled to join whatever committee they liked, but it

did raise issues about the effectiveness of SPI-B?
A. Yes, that's fair, and various members joined all sorts of different committees, joined the British Psychological Society committee or the World Health Organisation or Independent SAGE in this case, but this was again raised with me specifically that, as you can see in the quotes there, it raises real issues of trust for policymakers -- or government departments are now becoming very wary of putting anything to SPI-B. So it did raise a tension.
Q. Let's look, if we may, at a couple of emails, which I think are probably those that are quoted in that paragraph.
First of all, if we just look at INQ000197131.
We can just look at the top half of this page. This is an exchange between you and someone called Stuart Wainwright, who we have heard evidence from, certainly a member of the secretariat, of the SAGE secretariat, possibly rather more senior than that, I forget, was he in fact the senior member of the SAGE secretariat?
A. Yes.
Q. Yes. You're discussing here, are you not, the understanding early in the story that, as we can see from the bottom email on the screen, one or two of your

members were going to join Independent SAGE; is that right?
A. I think one or two members had joined Independent SAGE earlier than this --
Q. Right.
A. -- which wasn't seen as an issue, but I think when multiple members on the same day said that they were joining, that -- obviously I had to alert the secretariat to what was going on, and this is the communication about that.
Q. We will come to an email a few days later, but here we see in the bottom emails Mr Wainwright making this point:
"... one or two members involved with alternative sage was one thing but as more get involved I do think policy makers will be more reluctant to be open with the committee about the challenges they are facing. So as more get involved with alternative sage, then [I think he means SPI-B's] ability to have impact will reduce I fear."
A. Yes, and you can -- you can see the tension.
So absolutely academics have a right to talk to whomever they want to and to provide their input into more than just SPI-B, but at the same time, as the co-chair of SPI-B, it was my responsibility to make

sure that the group's impact within government was maintained. And that then was a difficult thing for me to balance up, hence the conversation with Stu.
MR O'CONNOR: Yes.
LADY HALLETT: Can I just ask you about the academic freedom point? Of course I understand the importance of academic freedom, it's absolutely essential to your work, but if you volunteer to serve on a committee that's advising the government, what is the principle that governs the academic when they gain access to information or they know about deliberations and discussions at the committee? Do they not, if they volunteer for a government committee, impose some kind of restraints upon themselves, or shouldn't they?
A. So in terms of the information that they see, yes. So obviously not leaking documents, I think that goes without saying, but also we were seeing data and information that was official sensitive and I think everybody appreciated that couldn't go into the public domain, and I don't think that happened. I think the issue was more around the commentary on government policy, so a continual criticism of the decisions that the government were making and whether that would detract from the government's willingness to engage with the group.

LADY HALLETT: But if they didn't open -- I mean, I can see how in reaching their own conclusions about policy they may have been influenced by data they'd seen, but if they didn't mention in public the data that they had seen or didn't mention the discussions that SPI-B members had had, then why can't they just comment using their academic freedom without relating it to SPI-B?
A. They absolutely could, and they did do that. They didn't overstep -- I want to be clear, they did not overstep the terms of reference at all by joining Independent SAGE or by commenting on government policy, and I think you can see in this email chain, actually, Stu saying, "Let's see if there is a conflict of interest here", and there wasn't, but nonetheless there was a feeling that the willingness of government to engage with SPI-B would decline --
LADY HALLETT: That I follow, yes.
A. -- and that is the issue that we're talking about. They were within their rights to do this, absolutely within their rights, and I didn't argue that they shouldn't, but it did have implications -- or I was told it had implications in terms of government engagement with the group.
LADY HALLETT: Should they have said, for example, "As a member of SPI-B", that seems to me to be crossing

the line which they shouldn't do, because if they say "As a member of SPI-B" then they appear to be linking their personal comments with SPI-B membership?

A. Yes, no, they shouldn't have said that, and again that was quite clear. And I think very few members ever did that and where they did it was normally a slip.

That said, I think the media did that job for us, and any time any of us made any comment it was always "senior government adviser says this".

MR O'CONNOR: Can I -- I want to move on to another email in a moment, before we do, could I just ask you about a slightly earlier part of the discussion on this email chain between Mr Wainwright.

As you say, the discussion was about whether there was a conflict of interest and what might be done about it. Right at the bottom of this page, do you see it's your email to Mr Wainwright, you say:

"DHSC will presumably want us to adopt nervtag style membership arrangements ..."

Then you talk about a refreshed terms of reference. What do you mean by NERVTAG-style membership arrangements?

A. So with -- NERVTAG had a much more formal way of appointing members, with much clearer terms of reference and a formal interview process, and I -- my

assumption -- if you see, we're in June 2020, so we had moved out of the immediate crisis period of February/March, my assumption was that that would be the way that SAGE would evolve, towards a more kind of formalised mechanism. It didn't, in practice, but that's what I was referring to there.

Q. Yes. Thank you.

Just to finish off this topic, if we can look at one more email, please, INQ000196969. The previous emails we were looking at were dated 9 June, so this is ten days later, and if we just look at the bottom -- in fact I think, sorry, we need to go on to the next page, for the start. Yes.

So the start of this email chain is an email from Patrick Vallance to you where he says:

"I gather that 8 members of SPI-B have formed an independent SPI-B reporting into independent SAGE. Do you know about this? Are they using the government papers they see? This seems like an odd thing to do and may cause problems."

So we were looking previously at a time when it seemed to have escalated from one or two to a few more, but ten days later there were even more than that who were joining Independent SAGE.

A. Yes, I think initially it was one person and then two

people and then it leapt up to eight.

Q. All right, so he is catching up here with what you were discussing with Mr Wainwright --

A. Yes.

Q. -- a week or so earlier? I see, thank you.

If we can go back to the first page, then, we see, if we can look at the email from Patrick Vallance saying "The effect is", Patrick Vallance is making very much the same point that you had been discussing with Stuart Wainwright:

"The effect is that Government departments are now becoming very wary of putting anything to SPI-B because of a risk of leaks or misuse. We should think about how to deal with it. Frankly it is bizarre behaviour don't you think?"

On the same day, in his evening diary, Patrick Vallance recorded or described this action on the part of the SPI-B members as "totally inappropriate behaviour". Do you think it was totally inappropriate?

A. No. As I say, they weren't in breach of the terms of reference, there wasn't a conflict of interest issue, and they retained the right to talk to anybody who was interested. So I think there's -- I think there's a valid difference of opinion as to what the best thing to do here was. I think I would -- I mean, obviously

I didn't go down this route and I didn't engage very much with the media during the pandemic either. I think it was a different view and I -- still, in my head, I don't know how to balance those two issues.

I'd hope the Inquiry can hopefully give us some advice on how to deal with this in your report.

LADY HALLETT: I'm not sure.

MR O'CONNOR: Just before you hand the problem over to us, Professor Rubin, just lastly on this, were there to be or when there is another pandemic, and if committees like this are being set up, having had this experience, would you go about the setting up of the committee in a different way? Would you, for example, from the outset use that slightly more formal NERVTAG style procedure that you mentioned?

A. I don't know. I genuinely don't know. I think there is a challenge there, because you want to have the best possible people on the group, and we had the best possible people on the group, these are world leading experts in their field, and I wouldn't want to do anything that would put people off who we need providing that evidence, and if this puts them off doing that advice to government will suffer.

I think what might be required is a better induction rather than a better terms of reference, a better

understanding early on about, you know, "If you want to provide advice that is going to influence government policy, this is the best way to do it, and it does mean you may have to restrain yourself in doing this, that or the other".

Not blocking them from doing that, but potentially thinking further about what will the downstream implications be.

MR O'CONNOR: Yes.

My Lady, I was about to move on to another topic.

LADY HALLETT: Certainly. 11.35, please.

(11.17 am)

(A short break)

(11.35 am)

LADY HALLETT: Mr O'Connor.

MR O'CONNOR: Grateful, my Lady.

Professor, I would like to move on and now ask you about two separate behavioural science issues that attracted some debate during the course of the pandemic. The first of those is the issue of behavioural fatigue.

This issue arose, did it not, from certain observations made by the Chief Medical Officer, Chris Whitty, during Downing Street press conferences on 9 and 12 March 2020?

A. Yes.

Q. We will all recall that that was the week during which, behind the scenes, pressure was mounting for a change of tack away from the mitigation strategy towards the suppression policy. We heard plenty about that from Professors Riley and Ferguson yesterday.

His comments, which we'll look at in detail, were made in the context of the first of those, the mitigation policy, because it was before the announcement of the lockdown had been made.

That's right, isn't it?

A. Yes.

Q. In particular, as we will see, Chris Whitty's reference to behavioural fatigue was made in the context of justifying and explaining a delay in imposing NPIs until what he would have described as close to the peak of the epidemic?

A. Yes.

Q. Let's look, if we may, at precisely what he said, first of all, and as I've said, there were two press conferences a few days apart where this language was used.

If we can go first, please, to look at a transcript of what the Chief Medical Officer said on Monday, 9 March, it's helpfully on the screen. Let's just follow it through. He said:

"... it's not just a matter of what you do it is also a matter of when you do it because anything we do we've got to be able to sustain once you've started these things we will have to continue through the peak and that is for a period of time and there is a risk if we go too early people [will] understandably get fatigue and it'll be difficult to sustain this overtime so getting the timing right is absolutely critical to making this work ..."

We see the reference to fatigue within that excerpt.

Thank you, we can take that down.

So that was on 9 March, on the Monday. On the Thursday of the same week, Chris Whitty returned to the same theme. We don't have a transcript of this so I'm just going to read out what he said. At one point of the conference he said:

"If people go too early they become very fatigued."

Later during the same press conference he said this:

"An important part of the science to this is the behavioural science, and what that shows is probably common sense to everybody in this audience, which is that people start off with the best of intentions but enthusiasm at a certain point starts to flag. If you start too early and then people's enthusiasm runs out just at about the peak, which is exactly the time that

we want people to be doing these interventions, that's actually not a productive way to do it, so we do need to do it at the last point it's reasonable so that people will maintain their energy and enthusiasm to get through what will be quite difficult things to do."

So that is what he said on that occasion.

Now, we'll go into this in a little detail, Professor, but in summary, first of all, we saw in that last quote that Chris Whitty referred to behavioural science in the context of these remarks. Were his remarks based on advice given to him either by you or by your committee?

A. No.

Q. Do you know the source of Chris Whitty's understanding about behavioural fatigue?

A. No.

Q. Have you ever discussed it with him?

A. We -- we discussed it -- after he made the comments on 12 March, we raised it in SAGE the following day. We discussed whether there was a basis within the behavioural science literature for the -- and in fairness to Sir Chris, I don't think he used the word "behavioural fatigue" in his statement, I think he referred to fatigue, you're right, or loss of enthusiasm. We discussed those issues and came to

the conclusion that first of all this hadn't come from SPI-B, and secondly we didn't think it was a valid reason to delay the lockdown or delay implementation of measures that were necessary. So that was where we discussed it, it was in the SAGE meeting the next day.

Q. Right. And you've made it clear, I think, in the context of that answer, that certainly your committee's view was that his remarks were not supported by behavioural science?

A. No, we had discussed individual behaviours, self-isolation or shielding, we had discussed the challenges that people would face in doing those behaviours, but we hadn't come up with any kind of general overarching principle of fatigue or loss of enthusiasm, and we wouldn't have done. Individual behaviours have individual factors that feed in to them. It would have made no sense to say it's all enthusiasm, and it will wane at around about the time of the peak either, we wouldn't have been able to be that specific even if we had said it. So, no, it wasn't us.

Q. I would like to show you, Professor, a couple of paragraphs in the witness statement we have received from Susan Michie. Now, she is someone whose name has come up a couple of times. It is right, isn't it, she is a professor of health psychology and, in fact, the

director of the Centre for Behaviour Change at -- is it University College London, or King's College London?

A. UCL, yes.

Q. And you mentioned that she was the chair of SPI-B&C back in 2009, so a senior member of the academic community?

A. Oh, absolutely, yeah.

Q. During the 2020 pandemic, she was a member of SPI-B?

A. Yes.

Q. Did she also sit on SAGE or not?

A. She attended SAGE I think on three occasions.

Q. Right. But not a regular attender?

A. No.

Q. As you were in your capacity as chair of SPI-B?

A. That's correct.

Q. So if we can just look at her statement, and in particular a couple of paragraphs where she addresses this issue, I'm going to go to paragraph 9.1 first, thank you, and she says this:

"As I explained in my Witness Questionnaire [which is a questionnaire she provided to the Inquiry], the term 'behavioural fatigue' is not a behavioural science term; that is to say it did not feature in behavioural theories and there was no measure of it."

From what you've said, I take it you agree with that?

A. Yes.

Q. If we look down at paragraph 9.2, she goes on:

"SPI-B was not asked for our views on the notion of 'behavioural fatigue'. Had we been, the response would have been that there was not such is a concept in the behavioural science literature, not in published evidence nor in theories of behaviour nor in measurement. SPI-B never mentioned this term apart from a discussion I recall concerning its source and use. The source of the introduction of the term ... into discussions around Covid-19 is unknown, but it certainly did not come from SPI-B."

Again, I take it from what you have said you would endorse those observations?

A. Yes, I would.

Q. Can I just ask you about one more passage in her statement, then, and it's over the page, subparagraph (e) there, please.

Professor Michie here is listing the consequences of this reference by the Chief Medical Officer to behavioural fatigue, and here she says:

"In my opinion it caused behavioural scientists to be blamed for the delayed first lockdown which cost many lives. For example, in a private meeting with MPs on 16 June 2021, Matt Hancock was reported in the press as

having blamed unnamed behavioural scientists for their advice about managing the pandemic, saying that they had 'got it wrong'."

I don't know whether you know about that particular incident with Matt Hancock, Professor, but in general terms, can you help us with this idea that the use of that term in those press conferences led to behavioural scientists generally being blamed for the delay in the first lockdown?

A. Yes, I think it was to an extent. I did discuss this -- there was an email exchange between myself, Patrick Vallance and Chris Whitty and I think a few others on 14 March where we discussed this issue, and this reason led to me wanting to put forward into the public domain a document explaining what SPI-B was actually doing, because it wasn't this. And as part of that, Patrick commented that he wanted to be clear that SPI-B or behavioural science advice had not resulted in the delay to lockdown, and would not in the future result in a delay to lockdown.

So certainly from his perspective I felt he understood it wasn't behavioural science that was underlying this. But I agree, I suspect others did think that.

Q. Do you think, at least from the government end,

including the Chief Scientific Adviser, do you think it was made sufficiently clear that this concept had not arisen from SPI-B advice?

A. Well, as I say, we put it in the SAGE minutes and I was quite clear it needed to go into the SAGE minutes, that these issues were not a reason to delay lockdown. Beyond that, I don't know what government thinks.

Q. There was at around this time another step taken to push back, as it were, against what Chris Whitty had said, and that was in an open letter that was published on 16 March, so early the following week. We have it up on screen. I'm sure you're familiar with that letter, Professor.

A. Yes.

Q. I'm not going to read it out, but we can see it is a letter essentially encapsulating what you've already said, which is that the concept of behavioural fatigue is not one that's known to behavioural science. And at the last paragraph we see there is a challenge:

"If 'behavioural fatigue' truly represents a key factor in the government's decision to delay high-visibility interventions, we urge the government to share an adequate evidence base in support of that decision. If one is lacking, we urge the government to reconsider these decisions."

This letter gained considerable publicity at the time it was published, did it not?

A. It did, yes.

Q. Did you have any part in either drafting it or did you sign it?

A. No.

Q. Do you know whether other members of your committee were involved in either drafting or signing this letter?

A. I don't think anyone was involved in drafting it, I don't know about the signatories.

Q. But I take it from what we've said that you, at least in general terms, endorse it?

A. Yes, yes, I do. And, in particular, I think it comes back to something we talked about earlier, about the importance of putting the rationale for advice, you know, the underlying papers, into the public domain, which is exactly what the signatories of this letter are calling for, and I completely agree with.

Q. Yes.

Before we leave this topic, I want just to look at two further documents, and they're both emails that involve you and David Halpern, although they don't have precisely the same circulation list.

The first, yes, we have it there, is an exchange between David Halpern, Chris Whitty, Patrick Vallance

and you on 13 March, so it's the Friday at the end of that week, the day after the second of Chris Whitty's press conferences, and I think the same day as the SAGE meeting that you've just mentioned.

A. Yes.

Q. If we look at the first of the emails in time, so at the bottom of that page, it's from David Halpern.

Just tell us who David Halpern was.

A. David Halpern is the director of the Behavioural Insights Team.

Q. Which, as we said, it has a slightly strange status, but it certainly was founded within the Cabinet Office and was working to support government at the time?

A. Yes.

Q. We see the email is sent to Chris Whitty, but copying you and Patrick Vallance, and its title is "Important -- academic article that may support Chris Whitty quarantine fatigue point". We see that the message itself is very short:

"Chris -- paper I mentioned. Also interesting [I think that means "with regard to"] second peak (though from different historical period)."

Then there is sort of cut and pasted on some paragraphs relating to the 1918 flu epidemic.

And I think the relevant parts from our point of

view are -- yes, if we see at the top there, the last sentence of the paragraph that's cut off at the top:

"Some governments did not re-impose social distancing measures during the second wave of the epidemic because of the major disruption they had caused."

Sorry, actually I have gone to the wrong part of it, I think we need to go back to the page before -- no, we've changed it. So it's the beginning of that paragraph -- no, sorry, we do need to go back to the page before. So the page before, please. Yes.

So do you see at the bottom where it says:

"1918 influenza pandemic."

A. Yes.

Q. Then:

"Regarding the effectiveness of [NPIs], one of the difficulties was public compliance. Compliance was seen to wane with time (when the preliminary wave of fear declined), for environmental reasons (keeping people indoors on hot nights), for reasons of psychological stress due to isolation or quite simply once they were no longer compulsory."

Do you see that? That is perhaps what David Halpern was driving at when he said that that analysis of behaviour in the 1918 flu pandemic may, in his words,

support Chris Whitty's fatigue point. Is that how you understood this message?

A. Yes. I'm not entirely sure it did support Chris's fatigue point --

Q. Before you expand on that, Professor, let's have a look at your -- so you replied back to David Halpern, copying Chris Whitty and Patrick Vallance, and you said:

"Thanks David

"You might also be interested in rates of public worry during swine flu ..."

So that's much more recent, 2009.

"... based on DH ..."

Is that Department for Health?

A. Yes.

Q. "... polling. High(ish) worry during first wave, then a habituation during the second wave."

You go on:

"But the problem is that by then it was seen as a mild illness. We might get a similar habituation with Covid. But the number of deaths reported will be much higher than swine flu so it is not necessarily a good parallel."

So with those in mind, can you tell us, first of all, whether you think that David Halpern's point was a good one, and secondly what you were trying to get

across in your own email?

A. So these emails came following the SAGE meeting of that day. We had been discussing Chris's point at the podium about behavioural fatigue being a thing that was influencing the decisions about when to implement lockdown. We had pushed back on the idea, but, as you can see, conversations continued as to: actually, is there any evidence base for what Chris had mentioned?

I think David was providing something he thought might support it. In terms of why I don't think it does actually support it, as I understood it, and one of the challenges around this, is the kind of -- how nebulous the term Chris used was in terms of fatigue. The reason it's not used within behavioural science is because there are a wide range of factors that affect behaviour, and to merge them all together and stick the label "fatigue" on it is just not helpful. That's not how it works. It's kind of going 50, 70 years backwards in time in terms of behavioural science.

