## Monday, 6 November 2023

(10.30 am)

LADY HALLETT: Ms Cecil.
MS CECIL: Good morning, my Lady. May I please call Clare Lombardelli.

## MS CLARE LOMBARDELLI (affirmed) Questions from COUNSEL TO THE INQUIRY

MS CECIL: Thank you, Ms Lombardelli. If you could just state your name, please.
A. Clare Lombardelli.
Q. Thank you. A few preliminary matters, if I may. Firstly, can I invite you to keep your voice up. Secondly, you may have noticed that people are taking a note, including a stenographer, actually, so we will take things a little more slowly than we might otherwise do. I'm particularly bad at going fast, I'm afraid, so I will try to slow down, and if you can do the same. And please do ask me to repeat anything if it's not clear or if you don't understand a question.

As I say, thank you for attending today and assisting the Inquiry. You have provided an 18-page statement to the Inquiry that ends INQ000251931. As we can see at the outset, it states that it's dated 22 August 2023, but if we go to the last page, at page 18, that's the page that contains a declaration of 1
the Treasury, the Bank of England, the Office for Budget
Responsibility, the ONS, the Debt Management Office.
I was responsible for liaising, on behalf of the Treasury, with all of those functions.

I also jointly ran the Government Economic Service during this period.
Q. Thank you. I'm going to break those down in a little bit in due course --
LADY HALLETT: If you could go more slowly.
MS CECIL: Sorry.
LADY HALLETT: Don't worry.
MS CECIL: But you will be aware that there are a number of later modules that are going to be dealing with various aspects of the Treasury's response to the pandemic, and for today and for the purposes of Module 2, we're going to be exploring some of the economic analysis that you were involved in and the modelling at a high level, the input of the Treasury into core decision-making, some of the different schemes, and then also consideration of the economic version of SAGE or something of that nature. So just so that you know where we're going.

There are also a number of other witness statements that have been provided by various officials and civil servants, and indeed ministers, within the Treasury, and of course the Inquiry will have regard to those as well.
truth at the bottom, the statement of truth, and it's dated 23 August of 2023. It's just a typo on the first page.

If I can just confirm with you that everything within your witness statement is true?
A. Yes.
Q. Yes, thank you.

Now, you are now the chief economist of the OECD, and I understand that you took up that position in May of 2023, earlier in year?
A. That's right.
Q. But your statement and indeed your evidence today is concerned with the role that you played during the pandemic, and if I can just ask you: what was your role during the pandemic?
A. So I was the chief economic adviser at the Treasury during the pandemic, and that role consisted of a number of things. So I was responsible overall for the economic analysis that the Treasury did and fed into the process for Covid, responsible for all of the economic matters in that sense, not the policies I should say.

I also was responsible for liaising across the -- we have a sort of macroeconomic framework in the public sector that provides advice, analysis and takes decisions on economic policy, that is a combination of 2

So if I can just deal, then, briefly, if I may, with your role as the chief economic adviser. You touched on it when you just described the various aspects in terms of your remit, but effectively you're the primary adviser to the Chancellor, is that correct, on macroeconomic and fiscal issues?
A. Correct, on macroeconomic and fiscal issues, yes.
Q. If you can just break it down for the assistance of those that are following, what are macroeconomic issues and what are fiscal issues?
A. Of course. Macroeconomic issues are basically the economy as a whole and the elements within that, so things like the level of activity, the amount of unemployment, inflation, those sorts of cross-economy issues, looking in detail at things like the labour market and the like.

Fiscal issues are basically the overall level of government spending, taxation and borrowing in the economy, and so overall this is a sort of focusing on the big picture of overall what is happening in the economy.
Q. Thank you.

In relation to your role, prior to becoming in fact the director general and the chief economic adviser, you were the director of strategy, planning and budget; is
that right?
A. That's correct
Q. That has a slightly different role and remit within the Treasury?
A. Yes.
Q. And is far more policy based?
A. Yes. The director of strategy, planning and budget basically oversees the budget process in the Treasury, and what they do is they co-ordinate the Treasury's policies for the budget, and that would mean liaising with all the different teams in the budget for fiscal events, and actually during Covid that was the team that co-ordinated the Treasury's response to Covid and also interacted with the sort of -- the rest of the government who was dealing with, you know, the decision-making and the process, so they would have been the primary contact, for example, for the Cabinet Office.
Q. Indeed. In short, the Treasury uses a group structure to organise its work, and that is one of the primary groups, and as you said led on the Covid-19 work?
A. That's correct.
Q. Thank you.

Alongside that, you also oversaw the work of the economics group, so a separate group --
are -- you know, I could break it down into probably
five areas in terms of what we were looking at.
There was data and analysis what was going on, and where we got that.

There was the modelling that we undertook at the
Treasury, and with others.
We did a lot of, as I mentioned at the start, working with other aspects of the system across the public sector, who were also doing data analysis and modelling, so we shared our information and knowledge there.

We did a lot of looking at other countries, what other countries were doing, because, you know, in some cases, unfortunately, they were further ahead in the virus and so we could learn from them.

And also some external -- we talked a lot to externals outside the public sector.

But in terms of modelling and data analysis, you're right, there's this interdependency between the two.
Q. And, indeed, the questions I'm going to ask you predominantly focus on those two areas. Other aspects are for later modules, effectively.

But just perhaps to touch on those very briefly, you reference international work that was being undertaken. Her Majesty's Treasury, as I say, as it was at the time,
A. Yes.
Q. -- to the planning -- strategy, planning and budget group, and that was also heavily involved, is that fair to say, in the Treasury's response?
A. Yes, heavily. The economics group was the group that brought together the overall economic analysis of Covid, what was happening and made those assessments.
Q. Indeed, in your capacity there you attended various cross-governmental meetings, including those with the Chancellor and, on occasion, with core decision-makers such as the Prime Minister; is that right?
A. Yes, I attended cross-government meetings where the economic analysis or evidence would have a particular role in the meeting or its interpretation.
Q. Now, if I may turn to the broader approach within Her Majesty's Treasury as it was at the time, with regard to economic analysis and modelling, just touching briefly if I may on data analysis first of all. I appreciate that in your statement you set out there is data analysis and then there is also the economic modelling tools that were utilised, you explain they're distinct but there is a significant amount of overlap; is that fair to say?
A. Yes, that's correct. I mean, I would say we -- overall for the economic analysis that we did, I think there 6
also utilised the IMF, the International Monetary Fund, the OECD, other forms of data in that respect of modelling?
A. That's right. That's right.
Q. If I may then turn to data and evidence, and if I can call up page 5 of your statement, and paragraph 14, you explain the changes that took place with regard to data.
As I say, it's at paragraph 14 at the top and you explain that:
"Due to the speed, scale, and scope of the economic impact of the pandemic, at the beginning of the pandemic, we supplemented the traditional economic data with additional data sources that were already available and gave a more rapid and real-time picture of economic activity."

You then go on to give some examples such as Google Maps, Citymapper, OpenTable, effectively restaurant booking data, those types of things there. You then talk separately about credit card usage, so spending, in short term, with regard to the economy.

Now, in respect of all of those types of data, did Her Majesty's Treasury consider data on social health impacts alongside this? Was that a form of data that was also being collated and fed it, or was it very much based on, as I say, the more economic position?
A. The Treasury and our analysis was more based on the economics. I mean, that is our sort of area of expertise and knowledge. Other departments will have been looking at other data sources.

What we did do is we very closely used and were aware of the data on health and the data what was coming out of the Department of Health, and related, on how the virus was developing, because of course that was having an impact on the economy. But on the sort of more social issues -- I mean, we would also have, for example, looked at schools, insofar as -- because we were doing modelling, for example, what would happen and how -- you know, the proportion of parents in the labour market. So there was lots of evidence early on, certainly before restrictions were brought in, that people were beginning to adapt their behaviour anyway, and that's why we were looking at some of these indicators like Google Maps, Citymapper, OpenTable, but a much wider range, to try to work out what behaviours people were doing irrespective of whether or not there were any restrictions, just in response to the virus and their fear of the virus.

So we looked at a range -- I mean, some of these, as you see, are not economic data sources in and of themselves, I mean, in a sense, Google Maps is a social 9
A. Yes, I mean, modelling is always a challenge, I should say. I mean, very much -- with modelling you sort of get out, you know, what -- the occupants you get are a function of what you put into it, and there's always a lot of uncertainty about the economy, but at this point -- well, throughout the entire pandemic the level of uncertainty was obviously much higher than typical economic modellers would be used to.
Q. Indeed. And that uncertainty resulted in modelling perhaps not being utilised to the same extent as it had been previously, would that be fair?
A. I wouldn't say it wasn't used as much as it had been previously, we did actually use quite a lot of modelling. I would say it was a less reliable source of information than the data and the information and analysis of what was actually happening in the economy, because, you know, if you think about what economic and -- modelling tends to do, what it does is it looks at existing relationships between variables and it sort of tries to apply those going forward. What was happening in the pandemic is very -- the very basics of the economic relationships that we have were changing and were coming under pressure. So previous estimations of, you know, for example, the relationship between unemployment and output would be very different under
data source as well, so, you know, insofar as -- insofar as -- insofar as data was useful to tell us about the economy, we looked at it, even if it wasn't hard economic data, if that makes sense.
Q. Would it be fair to say or a fair analysis that it was really looking at things such as, as you say, impact on workforce, those sorts of aspects, impact in terms of socialising, spending within the economy, whether that be restaurants, bars, and patterns of movement and transport, those sorts of issues?
A. Yeah, I would say workforce and economic activity. Some of these issues were more about, like you say, the spending -- the card spending data, for example, is just the level of economic activity in the economy.

We were also, I should say, and I reference it there, talking a lot to the Department for Business, who will have had a lot of information, at this point probably quite soft information, so, you know, conversations and the like, but they would have had intelligence on what was happening at businesses as well and how businesses were looking at this.
Q. Thank you.

I now want to move to modelling, and modelling posed particular challenges for HMT during the pandemic, would you agree with that?
these sorts of circumstances. So I wouldn't say we used it less. We did actually use it quite a lot. It was a less reliable source of information, there was a lot more uncertainty around it that there normally would be.
Q. And certainly a lot less emphasis, therefore, placed on those models?
A. That's right. We wouldn't have used it as, for example, a reliable basis on which you could solely -- solely decide policy. We were -- so you -- it's very important to supplement it with lots of other information to give you a fuller picture.
LADY HALLETT: It's very difficult to change one's speech pattern, but if you could slow down.
A. Sorry.

LADY HALLETT: Thank you.
MS CECIL: Thank you.
Part of that was as a consequence of the pre-pandemic position, in that there had been very limited consideration given to the consequences in terms of modelling or data collection or those sorts of issues with respect to a pandemic situation. I think you set out that, don't you, at page 7, paragraph 24 of your statement, and that, as a consequence, had limitations then for modelling in the pandemic, because there was no playbook, as you described it?

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A. That's right. We didn't have a pre -- a sort of -a model -- we didn't -- going into the pandemic we didn't have a model of, you know, how a pandemic would affect the economy.

As I set out in the -- in my statement, it would have been incredibly difficult to do that, because the impact that the pandemic had on the economy was very much dependent on the particular parameters of that pandemic, the rate of transmission and those sorts of things. So it would have been very difficult in advance to know what those would have been.
Q. And indeed you gave a speech on 29 June last year at King's College and in that you describe that -- the purpose of that was because you wanted to share how you did not have that ready-made toolkit to hand to model the effects of lockdown, and effectively the known unknowns were a formidable barrier to any reliable predictive capability.

If I can just pull up your speech for a moment at page 6, and it's INQ000088016. Page 6, please.

I'm looking halfway down the page, and this is where you've already touched upon the uncertainties that you were faced with as a consequence, the models not being -- certainly the Treasury not being as confident in the outputs effectively.

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modelling. One of the examples I referenced earlier was, for example, if you were to close schools you can from that understand, if you look at where parents work in the economy, for example, you can see what the impact of that would be if they can no longer work, and those sorts of things. But what there wasn't was an estimate of, you know, the lockdown will cost $X$ in terms of jobs or economic activity.
Q. Indeed, and that's the first reason you explain, and as we can see from that you explain that there is also no reasonable counterfactual. So against that, similarly, in terms of the overall economic cost of lockdown there's no modelling of the overall economic cost of not locking down.
A. That's right.
Q. It's fair to say that there is no neutral option when it comes to making a choice; each choice, whether it's lockdown or not, would have a consequence?
A. That's right. And as I mentioned at the start, what we saw was, even before restrictions were being considered, people were adapting their economic behaviour, and they were adapting it quite substantially and that was having an impact on economic activity, on particular sectors in the economy, and you like. So it would have been incredibly difficult -- as you say, in the absence of

What you explain here is that:
"The uncertainty meant it was not possible to meaningfully model the overall 'economic cost of lockdown' for two reasons."

You go on:
"First -- to estimate the cost of an intervention, you have to know what would happen in the absence of that intervention. It wasn't possible to know what would have happened to the virus if there had been no lockdown. And we couldn't have known how the economy -how people and businesses -- would have responded to the virus without a lockdown. There was no reasonable counterfactual."

Now, from this, is it right that there was no meaningful modelling of the impact of lockdown, the first lockdown?
A. I wouldn't say there was no meaningful modelling. There was a lot of analysis and modelling that happened. What I would say is there was no estimated cost of a lockdown, if you like. There is no way to basically say a cost -- a lockdown will cost you X or, indeed, a lockdown of this form will cost you $X$ but of a different form will cost you Y .

But I think it's a bit too far to say there was no meaningful modelling done. There was a lot of useful 14
a lockdown there would have been a significant economic impact from the virus, and actually there are various estimates of what that might have been, but incredibly hard to put a particular number on it.
Q. That's a theme that comes through both in your speech, as we can see when we move on to the second reason that you give, but also more generally within your statement, you speak about the uncertainty of behaviour, of people and businesses, in relation to how they would respond to restrictions, no past episodes to provide reasonable approximations of what the economy and individuals were going through, and you explain a really critical point: the way the economy responded changed over time; you go on to say actually it had an ability to learn and adapt, and you give some examples of that there.

But one of the big blocks for the Treasury from your perspective was that of behaviour from individuals and being able to predict behaviour; is that right?
A. That's right. That was a huge sort of challenge to the analysis and -- the inability to estimate precisely what the impacts would be. Behaviour was a key driver. I mean, in the economy behaviour is always a key driver of outcomes, and of course it was particularly uncertain at this time, and an important point I make there is that it changed and people's responses to the same 16
sort of restriction changed over time.
Q. You also distinguish between voluntary behaviours and compulsory restrictions impacting on behaviour, so effectively the counterfactual position of: if there is not a lockdown what voluntary behaviours would there be in any event, if there is a mandated lockdown then what non-voluntary or restricted behaviours would take place. And that's the same position when it came to the second and third lockdowns as well with regard to being unable to model the overall economic impact of either way?
A. Yes.
Q. And indeed the autumn of 2020 , when there was consideration of circuit breakers, the same position arose, it was -- Treasury's position was you were unable to calculate out the overall economic impact of a circuit breaker; is that right?
A. That's right, it would have been impossible to put a specific sort of figure or number on that with any reliability. What we were able to do and what we did do was lots of analysis on the sorts of -- and what the economic impact -- the sorts of economic impacts there could be and what you might see for multiple -you know, for different restrictions.
Q. If I could just bring up the briefing for the Covid-S, the Covid Strategy Committee, on 21 September 2020. 17
likely to be impacted by a circuit breaker, high
employment sectors with vulnerable workforces. And then
finally it goes on to talk about cash conversion, sales revenue and retail.

But nowhere in this document is there any analysis of the opposite counterfactual scenario, is there?
A. It doesn't look like in this particular document, no.
Q. So what's going to Covid-S is not a position where economic advice is presented: this is the consequence or potential consequences of a circuit breaker now, and here, on the other hand, are the potential consequences if there's no circuit breaker. What we have is the Treasury adopting a clear line in terms of the impacts of a potential circuit breaker, and, as we see, "severe", "catastrophic", that sort of language; is that right?
A. Yes, I mean, what I -- what I don't know and we don't know is what the specific commission was that this is responding to, and what the other papers that will have been -- and I'm sure the Inquiry would have them -I mean, it obviously would have depended, and there would have been a huge amount of analysis going, I assume, to this decision, around what the impact of the virus would be on the two, and we were providing huge amounts of evidence and analysis throughout this

It's INQ000184589, please.
If I can go to the second bullet point, what is said here is:
"More generally, we are reaching the limits of what we can do economically, with further measures likely to be catastrophic. We need a strategy that works over the winter period, rather than tinkering with restrictions week to week."

If I go to the final page, please, what we have set out there is an annex that deals with the economic impact of the circuit breaker, and it sets out in general terms: it's likely to be severe, reducing revenues rather than costs. It explains about GDP dropping.

It continues to go on, and this is some of the uncertainty perhaps that you have already alluded to, that:
"Although the exact impact would depend on the type of restrictions imposed, analysis on the monthly effects of the previous lockdown serve as a reasonable proxy and suggest that a 'circuit breaker' will concentrate its impacts on firms already in distress."

You go on to speak about hospitality, domestic employers, arts, entertainment and recreation, construction, furlough, sectors effectively that are
period on overall what the impact of the virus was in terms of the impacts on economic activity. So there would have been supplement -- other analysis going on around what the actual, the -- sort of baseline was in terms of the levels of economic activity that were happening at the time, and that would have been affected by the level of the virus at the time.
Q. Of course. But this is the advice that's going to the Chancellor in relation to his attendance at that meeting, and the line that he ought to be taking at that meeting.

Perhaps if we can just call up page 2 of it for a moment. We see at the top:
"We suggest you push back strongly on the circuit breaker proposal. The economic impacts would be severe ... firm failures and redundancies ... There is no evidence that a circuit breaker of two-three weeks will only be in force for that long, meaning we could end up lifting restrictions when the health data ... could still be going in the wrong direction because of lag-time."

There is a very clear piece of advice here coming out of Treasury to the Chancellor in relation to the circuit breaker that was going to be discussed in that September meeting. Did that reflect the general
position within Treasury at the time with regard to its approach to lockdowns and circuit breakers, that these were profound measures that had significant impacts and unacceptable impacts on the economy and so needed to be pushed back against?
A. I think, you know, everyone in the Treasury was incredibly worried about the impacts on health, on, you know, life, and the loss of life, the potential for the NHS to be overwhelmed and the like throughout the pandemic. That -- we were also aware of all the harms that were going to be caused, and what we -- what the -sort of our role in the process was to provide evidence and analysis on the economic impact so that they could then be fed into a wider process in which these issues were sort of weighed up and the decisions decided.

The role of the Chancellor was to provide the information about the economy and the economic impact, and so that -- you know, that is what this document and others will have been doing, is provide him with, you know, the evidence on the proposal that was being considered, which was the circuit breaker at this time, and the economic evidence. Other evidence should -you know, would have been provided by others in the process.
Q. But what you don't have within this paper as an example 21
causing damage. Obviously, you know, throughout time and throughout the process that will have varied, but we were very, very aware that the virus itself was a huge problem for the economy and needed to be -- needed to be controlled.
LADY HALLETT: How did you consider the definition of circuit breaker? Is it short-term lockdown, is that how you would have understood a circuit breaker?
A. With apologies, I was responsible for the economic analysis that was feeding in. The precise policy that's being considered here I'm not sure -- I mean, I think the general understanding of a circuit breaker was short. I don't know if this particular paper was written in response to a very specific policy proposal or a more general description of a circuit breaker I'm afraid.
MS CECIL: Perhaps if I can pick up on something else that you've alluded to just a moment ago, that it was essentially for the Chancellor to make the economic case. Was there the view, therefore, that he would be making the economic case, the Health Secretary would make the case in relation to health, and other individuals, then, schools, for example, the Minister for Education? Was it siloed in that way --
A. No --
is that counterfactual position or an analysis of other alternative measures.
A. I think if -- I mean, I haven't seen the whole paper. I'm sure, you know ... what the economic advice would often stress, throughout, was that the virus itself was causing huge economic harm. It may have been in this paper, it may have been in other papers, but we were regularly clear on the uncertainty that was being -that the impacts would have, and also that the virus itself was having huge economic impacts, and the best thing for the economy was clearly to control the virus and to limit the virus. I think that was in -you know, that will have been consistently through our advice. I don't know about this particular paper.
Q. But in terms of the view within Treasury, was there ever support for that circuit breaker, to the best of your knowledge?
A. I don't -- I wouldn't know, I don't know. The Treasury did not have a pre -- a position -- you know, pre-proposed position on restrictions. What we were trying to do was provide the economic analysis and evidence that was going to feed into the process to make the right decisions. Clearly where restrictions could control the virus that could be beneficial to the economy, because it was the virus itself that was 22
Q. -- be synthesised within the Cabinet Office?
A. I mean, it was the case that the -- it was the case that different departments have different expertise and have different objectives in terms of the things they care about. In the Treasury obviously we were incredibly concerned about the economy and the economic impacts, as is our role, and other departments have responsibility for other aspects of public services, and it was for, you know, decision-makers together to make those choices and -- and, when they occurred, trade-offs, about how do you manage this level of harm across the decision-making.

