( 9.30 am )

## PROFESSOR SIR CHRIS WHITTY (continued)

Questions from LEAD COUNSEL TO THE INQUIRY (continued)

## LADY HALLETT: Yes, Mr Keith.

MR KEITH: Good morning, Professor.
A. Good morning.
Q. I want to pick the chronological spread up, please, at the beginning of March, 2020.
Evidence has been given to the Inquiry that
Professor Ferguson emailed an adviser in Number 10, Ben Warner, on 10 March, attaching a paper from Imperial College London entitled "Timing and triggering of non-pharmaceutical interventions", and he was extremely keen that the Prime Minister should see and understand the material which he had attached to his email. In the course of evidence to this Inquiry, he confirmed that he wouldn't have sent that email and the material had he been satisfied that his views were being properly reflected in the communications between SAGE and the government.
So may I just ask you: were you aware that
Professor Ferguson had been in direct contact with Number 10?
A. I subsequently became aware Professor Ferguson was, and 1
procedural impropriety of what he did, it's because in that email and indeed in some emails that you wouldn't have seen because they were emails between Professors Ferguson and Edmunds and Farrar on 12 March, the following day.

A very high degree of alarm was expressed in their internal emails, and in fact in Professor Ferguson's email to Ben Warner, about the need for further action, for more urgent action. You may have seen the documents disclosed to you, but in those emails they talk about whether they're happy with the pace of actions and the changes that are being proposed on 12 March. You'll recall that there were measures imposed on 12 March:
"We need much more stringent control measures if we want to slow it down, not necessarily now but then very soon. There is an obsession with not getting an autumn/winter epidemic later this year. This is the tail wagging the dog."

Now, you weren't privy to those emails, but I want to ask you, are you content that the degree of alarm or concern being expressed by those members of SAGE, or in part members of SAGE, and these scientists who were advising was being properly communicated through to Downing Street? Was that level of concern or alarm known?
Q. Quite so, and my question wasn't directed at the

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A. Yes, and I think, shorn of the sometimes more hyperbolic language, the general points that were being made we would completely have agreed with and did communicate. And I think, in a sense, the demonstration of that, to some extent, is that for -- you know, the emails say, and I'm doing this from memory, "we need to be acting very soon", soon or very soon, I think those are the words being quoted, four days later the Prime Minister said everyone should stay at home.
Q. Indeed.
A. So I think that communication was occurring and there was inevitably a process of sort of negotiation about how this is going to be interpreted within Downing Street, but I think (a) they were correct to be concerned, so I completely agree with their concern, and (b) there was action subsequently by the government
Q. Indeed. It may be thought, though, that by virtue of the fact that Professor Ferguson thought it necessary to communicate directly with Number 10, and the way in which these concerns were expressly internally, that there was a body of opinion within SAGE and externally who were concerned that the government bluntly just didn't get it. But you're content, are you, that it did?
A. I think it depends how you define the words "get it".

| I think I'm content that the government was in receipt | 1 |
| :--- | :--- |
| of the information from SAGE and the fact that people on | 2 |
| SAGE felt urgency was needed. And this escalated and | 3 |
| you can see this in the SAGE minutes. So, in fact this | 4 |
| escalates further beyond the 12th. | 5 |
| Did I think that all parts of the Downing Street | 6 |
| machinery equally were seized of the urgency of it? | 7 |
| I was not. But in a sense the job of Sir Patrick and | 8 |
| me, amongst others, but also perfectly reasonably | 9 |
| Dr Warner, Mr Cummings and others, was to try to ensure | 10 |
| that people in the centre did understand the urgency of | 11 |
| action. | 12 |
| Because I think, and this goes back to the | 13 |
| discussion we had yesterday, and I think this is quite | 14 |
| a key point, the numbers we're talking about on the face | 15 |
| of it at this point that were actually being reported | 16 |
| were small. So if I can look, this is the 14th, | 17 |
| I think, we're talking about, of March; is that correct? | 18 |
| Q. $\begin{array}{l}\text { The email's }-- \text { the internal email is the 12th -- } \\ \text { A. } \\ \text { Yes, so at this point } 590 \text { cases have been reported and } \\ \text { 10 deaths. Of course we knew subsequently that they }\end{array}$ | 19 |
| were higher than that. | 20 |
| What I think people were really not able to | 21 |
| conceptualise was how exponential growth would turn from | 22 |
| those apparently smaller numbers, still each one | 23 | 5

really not getting what exponential growth was actually going to mean.
Q. They did of course subsequently fully understand?
A. Yeah.
Q. Can I now turn, please, to the issue of herd immunity.
A. Yeah.
Q. It is, you've described in your statement, technically possible for an infection to travel through a population naturally until such a point that population immunity is achieved, enough people get infected that the virus stops. And that's population or herd immunity.

There has been a very extensive debate, as you are very well aware, about whether or not herd immunity was ever a goal of government or an aim, as opposed to being a byproduct of any system of control or countermeasures being applied, that doesn't drive the system and the country down to zero Covid. Of course it's going to spread in some shape or form.

To get some idea of the scale, what percentage of the population, as it transpired, was infected by Covid, the coronavirus, SARS-CoV-2, by June 2020? Just so we can get a feel for how extensive the prevalence was and the infections --
A. By June 20 -- well, I'd need -- I do have those data but I don't have them --
a tragedy but smaller numbers, to really very large numbers in an extremely short period of time because of the doubling time. And I think this is -- this bit, I think, is a period where getting that through, I think, was not always straightforward.
Q. Can you elaborate, please, Professor, on which parts of the system, in your view, might not have, to use that phrase, got it? You said obviously your task was to make sure they did understand, that was one of your primary functions, but there were plainly difficulties in getting the message across and on it being received in a proper manner. Which parts of the system did you sense were -- just simply didn't --
A. I --
Q. -- appreciate the emergency, the immediacy of the problem and the exponential growth?
A. I think actually it was a relatively widespread lack of understanding of where we were going to head. I think the people who had been heavily involved in looking at this, and, you know, certainly Mr Cummings would be one but there were many others, I think had realised by now that this was heading in a very difficult direction. But I don't think everybody in the building did.

So this was not an individual, and this again is a point I make repeatedly, this was a lot of people 6
Q. Very roughly.
A. Very roughly -- well, you know, let me go back a step, because I think, in a sense, I'm cautious even of the possibility that herd immunity was achievable at all, as ordinarily understood, and I think that's a caveat.

Let us make an assumption that at the extreme example, where Covid infection provided lifelong immunity completely, so you get an infection, you will never get another infection, even -- you would then need to, with the force of transmission we had, achieve -for the sake of argument around $80 \%$ of the population would have had to have become infected. With all the attendant risks. That's the key point which many of the people who didn't understand this did not get.

At the end of June, after an appalling first wave in which many people died, from memory I think less than $20 \%$ of the population had been infected. I wouldn't want to be held to that number --
Q. No, no, just a broad figure.
A. Well, well short of what you'd have needed, even had herd immunity been a possibility. But, as I said in my witness statement, I spent much of my professional career dealing with infections for which herd immunity is never achieved, herd immunity as normally understood. So essentially -- so that's the first point.

The second point is herd immunity was used in two completely different ways, the term was, and this caused confusion to those who were confused by herd immunity, which in my view was a lot of people. Some people were meaning the herd immunity threshold, this is the point you're talking about, the point at which, for practical purposes, further waves are unlikely, which is very high. The modellers were using it in the sense of gradually increasing levels of immunity, meaning that the effective force of transmission gradually decreases but not to the point where there's no waves.

And I think there was muddle up between those two completely different uses of the term and frankly, and I touched on this yesterday, there was a large amount of chatter about this by people who had, at best, half understood the issue. So I think it became very confused. And, as you will have seen from my correspondence, my only contribution on this, really up to the point of about 20 March, was to say to people, "This is very complicated, please don't talk about it", not because I wanted to hide it but because I thought that a very uninformed discussion was forming that was not helping policymaking.
Q. Is that a reference in fact to WhatsApps that you sent to and from the Secretary of State and others in 9
herd immunity or population immunity. We're putting aside completely the question of vaccines.

So, as you described, you need to get to a very high level for this ever to work, if it can be ever said to work at all. What problems, generically, may be encountered if you were, for argument's sake, to seek to pursue such a policy? Is that significant part of the population which becomes open to infection, does it still remain at risk from obviously hospitalisation or death in terms of the impact of the infection?
A. Well, I mean, the first thing just to -- you say setting aside vaccines -- the one situation, in my view -- and I've said this before this pandemic and, you know, it's a fairly widespread view by those who understand herd immunity -- that you would ever aim to achieve herd immunity is by vaccination. That is the only situation that is a rational policy response. It just --
Q. I'm not asking --
A. Yeah, I just wanted to make that clear.

There are -- you know, the first question is: can you achieve it at all? And we had no idea whether, even in a theoretical situation, the population would by natural infection even get to the herd immunity threshold. First point. But much more importantly in 11
a CSA-CMO-PM group --
A. Yes.
Q. -- where you cautioned against the direction that the public debate about herd immunity has taken, and you tried to put it in its proper context?
A. Well, my view was it was a clearly ridiculous goal of policy and a very dangerous one, and I thought a lot of what was being said could have led to considerable confusion. And indeed did. And I think, you know, I've laid out several times in public and I did in my statement my view that it would have been inconceivable that this should have been an actual goal of policy because it would have led to extraordinarily high loss of life if -- you know, even if it had been achieved, which in reality it would probably not have been in the ordinary sense.
Q. Nevertheless, the phrase "herd immunity" was of course used by Sir Patrick publicly but by members of government, by some ministers and officials and advisers. Could you just explain further, please, what, if I may call it this, what the problems are with herd immunity? You explain in your statement that the more transmissible an infection is, the higher the proportion of the population needs to be in order for the population to become immune through this 10
the short term, essentially what you're saying if you go up to that threshold, which for the sake of argument is $80 \%$ of the population, were that to be the case, all of those people carry all of the risks of an infection.
And --
Q. Meaning?
A. Meaning overall $1 \%$ but in people who have got higher risks (older citizens, people with disabilities, people with immunosuppression and so on) very significant risks of mortality. So the impact of that on mortality would be very severe.

And I laid this out in a paper around the 21st, I think, of March to Number 10 and various other people, because I wanted them to understand this point, which I thought had become extremely muddled in the public debate. This will lead -- the only situation where that wasn't going to be the case was if there was a huge amount of asymptomatic transmission we were not detecting. In all other circumstances we would have been in a situation where very large loss of life would have occurred --
Q. Right.
A. -- had that been attempted.
Q. So for that part of the population which is unable to be shielded or cocooned or segmented, however you describe 12
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against severe disease. So even were people who otherwise are not vulnerable to disease to catch disease, their immune system will stop them getting to the point of intensive care or potentially dying.

That's different from herd immunity, that's to do with individual protection against severe disease. So that's -- in a sense they are not different sorts of immunity, although there is a large amount of technical issues around that, but the fact is you can get a disease a second time much less severely than the first time, that still means you catch it and still means you can transmit it -- with many infections; Covid is just one of them.
Q. Now, you've referred to the Great Barrington Declaration, which is a proposition, if you like, arguing for focused protection, a degree of segmentation or shielding which allows infection otherwise to spread through lower risk parts of the population. So in your view is that a variant, if you like, on a herd immunity goal?
A. Yes.
Q. Scientifically and ethically does it follow from what you've said that you had very great doubts about the wisdom of such an approach or such a declaration?
A. Yes, I thought it was flawed at multiple levels,
life. So there were practical reasons.
And then I could not see a situation where something which was so transmissible from people who were at least presymptomatic -- asymptomatic as we subsequently became confident -- would not eventually catch it anyway. So the idea you could somehow provide this barrier struck me as wholly impractical for those reasons as well.

So I just thought, you know, the various attempts on this were theoretically perfectly -- you know, you could debate them, but they were clearly not going to work and they were clearly going to lead to significant loss of life in my view. So that was why I was extremely cautious of them.
Q. Is there another issue in relation to the notion or the assumption that those people who, through population immunity become infected -- through this herd immunity process become infected, may not actually remain or become immune thereafter, there is a risk that they may in fact become reinfected at a later stage, so it simply wouldn't work?
A. Exactly. As indeed happened with Covid. And I think there is a big difference, and we are in a sense -- the fact that all of us are able to have this meeting here in an open room is because most people are protected, firstly by vaccination but they are also protected 14

I thought it made an assumption of full immunity that would be lifelong, which they didn't state, but it was an assumption which I thought was extremely unclear, and indeed proved to be incorrect.

As demonstrated -- as you just said, I considered the idea you could properly shield all the right people, or identify all the right people -- and just to take the case of Mr Johnson, the Prime Minister, he would not have been someone, I think, who would have been considered -- someone you would put in this group. He got very severe Covid. He is an example of the kind of person who you would not have been able to identify. Those you correctly identified you wouldn't have been able to shield. And the result of this would have been you would have had long periods of isolation at the end of which people would still have got Covid anyway.

So the idea that this was a sensible proposition struck me as zero actually.
Q. The Inquiry has seen, nevertheless, multiple references to herd immunity, of course, in emails, in WhatsApps, in SAGE minutes, and really across the board, and publicly the idea did take hold or the understanding did take hold to the effect that the government was pursuing to greater or lesser extent a policy of herd immunity. How did that come about then in light of what are very plain 16
concerns that you've expressed about the wisdom or validity of any such approach? How did this happen?
A. Well, I can answer half of that, I think.

I mean, there's no doubt that, rightly, the modellers and others were looking at this in their models to work out what would happen over time as people got infected. That's a perfectly appropriate thing to do. It was not to do with threshold of herd immunity, this was to do with the gradual accretion of population immunity whenever there is going to be transmission.
Q. Working out what was likely to happen --
A. Yeah, that was working out -- that was simply a calculation question, they were using it in that sense. And my view is "herd immunity" is the wrong term to use for that because it has -- for most people's understanding, it means the herd immunity threshold after vaccination, which is exactly how I think it was interpreted by others.

So I think that debate was a perfectly proper intellectual exercise that modellers in particular were undertaking, and I don't think there's any reason to doubt that.

Then I think there were some people who ran with this but I thought in a rather confused way, in trying to explain what would happen over time as waves of 17
A. Well, you are right that -- well, firstly, it's quite rare that I actually say of a group of distinguished other academics, "I utterly disagree with what you're saying". This is one of those few occasions. I think they were just wrong, straightforwardly.

The second thing is that you are right that if we -if this had been posited as "We know the vaccine is just around the corner, we've seen some vaccines that work, we've got six months", you could make the argument, but in that case why not wait to do it with the vaccine anyway? Because you've got a way of achieving herd immunity safely, relatively, relative to new infection -- big caveat -- a vaccine. Vaccine would achieve this without having to go through any of these processes. But that wasn't actually what they were suggesting, they were suggesting this in a sense absent of vaccine. They weren't suggesting you had to wait for a vaccine as part of their approach.

So I just thought it had a very large number of problems with it, and I thought it was one of the few areas where I thought it was sensible to knock it really hard out of the court rather than say, "This is an interesting point, let's debate it".
MR KEITH: Can I bring you back to my earlier question, please, Professor, which was this: it's obvious that 19
infection went through. My view was that wasn't a helpful conversation, which is what I was trying to say to people. And then there undoubtedly were some people who were seriously thinking, without having thought it through -- I don't think -- if they had thought it through I don't think they would have thought -- but I do think there were some people who were genuinely thinking, "Well, you know, this will go through and then it will be passed and it will be fine, in a short period". And I think that -- you know, those are different areas.

In general, my view is debating science in public is exactly the right thing to do. This is an area where I think it got extremely confused and I don't think helped the debate, because it was not based, in my view, on a proper understanding of the issues concerned.
LADY HALLETT: Sir Chris, I'm sorry to interrupt. Can I just go back to the Great Barrington Declaration?

In your opinion, that approach was flawed, but there were other experts who thought that it was the right way to go. Would the policy that those who signed the declaration promoted, would that not have bought some time, say, for example, for the development of vaccination? Would it necessarily have had to have been the long-term isolation that you talked about? 18
there were advisers in Number 10 and government ministers and officials and members of the press and large swathes of the public who understood that the government was pursuing a deliberate policy of herd immunity. On that premise, you may or may not disagree, but on that premise, how did they come to understand or to hold that belief?

Ministers and advisers and commentators were all talking about herd immunity and therefore it may reasonably have been assumed that that was a policy of government. Were you able to stop what was a canard being pursued in this way? I mean, was it open to you to try to stop this debate and to make plain that any idea that the government was deliberately pursuing a herd immunity was just wrong?
A. Yes, I tried to do three things, but I -- this is one of those debates I, as you probably will have worked out from the various in -- in sort of things you've seen, I tried to largely stay out of, but I wanted to do three things.

Firstly, for the small number of people who actually thought this was a good idea initially, entirely based on the fact they hadn't understood it, I tried to make sure they did understand it and to realise that the implications of this were not what they thought it was.

Secondly, I tried to encourage people not to try to discuss what I thought was a very complex issue, because immunity is -- we've just scratched on the surface.
Actually we could have had an hour and a half on this and we'd still be going on how immunity and -- how it accrues. It's a very complex area of policy. So I tried to discourage this.

And thirdly, whenever asked, I stated, because it was true, that this was never a policy of government.

And, you know, all the things that SAGE was recommending, which were about reducing R below 1 , which I was talking about all the way through February, are by definition completely incompatible with a policy of trying to achieve herd immunity, which in any case is the wrong policy.
Q. Yes.
A. Our aim was to get $R$ below 1 , and therefore to reduce the number of people infected, rightly. That was the correct policy response. And by definition that's going the opposite way to achieving herd immunity. So, in a sense, our policy was the exact opposite of one of trying to encourage infection which I thought was a foolish approach to take.
Q. In a general sense, the government failed collectively to understand what you were saying, and for a number 21
it was the use of those sorts of phrases and words that led to this understanding that it was a goal. Is that the nub of it?
A. Yeah, I mean, I think that -- the passive "it would
become established" (misunderstanding of the science but in good faith) is quite different from actively trying to achieve it as a policy goal.

So I don't think -- even those anonymous briefings I don't think were saying the aim of it was going to happen, but it was essentially a mashed up understanding of some papers based on modelling which were not achieving -- aiming for this as a goal at all.

And I think, you know, if we were to go back in terms of our communication errors along the way, and there were a lot, this is firmly one of the ones where I think we didn't help the public by having a debate that, quite rightly, upset and confused a lot of people.
Q. Can we now look at behavioural fatigue. You may take the view that that's another area in which there was a communication difficulty or infelicity.

The material shows very plainly that there were debates within government, we've seen a witness statement from Mr Johnson in which he describes how he was told by you that there were limits to human patience, to the willingness of the population to do as
of weeks, in fact, it did in various different ways, and again this is not a personal issue, it did in various different ways promote and was seen to promote herd immunity as a goal, and that was an error?
A. I think -- well, I don't think anybody -- I never saw anybody on the record or anybody sensible aiming for it as a goal. I think some people tried to explain it as "this is what would happen over time". I think, frankly, unhelpfully. But -- and, you know, we'll talk about probably no doubt my own communication errors, and I definitely made communication errors through the pandemic, but my view was this was an area where the communications were a long way from helpful to the public, which is really what they should be about, because it gave an impression the government was pursuing a policy which it absolutely was not pursuing, and, reasonably, people were upset about that policy because it would have been the wrong policy, but it wasn't the policy.
Q. You've said you never saw anybody on the record or anybody sensible aiming for it as a goal. Can we just be quite clear about that. There were government ministers, unnamed individuals, who did openly say that they understood that herd immunity would become established, to use the words of the commentators, and 22
they were told, it's essential to get timing right.
There were press conferences, as you're very well aware, in which there were references to people becoming understandably fatigued.

The notion that people would become fatigued was not a surprising one, was it?
A. Yeah, so I think -- I mean, this is one where my communications were really poor, frankly, and I said in my statement this is probably my most prominent, at least in my view, communications error. So I think probably let's separate out three separate things.

The first one is: was there a lot of debate around whether over the period of the pandemic, that's an important point, people would become more and more -I'm going to use the word fatigued for the sake of argument, and it would become less easy for people to continue, less easy for people to support something.

And those debates were happening, there's no two ways about that. And there's a large academic literature on this, most of which is not in the UK. If you put in "pandemic fatigue" and "Covid" into Google Scholar or PubMed, you'll get large numbers of papers, you know, hundreds of papers, discussing it. Not discussing my views, discussing it in general. There was a WHO conference on pandemic fatigue in

October 2020. So this idea was in the general sphere --
Q. Milieu.
A. There was then a debate, rightly, in SAGE about this, in part triggered by me talking about it, foolishly, in press conferences in which -- I think it was around about 13 February from memory ...
Q. 9th and 12th.
A. Okay, 9th and 12th, apologies. And in that -- the end result of that was a statement by SAGE firmly that this should not be taken as a reason to delay an action.

And from that point onwards, not only did I not say anything more about it, because I was rightly told off by my behavioural science colleagues, because the way I'd phrased it, which is "behavioural fatigue", almost implied that it had come from them, which it absolutely had not, and I wanted -- I want to put on the record it definitely did not come from them.

And secondly they pointed out the fact that I'd explained it very poorly, which I had, and so I stopped, and I also steered other people away from doing so. So when other people said, "How shall we describe this thing?", I said "Don't, it's a bad idea, my fault this has entered parlance".

So, in a sense, the concept was not unreasonable, the debate was not unreasonable, but the discussion of
and muddling it up with those discussions was, in my view, unhelpful. So that was -- in a sense it was a double bad hit from that point of view.
Q. All right.
A. It was a useful thing, though, in my opinion, and I'm not sure my behavioural science colleagues would agree, to think about over the pandemic arc as a whole, which in my view was where we really had to be. And, you know, just numerically, if you look at subsequent lockdowns, for example, which were much more contested than the first one, they occurred at a much later stage, with many more deaths unfortunately, many more cases, than they did on the first one, because by this stage people's, in a sense, barrier to wanting to do this, at least politically, possibly, and personally, had moved on. And those countries that maintained a zero Covid approach by the end of their period I think found quite considerable difficulties in taking the population with them in some cases.

So I think, you know, if you view it over the pandemic as a whole, it's not an unreasonable thing to consider, but absolutely should not have been linked to, and I would completely accept this, the first decisions on exactly the timing of the first wave. And that's what SAGE said, and that was therefore the advice, very 27

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it in public and linking it to the first lockdown were really unhelpful, and that's entirely on me on this one.
Q. And absolutely fairly, Professor, in your internal emails with the Secretary of State and other government ministers and advisers, you acknowledge it was a bad term and your fault to have used it. But I want to be absolutely plain where the choke point is in this. It wasn't the idea that people would become exhausted and fatigued by interventions, by countermeasures, and perhaps that would impact on compliance that was the problem, it was the notion that the fairly sensible, commonsensical point that they would become exhausted by countermeasures was thought to have its foundations in behavioural science or some sort of technical understanding --
A. Well, it was --
Q. -- that that was the problem?
A. Well, there were two problems, I think. There was that, which was my bad use of language entirely, but the other one was the, you know, there were very good reasons, as we discussed yesterday, why it was important not to start any activity before you needed to because of all the downsides that come from big social interventions, school and lockdown in particular.

This one was really irrelevant to those discussions 26
firmly, that Patrick Vallance and I gave subsequent to SAGE and it was in the minutes, it's reasonably clear on that, I think.
Q. Before turning to look at the first lockdown, which we need to do in some detail, I just want to raise a couple of other issues, and could I just invite you to try to give your answers as concisely as possible --
A. Apologies.
Q. No, no, there's no need to apologise, but we're very much constrained by time.

On 13 March there was a SAGE meeting.
INQ000109142.
At pages 2 to 3 , SAGE says this:
"SAGE was unanimous ..."
If I can -- it may be over on page 3 .
Yes, point 24, thank you:
"SAGE was unanimous that measures seeking to completely suppress spread of Covid-19 will cause a second peak. SAGE advises that it is a near certainty that countries such China, where heavy suppression is underway, will experience a second peak once measures are relaxed."

Was that, in your understanding, a reference to the debate that we had yesterday about uncoiled spring?
A. Yes. And essentially what it's saying is if -- you can 28
choose to go for a complete suppression one, but if you do so there will be an exit wave. That's not a -that's an inevitability. And indeed, as I said, countries which have gone down that route did have an exit wave, fortunately after vaccination.
Q. SAGE was unanimous, do we take it therefore that that was a view to which you ascribed?
A. I consider it a statement of fact.
Q. Indeed.
A. That doesn't mean it shouldn't be done, it's simply a statement of epidemiological fact that that would occur as a result, absent an incredibly effective vaccine.
Q. And, of course, the consequence of that unanimous view, 14 Professor, was that SAGE was concerned that whatever countermeasures might be proposed and implemented would bring about the very thing which they were warning against there, that's the nub of the debate or the concern?
A. No, I would put it slightly differently, actually, I would say that if policymakers wanted to go, and it was a legitimate debate to have for policy leaders, for a complete suppression approach, which would have meant long periods of significantly more severe lockdowns than we had, for -- because you have no immunity at all, then 29
countermeasures were going to be required, and of course they were debated on the Monday and they were brought into effect during the course of the week.

To what extent over that weekend, Professor, was it appreciated that those countermeasures, the initial countermeasures of that week, might not be enough and that a lockdown, a mandatory stay-at-home order, would have to be imposed? What was the degree, if any, of inevitability?
A. Well, I think in a sense I take it -- I kind of take it in stages, because if we go back to our ladder of intervention in public health that I talked about yesterday, clearly what the ideal would be is to get $R$ below 1 with the least disruptive combination of measures that can be achieved.

So let's take that as kind of the framework. What happened over this period was, in a sense, two separate things which intersected. Firstly, a realisation that we were a lot further along the path -- well, significantly further along the path than we had thought we were, meaning that a lot of thinking and a lot of activity had to be accelerated that we'd thought could have done later had to be brought forward in very short order. And the second was a realisation that we were really not going to get on top of this with anything
you had to accept that it wasn't you would just do that and at the end of it there would be no Covid, you would have to do that and at the end of it you would still have to accept there would still be a wave.

Now, it might be wave much later down, when there were medical countermeasures, there were large numbers of legitimate arguments, but what you shouldn't do is go into it as saying, "This is going to mean we will never have any Covid at all". That was not a -- on the cards epidemiologically, and I don't think anyone who understands epidemics would dispute this statement as a statement of fact.
Q. All right.