In terms of David's email, you can see within that a range of different factors that might have been affecting behaviour during the 1918 pandemic, including the weather, including governments not putting into place the legislation to maintain lockdown, including potentially a loss of motivation, but a whole range of

different things. And to stamp all that and say, "Well, we can call all that fatigue", it's not right and it's not helpful. So I don't think it did support his point.

In terms of the point I was making in my one, again this was in the spirit of kicking the idea around and seeing if it had legs. While that was the most up-to-date parallel I could think of, as you can see in terms of worry, if you take worry as kind of public interest, public concern, it does seem to flatline in the second stage of the swine flu pandemic. But as I also say, it's not a very good parallel. You can't -- I'm not sure we could extrapolate from that to what we were about to go into.

Q. Because what you anticipated in the Covid pandemic was far more serious in terms of people getting unwell and dying?

A. Absolutely. I think the reason people were not worried in the second wave of the swine flu pandemic was because by then it was understood in the public's mind as a mild interest -- a mild illness, sorry, and there wasn't particularly a reason for anybody to worry about it or react to it. It wasn't going to be the same in Covid, as I said there.

Q. Yes.

LADY HALLETT: Can we go back to the SAGE meeting when you

made the points that you're making now. Was any basis put forward at the SAGE meeting for the rationale of behavioural fatigue or fatigue?

A. I think Chris raised the point around risk perception, that -- so one of the drivers of behaviour is whether you perceive yourself to be at risk, and as risk perception goes down, as people feel more comfortable and no longer perceive themselves as being at risk, you would expect behaviours to reduce as well, which makes sense. I think Chris raised that as a point that might support his argument, but again, for the same reasons I'm saying here, I wasn't sure that was completely valid. I think risk perception might have stayed quite high for quite a long time during the pandemic precisely because it was going to be quite severe for a lot of people. But that was the argument that was advanced.

LADY HALLETT: And then it takes it to the next day when Mr Halpern finds one study that might potentially justify or provide the basis for the comment?

A. Precisely. We were at that point, as I say, kicking the idea around to see if there were any legs. I think in the conversion(?) of those two emails, no.

MR O'CONNOR: Thank you, Professor.

The last document on this area, in fact, sees you and David Halpern coming back to this debate about

a month later.

So if we can go to INQ00019709, please, in fact it's a little bit more than a month because we have gone from 14 March to 23 April, and it's right, isn't it, that -- is it an exaggeration to say there had been a public sort of storm about the use of this term and whether it was accurate or the role of behavioural science in delaying the lockdown?

A. I don't know about the use of the word "storm", but certainly there had been interest in it, yes.

Q. Interest which was still current over a month later?

A. Oh yes. And as you can see, David is being chased by, it looks like, The Guardian to comment on it.

Q. Yes. That's the context.

So David Halpern emails you, we see at the bottom of this page, talking about a "particularly persistent journalist pushing on the behavioural fatigue stuff". He says:

"We're really in the thick of it on trying to make ... testing and tracing work ..."

Mr Halpern, I should say, is coming to give evidence to the Inquiry in a couple of weeks' time, so we'll be able to ask him about all of this.

He then says:

"They seem to be pushing us partly because there are

SPI-B members saying that BIT ..."

That's the Behavioural Insights Team?

A. Yes.

Q. Mr Halpern's organisation.

"... gave the line on 'behavioural fatigue' (I'm sure not you!). Perhaps you could politely remind SPI-B members to be cautious in their remarks."

A recurring theme. But then he says:

"As you know, not only did the fatigue line not come from me or you, BIT actively pushed Patrick and Chris for earlier, more specific implementation of social distancing measures!"

So just on that, I think you've already addressed the point that the behavioural fatigue line didn't come from you. What did he mean about the Behavioural Insights Team pushing Patrick and Chris for earlier more specific implementation of social distancing measures?

A. Actually at the time I didn't know what he meant about that. I can see in his statements here that he discusses that in more detail. But at the time I assumed that was more behind-the-scenes stuff.

Q. So, I'm sorry, you didn't necessarily know what he was talking about at that point?

A. On that specific part of the line, no.

Q. Right. Part of what he says was that he, that is

David Halpern and/or his team, also were not part of the genesis of this remark from Chris Whitty. Were you confident about that?

A. I went backwards and forwards in my mind over those months as to where it had come from and who had said what and why. I don't think it was David.

Q. No. We'll recall that Professor Costello, who gave evidence earlier this week, I think at one point suggested that it may have been or was David Halpern or his team, but that is in fact a suggestion that he withdrew while he was giving evidence.

Let's just look, then, at your response, if we may. You suggest one possible way of dealing with this, just dropping down -- perhaps various different ways, one being NERVTAG to issue some sort of rebuttal via the Science Media Centre --

A. I'm sorry, can I correct that?

Q. Yes.

A. That's not what I was meaning. So previously, as you can see, I talk about government are "letting people be more proactive". NERVTAG issuing a rebuttal was an example of the government allowing committees to be more proactive. They hadn't issued a rebuttal about behavioural fatigue and I wasn't suggesting they do that in this case.

Q. Sorry, that was my misreading of the email.

Let's just drop down three lines. You then say:

"... I think we could only do that ..."

That's you, as it were, rebutting and saying it wasn't you that was the genesis of the remark by Chris Whitty. You could only do that:

"... if [Chris Whitty] CMO joined us and said words to the effect of 'this is getting silly. It was a rather clumsy attempt at a metaphor by a non-psychologist to explain why quarantine is unpleasant and which conflated frustration, distress, motivation, economic stressors etc'."

Is that actually how you saw it at the time?

A. Yes, my thoughts at that stage were it's presumably -- well, exactly as I say: Chris as a non-psychologist trying to explain a complex net of things that might affect behaviour by making a metaphor out of it and getting it slightly wrong.

I don't know whether that's true or not, I don't know actually what was going on in Chris's mind, I don't know what the conversations in COBR were, but that at that time was what I thought might be happening: it was just a metaphor.

Q. It's what you said at the time. Have you gained any further information or reflected any further since then

or can we take it that that remains more or less your best guess about what happened?

A. I don't know. I think all I can tell you is I don't know. At the point 14 March where I got assurance from Patrick that behavioural science had not delayed the implementation of lockdown, and would not do so, at that point I drew a line under it in my own mind. I was still interested, obviously still wondering what had happened, but without reassurance, no, I haven't pursued it further.

Q. Thank you. I said that there were two issues arising out of behavioural science that arose that I was going to ask you about. That was the first one, behavioural fatigue, and the second one, and in fact this will be the last area for my questioning, is all about the subject of fear.

It's right, isn't it, that there was this separate issue that was, again, the focus of some debate during the pandemic about whether SPI-B had advocated a behavioural policy of fear, in other words of frightening people into compliance during the pandemic? That was a debate?

A. Yes, that came up on social media.

Q. And again, we'll go to some of the detail, but at the outset, first of all, do you think that cultivating

fear and anxiety is an effective or an appropriate way of encouraging behaviour change in the context of a pandemic such as Covid-19?

A. No, and we argued against it on multiple occasions. I think in my statement I've given 14 examples of papers where we said it would not be an effective or an appropriate thing to do.

Q. Yes, and I'm going to take you to that part of your statement. Perhaps it's obvious from what you've said, but to be clear, did SPI-B in fact propose any sort of fear policy during the pandemic?

A. No.

Q. Let's look at your statement. Page 69, please, paragraph 17.1.

Now, this is the beginning of a lengthy section of your witness statement on this issue, Professor. In summary, is it right that you say here that risk perception is a key factor in motivating behaviour change?

A. Yes.

Q. Can you explain how that is different from saying that you can frighten people into changing their ways?

A. Well, risk perception is simply -- okay, so the traditional model of risk perception, which I'll stick to, because I think it's easiest, is your understanding

of how likely something is to affect you, so whether you're likely to catch Covid for example, and if you do catch Covid how severe it will be for you, and your perceived risk is the multiplication of those two things. If you think you're going to get it and you think it will be bad for you, you'll have a high level of perceived risk. That then motivates you to engage in various behaviours to reduce your perceived risk. So, because I think I'm at risk, I'll wear a mask, I'll use hand gel, I'll self-isolate, because I perceive other people around me to be at risk and so I'll try and protect those. So it's a different concept to fear. It's not the same thing.

Q. So perhaps there is a distinction between, on the one hand, accurately describing the risk and, on the other hand, engendering fear?

A. Yes, absolutely. And -- yes. Fear is also, or can be, an outcome of that risk perception. So where you have a high level of risk perception and you don't think there's anything you can do to protect yourself, that might generate fear. But where you think you can protect yourself and take steps to protect yourself and your loved ones, that should mitigate that process. So it's not the same thing, it's a different -- a different aspect of behavioural science.

Q. Let's look, because it's right, isn't it, there was one particular paper produced by SPI-B that was the focus of some --

A. Yes.

Q. -- criticism and debate on this issue?

A. Absolutely.

Q. If we can look at it, please, it's INQ000196761.

We see at the top the date, which is a notable one in the sense that it's 22 March, so it's actually a Sunday, before the lockdown was announced on Monday, 23 March.

So was this paper produced urgently?

A. I think we were asked for it on the Friday, the team worked on it over the weekend, as you can see it's signed off on the Sunday, and went straight into SAGE I think it was Monday morning. So it -- yes, it was quick.

Q. You describe in your statement that in fact I think there were two papers that you were asked to produce within that short timescale?

A. Yes, that's right. So we had one paper looking at: what do we think are the current levels of adherence to the voluntary guidelines that the government have put in place at that time? And we had another paper on: what are all the options the government might want to

consider in terms of ways of increasing adherence?
Q. You took the lead in drafting the first of those papers, and Professor Michie took the lead on the second one, which is the one we're looking at?
A. Yes, that's correct.
Q. As you say, the focus of the paper was then how to increase adherence to the existing social distancing measures, so what we have in mind is not the lockdown that was announced only a day or so later, but those other NPIs about distancing, isolating, working from home, and so on, that had been announced in the week or so beforehand?
A. Yes. And for context, virtually all of those NPIs were voluntary, there was no legislation that someone had to do something or had to do a different thing --
Q. Yeah.
A. -- it was all guidance.
Q. If we look then at the note, we see at the top the paper addresses two quite separate categories, one is the general social distancing by everyone, and that's those NPIs I think we've just been describing, the other is rather separate, it's about shielding vulnerable people.
The first part of the paper was devoted to identifying a series of angles or means by which it was suggested those -- that first category of measures, the

general social distancing measures, could be brought up in terms of compliance?
A. Yes, correct.
Q. And we see then, towards the bottom of the page, there is "Education", numbered 1, "Persuasion", numbered 2. If we could just look over the page we will see that there are then a series of other suggestions: incentivisation, coercion, enablement and so on?
A. Yes, the idea was to lay out all of the options that the government had on the table.
Q. The focus for the debate which followed was on the second of those, it was on the persuasion subcategory; is that right?
A. Yes.
Q. So if we can go back, please, to the page before and look at the bottom half of the page, we see this paragraph numbered 2:
"A substantial number of people still do not feel sufficiently personally threatened; it could be that they are reassured by the low death rate in their demographic group, although levels of concern may be rising. Having a good understanding of the risk has been found to be positively associated with adoption of COVID-19 social distancing measures in Hong Kong. The perceived level of personal threat needs to be increased

among those who are complacent, using hard-hitting emotional messaging. To be effective this must also empower people by making clear the actions they can take to reduce the threat."
The focus of the debate was on the last sentence or so, the language of "The perceived level of personal threat needs to be increased among those who are complacent, using hard-hitting emotional messaging". It was suggested, was it not, that that amounted to SPI-B recommending a policy of frightening people into complying with this guidance?
A. That was the suggestion from others, yes.
Q. What's your response to it?
A. It's not correct. So, this isn't a paragraph about raising fear, this is a paragraph about complacency, as it says. At the time it was written, there were data suggesting that still at that stage of the pandemic, 22 March, substantial numbers of people did not seem to appreciate the genuine level of risk that they faced, both in terms of Covid and also in terms of the other non-Covid risks, the knock-on risks that might affect them, things like if you come off your motorbike and you need emergency admission to hospital and the NHS has been overwhelmed many times over, which is what the risk was, that also poses a risk to you. So it wasn't just

about Covid.
So the idea behind this paragraph was: how can we -- how can we break through that scepticism? How can we break through -- the word we used was "complacency", and arm people with an appropriate understanding of the genuine level of risk that they did face, and also, as it says, empower them at the same time with knowledge about the steps they could take to protect themselves.
So it wasn't a case of taking people who had an appropriate appreciation of the level of risk they faced and raising that further, it was the opposite. It was taking people who didn't really appreciate, didn't fully understand the risks that were coming down the line, and trying to find a way to explain that to them.
Q. So making clear the risk, educating people, rather than frightening them, to go back to the distinction we were discussing earlier?
A. Absolutely. If you wanted a paper on the attitude of the committee towards fear, this is the wrong paper. The right paper is the one we wrote a week later that went to the Cabinet Office on 3 April. The very first bullet point -- that was a paper entirely about messaging, and the very first bullet point of it was: don't use fear, it won't be effective.

Q. As in fact you mentioned when I started asking you about this, you emphasise in your statement that throughout the pandemic the message from your committee, not just in that paper you just told us about, was that fear was not an appropriate mechanism for securing compliance with the rules?

A. We said that in our papers, we said it in the research that my team did that went straight to DHSC communications teams, we said it in personal conversations with members of the government. Yes, it was repeated many times.

Q. Can I just ask you, why not? Why was fear not something that should be pursued?

A. I mean, there's a few reasons. To start with, during lockdown, in a way there is no point, because if people can't go to the pubs or the night clubs because they're shut, well, it's not an issue about motivation any more, so it kind of changes the -- it changes the considerations.

Also there is a challenge of people can turn off if you give them fear-based messaging, because it can be distressing and so the way to cope with that is not to pay attention to the messages.

There are also other issues raised in terms of communities where actually they don't have control over

the level of risk that they're facing, in which case simply frightening them, and if there's nothing they can do about that risk, well, that's not a productive thing to do either.

So there's lots of reasons not to do it. It's a slightly different thing in terms of risk perception, but I think that's the point around this, people did need to be armed with an appropriate understanding of the genuine level of risk that they were facing, but I think that's a different thing to fear.

Q. Let's just look briefly, then, at a couple of paragraphs in your statement, Professor. First of all, can we look at page 73, please.

At paragraph 17.16, you refer there to the article we've just been looking at, the report we've just been looking at, and you are rejecting the suggestion that was raised, as we've discussed, that that report was about engendering a culture of fear.

A. Yes.

Q. But you go on to say that that allegation made against SPI-B ignores many quotations from your work and others in the same field that repeatedly argued for the exact opposite, and then you list a series of papers on that very theme, and it may be that the third of those, "Messages based solely on information, authority or

fear/disgust will also likely be ineffective", was that the paper you mentioned a few moments ago that went to the Cabinet Office shortly after the paper we were looking at?

A. Yes, this was a -- this is one of the kind of core principle papers that we put together where we outlined what we thought about what an effective communication strategy in a public health crisis like this would look like.

As you can see from the date, it's only a few -- and apologies, I think there's a typo in the date, it's not 2022, it's 2020.

LADY HALLETT: I was just about to ask you that.

A. Yes, apologies.

So this was only a few days later, and it was sent direct to the Cabinet Office.

MR O'CONNOR: So those are examples, and the list goes on, of papers where you are, as it were, rejecting the fear as a tool.

If we can just move forward to page 75, please, at paragraph 17.18 you make the point that, as well as rejecting the fear suggestion, you proposed a different approach. You say:

"In fact, SPI-B spent its time trying to work out how to support members of the community, not scare

them."

Again, you give us a list of papers on that theme.

A. Yes. I think this is quite important. So, again, it comes to that point of understanding what it is that's preventing people from engaging in behaviours to protect themselves. The idea of fear might be, well, they're not motivated to protect themselves. That wasn't the case. For most people they were very motivated to protect themselves and to protect their loved ones and to do the right thing for society. The barrier was actually they didn't have the finances to do it or they didn't have the support from their workplace to do it or they didn't understand what the rules were.

That's what we mean by focusing on support, enabling people to carry out the behaviours that they want to do, rather than trying to scare them into doing it. It was the first we wanted, not the latter.

Q. In fact if we go to the next page, you make a similar point at paragraph 17.19, you say:

"... far from arguing that risks should be exaggerated to promote fear, we made it one of our guiding principles that what was needed above all else was clarity."

And as we've said, that indeed was present in the paper we looked at about understanding the risk?

A. Yes, absolutely.
Q. Just dropping down to the bottom of that page, you refer to an exchange in January 2021 with Dr Ben Warner, who will come to give evidence to the Inquiry in a couple of weeks' time. He had approached you, it seems, or sent you an email asking "whether rational messaging or emotive messaging would be best in encouraging people to adhere to guidance when in self-isolation", January 2021, around the time of the third lockdown, and you responded by saying you would have concerns about ramping up fear, you would be concerned about messages focusing on death and people who were ill.
So is this very much the same theme?
A. Yeah, it's a specific instance of it. And I want to be clear, I don't in any way think that Ben was pro-fear, I think he was quite right to come to the committee who specialised in that and ask for advice on it, and we gave him the advice and he accepted that and took away a different way of doing it. So I think it's an example of the system working.
Q. Well, certainly as far as your communications with Ben Warner are concerned, but just noting the date there, the early 2021, if we can have a look at, please, INQ000197157, these are some WhatsApps from Matt Hancock's phone, Professor. If you look at the

top, you can see a very similar period, December 2020, so a few weeks before perhaps Ben Warner contacted you, and Matt Hancock here is having exchanges with someone called Damon Poole, who was one of his media advisers.
We can see three lines down Mr Poole is saying:
"Rather than doing too much forward signalling, we can roll pitch with the new strain."
The new strain, the Alpha variant, early 2021?
A. Yes.
Q. Mr Hancock replies:
"We frighten the pants [off] everyone with the new strain."
Mr Poole says:
"Yep that's what will get proper behaviour change."
Mr Hancock says:
"When do we deploy the new variant."
Is this the sort of messaging that your committee would have advised?
A. No.
Q. Lastly, if we can go on a few pages to page 9 of the same document, here this is 10 January, so in fact three days after that exchange with Dr Warner that you just mentioned, a discussion on this occasion between Simon Case, the Cabinet Secretary, and, again, Mr Hancock. They're discussing the tier system and what

activities should or shouldn't be prohibited.
Mr Hancock says:
"yep. I think the problem is that the levers not in the hands of [No 10] & DHSC are harder to pull."
He says:
"I honestly wouldn't move on any small things unless we move on a lot.
"The only big remaining things are nurseries and workplaces."
Then this from the Cabinet Secretary:
"I agree -- I think that is exactly right. Small stuff looks ridiculous. Ramping up messaging -- the fear/guilt factor vital."
"Ramping up messaging -- the fear/guilt factor vital", that seems to be completely in contrast to the advice you had given Ben Warner a few days before?
A. We -- we wrote a paper on what might need to be done in the context of this new variant I think towards the end of December. It should be in my statement. And in that paper we set out a specific list of areas that messaging might consider, looking at things like supporting the public, telling them what a great job everyone had been doing but the situation had changed, being clear with people about the risk, explaining to people what they needed to do, providing additional support. This

doesn't map on to it at all.
Q. What's your reflection on all this, then, Professor? You referred earlier to the black hole in which you felt sometimes that your work disappeared into. We've seen your exchange with Dr Warner, you tell us about the paper you had written specifically about the Alpha variant, and yet we see here senior figures, the Secretary of State for Health, the Cabinet Secretary, talking about "frighten[ing] the pants off people", "deploy[ing] the new variant, "Ramping up messaging -- the fear/guilt factor vital". What's your reflection on that state of affairs?
A. I think we had impact in terms of the advice at a certain level of the civil service and at certain level of advisers who I think were reading it, understanding it, engaging with it. We had mechanisms such as -- we call them teach-ins, where as well as writing a paper we would do a presentation and anybody who wanted to join from the civil service could come along and listen to the academics and then ask us questions, and we would give them advice on, you know, how to implement this and what the nuances were.
So I think -- I think the stuff we were writing had an impact at a certain level, and possibly at an operational level, and that's probably quite a good

thing. At the ministerial level, I don't know. I've never met a minister, I don't know how they operate, I don't know what they read or what they don't read, I don't know who they take advice from. I'm not sure I can help you with what they're thinking when they're putting together policies or communicating like this.