That was how -- you know, that was what we -- you know, it was the role of the Cabinet Office to bring those things together and to be the place where all of the information is synthesised and these different issues, whether it's across, you know, the economy, education, inequalities, all of those very important factors -- we all recognise that all of these factors were incredibly important and that decision-makers would need information across all of them to make those really hard judgements.
Q. Did it make it harder, though, with regard to the fact that effectively the Cabinet Office was being presented with these binary options? You had the economic -- you 24
had the Treasury making the economic case, you had the 1 Health Secretary making the health case and no real effort to engage across those disciplines between the departments?
A. I mean, you would have to ask that -- I wouldn't characterise it as binary. As I say, the economic analysis and evidence very much recognised and factored in the fact that the virus itself was what was causing huge damage to the economy, and actually there's a range of estimates now available about how much of this would have been voluntary and how much restrict -- you know, how much as a result of restrictions, and the uncertainty around that. So the Treasury was sort of well aware that the virus itself was causing huge damage to the economy. In terms of the process question you asked, I mean, that is, it is -- it is the role of the Cabinet Office to bring together all of this information and to synthesise it, and, you know, in this case, it would have been particularly challenging to do that.
Q. Now, you may be aware there has been criticism of the Treasury with regard to it being tactical in how it shared its economic analysis, so essentially putting forward that analysis where it was considered that it would advance a Treasury objective. Just because we've just seen it, for example, in relation to the 25
Q. Now, it's right that nobody else was providing that economic analysis aside from the Treasury during that period?
A. We were bringing together the economic analysis. We were using and building on a lot of information and analysis from other parts of the public sector that we were talking to and had good relations with -- you know, had relations -- they shared their information with us, and so we brought it together and then it was -- it was the Treasury that were responsible for inputting that. In some cases we did that jointly with some economic functions in the Cabinet Office as well.
Q. With regard to transparency similarly you'll be aware, because of the materials that have been provided to you, there have been criticisms in relation to the Treasury's modelling analysis and advice not being published or made accessible to, whether it be other government departments, SAGE, for example, or more broadly actually, and we can compare perhaps the position of SAGE where those minutes of the meetings and the modelling and the analysis was published.

Do you consider that transparency would be something that would be desirable in relation to the economic modelling and advice in hindsight?
A. I mean, transparency is always -- you know, is a good
circuit breaker paper that we've seen, the briefing for the Chancellor there. What do you have to say about that? Was information and economic analysis shared freely or was it shared when it was in advance of a policy proposal that Treasury sought to advance?
A. We shared our economic analysis and evidence very, very freely with everyone that -- you know, with -- with -to ensure it was feeding into the decisions as it needed to. So we shared -- I mean, in two ways. So we produced a huge amount of economic analysis that we obviously shared with the Chancellor so he was fully informed, and we also fed it directly into the Cabinet Office process, and the Cabinet Office were responsible for synthesising the data and analysis.

I mean, we did also share it around Whitehall with other departments that were -- that had economic interests. We had, for example, weekly notes that were going round on those sorts of things. And of course we shared it more broadly across the public sector with other parts of the economic sort of framework. We were in constant discussions with, for example, you know, the Bank of England, the OBR and the like. But we fed all the analysis and the information that we had into those Cabinet Office processes so that they could serve the joint decision-making process.

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thing, it helps you -- it helps you, you know, get other input and views on what you're doing and we -- you know, we did share our modelling and our analysis,
particularly with, as I say, the other parts of the economic framework we use in the UK. You know, we have a very -- unlike SAGE, I would say, in the UK we have a very established set-up for how we do economic analysis and policy making. You know, SAGE understandably and rightly is convened in emergencies to add capability and capacity where it doesn't exist, so in this case, you know, bringing epidemiology and virology expertise to the Department of Health and the wider government decision-making process. Slightly different on economics I would say, in that we do have a specialist capacity in the Treasury to analyse the economy, we do have specialist capacity in the Bank of England, in the Office for Budget Responsibility, and so on and so forth, so there is some capacity and expertise that is designed to do the monitoring of the economy and provide analysis and evidence.

Could -- you know, could we have done more to make it more systematic? Perhaps, but I -- I don't think there quite -- you know, there are differences in the way we have the system and we have got quite a robust macroeconomic framework that we use.

On transparency, I mean, we did publish, you know, some analysis, more than we normally do, as you'll have seen. I mean, obviously the -- at fiscal events we publish evidence. The government published quite a lot of analysis through the pandemic and that included economic analysis, and of course the Office for Budget Responsibility are responsible for publishing outlooks on the UK economy and they published more during this period, but it wasn't with the frequency with which, for example, SAGE papers and minutes were published.
Q. It was a fraction in -- comparatively to what SAGE published but what is your view in relation to whether that material ought to be published? We'll turn to looking at other ways of assessing the economic impacts and filtering that through in a moment. But with regard to publishing and making -- being more transparent, is it desirable to have that advice published?
A. I think it's difficult. I mean, as you've seen in some of the examples, it's quite difficult to separate out the economic and -- you know, much of the economic analysis was part of the policymaking process and was feeding into the policy decisions. I think it is very important that ministers and officials have a space where they can, you know, have free and frank discussions and share information about policy, and I do 29
what we spent our sort of time and effort and energy on. We could -- you know, ministers could decide to publish more and share more and we could do that.
LADY HALLETT: Is there any risk to sharing more?
A. I think ... no, I mean, I -- leaving aside -- the point I was making earlier about I think it's quite hard to separate out in some of these issues, you know, what's policy advice and what's analysis, I guess the -- no, I mean, the practical risk, being frank, was we had limited time, it was an exceptionally busy period, you know, everyone was working -- was working round the clock. If you are also on top of that, you know, thinking about publication schedules and what do you publish and handling the responses to that, being frank you would -- we would have had less time to do the actual analysing of what was going on and less time to talk to ministers about it. So I think, you know, that is one of the concerns about that. But, you know, in terms of the sort of modelling where it's separable from policy, you certainly could.
MS CECIL: Now, just dealing with sight across government and indeed other organisations or committees, just touching on SAGE for a moment, one repeated theme coming through from the SAGE minutes, as you will have seen, is that SAGE were not dealing with the economic impacts but
think it's quite hard to -- you know, there's a reason that we've always had the space for policy making to be able to happen privately for ministers, for --
Q. Let me just interrupt you there. Let's put policy making to one side and discuss modelling and data analysis.
A. Yes.
Q. In the same types of papers that you see coming out of SAGE in short, not necessarily the discussions on policy with the trade-offs either way and the advice to ministers but the models and the analysis that was undertaken by Treasury.
A. Yeah, I mean, we did expose them to quite a lot of -you know, we shared them quite broadly and got input. As I say, if we -- you know, could we have done that more? I mean, potentially. And, you know, maybe that would improve the quality of the modelling and, you know, we have -- we're sort of not precious about that.

I guess the question I would have is whether or not it would -- well, yeah, I mean, we could -- you could do that. Our primary focus at this time and, you know, being frank it was a pressurised time, was to ensure that, you know, ministers and decision-makers had the best information available. That -- you know, that was 30
there was an understanding and it was recorded that Treasury were, and indeed you were asked about one of those meetings, and it's the 58th meeting of SAGE on 21 September 2020, so again the same sort of time as the circuit breaker that we have been discussing.

At paragraph 5 of that meeting -- of those meeting minutes it states that that work is being undertaken under the auspices of you, the chief economist.

Now, in your witness statement, page 15, paragraph 56, if I can just pull that up, you explain, while we're waiting, in short form that you do not know what that work was being -- what work that was or what was being referred to there. Is that right?
A. I mean, I knew -- I know what work we were doing in the Treasury on the economic analysis. What I didn't know is what -- I mean, what the author who drafted that minute intended by it, you know, I wasn't at the meeting, it wasn't checked with us, I think it was probably, you know, no doubt they were busy and under stress and perhaps it's a loosely drafted phrase.

What we were doing in the Treasury, as I've described to you and is in those statements, is a huge amount of analysis on what the economic impacts of the virus were, and we were -- we were sharing that with ministers. I suspect this is possibly just a phrase
that was drafted that perhaps wasn't as accurate as it could have been.
Q. Could it also be attributable, though, to the lack of communication as between, for example, SAGE and the Treasury on these points? As I say, that lack of synthesis between the two: you're reporting in to, as you say, ministers; but there is very limited interaction between the epidemiologists and other scientific committees, SPI-M, SAGE and the like, and then the Treasury?
A. I think -- I mean, I wouldn't interpret this line in the minutes as that. I mean, I'm not an expert on SAGE obviously, but I think it is right that SAGE focuses on science, that is its expertise and what it is set up to do, I think it is right that where you have the expertise on the economy the people with that expertise are advising on the economics and then I think it is necessary that you have somewhere that brings that all together and synthesises it and informs decision-makers as best they can. So, you know, we were -- we did have -- you know, there was a good relationship between the Treasury and SAGE, in fact we had an observer from the Treasury at SAGE to make sure that there were not misunderstandings and those sorts of things, but I do think it's right in a sense that, you know, the 33
was it was incredibly uncertain, these situations, and so it was just incredibly hard to know, for example, as you -- you know, when the second lockdown happened, what -- how would people respond. Would they respond in a similar way to the first? And actually we saw big changes. But the issue on process, I think -- you know, the challenge was the challenge of the circumstance being incredibly difficult to deal with to understand to predict rather than we weren't necessarily talking to or harnessing the expertise that was available in behavioural science. We were using what was available and feeding that into our modelling.
Q. I'm sure that everybody will understand the inherent complexities in dealing with a situation that was evolving and that people had not been in before and all of those uncertainties, but notwithstanding that we do see in other areas, such as SAGE and SPI-M-O, that modelling is undertaken even with all of those variables, with those uncertainties. In fact it's a point of some of the consensus statements is to deal with those uncertainties. We see probability risks and so on.

Is that not something that Treasury could have done to try to assist it when it came to providing advice on NPIs and potential impacts, effectively so that you
expertise focuses on what it's expert in, and then it's all brought together and synthesised in a place that is capable of doing that and has the capacity to do that.
Q. If I can just pick up on the expertise point for a moment. As you say, Treasury and economics, obviously. Also though, within SAGE, you have SPI-B, the behavioural scientists, you also have the epidemiologists who have expertise actually in pre-pandemic situations, in how behaviour does change in pandemic situations, those sorts of issues. And to bring you back to one of the primary issues that you saw at the Treasury, a challenge was that inability to accommodate that behavioural change, to understand how that behavioural change might play out when it comes to modelling.

Would it not have been of benefit to have had assistance from SPI-M-O and SPI-B or any of those other committees with respect to your modelling because behaviour was such an integral part of it?
A. I mean, to be clear, we had good relations and worked with behavioural scientists, both SPI-B and of course the behavioural insights unit and we had lots of conversations. I think the challenge was less was the information there -- I don't think the issue was the information was there and we weren't using it, the issue 34
could design smarter NPIs, and not necessarily have to resort to those lockdowns?
A. We -- I mean, we did do a lot of modelling and we did, as far -- use the information as far as possible, so we were doing modelling and we were using it. For sure, I mean, on smarter NPIs, yes, and actually one of the things we did do, and you've seen it in the evidence, is build what's called epi-macro models that bring together the epidemiologists and the macroeconomics as far as they can, and we did use those models and try to -- and they have -- you know, the results and the insights that they bring are very similar to the ones that you're talking about in terms of smarter NPIs, and actually are there a range of restrictions that you could look at and how do you think about those in terms of their impacts on the virus and the impact on the economy.
Q. But for the Treasury the epi-macro modelling was not a particular success; is that right?
A. Well, I wouldn't say -- it was no less a success for the Treasury than it was for anyone else, if you like. We were using very similar techniques -- we talked to a lot of academic epi-macro modellers and actually if you look at other organisations, you know, they were doing the same.

I think epi-macro modelling, you know, was clearly 36
evolving very quickly and that was very useful through the pandemic and we learnt a lot about it. Where it was challenging, and challenging for everyone, is in terms of the insights it could provide into very specific decisions about which restrictions and at what time.

So we used it and we used it in the same way others did, and tried to bring what insights we could into our analysis. I mean, I should say at this point one of the things we did a lot was talk to people in other countries about what they were doing and their approach was -- on the modelling and the analysis and people were -- you know, it was to make sure that, you know, were we missing things, were there other things that we should be thinking about. And others were taking a very similar approach.

So I wouldn't say the epi-macro modelling wasn't a huge success, it sort of -- you know, what is a success depends on what you're asking it to do. It gave us some insight. It wasn't a particularly useful tool for, you know, making policy decisions about, about restrictions.
Q. Indeed. What you say in your statement is that it had limited practical application, they weren't a big part of advice to ministers, essentially, as a consequence. What were they replaced by? 37
you know, maximising the information that we could bring to any specific question or the questions overall.
LADY HALLETT: The stenographer is struggling, both of you.
MS CECIL: That's my fault. Let's both try to slow down.
A. Sorry.
Q. Not at all.

I'm going to move now to a different type of model, if I may, very briefly, and that's the toy model. So a toy model was developed in the later stages of 2020 going into 2021, and indeed provided to the Treasury amongst other departments.

Now, just if we can just deal with what a toy model is very briefly, it's a very basic model, you can play around with the assumptions, and as a consequence run different scenarios. Is that a very high-level overview of a toy model?
A. Yes, it's a simplified model.
Q. Exactly.

Now, there were concerns about the use of the Treasury's engagement with that toy model.

If I can just call up INQ000196031, this is an email chain that involves Angela McLean, so the Chief Scientific Adviser to the Ministry of Defence but also the Deputy GCSA at the time, Philip Duffy and Ben Warner, who we'll be hearing from later.
A. What do you mean, sorry?
Q. As I understand it, you ceased using those epi-macro models and what filled that gap? You said they had some utility.
A. Yeah. I can't recall actually if we sort of ceased using them. I wouldn't look at that -- what we had was we had a suite of models that we used and we used those models throughout the pandemic for different -- in different ways for different things, as was sort of useful, and we also had the sort of data and analysis that we were using, and we brought those together and we used them through. So it wasn't -- it would be wrong to sort of think, well, we developed an epi-macro model, we tried it, it didn't work, we threw it away. That wasn't the sort of approach that we took. We -- like I say, we were all the time evolving what was useful in the modelling capability.

And depending on what the specific question is that you're trying to answer, in some areas a model might be useful, in other areas it might not be, in some areas, actually, you know, better to look at the evidence analysis on the ground. And we doing a combination of things throughout and adapting -- basically, I mean, as you said, huge uncertainty. We were bringing together what was available and what we could usefully use and, 38

If we can go over the page, please, to page 2 , and what we see here is the email from Dame Angela McLean, and it explains that she has concerns with how HMT has been utilising the toy model. She explains that HMT have changed the model after she had quality assured it. She doesn't know how that happened. Obviously this is all dealing with epidemiological modelling, so something that's not strictly, as you would say, within the expertise of Treasury, in the initial instance.

She makes it explain that any modelling that comes out of Treasury as a consequence has no endorsement from her, that they're on their own. And she continues to say that there is an "inability previously to spot egregious errors" in other things that they have been sent:
"... I do not have any confidence in their ability to hack a simple, sensible model."

Were you involved at any point within the toy model?
A. I wasn't, I'm afraid.
Q. Do you have any understanding or were you aware of the issues that were being discussed in relation to the Treasury's use of the toy model?
A. Not really. I understand that the toy model was a -- as referred to -- sort of simplified epidemiological model that I think the Joint Biosecurity Centre in the

Cabinet Office constructed, with input from other departments, in particular from SPI-M, and so I was aware it was happening. I think Treasury modellers, you know, were involved in -- and as you can see here, it wasn't economic in nature, so I don't, I'm afraid, have any first-hand knowledge of it.

On the email exchange, I also -- you know, I saw this email and I did speak to Ben Warner I think after it, but that was much more broadly, just to talk about actually the importance of making sure that this modelling work fed into the Covid Taskforce at the time, who were the people responsible for bringing it all together. But I'm afraid on the details of what's being referred to here, I simply don't know.
Q. Thank you.

If I can turn to some of the various policies, I appreciate that you were not in charge of policy, but you have some understanding owing to your previous role and, indeed, your role as the chief economist generally.

If I may touch upon the summer of 2020, again you will be aware that there were criticisms that the Treasury was suffering from optimism bias at that point. Is that something you saw within your role at the Treasury at that time? Was there a belief that you were coming through the pandemic, moving through, getting 41
restrictions with, you know, very large impact on activity in the economy and on unemployment and there was a concern, and the economic analysis sort of showed this, that there was a risk that if you -- if you have long periods of, for example, inactivity, it can have very bad impacts on your employment in future, on your life chances, and we were very conscious of the fact that -- the desire was to make the economic costs, if you like, of Covid as short lived as possible and to bring back activity once the economy was re-opened, because of the path of the virus.

So the concern was around the risks to the economy from lower levels of, for example, consumption, because the UK is a very consumption-heavy economy compared to others, but lower levels of economic activity and the impact that would have had on employment, and, as I say, the understanding that periods of employment, you know, in a sense -- periods of inactivity, the longer they go on the bigger impacts they can have, and in particular we know that the distributional impacts are much greater for people who are at lower ends of the income distribution or people who are on lower skills.

So we were focused on and thinking about the impact of -- on the level of economic activity and jobs, and so the Treasury produced -- developed and produced what
ahead of the virus?
A. I don't ... I don't think the Treasury had optimism bias, I would say -- you know, maybe I would say that, indeed, if anything, the Treasury's normally accused of the opposite. But in this particular -- I mean, what was going on at the time I think was the government -you know, we were -- restrictions were being lifted because the outlook looked a bit better, so I think across the piece, you know, as restrictions were being lifted, you know -- and perhaps people did want to sort of look forward and feel this was behind them, but I don't think the Treasury had a -- took a -- it certainly didn't take at any point a different view on the epidemiology that than the epidemiologists would have done. I mean, we were getting our information about the virus and its progress and its outlook from the experts on SAGE and through that process. So I don't think we had a specific -- we certainly didn't have a different view of the epidemiology.
Q. This was at the time when the Eat Out to Help Out policy was introduced, so July/August of 2020. Who and at what level was that policy being driven forwards by?
A. So overall I would say the -- I mean, the concern at that time on the economic side was around, as the economy was coming -- we'd had this period of 42

I think was called the Plan for Jobs, which was a range of policy interventions, all of which were about trying to support the economy through this quite difficult period as it re-opened knowing that, you know, businesses would have been under distress, that people's jobs were at risk and the like. So that was the plan.

The -- Eat Out to Help Out was one part of that, of that package. But that was -- so it was -- there was, you know, a desire in the government actually to sort of move forward on -- you know, to provide support to the economy as it came out of this period of having quite high levels of restrictions.
Q. So was this being driven by ministers or within Treasury itself in terms of officials?
A. Well, I mean, policy decisions are ultimately always for ministers. The economic analysis we were producing was very clear that there were severe economic risks to this period and that the economy was suffering quite greatly in the period, and ministers obviously wanted to know in what ways they could support the economy through what was a really challenging period for, like I say, employers, businesses and the like.
Q. Now, the position is that neither Sir Patrick Vallance, the CSA, or Sir Chris Whitty, the CMO or indeed their deputies were consulted in relation to Eat Out to Help 44
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A. I would -- look, I would agree that, yeah, the objectives were to, as I say, support economic recovery and also to limit what was often called the scarring effect of, you know, what would be the long-term impact of these -- of the virus and of the measures taken to control it, yeah.
Q. Now, towards the end of the scheme, there was feedback that it was causing problems. Were you aware of that feedback?
A. I wasn't, no. I wasn't responsible for the policy side of the scheme.
Q. Just two other areas briefly in relation to the involvement of the Treasury, and financial support. The first relates to self-isolation payments for those in low-paid employment or unstable employment, the gig economy, zero-hours contracts, and we've heard evidence from Professor Yardley, indeed from Lee Cain, that it was important that financial assistance was provided to individuals to allow them, to enable them to be able to self-isolate. But we have heard that throughout Treasury pushed back and refused to extend that finance, aside from some final payments that were made in September of 2020, but that it continued to be a problem regardless.

Were you involved in any modelling or any analysis 47
were not decisions for me. And, like I say, we used the architecture we use for when we develop any other fiscal event for the Plan for Jobs overall, so I don't know who was sort of involved in each component.
Q. You dealt with the economic aspects. Do you know if the risk of potentially increasing infections was considered at all?
A. I don't know. I mean, the -- I don't know the policy was conceived in the context that, you know, it was safe to lift restrictions and activity could return.
Q. Now, with regard to that policy, if I can just call up INQ000235019, very briefly.