Now, during the weekend of 14 and 15 March, there were, as you know, and you attended many of these meetings, a number of meetings and a great deal of debate within Number 10 as to whether or not the countermeasures which had already been imposed, in fact on 12 March, were going to be adequate, in light of the understanding, the dawning realisation that we were further ahead on the epidemiological trajectory than we understood and that the consequences of that were going to be very severe indeed.

In very broad terms, the Prime Minister and officials and COBR and SAGE understood that further 30
other than quite a large number of measures.
Now, in theory, had the force of transmission been somewhat lower, it might have been possible to get on top of them, get R below 1 reliably, that's a key word, "reliably", short of a full mandatory lockdown, in theory. But once we got to above a certain point of force of transmission, based on the modelling we had, with all the caveats that go with that, it looked extremely unlikely that we could reliably get to that stage.

So I think, you know, we shouldn't see this as a sort of yes/no on this. My view was that the measures that were brought in on the 16th by the Prime Minister, the stay-at-home orders and so on, were virtually inevitable and had been, in my view, for some time, it was a matter of when rather than whether. That was a huge intellectual Rubicon in my view that the government crossed at that stage, and I was very relieved on the 16th when that occurred, actually. As I say, we hadn't realised how close to that point we were until very shortly before it. So that's that correction.
Q. Can I just interrupt there to say, may we presume from that that you were concerned that those 16 March measures may not have been applied quite soon enough? 32
A. Oh no --
Q. You were obviously concerned --
A. So I think that there are two marginal areas where, in this area, I would have a slight deviation from the opinions of Sir Patrick. It's very slight, and it's an opinion, not a ... thing.

I think it would have -- you know, if we were to run this again, hopefully we, none of us, ever will, but in theory I think we would have brought in the 16 March measures several days earlier, not a long time earlier but several days earlier. And personally I would have added into those the measures on stopping hospitality, because it seemed to me very strange that we had a segment of the economy, a very important segment of the economy under ordinary circumstances, whose principal function is bringing together households, that's its business model, at a time when not having households together was a good idea.

So I think that -- you know, now we know what the numbers are and now we know how it plays out, that's what we would not do. I'm not sure it was obvious at the time. I don't think -- you know, certainly prior to the 12th I don't think many people were really saying "This is the moment we have to do this", so the debate is essentially over a four-day period at this stage, 33
debating this technically there was a hope that they would work with some additions l've talked about on hospitality, but no confidence that they would work, and that was my position as well.

And, you know, had there been -- had this been a very slow-moving epidemic, and some infections move very slowly whilst still being very profound, HIV is an example, we could have afforded potentially to wait a few weeks and see what happened, but that clearly wasn't the situation with this. And the problem was between -- because it was doubling so fast, if you waited the three weeks, probably, it would take to get the information, you would be multiple doubling times away from where you were then. So the word "reliably" was very important.
Q. Do you say that there was, on the part of some or a significant number of people who mattered, no confidence that they would work, a desire to try this as a suite of measures or as a measure because the alternative was a terrible thing to countenance, to go straight to, if it could practically be done, a full mandatory stay-at-home lockdown, this had to be tried in order to ensure that the next step perhaps might never occur?
A. I think ... so this is the other bit where I think
but --
Q. All right.
A. -- looking where we were now --
Q. Can I pause you there because it is very important that we understand the chronology.

So when those measures were imposed on 16 March there was room for debate as to how early they could have been imposed, there is some room for debate about whether they should have been imposed earlier, a few days earlier.
A. Yeah.
Q. You have used the word "reliable", there had to be an assessment of how reliable those measures would be, and obviously there was room for different views as to what that reliability might be, what the compliance would be, what the take-up would be in response.

Can I ask you, please, therefore: how confident -what was the level of confidence in government that those 16 March measures would work? Were they measures that were very much a roll of the dice, "We had better try this and we will see what happens", or "Are we confident that this will work and there will be no need for further more stringent countermeasures?" What was the thinking?
A. Certainly I think that among the people who were 34

I slightly deviate from Sir Patrick again in a matter of nuance, and this is entirely benefit of hindsight stuff, this is absolutely not what we were debating at the time. I don't think it's an absolute inevitability that the introduction of the measures on the 16th plus issues around hospitality in theory couldn't have actually held the line, done at an early enough stage with a different infection --
Q. Just pause there, "at an early enough stage", so had they been introduced earlier the chance that they might have worked goes up?
A. Goes up. Well, you see, the chance that you will know whether they have worked or not, sufficiently, goes up. But in practice this was moving at such a speed that that possibility I think was essentially not there anyway. And I don't think -- you know, that is -- this is all with the benefit of hindsight stuff. I think actually at the time I think these were shunted together. So in practice I think Sir Patrick's statement is, in fact, correct. I'm just saying, in theory, you could separate out the decisions taken on the 16th, which I consider, as I say -- if you think where the philosophy -- and I don't think he'd disagree with this -- the philosophy of the then Prime Minister was, this change is almost antithetical to his whole 36
philosophy of life, was my view at the time, and yet he still made it, because we could see we were really staring into an incredibly difficult situation.
Q. And is this the position also, that plainly a government can introduce countermeasures, but they have to have practical effect and they have to be workable and they have to make sense, in practical terms, there has to be built in necessarily a period of delay while the appropriate plans are put into place, for example shielding, you can't just simply impose a shielding system overnight, practical arrangements have to be made, so any order for a countermeasure of that type to be put into place has to take into account the need for the necessary preparations?
A. Yes, and It think as -- I mean, there is that, there is that, but I also think that between the 16th and the 23rd, when the full lockdown came into place, I think three separate things happened. The first and the most important was that the realisation that we were going to need to do more, or at least might well have to do more and wouldn't have the time to find out, accelerated. And we had, and I think one of the most important things that -- we hadn't definitely come to this realisation on -- certainly just before the 16th, the closure of education, which was, for this kind of 37
they were going to do it but quite a lot of -- a much higher proportion of people said they weren't confident other people were going to do it. And that's a very corrosive situation. So, slightly counterintuitively, the advantage of a mandatory lockdown is it essentially says, "everybody in society is going to do this, so if you make a sacrifice, your family makes a sacrifice, so is everybody else".

So I think it had that additional benefit, I think, of making clear to people that this was across the board. There weren't going to be anyone who anyone could see as freeloaders. This was simply, "we, the state, are going to reflect the wishes of we, society", which is that everybody will do this to protect the most vulnerable. And I think it really -- it was that progression, I think, which got us to the position where we finally ended up on the 23rd.
Q. All right.

It's a very lengthy answer, understandably, so it's reflective of the thinking which was going on in the course of that week.

I now want to come to the following weekend, so the weekend of the 21st/22nd.

You prepared a report on 21 March titled
"Coronavirus summary of strategic and tactical approach 39
pandemic, going to have to be for a long period, if it happened at all, we were hoping that it would be possible to just about get away without doing that, and it became clear that didn't look a safe decision.

I considered the decision to close education except for key workers and vulnerable children to be a really important step, which everybody saw was one we would try to avoid under all circumstances.

Then I think the second thing is we became uncertain -- we were uncertain and we didn't get any certainty to counteract that, whether the over 75\% reduction in mixing of the population that the modelling implied we would definitely need to get R below 1 was going to be achieved by voluntary measures alone.
Q. Yes.
A. And then I think the third one, which I think is often underestimated, is actually the British people, to my and most people's absolute lack of surprise, responded to this incredibly, and the voluntary measures were actually very firmly adhered to, and if you look at the approval of doing this in the general public at that stage, YouGov polling and others, over $90 \%$ of the population were in favour.

But interestingly, what the polling also demonstrated was that the great majority of people said 38
to the epidemic", and I just, if you'll bear with me, I wish to try to summarise as best I can what that meant.

You set out in the report in very clear terms how coronavirus was capable of causing significant mortality: direct mortality from people dying from the virus, deaths from the virus; indirect deaths or indirect causes of mortality from the NHS emergency services being overwhelmed; a third cause, postponement of elective care and non-urgent medical treatments causing indirectly further deaths; and you also point to the very significant economic disadvantages and disparities which meant that, over the long term, there might be an increase in death from poor physical and mental health outcomes.

In that report, you set out from a technical public health angle how direct and indirect mortality needs to be lessened. Obviously you are trying to reduce the number of deaths overall, directly and indirectly.

That paper and its description of how the imperative in public health terms was to reduce death was obviously a major driver towards the final lockdown decision. You wouldn't have prepared the report otherwise.

With that understanding, Professor, what weight in the ultimate analysis, in the final decision-making, was 40
placed upon that report and your analysis in the decision to lock down, which of course comprised a myriad of different considerations, medical, public health, societal, economic and so on and so forth? Was your report and your call for death to be reduced the game-changer, if you like, on that Monday, on the Sunday night/Monday?
A. No, I mean, I don't think it was. And to be really clear, I mean, these were points which I, Sir Patrick and many others had been making before, this was not --
Q. You had, of course.
A. -- the first time.

The reason for doing the report -- I'm trying not to be hubristic about this -- the reason for doing the report was I thought that there were quite a lot of unjoined up, perfectly sensible tactical decisions which didn't really take an overall strategic approach to the epidemic as a whole, not just the next few days but actually over the course of the epidemic, and I wanted there to be a single document short enough for people in a hurry to read that actually laid out the strategy and then also the tactical pillars and then what were the operational implications.

So the reason for the report was a sort of pulling together of lots of strands that were already occurring 41
rather than to try to drive thinking around the immediate decision. That was actually my view about the report.
Q. Right.
A. Many other decision -- discussions were having, with all of the same kind of elements as the report, but which were really saying "We must do something and, based on the modelling, we're going to have to do it now and quite forcefully". That -- but in sense those are happening in parallel but they are all of a piece. But I wouldn't want --
Q. Were you -- I'm sorry. Were you contributing, therefore, on the Sunday and the Monday --
A. Yeah.
Q. -- to that debate directly by saying, "You've got to take the more stringent measures" --
A. Yeah, in a sense --
Q. -- "because of the death concerns"?
A. Yes, I mean, I think -- I was, many others were, and in a sense the contemporaneous record of my views is this report and SAGE minutes. Those are really the two things which record them.
Q. Right

So now, with that in mind, Professor, to what extent was there a debate on the Sunday and the Monday about
in one place, and also it was clearly already essential, it became more essential over time actually, to make clear to some of the senior policymakers that this would come to an end, because the danger was they just saw this as, "This will be night without end, we will be in a lockdown forever and what are we going to do?" So we needed to see there was a beginning, a middle and an end and there was a logic to whatever was being done.

But the report itself was simply a distillation of lots of things that were already going on. So, in my view, it wasn't new knowledge, it was simply a bringing together --
Q. I do apologise. I must ask you please to focus on the question, which was being asked for a reason, which is: to what extent do you assess -- or what impact do you assess that report had on the ultimate decision-making?

This was a report about reducing mortality, it was a report which called upon the government to be aware that the number of deaths -- or what was potentially enormous was going to be enormous unless steps were taken and this was something the government had to address?
A. 1--
Q. What was the impact?
A. So my view is the report was more for a long-term impact 42
what the level of indirect/direct mortality was likely to be in light of any further countermeasures, that is to say the mandatory stay-at-home order, the final step being imposed?

Or putting it another way, how clear was the government that there would be a significant difference in the number of deaths, directly or indirectly, if a mandatory stay-at-home order were not to be imposed. What understanding was there of the impact of this decision-making on the likely number of deaths? Because death, bluntly, was of course the main driver in public health terms of the final lockdown decision.
A. So I think my view was that was the central driver, but it was also the recognition that it was the direct deaths from Covid but also the deaths that would accrue were the NHS to be even more under pressure than it actually was, which was very substantially under pressure. So those -- and that's sort of my second form of indirect deaths, that was the other very major thing to prevent as -- by using lockdown and other measures.
Q. And we're going to look at the NHS position in a moment. But can I again ask you the question: was there an understanding, in any real sense, of what the differences in figures would be, figures for death, the numbers of deaths, between the existing countermeasures, 44
those of the 12th and 16th and 20th March and the final countermeasure on 23 March? Did government, in a general sense, ask itself this question: will there be a significant difference in the number of deaths if we do impose this final mandatory stay-at-home order or if we don't? Or can we just not tell?
A. What we -- so what we were clear about -- and the answer is yes, but by one remove. An important remove. And the remove was the key was to get R below 1, because until that happens the pandemic is doubling up every number of days. And it was clear that by the stage after the 16th, due to people's remarkable actions, the R -- the doubling up number was going to be extending. So it would not be, maybe, every three days, it would certainly have gone on for longer, but it's still doubling, and we had to get to a point where it was halving, which is the key to get the R below 1 , and we were not confident that the measures prior to the 23rd, based on the most recent data from the modelling groups, that getting $R$ below 1 was going to occur with sufficient confidence that we could just say "Let's wait and see". So we had to move --
Q. All right.
A. -- if that was the decision of ministers, that they wanted to reduce mortality.

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you're in an exponential growth curve the difference between two doubling times when you're in high numbers is absolutely massive numbers. So, you know, even if you get it wrong by half a doubling time by this point you're still talking about a very, very big difference between one outcome and another.

What we were not confident at this point -- we were confident that if $R$ continued to be above 1 , firstly, a lot of people would die directly from Covid and, secondly, that the NHS would come under even greater pressure, and potentially catastrophic pressure and --
Q. Can I come to the NHS --
A. Yeah -- those were key -- those were key decisions. I thought that the exact numbers you want to put to those were, at this point, speculative and in a sense didn't matter. We had to get $R$ below 1 , it was absolutely essential.
Q. If I can attempt to summarise the nub of the position as the government saw it: it couldn't know and would never know precisely, or perhaps at all, what the differences in mortality would be if it did or did not act by imposing a lockdown, but it knew, because it was told by you, that when dealing with a viral pandemic with exponential growth there had to be a step taken, because the nature of exponential growth is unless you do take 47
Q. Obviously you could only opine on the public health aspect, on the question of direct or indirect mortality and the impact on the NHS and so on.

Can you assist us with how that debate was framed, Professor? Did the debate focus predominantly around the need to get $R$ below 1 or did it become a debate more directly about having to act because of a belief that there would be significantly more death if they did not act in this way?
A. Well, in a sense, it was the second but because the first was -- we were not sure of, because the key thing was getting the R below 1 and the pandemic --
Q. Right.
A. -- would start to shrink -- this wave, rather.
Q. On this issue, of what the likely consequences would be if they didn't act on direct and indirect mortality, what degree of -- or what was the degree -- what figures, what data was available to, essentially, the Prime Minister and COBRA and Cabinet on that Monday in terms of what the differences would be in terms of deaths? Or was it just not something that could be calculated?
A. Well, there were various models of it but I think -- and this goes back -- I'm going to come back -- I've come to this repeatedly but I think it is important -- once 46
that final ultimate step it's going to continue exploding?
A. Yes.
Q. Is that the nub of it?
A. Yes. Me and others, to be clear, but that is the nub of it.
Q. Right.

So what do you say, then, to the suggestion that the government overreacted by way of the imposition of a lockdown because of an unfounded fear that there would be a significant increase in mortality if it did not act?
A. Well, firstly, I think -- well, no one is absolutely certain exactly what would have happened under that circumstance, but I think there is a high chance, I wouldn't like to put a percentage on it, but non-trivial certainly, that R would have continued above 1 , and significantly above 1 , and by this stage we were talking about large numbers. So once you start doubling up from large numbers, even if it's over four, five, six weeks, you're still going to end up in a very, very difficult place.

So I think it would have been very difficult to justify if the aim of ministers was to minimise mortality, which was very clearly their stated aim at 48
this point, to continue where we were. We had to do something which would make it as close to -- as good as we could get that the numbers would definitely start to fall because $R$ had fallen below 1 .

And we had seen, in a very different setting, in a different culture, et cetera, in China, this could be achieved. So it wasn't that this was a theoretical possibility, this had been achieved elsewhere, and we therefore needed to try to achieve that in the UK.
Q. Yes. No one suggests that it couldn't work. Of course it did work. But --
A. Well, I mean, if we hadn't seen it work elsewhere, I think that question would certainly have been asked.
But as it had worked, it was -- in a sense you could say, "Well, it can do".
Q. And it did work of course --
A. Well, "work" is a relative term, but it certainly had an effect, yeah.
Q. So the primary objective, if you like, or one of the primary objectives, was to bring R below 1 , because of the explosive --
A. Yeah, the primary strategic objective was to minimise mortality and the principal tactical driver was to get $R$ below 1.
Q. Yes. Obviously, by 23 March the government had, in 49
serious debate that said, at this point, "Let's wait",
I think the debate at this point was the numbers here are looking reasonably stark.
Q. Let me put this point to you, please, Professor: no one wanted to take the risk because if you found out later that you weren't getting $R$ below 1 then of course you'd be in even deeper trouble. The whole point about the introduction of the countermeasures the week before and the week before that was to try to bring R below 1 ; they obviously weren't introduced with a view, "Well, it's not going to work", but they were introduced in good faith to try to bring $R$ below 1 in the same way as the ultimate lockdown measure sought to bring $R$ below 1 .

Why was there not further consideration given to allowing that strategic aim, the secondary aim, if you like, to be brought about, to be given effect by more time, given that those countermeasures the week before presumably were introduced with good sense, in good faith, to try to bring R below 1 ?
A. I mean, I think it was really very clear from our modelling colleagues and more widely that the force of transmission, the countermeasures we were going to need were, if anything, greater, that -- in a sense we realised as time went by the force of transmission was harder and harder to get on top of, we were further
a series of measures, introduced interventions, on the 12 th and on the 16th and on the 20th. To what extent was there debate on the Monday and on the Sunday night of whether it was sensible or appropriate or advisable to allow just a bit more time for those earlier countermeasures to do their work, to have effect? If, as it happened, those countermeasures collectively were assisting in bringing R below 1 , perhaps not immediately but over time that there was a prospect that they would succeed in bringing R below 1, was there consideration of waiting or delaying to see whether or not this final draconian step was indeed necessary, perhaps another week to say "Let's wait to see whether these measures, having bedded down, are bringing about compliance, are reducing $R$ below 1 so we don't have to do this"?
A. By the time we got to this weekend I think nobody would have wanted to take the risk that would have gone with that, because if you then found out a week later that you weren't in -- that you hadn't got $R$ below 1 you would be in very deep trouble -- we were already in very deep trouble, even deeper trouble. And moreover it wasn't just a matter of trying to pull it down just below 1 , it was really trying to shrink this wave as fast as possible. So I think -- I don't recall any 50
along the curve than we thought we were going to be, it was clear we were not going to have enough data even to contemplate that for two, three weeks, which would -- in doubling time terms, it's potentially an extraordinarily big difference in transmission. So I think that the -in a sense, by this stage the debate really, I don't think, would have made sense that said, "Well, let's wait three weeks", because we're really talking two to three weeks at least before you could say, "Is this having an effect?" This wouldn't, by this stage, have been a safe thing to do if the principal aim is to avoid the worst possible implications for the NHS and increased mortality. So I think, in a sense, from a public health point of view, the arguments by this stage for action were very strong.
Q. What about a week, though? The countermeasures from the previous week presumably had some effect in bringing $R$ down. You couldn't know whether they were bringing them down speedily or slowly towards 1 , or let alone below 1 , but presumably they had some impact, they were doing something?
A. Oh yes, and I think we all thought that they were going to slow down the rate of increase, but the question was were they going to lead to an actual halving rather than doubling occurring, and that was -- we were -- you know, 52
certainly I was not in any way confident that that was going to happen. And if you're not confident in this kind of situation, this close to -- in a sense, this close to the edge, you can't afford to take that risk. So I think that is a -- you know, if the aim is to minimise mortality, which was clearly the aim of ministers by this stage.
Q. So is this the position, you couldn't know how effective the existing measures were, you would never know, likely, what impact they were having, but they were undoubtedly having some impact, but because you're dealing with an explosive, exponentially-growing virus, the only way to go, as you saw it, was to apply a variant of the principle of go early go hard, you've got to get on top of the problem and act harder --
A. Yeah.
Q. -- because the alternative of not acting is far worse; is that the nub of it?
A. That is the nub of it. And I think, you know, it was possible to do because, in fact, some fantastic civil servants -- I'll call out Clara Swinson, who has given a witness statement to you, but others -- had kind of done preparation for these kind of eventualities, but the nub of it is exactly as you say: that we had to get on top of it by this stage if we were not to take a very 53
considerably. At times there are references to the NHS being "severely disrupted", other times "under extreme pressure", "swamping" the NHS resources, "deluging" the system, there are references to placing "severe demands", the risk that the remaining peak will overwhelm the UK surge critical care bed capacity by eight-fold.

And if we move forwards to the most relevant time, 21 March -- if you go back one page, please -- if we go back one further page, to the "Covid-19 Strategy Ministerial Group meeting" of 21 March, you will see there:
"... 'The CHIEF MEDICAL OFFICER ..."
And you gave quite detailed figures about ICU capacity.
"... said there had been 872 new cases identified the previous day. The critical question was how many cases were in the Intensive Treatment Unit ... this number was 335, of which 193 cases were in London."

And you describe how, in normal circumstances, there are 700 ITU beds in London.

If you go down to the bottom of the page, you will see there is a further reference to something that you said.

And then over the page, I think it's
55
significant risk with -- essentially with people's lives.
Q. Now, l've said repeatedly to you we would look at the position of the NHS, and this is the final topic that I'm going to ask you to address.

In your report, and more widely across government, it was plainly understood, and it had been understood for some weeks by 23 March, that unless an appropriate degree of control was exercised over the growth of the virus and R was reduced below 1 the NHS would be, just to use one particular word, overwhelmed.

Could we have, please, INQ000274026 on the screen, which is a document -- you've seen it before,
Sir Chris -- in which there are charts dealing with, in a very broad sense, the likely impact upon the NHS.

INQ000274026.

## (Pause)

I think I've provided the wrong reference. We'll look at this one first, then.

What we've done, Professor, is we've taken from as many of the SAGE and briefing and COBR minutes as we can the references to the likely impact upon the NHS. If we just scroll through it, I'm not going to put to you each one, that would be a ludicrous exercise, but you will get a flavour of how, by and large, the language varied 54

## Sir Patrick Vallance:

"Responding, the GOVERNMENT CHIEF SCIENTIFIC ADVISER
said that the data had been worked out in terms of doubling times. The supply of beds would become critical at about 3.5 doubling times on current projections."

And:
"The worst case scenario was that ITU capacity in London would be overwhelmed in nine days' time, but the projection was that this would happen in 15 days' time."

Moving forward to 22 and 23 March, perhaps we could pick it up at 23 March ministerial group meeting. We can see there is a reference at the bottom of that page to the chief executive officer of the NHS dealing with ratios in intensive care and how they were being stretched in London, and the CEO talks about ventilators and staffing and so on and so forth.

It is obvious that you and the government were provided with detailed information from the NHS, NHS sitrep reports. There was evidence from the chief executive of the NHS, evidence from Lord Stevens, a great deal of material talking about the likely impact on the NHS.

But what was ultimately, on 23 March, the final understanding as to the actuality of the likely impact 56
on the NHS if this step were not taken? There is no, it 1 seems to us, clear exposition on what the threshold test was that was being applied. Was it eight-fold swamp? Was it overwhelmed? Was it severe pressure? Was it severe pressure with surge? Severe pressure without surge capacity?

What was the understanding as to what would likely happen to the NHS if a lockdown were not imposed?
A. Well, I think that the first thing that was going to get to the point where it was no longer able to function in any sense close to normal -- and to be clear, in every country in Europe the health service came under huge pressures, it's not -- this wasn't, this was inevitably going to happen in the event of the first wave and, indeed, subsequent waves, so just put to put that caveat, but the ICU system was the first thing that was going to get overtopped, to the point where actually it was no longer able to function under any normal circumstances.

And the reason I would be very cautious about exact numbers is the reason that you have from Sir Patrick and others about doubling times. Because if your doubling time is, for the sake of argument a week, a week, therefore, is the difference between the ICU just coping -- define that as you will -- and having twice as 57
was always going to be the biggest thing that we had to deal with. Ventilators we worried about a lot, which we will come on to in other modules no doubt.

So it wasn't a fixed number, that's the point I'm making on this.
Q. There was a surge capacity?
A. There was some degree of surge capacity. But once you're on an exponential growth rate, until you stop that exponential growth rate, you are going to be overtopped sooner or later. And our view was, at the rate we were going, it was going to be sooner.

I think putting exact numbers on that is a slightly spurious exercise for a variety of reasons, but that principle that you move from -- you are just below your absolute upper end of your margins to well above it in a very short time, I think is the key to understand here.
Q. But you didn't know for sure that there would be exponential growth because you couldn't know whether the previous countermeasures would work or to what extent they would work. You were assessing the risk that there would remain an exponential growth and that eventually the NHS would be overwhelmed?
A. Yes.
Q. Right. As at 23 March, did anybody within the NHS or on 59
many people as it can possible absorb. Two weeks at the same rate and it is four times.

So you've got a situation where you move -- you really have almost no margin for error. And the very -you know, the -- that is what we saw, was that the biggest pressure did come first to the intensive care system. It was across the whole board.

Now, the NHS responded absolutely extraordinarily by two mechanisms, we'll probably debate that in another module, but just to say that one of them was expansion of the ICU footprint, so in my own hospital that was --
Q. I'm so sorry, Professor, can I ask you please to remain focused on the issue of: what did you understand -(unclear: multiple speakers)
A. Well, this is -- in a sense this is the part of the answer, which is, the ICU footprint, as it normally stood, was expand -- could be expanded and was expanded well beyond what it previously was. So in a sense the -- you can -- and this is the framing I actually used at the time, you know, you have to reduce the flood, you also need to raise the river banks. And the raising the river banks bit was expanding the ICU and the general capacity of the NHS, Nightingale hospitals was the next stage along that, so -- but in reality the biggest limitation is always skilled personnel. That 58
the part of government say clearly, "The NHS will break if you do not take this particular step, because the footprint and the surge cannot accommodate, on our figures, the increase in beds and ICU beds that will be needed"? And that therefore you must take this step. That the NHS won't just buckle but it will break?
A. I think that this -- ultimately I think this understanding is what took ministers to the point of realising there was, if they wished to minimise mortality, no option. Was to understand that if they did not take this action it might not be $100 \%$ certain that the NHS would get to that point but there was a high enough probability that it was simply not something that was an acceptable thing for the government to do if its aim was to minimise mortality.