MR O'CONNOR: Thank you very much, Professor.

My Lady, those are all the questions I have. I know that there are some questions that will be asked by, on behalf of core participants.

LADY HALLETT: I think is it Mr Dayle going first?

MR O'CONNOR: It's a matter for you, my Lady, but certainly as far as the families are concerned, Ms Morris will be asking questions first, but --

LADY HALLETT: Are you ready to go, Ms Morris?

Questions from MS MORRIS KC

MS MORRIS: Good afternoon, Professor Rubin, I ask questions on behalf of the Covid Bereaved Families for Justice, and I've got two topics I'd like to ask you about, first.

The first is advice on mass gatherings, and the second is some work you did around social greetings, handshakes, fist bumps. So, looking at the first of those, please, and I'd just like to have on screen, please, a paper from SPI-B from 4 March, INQ000196744,

please. Thank you.

If we can just look at paragraphs 2 and 3, first, please, for some context. Do we see in this set of reports that there has been a discussion about what interventions are likely to be effective and what are likely to be accepted by members of the public?

A. Yes. Well, SPI-B would not have considered what was likely to be effective.

Q. Understood.

A. That would be an issue for SPI-M or SAGE to consider, but SPI-B would have looked at what's most likely to be acceptable to the public, yes.

Q. Thank you, that's helpful.

You say this:

"... most likely to be socially acceptable involves isolation of symptomatic cases and isolation of at-risk members of the public. These are also the most closely targeted, and therefore obviously legitimate, strategies."

"3. Following this, social distancing and prevention of public gathering measures are the next 'easiest' to add to the mix."

So by that are you suggesting that they are the ones which the public will find most easy to accept in terms of their response?

A. Yes, because the -- if we think about it in terms of what the public believe is the most effective thing to do --

Q. Yes.

A. -- and which has the fewest costs, and bearing in mind these all have very substantial costs to members of the public, but still looking at -- hence "easiest" in scare(?) quotes -- yes, because data at that point was showing that members of the public believed they'd be effective --

Q. Yes.

A. -- and they would be relatively easy to explain, then yes, from a behavioural point of view, they would be the easiest ones to do.

Q. Thank you.

Is it correct that by 4 March some polling done by the Department of Health and Social Care showed that around 60% of the public believed that an effective way of preventing the spread of the virus was to keep away from crowded places? I think that actually went up a few weeks later to 73%.

A. I would need to check my notes on the actual numbers. It sounds right.

Q. Okay. We'll look at the 12 March minutes in a moment and that does include the 73% polling rate, so we can

identify that in due course.

As part of that understanding of the public's view, did SPI-B advise that there would be a sort of expectation on behalf of the public that mass gatherings should be banned?

A. Yes, we did say that, on a couple of occasions, that the public clearly expected this to happen, and if the government's decision was that they were not going to do that, that would lead to a kind of a mismatch between what the public thought should happen and what the government were deciding, and that mismatch would need to be well explained if the government wanted to maintain trust.

Q. Thank you.

We can move, then, please, to the 12 March minutes, and that's INQ000196748, please, and if we start at page 2, please, paragraph 14 -- there is no paragraph 14, they are bullet pointed, forgive me. Let me just identify the correct point.

Sorry, it's page 1, and it's the 73% figure I just wanted to reassure you with, Professor. Page 1, there is a paragraph that says there's some DHSC polling.

I think it's the penultimate paragraph. Thank you very much.

This just confirms that as of 12 March:

DHSC [has] been conducting some polling of approximately 2,000 people ..."

And, just towards the bottom there:

"... whether they agree or disagree that keeping away from crowded places generally is a good way to prevent the spread of coronavirus ... 73% of respondents agree with the statement. This proportion has risen since [your] last report from SAGE."

As of 12 March it's 73% of people polled. Thank you.

Staying on page 1, please, I think a little further up to the top -- it's very small on my screen, forgive me, but the second bullet point, please, the summary of the position there is that:

"SPI-B cannot comment on the impact of gatherings on disease transmission."

Is that because it's outside the remit of the committee?

A. Yes.

Q. "In this report, we list behavioural factors to weigh-up when making decisions. In particular, we reiterate our point from 4 March that, if a decision is made not to ban or discourage public gatherings, a clear explanation should be given to the public."

You've just mentioned that important context

a moment ago. Turning on to page 2, then, please, thank you, and it's the first bullet point for emphasis, please:

"Acting in a way that does not meet expectations poses a risk that a section of the public will view Government actions as incompetent or not in the public's best interests. It may also be taken as signifying that the situation is not expected have expected to be severe for the UK. This could have knock-on implications for public attitudes to other recommendations made by Government."

So you're being quite clear there, are you not, that if mass gatherings aren't banned there will need to be a clear explanation as to why not?

A. Absolutely. As you can see, lots of people took the intuitive view that they should be. The government took a contrary view, and in terms of maintaining the trust of the public that the government is acting in a competent way and protecting them, yes, that gap needed to be well explained.

Q. Is it right that in this same paper, so again 12 March, I think it's on page 4, please, you looked at one of the risks of cancelling large events. I think it says there is a risk of cancelling some large events may result in displacement of the activities to other venues, such as

pubs.

So that was one of your concerns; is that right?

A. Yes, I wonder if I'm reading a different bullet point to you, is this the top bullet point?

Q. Sorry, it's still on page 3. I'd like page 4 up, please, if that's possible. If there is a page 4.

(Pause)

LADY HALLETT: There is only page 3, I'm afraid. I'm hoping that's the signal I'm getting.

MS MORRIS: Yes, I think it is, my Lady?

A. There was an addendum to this paper --

Q. No, it is bullet point 3 but it's within the top -- it's at page 3 but the top point:

"... could have complex and unforeseen effects ..."

"In our 4 March report, we highlighted the risk that applying multiple interventions concurrently (including the suspension of public gatherings such as football matches or restrictions of pubs or restaurants) could have complex and unforeseen effects, including the displacement of social activities to other venues."

Would that include pubs and other places to watch sporting events, for example?

A. Yes, although the example we give is restrictions on pubs, so it wouldn't have included pubs in this specific instance, but the general point is, closing lots of

things at the same time, it may make it slightly unpredictable where people go next, and you just need to be careful in how you manage that.

Q. Yes.

"This would require careful management ..."

But were you ever asked to look at or explain what other things could be put in place to mitigate that risk or what the public response would be to them?

A. Well, we did have -- we did have papers on policing that particularly looked at how enforcement of these kind of issues could be carried out. I would need to check on the timing of those as to whether we made that advice at this point or not.

Q. Okay, but you think that would have come later, after 12 March?

A. I'm sorry, I would have to --

Q. Okay. Not to worry. Not a huge amount turns on it. But you've highlighted here, haven't you, that there are some other considerations that need to be thought of, and that's your clear recommendation to the reader of this paper?

A. Yes.

Q. Thank you.

Topic 2, then, please, staying in early March and talking now about social greetings and handshaking in

particular.
So INQ000129018, please.
This is an email chain. I'm not going to take you all the way through it, I'm just going to pick out some key parts.
Page 5 first, please, on 3 March is it correct that in response to some research done by Mr Amlot of Public Health England sharing a summary of existing research on social greetings, which showed that reducing handshakes could reduce transmission but there may be some opposition for example for social cultural reasons, he puts his summary, I think starting there at the bottom of page 5, which we're on, so it starts "Dear all", and then goes over to page 6, he sets out a summary there of his understanding of the work to date, if I could put it that way, on social greetings.
But the point I wanted to ask you is back on page 5. As a result of that summary being shared with you, you offer to help Mr Amlot and do some further digging into this as an area. I think we can see --
A. I'm afraid this is the first I've seen of this email for three years so you'll have to forgive me a bit, I --
Q. Not a problem. At the top of page 5, 3 March:
"Dear Richard
"This looks good -- impressive speed!

"Louise (my post-doc) has just written an opinion piece on 'Waving goodbye to the handshake' -- would you be interested in merging some of your reviews into it and co-authoring?"
A. Yes, and apologies, what was your question?
Q. My question was just simply to ask you that you had seen this report from Mr Amlot, you had offered to help do some work around social greetings and around handshakes in particular and their impact on virus transmission?
A. Oh, I see. So we were already thinking about the same kind of issues as Richard. I work with Richard Amlot quite a lot and he had shared this with me, clearly, and we invited him to co-author this opinion piece on it. I don't think we were offering to do work for him on it --
Q. I see.
A. -- I think it was more a case of: we have convergent thinking on this, should we team up and write this piece together?
Q. I'm with you, thank you.
Later on in the email chain that we have here, it's on page 2, please, there is an email from Richard Amlot again, dated 4 March this time, in the middle, "Dear all".
Just highlight that email, please. Thank you very

much indeed.
Just take a moment to read that through, Professor, in case you haven't seen it before. I don't think you're in the email chain.
It says:
"Dear all,
"We've all recently spoken and I thought I'd summarise where we are:"
First bullet point:
"- We've had a steer from Peter Heneghan (Deputy Director of Digital at No 10 ...) via ... (PHE ...), NOT to pursue the 'fist-bump' work, as it may distract from the hand washing messaging. There was concern that even carrying out the demo was a risk."
So my question was whether you were aware of this steer or the suggestion that the so-called fist bump work should stop?
A. Again, apologies, this wasn't in my EP so I've not had any chance to consider this, but I'm not sure what the "'fist-bump' work" is that they're talking about in this email.
Q. Okay. Did your co-authoring or your project that you had suggested on 3 March continue?
A. Yes, no, we wrote an opinion piece that went to the BMJ on -- I think we titled it "Is it time to wave goodbye

to the handshake?" We'd certainly continued with that and produced that piece. From recollection I think Richard was a co-author on it and we did then send that in to Public Health England for them to think about. And, as ever, I don't know what happened to it after that but we certainly published it.
Q. So what was the conclusion of that report?
A. That it would be -- essentially, yes, for the time being it probably was time to wave goodbye to the handshake. You know, we've welcomed it back again, but at that stage, yes.
Q. It suggests from the email chain that that had been authored before the beginning of March, is that right?
A. I think we were working on the idea before the beginning of March, yeah.
Q. Okay. All right.
Were you aware from any public sources on 1 March the Prime Minister had shaken hands at a hospital and informed the public that he would continue to do so?
A. I mean, I know now that he said something along those lines at around about that time, what I knew at the time -- I think I did know that at the time, actually, yes.
Q. Did that sit with the opinion you'd developed through your work on waving goodbye to the handshake?

A. Well, no.
Q. Okay. Can I ask you to look at one more document, please, and this is my final question, this is still page 1 of the document we have in front of us, again another email at the top of the page this is an email that Mr Halpern has sent to Dr Warner, to Ben Warner. Again, I don't think you've seen this before, Professor, please take a moment to have a look through it.
(Pause)
My question is whether you were aware that Mr Halpern had raised with Ben Warner the concern, which we can see at the bottom there, in italics, that the focus group evidence from this time suggested that the Prime Minister shaking hands was directly at odds with the messaging around avoiding too much personal contact and was felt to undermine the message that the government was taking Covid-19 really seriously?
A. I don't believe I was aware of those focus groups at the time, no.
Q. Okay. Would you agree with the concerns that the focus group had expressed from a behavioural science perspective?
A. Yes, if we want to demonstrate to the public that a certain behaviour is likely to increase transmission, which was the concern with handshaking, and

the Prime Minister is continuing to pursue that behaviour, it does give, at best, mixed messages, yes.
MS MORRIS: Thank you very much.
Thank you, those are my questions.
Thank you, my Lady.
LADY HALLETT: Thank you, Ms Morris.
Mr Wilcock, are you going next?

Questions from MR WILCOCK KC

MR WILCOCK: Professor, I'm going to ask you some short questions on behalf of the Northern Ireland Covid Bereaved Families for Justice, and I would like to start off by reminding you of what's in paragraph 22.22 of your report -- which, for the operator, is on page 101 of Professor Rubin's report.
Could we have that on screen, please?
Can you see that in the first sentence of that paragraph you state that you were:
"... asked by the Inquiry to comment specifically about any challenges that the strategy of Test and Trace posed in terms of messaging."
A. Yes.
Q. Do you see that you then go on to make essentially three points: one, that a surprising number of people did not correctly report the symptoms of Covid-19 and link them to the policy in place?

A. Yes.
Q. Two, do you report the findings of a report by an organisation called CORSAIR?
A. Yes.
Q. Could you tell us what CORSAIR is or was?
A. Yeah, CORSAIR is a study run by my team in tandem with UCL and UK Health Security Agency. We take Department of Health polling data -- so the Department of Health and Social Care were carrying out surveys of 2,000 people every few days throughout the pandemic, and CORSAIR's job, as a research study, was to analyse that data, add value to it by looking at specific issues within the data, and providing reports to the DHSC communications team.
Q. Then, before I get on to the key point of that sentence, you then go on to quote their findings that 87.9% of respondents knew if they had symptoms of Covid they should self-isolate, but only 62 knew the main rules of self-isolation?
A. Yes.
Q. Then you conclude the sentence by making the observation I want to ask you about, that knowledge of the key rules was worse in England than it was in Scotland, Wales or Northern Ireland?
A. Yes.

Q. Do you agree that if knowledge of key rules varied substantially across nations, that could potentially provide a basis for learning from those nations that did better?
A. Yes, yes, absolutely. And that, in a way, was one of the reasons why we split the group into those four categories, to see are there some nations that are doing better than others in terms of communicating this stuff, yeah.
Q. Could you comment on why the discrepancies that you found between the four nations may have existed?
A. Unfortunately not, no. And we say this in the paper. We can spot there is a difference there, but given the data we had, we didn't know why the difference was there.
Q. Has there been any further research on that since the paper you did?
A. Not by my team. I don't know if it was done by someone else.
Q. All right.
It would be fair to say, wouldn't it, that in terms of Northern Ireland it also indirectly received messaging from the Republic of Ireland?
A. Yes, certainly.
Q. And that shared media presented a challenge in terms of

messaging within the north of Ireland, Northern Ireland?
A. I think we've just gone over the limits of my understanding of the messaging in Northern Ireland, I'm afraid.
MR WILCOCK: I do understand. Thank you very much.
They're all the questions I wish to ask.
LADY HALLETT: Thank you, Mr Wilcock.
Now, Mr Dayle, are you ready to go next?
Questions from MR DAYLE
MR DAYLE: I am, my Lady, thank you.
Professor Rubin, I ask questions on behalf of FEHMO, the Federation of Ethnic Minority Healthcare Organisations, and I have two discrete questions that will invite you to clarify or shed some light on some areas of interest.
First one, can you explain how behavioural science was used specifically to address the challenges and vulnerabilities faced by minority ethnic healthcare workers during the pandemic?
A. Absolutely. If you forgive me, I'll direct to towards the microphone, my apologies.
Q. Certainly.
A. So in terms of -- apologies, specifically healthcare workers?
Q. That's correct, minority healthcare workers.

A. So we did do some work on healthcare workers and adherence to various forms of protective behaviour among healthcare workers in general. Within that, from memory, I think we did look at ethnicity as one of the factors that played into that, but it was a small sample, and this is one of the issues, is trying to draw out lessons where -- you have a thousand people, of whom only 200 are from ethnic minorities, of only a certain number --
LADY HALLETT: Can you be careful -- I know you're trying to be polite to Mr Dayle, but I'm losing your voice as you turn from the microphone. Mr Dayle won't mind, he understands.
A. Apologies, I'll address my Lady.
So we did have some data looking at ethnic minorities in terms of healthcare workers, not very much. I don't believe SPI-B wrote a specific paper on ethnic minority healthcare workers. We did write several papers looking at ethnic minority groups in general, and particularly around communication, how to communicate with culturally diverse communities. But I'm afraid I don't think we specifically took on that challenge.
MR DAYLE: Thank you for that.
If I can just push you a little bit more, just in

principle, in terms of how behavioural science would be of value to the question of vulnerabilities based on ethnicity.
A. Sure. So I guess specifically around what behaviours would protect healthcare workers of different ethnicities. One of the issues in this whole area, as I think I've alluded to, is there are different drivers of behaviours depending on what that behaviour is, and also what the group is that we're talking about. And it's important to understand the kind of -- the specificity of what those drivers are.
So where there are differences for, you know, culturally diverse communities or young men or pregnant mothers or whoever it may be, understanding the specifics of what is driving that behaviour is important.
One thing we did recommend, as I've said, throughout the pandemic was the importance of co-producing guidance with affected groups, precisely so that you could understand what are the particular issues that are facing that group. With masks, for example, do masks fit appropriately around beards, if that's a cultural issue, and understanding how to improve that, would involve talking to those communities.
So I think that would be the key issue, is around

understanding the drivers of those behaviours through co-production of guidance.
Q. Thank you. That's very helpful.
My second question, and you perhaps have touched on a little bit of it, but the question is: were there any specific challenges related to the use of ethnicity data in SPI-B's work, such as data availability or quality? And, if so, how were these challenges addressed?
A. I think there were -- I mean, there were challenges for data not just around ethnicity but throughout the pandemic on all sorts of different areas in terms of getting specific data around the specific issue that we were looking at.
In the absence of specific data about this group, and this behaviour, in this context, we were forced to draw on theoretical principles and apply those to the problem at hand, and then recommend that specific behaviour -- specific data, rather, should be gathered. And that runs through pretty much all of our papers, is recommendations for additional research to look at these specific areas. So I think that -- I think it was an issue that we wouldn't have had that data, I think we didn't have specific data on lots of different areas, and I think the solution was using theories to do the best that we could and then recommend somebody

gather the data that would be needed to solve it further.

Does that answer the question? Apologies.

MR DAYLE: I think it does. Thank you, Professor.

Thank you, my Lady.

LADY HALLETT: Thank you, Mr Dayle.

Mr Metzer, I think you have some questions.

Questions from MR METZER KC

MR METZER: Thank you, my Lady.

Professor Rubin, I ask a small number of questions on behalf of the Long Covid groups.

At paragraph 4.3 of your witness statement, I don't think we need to go there, you explain that PMT, protection motivation theory, was a core theory of SPI-B to motivate the public to protect themselves against perceived severe threats.

In that same paragraph you acknowledge and categorise Long Covid as an outcome that may be perceived as a severe threat.

The questions I ask are: was SPI-B asked specifically to advise decision-makers on how to minimise the risk of Long Covid?

A. Specifically I don't believe so, but we would have been looking generally at minimising the risk of catching Covid and the risk of adverse outcomes generally, so

Would this be an example of an instance where SPI-B raised an issue so that it is on the government's radar?

A. I don't think we were using it to raise the issue of Long Covid, I think we were using these as examples of the kind of things that -- this was a specific paper about young people, so looking at the kind of things that young people needed to be aware of in terms of the risks to them. As you can see, the two we have given as examples: risk to your family if you catch Covid and take it home with you and risk that Long Covid might be one of the long-term consequences for you.