We see that there were two predominant aims to it. We see that at the very top here. The first was:
"To support the economic recovery by stimulating consumption in the hospitality sector ..."

And the second is really looking at behavioural change:
"To incentivise consumers to return to the hospitality industry and consume sit-down meals out by reassuring people it was once again safe to consume and altering social behaviours that have become entrenched."

Essentially to encourage levels of contact that had previously been restricted considerably.

Would you agree with that? 46
in relation to how much that would cost and any cost-benefit analysis?
A. No, no, I wasn't. I mean, those -- I was aware that -of the sort of policy issue in discussion. The relevant policy team which would have been in, you know, the public services part of the Treasury, or the welfare part of the Treasury, would have been the -- would have been handling that issue and would have undertaken whatever analysis was necessary. It wouldn't, if you like, have been macroeconomic in nature.
Q. Do you know if it was it a decision taken out of principle or whether those impacts and analysis was actually undertaken?
A. I don't know, I would expect that analysis -- you know, that there would have -- the decision would have been taken on the basis of an understanding of the issue and analysis, but I'm afraid I can't add any detail.
Q. You may not be able to help me with this next one, then, because it really falls into the same type of category, but if I can just ask the question. Payments for care workers, significant issue being potential transmission as a consequence of care workers working in more than one care home or establishment, as a consequence of the fragility of the sector in short, again HMT were approached with proposals to allow for those individuals
to be compensated for not being able to move between different care homes, but HMT refused to expand or extend any financial provision in that respect. Do you know anything about that decision?
A. I'm afraid not. Again, the relevant policy team would have been working with, you know, the Department of Health and Social Care and would have been considering that.
Q. Thank you.
Just turning, then, if I may, to that whole period, from the Eat Out to Help Out, the summer, and then into the autumn when some of these policy decisions were being discussed. Were you aware that the Chancellor was being referred to as Dr Death in some quarters across government?
A. I wasn't, no.
Q. Were you aware that he had been perceived to have an anti-lockdown, anti-restriction approach, feeding any of those sorts of comments?
A. I wasn't. We were, you know, providing advice and information to him. You know, he will have been aware of the economic consequences of these decisions.
Q. Finally, if I can just turn to one last topic, and that's in relation to the potential integration of, and we've discussed it to some extent, science alongside 49
economics SAGE, (2) is a single model, effectively presumably drawing together the science, the epidemiology, the health and the economics all into one model; or (3) something more informal.

The very first thing you say is that:
"The economists [obviously] killed the single model ..."

Why was that obvious?
A. I mean, it was obvious because if you imagine attempting to construct a single model that could solve, if you like, bring together all of the issues that the government had to decide over, so, you know, considering health, the -- both the sort of epidemiology and the virus, but also actually the wider health impacts, if you then think about adding in economics, adding in social distributional issues, you know, if you were to sort of put -- imagine this model also had to have a distributional feature where you were looking across, you know, gender, ethnicity, income groups, if you were then to add in educational impacts, if you were then to add in impacts on other public services -- I think you could quite quickly see that there's no single model that could, in a sense, solve -- I mean, it would be wonderful if you could just have a model and solve for what the government's policy response should be, but
economics, health, social impact, material.
If I can just pull up an email, please. It's an email from you. It follows on from a 5 June 2020 seminar on those issues.

It's INQ000235261.
What we see here, as I say, it's an email from you. It's to some extent a read-out of what's taken place at that earlier meeting. It's a meeting with Ben Warner, chairing it, at Number 10. You explain that you're not sure if anything will come of it. We continue onwards:
"The discussion would have felt very familiar -- the economists all did a very clear pitch on smarter NPIs being able to deliver the same level of virus control at lower econ cost."

You refer to a paper. But the part that I'm interested in is the next section, which states:
"There was a general conclusion (by economists) that the economics is not being considered enough."

And indeed you will be aware that the Chancellor at the time, and subsequently, has expressed that opinion.
"And a desire for a place to bring this together."
So this is quite early on in the pandemic, we're talking about 5 June 2020.

Three options were proposed at that time, so it's an effort to synthesise some of this material: (1) is an 50

I think if you think about the reality of that, one single model could never do that. What you can do with modelling is look at different parts and aspects of it. So I -- that will be, you know, why.
Q. In relation to the economic SAGE, that found slightly greater favour, and then it's spoken about in terms that "Ben Warner would follow up":
"Ideally [you] would doc [that] ... into existing structures and processes and use it to get a greater weight on the [economic] arguments in No10 thinking."

There was no real follow-up, was there, in relation to this? Nothing came of this discussion in terms of pulling together an economic SAGE or anything of that nature; is that fair to say?
A. Yeah, nothing came from this specific discussion. I do remember also having quite -- some discussions with, for example, Patrick Vallance about the way we could do this on the back of some conversations he'd had, and we did set up a sort of partnership with the Royal Economic Society and use that to get a wide range, actually, of economic input, which was incredibly useful, into the process. Again, not quite like SAGE in terms of, you know, it wasn't meeting weekly, with commission papers and the like, but you're right, in response to this particular email I think at the time we didn't --
we didn't follow up by effectively establishing an economic SAGE or similar.
Q. Indeed. You will have also seen and it's been suggested that the Treasury itself shut down that idea of an economic SAGE model, that senior officials within the Treasury vetoed proposals from other departments to establish a cross-department group to discuss the economic impacts; is that right?
A. Yeah, I don't really -- I'm not aware of there being a specific proposal that was, in a sense, shut down. What we were very keen to do is make sure that the economic analysis and evidence and arguments were feeding into the Cabinet Office process and that they were considered as part of that, and -- you know, so we were really -- we thought the right answer to this was that you needed a central government place that was bringing together all of these incredibly, you know, different arguments and putting them -- you know, bringing them together. And we thought that was, you know, incredibly important and of course, you know, how that was done evolved through the pandemic, but it was absolutely essential that there was a place that could bring all of this together.
Q. Is it your view, therefore, that that place ought to be the Cabinet Office as opposed to either an economic SAGE 53

National Economic Council. So, you know, those sorts of issues. But I think -- that is the role of the Cabinet Office, you know, I think that's -- and that makes sense. And economic SAGE, I think if you -- you could do, you could certainly have one and set it up. I would think its scope should be limited to economics.
MS CECIL: Thank you.
My Lady, those are all the questions I have. There is one question, as I understand it, from the Long Covid groups.
LADY HALLETT: Mr Metzer.

## Questions from MR METZER KC

MR METZER: Thank you, my Lady.
Just one topic, please, Ms Lombardelli, on behalf of the Long Covid groups.

You said this morning that briefings were shared with the Chancellor to ensure that he was fully informed. Was the Chancellor formally briefed on the economic impact of large numbers of people suffering from disabling long-term impacts of Long Covid?
A. Once we became -- well, once, if you like, the Long Covid -- you know, the health community had become aware of Long Covid, that would obviously -- that information would have been shared with the Treasury, and we would have reflected it in our evidence and analysis alongside
or a body that sits above the various different committees to synthesise that advice?
A. I don't think it would be for an economic SAGE to bring together all the different arguments, in the same way that I don't think SAGE as it is should consider -- you know, that should be focused on science. If you were to set up an economic SAGE I would think you would very much want it to focus on economics, and that's where you could ask it -- you know, could consider some of these issues around modelling.

I wouldn't suggest you had a committee of economists deciding or -- or solely being the people thinking about the other issues, education, for example, health -again, I don't think it's for economists. So I do think it's very much a case that you need the experts to focus on their expert areas and that then to be fed into -and for them to talk to each other and learn from each other but, you know, you have a place where it all comes together. That could be the Cabinet Office. I mean, that is what the Cabinet Office is for, and I think that is right. Whether within the Cabinet Office you would want to, you know, change it, have different structures -- we've done it before, you know, there's things like the National Security Council, and actually in the financial crisis we had I think it was called the 54
the other long-term impacts that we would -- that we were very concerned about across the board. But, you know, he would have -- he would have been aware.

We wouldn't have done -- I mean, it's a health issue in and of itself. We wouldn't have estimated, if you like, a specific economic cost for it but we would have -- we were thinking about and we were doing what we could do bring evidence and analysis on the long-term impacts across the board, including, of course, health impacts like Long Covid.
Q. Are you able to assist as to when that was?
A. I can't recall, I'm afraid, and, as I say, I don't think there would have been a specific point when he would have received a specific piece of evidence that was -a specific piece is analysis that was -- you know, "Long Covid, the impact is X". What we would have done is taken the evidence and analysis about all the long-term effects, and that would have included Long Covid.
Q. Do you agree that the disabling impact of Long Covid would have had an economic effect?
A. The impact -- well, all the long-term effects, if you like, would have had a range of impacts, health -- but also on the economy in some cases. I mean, there will be an economic effect, obviously, for people who are 56
suffering from Long Covid in terms of their labour market activity, and the like.
MR METZER: Thank you very much indeed, Ms Lombardelli. Thank you, my Lady.
LADY HALLETT: Thank you, Mr Metzer.
Thank you very much indeed, Ms Lombardelli. Sorry. Just trying to pronounce your name made me cough, I'm sorry about that. Thank you very much for all your help.
THE WITNESS: Thank you.
(The witness withdrew)
LADY HALLETT: Right, I think we'll break now, partly so I can cough quietly. Well, not quietly. I shall return at midday.
(11.42 am)
(A short break)
( 12.00 pm )
LADY HALLETT: Mr Keating.
MR KEATING: My Lady, may I call Stuart Glassborow, please.
MR STUART GLASSBOROW (affirmed) Questions from COUNSEL TO THE INQUIRY

MR KEATING: Do sit down, thank you
Could you give the Inquiry your full name, please.
A. Stuart Richard Glassborow.
Q. Mr Glassborow, thank you so much for attending today, 57
Q. Bit of a mouthful, but you were number two to Martin Reynolds?
A. To Martin, yes.
Q. Yes. And today we want to explore with you really to understand the system in which economic information and analysis and advice was provided and fed through you or other means to the Prime Minister and core decision-makers, its evolution during that period, and whether there was any issues with its provision and incorporation, and lastly, and importantly, whether there was any lessons that we, the Inquiry, can learn in relation to that.

So first area, an overview of your role. You have been a civil servant for over 20 years and still are, isn't that correct?
A. That's correct.
Q. Initially working DWP and then, thereafter, in the Treasury, and for three years, 2019 to May 2022, you were on secondment to Number 10 as the deputy principal private secretary, as we just heard?
A. Correct.
Q. Then you returned back to the Treasury and you continue to be there to this day?
A. Yes.
Q. In relation to how a private office works and the role
thank you for assisting the Inquiry with its investigations.

A few things just by way of preamble. First of all, both of us need to keep our voices up. Secondly, pace, if we could monitor our pace because there is a record being kept of what you and I say, and from time to time I may ask you to pause just to control the flow of information, if that's okay. And lastly, if any of my questions are unclear, do please ask me to rephrase them, because l'm sure the fault would be with me.

Your statement, you provided a statement to the Inquiry dated 11 October of this year. It runs to 35 pages, with 50 exhibits. We can see it in front of us, and you have signed it at the back, confirming that it's true to the best of your knowledge and belief; is that correct?
A. Yes.
Q. You have had the chance to refresh your memory in relation to the statement and other documents as well before coming in today?
A. Yes.
Q. Your evidence covers the time that you were the deputy principal private secretary to the Prime Minister in number two's private office, isn't that correct?
A. That's correct, yes.

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of a principal -- or a deputy principal private secretary, we have heard evidence about that, so I'm going to take it very briefly, but is it fair to say it's a key liaison role?
A. It does play a liaison role. The private office -- you did hear about this last week -- is --
Q. Yes.
A. -- that small team, you know, providing direct administrative support for the PM as he discharges his role. You know, arranging meetings --
Q. Yes?
A. -- relaying commissions or read-outs or decisions from the Prime Minister, obviously to the much, you know, bigger unit that is the Cabinet Office and all the other departments in government as well. So it's a sort of small administrative team working around the Prime Minister.
Q. The team is a conduit, and in relation to what you've mentioned in your statement, it facilitates joined-up decision-making, you say this, it facilitates:
"... coordinated, joined-up decision-making ... and to synthesise, track and drive progress on the Prime Minister's priorities across central government." Is that a fair summary?
A. I think yes, it is, obviously working closely with the 60
political team and colleagues in the Cabinet Office as well, but yes.
Q. That phrase "synthesised", it's been used already this morning and it touches upon your statement, and we will return to it, about how information is funnelled through into Number 10 and how that is then presented, synthesised, to the Prime Minister.

As your role as deputy PPS to Sir Martin, you oversaw domestic policies, and Imran Shafi, who we have heard evidence from, he was one of the private secretaries who worked alongside -- underneath you, you were his manager, isn't that correct?
A. Correct.
Q. Multiple meetings. The pandemic consumed your working life ore the period of time you were in Number 10,
I think that's fair to say and to recognise, and you were involved in multiple meetings and multiple types of meetings.

What I wish to draw out are the meetings on an economic front that you were involved in, key meetings. From your statement, we can draw out this: that there was 11 different types of meetings but the core ones, is it not, were the PM's morning meetings, the 9.15 s, and you were involved with HMT, Her Majesty's Treasury, and economy meetings such as the bilateral
not: everyone was broadly carrying on business as usual, we were unaware of the likely scale and impact of the pandemic and therefore treated it as one of the many issues crossing the PM's desk up until late February 2020.

Is that a fair representation of the evidence in
your statement?
A. Yes.
Q. You add this, and perhaps we could bring this up, it's page 17, paragraph 62(a), please. Last three lines:
"To the best of my knowledge, we in
Private Office -- and the No 10 machine more generally -- were not advised of the likely scale of the pandemic and its impacts."

This is at late February.
Just reflecting upon that, and there is a caveat there, "to the best of [your] knowledge", but is that an accurate statement, that the Number 10 machine was not advised of the likely scale of the pandemic and its impacts?
A. I think the point that I'm looking to make here is that in this initial period -- you mentioned sort of January and February -- as you said, Covid was one of the issues the Prime Minister was engaging with --
Q. Yes.

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meetings with the Chancellor, and in relation to those you mentioned that they were on a weekly/fortnightly cycle; is that correct?
A. Yeah -- the PM's bilateral meeting --
Q. Yes.
A. -- with the Chancellor? Yes.
Q. Thank you. So bilateral means Chancellor and Prime Minister?
A. And the supporting teams --
Q. Of course.

Data dashboard meetings, which we have heard about generally, the economy dashboard meetings, which we're going to touch upon in a few moments, and in addition there was regular meetings between you and senior HMT officials, you were the link person between HMT and Number 10.

Before turning to that economic funnelling of information and the synthesising of information, I want to touch upon the initial response of the UK Government. We've heard a lot of evidence about that already, so it's going to be quite short, but you were a person who was there in person actually during this time, and you've touched upon it in your statement. In relation to the initial response of Number 10 in January up until late February, your evidence distills to this, does it 62
A. -- alongside lots of others, you know, including the sort of development of the budget that the Chancellor was to deliver and -- I think on 11 March, and High Speed 2 and 5G and I think some of the things that other witnesses mentioned last week, and at that time -in this time, while I think there is -- you know, there's all the information and analysis that's being discussed in the COBR forums and coming in from SAGE at this time and -- what I don't recall hearing was sort of lots of representations that the sort of Prime Minister's diary should be completely cleared of everything else and that he should be solely focused on Covid in this phase, as opposed to it being, as you said, one of those issues amongst many.

Now, that might sound a bit odd in hindsight now, but I think that was the felt experience at the time.
Q. Just pausing there, in relation to focus, the focus was elsewhere; is that a fair summary?
A. Well, I think there was significant focus on Covid, it was an issue and there was data coming in and the Prime Minister was briefed on it in a way I think you've heard about from -- last week from other witnesses, but there were lots of other issues as well. I mean, you know, genuinely substantive issues on their own terms.
Q. Was it a case from an economic point of view, and that was your liaison with the Prime Minister, was that he at that stage, up until mid-February, was more concerned about the economic effect of an overreaction to Covid?
A. Erm ... I don't know if I would characterise it, his view, like that. Or -- I mean, I don't have a completely clear view of what might have been in his mind then, but I think the idea that one would not want to overreact was something that was -- I mean, I think if he -- I do recall that phrase, and I think he's reflecting some of the advice he received. For example, I think the CCS advice on 28 February, which I think, again, you've looked at a bit --
Q. Yes.
A. -- refers to sort of the need to balance the need -- the desire to take precautionary measures that -- while not overreacting. So in that -- I mean, I think he -I recall him in a sense echoing the advice he received.
Q. Was it little bit more than that, bearing in mind that before events unfolded in Lombardy we -- he was referring to, "Well, is this like swine flu? It's not that serious. There is a danger of overreacting"?
A. I mean, I don't recall him saying that.
Q. No? Not in your daily interactions with him, that's not something which came up?
Q. Helen MacNamara funnelling in her knowledge, enquiries into Civil Contingencies Secretariat, Department of Health plans --
A. From the Cabinet Office, yes, exactly.
Q. Yes. Ben Warner feeding in his review and assessment of the SAGE meeting and the modelling?
A. Yeah, so you've got both those issues --
Q. Yes.
A. -- sort of coming -- as it happens, coming together in one discussion that evening.
Q. And was this a case of civil servants and political advisers really taking over a view of what the strategic direction should have been?
A. Well, the nature of that discussion was to talk through the two issues that we've just mentioned, in particular the sort of latest data from SAGE and what that might imply for I think what's now been described as plan A --
Q. Yes.
A. -- for managing the virus, with, you know, I think an awareness amongst the group of people that there may be a case for pivoting to a different plan in order to protect the NHS, something, you know, more -- closer to suppression rather than mitigation, to achieve that, and also that the challenge may be more immediate than had 67
A. No.
Q. You describe in your evidence that the second phase in the response at Number 10 is when the scale of the problem in northern Italy became clear and intensity of work stepped up in late February; is that correct?
A. Yes.
Q. And then we fast forward to a change in strategy on 13 March, where you were present at a significant meeting with Mr Cummings, Mr Warner, Mr Shafi and Ms MacNamara, on the evening of 13 March, and you recall that, don't you?
A. Yes.
Q. This followed on, as you say, from the SAGE meeting that day. How would you describe the mood in the room amongst this collection of civil servants and advisers?
A. Well, I think it was a very serious discussion, because as -- this was sort of a moment where I think Ben Warner was reporting back from the SAGE discussion, and the -and the -- you know, the latest data from that and what that might mean. And in parallel Helen MacNamara, as you heard from last week, I think, sort of relayed, you know, her new latest understanding of the sort of readiness of, you know, the government wider plans for dealing with the pandemic, and you got both of those things being part of that same discussion, which made it 66
perhaps been appreciated by some people.
But while this is -- you know, it felt like at the
time and talking to you now it feels like a very significant discussion, it is also just some of the Prime Minister's team and someone from the Cabinet Office in effect preparing a meeting or meetings for that weekend, and that was what happened, is the output from those discussions was for us -- for us to -well, convene meetings to prepare to brief the Prime Minister and for him to engage or hear from the scientists directly, meet some of his ministerial colleagues, and those were the meetings that took place on the Saturday and Sunday. So the scale of the issues are significant, but the -- in a sense, it doesn't feel like an unusual process to me.
Q. I don't want to cut you short, but they're long answers, and we'll perhaps try to condense them a little bit more to assist our stenographer.

You used the phrase "pivoting" in relation to the plan, perhaps an understatement. The strategy was jettisoned, was it not, when you went for the meeting with Prime Minister on 14 March, which you touch upon in your statement, but the view was that there was a real need for an immediate lockdown, isn't that correct?
A. Erm, I'm not sure -- I'm not sure -- my recollection is
not that there was the realisation or the view that we need an immediate lockdown. As I say, I think the two key points on the data or what might be implied by the data in those discussions on the Saturday, or the Prime Minister's meetings, related to the need to take more significant measures --
Q. Yes.
A. -- than had been hitherto imagined, and possibly to -well, and to move quicker than had been envisaged. And I think --
Q. Pause there. There's a follow-up question that will hopefully assist you. Two questions which flow from this and then I'm going to move on to our main topic.

Was there an agreement or acknowledgement at that meeting on 14 March that there would be a need for a lockdown?
A. Well, I think the read-out from that meeting says that it was agreed that it was the right time to implement measures sooner than had been envisaged. And then the summary, the read-out from the follow-up meeting, on the 15 th, was that measures should be brought to COBR, the actual official decision-making forum, that meeting happened on the Monday, to take -- you know, to implement advisory measures on working from home, staying at home, not going to pubs and restaurants, 69
a certain date. I more recall discussions happening in real time that led to the sort of announcements on 16 March, the closing of schools further -- later that week, the further restrictions I think that were announced on the Friday --
Q. Pausing there.
A. -- which all then ...