So that is -- very clearly, this risk was very, very heavy in driving, in my view, the decisions that ministers subsequently took.
Q. But you're coming back, there, to the main mortality risk, aren't you, or are you dealing there with the indirect --

## (unclear: multiple speakers)

A. Yeah, this is essentially the combination of the direct mortality, what I called "A mortality" and the indirect mortality due to the emergency system being overwhelmed, 60
that's both the front door and the intensive care system being overwhelmed. And it was to protect those two all the way through the first two years of the pandemic really that a very large number of the actions in social distancing were taken, not only to do that but that was a very large part of the reason that ministers took the decisions they took.
Q. I want to be absolutely clear about this, on 23 March there was nobody saying -- putting aside the terrible pressure, the strain, and despite uses of words such as "overtopping" or "overwhelming" or whatever epithet or description might have been used -- the NHS will break by a given date? The analysis was different, it was: unless you take this step and promote the prospect or increase the chances that you will bring R below 1 , at some point the NHS will break?
A. At some point.
Q. That's the analysis?
A. At some point soon.
Q. But no one knew when it would be?
A. No, because -- because of the nature of exponential curves and the lack of contemporaneous data on the speed of transmission by this stage, given the magnificent response of people to the voluntary measures. But, you know, I think this is not a risk, frankly, that any 61

MR KEITH: Eat Out to Help Out. Do you agree that there wasn't a full or indeed perhaps any consultation with the CMO or DCMO or the OCMO over that scheme?
A. Yes, my written statement makes clear there was no consultation -- that we -- there was no consultation.
Q. I need to put to you that in his witness statement, Boris Johnson says:
"... it was properly discussed, including with Chris and Patrick ..."

Do you agree with that?
A. I -- on this one neither Patrick nor I can recall it, and I think we would have done.
Q. In relation to the summer and the autumn, and I'm not going to --
A. And actually -- if I can just add to that -- and I made, fairly firmly, to Number 10, not to the Prime Minister, the view that it would have been prudent, let's put it that way, for them to have thought about discussing it before it was launched.

And this was aimed at the centre. I was unsurprised that Treasury and many other ministries were coming up with various schemes, that's perfectly legitimate, Number 10 held the ring and I felt -- so it may well be correct that the Prime Minister was under the impression he had been consulted, but it was not the fact that we 63
were consulted, and that difference I think is probably worth just highlighting.
Q. The --
A. And I think we should have done.
Q. Yes. Yes, I mean, his assertion is it was properly discussed. He doesn't say he was given the impression it was discussed, he does appear to assert it was.

Briefly, and briefly because it is absolutely apparent, you may agree, that throughout the summer and the autumn SAGE, yourself, Sir Patrick, had a clear view in public health technical terms as to the likelihood or, perhaps, inevitability of a second wave, and therefore you constantly consistently raised your concerns, and there are multiple letters, strategy notes, meetings at which you say: a second wave is coming, if you relax too quickly, too early, the combination of those relaxations, or if you don't take in combination sufficient steps thereafter to restrict the growth in R reproduction rate, you're going to end up with another serious outbreak, second wave, and with all the consequences that we're now so familiar with.

That position was a public health position. It was, of course, for the government to decide how to weigh up that position against economic, societal and many other considerations.

Do you consider that, in public health terms, the government had an option, and a realistic option, but to impose the second lockdown? I'm very carefully not asking you to enter into the debate about economic, societal against public health considerations. Just on the public health side, was there a public health option?
A. By the time it had got to the stage of the second lockdown, given the principal aims of ministers to minimise mortality, I couldn't see many options. Whether other decisions could have been taken earlier to have prevented that I think is a separate and quite important question, but in terms of -- once we got to that point, I think the realisation was there wasn't really much choice.
Q. And by that reference to earlier measures, had there perhaps been a circuit breaker in September, had perhaps a tier level system been introduced earlier and had time to work over a longer period of time, there remains the possibility that that second lockdown might not have been necessary --
A. Yeah.
Q. -- or might not have been as long?
A. I think that is -- I think most people would say that's the case. I think there are a variety of ways we could 65
potentially, where we would accelerate into a bend unnecessarily and then have to slam on the brakes because it was clear we were -- we'd overdone things. And I think -- I'm not going to go through the long list of things, you've got all the documents, but that position I maintain fairly consistently.
MR KEITH: My Lady, those are all my questions.
LADY HALLETT: Thank you very much. I shall return at 11.15 .
(11.00 am)

## (A short break)

(11.15 am)

LADY HALLETT: We will complete your evidence before we break for lunch, Sir Chris, I promise you.
THE WITNESS: Thank you, my Lady.
LADY HALLETT: Right, is it Mr Weatherby going first?

## Questions from MR WEATHERBY KC

MR WEATHERBY: There we go, the microphone's working.
Professor Whitty, I'm going to ask you some questions on behalf of the Covid Bereaved Families for Justice UK group, which represents about 7,000 bereaved families. I'm splitting my topics with Mr Wilcock, who sits behind me.

I have three areas that l've got allocated to me. I'm going to ask you some questions about asymptomatic 67
have potentially at least have had a less onerous lockdown than we did on the second one.

The third one, in my view, because it was a new variant, I think I would say probably we didn't have many choices but on this one I thought it was inevitable by the time we got there but wasn't necessarily inevitable had previous decisions been different.
Q. But your reference to the third lockdown, is that a reference to how the Alpha Kent, so-called originally, variant swept everything else away because it, of course, in epidemiological terms, swept across the country?
A. Yeah, had hugely greater transmissibility, and at that point I don't think -- so I don't think whatever government had done up to the run-up, I don't think that could have been avoided or significantly modified but I do think there is a strong argument that we could have ended up in a different trajectory between summer and, for the sake of argument, New Year 2020.
Q. In public health terms, other steps could and perhaps should have been taken that may have obviated the need for the second and third lockdowns, at least in the form in which they occurred?
A. Yeah, my worry, and you will have seen this from my correspondence, was that we were kind of bunny hopping, 66
transmission, and then l've got two short topics, one about HCIDs and laboratories, and one about travel restrictions.

Now, with asymptomatic transmission, on
27 January 2020, you attended a briefing, a coronavirus briefing, with the Secretary of State and other officials, in PHE and various other people, where the Secretary of State expressed concern at hearing that there had been a report from the Chinese government that Covid was transmitting asymptomatically. Do you recall that briefing?
A. I do in broad terms.
Q. Yes, okay. Well, I'm going to try to avoid putting documents up, but if you need me to I'm very happy to put the record of the briefing up for you, but just in the interests of time I'm going to try to avoid that.

So the Secretary of State opened the meeting expressing this concern, and then you're recorded as expressing the view that up to this point it had been assumed that asymptomatic transmission was possible but unlikely, and the upshot of it was that the Secretary of State ordered the department to seek clarification.

Now, does that accord with your recollection?
A. That's like -- that's certainly a perfectly reasonable

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position.
Q. Yes. Then we know that the following day, in fact, at 13 minutes past 6 in the morning, there was an FCO diplomatic telegram, so this is 28 January. I think I will put this up, because it's just important to concentrate on it.

## So it's INQ000064689, please.

It's point 2, and it simply refers to the reported number of cases in China. Then the second sentence:
"On 26 January, Ma Xiaowei, Director of the National Health Commission, confirmed cases of asymptomatic human-to-human transmission, making control of the outbreak more challenging (though far from unique to this virus)."

And so it goes on. Yes?
A. Yeah.
Q. That had a wide circulation. You weren't specifically on the circulation list but can I assume that you got to see this?
A. I did.
Q. Now, later that same morning, at about 10 o'clock, you attended a NERVTAG meeting, and at that meeting Public Health England provided both a written briefing and an oral briefing, and the minutes of that NERVTAG meeting record PHE as saying that there was no official 69
A. So just to be clear, the fact of asymptomatic transmission occurring doesn't necessarily mean it is a major part of the issue.
Q. Yes, although the Chinese director was highlighting this as a particular issue?
A. As soon as you got any asymptomatic transmission it makes life more difficult, particularly when you don't have any tests --
Q. Yes.
A. -- because otherwise you rely -- for all your things, including things like contact tracing, are all depending on symptoms.
Q. Believe me, that's where I'm headed. But -- again, I think we may be in the land of understatement here, but this is a massive issue, asymptomatic transmission, isn't it, potentially?
A. I think, well, it depends on the scale of it.
Q. Yes.
A. And that really is the key point.
Q. Yes.
A. And I think another point, which of course you know but I'm just going to highlight, is there's a big difference between asymptomatic infection, someone getting infection without symptoms, and asymptomatic transmission --
or published evidence of asymptomatic Covid transmission.
A. I think it would be unreasonable to expect a 6 am diptel from Beijing to have intercepted a previously drafted note from PHE.
Q. Yes, so it's likely, isn't it, that whoever did that briefing, and presumably yourself as well, probably didn't seen that diptel between 6 o'clock in the morning and 10 o'clock in the morning, but nevertheless it was there.

So objectively the position had moved on, even though presumably the PHE person and yourself didn't know at that point?
A. Yes. And -- but I think -- and I think that if you'll allow me, I think it's important to differentiate between two possibilities at this stage. One is that there is occasional asymptomatic transmission, which was relatively much more likely at this point was our assessment, and the second possibility is that asymptomatic transmission was a significant part of the transmission burden, and the third possibility actually, at the extreme end, that actually asymptomatic transmission on its own was capable of maintaining $R$ above 1. Those are three different situations.
Q. Yes.

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Q. Oh yes.
A. -- and I am just highlighting that because sometimes they get conflated.
Q. No, that and that's very helpful. But from early doors you were in discussions with other scientists about asymptomatic transmission because it is such an important issue?
A. Sure.
Q. By this point it's now becoming the official position of the Chinese government that it's a problem in China. I fully understand the caveats that you apply to it, but it was to become a major issue, asymptomatic transmission?
A. It was, yes.
Q. And this was a moment of alarm; yes?
A. It's the -- and I think that -- I've made this point in other contexts, the important thing to realise is this is not binary. As with much of science, this kind of gradually accrues over time.
Q. Yes.
A. It's not that you think one day asymptomatic transmission is not a problem and the next day you think it's a significant problem. It is a gradual process. This was a step along that path.
Q. Yes, indeed, but this is an important point. 72
A. Yes, no, absolutely.
Q. In fact, can we have up INQ000282774, page 2, please.

Now, during the meeting itself and immediately after the meeting you engaged in WhatsApp chat with the other UK CMOs, and I just want to read a short part of this.

It's page 2, please. Have you got page 2? Yes.
So Gregor Smith, the CMO for Scotland, 11.05:
"Just been in discussion with Søren Brostrøm, the [director general] of the Danish system. Has told me Germany now confirmed first case but appears to be transmission within the country rather than China. Has anyone else received this info?"

You then reply immediately:
"Yes but informally. We don't have firm data."
Michael McBride then joins in:
"Appears to have made the papers in
[Republic of Ireland] so in public domain."
Then:
"Having considered the EWRS ..."
Which is the early warning response system,
a European system -- thanks to my learned colleague for prompting me on that:
"... notification as reported appears to be consistent with asymptomatic transmission during the incubation period."
drawing the distinction between transmission and infection, also about the force of transmission, but nevertheless this is a key issue and continues to be a key issue --
A. Yes.
Q. -- for the reasons that you've adverted to a few minutes ago?
A. Yeah.
Q. Because this is an issue which goes to testing, to PPE, to infection control, all of those are massively contributed to as issues by asymptomatic transmission?
A. Correct.
Q. Yes, okay.

So we then move on a week, and this, the same written briefing from PHE that we've just referred to, going to NERVTAG on the 28th, which says that there is no official or published evidence of asymptomatic Covid transmission.

The same document then goes to SAGE, and we know that because it's on a government website, which we've provided to the Inquiry, but we know the same document, not updated, goes to the SAGE meeting a week later, at which you're also present.

From the note of that SAGE meeting, the minute of that SAGE meeting, there's no mention of your "we should 75

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A. Yes, and that's a slightly different caveat and it's to -- it may well be, as it is in many other infections, that for the same length of time with a symptomatic person compared to an asymptomatic person your chance of acquiring it from someone who is symptomatic may be significantly or at least --
Q. Yes.
A. -- appreciably higher. That was the point I was making. But I hope all of these are highly caveated statements, correctly, because we really, at this point, were still at the foothills of our understanding.
Q. Then, finally, the next line, from you:
"But we should now assume it may be happening."
A. Yes.
Q. So the key takeaway here is that you're all talking about this, all the CMOs, the Secretary of State, the Chinese government are highlighting it, this is a big issue. You're today, and then, caveating it by properly 74
now assume it may be happening", there is no mention of the Chinese government position on 26 or 28 January, and in fact the only -- the key reference to asymptomatic transmission for the record -- again, I can put it up if you want, but l'm trying to avoid doing that, but it's INQ000051925, and at paragraph 19 the SAGE minute says this, that "asymptomatic cannot be ruled out".

Now, that's very different issue to the Chinese government saying that it's happening or you saying that we should assume it's happening, isn't it?
A. I considered all of those are actually compatible statements. I think probably we could have written that one slightly more strongly, but I think it was still the view of most people at this point that, even if it was occurring, it was a pretty small part of the transmission burden. I think that is a pretty critical part of trying to think this through.
Q. Yes, but the point I'm trying to discuss with you, and you've agreed, I think, is that this is a massive issue and that's why you're all talking about it?
A. Yes, I mean, it is a big issue --
Q. Why is it underplayed in the SAGE minutes a week after? You have had the Chinese government, you've had your view, why is it -- it's just being "can't be ruled out"? That's not accurate, an objectively accurate reference? 76
A. Well, I think it depends what you are trying to think through. If you wish, we can -- I can look at the exact context and we can go down the exegesis of it, but what we were really, at this point, still thinking was that it was probably not a major driver of the epidemic.
Q. Okay.
A. By -- we certainly were not excluding, and it's clear from this, excluding the possibility that individual cases were occurring.
Q. Yes.
A. Those two are compatible statements.
Q. Yes, okay, I'm not quibbling with the semantics of it, but here you and SAGE and everybody else is trying to work out what to do next.
A. Yeah.
Q. And I'm putting to you that this is a point of alarm where the testing, the PPE, and all the other things we've discussed, really need to be ramped up because of this, and that's right, isn't it?
A. You certainly need to be aware of the possibility --
Q. Yes.
A. -- and if there is a substantial amount of asymptomatic transmission you've actually taken off the table several of the tools we potentially had, including the case finding and isolation, as (unclear). 77
widely.
And then there's a second caveat, which is that at this point we were far from clear whether even if there was asymptomatic infection whether the tests were accurate --
Q. Yes.
A. -- I think, and this is debated in SAGE. So these are the things I think that -- I just want to add these layers of technical importance on top of the points you're making, I'm not disagreeing with the points you are making.
Q. And that's very fair, but nevertheless, in terms of care homes and hospitals, the issue of asymptomatic transmission should have been an issue which was "let's get on with the test, let's scale up the test, let's get the PPE", an important issue?
A. Well, I mean, all of them -- in a sense, my view is all of those should have happened anyway. That's the -(unclear: multiple speakers)
Q. Finally on this point, Mr Keith's already raised with you the Diamond Princess. By the end of February, when the analysis of the Diamond Princess came out and was in the public domain, it had gone from the possibility of asymptomatic transmission in early January to maybe the probability of asymptomatic transmission, and now we
Q. Yes, okay, but in terms of testing you certainly haven't taken it off the table in terms of care homes or hospitals. The fact of asymptomatic transmission would mean that you'd want more tests for that, not less?
A. But we didn't have any tests at this point, remember? That's the key background to this, this is a period when there are almost no tests in the UK and, therefore, if you don't have symptoms as your principle, you're basically saying, "Anyone could have it, essentially all the tools are taken off the table".

I think it's important to understand that context. You know, were I to rewrite those minutes I might change the words very slightly, but I think the general principle of them seems to be a reasonable one.
Q. I want to move on, but in terms of, "we didn't have the tests", you did in fact have the tests, you just didn't have them at scale?
A. Yeah, having to -- have the tests in the ability to --
Q. Yes.
A. So if you're only aiming tests at people who have symptoms and you're aiming them at ten people with symptoms from a geographically constrained area, then a small number of tests are sufficient. As soon as you say that anybody, irrespective of symptoms, can have this virus, then you're going to have to use tests more 78
knew that asymptomatic transmission was having a real impact. So again it's another staging post, isn't it?
A. Yeah, and we move along that path. I mean, to just go forward a bit, I think we still don't actually have confidence about what the proportion of asymptomatic transmission at that point in time was --
Q. Yes.
A. -- even now, with all we know --
Q. Yes, but clearly a major, major issue.
A. Yes, it is a major issue.
Q. Do you think, with hindsight, looking back, that enough was done as a result of the acknowledgement of asymptomatic transmission being a reality in terms of all the things that we've discussed?
A. Well, I think in a sense two things you suggested would have been necessary either way. So the scaling up of testing did not depend on an understanding of asymptomatic transmission, neither did the need for PPE --
Q. No.
A. -- of an appropriate nature. So those were not predicated on asymptomatic transmission. The thing which it would have, at this point in the pandemic -- at other points it would have made a different situation -but this is a point where all the cases at this point 80
were imported, it would have made a difference potentially to our approach to contact tracing and so on. But that's a slightly different point which I don't think is where you're going.
Q. The urgency of getting all of those things in place was underlined by the reality of asymptomatic transmission?
A. I think we should have heard the urgency either way.
Q. Maybe.

Okay, a second topic and quickly: HCID, high concern infectious disease. On 1 March, you're concerned about laboratories and the ability to analyse tests and you engage in an email exchange -- and, again, I don't think I need to put this up but I can if I need to. I'll give the reference. It's INQ000223410, page 5. You say to Professor Tom Evans, the PHE and the HSE, Health and Safety Executive:
"I think this may well be about to go quite fast, and we should certainly plan for that. We now have a much better fix on the mortality rate in those who are symptomatic with Covid-19, but there are large numbers of asymptomatic and minimally symptomatic cases and the cases in the hundreds and potentially thousands a day may happen within weeks given what is happening elsewhere. Testing will obviously be well above that. I'm keen that we're able to diagnose them", and so on. 81
something is a very high significance to the person who might catch it but they run significant public health risks overall to the population and risks to the individual patient if it is used inappropriately. So I thought it was a sensible thing to have that discussion with the relevant bodies who could then make an independent assessment.
Q. Okay, I'm not asking you about the HCID designation generally.
A. Okay.
Q. You're not involved in that in this email. What you're saying in this email is that the laboratory safety precautions that follow from it being an HCID should be relaxed, effectively?
A. Well, in fact, what it means is a much larger number of laboratories can then do tests than otherwise would be able to. That really is what the point of this email is effectively saying.
Q. Quite, and that's the point that I'm trying to distinguish, is that you're not here saying to Professor Evans or the PHE or the HSE "change the designation". You're saying relax the provisions that follow from the designation and with respect to laboratories and that is a very necessary and sensible step to take?

What you're asking for in this email chain is a downgrading of the bio-safety provisions for the lab analyses, the lab facilities for analysing Covid tests; is that right?
A. Yes. So can I put the background as to why this is important? High-consequence infectious diseases are ones in general where you've got an extremely high risk to those who are either treating or processing the samples of the individual.
Q. Yes.
A. Now, there are significant disadvantages to the individual patient from something being treated as a high-consequence infectious disease if it is not at a public health level. It will slow down testing, potentially very substantially, because only a very small number of laboratories can do it. It'll mean they'll have to be moved around the country to places where there are particular facilities and, in extreme cases, they'll have to be barrier nursed in a way that is much more useful to produce best care --
Q. Can I just cut across you? Sorry to interrupt you --
A. No, I think it's important because I think this debate, as you've raised it, has been fully misunderstood by many commentators, that the advantages for a high-consequence infectious disease only exist if 82
A. Well, in a sense, my view is probably both a sensible and certainly, on the laboratory side, it was clear we would not be able to provide a safe service were that relaxation not to occur.
Q. But you're not saying that other things should relax?
A. Not necessarily but actually my view by this stage was we were likely to head that way fairly soon.
Q. Now, finally and quickly, travel restrictions. You've set out your views on border controls and travel restrictions in your statement, so I'm not going to go into any detail at all. But you do say in respect to Denmark in November of 2020 that it was sensible to take a different view which was to impose restrictions on travel to and from Denmark.

And that is different, is it, to the position in January 2020 when the virus emerges from China?
A. Yeah, we had a very specific problem there which was these were outbreaks in mink farms.
Q. Yes.
A. And the Danish government had taken a decision to stop the entire trade and therefore eliminate this risk of a potentially different and potentially vaccine-escaping variant. So our view was this is a very temporary measure where there is a high chance that the Danish state will be able to get on top of this completely by 84
the actions it takes. So simply for the short period until they had achieved that, it was sensible to have measures in place. But this is very different to what we were facing in terms of a human pandemic coming from China.
Q. So at the outset, with China your view was that the outbreak in China had or was likely to escape China and therefore it was effectively impossible to put travel restrictions which would other than delay minimally the transmission of the virus to the UK?
A. Well, my view was that the Danish position was they were taking extreme measures to get on top of this with a very quick turn around and we only would need to consider this for a very limited point of time.
Q. Now, just picking that point up, so you're saying that there is a role for travel restrictions and border controls but on a targeted basis?
A. Exactly, and we did the same, if you recall, when for example the Omicron variant happened.
Q. Yes.
A. And it's largely to give us pause to get a bit of information, to understand the impact on vaccine immunity and so on.
Q. Yes.
A. So there are definitely areas and I think I explained to 85
we discussed this yesterday, would have been around the
mass gatherings themselves, and, as I made clear yesterday, had we -- were we to do things again, that is an area we would have taken a different approach. But I don't think travel restrictions specifically would have been necessarily the appropriate tool to do had.
Q. Yes, okay. All right. Those were my questions, thank you.
LADY HALLETT: Thank you, Mr Weatherby. Mr Wilcock.
Questions from MR WILCOCK
MR WILCOCK: Morning.
Professor, I'm going to ask you some questions on topics on behalf of the Northern Ireland Covid Bereaved Families for Justice Campaign.

The first topic I want to ask you about is the recognition on SAGE to the unique problems facing Northern Ireland in responding to the pandemic.

To do that, could we please have INQ000282777, page 3 on screen. While it's coming up, this is an email that Dr Michael McBride, who was your counterpoint Chief Medical Officer in Northern Ireland, sent you on 10 March, in which he said that not only had he:
"... to seek to secure UK wide agreement [about] timing but also North/South otherwise ... [there was

Mr Keith that, were I to go back, I would have done some things rather differently from the China situation.
Q. Can I finally just turn to one example of that, that you have been asked about mass gatherings. I'm not going to ask you about mass gatherings but, with respect to a particular mass gathering, which is of particular concern to some of my families, the Liverpool football match, the Atlético Madrid-Liverpool match.

Would there be a role here for travel restrictions? Because here you have thousands of Spanish fans coming over on flights for a match and then being in hospitality and milling around Liverpool for the match, and at that point it was well known that Spain and Madrid were hotspots. So is this an area, as an example, where travel restrictions would go outside of your general view that they don't make an awful lot of difference? Would it be sensible to take a targeted approach in that sort of situation? Are you suggesting that you can stop transmission to the UK or community transmission? But it doesn't seem sensible, does it, to actually facilitate thousands of people from a hotspot?
A. I think it would be quite difficult to differentially have travel restrictions that were different for one legal activity compared to another legal activity. So I think actually the targeted way to deal with this, and 86
a] risk [of] mixed messages and confusion notwithstanding the complexity of the politics. An all UK/[Republic of Ireland] science \& modelling arrangement would serve us well. I need to look East/West \& North/South ..."

And that social distancing messages, timing of introduction, all needed to be addressed.

It must follow, therefore, that even though you must have been aware of it before, you were particularly conscious of the unique problems of responding to a pandemic on the island of Ireland by the time you received this message from Dr McBride?
A. I was, yeah.
Q. And would you agree with his opinion that the timing and consistency of introducing measures to combat Covid was complicated in Northern Ireland by its shared land border with the Republic?
A. Yes, and complicated in one sense in two dimensions: one, epidemiologically because the epidemiology of the Republic of Ireland has a very clear implication for Northern Ireland and vice versa.
Q. Yes.
A. And, secondly, complicated politically because, and I'm going to summarise unfairly, Sinn Féin and others from that political tradition were very keen to stay in some 88
kind of touching distance with the Republic of Ireland 's approach to Covid and other political traditions were trying to stay in touch with the UK's approach to this. But these were issues of policy, not issues of science.

So in a sense we had to acknowledge they were there and then just let the political leaders take their final decisions.
Q. It might be a good idea to leave the politics out of it, but --
A. I'm making the point that they have actually -- both of those are relevant in terms of how the policy was developed.
Q. Thank you, Professor. But in terms of the development of the epidemiological aspect, do you agree that the early SAGE minutes contain no reference to these particular difficulties in dealing with the early part of Covid?
A. Well, the SAGE minutes in general only took a sort of national within the UK or regional approach when there was a very strong reason to do so, and this is because SAGE was taking an overarching, you know, science policy approach. Once we get down to later in the pandemic much more detailed epidemiology of course then, Northern Ireland has a very different kind of, you know, epidemiological profile in some situations. But that 89
need for representation where that is useful, you also have to ensure that the best people are around the table in not too unwieldy a way and getting that balance right is always going to be judgement call.
Q. Certainly by late March 2020, the Inquiry has heard a statement from Professor Young, who you will know was the then Chief Scientific Adviser for Northern Ireland, that it was only after he became a full attendee in late March 2020 that Northern Ireland had full participation in SAGE?
A. Yes, and that should have happened earlier and I think we would all agree that. And he is a very good scientific colleague and has many insights that are different from others. His own expertise I think is an additional contribution. So I think that's an example where you get both benefits: the geographical experience but also a different disciplinary background and that, I think, was useful for everybody.
Q. Now, to be fair to you, and, to put the full context of what Professor Young said, he stated that although SAGE didn't have the full participation from Northern Ireland, it was made aware through the CMO of the main conclusions and advice. And I imagine there he's referring to the informal and formal contacts you had that you told us about yesterday?

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wasn't a SAGE issue, that was much more to do with operations policy and how ministers act.