Q. Yes, because you do spell out an example of Long Covid. So the extract of the paper I've taken you to focuses on messaging. Can you help, please: what impact would the absence of public messaging on Long Covid have on protective behaviours in the community to manage the risk of Long Covid?

A. So I would -- I could only speculate if there was substantial messaging about a high level of risk from Long Covid that it would reach more people who might potentially have the risk factors for that, and that protection amongst that group would increase.

Q. So, conversely, if there is an absence of public messaging, what does the impact have on protective behaviours in the community in those circumstances?

I think it would have fallen within most of the things we were looking at as a result of that, but no, I don't think we had a specific commission on Long Covid.

Q. So you think that covers the remit of the advice that you provided?

A. I'm sorry, I'm not sure I understand the question.

Q. Was that the extent of the advice in relation to Long Covid?

A. The comment that you've read out?

Q. Yes.

A. I don't know for sure. I don't think we wrote a specific paper on Long Covid, no.

Q. All right, thank you.

The second question I want to ask relates to public messaging. I wonder if INQ000197208 could be put up, page 2, please. It's the penultimate bullet point.

(Pause)

This I think was a SPI-B meeting paper from 22 October 2020 in response to a commission from Cabinet Office comms on how best to promote adherence in students and young people, and the bullet point statements:

"Interventions should provide accurate information on short-term and long-term consequences eg Long Covid, risks to loved ones."

A. Well, if the intention behind the messaging is to improve protective behaviours, then the absence of that messaging will result in lower levels of protective behaviour.

MR METZER: Thank you very much indeed, Professor Rubin.

Thank you, my Lady.

LADY HALLETT: Thank you, Mr Metzer.

That's it.

Thank you very much indeed, Professor Rubin. Obviously you and your colleagues did a huge amount of work to try to serve the public and advise the government. It's unfortunate that your expert advice was sometimes misinterpreted, misunderstood or even possibly ignored. But I hope you and your colleagues understand how much the rest of us appreciate what you tried to do.

THE WITNESS: It's much appreciated, thank you.

(The witness withdrew)

LADY HALLETT: Right. Could we apologise to Professor Yardley, please, I appreciate she will have been here this morning, and I shall return at 2 o'clock.

(12.58 pm)

(The short adjournment)

(2.00 pm)

LADY HALLETT: Ms Cecil.

MS CECIL: Indeed, my Lady. The next witness is Professor Lucy Yardley.

PROFESSOR LUCY YARDLEY (affirmed)

Questions from COUNSEL TO THE INQUIRY

LADY HALLETT: I'm sorry we've kept you waiting, Professor Yardley. We try not to but sometimes it happens.

MS CECIL: Indeed, Professor Yardley, thank you for assisting the Inquiry today. I am Joanne Cecil, I'm one of the junior counsel to the Inquiry, and I will be asking you questions today.

The first thing I will ask you to do is to try to keep your voice up. There is a stenographer in the hearing room and so it may be that I ask you to take things a little bit more slowly so that she can make a note and accurately transcribe.

If you need a break, please just let us know.

Now, Professor Yardley, you produced a witness statement for the Inquiry; is that right?

A. Yeah.

Q. It's dated 10 August 2023, and for the assistance of those following it's at INQ000236376. Don't worry so much about what's on your screen at the moment, Professor Yardley, I can take you through it.

The first page is page 1 and it runnels to 26 pages

in total with a declaration of truth. Is that right?

A. That's correct.

Q. Thank you. As we can see, Professor Yardley, just to give some idea of your background, you were also a member of SPI-B; is that right?

A. That's right.

Q. In fact you were the co-chair, along with Professor Rubin, for a period?

A. That's right.

Q. I just want to deal with your professional background, just very briefly, if I may. You are a professor of health psychology at the University of Bristol and at the University of Southampton?

A. Correct.

Q. You wear a number of different hats including being a senior investigator at the National Institute for Health and Care Research, and indeed you're the behavioural science theme lead for one of the teams there; is that right?

A. That's right.

Q. In terms of background and its relevance in respect of the pandemic, you also participated in the earlier incarnation of SPI-B, SPI-B&C, during the swine flu pandemic in 2009 to 2010; is that ...

A. Yes, in fact I was a member of SPI, which is

the Scientific Pandemic Influenza Committee.

Q. Thank you.

Turning now to the pandemic, your involvement in the pandemic response and behavioural science advice began prior to your involvement within SPI-B; is that right?

A. Mm-hm.

Q. How did that come about?

A. Well, I have general expertise as somebody that specialises in support for positive behaviour change in relation to health, so I pioneered a methodology called the person-based approach to developing interventions, and that involves listening very carefully to the people that the interventions are being designed for, working with them to try to find ways of helping them to do whatever behaviours it is they want to do. And because of this expertise, which has resulted in a sort of very substantial body of research, 600 papers and so on, I became the theme lead for intervention development for the NIHR Health Protection Research Unit in Behavioural Science and Evaluation, and that involved working closely with what was then Public Health England, and also I had a particular expertise in controlling infection transmission which dated back to the previous pandemic. I'd actually had Medical Research Council

funding to develop an intervention, which we called Germ Defence, which helped people reduce the transmission of infection in the home. We actually trialled that in 20,000 people in the swine flu pandemic and it proved effective at reducing infections/transmission in the home.

So, yeah, I had both the sort of general expertise in how to positively support behaviour change but also the specific expertise in infection control.

Q. So a rather unique combination.

So, looking at the outset of the pandemic, at the very beginning you were asked, back in January of 2020, to provide advice to DHSC; is that right?

A. To -- yeah.

Q. To the DHSC?

A. Yeah.

Q. Department of Health and Social Care.

Following on from that, you were contacted by Professor Rubin, that's towards the end of the month, on 26 January of 2020, and he sought to see whether you agreed it would be appropriate to approach the Department of Health to reconvene SPI-B, to put it back together for this pandemic?

A. Mm-hm.

Q. I believe you agreed?

A. Yes.
Q. And as a consequence of that, you subsequently became the co-chair on 12 April 2020, once it was set up?
A. Well, it wasn't really a direct route from one to the other. At first I was just a SPI-B member, like all the other members, right up until just after lockdown, and then I emailed James because I thought a very urgent priority at that point was to start thinking immediately about how we could help people safely come out of lockdown. So I emailed James that topic. He took it to SAGE, and SAGE agreed it was an important and urgent topic, and so James came back and asked me to lead a paper on that. I then took that paper to SAGE and it was really that process of sort of participating in SAGE that led to me being co-opted as a co-chair.
Q. Thank you.
You remained co-chair throughout that period, is that right, until you stepped down?
A. Mm-hm.
Q. Alongside that, you also participated in SAGE?
A. Yes. Well, it was in my role as co-chair of --
Q. Indeed.
A. -- SPI-B, yes.
Q. I understand that you attended 41 SAGE meetings in total over that period --

A. Yes.
Q. -- in that capacity. Thank you.
Just to get a sense of the output of SPI-B, we've heard a lot about its work already this morning from Professor Rubin, so I don't seek to go over that, but can you just give a broad idea of how much assistance you provided in terms of volume, so reports, papers, advice?
A. Well, as James said, I think it was 96 papers that we produced, but actually our activities went way beyond that, so that -- for example, I was on several related committees, I represented SPI-B on the JCVI, which is the Joint Committee on Vaccination and Immunisation, when it was formed, then I was also on the Testing Initiatives Evaluation Board, we gave ad hoc advice on -- you know, to individual departments if they asked for it. But I think probably the most time consuming thing of all of our work was that in order to be able to give expert advice we had to try to somehow produce the evidence for that, and we didn't have any resources or any --
Q. I'm going to bring you to that in just a moment.
A. Okay.
Q. No, not at all, not at all. I'm going to look at some of the challenges with you, if I may, that SPI-B faced

during the pandemic, and indeed resources is one of those.
So perhaps let's go there first, in fact. So with respect to SPI-B, you had some administrative support, as I understand it, from GO-Science, but your broader concerns were effectively that there was very limited support, is that right, to either the chairs or the members in terms of that work product that you were asked to effectively advise on, and the evidence that would underlie it. Can you just explain a little bit about that, please?
A. It's -- really where the gap was in terms of collecting and collating the evidence that would inform our advice. So the evidence was all of the papers and even news reports that were coming out about what was happening around the world in terms of behaviour and strategies for containing the virus and how well those strategies were being implemented and accepted in different countries, and how effective they were being. And then there was -- James talked about a lot of data across government, which we actually didn't have access to a lot of it, but even if we had had, we wouldn't actually have had the capacity to have looked through it all and collated it all. And in fact we were all aware of enormous behavioural evidence gaps, because it was

an unprecedented situation. So you could look at what had happened in previous pandemics or in other related health conditions and try to draw parallels and inferences, which is what we did, but what you really needed was new research being done in real time at pace, and we all tried to do that, and in fact, you know, I had half a dozen studies at least, probably double that, probably a dozen studies that went forward during the pandemic that I initiated rapidly.
So, for example, from a qualitative study of the barriers that were faced by people on low incomes in adhering to self-isolation and how they couldn't isolate in the home right up to massive clinical trials, so --
Q. We have effectively a very broad range --
A. Exactly.
Q. -- of research and --
A. Yeah, and also all SPI-B members were doing that, so we were all trying to do that in our -- not spare time, but to try to produce the evidence that was needed.
Q. Of course. And that was very limited resource in terms of additional resource from GO-Science or the government or any other --
A. We didn't have any -- we had to apply for research funding, which of course added a lot of delay.
Q. Thank you.

In terms of those lack of resources, how, specifically, do you consider that impacted your ability to advise on measures within and the pandemic?

A. I think it was -- it had a real impact. It had a direct impact in terms of we didn't have as complete an overview of the evidence as it was coming in. It also impacted on who was able to provide the advice, and engage, because it was only people that were able to free up the time to be spending all their evenings and weekends doing this, which not everybody can, so yes, it definitely had an impact.

Q. That perhaps brings me to the second area that you identify within your witness statement, which is one of diversity within SPI-B, and you've just alluded to some of the external pressures in respect of individuals who could give up that time or couldn't because they had other additional caring responsibilities or whatever else it may be.

With regard to the composition of SPI-B, and certainly in the initial stages, looking back, how do you consider that to have looked in terms of diversity and was it at optimum diversity in your view?

A. The original diversity was limited because it was an ad hoc committee, really, that was sort of brought together at speed and somewhat informally through

the people that were already aware of each others' work in the field. Admittedly it is a very small field, as you mentioned, infection prevention in pandemics. So the people that had most expertise in that field, we were aware of them. But as the pandemic progressed, we were able to bring in a much wider group of people who didn't necessarily have that specialist expertise but had relevant expertise, and actually scientists all over the world and all over the UK were quickly upskilling themselves in those topic areas and carrying out research, so we were actually able to bring in a much wider pool of expertise, with much more diversity in all ways by the time of the summer.

Q. Just breaking that diversity down for a moment, you suggest in your statement that certainly there was a lack of diversity in expertise, that's one area, but also in relation to the representation of vulnerable minority and, you say, marginalised groups; is that right?

A. Yes.

Q. With respect to that lack of diversity, in that area, can I just ask: do you consider that the absence of those perspectives on SPI-B had an impact on the advice you were able to provide? I appreciate it's an issue in hindsight now, but can you assist us with that?

A. It's always best practice to have diversity on your research team, and in future that certainly should happen. Actually when you look at the advice that we gave, all of us, because we worked in public health, we were very aware of the differential impact of health problems and the measures that were taken to deal with them on different communities. So right from the beginning we were actually drawing attention to that, first as a risk and then, as it emerged, as something that was actually happening. And, you know, I was myself rapidly instigating research, reaching out and talking to communities that were affected, and so were other people on SPI-B.

So I think it probably didn't have a very bad influence on us. I think what was more of a problem was that -- I mean, James put it very well this morning, that it's not possible for any scientific team to represent all the sectors of the population, with all of their diversity, all their different circumstances. And that's why you really need excellent sort of community representation, so that all of the guidance that you're thinking about and all the recommendations you're making, you can involve members of the community that do have that broader representation, including representing people that don't have PhDs, which is important.

Q. It's an additional way of drawing in some diverse experiences into the work that you were undertaking.

Certainly one of your recommendations within your witness statement is that in the future there should be a pre-existing register, essentially, of individuals with expertise in this area that can be drawn upon, and that should be refreshed?

A. Yes, but that's only half of it. That's the kind of expert bit, but what I also recommend is that there should be a pre-existing infrastructure that is -- allows for that -- the expert -- experts and indeed the policymakers, to be involving a very wide, diverse sector of the community and especially people that are seldom heard and underrepresented, so that their voices and their concerns and the difficulties that they face will be taken into account right from the earliest stages of developing guidance.

Q. And that perhaps feeds into one of your key messages in relation to behavioural science itself, is a message or theme of co-production, essentially, with those individuals with lived experience or from the communities that are being focused or targeted by those behavioural changes?

A. Absolutely, yep.

Q. Now, the next topic I wish to move to with you, and

you've touched upon it briefly already, is about the commissioning of advice from government or SAGE or indeed other departments within government to SPI-B.

If I can summarise it this way: my understanding is that the role of SPI-B was effectively to answer those questions either posed by SAGE, which had in turn responded to government questions, or those that came directly from government but through, effectively, GO-Science as a conduit?

A. That's right, that was written into our terms of reference.

Q. You describe that within your statement as being an arm's length, top-down process. What did you mean by that?

A. What I meant was that we never had any direct communication with the people that were asking for our views. Of course we did -- as a co-chair, I did sit on SAGE, so when SAGE was asking us questions I did have an understanding of that, but we didn't have an understanding of what the policymakers were considering or what their views were of our advice. So because it was arm's length like that, there was a lack of dialogue and I think a -- therefore, a lack of understanding about exactly why questions were being asked, what the options were that were being considered,

and why that was, and probably a lack of understanding the other way, that we weren't able to explain as -- as clearly as might be possible about why we were giving the advice we were.

Q. One aspect that you deal with within your witness statement, and perhaps I can just bring that up briefly, on page 10, paragraph 5.3, is clarity in commissions from government. I'm just waiting for that to come up at the moment. But what you say there -- perhaps I can read it to you while we wait -- is that:

"Sometimes delay was incurred if questions from government needed to be clarified or modified because we felt they were not formulated in the most helpful way. When this occurred, it usually seemed to reflect an unsophisticated understanding of human behaviour, and policymakers were open to our revisions."

So where you flagged those concerns back, were you able to get a more refined commission coming back to you?

A. Yes, I mean, we usually suggested ourselves the refinements we thought were necessary that would make it a meaningful question that we could use behavioural science to answer.

Q. Overall, you've described it as effectively a reactive committee as opposed to a proactive committee because it

was reliant on those commissions coming in from government and being framed by government; is that right?

A. Well, that is the way that it was set up initially, and I would say certainly until the end of March that was the way we seemed to operate, mainly. Towards the end of March and from the beginning of April, we sort of pushed back about -- against that a bit. That's when we started saying, you know, can we make suggestions ourselves, can we -- do we have to answer questions if we don't think they're the right questions? And we got clarification that actually we could ask questions ourselves as long as we got them approved, and we could push back and not waste our time on questions that we thought were inappropriate.

Q. Indeed. Just going back to, in fact, an email that you, I believe, referenced at the outset of your evidence, that's at INQ000188924.

What we see here is an email between you and Professor Rubin, and it's a little bit cumbersome, isn't it, but I'm just going to take it from the bottom, because that's how we read through them, and you're explaining that:

"[You] know that SPI-B tends to be reactive but in terms of horizon scanning [you] would just like to

suggest that now is the time to prepare very actively the measures and messages to be employed when the aim is to slightly relax controls ..."

And you explain:

"... or we could end up in an undesirable situation of having a bounce back risky behaviour as soon as the extreme lockdown measures are eased, and having to re-impose them unnecessarily."

If I can just then take you to the reply at the top, what we see is Professor Rubin endorsing this, effectively, and saying "this is an extremely good point (as ever) from [you]", but it's really the last line of his email, which is:

"Could we advise you [so this is obviously SAGE] to ask us for advice on that?"

So, as I say, it's all a bit circular, isn't it, in that respect? You're putting in a bid and saying "Could you please advise us on these issues"?

A. It certainly was cumbersome. To be perfectly honest, we were starting work on a paper on that anyway, and it takes time to write a paper, so by the time they said "Yes, definitely", we had at least had a chance to make a start on the paper.

Q. Well, that's good news then at least.

So we can take that down now, please.

The other aspect that I wish to ask you about in respect of commissioning is the feedback. We've heard it certainly referred to by Professor Rubin as being a "black hole", your advice would go off, you wouldn't know what had happened to it. What were the consequences of that in terms of your work and your ability to produce that advice and work?

A. Well, it didn't put us off trying to feed the black hole. I mean, we were still keen to produce good advice and to publish it, and although we didn't get specific feedback often about how it was received, sometimes you could just see signs that some of it had been received and been acted on, or that that's probably what had happened, because, you know, sometimes what the government either did or said did seem to be concordant with what we'd advised. Of course they might have done that anyway, but it felt sometimes as if it was landing.

But, yes, obviously it would have been helpful if we'd known both when it was helpful but also when and why it wasn't helpful, because if we'd understood better what the barriers were for the government, you know, that's our specialist expertise, helping people overcome barriers, so, you know, we could have worked more constructively to work with those barriers.

that:

"SPI-M keeps ending up speculating that if you lift one restriction then people will be less diligent about observing the others. Not sure if that's anything more than speculation."

So what we're seeing here are assumptions within other committees and subcommittees of SAGE about behaviour by people and populations; is that right?

A. That's what Mark's saying. Obviously I wasn't there, so --

Q. Of course.

A. -- you know, this isn't -- hearsay from Mark to --

Q. No, no, of course, but what you do explain then quite clearly in your reply is you say:

"No problem -- I don't think there is any evidence for changing one regulation undermining adherence to other regulations but that is exactly why we advocate trialling a very small behaviour change when safe to do so!"

You continue then to just comment on epidemiologists and their views of people's behaviour and what can be expected from them, and you say:

"I find epidemiologists tend to underestimate to which what people will do is malleable and can be influenced by how things are introduced and supported."

Q. Indeed, and improve the advice and the output from SPI-B.

The other aspect in relation to SPI-B was its relationship with other bodies in terms of the work it was undertaking. We know from what Professor Rubin has already said there were a number of different organisations dealing with communications, for example, that you were working with, either based in the Cabinet Office, Number 10, government departments, and alongside that you were also working with SPI-M-O and other subcommittees in relation to SAGE; is that right?

A. Mm-hm.

Q. Now, we heard a little bit about behavioural fatigue and effectively what other individuals were expecting in terms of behaviour from the population, or from people in general. I just want to ask you a little bit about an email exchange that you were involved in with Professor Woolhouse -- so SPI-M-O -- who we've heard from earlier this week.

And it is INQ000103469, please.

What we have here, at the very outset at the bottom, is you've provided a summary of SPI-B proposals for consideration. We then have above it the reply from Professor Woolhouse thanking you, but explaining here

What formed your view in relation to your comments regarding epidemiologists and their understanding?

A. That's because I do actually work with epidemiologists quite a bit, and I did during the pandemic and -- you know, both in my research and sometimes I attended SPI-M meetings, and I had a very good relationship with them. But it comes back to the issue that was being discussed this morning about predicting behaviour versus changing behaviour, and epidemiologists are always trying to build models that predict, so they tend to ask the question: what are people going to do?

And I'm a behaviour change specialist, so my question is: how can we support people to do a certain thing, and how will the context of the support they have and the circumstances they're in and the messaging and so on influence that?