LADY HALLETT: Let him finish, I think it might be quicker in the long run, Mr Keating.
MR KEATING: Forgive me.
A. But then the realisation the following weekend or the advice the following weekend that there was a need to go further and hence the -- what we now know as a lockdown being implemented on the 23rd.
Q. So it was a case more of rolling measures of NPIs which then evolved into a lockdown?
A. Yes, in the light of the --
Q. Yes.
A. -- data being updated and our, you know, increasing awareness of the situation.
Q. The last question on this: was it the case from 14 March that the Prime Minister expressed that there was a need to play for time before imposing greater restrictions such as a lockdown?
A. No, I don't recall that.
ie the sorts of things that the Prime Minister then announced on the 16th.

So sort of looking back at the records, from my recollection, the discussions that weekend played into the measures that the Prime Minister announced on the 16th. Which at the time felt very significant interventions. It's not --
Q. Yes.
A. I can't think of any other time in recent history a Prime Minister has announced those sorts of measures.
Q. So pausing there --
A. What I-- okay.
Q. Was there -- from what your -- the short answer is, well, no, there wasn't a discussion about having a lockdown, there was a discussion regarding an agreement regarding more restrictions, more NPIs; was that the position?
A. Well, I think significant ramping up of the NPIs. I guess the point l'm trying to make is that from after the event we have quite a strong concept of lockdown, what exactly that entails, the different elements of that is sort of embodied in 23 March. I don't -- from my recollection, I don't recall, certainly not, you know, widespread understanding of that being the thing that ought to happen or we ought to get there by 70
Q. No recollection?
A. No.
Q. I'm going to move on to the economic aspects, which is a central aspect of your evidence today.

You mentioned, and we touched upon it already, that HMT, Her Majesty's Treasury, was a core part of your role, and, again obvious, HMT having a central role in government really because of the financial aspect; is that fair?
A. Yes.
Q. You mention at paragraph 31 of your statement that one aspect of your role is to crystallise the options for the Chancellor and the PM in the round, having regard to the choices, priorities and the trade-offs inherent in economic and fiscal policy, and you were the lead between, as we've discussed already, the Chancellor and the Prime Minister in that respect.

Drawing your evidence together on this is that in that sort of crystallisation of the options role, is it right that you would commission and communicate data analysis and advice, prepare meetings, and commission advice as necessary?
A. Yeah. I mean, I think it's the Treasury's job to crystallise the options and, as you say, in the round, ie looking at the interlinkages or the trade-offs
between them. My role, slightly more mundanely, was to sort of help prepare the meetings for the Chancellor and the Prime Minister to discuss those. I mean, you know, for example, as would then be decided or announced by the Chancellor at budgets or spending reviews --
Q. Yes.
A. -- in normal times.
Q. But in any event, you were a key conduit between Number 10 and HMT?
A. Yes.
Q. In terms of what information, what economic information the Prime Minister was receiving via HMT and from other sources, coming in at times through you, you touch upon this at paragraph 36 -- perhaps we could bring that up.
"... I sought to ensure that the Prime Minister ... [had] ... the latest economic and financial information received from HMT ... [appraisal] of relevant economic analysis pertaining to specific options for managing the pandemic; and ... [he was] able to engage the Chancellor on decision-making on economic and fiscal policy ..."

So that he was informed to respond to the Chancellor

How was that done? How did you ensure that he had that information?
A. Well, I'll perhaps work through the three elements 73
Q. -- yes. While we're talking about it, let's deal with
it, because you mention at paragraph 40 of your statement that you sought to systemise the economic briefing for the Prime Minister and you established a series of economic dashboard meetings which ran from June 2020, and these took place roughly every three or four weeks in sequence, and that was in parallel to the reporting of information that was available.

Why did you feel the need to systemise the economic briefing in June 2020?
A. Well, as I say, I think, you know, there's an established practice for the chance -- you know, there's various means by which the Chancellor and the Treasury on his behalf provide this sort of analysis to the Prime Minister in normal times, like directly in meetings or bilateral meetings that they might have together, or through sort of written briefing, but the thought here is just the scale of the, you know, issues and impacts from the virus or the measures taken to manage the virus meant and the speed at which they were sometimes moving made Treasury colleagues and I think that it was worth having -- I think you said three to four weeks, I think there were initially weekly meetings actually. For much of that for 2020, I think there were pretty much weekly meetings, to take the Prime Minister
through the latest on employment, inflation, how different sectors are doing, different regions are doing, consumer behaviour, business behaviour. This al sounds quite dry, but it is the info -- the data that relates to people's lives --
Q. Yes
A. -- and livelihoods.
Q. Well, let's -- we can look at the notes and illustrations so people know what you're talking about. You said there were weekly -- I was quoting you -- three to four --
A. Okay.
Q. -- times a week, but I'm quite happy for that clarification.

In terms of attendees, and we'll look at one in a moment, those who were present at these meetings, is it right it was the chief economic adviser from HMT, other senior officials, and on occasion would the CMO or the CSA be at any of these meetings?
A. So for the most part the Cabinet Office sort of brought these together, so a senior official in the Cabinet Office with the chief economic adviser. On occasion I think maybe some officials from other departments. If some of the data related to sort of businesses, you might have someone from the Business 76

| Department would be present as well, and then I think | 1 |
| :--- | :--- |
| CMO or CSA did attend a couple -- you know, some of | 2 |
| these meetings as well. | 3 |
| Q. Let's look at one. So it's a dashboard which was | 4 |
| prepared to show at the meeting. | 5 |
| INQ000281288, please. | 6 |
| And this is one of your exhibits, and it's | 7 |
| dashboard 14. So we're looking at this as | 8 |
| an illustration of one type of way economic information | 9 |
| was fed through to the Prime Minister. | 10 |
| If we could turn to page 2, please, this is just | 11 |
| a snapshot of what would be referred to -- retail sales, | 12 |
| consumer and business confidence, and the labour market. | 13 |
| Let's look at page 3 just for a moment. The graphs | 14 |
| perhaps speak for itself. | 15 |
| Page 4, at this stage we're 29 October, we have "Eat | 16 |
| Out andMobility". We see there on the graph, the blue | 17 |
| line, that there was -- for the UK average, that there | 18 |
| was a significant increase in eating out at that stage | 19 |
| as a result of that scheme; is that correct? | 20 |
| A. think that's what it shows, yes. | 21 |
| Q. Yes. Perhaps we could deal with, whilst we're dealing | 22 |
| with information, pause and deal with Eat Out to Help | 23 |
| Out, and your knowledge of it from the Number 10 | 24 |
| perspective. We have heard some evidence already this | 25 | 77

in place at the time, or the guidelines that had been developed and announced, and, you know, I think 23 June the Cabinet decided to open, you know, hospitality --
Q. Yes.
A. -- as part of a wider approach of incorporating
a sort of Covid-secure, you know, regime --
a Covid-secure sort of way of living, with, you know, use of table service, restrictions on group size, maintaining safe distance in the space. And I think that was, you know, the wider regime for managing the virus and then this economic policy was designed -I mean, as I understand it reading the Treasury material now --
Q. Yes.
A. -- was designed to sort of fit in within that.
Q. So what l'd like you to do is, putting aside the Treasury perspective at the moment, is from your perspective, Number 10, about your knowledge of this scheme and how it evolved.

It probably flows from your answer already, this was something which was, am I right in understanding, was driven by HMT and the Chancellor as a scheme; is that correct?
A. Yes.
Q. In terms of its formulation, when did you at Number 10,
morning from Ms Lombardelli from the HMT perspective.
Eat Out to Help Out, would you agree, a significant economic measure that summer?
A. It was a -- I think it was a reasonably significant economic measure. It was part of the summer economic plan the Chancellor announced on 8 July, I think, and one measure amongst several, including, I think, a sort of $£ 9$ billion job retention scheme and a $£ 14$ billion business rates support, $£ 9$ billion on grants, sort of $£ 3$ billion, you know, cut in stamp duty, and this measure was one part of that package. I think actually the cost of it was only a few hundred million, so from the sort of purely fiscal scale it was -- you know, I think it was only a few percentage points, as it were, of the overall economic package that the Chancellor did announce at that time, but obviously it was a significant measure.
Q. Yes, significant measure, significant in terms of trying to change human behaviour and to get consumers out into society; is that a fair summary?
A. I think it is. I mean, I recall a bit from the time, but also -- but have sort of looked at some of the documents since in preparing for this, that I think the Treasury and the Chancellor, you know, sought to design the scheme to operate within the wider Covid framework 78
as that sort of conduit with the Treasury, when did you become aware of this scheme was about to launch?
A. I think it was in a meeting on 2 July when the Chancellor took the Prime Minister through in fact the overall summer economic plan that we've mentioned. I mean, there -- at some point in late May the Chancellor had done a very, very high level view of sort of his early thinking, where, you know, he'd mentioned, you know, the idea of sort of targeted tax cuts or a subsidy scheme, sort of that level of detail, but something that looks like Eat Out to Help Out was something I heard about on 2 July.
Q. Yes. And was there no awareness -- or did there become an awareness at Number 10 that there was no scientific analysis of the impact this scheme would have on the virus?
A. I don't recall whether that was discussed in that meeting.
Q. And thereafter we had this period from July until the launch of the scheme in August; was there any knowledge in that intervening period of the absence of scientific evidence?
A. I think I and others in Number 10, you know, did become aware that, as you say, there hadn't been direct CMO, CSA, SAGE analysis or advice on this policy, so we did 80
come to know that.
Q. When -- you say before the launch of the scheme in August?
A. Yes.
Q. And was it the case that a view was taken, "Well, we're going to persist with the scheme in any event"?
A. Well, I don't -- I mean, I can't speak on behalf of, you know, all people who would have had an interest in this. I don't recall, you know, significant sort of representations being made to sort of in some sense revisit the policy. That's not to say that some people didn't have views or -- you know, one way or another at that time, but in the sort of wider context was -- as I say, this was one measure in -- in a purely sort of fiscal sense, quite a small measure amongst the whole wider economic package. And, you know, some awareness that this was the sort of type of scheme that was being implemented in other countries as well.
Q. No more on Eat Out to Help Out.

Let's return back to the dashboard and go to page 5, please.

We're going to look at two more pages on this slide and then put it to one side. Here, again, is the sort of information which the Prime Minister would see, and other key decision-makers. We see "Consumer and 81
discussion at different points about the hospitality sector, the very significant impact of the virus on that sector, and the fact that its workforce is disproportionately young and lower paid, from ethnic minority --
Q. Yes.
A. -- and female, in fact, and that that sort of --

I recall that being the sort of issue that was being discussed off the back of this information.

I think the second thing I stressed -- I would stress as well is that the purpose of this tool was a sort of -- the provision of information, contextual data for the Prime Minister, building on -- I mean, some of -- a lot of this data was in the main Covid dashboard as well --
Q. Yes.
A. -- used in those much more -- even more frequent meetings, but this sort of built that out a bit further for the Prime Minister.

The policy -- the advice on what measures to take to manage the virus, what, you know, restrictions to impose or, you know, how and when to lift certain measures as the virus is abating, that was brought together by the Cabinet Office with input from the Treasury on that policy, and my very strong recollection is that,

Business Confidence" and its negativity during that period. And lastly we see, if we could turn to page 7, which are -- and page 8, please. Thank you.

In terms of the parts of the economy, the sectors which were presented in this information, we can see it was broken down into sectors which could operate remotely, those which required a physical presence of workers and those which required a physical presence of consumers.

That's how the sectors were divided; is that correct?
A. Yes.
Q. And one question is this: in relation to the economic data which has been funnelled through and represented in these dashboards, or other dashboards around that time, did it consider the impact on different socioeconomic groups or different ethnic groups?
A. I think -- I mean, I don't have in my mind the precise content of all of them. We had, I think, around 40 of these meetings sort of through 2020 and 2021, so I can't recall the precise content. I mean, we followed a broad template, but it evolved over time.

I think -- I mean, two thoughts. One, in these meetings is sort of facilitated precisely that discussion, for example there was quite a lot of 82
you know, those key bits of advice from, you know, the Cabinet Office for the Prime Minister, for Covid-O, Covid-S meetings, the main committee meetings you have heard about previously, all included sort of equalities information, the impact of the virus and how that actually itself was having disproportionate impacts on, for example, certain ethnicity minorities --
Q. Pausing there --
A. -- and -- l'll just finish the point --
Q. Yes.
A. -- just on -- and the economic -- you know, the economic measures of closing or opening certain sectors or taking measures in certain regions might have particular impacts as well. So those policy documents did contain that sort of information.
Q. We're aware of the wider information. I was just asking in relation to economic effect in relation to ethnic groups or socioeconomic groups, whether that was presented in a dashboard. Can you do -- can you assist the Inquiry, go back over those dashboards, check what the position is and whether this is a representative dashboard and then we'll know whether that data comes through, please.

Another source of information, economic information, between -- for the Prime Minister was the bilateral
meetings with the Chancellor, and in relation to those, we've heard a little bit about them, they were meetings which took place in any event, they were a regular feature pre-and perhaps post-Covid.

But one question is this, in relation to the amount of meetings going on at that time, 09.15 meetings, Covid-S, the quad, the Cabinet: why was there a need for these bilateral meetings between the Chancellor and Prime Minister only at that time?
A. I think the Prime Minister had bilateral meetings with a range of his colleagues. I mean, he does in normal times and he did in this time. I mean, that is a normal feature of government, for the Prime Minister to meet specific colleagues to discuss issues in their portfolio.

The main items being discussed in these specific meetings was on sort of economic interventions or economic support measures. So I mentioned earlier that, you know, the Prime Minister typically in committee meetings would decide what, how -- what measures to take to respond to the virus, what restrictions to impose, which restrictions to lift. Once sort of that path is set, as it were, at a point in time, there would then be a need for the government to consider what economic measures to take. So, for example, in March 2020 we've 85

What, where they are, in effect, the decision-making meeting is on these economic policy, furlough, scheme for the self-employed, loans, grants, and that is actually I think a pretty long established convention, that on -- you know, it may even be enshrined, I think, in the Cabinet Manual -- that on those sorts of economic policies which in normal times typically manifest themselves in budgets, but here we were having sort of announcements quite -- more frequently than that, those decisions were for the Prime Minister and the Chancellor to take together.
Q. Thank you.

Four remaining topics which we're going to cover before lunchtime, and one of them is synthesiser, your role, and what does that mean?

So you mention in your statement that at paragraph 51 you saw your role as:
"... to ensure input from across government was synthesised in order to help the Prime Minister bring together the range of views -- sometimes opposing -- so that he could make decisions effectively and on an informed basis. This was a two-way process, in a sense that my role also involved communicating the Prime Minister's steers, and decisions, colleagues ..."

And that's something, in a report, we're going to
locked down, the Treasury bring forward a proposal on furlough to support workers at that time, and the sorts of measures I mentioned earlier in summer, economic plan, the tax measures, stamp duty, et cetera, and those tax and spend measures, as it were, conditioned on the wider context as set out -- you know, as determined by the virus, as determined by other decisions, those would be the ones that principally the Prime Minister and Chancellor would discuss in their bilateral meetings.
Q. Could I ask one question in relation to that, which is this: you mentioned that these meetings were in terms largely if not solely for support in relation to decisions and strategy which had been agreed, economic support. Was it ever that these meetings were an area where the Chancellor or the Prime Minister would look to review or finalise a strategy such as lockdown?
A. I think the Prime Minister and the Chancellor did discuss in some of these meetings the question of how to manage the virus, as I imagine the Prime Minister did with -- in his meetings with the Health Secretary and, you know, as relevant to Education Secretary as well.

They weren't the decision-making forums for those decisions. That would be the meetings in -- well, ultimately Cabinet, but the Covid-O, Covid-S committee meetings with the range of ministers in them. 86
touch upon in a moment, is that the synthesisation of information.

Are you content with what you set out there; is that an accurate representation of your role, synthesising information for the Prime Minister?
A. I think it may not be $100 \%$ clear, just to come back to some of what we were discussing a moment ago. I mean, from my role, as me as an individual being the point person with the Treasury and the Chancellor's team, you know, there would be these sort of data flows that I mentioned earlier, weekly briefing, market data and the like, that, you know, I'd have sight of and put to the PM as relevant, you know, new -- you know, as it emerges.

On the bit -- I would just sort of underscore, linking back towards it, that the bringing together of the analysis and the policy on the management of the pandemic, that's what the Cabinet Office did, taking, you know, predominant -- primarily the health data, the scientific analysis, but also, alongside that, the economic data on sectors and region -- you know, different bits of the country, and the like. And that would -- they would bring that together in the papers for the sort of committee meetings. So I wasn't there writing lots of primary, you know, documentation for the

Prime Minister. The sort of much larger team in the Cabinet Office was doing that.
Q. Your role, as we discussed already, was a conduit, not as a policymaker --
A. Exactly.
Q. -- or policy adviser?
A. Exactly.
Q. I want to turn to the Institute for Government report, which you've seen already. It's entitled "The Treasury during Covid. What lessons can be learned from the pandemic?" Dated April 2023. And again, this is the part function of the Inquiry, lessons learned, so I would like your assistance in relation to this. You've seen it already, as I mentioned.

Perhaps we could bring it up. It's INQ000226497, at page 1, please.

And the Inquiry has also heard evidence from
Alex Thomas, who is from that organisation as well. So there we see the front page, and the authors, and it's a 108-page report, we're not going to turn to each and every page, but l'd like you to -- it's probably correct to recognise that the report talks and outlines the positive aspects of the Treasury response. It includes financial support, engagement with other departments. So it outlines some positive aspects to the Treasury 89

Treasury's mindset. I mean, I was managing some of the processes that we're -- we have been talking about earlier. What I do know is obviously the Treasury -you know, the Treasury had the same scientific analysis and information as everyone else in government at this time, and also -- I mean, this obviously relates to a specific period of time. I think there were quite -there were several discussions, sort of committee meetings, to think about sort of future strategy should the second wave come forward. You know, to continuously plan or prepare for that in the summer, which I know the Treasury team helped prepare and the Chancellor participated in, so I think that's my understanding.
Q. Information sharing and data is our next point, let's go to page 6, please, and it should be our second bullet point. It set out what we've discussed already, that:
"... the main responsibility for synthesising evidence from across government to inform central decision making ..."

Is with Cabinet Office.
"But the Treasury, as a powerful player at the centre of government, had an important role to play too and had ability to advocate for and generate better information sharing."

Again, perhaps uncontroversial, but do you agree 91
response
I wish to have your perspective on some of their other observations which maybe fall within that lessons learned category, and one of those is optimism bias, and perhaps we could turn to page 7 in relation to that. I'll bring up the text, I'll read it out to you and I'll ask for your perspective and experience.

Bottom of the page:
"During the summer and autumn of 2020, the Treasury appears to have suffered from an optimism bias that the government's public health advisers did not share ... This led the Treasury to: not implement some relatively easy improvements to support schemes; implement the Eat Out to Help Out policy in summer 2020, which was inconsistent with scientific advisers' assessment of the risk of a second wave; and announce very late the extension of furlough in autumn 2020."

The whole text is there, I've read out most but not all.

From your perspective, from being the conduit, is that a description which you could relate to, that there was a degree of optimism bias in summer and autumn 2020 ?
A. I mean, obviously my role is -- I was in Number 10 supporting the Prime Minister, I find it a bit difficult to comment on the -- what the -- is somehow the 90
with that summary of the roles?
A. I agree with the $--I$ agree with the summary of the roles, I think it says the same thing that we were discussing earlier about the role of the Cabinet Office.
Q. Within that context, if we could pan out to look at the third paragraph, please, it says this:
"There was a stark contrast in the transparency of economic evidence informing ministers' decisions compared with the scientific evidence. Very little of the social and economic evidence that informed ministers' decisions was published, particularly before 2021, and the Treasury shared almost none of its analysis externally, even with trusted experts. This lack of transparency hampered effective synthesis of evidence (and thus decision making) and may have undermined the government's ability to convince the public of the merits of public health restrictions."

Pausing there for a moment, do you agree with that analysis that there was a lack of transparency of information from the Treasury?
A. Again, the perspective I can speak from is sort of within Number 10, and the Prime Minister I think did receive a lot of information in the different ways that we've discussed, and I won't sort of go over them all, again, but, you know, on the wider economic situation,
the economic analysis relating to sort of the measures taken to manage the virus and on options and ideas for economic support. And in the different ways and different forums that we've -- that we've mentioned.

## As I read this, this is sort of perhaps

an observation about transparency not with Number 10 but more widely in government or beyond that, and, I mean, I ... from the role I was doing, you know, that's not something I had so much of a clear view on.
Q. There is one part which does touch upon you, because it suggests this, that this lack of transparency hampered the effective synthesis of evidence, which is the Cabinet Office/Number 10's role. Do you agree with that observation in this report?
A. I don't recall having that thought at the time, no.
Q. If we go -- continue down, please.

LADY HALLETT: I suppose it would depend on who had the information and what do you mean by being transparent. Do you mean telling the public, do you mean telling other people who need to know, I suppose?
A. Well, sorry, as ...?