I think this is -- in a sense, this is to get back to what was SAGE for? To provide overarching, often quite high level, pure scientific advice. It didn't have a policy role and I think it's important to separate that out.
Q. In terms of the geographical diversity of representation on SAGE, on Monday Sir Patrick Vallance told us that one of the things he would like to change in terms of the scientific input from bodies like SAGE was to make sure it got, in his words, the geographical diversity right. Do you agree?
A. I do, but with a big caveat. If you've got a small -if you've got a smallish group -- and we had a long debate about this yesterday, I'm not going to repeat it -- and if your aim is to have the best scientists in the UK, potentially internationally, but certainly in the UK, available, you have got to start with where are the centres of expertise? And for almost, for any given problem, sometimes they'll be in one part of the UK, sometimes in another, and often they are highly concentrated in particular areas, particularly at universities or even particular departments. That's just a scientific reality. And, whilst balancing the 90
A. The CMOs were together as a group very closely and continuously.
Q. My question is this, though: do you agree that it's one thing to be aware of the conclusions and advice of SAGE and quite another, particularly if you don't have the expertise within the particular discipline, to have a complete understanding of the range in views and the weight of opinion expressed within the scientific discussions which led to those conclusions?
A. I do, and therefore I agree with Sir Patrick's comments.
Q. Now, in terms of how you relayed, no doubt to the best of your ability, what was said to SAGE to your Northern Ireland counterpoint, is there any record of how that was done or was that one of the informal contacts you told us about yesterday which weren't recorded?
A. I can't recall but, I mean, I was obviously in continual discussions with Sir Michael McBride and that was the principal conduit. But the Chief Scientific Adviser's network has different mechanisms for communicating amongst itself. Most of these communications in both of those things are actually unminuted. They're informal. But they're still effective because people know one another and have quite an effective communication.
Q. I was really trying to gauge what we have to look back 92
on. Presumably the WhatsApp we've looked at when 1
Mr Weatherby asked you questions is one thing we might look at.
A. You might be able to, but this is, you know, going back to my repeated comment that WhatsApp is an appalling mechanism for trying to discuss technical issues. We didn't do very much technical stuff via WhatsApp unless it was extremely straightforward, like there had been three new cases or something of that kind. Something of greater scientific subtlety, which is what you're driving at, really WhatsApp would not be an appropriate approach to trying to do that.
Q. Thank you.

Next topic: the Independent SAGE made/observed that managing the risks of importing cases from other countries with the consequent high risk of transmission was vital. This should be introduced as soon as possible treating Great Britain and the island of Ireland as distinct health territories and then in the end went on to say that the government has decided that everyone coming to the UK, except those travelling from the Republic of Ireland or transport workers, should be required to self-isolate for a period of 14 days. They welcomed that measure, although pointed out that there was a serious loophole in that it would be possible for 93
Q. Yes.
A. So this policy document was the views of the distinguished members of Independent SAGE. They're perfectly entitled to their policy position, but it is not in my view, equivalent to a SAGE science document, would be the first point l'd make.

The second point I'd make, and I don't think -I think this is an obvious point, but as you've raised it, the question of the alignment of Northern Ireland with Great Britain or with the Republic of Ireland is one of the most politically difficult areas in UK politics. This is a policy issue and specifically a political issue of the first order, and it would have been very surprising, in my view, for SAGE or for me to be giving views of this kind unless expressly asked to by senior politicians who understood what they were trying to do. This is a very, very difficult area.

So I just want to say, you know, I don't in any way dispute the rights of members of Independent SAGE to take whatever policy position they wish, but it wasn't a science-driven position, in my view, at least not principally, and it was a very political issue.
Q. It was science driven, wasn't it, in the sense that you've accepted that epidemiologically the fact that there are two islands?
someone to fly from somewhere where the level of infection is very high, such as New York, to Dublin and then change planes to travel to London.

And then this is the point I really want to bring your attention to. They say for this and other reasons related to the extent of movement across the Irish border, it makes much more sense to treat the two main islands of Britain and Ireland as separate entities for human health purposes, as is already the case for animal health, or for the UK and the Republic of Ireland to agree a common approach. Plainly, there are political issues raised within that as well but do you agree that it would have made more sense for those responding to the pandemic in the UK to either treat the two main islands of Britain and Ireland as separate entities or for the UK and the Republic of Ireland to agree a common approach?
A. You kindly gave me advance sight of the document which you're referring to from Independent SAGE, as they self-referred. I think, if you read that document carefully, you will see it is much more easily described as a policy document than it is as a science document. If you compare that document to SAGE minutes -- now, this is not a criticism, it's simply a statement of where I think they are.

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A. In very broad terms it was but there isn't a very clear chain of logic, in my view, going through that document and I read it quite carefully last night. I would invite others who doubt what I'm saying to read it themselves.
Q. Does it follow from what you've said that the observations and recommendations in that Independent SAGE report were not considered by SAGE itself?
A. Independent SAGE, despite the rather confusingly similar name, existed for a rather different purpose to SAGE, let me put it that way, and I wouldn't see it as principally a scientific input. It was the views of some distinguished scientists, many of whom I know, in fact all of whom I know, and some of whom are also members of SAGE, and gave their views directly through that.

But the idea that Independent SAGE was a scientific input in the way that, let us say, SPI-M, O or SPI-B were an academic input, or the Royal Society or the Academy of Medical Sciences, I think would be to misunderstand their role. And I think they would agree with that statement, I don't think they saw themselves as equivalent to the Royal Society or one of the subgroups of SAGE.
Q. So in short, no, but for the reasons you've just given?
A. Correct.
Q. Final question: can we have the technical report you helped produce in December 2022 on screen.

That's INQ000130955, and it's page 218.
At the bottom of that page, it is noted that Northern Ireland only initially had:
"... a short pilot project involving contacting a sample of people who had a confirmed positive test ... before ..."

And I quote:
"... a full operational contact tracing service was implemented from May 2020."

Would it be fair to say that as a mere pilot project the contact tracing scheme in Northern Ireland was less developed than in other parts of the UK at that stage?
A. Well, so the first thing is the technical report on this area wasn't drawing any judgement, it was simply to --
Q. (Unclear: simultaneous speakers)
A. No, no, but l'm just trying to put context for those who, unlike you, have not read it. It was trying to put context for some subsequent scientific comments we wanted to make but we thought this background was important.

I wouldn't actually judge that any of the scaled-up test and isolate systems across the UK were anything 97
the Welsh bereaved.
My questions relate this morning to the interactions with the devolved administrations and of course specifically Wales, but I'd like to focus on SAGE first and then we'll try, if we've got time, to look at a few more topics such as data.

So focusing firstly on your role as co-chair of SAGE and actually the extent to which the devolved administrations were on an equal footing within SAGE, I want to focus on the very early days of the pandemic, if I may.

So we understand from the evidence that we've already heard in this Inquiry that, apart from DA attendance at the first two SAGE meetings in 2020, and that didn't include the Welsh, which I'm sure you know, we understand there was no further representation of a DA on SAGE until 3 March 2020, and we understand that was the Deputy CMO for Scotland.

So just focusing on Welsh representation, if you can assist, we also understand that in terms of Wales' Chief Scientific Adviser for Health, Dr Rob Orford, he first attended on 5 March 2020 and we understand this was the 13th SAGE meeting concerned with Covid.

So my questions are these on this topic: first of all, is that correct, according to your recollection?
other than quite tricky to begin with. The point this was making, and the reason we put it into the document, is every one of the four nations of the UK took a different approach to this, that each had strengths and weaknesses at an operational level and, as a result, that played through to different impacts in terms of its downward pressure on transmission. But the big scientific things, which include in particular that it's much less likely to pick up asymptomatic transmission if people are starting with symptoms and that it has much less impact once you've got a very high rate of transmission, very large numbers, and when you have very small numbers they were common of course across all four nations because they're technical aspects of all test, trace and isolate systems under all circumstances.
Q. Professor, thank you very much. There may be follow-up questions from what you've just said, but they're more appropriate, I think, for other modules rather than today.
LADY HALLETT: Thank you very much, Mr Wilcock.
MR WILCOCK: My Lady, I'm just going to move.
MR KEITH: I was told Ms Heaven had moved. Ms Heaven.

## Questions from MS HEAVEN

MS HEAVEN: Good morning, Sir Chris. I represent the Covid Bereaved Families for Justice Cymru, so in other words 98
A. I'm sure your knowledge of this is better than mine on exactly the details -- it's quite a while ago -- about exactly who was in each meeting. So I'm absolutely taking your word for it.
Q. Take my word, yes. That's what the documents show.

So it is correct, then. Would you therefore agree that this clearly indicates that the DAs and the Welsh Government and their advisers in particular, because that's who I'm interested in, were not included in SAGE meetings in the very early stages of the pandemic when they should have been?
A. I think there are quite -- and I think this, in a sense, I've implied this but I'll state it more explicitly, in comments with your colleague from Northern Ireland. I think, as with many things, in the rather chaotic starting point when we were dealing with Covid at the beginning, if we were to re-do this again that is something we'd have done much more quickly and it was very useful to have the inputs of Dr Orford and Fliss Bennee and others from Wales.

The representations people had in a sense were under two criteria, and some people had both, one of which was as observers, because it was a necessary part of the job of that organisation to be an observer. At this point many government departments, for example, were also not 100
observers who subsequently became observers. I'm not drawing a parallel, I'm just saying that the system was much less well developed than it subsequently became.
And then the second was identifying over time, SAGE was initially a very small group of people and, as we discussed yesterday, my view is it should have, and did, expand out relatively quickly but in February it was still pretty small.

I think having the addition of the inputs from scientists from Wales was undoubtedly a benefit, and they provided useful challenge in general as well as insights from Wales. So, you know, it is something, if we were doing this again, we'd have done differently, that's for sure.
Q. Thank you. Well, I want to move it on then to some comments that we have before the Inquiry from the First Minister for Wales, Mark Drakeford, in a little bit more detail. I won't bring it up on the screen to save time but, for my Lady's note, this is paragraphs 30 to 31 of Mr Drakeford's first witness statement.

And so Sir Chris l'll read to you for a moment and then we'll break down some of the elements of what he has to say. So it's this, and this is about the early days and their involvement in SAGE. He says:
"I'm a strong supporter of the concept of SAGE but 101
your response, the first issue that he seems to be raising is the lack of the reliable protocol and the enhanced SAGE guidance essentially meaning the Welsh Government had to go to COBR to get the SAGE advice and they couldn't ask for SAGE advice unless they went through COBR. So do you want to respond to that first, please?
A. Yes, and I think I can almost short-cut out conversation because, in a sense, you've got two separate groups of things. There's a group of things which is about Wales being represented both in access to the data that already flowed from SAGE and in coming to the meetings, and I think my previous comments on that apply which is if we were doing this again we would do it differently. It doesn't mean that there weren't very close -- again, I had very close and often daily contacts with Dr Frank Atherton, Dr Chris Jones, and others from the chief medical officers group and there were other contacts as well. So it wasn't that Wales was not involved in discussions but you're right and exactly the same applies as my previous comments was, yes, we should have done that earlier.

The point about going through COBR, and I think this is -- in this pandemic, more than any other, I would say, SAGE got disconnected from the COBR mechanism. So 103
unfortunately there was no reliable protocol which made it clear that SAGE worked for all four nations, not just England. Enhanced SAGE guidance meant that the Welsh Government, number one, had to ask COBR to make the SAGE advice available to the Welsh Government and, number two, could not ask SAGE to carry out bespoke research for it without prior agreement from COBR. I consider that from the very beginning the information flow should have been made readily available to Wales and all the devolved nations just as they were to England. In addition, Wales should have had an equal right to go to SAGE and to commission specific pieces of work, for example ..."

And he says the Welsh Government were not invited to the precautionary SAGE on 22 January 2020 but they got an update to a SAGE mailbox that they had.

Another criticism he makes is that the scientific papers received by SAGE were not shared with the Welsh Government and in the early days they only got summaries of the science as it emerged, and it would have been useful for them to have had more. And he says that they were only finally given access through an online repository of SAGE documents as late as 8 April 2020.

So if we just break that down and then I can ask for 102
in kind of emergency theological terms SAGE is the adviser to COBR, but actually COBR stopped meeting for quite long periods of this emergency and SAGE continued and was giving advice via other routes. So initially it was all started from what is the COBR mechanism, how do it through COBR? After a while, it became clear that really wasn't relevant.

So that's around observer status documents and so on, I think all the comments made are fair comments, Mr Drakeford of course being very fair on this issue.

The second set of comments I have more caution about, which was the idea that the Welsh Government, and indeed any other bit of the system, could ask the already massively overwhelmed modelling and epidemiological system we had specific questions about Wales because, if you make that assumption for Wales, you have to make it for multiple other groups as well. You can't just say for Wales and not for and list a long list of other ones. And this would have been, I think, much more problematic but we could certainly have had the discussion about how that capacity could in some way have been met.

So I think both the requests that Mr Drakeford makes are reasonable ones. One of them should have happened; the other one, I think, would have been harder, but for 104
largely logistical reasons.
Q. Just focusing on that date of 8 April 20, do you accept that that really was a bit late in terms of the online repository for documents to actually be available?
A. That follows from my previous answer, yes.
Q. Thank you.

So let's move on to the issue of data. You've been asked a moment ago by my learned friend about the evidence we've heard on and opinions given on geographical diversity on SAGE. I want to move on to a slightly different issue and that's the use of data by SAGE and whether this drew on the experiences in the devolved administrations.

So the Inquiry has heard evidence from Ailsa Henderson, a professor in political science, and she told the Inquiry that SAGE focused overwhelmingly on data from England, which she said was often described from her review of the papers as UK data, and she made the observation, and obviously one might see it as a criticism, that if an organisation such as SAGE does not have someone in possession of Scottish or Welsh data in the room, then the evidence base is partial.

So first of all, do you agree with that criticism of SAGE, that it did focus overwhelmingly on data from England? And if so, do you think that SAGE was overly
four nations, or at least each of the other three nations other than England, took slightly different approaches to the extent to which they did their own analysis or relied on a UK-wide analysis and at what level. But that gets us into levels of complexity I think my Lady would probably find were not appropriate at this point in time.
Q. But I think to some extent you might be agreeing with some of the thrust of what has been said by Professor Henderson but giving it a slightly more contextual explanation, if I put it like that, as to why that might have happened?
A. Yes, I would hold to my previous answer.
Q. Okay. evidence yesterday about the collaboration that you had with the DAs CMOs and I think you referenced 274 meetings. Now, we know there came a point when steps to responding to the pandemic in UK Government diverged ed from what the DAs were doing. I'll just give you two examples that are very relevant to Wales. England we had Stay Alert, and obviously, as you know, on 27 October 2020 Wales had its 17-day firebreak whilst England started a four-week national lockdown, and this 107

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Now moving on then, please, you gave some positive

In May 2020 in Wales we had Stay at Home whilst in
confined to an England-centric perspective?
A. Well, I think there's a very complicated answer to that, and I'm going to give you a simple answer but I'm very happy to go into the complexity if you want.

## LADY HALLETT: Simple.

MS HEAVEN: Yes, I've got 15 minutes.
A. Yeah. So the simple answer is that the modellers and the data were taken from wherever you could get modellers and data. Data flows, even within England, were very problematic, as I think multiple witnesses have said, and l'll repeat it: they were very problematic, and that was part of the reason we had trouble in the first three months. Getting data flows from elsewhere in the UK also had challenges.

So there were actual data acquisition questions. There's also the four UK CMOs have absolute parity, in my view, but data is based on numbers and numerically there are many more people in England than Wales and therefore numerically of course you're going to have a greater dominance in terms of -- I don't mean in terms of any sense, other than narrowly, the numbers will be larger from England even were we to have good data from all four nations.

Now, as the pandemic progressed we got better and better data from different areas. Also, each of the 106
caused particular concerns around the border areas and risk of spread into Wales which I think was raised in COBR on 12 October 2020.

So my question is this: where there were proposed divergences in policy, such as the examples I've given you, were these discussed by CMOS in advance of policy implementation to consider the consequences of divergence and what advice should be given and, if they were, can you give an example involving Wales, please?
A. The UK CMOs wherever possible discussed all the science of things. We were aware of what the policy discussions were in each of the four nations. We absolutely felt I certainly felt, that the discussion should at that point then become the discussion between the CMO in Wales, Sir Frank, and the Welsh Government, same in Scotland and Northern Ireland. It wasn't for me to opine on what the policy position should be, given I had no responsibilities in those nations.

So essentially the science discussions were collective. The policy decisions were separate. Where we were able to and felt this wasn't running against political direction, we would share what other people were doing because it was useful to understand for exactly the reasons you give, there are border areas, there are a variety of other issues, but we had to be 108
careful that we didn't in any sense get entangled into politics and there were some political issues involved in this, perfectly legitimately, and we needed to stay -- steer clear of those.
Q. So does that mean that you didn't see it as your role as CMO as having a co-ordinating function in terms of the four nations approach?
A. I saw my role as to ensure that, as all the other CMOs did, that we had a collective scientific view, except where that scientifically made sense to be different. I fully saw that the correct discussion between the CMO and the nation or country involved was done within the nations.
Q. Now, this final question topic flows from the topic we've just looked at, and again it's from your statement -- we don't need to go to it -- but it's your first statement, page 73, paragraph 5.193 for the note. And there you talk about these debates around differences. You say:
"There were no instances I can recall where there was a significant scientific disagreement between UK CMOs, although we often tested one another's thinking." And you say:
"Internally, the points of emphasis were different."
So can I just ask you this: can you give us an 109
that is the way that we tried to operate where there were difficult issues.

But I think we could go through multiple examples
where we would test one another's ideas and might start
from a different position and then debated it and
I think that's the appropriate scientific approach.
MS HEAVEN: Well, thank you very much. Those are my questions, my Lady.
LADY HALLETT: Thank you Ms Heaven. I'm afraid I'm going to have to ask everybody to stick to their time. I know it's not easy.

Ms Mitchell.

## Questions from MS MITCHELL KC

MS MITCHELL: Professor Whitty, I appear as instructed by Aamer Anwar \& Company for the Scottish Covid Bereaved.

In your witness statement at paragraph 277 --
I don't need that brought up, but just for my Lady's notes -- you said that you felt that when the views of other CMOs, the CMOs from the devolved administrations, were important for UK ministers to hear, you fed those in to your advice; is that correct?
A. That is correct. Where I felt they would be happy for me to do so.
Q. Indeed. Can I ask, please, about early March 2000(sic) and the question of mass gatherings. Now, we've heard 111
example so far as you can remember of testing the thinking in respect of the Welsh CMO or any other Welsh scientific adviser or any other points of emphasis that were different with them?
A. So there are quite a few examples and I wouldn't -- you know, some of them are rather arcane. Let's take one that was extremely important and very, very important we got right, which was the decision about, you know, the relative benefits and harms of vaccinating children and were the benefits sufficiently greater than any potential harms that they would be a sensible thing to do.

Each of the four CMOs came at this with slightly different starting points. Sir Frank certainly had a different position to everyone else. We each did have a different position. We then -- the way we dealt with this one, because it was a very difficult, very close call thing, is we consulted the presidents of all the Royal Colleges across the UK. We consulted the directors of public health in our jurisdictions and various academics and then we came to a collective view.

So that's an example where essentially we start from positions that are slightly different, appropriately different, tested one another's views, take external advice, and then make a collective view. In a sense, 110
quite a lot about mass gatherings. I don't need to go into that in any detail.

What I would like to know from you is were there different views expressed by the Scottish CMO in relation to mass gatherings and were they passed on to the UK ministers?
A. I honestly can't actually recall, and I'd need forward notification of that kind of question about exactly what his views were at that point in time.
Q. Okay.

So I wonder if we could have before the Inquiry INQ000129230. This is a text communication between Boris Johnson and Matt Hancock, and Matt Hancock states:
"I spoke to Chris Whitty at length about your concerns about the comms tomorrow getting over complicated. He thinks there is a really simple way of describing what we want people to do in future based on: from Monday if you're ill stay home.
"He is going to make sure that by Cobr we're in a good solid position.
"However, he also thinks that the Scots are going soft on mass gatherings -- and ... Nicola has decided she definitely wants to move on some totemic cancellations."

Now, of course, Professor Whitty, I appreciate that 112
these are not your words directly, these are the words
of Matt Hancock to Mr Johnson, so the words of the Health Secretary to the Prime Minister, reporting purportedly what you said.

Do the comments on "going soft" and the phraseology "totemic" reflect your views at that time?
A. So I can say with some confidence that many of the reflections that other people reporting my views are not actually reporting what I would have said at the time. I certainly would have not used a phrase like "going soft". That would be the interpretation of Mr Hancock, perfectly appropriate if he wants, but my view might well have been, therefore, and in a sense this is answering your previous question, I must be identifying that I felt that in Scotland there was greater concern about mass gatherings than in England. I think that's a perfectly appropriate thing to state as a point of fact, provided I didn't think it was breaching any confidence that was given.

So do not take those words as my words or my views, take the general point that I'm making the point that actually there may be differences of opinion across the UK, which I think again is a reasonable thing to do.
Q. And so from that what we can glean is that you may have passed on the difference because of this text message? 113
Q. Moving on to a further issue, and it's an issue which has already been touched on by other core participants, and that is data problems.

In your technical report, the report you mentioned yesterday that is to be used by future CMOs and Deputy CMOs in the instance of a next pandemic, you've provided a technical report in that regard. I don't need that to be brought up, my Lady, but for reference the number is INQ000203933.

What I would like you to focus on here is that the first reflection and advice for a future government, Government Chief Scientific Adviser or GMO, is that scientific and medical advice will often need to be formulated on the basis of limited data.

Now, communications and data are something which we've heard quite a lot about already. We've heard two different things about Scotland. The first thing is that there were problems getting data from Scotland at the start of the pandemic, and the second is that there was a dataset called Eve 2 which was obtained and Patrick Vallance spoke highly of that.

What I'd like to ask you about is the first part, the difficulties in getting data. Do you recall that there was such a difficulty in getting data from Scotland?
A. Well, as I made clear in my statement, where I felt that wasn't breaching a confidentiality point or where I thought there was going to be no issues, I had no illusions that some of the issues that were being involved were political and, where I thought that was political, I stayed well clear of it and if I had information would keep it to myself. Sometimes I knew things that political leaders in England did not know or in the UK Government did not know and it was appropriate that I didn't pass them on. I will have taken the judgement that it was a perfectly reasonable thing to do, having presumably discussed this with Sir Gregor.

So I think all of these things, it's appropriate provided you make very clear in your own mind when something is a political or when it is an in confidence discussion and when it is simply a description of fact.
Q. I see. I think in fairness to you, to reflect your position now to the Inquiry, yesterday you gave evidence that whilst the advice to not shut down mass gatherings was technically correct, it was also logically incoherent and not helpful in alerting the public that at this time, ie March 2020, things should be anything but normality?
A. Yeah, that is exactly what I said and I still think that.

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A. Well, in a sense, I would agree with both parts of your statement, first of which is I think the data in Scotland was some of the best in the UK but, secondly, that getting data into wider datasets, getting it used by the right people, proved very difficult and I think if you look -- you will have read this report, obviously, that you're just quoted -- there's an entire chapter about the difficulties of getting data not just across national boundaries but also within every nation. So this issue of trying to get data brought together so that you can actually merge it.

Now what Covid did demonstrate really clearly was when you achieve that you can get far better information for all four nations than if you are trying to do everything in piecemeal where every single hospital, every single region is holding its own data and not sharing it. So the sharing of data was one of the most powerful things we achieved both between nations and within nations.
Q. May I ask you about that achievement and how it came about. Firstly, just on this particular question, were you aware that there was a particular issue about data from Scotland, there being some kind of problem sharing it with the group?
A. I was aware that there were problems with data across 116
multiple domains, including Scotland, but also I could have given a very long list from many parts of England, indeed other nations.
Q. Were you aware of the specific nature of that difficulty?
A. I may or may not have been. It would have depended what kind of data it was, remembering that there is -- again, a point I made yesterday, there's only one of me and I was trying to operate in multiple domains. So some of the details of this I may not have been aware of. The person who's probably best able to answer this is Professor Andrew Morris, who is both head of HDR UK, which is the UK-wide data approach, and chaired the Scottish Scientific Group and I think he would be in a strong position to answer this question more accurately.
Q. Thank you. Given that, I will move on from there.

Moving on, I want to ask you about a matter which
I raised with Sir Patrick Vallance when he gave evidence and he said it would be better if I posed the question to you, so I am now doing so.

On Monday I asked Sir Patrick Vallance about an entry in his notes, that entry is INQ000273901. My Lady latterly granted authority for that and the document is available.

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face-masks specifically. So I may be missing something.
So, in my view, I think the statement that the CMOs worked together to get a document which we were all pleased with I think is correct. I can't see how that actually links on to the point about face masks previously but please correct me if you know otherwise.
Q. No, thank you for that. We can perhaps then move on slightly to the next question, which is: why would it be recorded that you'd worked hard to do that? Does that give us any understanding of the dynamics of what was going on at the time, the decisions that were being taken?
A. Decisions about children going back to school were extraordinarily important for parents, for wider families, for children, for teachers and for unions. We really wanted to get it right and I think Sir Patrick was aware of the fact. This wasn't because of major disagreement, this was because we wanted to get this right because it really mattered to people, and I think I would encourage people who are concerned about why would we take time on this to read that document. It's not a sort of two paragraph one, it's quite a clear laying out of the strengths and weaknesses of different approaches, and that was not a trivial thing for us to do and we needed to do it in a way that also paid regard 119

The extract from Sir Patrick Vallance's notebooks on 24/8/2020 says:
"Scotland breaks ranks over face coverings and schools despite CMO having worked hard to get all CMOs aligned to a very good statement released the day before."

Now, l'd like to ask you in particular about this. What I would like to establish with you, first of all, was: what was the agreement that was come to the day before it is said Scotland broke ranks?
A. So having heard your question and Sir Patrick's hospital pass to me, but a fair one, on this I went back and looked at what document I thought he was referring to. As far as I can tell, this is a joint statement that the CMOs made on education in general. It was not about face masks specifically -- please tell me if l'm wrong on this -- and it was a document, I actually think it's one of the documents I feel was one of the best joint CMO documents because it laid out for parents and for teachers and for the wider public the benefits and the potential disbenefits of children going back to school at a point there was a lot of worry about this from parents, from teachers, from unions and others, and it laid out a whole series of areas.

I couldn't find in that a joint statement on 118
to the fact, for example, that the Scottish educational system is different to the English one, and indeed Welsh and Northern Ireland one, and went back on a different date. So in fact the date of the document was driven, in part, by Scottish educational timetables rather than English educational timetables.