So quite often I would find that the epidemiologists would be asking the question: will the, you know, people adhere to this? And my answer would be: well, it depends on how it's presented, how it's supported, what barriers they face, and so on.

Q. It's not a straightforward single answer. Thank you.

I now want to move, if I may, to two very specific areas, one certainly that you were asked to conduct some work on and a separate issue that arose during

the pandemic, and that is one of airborne transmission and the communication of risk.

Was the issue of airborne transmission and risk communication ever dealt with by SPI-B?

A. Oh, very much so, but not mainly by SPI-B on its own, because that would be very much a matter for other groups. So, for example, I co-authored papers with the Environmental Modelling Group on transmission in various situations, and NERVTAG would have had, you know, input into this kind of thing, because the extent to which transmission was airborne and the ways in which it was airborne weren't very well understood at the start of the pandemic. Obviously it was assumed there was airborne transmission, but how important that route was wasn't known.

Q. May I just interrupt just to ask you a very specific question. In fact it's been suggested by, and I'm sure you'll be very familiar with, Professor Noakes, who is the chair of the Environmental Modelling Group, EMG, that one of the reasons as to why airborne transmission was not made clearer at the outset of the pandemic to the population was because of the fear of public reaction.

Now, is that something that SPI-B could have assisted on in advising with respect to communication,

and --

A. I've never heard that hypothesis, and I never heard that hypothesis at the time, I'd never heard anybody talk about airborne transmission being potentially a more scary mode and that we shouldn't talk about it. So I don't recognise that at all.

Q. But is it something that SPI-B could have assisted on if asked to advise on that specific issue in relation to minimising public fear?

A. Oh, absolutely, if there had been any concern about minimising public fear of airborne transmission, yes, that -- we could certainly have advised on that.

Q. Thank you.

The second aspect is one that you've briefly mentioned earlier in relation to papers produced by SPI-B, and that's adherence to self-isolation. Now, very early on in the pandemic, SPI-B advised on measures to assist in adherence to self-isolation, and one of those aspects was financial support; is that right?

A. That's right.

Q. At what point did you consider financial support to be important? So at what point did that issue become apparent to you in terms of the pandemic?

A. Right from the very first paper we wrote on the topic. And this is what I meant about because we're public

health researchers we're aware of inequalities and structural reasons why some sectors of the population may be more vulnerable to infection and may be less able to carry out the things that -- needed to reduce that risk.

So one of the things that we were immediately aware of was that the policies for self-isolation, because there wasn't sort of financial support for it, would make it -- if you were depending on an income, make it very, very difficult to do.

Q. Thank you. In terms of the recommendations that you made, this was actually a recommendation where you did get some feedback; is that right?

A. Yes.

Q. From Sir Patrick Vallance, and what was that feedback?

A. The feedback was that there was strong push-back from the government that they didn't want to provide financial support.

Q. Now, we know that subsequently, at a later point in the year, in September of 2020, some measures were introduced in relation to grants for those on Universal Credit. Did you and members of SPI-B consider that to be an adequate response at that time or did the problems continue?

A. No, we didn't consider it adequate and we continued to

push throughout the pandemic for better financial support, because we had good evidence that people were finding it very difficult to access the support, that it was very limited, lots of people didn't qualify for it, people didn't know that they could qualify for it, they couldn't access it quickly enough, and so on.

Q. Indeed, in November of 2020 a further paper was produced entitled "Increasing rates of self-isolation" by SPI-B, and in respect of that paper one of the conclusions there was that motivation to self-isolate was high in all groups, so across all demographics; is that right?

A. That's right, yeah.

Q. But the ability to self-isolate was the lowest among the poorest sections of the population?

A. That's right, yep.

Q. So what impact does that have on adherence rates?

A. Well, it meant that the people that had the lowest incomes were less able to self-isolate. Both because of financial problems, also because, for example, in their homes they often had less space to isolate between household members and stop infection spreading within the home as well.

Q. Is that problem one which you consider the UK solved at any point during the pandemic?

A. Not at all. And it's something that we pointed out over

and over again right from April to the end of -- well, before, before lockdown we pointed out that this would be a problem, and we continued to point it out throughout.

Q. Now, the final area I would like to ask you some questions about, Professor, is that of government messaging, and we've heard already that SPI-B set up a separate communications subgroup, and we have also heard a little bit this morning from Professor Rubin, as you know, about the terms of reference and why it was called SPI-B and not SPI-B&C, albeit some of that work continued, in fact a significant proportion of SPI-B's work continued in relation to communications; is that fair?

A. That's right.

Q. Various documents were produced for the assistance of the government. I'm not going to take you through those because you've set them all out very helpfully within your witness statement, and within that you also set out that you provided offers of help to all government departments, checklists of how to develop good communications and sets of examples as to how slogans could be developed; is that right?

A. Yes.

Q. With respect to those core principles in messaging --

and I'm summarising here, so please forgive me because it will not do justice to the very broad set of papers that were produced, but the core principles were surrounding clarity, co-production, which you've already spoken about, and indeed we've heard evidence from others in relation to that, messages drawing on protecting each other and standing together, societal and -- messages in that respect, avoiding fear, disgust or authoritarian messages, and then using rewards and enablement as opposed to punishment and shame; is that right?

A. Yes, I mean, there's quite a few other principles as well.

Q. Indeed. No, I appreciate that, but these are just drawing out, as I say, the sort of headline principles, if I may.

Now, the government campaigns varied from very short campaigns, "Hands, Face, Space" campaigns, all the way through to the more dramatic imagery that we subsequently saw at points in the pandemic, and I will ask you in a moment about some of those individual campaigns, but before we go to that, in a general sense what are your views, in high summary form, of how and whether -- sorry, whether government behavioural strategies were communicated and implemented within

those campaigns.

Were they broadly successful or were there real problems?

A. I think there was a fundamental problem in the sense that the strategy seemed to be based on issuing rules and using fairly brief slogans, and the rules kept changing, and the reasons why they were introduced and why they were changed were not fully explained, and people were not given enough education about the pandemic and how we could all manage it best, to really understand why things were introduced and why they were changed.

So at the beginning of the pandemic, when we had to lock down, a simple slogan was appropriate. But what I and other SPI-B members, the communication people, everyone, was advising was that in order to come out of that, the general public needed a much more detailed understanding of how infection spreads, how we all have to work together to keep it under control, and how, if we did that, it would reduce the need for the severe lockdowns and all the harms that came with that.

So all the way through, people sort of had this idea of these rules that were getting in the way of what they wanted to do, whereas if -- and then we ended up with lockdowns which really did seriously harm everybody's

activities. And what we needed to do was to harness the willingness that the public had, which we knew that the public had, to try to keep the infection under control, and to educate everybody better about how you do that by carrying out activities more safely, so that you don't have to lock down. And it's that sort of more nuanced, complex, co-operative way of co-producing the solutions to the problem of infection control that we were advising, and the sort of top-down changing slogans was just a fundamentally different way of approaching it.

Q. Thank you.

Now, I just want to deal very briefly with your involvement in terms of SPI-B's involvement with messaging and communications and the difficulties and challenges that were faced at points in the pandemic.

We've heard a little bit today about issues in April and May of 2020, and to put it in context this was when the government slogan had just changed from "Stay home" to, effectively, "stay alert, control the virus and save lives", "stay alert" being the primary aspect that I'm interested in.

Now, several of the members of your committee considered that was very poor messaging; is that right?

A. Yes.

Q. So that triggered an email chain following on from that when news came that that was going to be the next change.

Can I just call that up, please. It's INQ000197167, and can I go to page 10 of that very briefly.

On page 10 what we see at the very top is an agenda, just to put it into context, this is an agenda, we're looking at paragraph 6 there, and it's a "Release of documents and SPI-B support". And if we go then to page 8, please, we see a message from -- I'm going to summarise it if I may, as opposed to go through it all, but we see a message from Professor Michie asking that that item be brought higher up the agenda because they've been -- she's been informed about this new messaging. She continues to state:

"I sincerely hope that this is incorrect as it goes against several principles we have rehearsed many times in our advice to SAGE/Government ..."

It continues:

"If it turns out to be true, it would be helpful to understand why we were not consulted given we have a bespoke Communications group and have been raising the problem of Government communications for several weeks ..."

Then if I can go, please, to page 7, there is some

support that takes place there from Professor Reicher, Stephen Reicher.

Go to page 6, please, and we see a proposal from a Professor Marteau, and her proposal is that Professor Rubin writes to the chair of SAGE documenting those concerns in the hope of intervention. But as we go then to page 5, please, we see a link, and it's a link to a tweet, and Professor Rubin saying "That ship has sailed", the tweet is already out, the message has already gone.

We then get a reaction on page 4 from Professor Michie, which begins to say:

"Oh gosh, [Prime Minister] communication to the nation by Twitter is now in the UK ..."

Professor Reicher:

"We have learnt so much from Donald Trump... But seriously, I think it would still be helpful for James to write such a message now and I think it is all the more important we discuss [it] ..."

Then we get to your intervention at page 3, which is really one looking for some calm heads to some extent, because albeit we have a large -- we can see a large number of emails on the screen, there are significant, it's a very significant and wide email distribution list, and it's gone to all sorts of different government

departments, including the Cabinet Office and Number 10; is that right?

A. Mm-hm.

Q. You explain you don't think it's:

"... a particularly good slogan but [you] don't think you can have a behaviourally specific slogan given how many behaviours there are ..."

That's your more nuanced point, presumably.

"... the tweet ... [specifies] several of them ... lots of advice we have given that hasn't/probably won't be followed, not sure I would pick a fight on the messaging myself."

Then if we can go to pages 1 to 2 -- sorry, page 2, I think it's page 2 in the initial instance -- page 1, my apologies, because it goes over the page -- and go down to the bottom, we see an intervention from an official in the Cabinet Office, and what she says there is:

"I am happy to bring in some thoughts on Monday as well. I tried to understand how much the next phase of this kind of messaging can be more supported by SPI-B (or at least make sure the decisions are made having seen advice). The messages in this instance are kept so elusive by a small group of mainly No10 advisers -- these are agencies that have won their political

campaigns and are now supporting this one too. My team was never consulted either and as soon as I heard the message I flagged our concerns which mirror those of the group -- only to be told it was too late now (and 'it tested well' which often means a shut down of discussion of any risks!)"

Then going over the page, please:

"... bottom line ... they won't change, they won't change the message now. Flagging concern is probably not wrong but I think it would be better to explore how to work with them next time."

In short. She continues to say:

"... I am so sorry that despite being the behavioural scientists inside the government communications service we don't have a handle on this either. It's so often partially political and in this case I was also told they wanted to keep it deliberately small so that there's not too many cooks which is also a cultural issue."

That email chain perhaps explains some of the challenges that indeed different groups involved in communications were having at that time; is that a fair assessment?

A. Absolutely, yes.

Q. Indeed, subsequently to that, if I can just move to

a different email chain at INQ000197166, and that's page 2, we see an email there from Professor Rubin in the middle, it's the one that I'm looking at, and references there a call from Patrick Vallance and that was about the email chain to express concern about SAGE getting drawn into a government operational move and losing its reputation as a result.

He also confirms that he has had "another call from a person in the know to say that Number 10 is concerned about [the] correspondence on this", and he says "presumably because we cc'd half of [government] into it".

So were these challenges that continued then throughout the course of the pandemic or did things improve?

A. Things didn't improve in terms of being consulted usually about messaging. I mean, we were consulted occasionally by Cabinet Office, so, for example, they did come to us to ask about how to message in the autumn. They phrased it as to prevent pandemic fatigue, but we managed to talk instead about sustaining adherence to the needed measures.

But on the whole, the communications tended to go ahead with very little input from SPI-B, even though we were very happy to advise. And as James mentioned, we

actually did, in almost every paper we wrote, give some advice on how communications around a particular topic could be done well.

Q. I'm now going to ask you just to look at just a couple of specific messages, if I may, and images that went out with them.

You've already dealt with some of the issues that are concerning the stay alert progression, effectively, and we've seen them actually through the email chain that we've just worked through, so I'm not going to take you to that one, but can I take you, please, to the "Stay home, Stay safe, Save lives".

That's at INQ000309556.

It's an image here:

"You're not stuck at home, you're safe at home.

"Stay home, Protect the NHS, Save lives."

In short form, what is your view of that in terms of effective communication by the government?

A. That's interesting. That particular one I haven't seen before. And at the very start of the lockdown, if that's when this is from, we actually didn't feel there was a problem with that kind of simple messaging, because we felt that people needed that clarity, they needed to understand the urgency, and it actually did have the desired effect, which was to make everybody

feel that everybody was in it together, and that people understood why staying at home would benefit everybody.

Q. Just to pick up on that for a moment, and I understand what you're saying about clarity of messaging, this specific campaign has been criticised by organisations concerned with women and children facing domestic abuse or harms, hidden harms in the home. Do you see any difficulty with this and whether a more nuanced approach was also needed?

A. Well, this is exactly why my own methodology for developing messaging, I would always have co-produced it with a wide range of the kind -- of the people that it was aimed at.

Having said that, that might have happened, and I don't know who produced it, and maybe they did test it with people and found that it was actually not causing any kinds of concerns. And to be perfectly honest, I had my own reservations about the "Protect the NHS" part of the slogan, because we know that during lockdown and through the pandemic generally there was underuse of the NHS by people who -- whose health suffered or some people died because they weren't using the NHS sufficiently. Now, part of that may have been because of a realistic fear of infection, but part of it might -- I think part of it probably was that people

felt they shouldn't use the NHS because we're trying to protect it and so -- you know, I'm completely speculating but, you know, I would have --

Q. You don't need to --

A. -- tested that message to check that every aspect of it was working as it should with all different types of people.

Q. Thank you.

A completely different one now, the freedom day slogan. You explain in your witness statement that may have reduced adherence to social distancing earlier than would otherwise be the case, and certainly than was ideal, and certainly at a point when it was prior to people being vaccinated effectively; is that right?

A. That wasn't the freedom day slogan, it was the Eat Out to Help Out slogan. Freedom day came after vaccination so was less of a problem, but the Eat Out to Help Out slogan, yes, that came at a really crucially problematic time, because it was during the summer and that was when -- it was a really missed opportunity, that was when the infections were low and we could have all hopefully kept them low if everybody had understood how to resume activities safely, and had understood that only if we did that would we be able to avoid or minimise the need for further lockdowns.

Instead, the Eat Out to Help Out scheme made people think that it was safe and that actually it was your duty to meet people and that wasn't going to lead to more infection spread. And we had warned back in April that, for example, if things were done for economic reasons, people would feel that they should be able to do them for social and psychological reasons, so that, you know, if to help out small businesses we could eat together, then to help out our family we should be able to eat with them.

So, you know --

Q. The --

A. -- to draw those wider conclusions.

Q. Then finally, if I can just ask you about this one, it's a slogan that came out in August of 2020 into September of 2020, and it's "Don't kill granny". It's a slogan that was repeated by the chief executive of various -- of Preston city council, directors of public health, and indeed on 7 September Matt Hancock saying "Don't kill your gran by catching coronavirus and passing it on". Is that an appropriate form of messaging, from a SPI-B perspective?

A. Again, unless I'd actually pre-tested it with the target young people I couldn't say for sure but my instinct would be probably not because it is -- it is trying to

draw on fear and shame, and actually a lot of the reasons why infections were being transmitted from younger people to vulnerable older people was not due to people not caring if their granny died or, you know, being reckless, it was due to people not understanding the way that network, social networks interlock, so they didn't realise that if they, for example, hugged a friend who was their age, that friend might nevertheless be living with somebody who was vulnerable, and so -- I actually saw some much, much better messaging on the same topic during the pandemic where it showed sort of three young people meeting, and it showed the hidden links that each of them had to vulnerable people, so that even though it looked like three people that were not vulnerable meeting, actually they were all connected to vulnerable people. That was a much better one. And that kind of messaging, it doesn't blame people, it doesn't suggest they're recklessly endangering people, it educates them about risks that they didn't even understand that they needed to manage.

MS CECIL: Thank you, Professor Yardley.

My Lady, those are all the questions that I have. Does your Ladyship have any questions?

LADY HALLETT: No, I have no more questions. Thank you very much indeed for your help, Professor Yardley, very

grateful.

THE WITNESS: Thank you very much.

(The witness withdrew)

LADY HALLETT: Mr Keith, do you want me to take the break now, or ...

MR KEITH: As my Lady pleases.

LADY HALLETT: It's not quite time. It's up to you.

MR KEITH: Shall we crack on with the next witness?

LADY HALLETT: Okay.

MR KEITH: Professor Sir Peter Horby, please.

PROFESSOR SIR PETER HORBY (affirmed)

Questions from LEAD COUNSEL TO THE INQUIRY

MR KEITH: Good afternoon. Could you give the Inquiry your full name, please.

A. Good afternoon. My full name is Peter William Horby.

Q. Professor, thank you for the provision of your witness statement, and for attending today to give evidence. I'm sorry you have been kept waiting a little.

You are a professor of emerging infectious diseases and global health at the Centre for Tropical Medicine and Global Health at the University of Oxford; is that correct?

A. It was correct. I'm now the director of the Pandemic Sciences Institute, which is a slightly different organisational structure within the university.

Q. You are still a professor of emerging infectious diseases and global health --

A. Correct, yes.

Q. -- and you specialise in emerging and epidemic infectious diseases?

A. I do.

Q. On account of one of the lessons and the pieces of learning that you include in your statement, I want to ask you about some of the other no less important roles that you have. Are you also the executive director of ISARIC, the International Severe Acute Respiratory and emerging Infection Consortium? Are you also or were you also the co-chief investigator of the RECOVERY Trial, which was -- is the randomised evaluation of Covid-19 therapy trial?

A. Yes, I am.

Q. You were also from 2018, significantly, chair of the NERVTAG committee, and I think that as chair of the NERVTAG committee you attended 75 meetings of NERVTAG, all the meetings between January 2020 and June 2021?

A. Well, NERVTAG nerve convened 75 meetings. I'm not sure I was in attendance at all of them, it would have been the vast majority.

Q. We'll excuse you those last few that you may not have

attended, Professor.

As chair of NERVTAG, did you also attend SAGE and, in that role, your statement shows that you attended 89 of 105 SAGE Covid-19 meetings?

A. That's correct.

Q. I want to commence your examination, please, about asking you some questions about the Centre for Tropical Medicine and Global Health at Oxford. It's part of the Nuffield department of medicine, is it not?

A. That's correct.

Q. And because you are a specialist in emerging infectious diseases, that comprises research and work in relation, in particular, to the emergence of diseases abroad?

A. That's correct.

Q. The Centre for Tropical Medicine and Global Health has a very extensive research portfolio and it employs, does it not, a very significant number of principal investigators and staff both in the United Kingdom and abroad?

A. Yes.

Q. One of the points you make in your statement is that a major lesson that is required to be drawn from the pandemic is that there is an ongoing obligation to combine academic excellence, scientific and medical excellence, with public health and commercial

capabilities, because that will deliver remarkable benefits at great speed?

A. Yes, that's correct.

Q. Was the centre, and the University of Oxford more widely, concerned, as a result of that partnership during the pandemic, with, of course, as is very well known, the development of the Oxford-AstraZeneca vaccine, the RECOVERY Trial, which you've mentioned and which I'll come back to in a moment, the ISARIC database, which is a worldwide clinical dataset -- how many patient records does it contain now, Professor?