LADY HALLETT: The synthesis would only be effected if the people who needed the information didn't get it.
A. Sorry, I don't quite follow the point.

LADY HALLETT: No, well, probably I'm not making -93
the document are criticising the transparency of the Treasury, it all depends on what they mean by transparent: do they mean telling Cabinet Office or do they mean telling the public?
A. Yeah.

LADY HALLETT: Sorry, that was the --
A. Yes.

LADY HALLETT: I tell you what you can probably help on. In normal circumstances -- this was obviously a time of national emergency -- in normal circumstances would you expect the advice that the Treasury gives to the Prime Minister and to the Cabinet Office to synthesise for the Prime Minister to be made public at the time, or at all?
A. Well, I think in a sense that's what budget documents or spending review documents do. In normal times the government makes -- the Treasury, you know, sets out a whole bundle of decisions on tax and spending and other measures and sets out the relevant analysis, or indeed, actually -- well, sorry, sets out the relevant thinking and some of the analysis behind some of those policies, with a much fuller sort of exposition on the fiscal and economic impacts context in the associated documents from the Office for Budget Responsibility, now that, you know, that exists, to play that independent --

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MR KEATING: It's probably my fault for -- effectively it's
    this: those questions in the report, you were
    responsible, the Cabinet Office was responsible, for the
    synthesis of the evidence, and the IFG report says --
    after drawing in observations and soundings from
    a number of different sources says that there was a lack
    of transparency at HMT, which impacted, they say,
    Number 10's ability to synthesise the evidence. So
    that's the suggestion. What do you say to that?
A. Well, I think the same point I had earlier. I didn't
have that -- that feeling at the time, so in terms of
the Treasury's input to the Cabinet Office, I --
you know, well, I guess that's my answer. I think maybe
if your point was that before that could the Treasury
have gone about its business in a different way in terms
of what it was gathering or understanding and testing
out with other ... I mean, I find it a bit ... I mean --
    I --
LADY HALLETT: No, sorry --
A. I don't feel that I could sort of comment on how
    the Treasury goes about its business, as it were, before
    it then turns to the Cabinet Office or Number 10.
LADY HALLETT: No, sorry, my point was, and perhaps it's
    unfair on you, it should go to the authors of
    the document, but it all depends -- if the authors of
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        independent role.
    Obviously what was happening at this time was more frequent decisions in slightly more improvised ways.
LADY HALLETT: Sorry to interrupt, Mr Keating.
MR KEATING: Not at all, my Lady.
Information sharing, I'm just going to continue with this theme a little bit longer, if we could turn to page 7, please. It suggests that there was the strategic sharing of information by HMT, and I want to ask you about that.

It says this:
"... the Treasury -- shared analysis strategically to support their particular point of view, with the chancellor feeling he needed to 'make the economic case' as a counter to 'the health case' that the health minister was making. This contributed to decision making becoming a tug-of-war in autumn 2020, which led to sub-optimal decision-making."

So this phraseology regarding a tug-of-war in autumn 2020 -- thank you for bringing that up -- was there this binary or separation between science and Health on one side and the economy and Treasury on the other side as we left lockdown 1 and emerged into summer and autumn 2020, from your experience at Number 10?
A. Well, I think ... I mean, are you thinking in the

September period now?
Q. As we -- as lockdown eased, restrictions eased, and especially entering September onwards, the circuit breaker thereafter, was there this, as these authors described it, a tug-of-war between Treasury on one side and Health on the other side?
A. I think in September obviously cases were picking up, and the emergence of the second wave, perhaps foreshadowed by the experience of other European countries, that's the sort of situation we were -- we were in, and that was a challenge that was faced, you know, over a couple of months, right up until the final decision to do the second lockdown at the end of October, and so it was discussed, you know, multiple times in multiple forums through September, in October, the PM being briefed by the medical -- you know, the Chief Scientific Adviser and Chief Medical Officer meeting independent scientists and I think meeting -you have heard about from other witnesses, and discussing the circuit breaker idea, and then in committee meetings where ultimately he decided -- the Prime Minister -- not to do the circuit breaker, to do other measures, the rule of six at the start of September, toughening the tier system in October, I think other measures about 22 September as well. 97
especially?
A. I think -- I mean, I've mentioned that the discussions took place in multiple -- in multiple meetings and ahead of the Prime Minister making decisions at sort of different points in time on the circuit breaker idea and then, ultimately, 30 October on the second lockdown, and there were, well, as we said earlier, debates in those meetings.

I think -- I mean, it's also the case that -I mean, take -- you mentioned sort of the whole period of 2020, the ability of the sort of the Cabinet Office to sort of have a -- its sort of central -- its ability to bring together the analysis from the science and the health and the economic side to inform the advice it was synthesising, it was bringing together, did, as you would expect, from this period, improve over time, through 2020 and into 2021.

So that's my main thought on the last point here.
Q. So is this fair, your evidence is that things improved?
A. In terms of the ability -- the bringing together of all of this information. I think it was all on the table at the relevant points, but the sort of sophistication of that analytical integration did improve through 2020 into 2021, informing the second roadmap, and the nature of the sort of overall government operation in 2021 felt

And in -- so discussed in multiple forums, getting information from lots of angles. I think, you know, it's known that the scientific advisers were -- were -you know, like SAGE, advocated a circuit breaker I think on the 21st --
Q. Yes.
A. And I think it's known or the -- you know, the Chancellor is on record, he did an interview in March 2021 saying he was opposed to the circuit breaker. So I think those positions are -- you probably know them.
Q. Well, asking your -- giving you the opportunity to give evidence from your perspective as Number 10 as somebody who was synthesising information from an economic perspective, and those discussions which were taking place, the last point on this, which is set out at page 61 of the report, says this:
"Interviewees involved in discussions over social restrictions variously described central decision making for much of 2020 as 'a bit of a Punch and Judy', 'enormously chaotic', 'a tug of war' and simply '[not] a proper bringing together of science, public health and economic considerations'."

Now, is that a fair assessment, from your perspective, of those discussions in the autumn of 2020 98
a bit different than it might have done in March 2020, and I suppose that's not necessarily a surprise given the nature of the challenge we faced.
Q. We're now going to demonstrate the economic efficiency in use of time, three points, five minutes.

The first point is this, let's open up, please, INQ000273901 at page 373. You've seen this already and it's really just to assist you in relation to a point I'd like to ask you about.

So that's INQ000273901, and that should be page 373.
It relates to this, while that's being brought up, as you've seen this already, is that: was HMT, to your knowledge, the way that it was pressing economic interests in discussions, did it create an environment where the Treasury and the Chancellor were pejoratively termed as "pro death"? Was that a phrase that you heard -- I'm not suggesting you used it -- you heard being used pejoratively in and around Number 10?
A. I don't recall that phrase, no.
Q. And that there is an entry which you have seen which is in front of you, a hard copy, at a meeting on 25 January 2021, the PM is recorded as saying that he wants Tier 3, March 1, Tier 2, April 1, Tier 1, May 1, and nothing by September, and he ends up by saying the team must "bring in the pro death squad from HMT".

A meeting, an economic meeting, this is Sir Patrick Vallance's dairies, you've got the entry in front of us, I'm sorry you don't have it on the screen in front of you, but do you recall the phraseology by the Prime Minister referring to HMT as the "pro death" squad?
A. As I say, I think it refers to a meeting a couple of years ago. I don't recall that specific phrase.
I mean, I see that this is from Patrick's notebook, I wouldn't dispute what he has recorded but I don't recall the phrase at all.

I mean, I think -- I mean, is it helpful to say a bit more about what's going on at this time, or do you want to move --
Q. No, no, thank you. I'm just asking for your recollection.

Second, penultimate, point is the interests of the elderly. In the discussions especially in the autumn of 2020, do you recall the Prime Minister referring to the interests of the elderly, how effectively older people should accept their fate and tell the young to get on with life and the economy going.

Was that something in your dialogue with him that emerged in discussions?
A. I think this is another extract from Patrick's diary on 101
and one of the matters in that report which we've touched upon, we don't need to bring this screen up, is whether there should have been an economic or socioeconomic equivalent of SAGE to assist decision-makers with analysis of the trade-offs of decision-making.

I'm going to ask your opinion, because you were at
Number 10, now you're back at HMT, what's your view in
terms of a recommendation or lessons learned of an economic SAGE, so to speak?
A. Well, thank you, I mean, I'm aware of the idea, I've seen it come up in some of the other evidence here, it's -- I don't think it was something that was ever formally proposed to the Prime -- as far as I'm aware, to the Prime Minister or indeed something that he proposed to the Treasury, as it were.

But in terms of my perspective, I think -- you know, my understanding is that SAGE itself filled a gap that existed in providing sort of scientific advice on the virus and there's no other element of government that in place, standing function, to do that, and therefore it was obviously necessary for SAGE to take that role.

On the economics, the sort of Treasury exists to do that in some sense. You've got a standing economic unit within the Treasury -- I didn't see the chief economic

26 August.
Q. It is.
A. I mean, I know that --
Q. We can bring that up if you wish. That's INQ000273 --

LADY HALLETT: We don't need to bother. Did you hear it, Mr Glassborow, or not?
A. I mean, this is, I think, from a WhatsApp group that I wasn't part of, on a date -- or time when I was on leave, so I don't have an awareness of this --

MR KEATING: I'd like you to just bear with me and listen to the question a little bit more. I'm not suggesting you were on a WhatsApp group, but Sir Patrick Vallance in the two extracts you were shown refers to the word "obsessed", the Prime Minister "obsessed" by this. Was it the case in your -- as the economic conduit dealing with him, that he ever used that phraseology referring to the interests of the elderly?
A. No, I don't recall him using --
Q. I'm asking for your recollection. It's not written down on a piece of paper.
A. No, no, I don't recall -- I'm just thinking about that period of time. I don't recall that sort of phraseology in the space that I think you're referring to.
Q. Thank you.

Last question, and turning back to lessons learned, 102
adviser's evidence earlier, but -- I mean, she may disagree, may have disagreed -- that -- you've got the economic -- who are plugged into the Office for Budget Responsibility, the Bank of England, international groups such as the IMF, the OECD, think tanks, academics, and so in that sense, for the sorts of products we were looking at earlier, like those dashboards, they are bringing together information, data and analysis from all of those sources, following a sort of playbook or way of working that I think has been -- that I would recognise from having been in the Treasury previously and so feels -- feels familiar.

Now, I can obviously understand and I know I think in their corporate witness statement the Treasury referred to sort of, you know, market sensitivities of putting out, you know, certain information at certain times, but, I mean, my own personal reflection is that, you know, in a sort of fast-moving crisis, unprecedented situation such as a pandemic, I could imagine the sharing or testing of some of that in a bit -- some of that work a bit publicly than might normally take place. So I think the function and the role and the work already exists, it's -- well, it links back to your point on transparency earlier.
MR KEATING: External transparency.
Mr Glassborow, very grateful.
My Lady, I'm sorry we've encroached beyond lunchtime, but unless you have any questions that's all I wish to ask.
LADY HALLETT: Thank you very much indeed, Mr Glassborow, thank you for your help.
We will break now and I shall return at 2.05.
(The witness withdrew)
(1.02 pm)
(The short adjournment)
( 2.05 pm )
LADY HALLETT: Mr O'Connor.
MR O'CONNOR: My Lady, may we please call Dr Ben Warner.

## DR BEN WARNER (affirmed)

Questions from COUNSEL TO THE INQUIRY
MR O'CONNOR: Dr Warner, do take a seat. Could you give us your full name, please.
A. Ben Warner.
Q. Dr Warner, you have kindly prepared a statement at our request, which is up on screen, and it runs to some 80 or so pages. I know that you've read it through before you became here today, and there are a couple of very small amendments that you want to make to it, which I'm not going to ask you about because they really are very minor indeed.

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but you refer in your witness statement to machine learning being one of the matters at least that you focused on at that stage?
A. Yes.
Q. You also say that in parallel, so at the time after 2015 that you were working with your brother, you were also advising both government and also the commercial sector on data science, artificial intelligence, matters like that?
A. As part of my work as an employee of Faculty, I advised government FTSE 100 companies and fast growth start-ups, as it says in my witness statement.
Q. I see. So it was at that time but I was perhaps wrong to say it was in parallel --
A. Yes.
Q. -- it was part of your job?
A. Yes.
Q. Thank you.

So moving forward a little bit in the chronology,
then, you say that you were recruited to work at Number 10 immediately following the December 2019 election?
A. Yes.
Q. Is it right that you were recruited by Dominic Cummings?
A. The conversations I had with were Dominic Cummings, yes. 107
Q. We don't need to go into the detail of your work there, 106
Q. And the purpose of your employment, the whole idea was that you would try to push forward the use of analysis and technology in government, drawing no doubt on the experience we've just mentioned?
A. Yes
Q. It is right, isn't it, that you had worked on the

Vote Leave campaign a year or so before the 2019 --
A. Yes.
Q. -- election? And is it right that you therefore knew

Dominic Cummings from those days?
A. Yes.
Q. Presumably you also knew Boris Johnson as well?
A. No.
Q. Had you not come across him during the Vote Leave campaign?
A. I believe I had never -- I had never spoken to Dominic -- sorry, to Boris Johnson during the Vote Leave campaign.
Q. Right. And just to finish off on the start, as it were, of your experience in Downing Street, you describe in your statement that you were, as a matter of formality, a special adviser, but you emphasise that it wasn't your role to advise on political matters in the way that we might normally expect of a special adviser, indeed you say you had no expertise in the wider Westminster 108
political ecosystem; is that right?
A. I mean, how l've described it in my witness statement is probably the most precise I can be.
Q. Yes. Is that a fair summary that I have just given?
A. Yes.
Q. Tell us this: when you started your job, then, in December 2019, how were you expecting it to develop, what were you expecting to be engaged on during your time at Downing Street?
A. I treated it like any other engagement that l've done previously. Often companies that lack expertise in these areas understandably don't know the best way to move forward, so the first part was just to learn the sort of state of the landscape at that point in time.
Q. Of course we're all conscious of the dates, and within really a month or two of you arriving in Downing Street, the pandemic began and a large amount of your time, not all of it, as you explain in your statement, but a large amount of your time was taken up with matters relating to the pandemic, in summary?
A. Erm, I think that over the early period that is true but towards the later period that would not be true.
Q. Yes. And just to be clear you in fact left Downing Street in May of 2021?
A. Sorry, I was referring to the later period of my time in 109

12 February, was the first occasion when you, as it were, had a formal involvement in the sense of an appointment in your diary requiring you to undertake something to do with the pandemic?
A. Yes, my calendar especially over that early period probably is not a great reflection of my activities, but, like you say, the first calendar that we can show is definitely Covid is that Operation Nimbus exercise.
Q. As we'll hear, and we'll come to this in a bit more detail, after that, so after 12 February, you started to attend scientific committee meetings, for example SAGE, but I think, as we'll hear, there may have been other committees as well, and so the rhythm of your involvement increased over that period?
A. Yes.
Q. Your statement describes, and this is really one of the themes that I want to explore, how you became convinced that the mitigation strategy which we've all heard about and which was being pursued at the time was flawed in the sense that, as the understanding of the pandemic developed, you became convinced that it would lead to an NHS -- to the NHS being overwhelmed, which would itself cause, greatly increase fatalities; is that right?
A. I became convinced the mitigation strategy was the

Number 10, not the later period of the pandemic.
Q. Yes. So it's right that you left Downing Street in May 2021?
A. Yes.
Q. So just the point you made, the early period, you mean, shall we say, the first half of 2020 ?
A. Yes.
Q. And then your involvement from later on in 2020 and early 2021 was reduced?
A. Yes.
Q. Thank you.

Now, let's talk, then, about that period for the first half of 2020. And just by way of context you describe in your witness statement in the very early weeks of the year being engaged in other projects. Of course you probably -- well, I think you say you had heard of the pandemic starting in China from the scientific press, but it wasn't a matter of everyday concern for you in early January. You refer, for example, to working on the HS2 project during that period?
A. Yes.
Q. But you did quite shortly thereafter become involved in the day-to-day response to Covid-19, and it may have been that Exercise Nimbus, which took place on 110
incorrect one, yes.
Q. Was that at least partly to do with the fact that it would cause NHS overwhelm?
A. Yes.
Q. Thank you.

So, as I say, I'd like in a moment to review what you were doing, what took place, the notes you made during that period, with that being at least one of the issues we focus on.

Before I do that, I wanted just to raise a couple of short introductory points. The first, can we go to paragraph 95 of your statement, please, on page 27. It's the sentence or two at the beginning of that paragraph, Dr Warner, you say:
"It is not necessary to perform large scale simulations of an epidemic to understand the main effects of a mitigation versus a suppression strategy. Simple calculations law allow for reasonable approximations of the outcome, and I would have been carrying out calculations of this type."

Now, we've heard a lot of evidence, Dr Warner, about modelling and we've heard about how complicated and, if you like, inaccessible other than to experts those modelling processes can be.

Are you trying to make the point here that one can 112
understand in broad terms things like the difference between the mitigation and the suppression policies, strategies, without actually needing to undertake complicated modelling?
A. Yes. I think, you know, the -- as discussed in my statement, I'm really talking about reasonably simple epidemiology.
Q. Yes. Just to give a sort of example of the point which you may well be trying to make, can I ask you to look at an email, please. Just to make this clear, this isn't an email that you were party to at the time it was sent. The Inquiry has already looked at it. It was an email sent in January, on January 25, by Professor Woolhouse --
A. Yes.
Q. -- who the Inquiry has heard from, to Neil Ferguson, who I know you knew at around this time, and also Sir Jeremy Farrar.

We see here that he is sharing some concerns that he had at that early stage about Covid and asking himself the question, "how bad is it going to get", and referring to what he describes as " 2 key numbers" which he had seen in the WHO statement, that is R, the reproduction number, yes?
A. Yeah.

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but the other two are true.
Q. Right. Thank you.

Let's move on, then, and look back at your own personal involvement, and we can do that, if we may, by going to paragraphs 32 and 33 of your witness statement, to start with, on page 11.

We've touched on this, but you describe at -- it's at 33 where you say that the first, as it were, diarised event was this Nimbus exercise. In the paragraph above you say that you very likely came across Covid in meetings or discussions before that but you can't pin that down now.

So Nimbus on 12 February, you refer to being an observer there, and it was, as we have heard, a ministerial tabletop exercise. Do you remember where it took place?
A. In COBR.
Q. Right. As you say, the objective was to expose ministers to decisions they might be expected to take during a pandemic in the reasonable worst-case scenario.

Now, we've heard something about that concept of a reasonable worst-case scenario. What did that term mean to you or does it mean to you?
A. At this time or now?
Q. At the time.
A. I'm not sure how you get the timescale of the epidemic, 114
A. At the time, I -- it's -- I -- it ... in this meeting, actually, I can't tell you what I thought it meant.
Q. Well, let me put it this way: I'm sure you knew that this was supposed to be a "reasonable worst-case scenario", and that's in the slides and is -- we will see was discussed at the meeting itself. So did you understand that the scenario being discussed was something that was predicted as likely to happen or as something that might happen, perhaps the worst sort of end of the spectrum, or do you not know?
A. I can't speak to that.
Q. All right.

Let us go, then, to some of the documents that are associated with the Nimbus exercise, and to start with perhaps we can look briefly -- because we did look at this document at the end of last week -- at the briefing pack, which is INQ00052022.

I'm sure you've looked at this document recently, Dr Warner, but do you remember seeing it at the time?
A. Yes.
Q. Let's go, if we can, first of all, to page 7, where we see what's described as the synopsis, and we will note -- we did look at this at the end of last week -first of all, the first bullet point, the notional date was 14 April, so they were projecting it two months 116
ahead, because we know that the exercise was actually on 12 February.

Then there were various details given about what is supposed to have happened by then and what is forecast, and we can see the penultimate bullet point:
" 8,500 deaths to date ... however there is a lag in data ... Case Fatality Rate ... of approximately $2.5 \%$ of clinical cases ( $1.25 \%$ of the total population)."

And in terms of actual numbers, we see in the last bullet point it's expected 840,000 excess deaths over the 16 -week wave of the infection, assuming -- there is that term we discussed -- the reasonable worst-case scenario.

Those of course are very high numbers indeed, aren't they?
A. Yes.
Q. And they must have made an impression on you at the time?
A. Erm, as I say, in my statement, most of the -- my reaction is in hindsight. I mean, it was a fictional exercise.
Q. A fictional exercise which was dealing with a very extreme set of factual events.
A. I don't remember more than I put in my witness statement.
you exhibited to your statement, along with very many others. I didn't raise it at the end of last week, and suggested that we hadn't seen a document of this sort. In fact it had been disclosed, and we did have it. So let's look at it now.