So I think his point that there was hard work reflects just that, hard work. It doesn't reflect disagreement; it reflects the fact we wanted to get this right as a joint statement from us.
Q. So that work having been done, the hard work having been done in that, what then of the fact that very, very shortly after that it is said that Scotland broke ranks? The question I want to ask you is: when the change was made, did you speak to the Scottish CMO about it, and if so what did she say?
A. What's the date here?
Q. So the date of -- the date -- hang on a second. The date is 24/8/2020. So just before schools were going back in Scotland, which I think --
A. So I think Sir Gregor was -- by this stage, was the CMO, from memory. Honestly, I can't recall exactly what our debates would have been. My view on this one would have been that the general principles of face coverings and their impact on the epidemic were a shared view for 120

SAGE. It was a difficult area on which a lot of people had strong views actually in both directions and then the issues around their specific use in schools and then, within that, divided into communal areas and classrooms were quite highly debated. I cannot recall exactly at that point in time where different people were on their relative balance between the benefits of face-masks and the potential disadvantages of using them in an educational setting and I think it would be a mistake for me to try and speculate what either my view or Sir Gregor's view over that were at that point.
Q. Yes, you've made that clear, but my question to you was: did you speak to the Scottish CMO about the change, and if so what was said?
A. I can't recall. I mean, this is a long time ago now.
Q. Thank you.
A. I had so many conversations with the CMO trying to remember exactly which one happened is difficult.
MS MITCHELL: I wonder if my Lady would allow me to follow up one question? I'm thinking --
LADY HALLETT: All right, Ms Mitchell, you've been very good but we are --
MS MITCHELL: I'm still within time, my Lady, only just.
Given the various conversations that have been had about the fact that you don't remember various 121

THE WITNESS: I will do my best, my Lady. LADY HALLETT: Thank you.

## Questions from PROFESSOR THOMAS KC

PROFESSOR THOMAS: Good afternoon, Professor Whitty. My name is Leslie Thomas and I act on behalf of the Federation of Ethnic Minority Healthcare Organisations.

A small handful of questions for you. I won't detain you very long. Now, just a little context, we recognise the challenges faced by various communities, particularly those from Black, Asian and minority ethnic backgrounds during the pandemic.

Now, as I delve into the specifics, I'm going to first focus on the broader landscape, okay. So can we agree on this. Can we agree that effective and timely communication plays a crucial role in managing a public health crisis?
A. That's obviously true.
Q. Yes. And given the commitment to enhancing public health communications, would you agree that exploring ways to improve messaging for specific communities such as black, Asian and minority ethnic groups is crucial for ensuring widespread understanding and compliance?
A. I do. And I go further than that in my statement, and have done previously, in saying that I think this was something we didn't do effectively at the beginning,
conversations, and absolutely no criticism can be made of that, would it be an idea that all of these sorts of discussions that are were recorded?
A. Well, the number of conversations I was having with my CMO colleagues -- and I hope you would see this as a positive thing rather than a negative thing -- were continuous and often at very short notice. Recording every single conversation you have is quite onerous. So, as with many areas, my view is when we came to a decision or we gave a piece of guidance that was recorded and in fact I consider the record we just discussed to be a very good record of a long debate we had. Recording every single element along that debate would have been -- would have slowed it down and made it extraordinarily difficult during an emergency.

So whilst it would be useful to a subsequent inquiry, its utility during -- it would have had a negative effect on actually effectively trying to run the emergency is my actual view.
MS MITCHELL: I'm obliged, my Lady.
LADY HALLETT: Thank you, Ms Mitchell.
Mr Thomas. The questions are going to come from behind you, but don't worry, all the advocates are used to the idea. Okay. The point is just make sure that you keep speaking to the microphone.
arguably could have done better throughout, but I completely agree with that point.
Q. Okay, so you've pre-empted my next question, l'll just put it for the record: that the public health messaging in this case should and could have been improved?
A. Correct.
Q. We can agree that?
A. I -- we agree, yeah.
Q. All right, let me move on then.

Building --
A. And additionally -- I would like to add an additional point, because I think it's important. Members of -who you represent, did an absolutely astonishingly good job at helping to ensure that did happen. It shouldn't have relied just on them, I fully would acknowledge that, but I do also want to acknowledge the work that they did in -- often in their communities or more widely, at various points along the pandemic. So I think it's important to acknowledge that.
Q. Well, Professor, can I thank you for that, and I'm sure that those I represent will take those kind words on board.

Let me move on. I'm sure we can agree on this next point. We can agree that understanding the factors contributing to communication failures with ethnic and 124
linguistic minority communities is essential to address and to rectify for future cases and future issues; we can agree that, yes?
A. Yes, and from an early stage I completely recognised that, and one of the things I did earlier on, I did several other things, was to commission Professor Kevin Fenton to do a report looking at some of these issues. So we did quantitative data looking at the relative risks in ethnic minority groups of different sorts, but we also did qualitative data discussing with communities and trying to understand very much these issues.
So I completely agree with the point you're making, I'm just saying we were alive to this certainly from early April 2020.
Q. Can I just ask this: given the acknowledgement and your candidness, l've just got to ask this question on behalf of those I represent: what were the factors that contributed to the failures? What happened?
A. Well, to give a -- there are several good reports which I could direct you to, the first of which was Professor Fenton's one, which I think is really worth reading, but there have been several subsequent so I'm not going to précis what I think were excellent pieces of work, but I think there are two or three ones. There 125
Q. Thank you for that. I'm going to move on. I have just a couple of minutes left, and I just have a couple more questions for you.

Considering the multifaceted nature of the challenges posed by the pandemic, would you agree that it's important to assess whether the risk factor of economic disadvantage was effectively addressed to ensure comprehensive public health measures? What's your view on that?
A. Well, I think in a sense the implication behind that, which I agree with, is that some of, not all of, what drove the differential impact of Covid on some people in ethnic minority groups was underlying socioeconomic disadvantage. There were many others. Actually, again, I would point you to Professor Fenton's and various other reports. But those are -- you know, what this also demonstrated is that these are often people living in communities where other areas of public health are also not adequate, and I think Covid's shone a spotlight on some of the areas of the country where we have the greatest need, I think, to invest in public health for exactly the reasons you're giving.
Q. Some might use the word "structural inequalities"?
A. That's one framing of it, yeah.
Q. All right, let me move on.
are very easy ones, in one sense, not as easy as they may always sound, which are things like linguistic ones, if you do it -- if you -- you know, not every major language spoken in the UK was adequately picked up at an early stage in terms of communications.

There were ones around channels of communication, that many people, for example, were getting their information not from Downing Street broadcasting or from UK mainstream newspapers but from other important newspaper -- news outlets from other nations. We didn't pick that up I think early enough.

I think there are many issues where engaging with local community leaders who can then help to get the message to be understood correctly in an appropriate and culturally sensitive way would have been much more helpful, and this is where your members had such a leadership role throughout the pandemic at multiple points.

But there are a very large number of ones that sit beneath those and I -- you know, I would -- you know, given an hour I would given you again an hour's answer for what is an important question, I just don't want -I want to acknowledge I'm not doing it justice but also say a lot of work was done on this. I -- still more I think to learn.

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Last area, and I'm going to look at this last area through the lens of hindsight, okay? Can we agree that it was at least possible to attempt to predict that certain groups would be at higher risk, including healthcare workers, you know, from minority or minoritised groups, fairly early on in this pandemic? Can we agree that?
A. I think it was possible to agree -- well, I think it was possible to predict and I have gone into this in some detail in my statement, so can I point your members to my statement so they can see a full answer to this.

It was certainly possible to identify the fact there would be areas of -- there would be people, disadvantaged groups, who would be particularly affected. My view then and subsequently is that not all of them were fully predictable, including some of the impacts of ethnic minority -- ethnicity absent the socioeconomic deprivation points that you've previously made. I think that was a more complicated area and that took longer for us to unravel and properly to understand, and therefore, more importantly, to work out what we could do to address.
Q. But those areas which you could reasonably predict and anticipate leads to this final question: once certain areas could be predicted, right, what proactive steps 128
and measures were taken to protect those groups based on those protections?
A. Remembering that this is a highly contagious infection, the single most important thing to protect every group was to get Covid down in the entire community. Without doing that everything else falls by the wayside. So that was the single priority at the beginning.

As things went on, I was very, very keen to identify these points, and again laid out in my statement the multiple steps we took to try to understand this. And, you know, I accept the point you're making, but I think at the beginning the absolute priority was to pull down Covid rates in everybody, across the whole community. That is the best way to protect everybody.
Q. Professor, I accept what you say, but that "one size fits all" approach leaves particular groups to certain vulnerabilities, would you accept that?
A. Not at the very beginning. At the beginning you have to get the rates down for everybody, and in my view that was the overwhelming need.

PROFESSOR THOMAS: Professor, thank you, that's all my questions.

LADY HALLETT: Thank you, Mr Thomas, I'm sorry to have to be harsh with you.
PROFESSOR THOMAS: No, no, no, I've come to the end. 129
the principal route by which we were trying to have these discussions about how to reduce the risks to people living with disabilities actually occurred in the first instance, and there were many things subsequently, through the shielding mechanism. And there were quite long discussions, which I did not lead on this occasion, because I -- apologies, I'm walking towards -- speaking into the microphone -- there were quite long discussions which I did not lead on this occasion but I was absolutely abreast of to try to work out what those groups are, and you can see the first shielding mechanism where we identified several groups living with disabilities and then a subsequent improvement on that first version which identified some additional ones subsequent to that.
Q. So I'm going to move on from it, but just to check, understood that answer but my question apropos what you've said in paragraph 11.12 is: did you have discussions directly with colleagues who came from disabled groups?
A. I had -- the reason I'm not giving a "yes" or "no" answer is I can't recall exactly which groups, and I think one of the problems I would have here is some groups would be explicitly identified as disabled groups and others would have a lot of people living with

LADY HALLETT: Mr Friedman, and I'm going to be harsh with you too, I am afraid.

## Questions from MR FRIEDMAN KC

MR FRIEDMAN: I was going to say thank you, my Lady.
Sir Christopher, I act for four national disabled people's organisations. To save time, I'm just going to read from your Module 2 statement, that's Inquiry number INQ000251645, at page 204, paragraph 11.12, and it follows on from some of the questions you've just asked, because you say there:
"I was ... involved in discussions with healthcare colleagues from multiple ethnic minority and other cultural groups to get their insights into the experience of the communities they had closest links with, and to identify possible countermeasures to COVID-19 in those communities."

You give some exhibits as examples there and they're both dated March 2021, and you've given evidence just now, in effect, that this should have been done better and sooner, and we can see what you've said on the transcript. So my question for you is: did you have such discussions with healthcare colleagues from disabled groups?
A. I had discussions with people from multiple groups, I can't remember exactly which individual groups, but 130
disabilities but would not be in that group, so I think it's -- the answer is I'd need to check, if that's a central question.
Q. Let me move on and ask you about learning disabled people and specific risk of Covid-19 to people with Down's Syndrome.
A. Yeah.
Q. Now, as a matter of record, they were not on the list of clinically extremely vulnerable groups in March 2020 but they were added to the list in November 2020.
A. Correct.
Q. So the first question is, bearing in mind that respiratory disorders are a predominant cause of death for people with Down's Syndrome, should they have been designated in the higher category of risk from March 2020?
A. So I think that -- in answering your question, I think it's important to remember that being on the shielding list was a huge imposition on the people who were in it, so the downsides to being -- to shielding were very substantial. So therefore the burden of proof, if you wish, had to be that there was a big risk that justified that significant disadvantage from a significantly greater degree of isolation, which in fact is particularly important for many people with learning 132
disabilities and others.
So you could, you know, I think this is not an area where you just say, well, anybody who might be at risk you want to put into shielding. That would not be in the interests of those people.

There was an initial epidemiological signal that there might be an increased risk for people living with Down's Syndrome, and then that was subsequently followed up and, as you say, they were added to the shielding subsequently, but the aim was, in a sense, a balance of harm one, and initially balance of harm would have been do not put people into shielding who do not need it. As the risk emerged more clearly, then they were identified and then the disadvantages of shielding became justified by the increased risk.

But I think many people who were in shielding over the entire period of the pandemic when it was in place would reiterate to you that this was something with very significant downsides for those individuals, often for mental or physical health.
Q. Right, I'm going to take that answer and just mention to you that there are minutes of the NERVTAG clinical risk stratification subgroup in June 2020 identifying evidence from modelling of a high risk from Covid to those with Down's Syndrome which they wanted 133
example of it.
Q. Just so my Lady has the point, if I ask you how the delay from June to November could have been avoided, which is the question, your answer, as far as you're concerned, is it couldn't, because of the need to think matters through; is that what you're saying?
A. It wasn't because of the need to think matters through,

I think that's a misunderstanding; it's because the size of the effect was not sufficiently large that the downsides of having shielding, if shielding was not needed, were at that point thought to be justified. That's the answer, which is a different point to the point I think you're making.
MR FRIEDMAN: Thank you.
LADY HALLETT: Thank you, Mr Friedman.
Mr Metzer.

## Questions from MR METZER KC

MR METZER: Thank you, my Lady.
Sir Christopher, I ask just a few questions on two topics on behalf of the Long Covid groups.

Were you aware that the Prime Minister wasn't convinced that Long Covid truly existed in 2020 and for a large part of 2021?
A. I was aware of that.
Q. Why didn't you, as Chief Medical Officer, disabuse the 135
consideration to be given to.
Sir Christopher, we obviously know the fatal outcomes in the end for younger adults with Down's Syndrome, it's a significant issue.

So just moving to November 2020, when they are put on the list, our second question is: how could such a delay in adding them to the list, particularly from June 2020 to November, have been avoided?
A. Well, firstly, I wasn't the person who was principally doing on the work on the list, although I was well aware of it, so just to be clear.
Q. Understood, yes.
A. But I would refer you to my previous answer, which was: we had identified that this was a possibility. The word that was used, from memory, in that NERVTAG document was "signal". Signal doesn't mean there is a big difference; it means there is something that is slightly out of the statistical norm that needs to be looked at and then was looked at and then they were added.

But I would go back to my previous point: adding point to the shielding list who were not going to benefit from it was not in their interests, it was actively against their interests, and it was getting that balance right for many other groups as well.
Down's Syndrome was obviously a particularly important 134

Prime Minister of his belief that Long Covid was "bollocks" in October 2020, when there were discussions about the need for a second lockdown?
A. Well, the particular document with a handwritten note was not one I was privy to until it was published by the Inquiry, so to be clear.

The answer is: if I thought that there was an overriding need for the Prime Minister himself -- or herself, were it to be a different Prime Minister -- to know about this because it was going to make a big difference to people with Long Covid, that would have been a very material point, and I did, as you know, in 2021, actually address issues of Long Covid directly with the Prime Minister.

However, at this point -- at the earlier points, my view was there were large numbers of things we needed to do for those living with Long Covid or who might have Long Covid in due course because of infection to do with research, which I launched multiple strands of research and analyses during 2020, and also NHS activity. None of these, in my view, required the Prime Minister to have a view on it one way or the other; we could just get on with it.

So these weren't things where the views of the Prime Minister, in a sense -- and I don't mean this in 136
a negative sense, I'm just stating this factually -were relevant one way or the other. We could just do the things we needed to do. Once I got to a point where it was clear this might be a material issue for decisions the Prime Minister himself could take, that seemed the point where his private office said to me, "Look, could we have this discussion" -- and I think you have the correspondence on this -- I thought about it, how we best do it, and we agreed on an approach to it.
Q. Yes, I'm going to go to that in a moment, but you accept that the evidence of Long Covid was not in any way uncertain by that time in October 2020?
A. I do.
Q. Thank you.

Patrick --
A. Although our understanding of it was far from developed. We've still got a long way to go. But it was very much in its earlier stages.
Q. Yes, I mean, we don't need to go through papers, but there was a literature review on Long Covid, Public Health England had published guidance, and the National Institute for Health and Care Research, of which you were head, had produced a report, all by that time.
A. Yeah, I commissioned those works.
Q. Patrick Vallance had advised Cabinet on 13 October 2020
the treatment spheres, not in the political sphere.
Q. Leaving October aside, can I take you now to

February 2021, when Mr Shafi had sought from you a proper briefing on Long Covid for the Prime Minister.
Of course, you know that was the same month the spring roadmap on the release of restrictions was being drawn up.

Did you advise the Prime Minister then about Long Covid in February 2021?
A. Yes, the exact point where -- so, as you will recall
from -- because you've read the correspondence, my view, having a lot of experience of having discussed things with the Prime Minister on other areas, was that where he was going to have to think through an issue where he had one position and moved to another position, it was less likely to work by just giving him a document. So I wanted to have a conversation with him and I wanted to do so at a time it seemed to me we could have a serious conversation.

I'm confident we did have a conversation, and I can't recall exactly what the date is, unfortunately. I would have chosen a moment I thought it was likely to be most useful to have the conversation, and I then followed it up with a subsequent note -- I don't know the gap between those -- which I think you have already 139

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that young people suffering from Long Covid was a relevant policy consideration in relation to discussions about shielding the elderly only. Why didn't you think it was important to advise him about the risk of Covid-19 causing Long Covid in the young?
A. Well, I think, as I say, if I thought that there was a decision that the Prime Minister himself needed to take where this was a material issue, I would have addressed it. It wasn't part of my job -- I still don't think it's part of my job -- to disabuse even senior political leaders of things which I'm not convinced they fully understand, where I don't think it's material to the public health outcomes.
Q. Did you not think it was important, as Chief Medical Officer, to ensure that he had that level of knowledge, particularly given the indiscriminate risk of Long Covid?
A. Only if it would have made a difference to decisions that the Prime Minister himself had to take. That is the -- in a sense, that's the question. It's not my job to try and provide public health -- more wide information where that's not going to have an implication, given all the other needs.

I did want to do a lot for Long Covid, we did do a lot for Long Covid, but it was in the research and in 138
seen, entitled, "A short note on Long Covid".
Q. Yes, we'll come to that briefly in a moment.

Do you recall if you advised him after your conversation with Mr Shafi in February 2021?
A. Well, that's what I've just said. I'm confident we had the conversation; I'm not confident I can't recall exactly when.
Q. Well, this may help: the Prime Minister himself said that some time had passed before he was told by Mr Shafi he had received advice on Long Covid, and said that in May 2021 he requested a note from you on Long Covid, suggesting it was around that time you were clear with him about Long Covid, I think end of May, beginning of June. Does that sound right?
A. Well, it is certainly the case that that's when I sent the note, because that's when it's dated. I'm also confident I didn't send the note in blind. My view was I needed to have a conversation with the Prime Minister before that. Where it lay between February and May, I honestly can't remember, and I'm just trying to -you know, it would be silly for me to try and say I can recall, because I can't.
Q. Just to complete the point, then I'll move on: so it wouldn't make sense, would it, he'd be requesting advice from you again on Long Covid in May 2021 if you had 140
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LADY HALLETT: You're not going to develop it very far, Mr Metzer, I'm afraid.
MR METZER: I will, my Lady.
LADY HALLETT: We've got another ten minutes to go before we can break for lunch.
MR METZER: I know.
You only mentioned Long Covid three times in press conferences in 2021. Do you accept that those three references were not sufficient to inform the public about the risk of indiscriminate, long-term, debilitating illness, and do you accept that, on reflection, messaging could and should have been improved?
A. Well, on the second of those, could messaging have been improved, I mean, the answer to that -- to almost any question you could ask on disability, on ethnic minority and various other things, the answer is of course going to be yes. Would my talking about it more frequently in a press conference, as opposed to multiple other channels of communication, have improved the situation for people living with Long Covid or prevented it? I'd need a chain of logic to be laid out that made it clear how that would have been achieved.
Q. Sorry, just to finish that, the question I put is that if the public had been aware of the risk of Long Covid
Q. Well, I'll just develop that one --
and they understood what it was, their symptoms, they could have addressed that.
A. Well, I think that was actually part of the way in which we were describing it to people about vaccination, for example, because here we had a tool that would help -- you know, the first thing I say in my what can you do about Long Covid is help people not get Covid, and obviously vaccination was an example. So we used it in that context. There, there is a useful thing we can say that is hopefully going to help some people not to acquire Long Covid who otherwise might have done so.
LADY HALLETT: That's it, I'm afraid, Mr Metzer.
MR METZER: Thank you, my Lady.
LADY HALLETT: Mr Jacobs. And if you can bring in your questions, doing justice to them, in under ten minutes, I'd be grateful. At the moment we have no transcript because the stenographer has had such a tough morning. She can catch up by listening to recordings, but if you can ...
MR JACOBS: I'm optimistic, my Lady.
LADY HALLETT: Good.

## Questions from MR JACOBS

MR JACOBS: Professor, do feel comfortable looking forward and speaking into the microphone. I have a few questions on behalf of the Trades Union Congress in 144
short time.
My questions are on the issue of financial support for self-isolation.

Firstly, can you just summarise briefly, if you would, the importance of financial support for self-isolation as you saw it?
A. Yes, I think that this was an extremely important area and one that was quite heatedly debated in government in reality. My view was that it was far easier to self-isolate, and indeed to self-isolate repeatedly, if people were contacts, if you were in a job which was in permanent employment -- a white collar job, academics, civil servants, various others -- than if you were in a self-employed environment, which many people, particularly on lower incomes, were, and it seemed to me therefore it was essential that we took account of that, particularly given that some of the highest incidence of Covid was in areas of relative deprivation, where there were higher rates of people who were not in continuous employment and therefore covered by ordinary sick leave measures.
Q. Would one example of that, one concrete example, be the outbreaks that were seen in Leicester in June 2020, where you get that intersection of outbreaks of low income work and so on?

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of mechanism and relative --
A. Yes, all I am just saying is I engaged in debate saying
this was an important issue; I didn't get involved in the debate about what the right mechanism for addressing it might be.
Q. Yes.

Mr Thomas just a few moments ago on behalf of FEHMO suggested that it was important to evaluate whether the risk factors of economic disadvantage and their relationship with disparate impacts of the pandemic were effectively addressed. Do you think this issue of financial support is one area where the risk factors were ineffectively addressed?
A. I would have preferred to have had an even more vigorous approach to this very specific issue, yes. And there is plenty of documentary evidence for that you'll have seen.
Q. Can we just look at one example of the issue being raised in government. If we could have the Patrick Vallance schedule, page 170. You will see an entry from 8 September 2020. Sir Patrick says, or writes:
"I made the point about having to give incentives for self-isolation, PM agreed and said he would take it up with [Chancellor] afterwards. Chris and I were 147
A. It may well have been. I think the logic there is real, but the data aren't there. The example where the data are clear is -- because it was so heavily studied, was in care homes. Care homes where sick pay was readily provided had lower rates of Covid in general than ones where sick pay was not, and I think that is reasonably clear, in a sense, direct evidence of the link between these.
Q. You describe heated debate around the issue. Given what might be thought to be the apparent sort of simple logic of people on low income may not be able to self-isolate without support, why did that logic not sort of win through into significant action?
A. Well, I mean, I think I can answer half the question -in fact, a quarter of the question, in a way. There is no doubt that I and many other people in -- from the health professions -- and others, Dido Harding, others -- highlighted this issue right from quite early on. Issues about how it should then be addressed are ones that I don't feel I have any particular competence in and I didn't offer a view as to what was the right mechanism to deal with this. It's actually quite a complex area. But the principle --
Q. Sorry, Professor, just given the time, we heard a bit about that from David Halpern, about the different types 146
aligned and presented what needs to be done. I left the call. Apparently it descended into chaos and CMO not clear where it will land."

Professor, if you recall why it descended into chaos let us know, but broadly, is this indicative of the difficulty in getting the importance of this issue to land with key decision-makers?
A. I mean, without remembering the exact meeting, the general tenor of this is one which I recognise.
Q. Final question: do you think that in order to respond more effectively for a future pandemic, and to lessen the disparate impacts of a future pandemic, we need to be ready to take a more robust approach to financially supporting self-isolation?
A. I think where self-isolation, and particularly repeated self-isolation -- I think that's an important additional point -- is likely to be part of the state's response to a major public health threat, I do consider this is an important issue that needs to be taken into account, and indeed I think we say so in our technical report because we thought this was an important public health point, not just -- just a wider point.
MR JACOBS: Professor, my Lady, thank you.
LADY HALLETT: Well done, Mr Jacobs.
That completes your evidence for this module, 148
career.
Q. And as a result, Professor, are you the senior editor of the textbook Introduction to Pandemic Influenza, have you published more than 200 peer-reviewed scientific papers, and you hold a plethora of degrees, diplomas, doctorates, fellowships and honorary fellowships?
A. That's correct.
Q. All right.

In terms of the positions that you've held, were you head of the pandemic influenza office at the Health Protection Agency Centre for Infections between 2004 and 2007?
A. Yes.
Q. You were, and you have been for a long time now, a member of the -- well, you were a member of what was then the SPI committee, you were a member of SAGE during the swine flu pandemic; is that correct?
A. Yes.
Q. And were you the chair of NERVTAG from its inception in 2014? For how long were you the chair?
A. So NERVTAG actually was the kind of successor to SPI, so it wasn't entirely a new committee, it was more kind of reformatted. But from its inception, which I believe was about 2014, through until the time when I became DCMO, at that point I clearly could not continue in 151

| Sir Chris, thank you very much indeed. I'm sorry if it's all been a bit pressurised towards the end of this | 2 |
| :---: | :---: |
| morning. I suspect if I hadn't imposed such a tight | 3 |
| timetable we could have taken a week asking you | 4 |
| questions, if that's any consolation, possibly not. | 5 |
| But do please rest assured, and everybody else can | 6 |
| rest assured, that obviously l'll consider all the | 7 |
| material that has been provided in writing, it's not | 8 |
| just the evidence you give here orally that will be | 9 |
| considered, everything will be considered. | 10 |
| So thank you very much indeed for your time and your | 11 |
| patience and your help. | 2 |
| THE WITNESS: Thank you, my Lady. | 13 |
| (The witness withdrew) | 14 |
| MR KEITH: Thank you, my Lady. | 5 |
| LADY HALLETT: 2 o'clock. | 16 |
| (1.03 pm) | 7 |
| (The short adjournment) | 18 |
| ( 2.00 pm ) | 19 |
| LADY HALLETT: Mr Keith. | 20 |
| MR KEITH: My Lady, this afternoon's witness is Professor | 21 |
| Sir Jonathan Van-Tam. | 22 |
| PROFESSOR SIR JONATHAN VAN-TAM (sworn) | 23 |
| Questions from LEAD COUNSEL TO THE INQUIRY | 24 |
| MR KEITH: Professor, I'm going to call you Professor, 149 | 25 |

rather than Sir Jonathan --
A. Of course.
Q. -- if that's acceptable. Could I ask you to give your full name, please.
A. Yes, my name is Jonathan Stafford Nguyen-Van-Tam.
Q. Thank you very much, Professor.