A. It now contains around a million patient records, with about half of them from low, middle-income countries.

Q. Was Oxford also concerned with the development of the NHS contact tracing app?

A. Yes.

Q. Just for a moment focusing on each of those particular achievements, ISARIC, the International Severe Acute Respiratory and emerging Infection Consortium, is it in essence a global network of clinical research networks, so providing a massive amount of data and information to enable countries to respond to diseases? Is that what it is about?

A. Yes, it was set up after the 2009 influenza pandemic because of the failure to do good clinical research on

an epidemic infection that we knew was coming.

Q. I'm going to ask you, Professor, just to go a little more slowly, please, for the benefit of our stenographer.

So it was set up after the 2009 influenza pandemic, and on the commencement of the Covid-19 pandemic, was it apparent to you that the protocols and the procedures which ISARIC had developed over time would be required to be activated to assist the United Kingdom Government to respond to this pandemic?

A. Yes. So we had, with the World Health Organisation, written a clinical characterisation protocol, one of which was for acute respiratory infections, which was designed for exactly this scenario, so --

Q. What is -- I'm sorry. What is a clinical characterisation protocol?

A. So it is a study that has ethical approval to get a good description from patients with a clinical syndrome, their demographics, their existing comorbidities, concurrent illnesses, their clinical presentation and the natural history of disease, because all of that information is critical both for clinical care but also for calibration of your public health response.

Q. So putting it in lay terms, and you'll forgive me, were you making the point, in fact, to the Chief Medical

Officer, that the government should activate this system of acquiring data about clinical features of persons suffering from the disease in order to better respond to the crisis and to inform the government's response?

A. Yes, absolutely.

Q. All right.

Could we have INQ000221945, please.

You emailed the Chief Medical Officer on 17 January asking him, in essence, to activate this protocol so that information could start to be gathered on what it amounted to, what the pandemic amounted to, what the disease outbreak amounted to.

At the bottom of the page, in your email, in fact, to the then Chief Medical Officer, Professor Sir Chris Whitty, and also the Deputy Chief Medical Officer, Professor Sir Jonathan Van-Tam, you say:

"... we need two things to happen:

"1. 2019 [novel coronavirus] is designated as a priority pathogen of public health interest -- I believe this is a [Public Health England] designation."

What is a designation as a "priority pathogen of public health interest"?

A. Well, in this context, the National Institute for Health Research, which is a national NHS-affiliated research

network, has a portfolio of studies that can be activated in a public health emergency but only if the pathogen is designated as a pathogen of public health interest. So we needed that to allow us to activate the protocol.

Q. The Inquiry is aware, as is the public, that there came a time in fact when the coronavirus was designated somewhat differently, with a different classification, known as a high-consequence infectious disease, it was so classified on 16 January. Can you assist the Inquiry as to whether that is the same designation of which you are speaking there or something different, and if it's something different why was Covid classified on 16 January as a high-consequence infectious disease?

A. So they're different classifications. This classification in this email is around activation of a clinical protocol. The other designation is around how the pathogen and patients who are infected with the pathogen are handled in terms of infection control and laboratory biosafety.

Q. So is that, in essence, a designation directed to the -- well, directed by the government at the government to take particular precautions when dealing with such a disease?

A. Yes, and it's the Advisory Committee on Dangerous

Pathogens that advises the government on the designation of whether it should be a -- designated as a high-consequence infectious disease.

Q. Once the outbreak had crashed upon UK shores in mid-March, Covid was declassified was an HCID, in fact it was so declassified on 19 March. Why, very shortly, was it deemed appropriate to declassify the virus as an HCID at that stage?

A. So the purpose of the classification is to mitigate the risk of transmission, either from patients to other patients, healthcare workers or visitors to hospitals, and to mitigate the risk of infection in a laboratory, of laboratory workers or escape from the laboratory.

Now, that only makes sense as a measure if there's not already widespread transmission of the virus. Once you have the virus in the community, then those measures make a lot less sense. In fact, they're counterproductive, because they inhibit your ability to manage patients and to do laboratory diagnostics, for example.

Q. A considerable amount of public concern was expressed about the de-designation of Covid as an HCID. Are you saying that there were good clinical practical reasons why the designation served no purpose after the epidemic, the pandemic had erupted?

A. Yes, absolutely, it would have been counterproductive, I think, to have maintained that classification.

Q. In fact, does Covid have a mortality rate that is somewhat lower than the sorts of diseases which often are classified as HCID, such as Ebola, plague, SARS, MERS and so on?

A. Yes, it does.

Q. And by the middle of March, had a specific diagnostic test been developed to test for Covid?

A. I'm not exactly sure of the timelines of when the diagnostics -- I mean, the sort of advanced reference laboratory diagnostics were available, but the sort of point of care lateral flow devices that we're all used to using at home were not yet available.

Q. On the topic of the understanding of, in the early days, the nature of the virus, one of the core participants has asked, through Counsel to the Inquiry, to what extent was NERVTAG in January aware of the nosocomial risk, the risk that this virus would be readily transmitted in hospitals and other healthcare settings? Was that a concern that presented itself towards the beginning of this chronology or was that something about which learning was developed later?

A. The concern was there right from the start, and I think, if my memory serves me right, there was an early email

from the Deputy Chief Medical Officer, Jonathan Van-Tam, saying that hospital worker infection would be one of the red flags, that this was going to be a troublesome virus. So it's always -- and for me personally, I remember a conversation with somebody saying, "This is like flu", sort of, you know, later on in the pandemic, and saying, "It's not, we're seeing healthcare workers dying". That really is a red flag. So it was very much at the front of our minds that this is one of the flags that we should be looking for.

Q. Just two points on that. You were in a good position, on account of your many years of experience with emerging infectious diseases, particularly abroad, to understand that coronavirus was very much not an influenza?

A. It depends on the coronavirus. We have --

Q. Of course.

A. -- endemic coronaviruses that cause the common cold and then, at the other end of the spectrum, we had the SARS coronavirus with quite a high case fatality rate, so there is a huge spectrum, and we didn't yet know where on that spectrum we would land.

Q. I should have said this coronavirus. It became readily apparent to you that this coronavirus, SARS-CoV-2, had very distinct differences to the usual run of influenza?

A. Yes. I had personal professional contacts in China who were in Wuhan who we were in contact with, or I was in contact with, from 2 January, and it was clear fairly early that they were seeing severely ill cases, but one had to be cautious about assuming from that that it's very transmissible or that the very severe cases are common amongst those infected.

So we had a suspicion that this could be a serious outbreak but not yet confirmation of that.

Q. At NERVTAG's second meeting, which was in fact on 21 January, there was debate about the nature or rather the extent of the human-to-human transmission and a reference was made to the fact that the virus then in Wuhan or in China had been transmitted between a number of healthcare workers who had been in a neurosurgical unit where they had, regrettably, not worn PPE.

What impact on the thinking of NERVTAG did that piece of information have, that the virus then emerging in China had been transmitted, human to human apparently, amongst healthcare workers?

A. So it started to narrow down where on that spectrum of risk, I guess, we were. It did not yet indicate this could be a pandemic, because, for example, another coronavirus, Middle East respiratory coronavirus, MERS coronavirus, that is transmitted primarily from camels

to humans, does cause quite significant hospital outbreaks, with infection of other patients and of staff and deaths in the vulnerable, but that has not -- has not and had not at that time become a readily transmissible virus outside of that setting. So we could have remained either in that situation, where it was a MERS-like virus, or it could have been more like a SARS 2003 virus, which was transmitting a little bit outside of the hospital, or it could have been more like an influenza virus where it was readily transmissible in the community, and we didn't know -- so we'd narrowed it a bit but we didn't know where we were still.

Q. Does that highlight the vital importance of data? So for any government seeking to respond to the possibility of an epidemic, what is vital is to understand the nature of the virus, its transmissibility, its features, what it is capable of, in order to be able to sensibly start making decisions?

A. Yes, absolutely, everything is dependent on that. And if I may --

Q. Yes, please.

A. -- a good example is the H1N1 influenza pandemic which started in Brazil, and the very early data were that it was very severe because the initial cases had been detected in intensive care, and some of the initial

estimates were that there was a case fatality rate of about 10%, up to 10%.

In the end that turned out to be wrong by 500 to 1000-fold, it was no more serious than a seasonal influenza. So you can get it catastrophically wrong unless you have really good comprehensive data, not just about the severe cases but about the whole extent of illness and infection in the community.

Q. You have referred to a particular piece of data, case fatality rate. Is it the position that, amongst the most important pieces of data are the infection fatality rate (what proportion of those persons who are infected will die), the case fatality rate (what proportion of confirmed cases will die) and also hospitalisation rate (what proportion of the infected population will require hospitalisation)?

A. Yes.

Q. Those are absolutely at the heart of a proper understanding of what the virus might do?

A. Yes, as well as the transmissibility, what we now know as the R number.

Q. They're all linked, though, of course?

A. Yes.

Q. You need to know the transmissibility, the reproduction number, you need to know how it's going to spread,

likely to spread, in order to be able to see the extent of the infection and the risk of death or hospitalisation?

A. Yes.

Q. All right.

LADY HALLETT: Pausing there?

MR KEITH: Yes.

LADY HALLETT: We will now break.

MR KEITH: Thank you, my Lady.

LADY HALLETT: 3.35, please.

(3.18 pm)

(A short break)

(3.35 pm)

MR KEITH: Professor, before the break, you were telling the Inquiry about the ISARIC system, the ISARIC procedure. Was one of or maybe the first -- one of the first clinical descriptions of Covid-19 cases prepared by an ISARIC member, a country or a medical institute that is a member of ISARIC, and distributed through the ISARIC process? So was ISARIC right in there at the beginning with providing information about some of the clinical features of Covid?

A. Yes. So my first conversation on 2 January was with an ISARIC colleague in China, who I contacted, and it transpired he was actually in Wuhan, leading the

clinical research response. And we provided support to him. So we provided him with the ISARIC tools, the case record forms, the sort of questionnaires that are filled in, and that format was used for the very first clinical description of what became known as Covid-19, which was, I think, published towards the end of January.

Q. It's obvious, isn't it, that, as professionals in this field, you were constantly looking abroad to see how this pandemic was developing, to try to see what information you could get, what data you could assemble? So is there any basis for the suggestion in some quarters that the scientists and the professionals involved in the management of this pandemic in the United Kingdom were not completely aware of what was happening abroad and what information and what data could be gleaned from the emergence of the epidemic elsewhere?

A. We were certainly extremely active, so from 2 January I was on the phone almost every night to colleagues in China and Asia, I was also on the phone to colleagues in the World Health Organisation in Europe and elsewhere on an almost daily basis, to try and get as good information as we could get.

Now, often it's very partial, and we understood that, and I think it's important that we had that

appreciation, that we shouldn't over-interpret the data. But that was -- I mean, my very highest first priority was to get a really good handle on what we're dealing with.

Q. That's not to say that there weren't very real difficulties in obtaining accurate, up-to-date information from, in particular, China?

A. Yes, very, very challenging.

Q. You've mentioned the publication in *The Lancet*, could we have INQ000222003. Just pause there.

(Pause)

If we could have page 2 of 5, please. Is this the front page, the first page, in the bottom half, of an article published in *The Lancet*, I think on 24 January, talking about how Wuhan, Hubei Province, China, had become the centre of an outbreak of pneumonia of unknown cause?

A. Yes, it is. It's one of a pair of papers. The first paper is the clinical description that used some of the ISARIC tools, and this is an accompanying commentary of which I'm a co-author.

Q. If we could scroll back out and then go to page 4 of 5, please, you can see that -- well, you'll be reminded, Professor, that your commentary talks of, in the left-hand column, around about halfway down, how:

"The increasing number of cases and widening geographical spread of the disease raise grave concerns about the future trajectory of the outbreak, especially with the Chinese Lunar New Year quickly approaching."

On account of the millions of trips that would be made thereafter.

If we go to the last page, 5 of 5, did you say this in the last paragraph:

"We have to be aware of the challenge and concerns brought by 2019 [novel coronavirus] to our community. Every effort should be given to understand and control the disease, and the time to act is now."

What did you mean by the appeal for the disease to be controlled?

A. So, in affected countries, to take strong measures to try to limit transmission, so that, ideally, we could contain and eliminate the virus and prevent it causing either bigger, country-wide, regional epidemics or a pandemic.

Q. Does that apply equally, therefore, that approach, to the United Kingdom?

A. It applies everywhere.

Q. To any country in which the virus has been able to gain a foothold?

A. Yes.

Q. That's ISARIC.

You've referred to the RECOVERY Trial, I want to ask you some questions, please, about that. Was the RECOVERY Trial a sophisticated system or trial by which treatments for the potential benefit of persons suffering from coronavirus or Covid-19 could be evaluated?

A. It was. It is. It's still running now.

Q. It the RECOVERY Trial enrol its first patient on 19 March 2020, so relatively early on?

A. Yes.

Q. Is it led by a number of institutes or is it purely a Nuffield Department of Medicine --

A. It's an Oxford University study that's led by myself but also my co-investigator, Martin Landray, who is from the Department of Population Health.

Q. I want to ask you about the RECOVERY Trial because was it the RECOVERY Trial that led to the breakthrough finding that there was a drug called dexamethasone which, in the passage of time, in the fullness of time, demonstrated itself capable of saving the lives of hundreds of thousands of people?

A. Yes, that's correct. We found, I guess, the first life-saving treatment that actually, luckily, was a drug that is available worldwide.

Q. It's a drug that is used, is it not, for patients who are seriously ill? It's not used on people who have mild symptoms, it's used on people who are on ventilators or who require oxygen, because it helps suppress the immune system and aids recovery?
A. Yes, that's right. And it has a very significant effect on reducing the risk of death.
Q. All right, and did the RECOVERY Trial also expose how some other very different drugs which were paraded in the press from time to time and by certain notable global figures had very little by way of beneficial impact or medicinal purpose whatsoever?
A. Yes, our first result was that hydroxychloroquine is not an effective treatment for hospitalised patients, and our second result was the benefits of dexamethasone.
Q. Hydroxychloroquine was notoriously promoted by the then President Trump?
A. It was.
Q. All right.
That's RECOVERY. Then can we come, please, to SAGE, of which you were a member by virtue of being chair of NERVTAG.
NERVTAG is a scientific advisory committee that reports, nominally, to the Department of Health and Social Care; is that right?

A. Yes, that's correct.
Q. Why is it only nominally that it reported to the DHSC? Was that because in time, practically, it fed its learning and its reports to a considerable extent into SAGE?
A. Yes, so it's a statutory committee in that it's a standing committee that is sort of owned by the Department of Health and Social Care. During the pandemic it was quite early on agreed that NERVTAG should continue to operate, but it would report, almost have dual reporting, it would have responsibility to the DHSC, but also to SAGE.
Q. From whom or from what did NERVTAG receive its commission?
A. From SAGE. Well, prior to the pandemic, just from Department of Health and Social Care. Once the pandemic or the outbreak had begun and SAGE had been stood up, we took commissions from SAGE, from Department of Health and Social Care, and often from other sources, like Government Office for Science or Public Health England, but we did try to limit that and ask for it to be -- all of those commissions to be screened through either SAGE or DHSC.
Q. NERVTAG is the New and Emerging Respiratory Virus Threats Advisory Group --

A. Yes.
Q. -- I think.
A. It is.
Q. By the time Covid had come to the United Kingdom, by definition it was perhaps no longer a new and emerging viral threat; it had arrived?
A. Yes.
Q. Why was it necessary to keep NERVTAG going and to keep NERVTAG running at such a hot rate throughout the currency of the entire pandemic?
A. Well, I think there were advantages to doing that, and I think it was the right decision.
One is it's a multidisciplinary committee, so it was set up and it has, you know, clinical, virological, sociobehavioural, modelling expertise, so it had, you know, quite a broad membership. Also it was a well established committee, so we were used to working with each other, and so it meant that we could operate effectively quickly, and much of the detailed technical work that SAGE would be looking for was within the scope of NERVTAG's remit.
So we had both the background and the expertise to answer those commissions.
Q. Were those commissions always clearly identified or were there difficulties occasionally which required NERVTAG

to push back and say, bluntly, "This question is too broad or too specific or we don't understand what it means"?
A. Yes, definitely. And one can understand why that might happen in the heat of what was happening, but I think there were categories where it was too broad, you know -- we were asked about, you know, what's effective at preventing transmission, and that is a very, very broad question, it's almost a PhD thesis, or were not really scientific, technical questions, they were straying into what is sort of standard knowledge and standard operational knowledge. For example, some of the questions around protective equipment and disinfection is not really a sort of difficult scientific question.
Q. Did the governance structures around NERVTAG work well, so your chairing of the group, your relations with government, such as they were, and your relationship with SAGE?
A. Yes, I think they worked well. It was very hard work, and I think we would have benefited from a better resourced secretariat, and probably some additional scientific -- junior scientific support to help me prepare papers, et cetera. But the relationships worked well.

Q. By attending at SAGE yourself as the chair of NERVTAG, presumably you could see how the work and the learning that NERVTAG had provided was then discussed, debated and resolved in SAGE?
A. Yes.
Q. Where did the information or the conclusions go thereafter?
A. Thereafter, they went to government, and I don't know much more than that. You know, it was very clear that the Chief Scientific Adviser and the Chief Medical Officer were often walking straight out of SAGE meetings into meetings with ministers, the Prime Minister, Cabinet Office, et cetera, and relaying the SAGE position or the SAGE advice to them. But we didn't have -- I personally did not have much visibility of what happened outside of SAGE.
Q. And to be absolutely clear about this, you never had any concerns about the ability, the scientific and professional, intellectual capacity of the CMO and the GCSA to faithfully represent the views of SAGE to government?
A. I think they both are incredibly talented, they're great communicators, and I had absolute confidence in them.
Q. On SAGE itself, do you express in your statement -- well, do you identify a number of areas in which you

began to have concerns about the way in which SAGE was operating, in particular in relation to its role as a provider of advice to government, and this interface between the provision of advice and operational or proactive measures that were required to be identified?
A. I'm not sure I quite understand your question, Mr Keith.
Q. Yes. Well, I'll put it another way. In your statement at paragraph 145, you identify that there may have been a problem with the ability of SAGE to provide advice because it didn't know what the nature of the government's objectives were, what its strategy was, and therefore it was unable to point its advice or to calibrate its advice to the best possible effect?
A. Yes, that's correct.

I think it's very difficult to provide science advice in a vacuum. It's a bit like being asked to, you know, provide a map but you've not been told the destination that you're heading to. So sometimes the scientific questions were obvious and the advice to give may be complex but it was straightforward. But other times, without understanding what it was that the objective, the policy objective, or the goal was, it became very difficult to give, I think, the most helpful advice.
Q. Did you get the impression that, whilst policymakers

generally understood the advice that they were receiving, they may not have been provided with the answers that they were seeking, in part on account of this divide, this division of understanding as to what SAGE was there to do?
A. Yes. Perhaps sometimes they weren't even sure what answers they were after.

I think it would have been beneficial to have a much closer dialogue between the policymakers and the scientists, so we could understand the thinking of the policymakers and what their direction of travel and what their goals were, so that we could craft the most useful science advice.
Q. Do you think that the division between the provision of scientific advice and the making of policy was understood by the public?
A. Largely -- well, it's hard to say, but I think that certainly there was some misunderstandings about what the scientists were doing and what the policymakers were doing and where the division lay.
LADY HALLETT: Would you need the closer dialogue between policymakers and scientists if the CMO and the Chief Scientific Adviser were able to relay to you the government's objectives? Surely they would be the source, under the system you've described?