First of all, could I just pick up on the timing,
Dr Warner. You may or may not remember much about this,
but it's quite noticeable that the exercise started
at -- can you see, that's right -- 16.45 , so quarter to
5 in the afternoon? Do you have any memory as to how long it lasted? If it started at that time, one might think it wouldn't have lasted more than an hour or two, but can you help us at all?
A. No. No.
Q. Let's look on, then, please. We see a list of attendees, that Matt Hancock was in the chair.

If we go over the page, please, we can see your name on the right-hand side; yes?

Then I'd just like to take you to one or two references, starting on page 3 , please, the first numbered paragraph. We see that the exercise was started with what's described as a "current situation" update, and a little more detail is given about the notional situation than we saw in the slides.

So, for example, we can see an estimate that there
Q. Okay.

Let's just look over the page, the last page on this document. This summarises the position in graph form rather than in the bullet points on the page before. We see, don't we, a fairly familiar type peak. Most of it is projected because the April date when the exercise was supposed to be taking place was still in, as it were, the foothills of the development of the pandemic on the scenario at Nimbus; is that fair?
A. Yes.
Q. We see the line. You say in your witness statement that you knew this anyway, but looking at this peak, it's clear that what is contemplated is some form of mitigation strategy because you don't see any sense in which the wave is being suppressed, if that is the alternative strategy?
A. Yes, I do say that. It's important to recognise that I do say that in hindsight; I don't remember what I was thinking at the time.
Q. All right

Let's go on, if we may, to another document which in effect is a set of minutes from the exercise, although I'm not sure one actually sees that term used in this document.

Just to be clear, this is actually a document which 118
could be as many as 1.6 million further cases in the week on which the notional exercise was taking place.

If we go over the page, we see, just again to give us a sense of scale of the type of emergency that was being exercised, paragraph 3 :
"DCMO emphasised that the week beginning 13th May may be the peak week and 7.3 million new cases would arise in that week, not including those who had not yet recovered ... The expectation was that over the course of the pandemic there would be 33.5 million clinical cases."

So, as I say, putting some numbers to the broad outlines in the slides.

Clearly, if you like, a population-level pandemic was being contemplated; yes?
A. Yes.
Q. Then if we just look further down that page and on to the next couple, we can see that the discussions seem largely to have focused around how such an enormous series of infections were to be dealt with by the various different parts of the state that were represented at the meeting, in particular the NHS.

So, for example, at paragraphs 7 and 8, we see being picked up the point that was raised towards the end of last week about the NHS needing to triage by resource,
as it's put, so not having the capacity to triage or to treat everyone that came through the door, needing to use their resource only on some people.

Paragraph 11, reference to the fact that there would be competition for beds between new patients and old patients; do you see that?

Can I just ask you, do you have much of a memory at this sort of discussion at the exercise, Dr Warner?
A. The first thing I'd say is that I don't -- these minutes, I'm not sure I saw at the time. I think if they were referenced in my witness statement, it was a reference to show that I was there, rather than because I have these notes.

My recollections of the exercise as a whole is contained within my statement, that I remember thinking that it was a serious -- obviously a massively serious threat, and that I didn't think this stress tested the government's plans in any serious way. Past that, I don't have any extras.
Q. All right. Well, l'll just take you to one more
reference, in part so that my Lady can see it.
If we can look over two pages, please, to page 6 at paragraph 28, continuing the theme, really, there's a reference to the Home Office noting the "social consequences of the decisions, effectively rendering it 121
eyes over the types of lessons that are identified here, looking on the column numbered 1 , "Policy issues for further discussion", we see, for example, three bullets down:
"Mental health support for those involved in strategic decision making of Covid-19 ...
"Consideration of possibility of public unrest ..."
If we zoom out we would see that there are other similar considerations in the other columns, for example, at the top of the send column, a need for the Moral and Ethical Advisory Group to advise on the types of decisions that might need to be taken.

The point I wanted to make about this, Dr Warner, and ask you about is that there's plenty of consideration of unrest and difficult decisions to be taken, but there doesn't seem to be anything about the fact that the NHS might be collapsing and trying to do anything to stop the NHS collapsing.

Do you remember at all, either at the meeting or afterwards, any discussion about the fact that what had been discussed at the exercise seemed to be a series of events involving the NHS collapsing?
A. I don't remember conversations in the room. As I put in my statement, that I just remember it just being overall not a serious attempt to stress test the government's
into a 'survival of the fittest' situation".
What we certainly seem to see from these minutes, Dr Warner, and I appreciate you're saying that this isn't all in your memory now, but do you agree that, at least looking at these minutes now, it is apparent that what is being discussed is a disaster, a sort of medical disaster which either, in fact, involves the NHS collapsing or at least a situation which is very close to the NHS collapsing?
A. Yes, in this hypothetical scenario everyone is discussing that.
Q. Yes, I mean, if you're talking about fighting over beds and survival of the fittest and so on, that's in true where you are, isn't it?
A. Yes, in this hypothetical scenario.
Q. Hypothetical, absolutely.

May I direct you to another document, please, which is document INQ000056150, which is a CRIP, and we've been taken to page 14 of it, which is the page I wanted to go to. These are the "Lessons Learned", or at least some of the lessons learned from Exercise Nimbus.

Let me ask you this: did you see this document, do you think, at the time, or --
A. No, I can't speak to it.
Q. No. Well, let me just show you it, and just casting our 122
response.
Q. What do you think might have needed to take place if it was going to be such a serious attempt?
A. I'm not an expert at war gaming so I don't think I should speak to that.
Q. Well, in general terms, I mean, you say it wasn't a serious attempt to stress test the arrangements, what would you have wished to see or do you really not --
A. I think that you're -- it's not -- I'm not an expert in crisis response, I don't know the right way to do emergency planning or how to stress test these responses. This is the only meeting of this type l've ever sat in, therefore I can say to you my opinion at the time but not necessarily the right way to do it.
Q. No, but your opinion at the time was that it wasn't a very effective --
A. Yes.
Q. -- or deep exercise?
A. Yes.
Q. Let me switch back to this mitigation strategy that was in force at the time and which -- and ask you about your understanding of it.

In very broad terms, the purpose of or effect of the mitigation strategy is, is this right, to allow the virus to run through the population in order to acquire 124
herd immunity? Right, okay so far?
A. Carry on.
Q. Well, let me carry on. Where the peak of the curve is reduced so far as possible to mitigate the death toll but not so much as to prevent the population acquiring that herd immunity.

There's an extra element I want to add, which I know appears in some of your documents rather later in the chronology, and that is the need perhaps to prevent the NHS being overwhelmed.

Did you understand back in February, at the time of Operation Nimbus, that preventing the NHS being overwhelmed was a critical part of the mitigation strategy?
A. At this point in time, no, I did not think I did know that.
Q. Do you think that -- applying a certain amount of hindsight, do you think that in fact that was the policy at the time or do you think perhaps it wasn't?
A. I don't know what the policy at the time was.
Q. Did it appear to you, at least from the Nimbus exercise, that the need or a need to stop the NHS being overwhelmed was in fact at the top of people's minds during that exercise?
A. I think from the Operation Nimbus slides, you can 125

You describe here, Dr Warner, that as you were leaving COBR where the Exercise Nimbus had happened, you had a conversation with Patrick Vallance in which you suggested that you should start to attend SAGE meetings. He thought it was a good idea, and thereafter you did regularly attend SAGE meetings.
A. Yes.
Q. Why did you suggest that you should attend SAGE meetings?
A. I thought that it was a good idea for me to have a better scientific understanding of the pandemic.
Q. Did you feel at the time that you might be missing something or did you just think, "This is now obviously serious, this is somewhere where I can get more involved"?
A. I think that it was about making sure that I had a clear understanding of the current scientific evidence.
Q. So SAGE meetings you then attended regularly. I think in fact the first one was the next day.

If we can look just to carry on with this theme at paragraph 44 , which is over on the next page, thank you, we can see that you only a week or so after that started attending COBR meetings as well.
A. Yes.
Q. You also refer to civil contingencies meetings
clearly see that a mitigation strategy is the one that the government is pursuing. Why it is pursuing that I think is not in those slides, and I do not remember further discussion on that.
Q. You see, one -- let me just ask for your reflection on this. One explanation for the fact that, as far as we can see, the exercise doesn't really seem to have grappled with trying to stop the NHS being overwhelmed, either in the minutes of the meeting or in the lessons learned, may be that it was regarded as something that was perhaps inevitable or at least it couldn't be stopped and so there was no need to spend time worrying about it. Do you think that might be an accurate description of the view at the time?
A. I think that it's clear from those -- the numbers in those graphs that are presented that in the reasonable worst-case scenario the NHS would struggle, and I believe that is actually in the Nimbus slides.

Whether people saw it as inevitable or not, I don't know. At that time I'm not sure I would have formed a view.
Q. No. Well, that's very fair, Doctor, and let's carry on with the chronology, then, if we may.

Let's look at your witness statement first, and at paragraph 39, please, on page 12.
separately from COBR meetings. What were they?
A. I don't know.
Q. They may have been sort of occasional, ad hoc civil contingencies meetings, perhaps?
A. I believe this might be a quote from the email.
Q. Right, I see.

Then, I'm not going to take you to passages in your witness statement, but you -- is it right that you also attended, first of all, SPI-M meetings?
A. I believe I did attend SPI-M meetings, but not to the same frequency of SAGE.
Q. I see, and what about SPI-B meetings? You do refer in your witness statement to having a meeting with SPI-B. I'm not sure whether you meant that you were a regular attender of their meetings or not.
A. I believe I had a couple of conversations with James Rubin. I don't think I ever attended SPI-B.
Q. All right.

But in any event, we -- it's fair, I think, to say that from around this period you did start to attend these series of meetings that we have just discussed, certainly SAGE, COBR and some SPI-M meetings?
A. Yes, although I would -- I'm not sure about SPI-M before the -- say March 23. My memories of SPI-M is post lockdown.
Q. Can we take it that your scientific training meant that you were able to engage with, understand the discussions at these meetings?
A. Yes.
Q. Were you welcome at them?
A. Yes.
Q. Did you act as a conduit between the scientists in these meetings and Number 10 and the people you worked with there?
A. Erm ... it's fair to say that, you know, I discussed things with the scientists, but I was also aware that it was important that I did not speak for Patrick or Chris in their roles as CSA or CMO.
Q. One of the sort of systemic issues that the Inquiry is looking at is how well the system of passing information and views from SAGE and the other committees on the one hand up to the decision-makers in Downing Street worked, and we know that a very key part of that was Chris Whitty and Patrick Vallance.

So did you see yourself as being an extra means by which the information could pass from the committees up to Downing Street, or did you in fact make sure that that wasn't the case?
A. Erm, I did not see myself as an extra means. Obviously by listening to SAGE and talking to scientists I had 129
Q. Are you able to give us an example of that sort of concern or episode?
A. The reason I speak to that is because I sent an email to that regard in -- just after lockdown, for specific instances, but no, I can't speak to it.
Q. All right.

Thank you, we may come back to that issue in due course, but let's take the chronology forward a little bit and go through towards the end of February. Now you are attending regular SAGE meetings, and it's right, isn't it, that the picture about how the virus was taking hold in the country was becoming clearer during this period, in particular it was that the view of SAGE that sustained community transmission was present was hardening during the latter half of February?
A. I don't think that's true.
Q. Tell us what --
A. I think that 2 March SPI-M say it's likely and it's almost certain over the next two weeks, but I don't know if that's true over the mid to late February period.
Q. All right, I think there was some -- I don't disagree with your -- what you say about early March, but I think there were some earlier references in February where less strong views were expressed on SPI-M.

But be that as it may, the view, certainly the
an informed view and I participated in conversations.
Q. Did you feel at the time that there was in fact any sort of shortfall, or deficit, in the way that information was passing between the committee meetings up into Downing Street?
A. Throughout the pandemic I thought that there was a lack of scientific capability within the different teams and groups that I was working with. And that --
Q. Just pause there for a moment. Do you mean a lack of scientific capability on SAGE or in Downing Street?
A. Oh, no, sorry, I meant for -- that was the -- generally across government. Obviously the people on SAGE are very good at what they do, they are very thoughtful scientists and, as I say in my report, I spent time talking to them to make sure I was as informed as possible as to their views.
Q. Sorry, I interrupted you, you were saying that you did think there was a lack of scientific understanding in the government departments you were working in?
A. In general. And also within the specific instance I do think that within the, you know, let's call it sort of COBR/Cabinet Office, that I was continually concerned about their understanding of what SAGE was saying and how that was being translated into the documents that were produced for ministers.
picture was becoming clearer during February. Do you agree with that?
A. I ... I think that ... | think that's a difficult statement to make without looking at the evidence.
Q. Let me ask you a different question, which is this time not about the development of the pandemic, but about the question of the NHS and whether it was likely to be able to cope with whatever was coming down the line.

Now, the evidence we've heard from a number of scientists on SAGE and also on SPI-M, as you know many of them doubled up, was that it was becoming clear during February that the NHS was likely to be overwhelmed at the peak of the pandemic. For example, Professor Medley used very much those words. He said:
"Throughout February ... it became increasingly clear that NHS capacity in the UK would be overwhelmed."

You were at the SAGE meetings, perhaps not the SPI-M meetings that early; is that something that you picked up from those meetings?
A. Apologies, are you talking about the reasonable worst-case scenario or a central forecast?
Q. A central forecast.
A. I'm not sure there was a central forecast at this point.
Q. No, well, that's rather the point. It may be that it wasn't set down as a central forecast, but it was the 132
view that was being formed by the members of the committee. You were there, I wonder whether you picked that up in discussions at the time or not?
A. I have no memory of that, I'm afraid.
Q. Because one of the issues with both certainly SPI-M and SAGE is that the consensus statements that emerged and were then passed on to Downing Street and other government departments perhaps didn't capture the full depth of view being developed on those committees.

Now, to take this as an example, this is something that we asked Professor Medley about, because we looked at the SPI-M and SAGE minutes and they didn't reveal the type of view that he was expressing about the NHS during February.

Do you think, either in that instance or others, that the consensus statements, the minutes, didn't fully reflect the discussions being held?
A. Erm, I ... I don't know if I was seeing the minutes at this point, and $I$ also don't remember the minutes at this point.
Q. Do you have any memory at all of a developing view about whether the NHS would be able to cope with the approaching pandemic during February?
A. I remember discussions about the sort of developing evidence around the virus, about whether, you know -133

Dr Warner. I'm going to take you to a passage in these notes in a moment, but you have, I think -- you had a habit of keeping a notebook with you when you were at meetings, and you obviously kept them, and in preparing your statement you have gone back to them and done the best you can, because we don't always see dates on the pages, to identify which notes refer to which meetings. Is that right?
A. Yes.
Q. So if we can go to page 17, please, you say in your statement that, having done that exercise, you think these are the notes that relate to this meeting on the 27th that we were just discussing.
A. Yes.
Q. First of all, at the top of the page, we see:
"Case fatality 2\%
"Infection rate ..."
Do you mean the infection fatality rate there, of $1 \%$ ?
A. I don't know. I mean --
Q. That is --
A. -- that's my note.
Q. Or it's the overall fatality rate of $1 \%$ which you have referred to in your witness statement.

In any event, just looking a couple of lines down, 135
obviously case fatality rate is not the number that matters, right, it's the infections fatality rate, and that is a hard number to estimate, and I remember people talking about that, talking about the fact that actually it was like there was asymptomatic transmission.

I think that a large number of these numbers, once, as you pointed out at the start, put into these simple equations, inferred that the NHS would be overwhelmed, but I do not think I ever saw a central forecast at this time.
Q. Well, it's very much that sort of soft inference rather than a hard-edged forecast that I want to ask you about, Dr Warner.

Let me take you to a few of your documents relating to this period. We can actually start by going to paragraph 52 of your statement. Yes, we have it there. You refer at the bottom of the page to a SAGE meeting on 27 February. Do you see that?
A. Yes.
Q. And you refer there to the planning assumptions: in the reasonable worst-case scenario $80 \%$ of the UK population become infected with an overall $1 \%$ fatality rate.

Now, your notes of this meeting you have provided, and perhaps we can look at those, it's INQ000215664, please. Perhaps we could just introduce these,

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can you see the reference to " $80 \%$ infection" and
" $40 \%$ symptoms"?
A. Yes.
Q. Does that suggest a discussion about asymptomatic infection at that point?
A. Looking at that, I think that this is a discussion of the reasonable worst-case scenario.
Q. Yes. But help us, is the distinction between a certain proportion with infection --
A. Sorry.
Q. -- and a lower proportion with symptoms, does that suggest there was a discussion about asymptomatic --
A. Apologies, what I meant by that was that it's likely that the document that's being talked about at that time will refer to this, so rather than going to my notes, you -- I would say -- suggest that that document will give you actually what it was. But yes, I agree with that, that this is saying that probably half the people infected show symptoms and the other half are asymptomatic, yes.
Q. Yes. Well, obviously one of the things the Inquiry is interested in is how early on in the chronology of all of this asymptomatic transmission was being taken seriously. Help us, is this something that you think was discussed as something that was likely to be 136
happening or something that only might be happening?
A. I can't speak, you know, that clearly, but I believe that the asymptomatic transmission was always part of the conversations of Covid. However, obviously, you know, human memory as it is, but this definitely points to that as well.
Q. Right, thank you.

Then just lastly on this page, let's just look towards the bottom. Yes. So we see in square brackets there "NHS fucked in any scenario"; do you see that?
A. Yes.
Q. And I'll ask you about that, but before I do, can we go over the page, because there is one other reference which may be driving at the same thing or it may not be. Do you see four lines down it says "long peak over health capacity"?
A. Yes.
Q. Help us, it would seem at any rate that both of those references perhaps are to concerns about the NHS being overwhelmed?
A. I believe that it says this in the reasonable worst-case scenario document that SAGE is discussing, they say that in these reasonable worst-case scenarios the NHS is overwhelmed.
Q. Yes.

## Then four lines down you say:

"The bracketed statement about the NHS likely means that in any scenario ..."

And I think what you've explained today, you mean, as it were, in any of the worst-case scenarios that were under discussion.
"... the NHS will be under extreme stress."
Is that what you mean?
A. Obviously in my notes it says "any". Today l've given my best guess as to what "any" likely means, and yes, that's what I mean.
Q. You had an exchange, it may even have been on the same day, it was on the same day, could we have a look -yes, it's been brought up, thank you.

If we look at the bottom first, this is an exchange of emails with Patrick Vallance after the meeting that we've just discussed. You say:
"In the SAGE meeting today, I was a little concerned the NHS didn't seem to know what they needed for their models, and didn't seem to have started modelling.
"Did you have the same feeling?"
And if we go out and look at the response, Patrick Vallance responds almost immediately:
"Yes I have been pushing them on this for the last 10 days or so. I think Steve Powis [who is a senior 139

Perhaps we can go back to the previous page. Your note talks about the "NHS [being] fucked in any scenario". Is there any significance in the word "any"? Are you --
A. I believe that's probably -- and I would suggest that the document that SAGE is discussing is the way to investigate this, but what I would suggest is that it is likely that, as we've seen multiple times, the graph is drawn with an unmitigated peak, a mitigated peak, and maybe multiple mitigated peaks depending on the interventions that were brought in at that time. All of those are likely over the top for the reasonable worst-case scenario.
Q. So it's the various sort of modelled or proposed peaks that are the "any" in that --
A. I mean, I am guessing, given the -- what's in my witness statement, what's in my notes, but that does look to be the obvious conclusion.
Q. Let's look back just for completeness, Dr Warner, at paragraph 56 of your witness statement, because you explain what you think you mean about these notes there.

So it's on page 17 of your witness statement, paragraph 56. Thank you.

You fairly say you have no independent memory of the conversation at the meeting.

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member of the NHS in England] has now grasped it ..." It says that they have:
"... been doing a lot of modelling ... but the problem is that they haven't defined the input availabilities well enough ..."

But he thinks it's on track.
Looking at this exchange, and indeed at the meeting,
Dr Warner, so we're now over two weeks after
Exercise Nimbus, and the modelling is still in its early stages, variables haven't been agreed, it might be thought that not enough was being done to grapple this rather obvious problem of the risk of the NHS being overwhelmed.

I'm not criticising you, but help us, you were there at the time. Clearly from your email you're suggesting that they need to get on with it. Did you in fact think: why haven't they done this already?
A. I -- my memory of these meetings is not complete enough. I think that that email clearly shows that I'm concerned about the NHS's modelling and whether we have a full picture of what will occur in the NHS at that time.
Q. Let's move forward a week or so, Dr Warner. Let's look at paragraph 87 of your witness statement on page 25.

You've transcribed the notes that you made at that meeting, so we don't need to go to them, but here this 140
is -- I think it was a Sunday, 8 March, the Sunday before the rather eventful week that followed.
A. Yes.
Q. So you're attending a meeting on a Sunday, which perhaps demonstrates how urgent matters were. Picking up again on this point about the NHS overwhelm, you say on that occasion:
"Still case NHS supply always ... overwhelmed."
Then in the paragraph below, you say:
"I was making the point that in any documents that decision-makers were considering, it had to be clear that in a variety of scenarios being considered the NHS would always be overwhelmed."