Thank you for attending today, we appreciate that you have been made to wait a very considerable amount of time. Thank you also for the provision of your witness statement dated 8 September 2023. There it is. All the contents, the full contents of your statement, will of course be considered. It is a significant and substantial statement running to 146 pages.

You are by profession an epidemiologist, a physician specialising in public health, mainly communicable disease control. Have you spent most of your academic career engaged scientifically on issues of epidemiology, prevention and control of respiratory virus infections and the like?
A. Yes, I have. I started my academic career, I guess, in about 1991, and very quickly gravitated to the study of respiratory virus infections, but notably influenza, which has been the dominant public health threat from respiratory viruses for a very long time, and I found this area stimulating and stayed in that area all of my 150

NERVTAG, which has to be a committee that is independent of government.
Q. Then in October 2017 did you become the Deputy Chief Medical Officer particularly concerned with health protection?
A. That is correct.
Q. Presumably your portfolio has always been, and was while you were DCMO, a broad one?
A. Yes, it's really covered all the infectious diseases threats, bioterrorism and biosecurity, so very broad, and in the time that I have been in post it's pulled in other emergencies such as the Novichok attacks, the monkeypox crisis, and various other things, but also including some pharmaceutical pieces, for example the shortage of EpiPens.
Q. Then in March 2022 did you relinquish your position as DCMO and then turn exclusively to the world of academia?
A. Yes, I did. I -- it was a planned move out of government. I was a full-time academic for another year and I'm now part-time one day a week at the University of Nottingham and self-employed for the other four days.
Q. I'd like to ask you, please, firstly some questions about the role of the DCMO, and with particular regard to the fact that you were the DCMO concerned primarily with health protection.

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 protection, functionally independent from government? Are you allowed to say what you want, within reason, and to express your professional views?
A. So the answer to that is in several parts. Yes, absolutely, as a subordinate of the Chief Medical Officer, then I have been given the -- you know, the permissions of that office to be independent of government, and feel I -- you know, it depends on your Chief Medical Officer, of course, to a large extent, but I feel that Sir Chris gave me very much a partnership of equals, gave me the opportunity, and respected my professional experience, and gave me the opportunity to speak independently.

That having been said, I do not think it would be right, and I'm a traditionalist who understands the chain of command very strictly, I do not think it would be right for a DCMO under any circumstances, other than the serious illness or death of the Chief Medical Officer, to start making comments that were particularly strategic or particularly, you know, wide-ranging in terms of their implications across government without a full and frank discussion, and the normal practice would be for that discussion to happen and then the Chief Medical Officer to make remarks on behalf of our 153

Is the role of DCMO, and the role of DCMO for health solutely, as a subordinate of the Chier Medical
me and whichever private secretary was looking after me.
It would fall to me to make the liaisons with Public
Health England and with the wider health protection
community, for example CDC in Atlanta. And then, at a certain stage, if this was something more than the routine or the trivial, to then start to have a conversation with the CMO about that.

So it came about because it was routine, I think is the answer.
Q. Give us, please, also a broad idea of what your important position at that time comprised. You presumably gave a great deal of advice regularly to the Secretary of State in the Department of Health and Social Care, to DHSC junior ministers, and to the DHSC itself. Presumably you also were asked to respond to requests for advice from central government, from the Prime Minister and other ministers, and by -- and from officials in the central government machine, if I may call it that. Is that a fair summary?
A. The answer to that is really in two parts. In kind of peacetime, the DCMO's role would be to, for example, observe the Joint Committee on Vaccination and Immunisation, observe NERVTAG, work closely with policy officials looking after vaccine and health protection policy, look after global public health with that policy 155
office, occasionally it would be delegated.
Q. So in that sense, Professor, you were accountable to the Chief Medical Officer, and is that why you say in your statement that you wouldn't issue a piece of evidence, for example, to a core decision-maker, without first satisfying yourself that it was in line with the Chief Medical Officer's own views?
A. Yes, it would depend on the subject. So, for example, if it was something quite technical, on the aerobiology of respiratory viruses and droplet distances and aerosols, then of course I would just, you know, kind of crack on with giving the advice, in the interests of speed and efficiency of government. But if it was something notable or significant, it would only be right for me to channel that through the Chief Medical Officer.
Q. The evidence shows very plainly that during the initial weeks of the crisis, so particularly between January and March of 2020, you took the lead, by virtue of your role as DCMO for health protection, on the initial phase of the response to the pandemic. How did that come about?
A. Yes, so that is -- it's basically business as usual within the Chief Medical Officer's office. We would not have expected Sir Chris to track all of the infectious disease happenings around the world, that would fall to 154
official team. But the amount of contact with the Cabinet Office and with Number 10 and other government departments would be relatively sparing at that point.

That of course changed as the magnitude of the SARS-CoV-2 crisis, you know, unfolded in front of us. But in normal times, there would be not that much contact at all, but that changed over time.
Q. Were you, for example, regularly attending Number 10 Downing Street and therefore present in many of the decision-making meetings which took place there, or was that something that was ordinarily left to the Chief Medical Officer?
A. I can't recall that I ever went to the -- to Number 10 Downing Street before the pandemic started, and I can't recall going to Downing Street for a meeting other than the 5 pm press conferences. I may have got that wrong, there may have been one or two occasions when I went to a Number 10 meeting, but really my contact with Number 10 was very constrained and related to those press conferences. So I really wasn't in much of the discussion that I know you have been asking other witnesses about.

The other thing I kind of want to say is that quite early on in the crisis, although, as you rightly point out in those early days I was really quite significantly 156
involved in the kind of alerting, once the kind of machinery of government, SAGE, COBR, had started to move, then one of the other things that I moved to very quickly, partly in conjunction with the Government Chief Scientific Adviser, Sir Patrick, was getting ready and building up the momentum for the Vaccine Taskforce. And of course that started quite early officially, in April, and it really became the very dominant part of my work for, I would say, the rest of my time in government.

So whilst I was involved in many of the things you've talked about with other witnesses, it was pretty peripheral in relation to their roles, and I was beginning to really focus very hard on getting vaccines for the UK as fast as possible.
Q. You may have been attractively modest about the extent of your role, Professor, because the evidence makes plain that you were seen as a source of expert advice in particular as well on technical aspects of virus transmission, and you were hugely concerned not just with vaccines but with the development of therapeutics --
A. Yes.
Q. -- and all the issues that surround those two important areas. Is that fair?
A. That's very fair.
meetings that I have been into. There could be several every day at one point or another. And really, you know, you lose track of this, you're so tired and you're so overwhelmed by the workload, you literally go from one meeting to another, wherever your diary manager sends you next.
Q. The evidence shows that you also attended a very significant number of SAGEs.
A. Yes.
Q. In particular you were present on the SAGE 18 meeting of

Monday 23 March, about which l'll be asking you questions. Is that a fair summary?
A. That's fair.

May I make a little comment about SAGE?
Q. Please.
A. So I think the primary purpose of SAGE was for the government to garner a range of scientific opinions from independent experts, which to my mind it did very effectively, but -- and who knows, you know, in another time, another world, I might have been on SAGE by virtue of being a professor at the University of Nottingham. However, I was on SAGE -- partly, of course, for my scientific knowledge and advice, but I was still a DCMO, my boss, Sir Chris, was co-chair of SAGE, and it was important that those independent scientific voices were 159
Q. All right.

In terms of the significant structural bodies of which we've heard a great deal of evidence, COBR, Covid-S, Covid-O, four nations meetings, were you regularly in attendance at those meetings or were they fairly infrequent?
A. Yeah. So let me go through those.

COBR would be really one where my presence would be required only when Sir Chris was not available or had specifically delegated that I go to it. I can't think of an occasion when Chris said "l'm not going, you go", but I can think of at least one occasion where he was unavailable.

I may have been in the outer room at COBR, not participating, but observing, on one or two occasions, because of course, you know, these are things that don't happen very often and there's a lot of learning for a -somebody who's still relatively junior in government, as a DCMO to kind of learn stuff from observing in COBR.
Q. All right.
A. Next one --
Q. Covid-S, Covid-O?
A. I don't recall being in many Covid-S meetings, they're the ones designated $S$ because of the presence of ministers. I have lost count of the number of Covid-O 158
in the room rather more than a kind of, you know, replay of the Chief Medical Officer office opinion.

So I would say that whilst I was certainly on SAGE, and $I$ don't dispute any of the dates you could pull forwards about when I attended, I would say that my role was relatively muted, although I would say what I needed to say.
Q. Whilst on the subject of SAGE, Professor, you refer in your statement or you use these words in your statement, that "SAGE was strongly influenced by bio-mathematical modellers"?
A. Yes.
Q. What did you mean by that?
A. I meant that their information, in terms of providing reasonable trajectories and possibilities for what could happen as the epidemic waves of the pandemic played out, I felt that was really important, and I thought they had really unique skillsets.

Now, the context to that, and it's very important, is that I can only think of three people who served on SAGE in 2009 during the swine flu pandemic and again on SAGE this time, and that was Professor Ferguson, Professor Edmunds and myself. So over that period, I had come to learn and understand and trust the outputs from the modelling groups. I was very reassured that 160
actually what came to the table was a kind of consensus from multiple different modelling groups working independently across the country, Warwick included, and that's why I make that point in my statement.
Q. In truth, I wasn't asking you to express your views on the validity or worth of modelling or their work. It's only that the use of words such as "SAGE was strongly influenced by bio-mathematical modellers" might suggest that you were making an observation there about the relative lack of influence of other disciplines, perhaps infection control experts or community health control experts or public health clinicians, as opposed to the modellers.
A. I wasn't making that difference.
Q. That's not the point you were making, all right.

Then, finally, did you attend most NERVTAG meetings?
A. Well, I attended most NERVTAG meetings at the beginning, when NERVTAG were kind of synthesising the kind of pretty limited data coming out of China and then a few other countries in South East Asia.

As I said earlier, once kind of the momentum of my vaccines work built up, you know, it became more and more difficult to just be in two places at once, and I literally had to kind of send -- send a private secretary to sit in on the NERVTAG meeting or, indeed, 161
of workload. I did not expect my family to be threatened with having their throats cut. I did not expect the police to have to say, "Will you move out" in the middle of the night, in the middle of the evening, "Will you move out for a few days while we look at this and potentially make some arrests". You know, we didn't move out because of the cat, as it happened, we didn't want to leave the cat. But it was a very stressful time indeed. And, you know, my family didn't sign up for that.

I only make this point because I'm so worried that if there's a future crisis, people will not want to sign up for these roles and these jobs, because of the implications that come with them.
Q. If I may speak on behalf of myself, thank you for bringing that to the Inquiry's attention.

Moving on to two final preliminary subjects, your statement refers to the close collaboration throughout the pandemic between the Office of the Chief Medical Officer and the counterparts in Scotland, Wales and Northern Ireland, and a considerable amount of evidence has been heard about how, at the medical level, the CMO, OCMO, DCMO level, there was extensive collaboration.

Do you consider that that degree of collaboration of co-operation between the devolved administrations was
just get the read-out afterwards. It wasn't that I wasn't following what NERVTAG were saying, but I couldn't physically be there to shepherd every single item as time went on.
Q. Professor, I want to ask you about a sensitive matter which you've raised in your statement concerning the demands, the unprecedented workload that was placed upon you and the consequence of what you describe as extremely hateful messages received by you from the public, by email, some of which has led to the police becoming involved:
A. Yeah.
Q. Did you, as a result of the unprecedented demands placed upon you but also on account of these hateful messages, consider your position at any time?
A. Yes. So I may begin by thanking the vast, vast, vast majority of the public who when I meet them are just supportive and grateful, and I deeply appreciate that.

The workload was horrendous for all of us at the beginning, it certainly was in the kind of 16 hours a day mark, and it certainly was seven days a week, it was very, very intense. Where I think, you know, it finally got to me was the fact that I might have -yeah, I might have expected that if a crisis happened this was, you know, my responsibility to bear that kind 162
appropriate and that it worked well in face of the unprecedented demands of this pandemic?
A. So clearly this was a virus like most others that doesn't respect international borders, doesn't respect, you know, where you live in the UK to any great extent, and I felt that the medical colleagues in the devolved administrations had very much become my friends by the end of the experience, which is probably the kind of quickest way to give you some sense of how close and how bonded we felt as a group of professionals battling with the same kind of common cause in mind.

So, yeah, I think it worked very well.
Q. Was there also extensive co-operation with and collaboration with your international peers and colleagues throughout the course of the pandemic?
A. Yeah, well, one of the advantages of having, you know, been in the influenza world for 30-plus years is that you met a lot of people and they've stayed with you, in their territories, throughout all of their careers as well, so you have a lot of contacts to pull on. And I had a lot of international contacts and people overseas who I call professional friends, and I'd done really quite extensive work with CDC in the past, in the US, and had really quite strong links with Singapore. But I think my statement gives you a list of all the 164
different countries with which we've engaged.
Q. There are very many.

Now, the timeline, and focusing on the first few weeks of the emerging pandemic. I don't wish to go through all the very many emails that you sent and received or the many meetings and conversations that you had with your colleagues within the Office of the Chief Medical Officer about the emerging pandemic, but just to pick up some of the high points.

If we could have INQ000151286.
You forwarded to your colleague, Professor Sir
Chris Whitty, and others, important information that you had received by way of a forwarded email attaching what is called a "ProMED Digest". We've heard evidence about ProMED. Was this a summary of information that ProMED had put out?
A. Yes, I mean, that's right, l've just forwarded it straight on. And if you click on the link, you would find that there's a little bit more, short paragraph, of what the report was coming in from China about this cluster of undiagnosed and slightly peculiar pneumonias.

Now, personally I -- it's very clear, and
I forwarded that ProMED email, I think I had probably heard something a couple of days before that. I was at home on leave at the time, so this would be, you know, 165
already reaching out to your professional colleagues around the world, and other emails show --
A. Yes.
Q. -- all the ways in which you reached out to other countries, this one happens to refer to the US, but is this a good indication of how speedily and effectively this system of international collaboration works?
A. I think it is. And it's also, I guess, on this particular email, an illustration of my, you know, networks, having run a WHO collaborating centre for influenza from Nottingham, and my understanding of NERVTAG and the fact that Dr Dabrera, from PHE, referred to as Gavin in the email, actually tracks viruses for NERVTAG and produces risk assessments on an ongoing basis.
Q. The material shows that you forwarded this email and you also started other email chains with colleagues at the World Health Organisation as well as the CDC, and with other colleagues around the world.
A. Yes.
Q. Thirdly, in relation to this email, you've used the word "emerge", information about an "emerging" virus, in the course of your evidence. Subsequently, it became apparent, of course, that there had been cases in China.
A. Yep.
Q. Genomic research has indicated that there had been cases for China for some time.
A. Yep.
Q. Can you just make plain that this was the emergence, at least insofar as you were concerned and the United Kingdom was concerned --
A. Yes.
Q. -- of this novel coronavirus, but that of course doesn't mean to say that there hadn't been a coronavirus circulating in China for some time?
A. You're quite right, and you've picked me up on the word "emerge", and I think that's a really good one, and thank you for doing that.

I probably shouldn't have used the word "emerge", because I think I'm kind of back-transferring the fact that it was an emerging respiratory virus. This could have been a chemical pneumonitis, it could have been a cluster of Legionella cases that was, within a few days, going to be very rapidly explained as something terribly ordinary. So you're right.

And on the point about kind of the genomic sequencing, I'm not an expert in this area but I gather that it is perfectly possible, according to the sequencing data, if you kind of back-model it, that this virus might have emerged sooner than this report.

| MR KEITH: On 8 January -- INQ000151293-- having received | 1 |
| :---: | :---: |
| information from the CDC, that's to say the institute in | 2 |
| the United States, you sent an email to your colleagues | 3 |
| saying: | 4 |
| "I had picked up a whisper from CDC that it was | 5 |
| thinking novel (non SARS, non MERS) coronavirus. Indeed | 6 |
| this is what [Professor Sir Chris Whitty] (and me) felt | 7 |
| was most likely." | 8 |
| Then in the penultimate paragraph you say: | 9 |
| "Good that there remains no known [person-to-person] | 10 |
| transmission." | 11 |
| A. Yes. | 12 |
| Q. Briefly, did you make that reference to person-to-person | 13 |
| transmission because one of the most vital pieces of | 14 |
| information in the early stages responding to a possible | 15 |
| epidemic or pandemic is to know the nature of the | 16 |
| transmission between people and whether or not, | 17 |
| of course, it's sustainable? | 18 |
| A. Yes, absolutely. And just to qualify, "good that there | 19 |
| remains no known person-to-person transmission" doesn't | 20 |
| mean there is none, it means that there are no credible | 21 |
| sources or descriptions of person-to-person transmission | 22 |
| on the date that the email was written. | 23 |
| Q. Yes. | 24 |
| 9 January. INQ000236466, on pages 2 to 3, in the | 25 | 169

Q. It tells you lot about the possible severity of the virus and it indicates something -- because if you've got a large number of hospitalisations a large proportion of those people infected in confirmed cases hospitalised -- something about the possible degree of transmissibility?
A. It could do. It doesn't really tell you anything about transmissibility, it tells you about severity.
Q. All right.
A. And it is caveated very clearly on the very small numbers, seven out of 59 , which, you know, if you worked out the $95 \%$ confidence interval on that $12 \%$, it would be pretty wide based on a total denominator of 59 . So, you know ...

But the audience I'm talking to, you know, possibly the top epidemiologists in the country, will know this, and will understand what I'm saying through that.
Q. There's a reference then in the second paragraph to "our three triggers". Is that a reference to the triggers to which in fact Sir Chris Whitty spoke --
A. Yes.
Q. -- being triggers revolving around whether or not transmissibility extends to -- up to family level, the degree of transmissibility, to the possibility of healthcare workers becoming infected and falling ill,
middle of an email string, you say in the first paragraph in your email to Chris Whitty:
"... notably ... zero reported case fatality so far, though 7 of 59 cases with severe disease is a significantly high $12 \%$ case-hospitalisation rate in my view, such that established person to person transmission would cause serious hospital surge pressures on a par with a severe panflu virus."

So without going into all the many issues or questions that that sentence gives rise to, can I just focus on the significantly "high 12\% case-hospitalisation rate".

It's not possible, is it, to know from the number of people who are hospitalised or who may die from a pathogenic outbreak, the full extent of the outbreak, because you don't -- that doesn't tell you how many people have got mild symptoms or no symptoms, and therefore constitute the body of the iceberg?
A. Correct, yeah. And all we can go on at this point and be very clear about is that these are very small numbers, these are 59 cases, we don't know what the level of case ascertainment is in total, but, in a kind of worst-case scenario, if these were genuinely the 59 cases, then $12 \%$ of them requiring hospital care is not insignificant.

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and also to geographical spread?
A. Yes.
Q. Are those the triggers?
A. Yes, indeed. And I think Chris was very clear yesterday about his kind of concerns that maybe "triggers" wasn't quite the right word, but we all use words sometimes in the heat of a crisis that we don't mean, and I don't think he was saying that there were specific triggers for anything beyond heightened concern. However that's defined. It's difficult to say.
Q. On 13 January you attended a NERVTAG meeting as an observer, according to your statement. The minutes are INQ000021307.

An important part of this meeting, if we look at page 6 , is the issue of risk. The current PHE risk assessment for this virus was presented, and then there's a number of elements.
A. Yes.
Q. And the conclusion which NERVTAG reaches.

Could you just confirm your understanding of what is meant by this risk assessment? Is it an assessment of the risk at that point or is it a prospective assessment, a contingent assessment of the future?
A. It's an assessment of the risk at that point, based upon the extant data at that point, as available to PHE. 172

I think this is a good moment for me to try to contribute to the Inquiry in a way that makes the future better for the UK than the past, and one of the things that I think where the risk assessment system has failed us is that whilst it may be extremely accurate, and I'm absolutely not calling into question the judgement of any of my PHE or wider health protection colleagues about the risk assessment, the problem is that it relates to the current moment and that, unfortunately, when you then try to say "Oh, what does it mean for the future?" you get into massive uncertainty. And that's part of the problem, possibly why it's never been done, but equally it doesn't give any kind of flavour to the less experienced reader about what the range of possibilities kind of is in the future, if you like.

And I think that's really difficult, because, you know, NERVTAG is tracking new and emerging respiratory virus infections and, you know, often keeps them on the radar because they have some degree of pandemic potential, so you could almost say that everything's got the possibility of kind of, you know, inflating into a big crisis at some point. So it is difficult and it would be very nuanced to do it, but I think it's very unfortunate that this can be read as "Oh, well, it's low, just forget about it". 173
February, March.
Was there any real change, however, in the response of yourself, NERVTAG and those opining on this subject in terms of recognising the very limited epidemiological advantages of border controls and also the very significant practical difficulties?
A. I recall that the -- and, you know, the science advice on port of entry screening has been fairly consistent all the way through, that it's pretty inefficient, and it just boils down to the length of a flight, shall we say, for argument's sake, from Hong Kong versus the incubation period of a typical respiratory virus. If you are infected in Hong Kong just before you board the flight, I can absolutely guarantee you'll be asymptomatic and you'll be PCR negative for respiratory viruses when you get off the plane at Heathrow. You'll become ill, if you're going to become ill, several days later, when you're, you know, nicely ensconced back in your domestic setting in the UK. That is the principle of why it only really picks up a tiny fraction of the cases that might enter that way.
Q. On 15 January you advised your DHSC colleagues on the subject of person-to-person transmission -INQ000151316 -- and on page 1 you said, in the third paragraph:
Q. And of course an important part of any risk assessment process is the message that is communicated thereby?
A. But just to come back on the risk assessments, NERVTAG was very rigorous about these being dynamic, and with every NERVTAG meeting anything that was on the risk assessment chart, as it were, Dr Dabrera would update with the latest information. It was quite a job for him to keep on top of it all but he did a great job.
Q. Now if we scroll back out and go to page 8, paragraph 5.8 , we can see a reference to port of entry screening. Port of entry screening was, I think, a matter for DHSC; is that correct?
A. I think it was in the beginning.
Q. Yes. NERVTAG noted that the body of scientific evidence and previous experiences indicate that port of entry screening has very low efficacy and the benefit is very unlikely to outweigh the substantial effort, cost and disruption?
A. Yes.
Q. The issue of screening, the issue of more stringent restrictions at borders, the issue of closure, quarantine, whatever it might be, screening or restriction, came back to NERVTAG and to you, indeed, and to others, repeatedly, because of course it was an issue that was revisited throughout January,
"For now we do have [person-to-person transmission] by the sound of it; but it does feel, from the statement made, like H5N1 in 2004 where we did see [person-to-person transmission] that was largely limited to really close contacts ... and where the length of the chains of transmission were short ... suggesting inefficacy transmissibility between humans."

Was this an important moment because it was you informing your colleagues that you'd answered the question you'd poled in the earlier email, which is: is there person-to-person transmission?
A. Yes, but extremely limited. As a virus that is essentially from another species, when it first encounters humans, if it can cross the species barrier at all, then you get very occasional incursions into humans that can cause very severe disease in the tiny, tiny minority of exposures, or the tiny, tiny number of circumstances in which there is an exposure.

The next, and I'm not a virologist, so you might want a virologist on the stand at some point, but the next kind of evolutionary step of a virus is to adapt to its new host and to -- in the process of that it may become more transmissible in its new host. But it won't just go from can't transmit to fully transmissible in one step; it will take this kind of interim step --
I don't want to give it a kind of consciousness and a being, but it will take that kind of interim step to be inefficient but capable of person-to-person transmission. And I think that's what this report refers to.
And as you know we've had inefficient transmission person-to-person of H5N1, avian influenza, for several decades now, in fact since 1997 on and off, and that virus has not produced a pandemic. So this is not an interpretable signal that, you know, armageddon is about to happen.
Q. Nevertheless, your statement, Professor, states that on 16 January you first became seriously concerned about the threat that this virus potentially posed to the United Kingdom --
A. Yes.
Q. -- and you say this:
"By that date, it was clear that this was a novel coronavirus, it was fairly clear that human to human transmission was occurring, and my view was that this would be a significant pandemic."
And before you answer, elsewhere in your statement you use several words but you emphasised that we would experience a severe pandemic in the United Kingdom.
A. Yeah.
you that my instincts were telling me, and I'm sure I had that conversation at home, that we were in for a bad time.
Q. To make plain, Professor, the degree of, or the certainty or lack of it or the degree to which you took this view, you say in your statement:
"... I absolutely understood in my mind's eye that ... it was a matter of when, not if, things would progress."
A. In my mind's eye, yes. Absolutely. That doesn't mean at that point that I felt that all the data were in place to prove my point or the instinct, and I think that's something that you explored with Sir Chris yesterday --
Q. Yes, indeed.
A. -- and I would like to come back to that, if that's all right.
Q. I'm going to ask you about that in a moment.

Just on those words, my second question in relation to that sentence was, when you say there would be a severe pandemic, although not there but elsewhere, you refer to in the United Kingdom, is it self-evident that by pandemic you meant a pandemic impacting upon the United Kingdom?
A. I did, yes.
Q. So may I just ask you firstly: what did you mean by "would"? Did you mean we might, we may, or we will, or something in between?
A. Okay, let me just answer that particular point there.

When I wrote the word "would", I can't put myself back, you know, in that time and say what was I thinking when I wrote "would", but I think I was saying on the balance of probabilities my instincts were telling me that this was going to cause us real trouble and be a pandemic.