A. I think it would have -- it would have helped if perhaps the CSA and the CMO had a clearer steer from government as to what the policy objectives were in the short, medium and long term. But also, on occasions, I think it would have also helped to have had a roundtable dialogue --
LADY HALLETT: Have everybody round the table?
A. Yeah -- around specific really important questions so that we could get a really -- a much clearer idea of the policy objectives, and maybe for the scientists to challenge the policymakers to think more clearly about what their policy objectives are, so that we could do the science advice as best we could.
MR KEITH: "Following the science" was that well known mantra; may we presume that you weren't a devotee to that phrase?
A. It certainly was something that was unpopular amongst all of the scientists I spoke to, for two main reasons. One, science is rarely black and white, there are different interpretations of science and there are different degrees of interpretation, and you will see that throughout the Inquiry, no doubt. Secondly, it assumes that there is a direct relationship between a piece of science advice and a policy decision, where that's not the case. There are many other factors

influencing the policy decisions, around ethics, economics, politics, which are outside of the science advice.

Q. Did you ever feel that the scientific advice provided by NERVTAG and SAGE was cherry-picked or, to use a more pejorative expression, manipulated by policymakers, that they took from you what they wished and then claimed that they were following you?

A. I never had -- I didn't personally have a very strong feeling around that. I did feel that there were decisions made that did not necessarily fully align with the science advice, and for me one of the issues was there was not a feedback cycle, so where the policy decisions did not match the science position we didn't really get feedback as to why that policy decision was made, which I think would have helped us feel more comfortable about what was happening.

Q. In your statement, you say that it would have been helpful to SAGE to have a greater expertise on it from frontline public health practitioners. Why do you say that?

A. Whilst there were people in the room with public health expertise -- I mean, I myself, my medical speciality is public health, but I'm not a practising frontline public health worker, and also the deputy chief medical

officers, you know, have public health training as well. But that's different from being at the frontline running a public health department in a local council or on the ground. And I think one of the messages, I think from my evidence, is that, you know, science needs to be in context, it needs to be in the policy context but it also needs to be in the operational context, and so I think having those kind of people giving an input would have helped us to refine the advice we were giving.

Q. Was SAGE and NERVTAG, were they both too scientific, if you like, or too dominated by biomedics as opposed to pandemic management experts?

A. That is one of the dilemmas. As a science advisory committee, you want a table full of eminent scientists who people will recognise as leading experts in that area of science, but if that is not contextualised then you can get science that's not meaningful or helpful or practical. So at some point there has to be that sort of ground truthing of it, and perhaps that's at the committee level, NERVTAG or SAGE level, but perhaps it's in a different forum, but it does have to happen somewhere.

Q. Another point you make in your statement is that SAGE spent considerable time reviewing international data

perspective and lessons that might be learned, and you've referred already to your own direct contacts with, no doubt, a multitude of similar experts abroad.

Could we have INQ000106108, please. This is a document, it's minutes, in fact, of a SAGE meeting on 11 February.

If we just go to the second page, please, points 1 and 7, just to get our bearings, this is around the time where there was a debate about what the reasonable worst-case scenario approach should be, and how in general terms the government should continue to plan, and you'll recall, Professor, the reference to using influenza pandemic assumptions.

Further down the page, at point 7, my Lady will recall this from another witness:

"It is not possible for the UK to accelerate diagnostic capability to include Covid-19 alongside regular flu testing ..."

Then on page 3, please, you can see two-thirds of the way down the page:

"Action: FCO and DfID to work with SPI-M secretariat to finalise the detailed breakdown of data required from Chinese and other national authorities, and the routes through which this data should be shared."

So is this a good example of the constant steps that

SAGE took to try to accumulate as much information as it could about the data which you've described as being of such great importance?

A. Yes. And you can see there that the request was to be issued to UK heads of mission, so really using the Foreign Office network as a way to gather intelligence to help the UK response.

Q. In broad terms, did SAGE and NERVTAG have difficulties in or encounter difficulties in being asked repeatedly to give advice in broadly the same areas? Were you forced to return to issues which you believed that you had already resolved, or asked questions or asked to address issues which were outside the strict remit of either committee?

A. On the second issue, yes. I think particularly, you know, my experience with NERVTAG, we were asked sort of technical operational questions that weren't really requiring, you know, heavy scientific inputs.

On the first question, we were asked to revisit items, but I think often quite sensibly. And we come to this later, but the use of face coverings is one where it came back to NERVTAG, I think for good reasons.

Q. Do you believe that your learning, your meetings, your consultation was sufficiently transparent and known to the public?

A. For NERVTAG, I hope so. We had -- the membership was publicly available, because it was a standing committee, the terms of reference of the committee was publicly available, and we endeavoured to write as detailed minutes as we could and to publish those as quickly as we could. There was a bit of delay initially just because of workload and for no other reason, but we got those out as quickly as we could. And I think, you know, that was very helpful.

But as you know, the SAGE membership and the SAGE minutes took a bit longer to be made publicly available.

Q. The Inquiry has heard a considerable amount of evidence about the way in which the documents, the minutes so-called of SAGE, in particular, reflected a consensus position.

You give an example in your statement at paragraph 101 in fact that at one particular meeting, I think it was 24 January, the debate had to a significant extent revolved around one of *The Lancet* papers to which you've taken us, one of the documents of which you were a co-author, but that the minutes of that particular SAGE on 24 January simply do not reflect that debate, indeed they make no mention of that Lancet article, either the scientific paper or your commentary at all?

A. Yes, I think that the SAGE minutes were focused on identifying the key areas of consensus, the key pieces of advice, written, you can see, more from the position of a briefing paper to a minister, in contrast to the NERVTAG minutes, which were written with a lot more detail, including when there was disagreement and discussion, as a sort of public record of how we reached the position.

And I must say, in retrospect, that's been very helpful for me, because I can go back and see who disagreed with whom and why we reached a certain position.

Q. Did NERVTAG produce a report -- perhaps not an annual report, but a report -- subsequently detailing the majority of the work that it had done between January 2020 and June 2021?

A. Yes, NERVTAG traditionally has written an annual report, so although this covered a longer period, it was our attempt to do the annual report that covered the sort of first 18 months of the pandemic.

Q. Could we have INQ000221969, please, and page 3 of that document. It's the fifth annual report. On the contents page, Professor, can we see or can we gain an understanding of the relatively large number of areas on which NERVTAG provided advice and which it reviewed,

from clinical management of Covid, epidemiology of SARS-CoV-2, immunity, travel screening, SARS-2 in the care home sector, reinfection, variants, transmission, virology and the like?

A. Yes.

Q. How many papers did NERVTAG prepare and publish, do you recall, in total during that period?

A. I don't recall, but it would have been well over 100, I would think. So each of the meetings would have several papers prepared for it or submitted to it, and with subgroups, et cetera, we produced a lot of material.

Q. Were the reports that were provided to NERVTAG, and which you debated, and the scientific learning that you had prepared for NERVTAG, was all that underlying material published or made available to the public by the government?

A. It was, unless there were reasons not to. Sometimes the data was in confidence or was pre-publication and academics didn't want it to be shared until it had been through peer review. But our general principle was: be as open as we possibly could at all times.

Q. Does the evidence show that there were occasions when you even directed the secretariat to ensure that material of which you had become aware or reports that

you had received from other bodies, for example Public Health England or ONS, be made public so that the public could understand the nature of your debate and why you'd reached the conclusions that you had?

A. Yes, on a number of occasions there were pieces of information that we saw as papers submitted to NERVTAG that we thought were of national interest and therefore we minuted that these should be made publicly available. We had no power to make that happen, but we could minute it and recommend it to DHSC and to government.

Q. Now, I want to ask you some questions about the chronology and bring you back to the beginning of January.

You say in your statement how planning for an extraordinary NERVTAG meeting began on 9 January, when the World Health Organisation announced that the cause of the outbreak was probably a novel coronavirus.

A. Correct.

Q. Was one of the first issues that NERVTAG therefore had to consider port screening?

A. That was one of the first issues we were asked to consider.

Q. It may seem self-evident, but the DHSC or SAGE wanted NERVTAG to consider this issue because one of the first steps the government might consider taking was imposing

restrictions on the border?
A. Yes.
Q. In general terms, and mindful that at that stage, Professor, there was no sophisticated testing system in place at all, were there distinct restrictions or limits on what could be done by way of screening arrivals at the border?
A. So the only options in the absence of a test were symptom screening, really, so fever screening, which you can do through temperature monitors, or asking people to fill in a questionnaire about whether they've had a certain suite of symptoms or not.
Q. Are people generally prone to want to declare that they've got symptoms of a new and emerging infectious disease?
A. I would imagine many are not.
Q. In relation to temperature screening or symptom screening, is that a particularly effective way of ascertaining whether or not people are infected?
A. It's not, it's very insensitive, particularly when you've got an emerging infection which is quite rare. The vast majority of people with a fever you'll pick up will not have the infection, and so you will be quarantining and evaluating a very, very large number of people when there's very few real cases, but you will

also miss a large number of the real cases because they are incubating disease, so they're infected but they're not yet showing symptoms.

So, you know, the data is -- you know, it varies, but, you know, for every case you'd detect you'd miss 15 to 20 of what you're looking for, as well as having to evaluate many hundreds or potentially thousands of non-cases.

So it's very widely regarded as a very poor measure, a very ineffective measure.
Q. So it's ineffective, and presumably any kind of border restriction comes at considerable cost, and not just irritation and inconvenience to travellers but is a very difficult system to put into place operationally?
A. Yes, and costly, and also may divert resources from better activities like screening people who present to healthcare centres, asking them about their travel history and then focusing on those patients rather than screening a large, very large number of travellers.
Q. Could we have INQ000023107, please, on the screen. These are the minutes from that particular NERVTAG meeting on 13 January. If we look at the first page, we can see who was in attendance, the contents at the bottom, and then on page 3, please, paragraph 3.2:

"Members note that it has been stated that there has

been no 'significant' human to human transmission, which implies there may be some evidence of limited human to human transmission ..."

So by this time, the end of January, it was becoming apparent from data from China that there probably was human-to-human transmission?
A. I think the data, but also the careful use of "no 'significant' human to human transmission" which implies that it's not none.
Q. Page 6, please, 3.9:

"The current PHE risk assessment for this virus was presented ..."

Professor, what does the PHE risk assessment assess?
A. It's a good question. We actually had debated this considerably in NERVTAG before the pandemic, and it's very difficult to do a meaningful and informative and intuitive risk assessment, and actually in retrospect this risk assessment was, if anything, unhelpful. It's a risk assessment based on the current risk today to, you know, the UK population, what's the risk to someone on, you know, the Clapham omnibus or whatever, which at that time was very low, because there were no cases outside China, and the risk to a UK traveller is low because, you know, it wasn't an extensive outbreak outside of the UK. But it can and was interpreted as us

saying that the future risk was very low, which is a quite different proposition. But it became a distraction, unfortunately.
LADY HALLETT: Isn't the right thing to do to say "We cannot carry out a risk assessment until we know more"?
A. Well, I think we could make a comment about the risk to, you know, someone walking down Euston Road at that time, which was very low. We couldn't make an assessment of the risk in the next six months, one year. I think we could have been -- that should have been communicated better.
MR KEITH: The purpose of the PHE risk assessment process is to inform the public as to what the Public Health England, the government, believes is the then current risk.
A. Yes.
Q. Having a risk assessment process which focuses only on the risk at that particular day, on that occasion --
A. Yeah.
Q. -- fundamentally invalidates the validity of such a public assessment, does it not?
A. Well, extremely limits it and, as I said, in the past at NERVTAG we have gone round and round with PHE trying to develop a more meaningful risk assessment, and this process was completely unhelpful actually, it was

distracting, it gave the wrong message and in fact, you know, it might imply we weren't doing much but we were doing an awful lot. So it didn't actually even reflect into what actions were taken.

So one of my recommendations is that there needs to be a much more refined approach to risk assessments and communication of risk.

Q. Do you think that if at the end of January Public Health England had declared openly and publicly: there is currently no viral activity in the United Kingdom but that, given the impossibility of effective containment, given what we know about human-to-human transmission, given that we know that the travelling around China and the Far East of millions of people, including hundreds of thousands of infected people, there's a very high risk that that virus will come here?

A. Yes, and I can't be sure that wasn't said, because I wasn't following all, you know, the public communications from PHE or government.

Q. But there was no formal risk announcement that went to anything like that degree of alerting both the government and the population --

A. No.

Q. -- that this highly dangerous, fatal viral outbreak was surely coming?

A. So we have one risk assessment framework which is the sort of government forward looking one, which --

Q. The national security risk --

A. The national security --

Q. Yes, we've heard a great deal about that. What was that?

A. The risk in the next --

Q. Yes.

A. -- you know, five, ten years, and then we have this kind of risk assessment, which is what's the risk now. What we are missing in the middle is, you know, what's the risk in the next two, four, six, one year, and therefore what should we be preparing people for and preparing for ourselves.

Q. I was -- I've now diverted you away from travel to the PHE risk assessment process. Could we have page 7:

"The current Public Health England travel advice was presented:

"Travellers should practice good general hygiene measures such as hand washing ... travellers are advised to avoid consumption of any food ... and follow the advice of local health authorities ... there are no travel restrictions to or from Wuhan City ... travellers developing a fever and cough within 14 days of travelling from Wuhan should seek medical advice."

Then over the page on page 9, we can see action 2, DHSC to endeavour to establish if exit screening is taking place in Wuhan. DHSC, action 3, to raise the issue of advice posters at port of entry.

So the actions appeared to be designed to see whether there were any sorts of controls on travellers coming out of China, out of Wuhan, to see whether infected persons were being stopped?

A. Yes.

Q. And on the UK end, the DHSC wasn't going to publish posters but it was going to raise the issue of whether or not advice posters should be posted at ports of entry?

A. Yes. I can't remember the actual wording of the -- in the more detailed minutes of action 3, but it -- there were a number of measures recommended around highlighting to travellers the potential they may be infected and what they should do if they develop symptoms.

Q. Given what was beginning to be understood about the spread of the virus in South East Asia, human-to-human transmission, the beginnings of an understanding of the possible infection and fatality rates, do you believe that these actions were sufficient?

A. In terms of border measures, yes, because it was our

belief and it was standard and there was a document with one of those first two NERVTAG meetings about the current position of the European Centers for Disease Control, the World Health Organisation and other bodies and other scientists around the value of symptom screening.

Q. Pause there. The WHO and the ECDC were recommending in general terms against the imposition of travel restrictions, weren't they?

A. Yes.

Q. All right.

A. And travel screening.

So the settled position generally was that border symptom screening is generally ineffective and it is sometimes implemented but, you know, it is not the most effective thing to do.

There is another issue around preventing travel, so, you know, shutting borders, shutting flights, which is more effective, much more effective, but only if you do it at a very high level, and I think that's in some of the minutes in one of the first two meetings, that you have to stop, you know, 70% to 90% of travel to even have a delay of one to two weeks. So it's a very -- it's effective, but only if done at a very stringent level, and it's not something we were asked about but we

did comment on it.
Q. It's well known that New Zealand was a country which did apply very stringent travel restrictions; it effectively closed its border by imposing mandatory quarantining firstly on all travellers and then only allowing residents in with quarantine.
By the time that New Zealand had done that, Professor, can you recall at what stage the United Kingdom was at in terms of the spread of the virus?
A. Yes, so most of the countries that introduced complete travel bans like New Zealand did so, you know, around, starting around sort of mid-March. So I think 18 March was when New Zealand introduced their complete travel ban. By that time, in the UK we already had extensive infection within the country, and it was now a domestic problem, it wasn't an imported problem.
So stringent restrictions on people coming into the UK, they would have had to have been very high level, you know, 70% plus of all travel stopped, not just from China because the disease was seeded around the world -- in the event we were seeded from Europe, not from South East Asia -- and would have had to have been done very early.
It's hard to see that that would have happened early

enough because, you know, we didn't have our first domestic cases until, you know, I think it was late February, by which time it was too late, and for the UK to have led the world and closed all the borders in -- would have had to have been early February, I think it's very difficult to imagine that that would have been done.
Q. So just to pick up on a couple of points there, did subsequent genomic sequencing analysis show that there had been hundreds, if not thousands of individual seedings, that is infection points, within the United Kingdom in particularly the later part of February and the beginning of March?
A. Yes, from Italy, France --
Q. From Western Europe?
A. -- yeah, Spain.
Q. And that the majority, as it transpired, of those infections had gone unknown --
A. Yes.
Q. -- because they were asymptomatic?
A. Yes.
Q. So the position at the end of February was the infection had already taken hold, there was sustained community transmission, but that our ability to be aware of that was significantly hindered?

A. Yes, we didn't have good awareness of what was happening in the country, which meant that by the time we knew that, it was too late for travel restrictions to have had any significant impact.
Q. Coming back to the issue of what NERVTAG was doing otherwise, and mindful of that index of the areas that you looked at, was NERVTAG asked to look at social distancing or was that a matter for SPI-M?
A. We were asked about the 2-metre rule and the basis for 2 metres as opposed to 1 metre or 4 metres, but we weren't asked about social distancing as a population level intervention.
Q. But you were presumably, as chair of NERVTAG and therefore an attendee on SAGE, aware of the general flow of the debate about the extent of human-to-human transmission, the extent of asymptomatic infection, and also the debate about the impact on the NHS at the beginning of March?
A. Yes.
Q. When did you in general terms become aware, Professor, that the figures for the infection fatality rate, the case fatality rate, the infection hospitalisation rate, indicated numbers of deaths and hospitalisation in such large numbers that the NHS would become overwhelmed?
A. I would have to go back and look at the -- I know at one

of the NERVTAG meetings we were asked to give opinion on those very parameters for SPI-M modelling, in which we gave some indication of where we thought the most reasonable numbers were, and I believe that was towards the end of February, early March.
Q. I ask you because your statement makes the point that the situational awareness of SAGE and of NERVTAG was poor in February until, as you've described, more data became available. But the data that was absent, what sort of data was that? Was it data that disabled you and SAGE from understanding the likely impact of the virus on hospitals, and what the numbers of deaths and hospitalisations would be, or was it the more sophisticated data that was absent concerning the detail of latent periods and incubation periods and the more nuanced information about the virus?
A. So, I think there are a number of layers to the underlying question about whether we should have acted earlier. What we were facing was becoming very apparent toward the end of February and, from those parameters, were we to get extensive transmission in the UK it would be very serious, there would be a very large number of hospitalisations and deaths that would quite feasibly overwhelm the NHS.
What was missing was when that was going to happen.

Was it going to happen next week, one month, two months, four months? And you can see from some of the earlier papers there was uncertainty. I think one of the pieces of evidence you showed me earlier said that it would be two to four months from domestic transmission in the UK to the peak, which turned out to be wrong; it turned out to be one month.

So I think we were becoming aware of what to expect, and that was becoming very well known, and that was discussed at SAGE and was known to NERVTAG and was in the SPI-M modelling. But we didn't know when it was going to happen, and also we didn't know what we should do about it, because the more nuanced data you were talking about is important if we're deciding how long you quarantine people for, how long you need to get your results from test and trace back to reduce transmission.

So, yes, we knew what was coming, but there were other things that we didn't know, and they were the things that became apparent in March.

Q. A considerable amount of time was spent debating the nature of what possible interventions could be applied, in modelling terms what might be the impact of whatever measures the government sought --

A. Yeah.

Q. -- saw fit to impose. But to what extent, if any -- and

I genuinely put it neutrally -- did the focus for those early weeks in March on the modelling, the working out of what possible interventions might have the best effect, the consequences of NPIs, concealed the reality, a much more brutal and less scientific reality, which was just the numbers of the virus and the epidemic would be bound to lead to the NHS being overwhelmed?