So has something changed, Dr Warner, by this stage? Is it still the question of, well, it's a worst-case scenario, it's one of a few worst-case scenarios? Or is the position now, in your mind at least, this is something that's actually going to happen?
A. Erm, it's ... it's difficult to say precisely because we're moving through a time when there is developing scientific evidence and people's opinions are increasing in confidence about what the likely, let's say their central forecast is for each of these different groups.

Obviously at this point I'm becoming increasingly concerned, and so I think what I'm trying to say here is 141
Q. Let me take you to another document, Doctor, and this involves going forward to the end of that week.

So it's INQ000196052, please.
Now, this is a document you drafted. It's not dated but you do refer to it in your statement as a document that you started drafting on that Friday the 13th.
A. Just to flag, this is a draft from part of that document. There is another -- the same document, which is the fin -- a later draft that's also in there.
Q. But is it right that this is your thinking on the Friday the 13th?
A. I would suggest the later document is probably better, but I'm also happy to use this document, yes.
Q. All right. Well, we've got this one on screen and if you tell us there's an important difference --
A. The summary is different because it contains the fact that herd immunity is going to collapse the NHS.
Q. Well, let me ask you just about two paragraphs that are in front of us, and you can tell us whether they remained in the final version and explain if they changed.

Starting at the top, you refer to the fact that the government had chosen to follow a mitigate strategy:
"This means that we are aiming to build herd immunity by late autumn."
that in the documents that are going to decision-makers there is usually some sort of reference to it, but that unless you sort of draw attention to it, that this will clearly happen, it is, you know, that -- and it is -and that's what I'm trying to say here, is that in the variety of scenarios being considered, I believe this is still reasonable worst-case scenario, it is very clear to the decision-makers that in these scenarios the NHS will be overwhelmed.
Q. By this time, certainly according to Professor Medley, it was a common understanding, he says his understanding, and he said that it was shared with a number of other people on his committee, that the NHS would not as a matter of worst case but a matter of likelihood be overwhelmed. Had you picked that up by this stage, or were you ...?
A. I think at this point, I'm -- you know, we -I obviously had developing concerns. I believe that our -- across a range of issues. The issues about "is mitigation the right strategy" is one of them, for obvious reasons, though the actual uncertainty around the IFR, even at this point -- sorry, the infection fatality rate -- even at this point I don't think is -I think the estimates were probably between $0.25 \%$ and $1 \%$, on around about this date.

## And then you go on:

"The consequence of this is that we are not completely locking down our population to stop the epidemic, but are simply trying to reduce the effect of the pandemic to a level that the NHS can cope with."

If we look down, we've actually got enough on screen, you refer a couple of paragraphs down to the alternative plan, the suppression model, and then two paragraphs below that, you come back to the theme which is that for this plan to work, that's the mitigation plan, it's crucial that the NHS does not collapse.

So at least on this draft of this document in that week, it's clear that you understood that the idea of preventing the NHS from collapsing was an integral part of the mitigation strategy.

So I wanted to come back, with this in mind, to the question I asked you earlier: is that a view you had sort of developed or formed by 13 March? Or was it actually always your understanding that preventing the NHS collapsing, lowering the peak to a level below NHS capacity, was always part of the mitigation strategy?
A. I believe at this point we've published the action plan where I think it likely talks about this, but I can't say with certainty. And also there was obviously, I believe, a press conference where it was discussed. 144
Q. Well, I'm not going to get -- the action plan doesn't certainly refer to this in terms. But, you see, one possibility -- we can all see that as a matter of political reality it's simply not politically feasible to have a response to the pandemic which involves the NHS collapsing.

Do you think it's possible that over time, and that by 13 March, that sort of political reality had had to be factored in to the mitigation scheme, even if perhaps it wasn't understood several weeks earlier?
A. I think your political feasibility I can't speak to, but it is worth thinking about -- considering the fact that there might be viruses in the future that have a reproduction number that is high enough that you can't suppress it in the way that we did, that actually a lockdown would fail. So that is, I think, something to recognise, that this isn't just about politics, there's actually, you know, real world events that change how you have to react to a virus.

As to this document, as to whether the NHS collapses or not, obviously at this point I see it as crucial. Obviously at this point I understand that if the NHS does collapse, that brings with it, you know, people die who did not need to die.
Q. Just following on from that, first of all, bearing in 145

MR O'CONNOR: Just a few final questions, Dr Warner, on this theme. We have got to 13 March, which we've heard from many other witnesses was a key moment.

Can we look, please, at paragraph 122 of your statement, which is on page 35.

This is your summary, Dr Warner, of where you think, in your mind, things had reached on 13 March.

First of all, you say:
"... the epidemic was further along (that is, there were more infections and numbers growing faster) than had been anticipated ..."

That was a development that took place at the SAGE meeting on 13 March, a revised estimate from the modellers, wasn't it?
A. Yes, I believe that they felt that the doubling time was no long -- was not six days but three days.
Q. Then this:
"... the capacity of the NHS was not going to be close to sufficient ..."

So here at least you're no longer -- correct me if I'm wrong -- talking about a worst-case scenario, you're talking about a likelihood, a probability of what was or wasn't going to happen?
A. Yes, I'm discussing the forecast of how the disease
will -- how the pandemic will proceed, not a planning
mind what you say about this being a draft, and there's a later version, was this a document you drafted for yourself or for other people to see?
A. This I believe is something that I began drafting with the idea of trying to persuade others that our current strategy was not the right one.
Q. And did a further draft of this document go, for example, to the Prime Minister?
A. In my witness statement I talk about the document I drafted. I also discuss another document that was drafted on the Saturday, which I think is clearer and talks to the same views, that was -- I think we had the intention of sending more widely.

However, on August 15th obviously Neil Ferguson sent through a paper which more rigorously says exactly the same points. Also Angela McLean sends a paper to SAGE that says similar points. So we didn't actually need to rely on my not brilliant English and communication, or the other documents. We could rely on the scientific advisers' documentation to provide the evidence as to why we needed to change strategy.
Q. Just --

LADY HALLETT: You said August 15th?
A. Sorry if -- I have misspoken, I meant March 15th, thank you.

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assumption.
Q. And are you able to help us with how much before that date this view of yours had hardened into a view about actuality rather than a worst-case scenario?
A. On 8 March we are -- we can clearly see the increasing concerns around mitigation. Not only, you know, is the overall plan for mitigation a good one, like, the correct one, but actually the state of that plan as well.

We -- throughout that week, I was of the opinion we should move faster, even in -- within let's call it an envelope of the mitigation strategy. That view hardened -- we can see that I start writing that document basically saying we should change the strategy. Then you go to the SAGE meeting on 13 March, where discussions occurred which leads me to what I've written here, that lots of people including members of SAGE did not think that the mitigation strategy was necessarily the right one.
Q. Yes. And that's the third point you make?
A. Yes.
Q. We've heard from other witnesses about the meetings that then took place over the weekend, on the Saturday and Sunday, and may I ask you, for now at least, some fairly high-level questions about that?

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A. Of course.
Q. First of all, by the end of the weekend, at least, was it right that a decision had been reached to change from a mitigation to a suppression strategy?
A. My memory of the Sunday the 15 th meetings is I don't have a clear meeting -- a memory. I remember from the 14th there was, it felt to me, a prevailing view that we did have to move forward with the suppression strategy. However, you know, obviously it needed to be discussed with Patrick and Chris. But -- and then -but I can't -- I'm afraid I can't tell you with the certainty that I would like to be able to.
Q. Well, it may be that my next question then will get much the same answer, but we've heard slightly different evidence from people who were there about whether decisions in principle were taken at around that time about a lockdown or not. One thing is clear, no actual decision to impose a lockdown was taken then.

We know that was some time later. But at least one witness, Lee Cain, said that he understood that in principle a decision had been reached over that weekend that there would have to be what we know as a lockdown. Others have made the point that that probably wasn't a word that was being used then, but we know what it means.
than l've done.
Q. No, you have been very helpful, Dr Warner.

Let me ask you, please, about a document around this time, although it was a WhatsApp message between Mr Cummings and Mr Johnson.

If we could go, please, to INQ000048313. Thank you, you're ahead of me.

So there's a message from Mr Cummings on the right-hand side to Boris Johnson where he says:
"... the main problem is not them [and he is referring to Chris Whitty and Patrick Vallance] -- they and SAGE are doing a great job on the science/models, the Warners have interrogated [one of which is you] -the problem is [Cabinet Office] and DHSC haven't listened and absorbed what the models truly mean."

Then this:
"And timing wise you have been told a bunch of stuff based on 'time to peak' but not 'time to NHS collapse' which is an extremely critical difference!!"

Now, we can see that -- actually I should have said this is dated the 14th, so it's the Saturday.

Do you agree with that sentiment, Dr Warner, that in the period before that Saturday, that weekend, there had been inadequate attention on the question of whether, and if so when, the NHS was going to collapse?
an important question. I'm afraid I can't answer more 150
A. I agree with that entire message.
Q. In fact we see that Mr Cummings sort of amplified -emphasised it in the message below, he says that's "what the Warners have been screaming" at him. Was that metaphorically screaming, Dr Warner, or actually screaming?
A. Metaphorical.
Q. Let me finally, then, just in a couple of minutes, ask you some more general questions, and then perhaps it will be a good moment to take a break.

I just want to ask you, as I say, some more general questions about the period up to that weekend.

First of all, can we look at paragraph 303 of your statement, please, on page 78.

As we have observed, one thing we can say about the period running up to this weekend is that throughout end of January but certainly February and the first part of March, the policy was one of mitigation, and really that was what everyone was thinking about.

At paragraph 303, the last two or three lines, you say:
"From early 2020, we should have developed alternative plans (for example lockdowns), after seeing the actions in China or at least after northern Italy."

So is your point, your recollection, Dr Warner, that 152
there was, if you like, too narrow thinking during that early period or too much weight was placed on one strategy? What are you trying to get at here?
A. I think what I'm trying to say here is that for some diseases we will want to use a mitigation strategy, for some diseases, like HIV, we use a suppression strategy. I think once we saw that other countries were implementing a suppression strategy, even if we felt that mitigation was currently the right choice for the UK, we should have started working up plans around suppression.
Q. Why?
A. I think that the answer is that -- well, actually, sorry, I can answer that more correctly. In a mitigation strategy, as we've seen, the problems that you have are really around horribly excess deaths, et cetera. However, in a suppression strategy, you need to bring in methods of control, so test and trace, testing. These things require time to start up, they require time to build. The capacity of the state -obviously once we've failed to contain, we know that those -- the systems we have in place cannot -- will not be able to do it for when the virus is higher. Therefore for suppression you do need to have plans of how you're going to increase your testing, how you're 153
witness statement, I tried to suggest that we should bring in similar consensus statements around other things, like how people are behaving, what are done in lockdown. Because actually I think the idea of taking very complex sets of data, very uncertain data, and bringing it together so that a person can have an informed view over one or two pages is actually a hard task and it's important, and I think that that idea of making sure that people have two, three pages of insight rather than data is actually important. If we were just feeding people the data that SPI-M were seeing, I mean, I'm not going to be able to understand that.

So I think that to say that -- that the consensus statement is the error, because actually they are sort of showing people what is going to occur. I think that the interface into COBR, into DHSC, how that was interpreted, I cannot speak to. But I think this idea that SAGE is now -- either actually that is speaking to the SPI-M statements on the SAGE minutes, how they flow into the system, what is the right way to transfer complex scientific opinion into departments so they fully understand, my personal opinion is the way you do that is high bandwidth conversations between experts. You'll see throughout my witness statement I'm always
going to have increased test and trace, how you're going to do many of the other things that we found we had to do in Covid to suppress the virus and stop it spreading throughout our society.
Q. Thank you. So that's the sort of practical reason why one needs to think about a suppression strategy early. I wasn't very clear, but what I had in mind in asking you about why you need to think earlier is that one of the criticisms that has been suggested of the SAGE system is that it depends on providing these consensus statements, whereby it is, as it were, a summary of everything that people don't disagree on, and the suggestion has been made that one consequence of that system is that one doesn't find in SAGE documents, certainly the statements, a variety of options, and so one doesn't, for example, see, well, a group of people think this, a group of people think that, and yet another group thinks you should be thinking of something even different again.

Do you think that it was that requirement always to find consensus on something that perhaps led to the suppression strategy being left out of account in those early months?
A. I think -- I do worry we're reading too much into the idea of consensus statement there. As you see in my 154
worried about the lack of epidemiology in government.
I sent an email to Simon Case saying the first thing
I'd do -- when he became perm sec, then the first thing --
Q. Just slow down a little bit.
A. Apologies.

The first thing I would do would be to ask
Angela McLean to join, because of the fact that actually high bandwidth communication between experts is how you confer that uncertainty, how you confer that disparate ... so I think it's almost -- it's, weirdly, in discussing how maybe the -- by moving to SAGE statements the bandwidth compression leads to a not full information. I'm worried in that simple statement we're doing the same thing.
Q. I just want to take you back, though, to this paragraph. You are quite clear that -- in the view that more should have been done to think about a suppression strategy earlier than in fact was the case. I asked you whether you thought that one explanation for that not happening was the consensus system, if I can put it that way, and I think you've said no, you don't think that's the problem. Are you able to identify what went wrong in the fact that the suppression strategy wasn't considered as early as you think it should have been?
A. I think it -- we can all look at, you don't need, as we talked about earlier, complex models to look at the activities China was taking or the activities that were going on in northern Italy and think that we should have alternative plans. That's the statement I'm making. As to where those plans should have been constructed, who should have made the decision to construct those statements, I'm afraid I'm not the right person to ask for that type of thing.
Q. Okay. Dr Warner, then, and it goes back to the question on reflection of consideration of NHS capacity. saying that, if you like, Boris Johnson had been given the wrong aiming point or at least hadn't been given a set -- that important aiming point of time to NHS collapse. I've taken you through the chronology, admittedly fairly swiftly, of your understanding of the position vis-à-vis the NHS, including the starting point of Exercise Nimbus. Do you think that more consideration should have been given to the whole question of NHS capacity during that period, and if so, by whom?
A. I think that there is a clear difference between
really throughout -- well, certainly for the early part of the pandemic, certainly in this period, they said that they didn't really have a proper understanding of what the government's policies and priorities were, which made it difficult for them to do their work, their modelling and so on.

Do you think it's possible that they didn't realise in this early period that the overwhelming of the NHS would be unacceptable to the government and that that is perhaps one reason why more wasn't said about this on the SAGE side earlier?
A. I think we have to be careful drawing inferences on where mistakes occurred, because of the fact that I don't think I have any evidence. was translated into the government plans, and the government plans updated given what SAGE was saying, I think is an important question, and I'm - but I'm not sure I have that much to add to it beyond what I've put in my witness statement.
Q. Just to be clear, then, are you saying -- and we're not asking you to say things that you don't know or draw inferences that you're not comfortable with, but you were there and we weren't -- are you saying that from the time you started attending SAGE, which was the

One last question perhaps before we have a break,

We saw in that WhatsApp that Dominic Cummings was

I do think that SAGE did understand. Whether that
a reasonable worst-case scenario and a forecast. How that forecast was made, who is in charge of what is the right plan, I think is an important question and one of the reasons why I think the Inquiry is so important.

As to the consideration of the NHS ... I think that the -- that it is correct that many reasonable forecasts from at least, let's say, March 8, where I talked about an IFR of $0.25,0.5,1$, all of those numbers roughly come down to the idea of an NHS that is almost certainly overwhelmed, even if not overwhelmed under incredible stress, and I think at that point it's clear to everyone that more thought and at least -- at the very least, as Angela McLean talked to me, you know, she said to me, "Do you know that -- do you think that senior decision-makers know what this strategy is saying?"

I remember that because she used the phrase, you know, the "only way out is through", as in once you're in a mitigation path, you have to stick to the path.

And I think that even from March 8 I do not think that that was given the consideration it deserved.
Q. That leads to what I promise really will be my last question, Dr Warner, and it's this: another of the themes of the evidence we've heard from those scientists who were sitting on SPI-M and SAGE is that I think 158
middle of February, it was commonly understood that the NHS being overwhelmed would simply be a red line and couldn't be allowed to happen?
A. No, I don't think that -- no. I think that ... I don't know if the government's plan had specificity of that type at that point. So whether SAGE wasn't aware of it or whether that specificity did not exist I cannot speak to.
Q. All right.

LADY HALLETT: I think you've had enough final questions, Mr O'Connor.
MR O'CONNOR: I was not proposing to ask even a single one, except perhaps, as my final question, my Lady, may we have --
LADY HALLETT: I'm sorry we have to break, but I think it's for everybody's benefit, but we will finish your evidence this afternoon, I promise, Dr Warner. 3.40, please.
( 3.27 pm )

## (3.40 pm)

LADY HALLETT: Mr O'Connor.
MR O'CONNOR: Dr Warner, I'm going to move on, on the chronology, to the summer and autumn of 2020, but the theme at least picks up on something we were discussing 160
before the break, which is the evidence that we heard from some of the SAGE scientists, at least, that they found there to be a lack of government policy that they could sort of receive and understand and use as a baseline for their advice, modelling and so on. It may be that what we see in your statement is a wish that there had been perhaps more of that sort of carefully thought through strategy, starting perhaps at this sort of time, this period around the middle of 2020 .

If we could look at paragraph 304 , please, on page 78 , l'm going to pick up on the second sentence, you say:
"Throughout the Covid-19 response, not enough resources were devoted to alternative plans and measures that strategically reacted to potential developments in Covid-19. Government's 'just-in-time' policy making exposed the lack of expertise within teams, as the speed meant that it was difficult to pull in the appropriate expertise from outside, and this speed also forced a reliance ... on visualisations of data, rather than rigorous quantitative analysis."

Then in the next paragraph, you say that the decisions on the second and third lockdowns you think were correct at the time they were made, as it were, but 161
developments, and that would have allowed us to meet the challenges of winter with a more robust strategy, have plans in the locker, as it were, as to what happens, rather than having to react and trying to come up with, as I say, sort of policy just in time.
Q. Yes. You do pick up again on this idea of planning at another section of your statement that I'd like to take you through, and that's paragraph 164.

You may recall, Dr Warner, this is the passage where you refer to the two sort of opposite ends of the spectrum, in a way, the "running hot" policy of allowing infections to reach sort of an almost unsustainable point, as opposed to "zero Covid", trying to keep them extremely low, and you suggest -- and this is towards the bottom of this paragraph -- that you think it would have been better to have tried to identify -- rather than running between those two extremes, tried to identify what were the best and most effective NPIs where, as you say, the best means maximum effect on suppressing the pandemic for the minimum cost.

Is that something you feel either wasn't done at all or wasn't done enough, again, in the sort of middle period of 2020?
A. I think that that was the ambition, from May onwards, I think whether that was accomplished, and to the degree 163
the sentence starting however, you say:
"... I do believe we could have done more to prepare for these scenarios."

So is it the case, Dr Warner, that you felt at this time that more could have been done, as it were, by way of sort of strategic planning rather than just reacting to events?
A. Apologies, by "at this time", you mean?
Q. Well, l'm focusing on the period after -- from the sort of middle of the first lockdown, where thought it being given to emerging from lockdown, through the rest of the year. But you tell me if you think that there was a different time when strategic planning should have been --
A. Sorry, you know, I just wanted to ... the statements you've just read out, I agree with.
Q. Can you expand on them?
A. Erm --
Q. What is it that you're sort of driving at that you think should have been done that wasn't?
A. I think that increasing the capability and the capacity within government on analytics, science, software engineering would have allowed those teams to have greater resources, greater head speed to -- space to apply themselves to key problems or possible future 162
it was accomplished, I think is what I'm referring to in the paragraph that you wrote before -- you read out before.
Q. Are you saying it wasn't achieved as well as you think it should have been, or as much as you think it should have been?
A. Yes.
Q. Let's just look, again you wrote a few documents around this time trying to capture this point, and I want to show you one of them, which is INQ000195939.

Again, it's not dated, but I think it's sort of around about April/May of 2020; is that right?
A. I believe I send it to Simon Case when he first became perm sec, and in that email I say I sort of wrote this five weeks ago, so I don't know when Simon became perm sec --
Q. I think that's where I got my dating from.

But is it right in summary that what you're exploring in this paper is this question of what's the -- I think it may have been referred to with another witness as smart NPIs or what's the most effective NPI that we can -- or combination of NPIs --
A. Yes.
Q. -- that we can arrive at?
A. I think that is crucial, it's the system of NPIs that in 164
particular I'm focused on in this document
Q. We may see the best description of this if we look on the second page of this document, where you say:
"... in order to lift the measures ..."
That's the coming out of lockdown?
A. Yes.
Q. "... we need to replace them with other measures that have a similar effect on the epidemic, but a lower cost to society more broadly (economic, societal/public service, health)."