Now, the piece of information you've put up on the screen, it's still up on my screen, relates to information from the World Health Organisation, but of course my instincts are based on a lot -- things a lot more -- wider than that, they're based upon looking at the news and seeing, you know, just the kind of footage from Wuhan province, Wuhan City, and starting to think this doesn't look or feel like something that is a small cluster. It's also based on the fact that, you know, I have 30 years' experience of communicable disease control and have often been the one in the office who has been kind of picked out, because of my specialist interest, to deal with outbreaks of respiratory viruses. And so this is all very soft but it was my instinct, and I think it's right to report to 178
Q. Yes.
A. A pandemic is a worldwide epidemic, of something novel usually.
Q. Why were you not confident or, putting it the other way round, why were you concerned that the virus would not be restricted to China, that if it left China it would come to Western Europe and to the United Kingdom, and that if it reached the United Kingdom it would not be controlled, all of which are necessary steps in the conclusion there would be, instinctively, a pandemic, you believed, in the United Kingdom and it would be very, very bad?
A. I just know how notoriously difficult to control respiratory viruses are, I knew this -- by this stage it appeared to be a novel coronavirus, I knew the diagnostics would not be necessarily sophisticated or upscaled anywhere in the world at this point, and just my general experience told me that I didn't like the look or feel of this.
Q. Indeed, you're right, you said in your statement that you of course spoke to Professor Sir Chris Whitty about this, the CMO, you're the DCMO, and your statement records that his response had been to agree that the situation may well escalate but for now we needed to wait and monitor developments closely?

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A. Yes. Yes.
Q. Before you answer, I just need to put to you something else, another point you make in your statement, which is that in the extremely difficult and complex field of being an epidemiologist, when confronted with information suggesting the spread of a viral pandemic, there are -- there is -- you describe a spectrum of ways in which you can respond, and there are people who act on instinct more, perhaps there are more people who like to pause and wait and accumulate data, and that's what you've put in your statement.

May we take it that both your positions, your more instinctive one, perhaps Professor Sir Chris Whitty's desire to accumulate more information, wait and see, both fall within that spectrum of reasonable response?
A. Well, that's right. You get a range of opinions on science, you get a range of opinions on when the data are certain enough to tell you what you're seeing, and then you have to overlay on top of that personalities. And, you know, much as Chris and I are great friends, and, you know, very dear colleagues, and I genuinely mean that, we are different personalities, and we both say we're different personalities. You know, I'm the one who chases the ball, Chris is the one who would look at the ball first and make a more qualified and 181
limited --
A. Yes.
Q. -- about the transmissibility and the nature of this pathogenic outbreak?
A. Yeah.
Q. But Sir Christopher's position, perhaps reflective of his position as the CMO, paid greater weight towards the consequences of pressing the alarm button, how quickly the government could be made to respond and made to sit up and take notice and to treat this issue seriously?
A. Yes, so --
Q. That's the divide?
A. You're absolutely right. I don't think Sir Chris was remotely tardy, but I do think he was doing his job as the CMO, which is different to my job as DCMO, which is more of a kind of sentinel alerting role.
LADY HALLETT: To be fair to Sir Chris too, you're not going to get any government to move on the basis of Professor Van-Tam's instincts, are you?
A. No, absolutely not. Absolutely not. And I didn't expect it, I was just air -- you know, we have a very open office, we don't -- you know, we say what we think, we talk to each other as professional colleagues and Chris has made that very clear that we -- you know, professionally, you know, that's how it should be, and 183
thoughtful decision about whether it was worth chasing.
So --
LADY HALLETT: I think he is right, if I may say so.
A. So, you know, there is that difference, and I understood entirely that I was conveying my instincts at that point, but I think Sir Chris was entirely right, given his much more profound experience of government, that -you know, he knew when to press buttons that I didn't. In any case, I was subordinate to Chris and I respect the chain of command, so I was perfectly content with the response that I received, and, you know, it wouldn't have been possible to kind of wake up SAGE and wake up COBR because I was getting a bit excited about something based on instinct. And there weren't a lot of data at that point

That position changed of course very quickly indeed, and it was six days -- and the data were changing daily at that point, but it was only six days before SAGE was enacted for the first time, and it was only eight days before COBR was enacted. So I feel the system was kind of at that point beginning to kind of work, if you like.

MR KEITH: May we leave it on this basis, Professor: your instinct appears, if I may say so, to have been more of an epidemiological instinct, it was an instinctive response to the data, such as it was, and it was very 182
so it's a safe space to say "Look, l've got a bad feeling about this".
LADY HALLETT: Did you say earlier you were involved in the swine flu response?
A. Yes.

LADY HALLETT: Wasn't the Chief Medical Officer at that stage criticised for pressing a warning button too soon or too -- I can't remember, was there some --
A. I don't recall that, but -- no, I just don't recall it. Couldn't comment.

MR KEITH: Evidence has been received from other scientists and epidemiologists to this effect: because of the characteristics of a viral pathogenic outbreak, viruses can explode, they can move extremely fast, there is a premium on speed of reaction, because once you get behind the response curve you can find yourself very quickly in very deep trouble. To what extent should an instinctive response, and you're an expert epidemiologist, have been allowed to push the system further forward or to push it further forward than it was, given the nature of the field in which you practice, dealing with a deadly viral pandemic?
A. Well, you're kind of right, in that, you know, things can get out of control with respiratory viruses very fast, but it does depend upon the doubling time. And, 184
you know, the doubling time for some viruses is very low, not particularly respiratory viruses but the doubling time for some viruses is low. The doubling time in the end, when we had quality data, for SARS-CoV-2 was certainly in the range of sometimes five days, sometimes ten, but that's the kind of broad range of doubling times.

So yes, there's a point about moving fast, but you've got to understand the doubling time before you can know just how much of a hurry you're in, and we couldn't do that at this point.
Q. All right.
A. There's a secondary point that I think is really important for the Inquiry globally in terms of the interpretation of data, in terms of what was coming in from the surveillance system, and when and how people acted.

If you receive data that shows an increase in infections, then you're actually receiving data on human behaviours that occurred, roughly speaking, seven days ago, and you have a question mark about what happened in the interim seven days. If you receive data on hospitalisations and, you know, they look a bit kind of -- a bit fruity, then you're actually receiving data on exposures to the virus that occurred probably 185
Q. -- throughout the February half term, so in a broad sense, you were, if I may say so, absolutely right.

By the middle of February, what view, if any, had you reached, the alarm having been raised, as to the speed with which the government machine as a whole was responding?

And I want you to answer that both by reference to the plans, plans for countermeasures, or plans for border controls or hand washing or school closures or whatever it might be, and also control. Was there a sufficient understanding of the practical limitations of control measures? Sir Chris Whitty has said he was under no illusions that control measures would by and large be affected because there was no scaled-up test and trace system.

So were you concerned by mid-February at the speed of process, the speed of progress of the government, or were you content with the reaction?
A. Look, the data were getting worse with each passing SAGE meeting, and I think the minutes of the SAGE meetings speak for themselves on that. The situation was not improving, in terms of, you know, the data that NERVTAG were looking at. I knew that SAGE was properly engaged by this point. I knew that the outputs of SAGE were feeding into central government. I didn't really have
any sight or visibility of what was going on at that level.
Q. Right.
A. I'm afraid I can't really answer the question more than I have.
Q. No, it's very helpful.

Do we take it, therefore, that you weren't privy, for example, to the plans coming out of the Civil Contingencies Secretariat on 28 February or the debate on countermeasures in SAGE on 24 February? Those weren't matters with which you were concerned?
A. I can't recall which SAGEs I was in or not, but if I was in a SAGE or part of a SAGE, because I had other meetings as well, you know, I might -- I will have been witness to those. But I certainly wasn't present when those kind of discussions were taken back in to Cabinet Office or Number 10 to understand, you know, what their kind of official and political response was starting to be.
Q. Having reached the view that you've expressed on 16 January and having reached the view that you've expressed in relation to the extent of the sustained community transmission of the virus by mid-February, did you reach a view as to the timeliness or not -absolutely open-ended -- of the countermeasures that did 188
in due course come to be imposed? So the --
A. Yes.
Q. -- measures of 12 March, 16 March and 20 March?
A. So it won't really surprise you that I'm pretty aligned with Sir Chris on this. You know, my kind of instinct reaction was "not a day too soon". With the benefit of hindsight I think I reflect that these measures would have all been better kind of certainly seven days earlier than they were, possibly a little longer than that.

So somewhere in the kind of 7-14-day window, you know, that would have been perhaps a bit more timely.
Q. And is that a reference to all the countermeasures, so those on the 12th and then the 16th and the 20th, and then ultimately, of course, the lockdown, 23rd?
A. It's --
Q. So they could all have been applied a bit earlier?
A. Yeah, I think that's fair.
Q. All right.
A. Yeah, I think that's fair. But particularly, you know, the move into lockdown. But I do appreciate that there were things going on the weekend before which made the data look suddenly much worse than they had previously looked. So I think, you know, there was an element of 189
the number of people requiring admission with Covid severe enough to warrant hospital care could not have been admitted. With some, you know, pretty awful potential considerations at that point.
MR KEITH: Since you have gone there, we have gone slightly out of the chronology, but that's no bad thing, Professor, could I ask you to look at a SAGE meeting of 23 March, of course the date that the mandatory stay-at-home order was imposed -- INQ000129072 -because in fact you were present at that SAGE, you may or may not recall.

INQ000129072.
And at paragraph 7 these words appear -- or rather, perhaps, let's start at 6:
"6. The NHS is surging bed capacity over the next fortnight, with a focus on London.
"7. The data suggest that London is $1-2$ weeks ahead of the rest of the UK on the epidemic curve. Case numbers in London could exceed NHS capacity within the next 10 days on the current trajectory."
A. Yes.
Q. Firstly, that last assessment "could exceed NHS capacity", was that premised upon no further lockdown or no further stringent measures being imposed, and therefore reliance on the measures from the previous
a change there that really kind of galvanised hearts and minds.
Q. But not a change that in fact sweeps away your observation or your assessment that it could all have been earlier?
A. Yeah.
Q. Yes.

LADY HALLETT: If you had any of the measures short of the mandatory lockdown imposed earlier, in the 7-14 days, in your expert opinion, was there a chance we could have avoided the mandatory lockdown or is it impossible to say?
A. I think it's largely impossible to say, but I think, for me, the balance of probabilities, looking at just how infectious this virus was proving to be in places like Italy, France, that, you know, there were just -- almost certainly no alternatives. And, you know, my view, I don't know if you're going to come to it, l'll just say it anyway, my view is that although there had been lots of expressions about the NHS overwhelm that was possible, overtopping, overwhelming, et cetera, my view is that, as is the same as Sir Chris, we would have first run out of high intensity care beds, and it is possible within a couple of weeks, if we had not acted when we did, that we would have reached a position where 190
week, that's to say the 16th and 20th, or case numbers could exceed even if we do impose the mandatory stay-at-home order, do you know?
A. Yes, so I don't know, but the way I interpreted it for sure was that if the current rate of growth continues, case numbers could exceed NHS capacity. Now, NHS capacity has to be something that is a little bit fluid in terms of regions. London was ahead of the curve, I don't doubt that if London was full, for want of a better word, there would then be an overflow of London patients into other parts of the NHS, you know, because that's what we do, and that's particularly what intensive care units do as a matter of kind of routine practice.

And that has implications for places not in London and further out of the city who are behind the curve, who essentially -- because people don't, you know, go into intensive care and come out the next day, they certainly weren't at this point -- that has implications for whether the remaining capacity in the regions, for want of a better word -- and, you know, I'm quite sensitive about this because I live in the regions, I don't live in London -- you know, what that does to the remaining capacity.

So "exceed NHS capacity" is possibly a slightly 192
loose term because you can kind of sleep out by region, but it still has implications for the totality of the NHS bed capability.
Q. The material around this time uses, as you've already identified, a number of different ways of describing the impact on the NHS, "overwhelming", "overtopping" --
A. Yeah
Q. -- "exceeding capacity", "straining the surge capacity", and so on and so forth. Is this the position as you understood it at that SAGE meeting: there was no hard data saying there is a stop point, a hard date by which the NHS will be broken, but that, instead, if the epidemiological trajectory or curve continues in the way that it has, it will inevitably be broken at some indeterminate point in the future, is that the nub of it?
A. Yeah, so "hard stop" is a really kind of bad expression for the reasons l've given, that, you know, if you're short of capacity in one area you kind of move out and ship out and sleep out into the other areas, but the NHS is nevertheless finite in the number of staff and the number of beds, and so I think that's right, I think that's the --
Q. The correct analysis?
A. You did say something else and l've forgotten. 193
month, then you absolutely -- and if everybody complies with the measures on that date, you change exposures from that date, you therefore change case incidence, shall we say, five to seven days later, something like that, so you don't see the impact of that. You then don't see the impact of those new cases for another seven days, until they require hospital care, so that kind of takes us into -- quite a way into the next month, and by the exhibit you've just put up, the doubling time for intensive care unit patients at this point was estimated to be three to four days.

So how can you wait for -- to see the results of those measures when you in such a kind of difficult position in terms of bed number doubling?
Q. There was nevertheless some way of assessing compliance or the reaction to or the response to those earlier existing measures because there was some information at the weekend about levels of compliance, and you'll recall the fact that the press and the television showed large numbers of people attending national parks over that weekend. So there was data about that. Is therefore the position that the quandary the government was in this: nobody could say for sure what the impact had been or would be of the existing measures, no one could know for sure, because, as you say, it would take 195
Q. No, no, I think that was all I said.
A. Okay.
Q. Secondly, obviously on that 23 March only a few days had passed since the measures had been imposed the previous week --
A. Yes.
Q. -- on the 16 th and then the 20th, the household isolation -- the individual isolation, then the household isolation, then the request that all non-essential businesses and travel stop and that people endeavour to stay at home.

What was your understanding of what the likely impact of those measures was in terms of the R figure? Because, as Sir Christopher has explained it, it's not that government was grappling with absolute data as to when or how the NHS would collapse, it is just that if the reproduction figure was not brought below 1 , the exponential growth would continue and that point would inevitably be reached.

What debate was there about giving more time for the measures the week before time to bed in and for the R figure to come down in the expectation or hope that it would come down before that future date of collapse of the NHS would be reached?
A. Well, if you enact measures on, say, the 20th of the 194
days if not weeks for the impact to become clear, what therefore the impact would be and that was an unconscionable risk to run? If you don't know what the beneficial impact had been of the week before, you cannot continue on the basis that you've just got to hope it will work, given the characteristics of the viral pandemic?
A. So I understand the question entirely. What I don't think I can do is give you the kind of technical answer you require, which I think the modellers would need to give you, about what their views were about the likelihood of those phase one measures, if that's the right word, having the desired impact.
Q. I--
A. I wasn't --
(unclear: multiple speakers)
Q. I don't wish you to speak on behalf of the modellers --
A. No, and I can't really give you an answer then.
Q. But was this not a debate that was taking place within SAGE on that day: how do we weigh up the prospect that the phase one measures are going to work to get us out of the hole against the risk that if we don't act now with further more stringent measures it will be too late?

That's the crisis, that's the dichotomy?
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A. Yes, I've pledged to be truthful and I will, and I can't remember.
Q. All right.

Can I now raise just some separate disparate areas.
That Coronavirus: action plan, of 3 March --
A. Yes.
Q. -- did you have a hand, Professor, in its drafting or its promulgation?
A. I undoubtedly received a copy of it to make some kind of track changes and suggestions to it. In fact I think if you were able to kind of look at the email records you would probably see that that was the case.

It was another job to do. I was rather more focused on specific jobs I had to do connected with fighting the virus than writing about -- writing a glossy pamphlet about how I was going to, you know, play my role in it or how the government was going to do it or -- so l'll be perfectly truthful with you: it was another job that probably wasn't very welcome at the time, and, you know, I just thought well, you know, see it through.
Q. May --
A. Let others do it.
Q. May I ask you this. You've told us how you'd already reached the view in mid-February that --
A. Yeah.

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LADY HALLETT: Mr Keith.
MR KEITH: Professor, mass gatherings.
A. Yes.
Q. I detect a quiet groan. It was an issue upon which you advised the Secretary of State for the Department for Culture, Media and Sport in late February, and you also provided advice to DHSC colleagues at the same time. You met with officials in the DCMS in early March, you provided further advice and further papers for a number of government departments in the middle of March, 14 March.

So you were, to a considerable extent, the go-to person on this issue. In summary, scientifically, epidemiologically, was there a consistent line of advice given by the OCMO to the effect that banning mass gatherings or closing sporting events or sporting occasions would be unlikely to make much of a difference epidemiologically?
A. Yes. I mean, our -- our position, my position has always been that mass gatherings, particularly outdoor ones, are -- if you cancel them, they're a very limited epidemiological effect. And if you take into account the kind of pathways around them, it is the activities around them that is, you know, potentially more concerning, in relation to kind of pubs, bars,
Q. -- there was sustained community transmission, essentially containment had been lost, you must have wondered around about 2 March, when you were contributing to the final draft: why am I writing -- why am I assisting the drafting of a document which is based on the premise that containment has not yet been lost, and indeed the government didn't announce it was lost until 12 March?
A. The drafting of government documents takes forever and a day, and, you know, it wasn't really something that I was focused on or really had the kind of mental and professional energy to worry about.
Q. All right.

LADY HALLETT: I've written down "I was focusing on actions not planned -- not words".
A. Yes, I was, I'm afraid.

MR KEITH: Well, that perhaps is a very useful description of certain publications.

My Lady, is that a convenient point?
LADY HALLETT: It is, certainly. We take a 15-minute break, Professor, so I shall return at 3.25 . But we shall complete your evidence today, I promise.
( 3.12 pm )
( 3.25 pm )

## (A short break)

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restaurants, et cetera.
But even so, in relation, for example, to -you know, I know you've already discussed a couple of big sporting events in different countries with various witnesses. In terms of the kind of totality of movement between countries, the effect of kind of cancellation of these events is really, epidemiologically, quite small. I have also heard Sir Chris's comments, and I have to say I think he's got a very valid point, that there is a political layer above this, around the optics and what the continuation of mass gatherings means, signifies to the public, you know, because -- you know, when the football's over there's not much left to do in life, as it were.

So from that perspective --
Q. Well, I have to interrupt you there, Professor. That is your personal view.
A. Yes, indeed. Yes. But the point is, you know, it's very symbolic for a lot of people, what these mass gatherings are, and I think Chris summarised it very well, I don't think I can add to that.
LADY HALLETT: Can I just ask you one extra question, Professor, I think it's something Mr Weatherby was asking about earlier, and that is: but what if your football match involves a whole bunch, thousands of 200
people flying in from another country where there is a hotspot of infection or hotspots of infection?
A. So that partly depends on whether there are lots of other people coming in through kind of routine tourism and so forth from that other country, and it really depends on whether you have a belief that the virus is already seeded here in the UK, and whether that additional movement would really be an amplification in relation to what is already going on under the surface in your own country, particularly in those kind of early months when we know we couldn't test at the capacity required to understand the UK case burden.
LADY HALLETT: I'm no scientist, but aren't you just raising the risk? It's not going to help matters.
A. I think it's perfectly fair to say that it won't help matters, but equally it isn't going to have a -- it just isn't going to have a significant negative impact either in relation to the totality of what else is going on.

So it's back to this point that I think there is -it's always very difficult in this space to separate out the optics from the actual epidemiological effects. But, you know, I refer -- I can recall emails from other -- other experts, I think Professor Ferguson, Professor Edmunds, also agreeing that the effect of mass gatherings is --

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of close contact, low ventilation, with this virus,
you're likely to get transmission.
The ... the however many tens of thousands one could
get into a stadium will be dwarfed by the however many
millions that are gathering in pubs to watch it on
Sky TV. So, you know, there's a broader context here of what the sporting event generates in terms of people coming together, quite often to drink alcohol, which we know reduces social barriers, to observe a sporting event.
Q. Indeed. The easing of restrictions.
A. Yes.
Q. On 26 May you contributed to a joint letter to

Simon Case, the then permanent secretary in Number 10.
A. Yes.
Q. Could we have INQ000069418.
A. Yes.
Q. In essence, in general terms, you and your colleagues were writing to the government to say this. You are aware that different government departments are eager to restart their industries, you're obviously acutely aware of the damage and harm that is being done to the health and welfare of societies by virtue of the restrictions, but you nevertheless felt it important enough to warn that the combined effect of seemingly incremental and
A. Whenever you get people gathering together in conditions

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narrow easings raised an essentially intolerable risk that the R reproduction number would run out of control again.

Why was it necessary to write this letter as opposed to just continue to contribute to the sum of government learning by the advices that you were giving with your colleagues day in, day out, at meetings, by email and so on and so forth?
A. Yeah, okay. So the actual restriction, the easing of restrictions that was happening was happening on a piecemeal basis, government by government department kind of setting by setting by setting, and it was relatively easy to justify for an individual setting that, you know, this was kind of okay to ease restrictions. However, when you put all of those together, there was a risk. I didn't -- your words were "intolerable", they're not mine, but there was a risk that this would all go too fast.
Q. Well, you say "severe risk" --
(unclear: multiple speakers)
A. Yeah, "intolerable" is not a word, I don't think --
Q. All right, well --
A. But there was a risk that this would all go too fast, and there was a risk that -- we knew there would be further waves of infection, epidemiologists knew that, 204
at some point. There was a risk that if you kind of let it go, let it kind of rebuild and get a lot of momentum, you would then enter the next wave from a fairly high level and therefore have less warning and therefore with more consequences.

So that was the kind of science reasoning behind the letter. Why the letter rather than just continuing to co-operate? And I think that was about, certainly for me, and I can only speak for my signature on the letter, I wanted to leave a mark in the sand here.
Q. Why was it necessary to leave a mark in the sand if you were, as were of course, the DCMO giving advice on a daily basis to government with your colleagues?
A. Because people like you have come back to it now and it's kind of on record that I was concerned enough to write a formal letter to Cab Sec at this point because of those concerns that l've already relayed to you and the room.
Q. But they were concerns that you would have been ordinarily expressing in the course of your day to day meetings, because all of you were exclusively concerned, of course, with the pandemic and with the easing of restrictions and the debate that was going on?
A. Sometimes a letter is needed.
Q. Why was it needed?

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going to go into, about the necessity for circuit breakers, then the introduction, instead, of a tier system in October --
A. Yeah.
Q. -- and then ultimately the lockdown at the beginning of November.
A. Yeah.
Q. In general terms do you assess that this warning, which is what it surely was, because the last paragraph shows what might happen if control is lost, was generally heeded?
A. You know ... I suppose the epidemiology really just speaks for itself at this point --
Q. But could you tell us, please.
A. Yeah. You know, it was clear that we were losing control of the virus bit by bit through the autumn again, and it was clear that the tier system, to my mind, was not working efficiently. That isn't to say that theoretically it couldn't have worked efficiently, but there were just too many delays in implementing tiered restrictions. Those on top of the fact that your data you're dealing with, again I go back to the point, reflect exposures two weeks before, or at least a week before. So, you know, you're already kind of, you know, dealing with yesterday's data trying to make decisions,
A. As I said, to lay down a trail in writing that was incontrovertible that we wanted to say that this needed to be taken very carefully.
LADY HALLETT: That suggests you didn't think your oral advice was being taken sufficiently seriously.
A. I think ... I think it could partly suggest that, but it could also partly reflect the kind of fragmentation of decisions across different sectors, and therefore possibly the Cab Sec, not being an epidemiologist that I'm aware of, not being able to crystallise the net result of those individual sector liftings and frame that in terms of the national epidemiology.

So, you know, I don't think it was because we'd kind of felt we'd run out of road in terms of, you know, getting traction with officials from other government departments, not at all, but I just think it was more about the totality and somebody who is responsible for the totality actually being presented with that concern.

MR KEITH: Professor, it is common ground, it's well established, that, as these things go, the level of prevalence remained relatively high or at least not very low throughout the course of the summer months. We came out of the restrictions with the prevalence still at a relatively significant level, and that didn't change.

Then in September, there was a debate, which we're not 206
so -- and the tier system just seemed interminably slow between a decision and the negotiation on the economic packages to enable it to happen. And --
Q. Can we just focus on that for a moment --
A. Yeah.
Q. -- and could you just further explain that observation. The evidence is that in the October tier system, not the December one, but in the October one, there was a process by which local authorities who were subject to higher levels of tiering could negotiate financial packages.
A. I believe so, yes.
Q. Was your concern that there was a delay built into the system between the moment at which the Joint Biosecurity -- the Joint Bio Centre would advise that a particular area had to go, epidemiologically, into a higher tier --
A. Yeah.
Q. -- to the point at which it was actually ordered, because there had to be a process of negotiation in the middle?
A. Yes.
Q. All right. And then because of your point about the importance of not falling behind the curve and not knowing what the data in fact shows because the data is 208
a bit old, that gave rise to a very real problem?
A. Yes, yeah. And the tier system led to some other problems too. So, for example, Liverpool did really well at one point and managed to kind of -significantly to kind of turn their numbers down, Manchester got into more difficulty, but there were widespread reports of -- that, you know, people from Manchester going to nightclubs in Liverpool to circumnavigate the kind of geographical boundary of the tiers. So at a practical level I think it was very difficult to make it work and it probably looked better than it really was, which is why I just don't think the tier system served us very well at all.
Q. You focused on the events in October, Professor. My question in fact was designed to elicit from you an answer as to the general governmental response from the time at which you sent the letter in May. Was the reality that the warning was not heeded to this extent: control of the disease was lost, the steps taken by government in September by way of the decision not to impose a circuit breaker, the decision in October to have the tier system that you've described, failed to do that very -- failed to perform the very aim, the strategy which you had identified as being necessary to ensure that there wasn't a new loss of control and a new 209

## Finally, two last subjects. Moonshot.

A. Yes.
Q. You were on the Moonshot scientific advisory group --
A. Yes.
Q. -- the first meeting of which took place on 25 August.

We've heard very little about the Moonshot; what was, briefly, the Moonshot idea or exercise?
A. So l'll give you my best understanding of it, which may not be perfect. The understanding of Moonshot was to try to restore the UK to a point where we had almost no Covid. And to do that, to detect every single case there was kind of cooking or ongoing in the UK at the same time.
Q. A mass test?
A. So mass population testing in a very short window of time. Now, I never got to the point where I understood whether this could be done in one day or done in three days, but even three days would be, you know, 20 million people a day, so I never really kind of understood that concept.

But it didn't make any epidemiological sense to me. Because let us say that your testing day was Monday, yeah?
Q. For a whole swathe of --
A. Yes.
Q. All right

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Q. -- for a whole region.
A. For a whole region, yeah, yeah. And there would be a number of people who were exposed to the virus on the Sunday, who absolutely would test negative on the Monday, because they were incubating the organism, who would get a kind of clear result, as it were, by Tuesday or Wednesday, but who by Thursday may well have symptoms.

So actually you would have to repeat this over several days and keep people in isolation from each other to avoid further exposure to kind of get to the point where everyone was clear.