A. I don't think it concealed it. You know, it was a fairly straightforward calculation to see that, you know, with a 1% fatality rate and 80% of the population being infected, you were going to see a lot of people dying and you would see a lot of people in hospital. And so the work that was done in March to improve the situational awareness, to try to understand when that was coming and how fast it would come, and to try to design the best interventions, I don't think hid it, but you might not see that from the SAGE minutes.

Q. To what extent, if any, Professor, do you believe that the decision-making process that led to the first lockdown may have been too slow?

A. I think it could have been done earlier. There's a scientific question about how much earlier. When did we know that we could identify when the peak was going to happen, that it was going to be in a month, not in, you know, two to four months, which we'd previously

thought based on our earlier data? And that was probably, you know, a week or ten days earlier than the lockdown that we thought we knew enough scientifically.

Then there's the question about -- which is not my area -- when politically would it have been acceptable? And I think it is important to think about the number of cases we were having in the UK at that time, which, you know, was quite low. We only had the first UK domestic case identified -- because there were actually a lot -- in late February, and so the numbers were creeping up. So at which point it would have been seen as a measure that could be taken at a political level is a different question.

Q. I now want to look at some of the important areas, other important areas that NERVTAG provided advice upon, not directly related to the lockdown decision or NPIs.

NERVTAG played a very considerable role, as you've described, in advising on the efficacy of face masks, on the protection of the vulnerable and in particular those in care homes, and also on the issue of contact tracing.

So just dealing with those three in order: in relation to face masks, from late January, as you've already described, NERVTAG was tasked to provide advice and specifically on the efficacy, the utility of face masks. Is this the position: that by mid-February

NERVTAG recommended that wearing a face mask by symptomatic people is recommended, if tolerated, but that the wearing of face masks by well people living with symptomatic people is not recommended, and also not recommended is the wearing of face masks in public?

Were there a number of meetings of SAGE and NERVTAG through February, April -- 7 and 19 and 13 April and then 14 April -- at which NERVTAG and SAGE returned repeatedly to the issue of face masks?

A. Yes, that's right, and this is one of the issues I said I think rightly came back round again.

Q. On 7 April, the SAGE minutes show that NERVTAG had concluded that the increased use of masks would have minimal effect.

On 9 April, the NERVTAG minutes from that day, NERVTAG 13, showed that Sir Jonathan Van-Tam had asked you to return to the issue of face masks because other countries had introduced what's known as soft advisory positions in relation to the use of face masks, and he was concerned that NERVTAG and SAGE should re-examine the issue; is that correct?

A. That's correct.

Q. Was there then a very considerable consideration provided by a paper dated 13 April *called "Face mask use in the Community"*? Did that paper summarise all the

evidence which had gone before, set out a number of policy options, and basically conclude that there was weak evidence that the use of face masks by symptomatic people may reduce transmission?

A. That's correct. It summarised the evidence as we saw it, which is something we might want to discuss.

Q. How did you see it, as NERVTAG, by 16 April?

A. So NERVTAG had looked at the issues of face masks in the past, pre-pandemic, and had taken quite a stringent scientific view that the highest quality evidence is randomised controlled trials, where people are randomised to have a face mask or not -- not other sorts of studies, not just observational studies, which have many biases, or physical studies, how much virus is filtered -- and that data was fairly clear that there may be some small benefits, but it wasn't clear and the evidence was weak. And we maintained that position on how we saw the evidence, focusing on the data from randomised controlled trials. Others placed more weight on the physical evidence of filtration and the observational data.

Q. To what extent was the argument for the wearing of face masks strengthened by the application of a precautionary approach: well, it may not have much practical benefit, and there's only some weak evidence to support the

beneficial consequences of wearing a face mask, but it's a good thing to do?

A. There are two considerations there. One is there was an issue early on about the availability of face masks and using them for a setting where they're less effective and less useful. The second was around communicating doing something when the evidence wasn't strong. But the reason it came back to us -- and I think it was right -- was the context had changed. The threat was much greater and more present than when we made the first recommendation. There was emerging data, observational data, which is sort of non-trial data, from places like Hong Kong, and there was more data about asymptomatic transmission.

So the context, the evidence hadn't really changed. It had a bit, that we now had some Covid data rather than flu data, but the context had changed dramatically.

LADY HALLETT: I'm sorry, I'm not following, Sir Peter. If there's a possible benefit, what's the downside?

A. The downside is you might divert face masks from healthcare workers and those who need them most, and those in who they're most effective, so sick people or the clinically very vulnerable.

The second downside is that you are making a population-wide recommendation based on weak evidence,

which may weaken trust in your scientific independence and integrity, and you can see that face masks are still a controversial issue with different interpretation of the data. So we were trying to be, I think, very scientifically clean.

MR KEITH: At that time, so in April, it was very apparent to NERVTAG, wasn't it, that the government had real concerns about -- this is your second point -- about the availability of masks? If NERVTAG or SAGE were to recommend the wearing of face masks, the government was concerned that that would take limited number of masks, such as there were, away from the healthcare sector?

I don't know whether we have this in the system, INQ000102697, page 33. This is a page from a WhatsApp group including Mr Hancock, and you can see at about the tenth or eleventh entry, 16.04 -- 16 April 2020, 22.03.53, Matt Hancock MP:

"WE DO NOT HAVE ENOUGH MASKS TO SAY THESE THINGS."

Then:

"Talking about this before we are ready risks taking masks from nurses and social care workers who really need them. It is self-indulgent and dangerous."

Now, that wasn't a remark made specifically in relation to the NERVTAG consideration but it shows, doesn't it, that the government was concerned about the

practicalities?

A. Yes, I mean, it's the first time I've seen that, and it -- we were not -- in no way were we pressured by anyone from government to make any advice based on the availability of masks but, as we had healthcare workers on the committee, it was a clear issue about the availability of PPE for healthcare workers, and raised by committee members that it could divert stocks away from places where they're more effective.

Q. In the event, Professor, following the advice given by NERVTAG and adopted by SAGE, the government advised on 11 May the public to consider wearing face coverings, and then in June they became mandatory in public transport, and then in July in shops?

A. Well, I would say it wasn't just on the basis of NERVTAG, and I think this was -- you know, this is an example of effective challenge where DH or SAGE commissioned other expert groups to look at the data. The Royal Society and the DELVE group produced a paper, and also there were some other groups that looked at the data. So there was an attempt to get differing scientific views of the value of it, and it was those, all of those inputs I think that changed the position, not just NERVTAG.

Q. But NERVTAG was not an outlier, was it? The general

consensus was, from those other no less worthy scientific groups, was that there was some weak evidence to support the wearing of face masks and that in all the circumstances it was something you could recommend?
A. Yes, that's correct, and that matched what others were doing. So we were seeing WHO and the United States shift their position at the same time.
Q. The WHO changed its recommendation in June, did it not?
A. Yes, I believe so, yep.
Q. Contact tracing, shortly.

Did NERVTAG and SPI-M hold an extraordinary meeting on 26 April where it considered issues such as what sort of people should be contact traced, should they be the self-diagnosed contacts of an index case or a confirmed case, people who had confirmed -- were confirmed to have coronavirus, and issues concerning how long the period of quarantine should be, what advice should be given to contacts, and whether or not testing of asymptomatic contacts was advisable?
A. Yes.
Q. So NERVTAG was at the heart of the debate about the nature of the contact tracing system which the government sought to build in those late spring months and then through the summer?
A. I believe the government, Public Health England, had

over Easter, and you expressed full concern, didn't you, about the high rates of positivity, tests showing positive tests in care homes amongst residents and staff, even though many of those individuals had been asymptomatic at the time of testing?
A. Yes.
Q. Did, therefore, you ask Public Health England to bring a paper to your next NERVTAG meeting to answer specific questions you had about the management of SARS Covid positive people in care homes?
A. Yes, we were in a sort of dilemma in that we were not commissioned to look at this, it was not scientific advice, but it was something that was worrying us as a committee; and so in a way that was a vehicle to bring it back on to the NERVTAG agenda, was to ask PHE to see what advice they might want from us.
Q. In light of the answers provided by PHE at the next meeting, did you agree that more stringent measures were needed for nursing homes to improve shielding of vulnerable individuals, because they're naturally highly vulnerable?
A. Yes.
Q. And you made a specific recommendation that your comments be relayed to the DHSC, in particular that positive but asymptomatic staff should not provide care

an idea of what they wanted to put in place, and they were asking NERVTAG to give a scientific opinion on the validity of what they were proposing to do.
Q. Finally, care homes, as I mentioned. In light of the time, I'm going to deal with this fairly shortly, Professor, but it is an extremely important issue and I don't think anyone to think that, because of the shortness of time, that less importance is being paid to it.

NERVTAG, from April onwards, discussed measures for the care of staff and residents in the care sector, did they not? From April did your committee raise very significant concerns about the likely impact of the epidemic, the disease, on care homes and on what could and should be done to afford them a greater level of protection?
A. Yes. We were not commissioned to do that. It was actually a very operational, not a scientific issue, but it became apparent during our review of data as part of our scientific activities that there was a problem, and although it really sat outside our remit of giving science advice, it was something we felt that we should raise with Department of Health and Social Care.
Q. On 24 April, your 15th NERVTAG meeting investigated the well publicised outbreaks of the infection in care homes

or have any contact with vulnerable individuals?
A. Yes.
Q. You again, at a later meeting, asked for more reassurance that your concerns had been acted upon, and eventually you wrote to the CMO, as the chair of NERVTAG, pointing out that you'd highlighted high rates of transmission in care homes, that you had asked for reassurance about the measures which would be applied, and that you were unclear on what practical steps the government was actually taking?
A. Yes, I mean, we have a number of routes available to us. One is minuting our concerns; number two is a formal minuted action to pass a concern on to particular individuals in DHSC; and the final route open to us is to write a formal letter from the chair to the Chief Medical Officer who, you know, is the responsible person for the committee within the Department of Health.
Q. I don't know whether we have this on the system, INQ000221994. I think we do, thank you.

Sir Chris Whitty replied on 26 May. In that letter which comes from, we can see from the heading, the Chief Medical Officer and Chief Scientific Adviser, Professor Chris Whitty, within the Department of Health and Social Care, he referred to -- he referred back to the government's published adult social care action

plan. He summarised what the approach had been in that action plan. He said:

"We have been working on the next steps of interventions."

Then he referred again with these words to that plan:

"This care home support package sets out steps that must now be taken to keep people in care homes safe."

There's a reference to funding on 13 May.

Then over the page, what is been done in terms of tests being made generally available, clinical support, local authority care home support plans, building the workforce.

Did that letter, Professor, address the concerns that you had raised repeatedly in your communications within NERVTAG and to the government?

A. Yes, I felt it did, and particularly the -- setting up the care home subgroup meant that we felt there was a group dedicated to addressing this problem and monitoring it and evaluating the measures, so we felt satisfied that this now was being taken care of.

Q. NERVTAG believed it had done all that it could --

A. Yes.

Q. -- to ensure its concerns were met?

A. Yes.

MR KEITH: Thank you very much.

My Lady, those are all my questions.

LADY HALLETT: I think I've agreed to -- I think it's Ms Stone going first.

Questions from MS STONE

MS STONE: Thank you, my Lady.

Good afternoon, Professor. I ask questions on behalf of Covid Bereaved Families for Justice UK. Could I ask you some questions, please, about the definition of Covid mortality and see if you can help us with that.

To contextualise, at NERVTAG meetings from at least, I think, late March, you received and discussed regular surveillance updates, and that included data on mortality, did it not?

A. Yes.

Q. So at that stage, so March into April 2020, what was your understanding about how Covid mortality was being defined and measured, please?

A. I would have to go back and look at that, but it was -- you know, I believe it was around, you know, deaths within 28 days of a Covid diagnosis.

Q. So was there also an element about Covid-19 appearing on a death certificate?

A. I don't recall us ever discussing that.

Q. Thank you.

To move on, please, to May 2020, because at this stage one of NERVTAG's subgroups appears to have grappled with this question of definition, and that's the clinical risk stratification group --

A. Yes.

Q. -- which is one of the ones that you refer to in your statement.

So this was a group which was established in response to a commission from DHSC and the CMO's office, the objective being to produce a risk prediction algorithm to estimate hospital outcomes and mortality outcomes in the adult population, and that was to be rolled out in healthcare settings.

That's the summary, I think, from the annual report that you referred to earlier.

A. Yes.

Q. Is it right that that ultimately, the product of that group, became QCovid?

A. That's correct.

Q. So that was the risk prediction tool that was in operation.

A. Yes.

Q. So you tell us in your statement, Professor, that you attended meetings of this subgroup, at least initially, until it was set up --

A. Yes.

Q. -- and then you left it to others, I think?

So in that context, can I ask you specifically about a discussion which took place at the first meeting of that subgroup about definitions in respect of Covid mortality, please.

I'd be grateful for INQ000221965, please. Thank you. So we can see this, Professor, on the screen. It's a minute of a meeting which took place on 20 May 2020, and we can see that you're amongst those who are noted to be present.

A. Yes.

Q. If we could go, please, to page 2 and section 2, and this deals with development of the model. The Inquiry's heard quite a lot about modelling this week, but in essence this tool was a form of modelling, of model, was it?

A. Yes, it was. It is.

Q. If we can look at paragraph 2.3 in particular, we can see there that the group discussed possible outcome measures, and most agreed that the risk of death if positive for Covid-19 should be the primary outcome measure, noting that a definition of Covid-19 positive death was required; and then there's an action point which says that:

"All to contribute towards developing a precise definition of Covid-19 mortality, ideally to match the figures which the government has been publishing."

First question, please, Professor, is: why was a definition of Covid-19 positive death required in this context?

A. Because the objective was to try and get more refined estimates of individual risk of dying if they had a Covid infection, and dying due to the Covid infection. So the first thing is to be very clear about what your definition is comprised of.

Q. Can you help us with how it was proposed that all members of the group would contribute to that exercise?

A. Unfortunately I can't, because I wasn't chairing the meeting, and the development of the tool and the models was under Professor Hippisley-Cox's management, and I hadn't been involved in developing these kind of tools before.

Q. I see.

Can I ask you then, please, if you can help us with the significance of the final words there in that action, which are "ideally to match the figures which the government has been publishing"?

A. That's a very good question. I don't recall that statement or remember why that was put in there.

MS STONE: Yes, thank you, Professor.

Thank you, my Lady.

LADY HALLETT: Thank you, Ms Stone.

Mr Metzer, I think you can just complete the questioning.

MR METZER: Yes, of course, my Lady. There are a small number of questions which I understood were going to be put, which I think -- subject, of course, to my Lady -- were going to be put by Mr Keith.

I will be very short, but I do need to ask permission to go a little wider than the questions I have permission to ask. I shouldn't be too long.

LADY HALLETT: Well, we have to finish by 5 at the very latest, Mr Metzer, so I'm sorry, you've got your five minutes.

Questions from MR METZER KC

MR METZER: Professor Horby, first can you confirm that NERVTAG confirmed that identifying the end of symptoms may be very prolonged or very difficult to define on 6 March 2020, and specifically discussed ongoing clinical issues post-Covid and the potential need for a clinical forum on 15 May?

A. Yes, correct, we did.

Q. Thank you.

Can you outline NERVTAG's discussions on Long Covid

LADY HALLETT: I think we're going to have to move on, Ms Stone, I'm afraid.

MS STONE: Yes.

LADY HALLETT: I have been asked to take a break, and I am anxious to try and complete the professor's evidence, so could you move on, please.

MS STONE: Of course, my Lady.

Does the fact that this was being raised as an issue indicate that there wasn't a standard definition of Covid mortality by May 2020?

A. I think that's correct, it's difficult to define causes of death, but it's incredibly important, and there are many different ways to define a cause of death, and it's not straightforward, but it does need to be discussed transparently and agreed.

Q. And finally, how was the definition agreed in this forum going to be used? Did it have any wider application than the risk stratification tool?

A. Not that I recall, but the use of the risk stratification tool was used for, I think, vaccination policy, so it did have material implications.

Q. So it was policy going forward, was it, including vaccinations?

A. It was used as a tool, I think, for people being prioritised for vaccination.

and the outcome of the discussions? We note -- and I'm not going to take you to them -- the minutes of NERVTAG show that Long Covid was only first mentioned on 4 September 2020, and that during the course of that meeting the issue of Long Covid was raised, and the minutes note:

"Should NERVTAG look at this and have a view?"

The question is: the action was for you, Professor Horby, to discuss with Jonathan Van-Tam whether advice was needed for NERVTAG on Long Covid; is that right?

A. I believe so, yes.

Q. Thank you. And why, when discussions on clinical issues post-Covid were identified by NERVTAG back in May 2020, was Long Covid only discussed in September of that year?

A. So the quotes that you gave from May were really about when we should define a point for quarantining or isolation of patients, the start of illness or the end of illness? Should somebody stay in quarantine for seven or 14 days after start of illness or, you know, four to seven days after end of illness? And the clinicians amongst us on the committee noted that there can be long-term symptoms like chronic cough, et cetera, fatigue, which make it quite difficult to define an end point.

So that was the context for that discussion. It wasn't a context about: what are the longer term complications of Covid? And, you're right, that wasn't really raised until quite a lot later.

Q. Thank you.

Are you able to comment on the ISARIC Long Covid study, when it was established, whether it was launched in response to SAGE 29's discussions, and why you didn't mention ISARIC's work on Long Covid in your witness statement?

A. Yes. Thank you for that, it's a good point.

We did start to engage on Long Covid through ISARIC towards sort of late summer, we engaged with the Long Covid survivors group, and they were co-developers of the Long Covid protocol, which we have established and is -- data is being collected on that. But you're right, it's an omission from the evidence statement.

Q. Thank you.

Lastly, areas that were given permission for previously.

Professor Brightling and Dr Evans in their expert report on Long Covid commend ISARIC's study as a hibernating observational study of people hospitalised for an acute infection that was trial-ready at the onset of the pandemic.

Do you agree that the focus of ISARIC, WHO(?), the CCP, and on ISARIC 3C, were on patients suffering from acute Covid-19?

A. Yes, that's correct.

Q. And could surveillance of long-term sequelae have been built into the sleeping observational study that was trial-ready at the start of the pandemic?

A. Yes, it could have done and we intend to do that in the future. It was an omission.

Q. Thank you.

Lastly, Professor Brightling and Dr Evans also gave evidence to the Inquiry that the risk of long-term sequelae was foreseeable before the Covid-19 pandemic based on evidence of post-viral sequelae from both MERS and SARS.

If ISARIC was developed in 2012 and activated for MERS, do you accept that the absence of monitoring long-term sequelae initially was a blind spot of ISARIC's?

A. Having personally seen SARS cases and avian flu cases and worked closely with people who've seen MERS cases, long-term sequelae were not highlighted as a common or major problem, they were recognised but weren't seen to be a major common problem. So I think at that time we may have underappreciated it, but I don't see that we

were missing sort of historic data that made us think that this would be a major issue.

MR METZER: Okay. Thank you very much, Professor Horby.

Thank you, my Lady.

LADY HALLETT: Thank you, Mr Metzer.

MR KEITH: My Lady, we're back on track in terms of timetable. That concludes today's evidence.

LADY HALLETT: I'm sure we all send our apologies to our stenographer.

10 o'clock tomorrow, please.

I'm so sorry, thank you so much, Professor Sir Peter, I'm really grateful for all your help.

THE WITNESS: Thank you.

LADY HALLETT: And for all that, obviously, you've done to try and assist in this kind of pandemic and indeed others. Thank you.

THE WITNESS: Thank you.

(The witness withdrew)

(5.00 pm)

(The hearing adjourned until 10 am on Thursday, 19 October 2023)

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