And I just couldn't see it working. I was sent to the Moonshot meeting, I can't remember who sent me, but I was told to go along to the Moonshot meeting. And I went along, I tried to offer some, you know, non-negative, constructive comments, but I couldn't see it working ever.
Q. That's the epidemiological answer. Practically, as at that time, in August, do you recall whether or not the United Kingdom in fact had a fully scaled-up system of PCR, antigen or free flow tests that would have allowed these sorts of numbers to be tested simultaneously?
A. I mean, that's a memory test and I can't remember the figures, but my kind of gut feel is no. And of course 212
there were other far more important testing environments such as hospitals and care homes.
Q. Indeed

Finally, communications. In your statement you refer to the fact that there was a Japanese poster called the "Three Cs" (closed spaces, crowded places and close-contact settings), the merits of which commended themselves to you, and you sent a copy of that poster to the Cabinet Office in mid-June, so not during the lockdown and not "Save the NHS" time, but afterwards.
A. No, no.
Q. Why did you send a copy of that poster to the Cabinet Office in mid-June?
A. Well, I can't remember when I first discovered the existence of the Japanese "Three Cs" concept, but it immediately resonated with me. And, you know, all I can say is it resonated with me personally because I felt it would be a way, if we did it right, by which we could coach the public to look at any situation and just, you know, remember three Cs. It's pretty simple Literally, is it closed? Corollary: and what's the ventilation like? Is it crowded? Are you putting a lot of people into that closed space? And is the purpose of them being there to have close contact with each other?

And I felt that you could teach people to 213
pandemic, including on Covid wards.
Now, on 9 January, so very, very early in the story,
you attended a PHE strategic response group where it was agreed that Covid would be treated as a high-consequence infectious disease, HCID, although I think it was
formally classified as such a few days later. Is that right?
A. I think it's right.
Q. Okay. Well, I have the document, I'm happy to put it up, but I'm trying to --
A. No, that's fine.
Q. -- work at pace.

The minute of that meeting, l'll give the reference for the record, it's INQ000119453, and the minute records that it was recognised that Covid, like SARS, was a virus with "higher airborne transmissibility", and that would mean, wouldn't it, that it was recognised that it was transmitted either by aerosol or droplet transmission; is that right?
A. So higher airborne transmissibility --
Q. Yes.
A. -- does mean that it could be transmitted via the airborne route, which includes large droplets and also includes fine particles, also referred to as aerosols.
Q. Yes. Thank you.
self-regulate almost and risk manage their own behaviours, their own exposures, if we could kind of make that concept work in the UK. And I --
Q. Had it been very successful in Japan?
A. I can't give you the answer to that, all I can say is -you know, repeat what you said to me, that it absolutely resonated with me.
Q. All right. You sent it to the Cabinet Office, you were told that it would be considered, this type of messaging might be -- it would be explored as to how it could be integrated into the campaign. Did you hear any more?
A. No.
Q. You were the DCMO for health protection in the face of this pandemic?
A. Yeah.

MR KEITH: All right. Thank you very much.
LADY HALLETT: Mr Weatherby.

## Questions from MR WEATHERBY KC

MR WEATHERBY: Professor, I ask questions on behalf of the Covid Bereaved Families for Justice United Kingdom, it represents many bereaved families across the United Kingdom, and for the purposes of the questions I'm going to ask you it's important to record that some of them are bereaved of healthcare workers and some of them themselves were healthcare workers during the 214
A. But aerosol or airborne transmission is not part of the definition --
Q. No.
A. -- of a high-consequence infectious disease.
Q. Thank you for that clarification, I wasn't in fact suggesting it was.
A. No.
Q. But that's what was recorded in the discussion, during which it was agreed between you and the PHE group that it would be in fact classified as a high-consequence infectious disease.
A. Yeah, and the reason for that classification at that point was that primarily I think at that point we really did not understand with any certainty the infection or case fatality rate, we didn't know how lethal this virus was --
Q. Yes.
A. -- and the HCID classification is used for things which you know are very lethal and used for things which you -- where you have uncertainty as to the lethality.
Q. Yes.
A. It's the way you kind of start with a new organism.
Q. Indeed, and in fact the document goes on to say that it was agreed to follow a "safety first principle" --
A. Yes.

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Q. -- which I think is what you just helpfully explained to us.

And in fact the discussion and the classification at that stage was then added to by guidance, and again I'll read it rather than putting it on screen if I may, but I can if you want me to, it's at INQ000184034, and for the record it's paragraph 4.3, and the guidance on 15 January that was issued with respect to this --
A. Could I have that up, if that's all right?
Q. Yes.

Could we have that up then? I'll repeat the -- it's INQ000184034.

## (Pause)

Right. Sorry, could we have the first page up first so we can orientate as to what it is. Thank you.

So it's the "Wuhan novel coronavirus ... infection preferential prevention and control guidance", 15 January.
A. Yes.
Q. So could we go to the paragraph that had helpfully already been put up -- thank you, 4.3 -- the page before, I think, yeah, 4.3.

So what was required was, firstly, an isolation room with negative pressure relative to the surrounding areas, or a neutral-pressure single room, and then a use 217
in guidance saying confirmed cases should be transferred to HCID treatment centres, but that could easily be changed when an agreed surge trigger is met."

And then this:
"Personally, I would want to maintain the HCID label if it became more widespread, to maintain appropriate IPC [infection prevention control] precautions and general levels of clinical concern/awareness around the new disease, as long [as] we still think it meets the stated criteria."

Yeah?
So what that means in summary is that you're agreeing with the PHE official that once the spread of the virus reaches a particular point it's not required that they should be -- that patients should be within an HCID centre.

Now --
A. Not quite --
Q. Okay.
A. -- true.

I think what I was flagging, that the HCID process, if you like, and the use of those very high -- high security beds, there was a step down and a known step down to the 500 or so infectious disease beds, which are -- again have --
specifically set out -- use of an FFP3 respirator by all persons entering the room. And then, I won't go through it but you can see it there, full PPE.

## Yes?

A. Yeah.
Q. So that's what was --
A. And this is guidance issued by Public Health England.
Q. Yeah
A. Yes.
Q. But this is sensible precautions for this type of virus, isn't it?
A. It's sensible and pretty standard precautions --
Q. Yes.
A. -- for HCIDs at this point in time --
Q. Okay. So then move to 21 January and again I think we should have this up, it's INQ000151342, and this is an email exchange between yourself and a PHE official.

It's been redacted, so I don't know who it is, but it doesn't matter, but it's an email exchange, and the person confirms that:
"... There is no agreed requirement to stop calling a disease an HCID, in order for confirmed cases to be managed outside HCID centres. Management in specific HCID treatment centres is (deliberately) not part of the agreed definition/criteria for HCID; we do have a line 218
Q. Yes.
A. -- enhanced infection control, but that there was no provision or understanding about what happened when you got to the end of those 500 beds.
Q. Okay.
A. And it was very clear that we were going to get to there quite quickly.
Q. Okay. Can I take this in stages?
A. Yeah.
Q. So the HCID scheme, if I can put it that way, is that there are -- there's a standing capacity of high isolation beds --
A. Yes.
Q. -- so if there's a need for isolation the HCID patient is put in there. But it's well recognised that if there's more than a small number of such patients --
A. Yeah.
Q. -- then that can't --
A. They just can't function --
Q. -- completely impracticable to have a standing capacity of thousands of empty beds?
A. Indeed.
Q. So it starts off with an HCID unit, small number of beds, and then if that isn't sufficient you then have to open it up?
A. Yes.
Q. -- and you move on to the high dependency unit --
A. Yeah.
Q. -- capacity or whatever you have, and you have to use practical means to expand the capacity to the best isolation that you can manage within the capacity that you have; is that right?
A. Yeah, that seems okay.
Q. Okay. But what is being said here is that although that is fine, what should be maintained are the IPC precautions around that?
A. Yeah, so that was personally my view.
Q. Yes.
A. The other factor that was later -- you know, I was later made aware of that -- is that specimen handling and the whole process of treating patients under kind of HCID rules means that your total capacity is lower and your speed of movement and handling of specimens particularly is lower and more cumbersome, and the classification of HCIDs lies with the Advisory Committee on Dangerous Pathogens --
Q. I'm coming to that.
A. Good.
Q. So the point is that it's recognised that you have to be flexible about capacity and therefore the HCID 221
Q. -- as we heard from Professor Whitty this morning, there was then a question right at the beginning of March about the biosafety requirements of dealing with samples in labs?
A. Yeah.
Q. So perfectly sensibly the CMO, the Office of the CMO --
A. Yes.
Q. -- then consulted with PHE and the HSE and got the biosafety requirements stepped down so that the testing could be maintained or the analysis of the testing; yes?
A. I think so, yeah.
Q. Yes.

Then we move to 3 March, and again I'm trying to go at some speed here, so please stay with me, but then a DHSC official messaged that the standing capacity for airborne HCIDs had been exceeded and therefore there was this outward movement from the very high isolation capacity outwards. Now, that you probably won't remember the date --
A. No.
Q. -- but that was 3 March. I can take you to the document, but I don't think it's necessary, but were you aware at this sort of time, the beginning of March, of that happening in accordance with what we've just been through in January?
classification allows for a surge, a trigger which opens up the capacity and you have to do the best you can with the capacity.
A. So I don't think it allows for it in the sense that it has always allowed for it --
Q. Yes.
A. -- I think this was new thinking.
Q. Okay.
A. I think this was a new situation.
Q. The guidance we've just been to --
A. Yeah.
Q. -- sets out the need for the isolation units but not in terms of specifically HCID units, but it does specifically refer to the FFP3s --
A. Yeah.
Q. -- and the particular requirements of personal protection for the staff, and that's the distinction I'm drawing. So that's the -- whether it's the HCID guidance or not, that's the guidance that was in place here which l've just taken you to.
A. Okay.
Q. Yes?
A. I'm all right so far.
Q. Yes. So by the beginning of March --
A. Yes.

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A. I can't remember the date.
Q. Yes.
A. But I entirely expected that we could not --
Q. Sure.
A. -- continue to manage the very fast growing epidemic of hospitalised patients on the infectious diseases network --
Q. Yes.
A. -- within the infectious diseases network.
Q. Yes. But this was -- what we've just been through, 21 January email, the expectation was that if this did become widespread that this would be necessary, and here we are at the beginning of March, it has been necessary, the plan, such as it was -- it wasn't unexpected?
A. No, no, I think I kind of flagged that --
Q. Yes
A. -- that there was probably a gap in the plans that didn't kind of bridge between what we classically envisaged HCIDs to be handling --
Q. Yes.
A. -- such as Ebola cases, to something that was then becoming a --
Q. Okay.
A. -- persistent and widespread infection.

But let me just add a little bit to that, where the 224
threat of infection to others was changing over time, so it was not exclusively about the healthcare environment, and it was starting to be more about the general community environment. In other words, the opportunities for exposure to the virus were starting to change. Whereas, you know, if you have -- you can have the -- you can have the infectious diseases unit, the HCID, full of Ebola cases but there's no risk in the wider community.
Q. Yes, okay.
A. It's contained. This was very materially different --
Q. Okay, so l'll now move on to the final part of where I'm headed with this, and that's 13 March, and NERVTAG met. I think we need this up. It's INQ000212195 --
A. Oh, thank you.
Q. -- and that's 13 March, and if we could, and this is a meeting where the HCID classification is considered. And just to remind ourselves, this is where we're in the crisis phase, the exponential rise in Covid cases. Okay?

So if we could move to page 4, please, and paragraph 2.5 , and this refers to -- this is relevant to you, "Action: JVT", and then:
"JVT noted that the guidance was needed to help relief pressure points on the NHS in England ..." 225
that?
A. No, I don't think that's the case at all.
Q. Have I misread that?
A. Well, I mean, clearly they're sequential minutes, but the minutes aren't written the moment --
Q. Yes.
A. -- a NERVTAG meeting is finished. I don't suppose we have the publication date on these minutes, do we?
Q. I'm not aware of that.
A. No, we --
Q. Yes.
A. -- just don't.
Q. Okay.
A. That would be worth looking into.
Q. Yes.
A. But likely, having received an instruction from one independent advisory body in the shape of NERVTAG, who were requesting that ACDP looked at this, likely I moved very fast on that --
Q. Yes.
A. -- and likely this should have been reported --
Q. Yes.
A. -- as an action --
Q. Okay.
A. -- linked -- that I had done really quickly, and this

And then there is the example of ambulances; yes?
A. Yes.
Q. Then if we move on to 2.9 , please, the new guidance that's been proposed is then stepping down from FFP3 proper respirators to the kind of blue surgical masks that many of us are familiar with --
A. Yes.
Q. -- having gone through it. So a real step down in PPE for people who are dealing with Covid patients at that point at the crisis stage.

And then, if I may, 2.10, there's a recommendation there that the reclassification of Covid from an HCID is considered by the advisory committee --
A. Yeah.
Q. -- which you were referring to earlier.

And then finally on this document, 2.11, please, there is an update where you had spoken to Professor Evans, who had advised that HCID statement was discussed "and the committee were unanimous in supporting the declassification ... of HCID".

Now, just to complete the picture -- well, first of all, you've therefore got the recommendation that it's reconsidered, and then you've got effectively a decision in the next paragraph referred to which suggests that a decision has already been taken. Can you help us with 226
was almost a kind of post-meeting note that --
Q. I see.
A. -- that was the consequence.
Q. Okay.
A. I just can't spread any further light on that.
Q. No.
A. But I-- you know, I refute the suggestion that this was a fait accompli.
Q. Yes.
A. I'm extremely fastidious about --
Q. Yes.
A. -- appropriate procedure, and if NERVTAG had asked for that, I would have asked ACDP --
Q. Yes.
A. -- in due course.
Q. Yes.
A. This would not be kind of retro-constructed --
Q. Okay.
A. -- as you might have been suggesting.
Q. Right. Well, I'm exploring rather than suggesting --
A. Yes.
Q. -- but the one paragraph says --
A. It does.
Q. -- a recommendation effectively --
A. Yes, and the next one --

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Q. -- and the next one refers to --
A. Yeah.
Q. -- what's effectively a decision.
A. Yeah.
Q. And the reason that you were -- however it lands -- in touch with the professor about this is because they were effectively the decision-making body?
A. ACDP.
Q. Yes.
A. Absolutely, yes.
Q. Yes.
A. And it would be worth possibly seeking some supplementary evidence from the ACDP minutes to understand --
Q. Well, it may not be --
A. -- how that happened.
Q. It may not matter, but I was then just going to take you to one final document, which is INQ000119498, which is the 16 March document at the top, although it does say 19 March at the bottom, it probably doesn't matter, but just to orientate us in terms of the date.

But this is the "Four Nations HCID Definition and List Group", chaired by the head of emerging infections, and I won't take you through it but this is ostensibly a review of the HCID position and then changes the 229
Q. But the two dates, the 13th and the 16 th, it does seem by the time this review has taken place the decision's already been taken?
A. Ah, look, I can't --
Q. Okay.
A. -- give you -- I just can't give you any clarity on that.
Q. Final --
A. If I could, I would.
Q. Final point, the upshot of this is that right at the crisis point the classification of Covid is being downplayed and one of the key points, perhaps the key point here, is that healthcare workers, there's now no requirement for them to have respirators, the requirement is for them to have simple surgical masks.

Why is it that that happens in the eye of the storm, when the cases are going exponentially and healthcare workers are at the highest risk; why is that happening now?
A. There wasn't the clearest understanding at that stage that there was -- that fine droplet transmission was dominant, and I can only surmise that the people who wrote the guidance, Public Health England, felt that the predominant route of infections was droplet and, therefore, a surgical face mask was adequate. But
position at the end of the document, and it -- of importance here is that this is a four nations group, so this is where the four nations are brought together.

So in terms of this, first -- l've got two points on this, just to finish with, but who is actually making the decision here? Is it the professor from the group that you were in touch with on the 13th or is it the four nations group? Were the four nations CMOs involved in this? I mean, what was the process here?
A. I am pretty certain -- but I can't answer the question about whether the HCID definitions group was a subgroup of ACDP -- but clearly my instruction was to contact ACDP.
Q. Yes.
A. And it may well be that this is some kind of subgroup of ACDP --
Q. Yes.
A. -- but the participants are from the public health agencies --
Q. Yes.
A. -- Public Health England, Health Protection Scotland,

Public Health Wales and Public Health Agency of Northern Ireland, and therefore quorate, and I --
Q. Okay.
A. -- can't tell you who they were.

I can't give you a better answer that that.
Q. Yes. Well, I mean, you were involved in these discussions. Let me just put this to you: was this decision to reduce the protection for healthcare workers because there simply weren't enough FFP3 respirators?
A. Not by me.

MR WEATHERBY: Thank you.
LADY HALLETT: Mr Weatherby, I appreciate you have been trying to stick to your time, and I'm very grateful. Did you want to ask the question about why did it take so long for medical masks to be recommended?
MR WEATHERBY: I wasn't going to go there, but thank you.
LADY HALLETT: Thank you.
Right, I think it's now Ms Heaven.

## Questions from MS HEAVEN

MS HEAVEN: Good afternoon, Professor.
A. Good afternoon.
Q. I represent the Covid-19 Bereaved Families for Justice Cymru and I just have five minutes so I will take it quickly if I may.

Just one topic from myself and that is in relation to the four meetings convened by Mr Gove in his capacity as Chancellor of the Duchy of Lancaster and your perspective on how useful they were to a four nations approach to handling the pandemic. We understand from
your witness statement that you attended some of these meetings, so if I can take it in a staged approach please.
A. Yeah, okay.
Q. We understand they started around May 2020, that's the evidence we have.
A. I'll have to go with that, I can't tell you.
Q. In terms of the purpose of these meetings you say in your witness statement, this is paragraph 5.12, that they were chaired by Mr Gove and the purpose was to exchange information and to co-ordinate across the devolved administrations.

So it would seem from that explanation that you're not suggesting to this Inquiry that Mr Gove was using these meetings to gather views from the devolved administrations to inform UK Government decision-making, that was not the purpose; is that correct?
A. No, not really, it was a much kind of -- it was a softer exchange of views, I think really mainly by the ministers who were on that call, about kind of what was happening, and literally exchange of views and information. And I was there in the room, really, in case there was a technical question.
Q. I'll come in a minute to some specific examples of what may and may not have been said and jog your memory if 233
the First Minister of Wales in particular, Mr Drakeford, and, I think it's fair to say, Nicola Sturgeon, they
both acknowledge to this Inquiry that the meetings were helpful and constructive. However, I do want to just probe your memory on a few criticisms that in particular Mr Drakeford has ventilated to the Inquiry about the effectiveness and indeed the overall usefulness of these meetings, and really it's to understand whether you heard any of these complaints being raised in this forum.

But can I check first: do you remember now being in meetings with Mr Gove and Mr Drakeford?
A. I definitely recall Ms Sturgeon being present, I'm pretty sure Mr Drakeford was present too, at some points, but it's just a blur to me now.
Q. It's just a blur. But just thinking about how many you attended, I think you say in your statement that largely it was you that attended?
A. Yes, it was.
Q. Okay.

So, these are some of the concerns or complaints that Mr Drakeford has given to the Inquiry, and I want just to ask you if each one or any of them --
A. If any of them chime, yeah.
Q. -- you heard him saying that, or indeed any member of 235

I may.
A. Okay, yes, of course.
Q. Just on purpose -- before we move on to that -- was it also your understanding at the time that another purpose of Mr Gove's meetings was essentially to insulate the Prime Minister -- the then Prime Minister, Mr Johnson -from having to deal with the devolved administrations? Because, as we know, he thought it was optically wrong for him to have to have regular meetings with them. Was that your understanding at the time?
A. I've no idea, I can't answer that question at all.

I didn't enter the meetings with that kind of --
Q. No.
A. -- degree of allegiance to --
Q. Well, was that ever discussed in your presence?
A. -- CDL --
Q. Was that ever discussed in your presence?
A. No.
Q. "This is the purpose of the meetings"?
A. Absolutely not, no.
Q. So on usefulness, you say in your witness statement that you did witness effective communication between core decision-makers and the devolved administrations, and you cite an example of the meetings with Mr Gove, and I think that there probably isn't any dispute between 234
the DAs saying that.
So the first one is this: there was a lack -- the meetings were ad hoc and there was a lack of formal structure to when they happened; did you hear that complaint?
A. No, and part -- somewhere in my dim and distant memory I recall these were Wednesdays, at either 5 pm or 6 pm . They weren't at a terribly sociable time, you know, in terms of family life. And I do -- somewhere I think I'm recalling that they were Wednesdays.
Q. Next one, please, that there was a concern, and it might be fair to say that this was held quite strongly by Mr Drakeford, that these meetings, whilst helpful, were no substitute for high level ministerial meetings; did you hear that complaint?
A. Nothing heard.
Q. And this is a very important one, because it might be suggested that this goes to the issue of whether or not there was a coherent four nations approach, and this is that the clarity of messaging was a challenge for all four nations and that more unanimity would be helpful, and that could only happen if the UK Government gave more notice of its decisions and announcements to the devolved governments.

Now that features regularly in written
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communications certainly between the DAs and Mr Gove. Did you hear that complaint?
A. I did not hear that.

As a slightly broader sentiment, I think I heard that there was some frustration about the timing of communication. Equally, I do recall on a couple of occasions that Scotland went first on a couple of points.
Q. But certainly I think what you're suggesting is some of the concern was coming from the devolved administrations that the UK Government was perhaps making decisions and briefing the press without telling them first?
A. It doesn't sound like a totally strange concept, but I don't recall it from those meetings, I really don't.
Q. So, finally then, did you hear any complaint from any member of the devolved administrations, including Wales, at these meetings about communications?
A. I was there in a technical capacity and the answer is I can't recall but I don't think so.
MS HEAVEN: Okay, thank you very much. Those are my questions.
LADY HALLETT: Thank you, Ms Heaven. Mr Jacobs, last again.
MR JACOBS: I don't mind, my Lady.
LADY HALLETT: Don't worry, Professor, Mr Jacobs is used to 237
tiny bit off script, I will be very short.
Professor Whitty referred to heated debate within government on the issue. Is that something that you were party or was that really his preserve given his particular involvement in meetings in Downing Street and so on?
A. The package of support handed down to people who had to self-isolate who were, for example, self-employed was just kind of way above my pay grade.
Q. Fine.

Can I just ask this then: was this issue on the importance of financial support something that was foreseeable prior to the onset of the pandemic, and I have in mind your own sort of research and expertise --
A. So --
Q. -- yes, prior?
A. I think in influenza pandemic planning, and if you go back to influenza pandemic exercises undertaken by the government, the concept of school closures was pretty well rehearsed -- to the extent that anything is ever rehearsed through, you know, a short exercise -- but I think the kind of, you know, society-wide kind of lockdown and social distancing measures, particularly ones that were then, you know, applied multiple times
Q. Professor, my Lady, if you don't mind me going a very 238
during the pandemic in total to kind of put the brakes on each time, I think that was just, you know, way out of -- way beyond anything that had ever been planned and therefore -- and most of those exercises were about kind of technical issues related to antivirals, vaccines, health service responses. I'm not aware of any response on, you know, any rehearsal or concept of economic support being aired widely before this.
Q. Yes, that's helpful to understand. I had in mind something slightly narrower.
A. Oh, I'm sorry.
Q. You refer in your statement to a 2017 article that you, I think, co-authored about influenza, I think in that specific context in care homes.
A. Yes.
Q. And you referred in that article, didn't you, to care home workers being a group that, given their low pay --
A. Yes.
Q. -- and insecure work --
A. Yes.
Q. -- were at high risk of working while sick?
A. Yes.
Q. So, in that sense, is it right that the link between insecure work, prevalence of working while sick was 240
something that was understood really from the outset of the pandemic?
A. I think it was quite narrowly understood in the context of care home workers and in the context of that being a very historically low pay sector, and in particular -there's a point there you didn't mention about the care home worker who works in two or three different care homes because they can get a shift here, a shift there, and together by going to three different homes in a week that makes up the family income; and of course, you know, that's, you know, kind of epidemiologically not a good idea when there's a respiratory virus circulating widely across the community.
MR JACOBS: Thank you, Professor, and I think that may be an issue taken up with other witnesses as well.

Thank you, my Lady.
LADY HALLETT: Thank you, Mr Jacobs.
MR KEITH: My Lady, may I detain you just for one moment, which is that: although he's not made a Rule 10 application, Mr Friedman King's Counsel has asked very nicely whether or not, based upon something that Professor Sir Jonathan Van-Tam has said in his statement, we would refer back to that article and just elicit a single point which may mean we needn't put it to Professor Jenny Harries next week. 241
across that kind of extraordinarily awful behaviour in another context and I know the impact it can have upon the recipients, the victims, and the victims' families, even if they don't receive threats, which by the sounds of it yours may have done. It's just too awful to contemplate.

I just want you to be reminded -- you probably don't need reminding, but just in case you do -- the vast majority of the population abhor such conduct, and we are enormously grateful to you and your colleagues for the way in which you served the public of this country, of the whole of the United Kingdom, in a time of national emergency. So please ignore the violent, criminal, idiot element and remember the rest of us are grateful.

Thank you.
(The witness withdrew)
LADY HALLETT: Sorry, I'm losing my voice.
MR KEITH: My Lady, thank you.
LADY HALLETT: 9.30 tomorrow.
( 4.27 pm )
(The hearing adjourned until 9.30 am on Thursday, 23 November 2023)

Further questions from LEAD COUNSEL TO THE INQUIRY
MR KEITH: Professor, in that 2017 article, did you and your co-authors warn in fact of the potentially devastating consequences of explosive outbreaks in care homes in the context of runaway viral infection?
A. I guess we did in, as much that we looked at the literature and we understood the mortality rate. It is possible, when an infectious virus gets into a very vulnerable population who live at essentially quite close quarters to each other -- the literature was all about influenza rather than SARS-CoV-2, so there are differences there, but that these were vulnerable populations, extremely vulnerable populations, I think has been known for a very long while and I personally have dealt over the years -- and I can't quite give you the details -- as a registrar in public health, with a number of really difficult to control explosive outbreaks of influenza in care home settings, nursing or care home settings.
MR KEITH: Thank you.
LADY HALLETT: That concludes the evidence for today.
Thank you very much indeed, Professor Van-Tam. I don't know if you heard what I said to Sir Chris Whitty in Module 1, but in relation to the abuse and threats that you described earlier, I've come 242

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