## And so on

Just pausing there a moment, we'll come on to see that you say more about those sorts of other impacts of a lockdown. We have, for example, so far today, you and I, spent a lot of time talking about the epidemiology, the infection rates, how many people are dying and so on. Here you are mentioning the other negative impacts of lockdown.

Were those things considered throughout the period we have been discussing, so from the start of 2020? Did they start to become considered more around this time, in April and May 2020?
A. I think that ... from March 14 we essentially started to construct a plan of suppression. In the time period while we're trying to build the -- that -- the plan out 165
crucial vulnerable groups who are indirectly affected", and trying to make sure that their interests are not missed in designing the best possible combination of NPIs; is that what you're trying to say there?
A. Yeah, I think that in -- you know, in -- when we're thinking about the system, we're trying to make sure that we don't accident -- you know, harms are inflicted lots across society and not inflicting them on a group, maybe because two measures inflict that harm on a single group of people, and that means that that group of people is seeing the full harms compared with the rest of the system. That's what I'm trying to say there.
Q. Yes. We can see that the examples you give are -- well, the second is domestic abuse, about which we've heard with other witnesses. You talk about "household quarantine"; do you know what you meant?
A. I think what we're saying there is people who are having to isolate in a situation where we would -- in a situation where there is domestic abuse going on.
Q. So this all seems very important, Mr Warner, and points like giving careful thought to the impact on these vulnerable groups and so on is obviously -- perhaps obviously the right thing to do.

You are talking here quite strategically, sort of blue skies thinking. How much were these principles 167
of lockdown -- apologies, I can't remember the name of that one that released sort of -- I think it was sort of mid-May -- we're trying to push towards this idea of: okay, how can we control the virus but mitigate the harms that, you know, everyone was definite -- was very aware of?
Q. The economic and societal harms?
A. Yeah. I mean, public service and health, yeah. You know, these were -- these harms were talked about.
Q. If we see in this list of three points that we have on the screen here --
A. I think it might be four and I've just mistyped.
Q. Well, we're looking at the first three anyway. You --
A. Sorry, by that, I meant "economic, societal [comma] public service, health".
Q. I see. Well, I was going to move on to the three numbered points --
A. Oh, apologies.
Q. Don't worry.

You're describing there, aren't you, in these numbered points this way of sort of integrating and trying to achieve the most effective combination of NPIs?
A. Yes.
Q. And in particular in point 3, you refer to the "small 166
taken up in the actual decision-making in Downing Street in the weeks and months that followed?
A. Here I'm trying to suggest sort of a systematic approach to this problem, and about thinking about it as multi-disciplined teams. My opinion is that lots of people -- there's lots of expertise, you know, policy, science, analysis, and putting those people together in a team is very effective, and actually the sort of standard government silos is not necessarily the most effective way, in my opinion, of working. And so I'm trying to pitch a slightly different way of working into government and how it thinks about these problems.
Q. We're going to come on to talk about your proposal for a Covid-A, a sort of analysis team. Is that what you -the sort of thing you've got in mind here, or not quite the same?
A. I think that they are looking at different problems. Here what I'm trying to suggest is for this problem of: how do we improve the system of NPIs? That's what this is looking at. The Covid-A is more about the fact that policy takes time to write, and the analysis for that policy takes longer. The analysis that that data is based on, so the collection of that data, takes even longer to build, especially if you have to collect it and there's a time sequence to it.

So for Covid-A I'm talking about the leadership and the decision-making structures as to, you know, what is the appropriate data infrastructure to build, what should the analysis be done, that has to be done eight weeks in advance for a decision that might be needed for the policy.

So they are all around trying to push forward how government thinks about analytics, but one is around a specific problem, and the other one is around: how do we lead and organise as a sort of a group?
Q. Before we leave this, though, Dr Warner, back to the main point, which is that things didn't work out quite as neatly as this, NPIs weren't finessed and thought through deeply, with a sort of a well thought through -out -- thought through combination of measures being imposed. Perhaps you'll say they were, but the scheme that you're suggesting here, do you agree, wasn't something that worked, at least in full, in practice?
A. It wasn't implemented.
Q. And was that because that events just made it impossible, or do you think that it could have been and should have been implemented?
A. Erm ... I think every person has their own opinion on what is the best way to organise. In the end, the Covid Taskforce organised along more traditional sort of 169
Q. They're in three little time groups, so I'll take you through them each and then ask you about them all together, if I may.

So starting about four, five lines down from the top, on 18 September -- do you see that -- you saying:
"I feel like you and I walked out of covid in June, walked back in today. And literally nothing has changed!"

Lee Cain says he agrees, and you say "Mad".
So there's an exchange in the middle of September.
Moving forward almost a month into October,
12 October, Lee Cain says:
"We are so fucked."
Lee Cain says:
"Why are we not acting in London and urban areas now? Same errors as March."

You say:
"Agreed. Feel like we are where we knew we would be three/four weeks ago."

Lee Cain says:
"Should have done a circuit breaker. And still should -- half term might be too late. London will soon be out of control."

Then if we can go down two or three more lines, another fortnight or so to 30 October, you say:
A. Yes

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"I feel like we have accidentally invented a time machine."

Lee Cain says:
"Oh mate."
And then:
"I can't take this insanity."
Now, so over a period of a month, or a month and a half, three short exchanges, you'll see they have similarities, you both seem to be saying and agreeing perhaps that not enough lessons have been learnt from experiences earlier in the year, perhaps that lockdowns should have been ordered earlier.

Can you tell us, if necessary looking at the three exchanges in turn, what you thought around this time and whether these exchanges reflect your thinking or not?
A. So, I mean, I feel these WhatsApps are indicative of what I was thinking but not necessarily the best evidence. I think that it's clear in -- can you scroll up to the top so I just get the dates right?
Q. Yes, so 18 September.
A. Yeah. So in -- actually earlier than that, if we're honest, we had a rising problem with infections, infections were rising. Indeed, I believe if you -- and so, you know -- and when I say to Lee, "We walked out of Covid in June, walked back in today, and literally ..."
what I'm saying is that the capabilities that we discussed earlier actually, track and trace, things like that, did not manage to stem the virus, our knowledge of what NPIs were most effective was not that much more advanced. So essentially the decision-making that was occurring -- actually, the one thing I would say here is we do have the ONS infection study. That is an excellent piece of analytical work which actually allows us to be very clear, when we're talking about infections rising. When we talk about "We knew where we were three/four weeks ago", that's predictions off the ONS infection study. This is basically, you know, we are seeing that infections will keep rising until you do something.
Q. So expand on that a little, but do you -- was it really therefore your view that things -- the best use hadn't been made of the time from, say, April/May through to the autumn?
A. I detailed, you know, sort of, in my witness statement some of the things about -- on that period, and some of the things that I think we could've brought in better, some of the ways we could improve the analytics.
Q. Yes. What about this idea that there should have been a lockdown in September/October? I think perhaps in fact you and Mr Cain might not have had quite the same 173
A. I believe what happened was at the end of the meeting that I refer to in my witness statement, I actually argued both sides of the lockdown, both a pro-lockdown argument and an anti-lockdown argument.
Q. Go on.
A. I think that in November, if you have a four-week lockdown, I believe, rule of thumb, one week of lockdown -- no, sorry, two weeks of lockdown moves you back, let's say, one week. So moves you back four weeks. So let's just say that if you lock down in November, you end up at the end of September. Well, in the end of September we were arguing for lockdown. Right? So essentially what you're arguing for -- is you're back in an area where you were arguing for measures anyway. That would be the argument against the lockdown. Well, it basically say -- sorry.

So, yeah, so --
LADY HALLETT: I think you've lost me.
A. Yeah, I'm sorry, l've lost myself.

MR O'CONNOR: Okay --
A. So, yeah, let me start again, l'll try and be a bit more clear.

A four-week lockdown will reduce infections, let's say, just rather than trying to do maths in my head under pressure, back to let's say late September. In 175
view on that matter?
A. I think I refer to this in my witness statement.
Q. Yes.
A. So not -- not having that in front of me, I think my answer would be that there are probably two arguments for, let's say, increasing the stringency of measures for a short period. The first is that -- the obvious effect that that might have on infections. The other is that maybe that increases public awareness, maybe moves people's behaviour in -- towards, you know, behaviour you want, maybe less -- more people work from home, et cetera.

My opinion at that time was that infections would continue to rise unless we brought in more stringent measures, so I believe that I was of the opinion that actually it was about bringing in the measures that we thought we could hold for the whole of winter because they would be necessary, not necessarily bringing in stringent measures and then going back to as we were today. So I think that was my opinion at that time.
Q. You do describe in your witness statement that when the time came for, in the end, Boris Johnson imposing the second lockdown at the very end of October, you actually thought that a more extensive and longer lockdown should have been ordered than was in fact ordered?
late September, SAGE were arguing that we need to bring in measures. Therefore actually that's an argument that a four-week lockdown is not long enough to --
Q. Inadequate?
A. Yeah, exactly.

Now, obviously lockdowns bring with them tremendous harms, therefore if you don't think that -- if you think the lockdown, as to use your words, was inadequate, is that an argument for actually maybe the lockdown -- the harms of lockdowns are more.

So it isn't to say that I thought that the lockdown was the wrong thing to do. As I say in my decision-making, in my document, I think it's done. I think that these are complicated, hard decisions where there is, you know, uncertainty on how people behave, what will actually happen with how the -- how much infections will drop, et cetera.
Q. Just before I leave this, coming back to the point you made earlier, what we've been discussing is that decision made at the time, but for the reasons you've already given there are things which you say could have been done much earlier, earlier in the year, which might have prevented the need either for lockdowns at all or for lengthy lockdowns later in 2020?
A. Erm, sorry, l'll have to read -- but I think I'm trying 176
to say that you might have to lock down but we'd alleviate some of the harms, which isn't necessarily the time under lockdown. It's clear that there are, you know, lots of people and lots of bits of -- there are costs of lockdown across. as we discussed earlier, the health -- people's health, public services, the economic costs, the social costs, and actually we could've maybe brought in measures to mitigate those, even if the exact sort of length of lockdown and the measures stay the same.
Q. Yes, I see. Thank you.

Let me move on to a slightly different issue, Dr Warner, and that is towards the -- your analysis of data during the pandemic. To do this, let's look at page 42 of your statement, paragraph 150, first of all. Is the first point you make -- which is certainly something we've heard from other witnesses -- was simply about the relative unavailability of data in the early phase of the pandemic? And you give an example of SPI-M struggling to access test and trace data.

First of all, can you expand on that problem
briefly, and do we infer from your reference there to the early stage of the pandemic to the fact -suggestion that this was a problem which got better or resolved later on?
A. Yes.
Q. Are these similar ideas that you're referring to here?
A. Yes.
Q. Can you expand on what you saw as being your main concern in this regard then?
A. I think that, you know, analytical work is hard, it needs teams to have the right time, space, data, capability, also expert knowledge. I think that that's -- and often those teams didn't have that, which meant that they were trying to do the best that they could, given the capabilities, capacities, time they were able to, rather than the piece of work that we would all think would be appropriate for that moment in time.
Q. On a similar theme, Helen MacNamara, when she gave evidence, talked about an overemphasis on what she described as countable things -- I know that you've looked at that statement of her witness statement -- and the problem being that other issues, things like domestic abuse or even things like older people being isolated, because they didn't sort of register in -- on the figures, were overlooked.

Is that a similar issue, do you think, to your critique about insight rather than data?
A. Yes.
A. Data sharing is a problem, an acknowledged problem in government, how you do it. We shouldn't overlook that there are reasons, that, you know, we need to protect people's privacies, et cetera. In that period of time, I'm trying to -- we're also running -- there's another set of work around how we might be able to improve data sharing. In this cases, like SPI-M not -- struggling to access the track and trace data is obviously a problem that creates uncertainty in the model that doesn't need to be there. I'm sure there's other teams in -- across government that don't have access to data that would have been useful to them.
Q. So that's an issue relating to simply the availability of data.

If we could look on at paragraph 152, though, you say that your main concern was not, by inference, this question of availability of data, but rather that the analysis work was too shallow. You say you felt that too often it -- that is the analysis work -- "contained a large number of quantitative judgements where no evidence was shown, and too often included graphs with unlabelled axes, or which were unreadable", and so on.

Elsewhere in your statement you used this phrase "the importance of providing insight rather than or before data".

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Q. And help us: I mean, we're looking forwards; if we have another situation like this, what would you recommend for change, how should things be done differently to try and provide more insight next time?
A. I think that it's important to recognise the dashboard was a very important product that served a very important need, that allowed decision-makers to have up-to-date information on the crisis at that time. But, like any tool, it should not be used for every single purpose. For instance, I'm not sure what Helen means by not showing up in the data, whether she's saying it's a perceived risk, whether it's there is evidence of this occurring but not in the data that is being shown in the dashboard, or that there isn't any data on it. All those things could be true.

But I do think that for the future it's important -and this is where we speak to sort of Covid-A -- it's about what is the right tool, the appropriate tool for the problem we're trying to solve and making sure that, given that lens, do we have other lenses on the world to ensure that we think we've got a proper view of the situation, of the priorities, and to make sure that we understand as best as we can what the evidence is before we make a decision.
Q. I think her suggestion was that certainly dashboards, as 180
pandemic. When did it become obvious to you, on a data perspective, that there were ethnic disparities or disparities in the experience of different ethnic groups appearing in the data?
A. I remember discussions in SAGE to this effect, but 181
page 79 of your statement, please, paragraph 309. You say that:
"[You] felt that the biggest absence throughout the pandemic was the lack of economic modelling in decision making."

You say that:
"HMT, who is responsible for economic modelling, has a strong set of policy officials, but when it came to [your] interactions for all aspects of [your] work in government, [you] found that HMT was severely limited when it came to specialists in science, advanced analytics, technology or data."

Now, in June 2020, you chaired a seminar at
Number 10 touching on these issues, I think it was called "The Economics of Lockdown". I'm going to take you to an email about it in a moment, but, well, let's look at the email and then I'll ask you the question.

It's INQ000235261, please.
This is in fact an email from Clare Lombardelli, who gave evidence this morning. She was at this seminar. You are not copied in on the email, I think it's an internal HMT email.

We'll look at the content of it in a moment, but can you give us some evidence from your own knowledge about how this seminar came about, who arranged it, what was 183

I can't give you an exact date.
Q. So that's the SAGE probably February/March, realising, noting that the hospital data probably was showing up differential experiences.

Was this something that was taken forward without(?) the dashboard or trying to develop these sort of data analytical techniques at an early stage or not?
A. I don't know what was in the dashboard. The dashboard had a large range of information.
Q. Was it something, whether it's on the dashboard or in other terms of data exploitation, that you had personal involvement in?
A. I don't think I did, no.
Q. Or experience of?
A. I don't have any memories of that.
Q. Do you, sitting here now, have any sort of reflections on whether enough was done to capture or analyse the disparities that emerged during the pandemic?
A. As discussed in my statement, I think that our data collection, our analysis, our ability to spend time to look for that, was weak across the board, and I think the reason that that is important we strengthen it for the very issues that you're raising now.
Q. Let me move on to another issue, and that's economic advice and modelling. For these purposes, can we go to 182
its purpose, and so on?
A. I don't ... I don't remember how it was set up, I think it's very unlikely that I set it up, because I had very good relationships with the BEIS data science team who I knew were doing a lot of work in this area, therefore if I was to organise a seminar of this type, I'm almost certain I would have involved them.
Q. Can you give us any clues as to who set it up? Can we assume it was set up at the Number 10 end of things rather than, for example, by the Treasury?
A. Erm ... if it was -- from the email it looks like it was not set up from the Treasury, and therefore the other two people in the room were Simon Case of Number 10 or Patrick Vallance, and of those two -- well, your guess is as good as mine.
Q. All right.

Well, let's look at the email. Clare Lombardelli is, as it were, reporting back to her colleagues, isn't she? She says she attended "an odd seminar with the above title". Well, how much memory do you have of the seminar now, Dr Warner?
A. Erm ... almost nothing.
Q. All right.

She refers to it, "The castlist was the below", and I think she's referring to the -- if we scroll out, it's 184
the addressee list for the email below. It seems to suggest that Chris Whitty may have been there, and Simon Case, and someone from the Bank of England, and also Patrick Vallance. Does that sound right to you? Or perhaps you can't now remember.
A. My -- I would trust the email list over my memory.
Q. Yes. But certainly it seems to be -- we can see that it's some people -- a high level discussion; yes? The Cabinet Secretary --
A. I believe he was --
Q. No, he was a permanent secretary in the Cabinet Office.
A. But, yes, agreed. You know, you're looking at four, maybe five perm secs in that meeting.
Q. Yes. Then this:
"The discussion would felt very familiar -- the economists all did a very clear pitch on smarter NPIs being able to deliver the same level of virus control at lower [economic] cost."

She refers to a paper.
"There was a general conclusion (by economists) that the economics is not being considered enough. And a desire for a place to bring this together. They posed 3 options:
"1. An economics SAGE.
"2. A single model.
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forecasting the economy is incredibly difficult,
forecasting an epidemic is incredibly difficult.
Although it might seem hard, given the costs of lockdown
I think it's worth at least a good try, especially given that there did seem to be groups out there who were trying it.
Q. Certainly the view of Professor Keeling, who had done this work during the pandemic, and also Professor Woolhouse, another epidemiologist who gave evidence -- we saw his email at the beginning of your evidence -- was that this is something that ought to be worked on before the next pandemic, more sophisticated models that could draw these factors together.

You're not telling us that that's a fool's errand?
A. I think that it's ... it's important that we don't think that the next crisis will be exactly the same. In my opinion, upgrading the capability within government to be able to build out models of this type, to be able to engage intelligently with academics, bring people in and bring the most of our quantitative -- the possibilities using quantitative modellings to bear on the problem is crucially important. But I would look at this not as we should be building a model; more we should be building the people and the structures and the capability to be able to do that for any future crisis.
A. I think that, you know, it's important to recognise that 186
Q. Yes. Well, that's a useful caveat, but I think it's actually not far from what Professor Keeling and Professor Woolhouse were saying because, as you say, there's no point in building the precise model that you would have used last time now, but you want to be able to have that capability swiftly if another pandemic hits.
LADY HALLETT: Dr Warner, can I ask a question? Sorry to interrupt.

Looking at, if we could scroll down to the passage which says:
"There were ... some useful titbits.
"CBI have data ..."
Just highlight that passage.
Am I being simplistic in this approach: you see the reference to:
"Hospitality: 20\% to $30 \%$ operable at 2 [metres]; 60-70\% at 1 [metre]."

Can you find that?
A. Yes.

LADY HALLETT: "Most in the sector need 70/80\% to be viable."
A. Yes.

LADY HALLETT: Now, as a simple soul, I think: right, okay, so if $70 \%$ of hospitality -- sorry, if hospitality needs
$70 \%$ of capacity to be viable, and they can operate $60 \% 1$ to $70 \%$ at 1 metre, I would then want to know as a decision-maker: what would be the impact of having a 1-metre rule rather than a 2-metre rule?

Is that too simplistic?
A. I often find with analytics actually the most simple reading is actually the most sensible reading.
LADY HALLETT: Would that kind of data or analysis have been with the decision-makers back at this time?
A. I mean ... no, I think that -- so I think I agree with you, that is the reading. I don't know if that -- even that very simple information would have been with decision-makers. But I also think it's important that 60 -- that says they have capacity to be viable. Well, actually the other option is: how can we increase their capacity? For instance, you know, outdoor spaces. How would that have made a difference?

So I think that is the level of analysis that we need to push to, to not just taking -- given the current state, but what can we do to get to a better answer to mitigate the harms. And I think -- so I would agree with you, and I don't know if this was made available to decision-makers.
LADY HALLETT: Sorry to interrupt.
MR O'CONNOR: Not at all, my Lady. 189
thoughtful people working with government is a good idea.
Q. One view -- and this was a view expressed by Mr Glassborow when he gave evidence -- says: we've got the Treasury, it's stuffed full of economics experts, this is what the Treasury does, it provides economic advice and analysis to government, so why would you need an economic SAGE, you'd just be duplicating things. What's your view about that?
A. I think that ... leaving aside my view of what the capability of the Treasury is, obviously having the diversity of viewpoints is important, obviously bringing in outsider expertise is valuable. I think there is -to say that you know everything about such a complex problem, I'm not -- I don't think Stuart was saying this, by the way, but I think that obviously there is expertise to be had within our academics.
Q. Did you follow this idea up at the time?
A. Yes.
Q. And what happened?
A. So I believe the series of events is that

Patrick Vallance suggested sectorial teams, and
I believe Clare Lombardelli might have replied saying "Yes, that's a good idea". I made, I believe, an argument for using the -- for a single model.

Coming back to just, in fact, the paragraph above the one we were just look at, Dr Warner, we talked about the economists obviously killing the single model; reading on, it says:
"... some liked the idea of an economics SAGE. It was agreed that Ben Warner would follow up with [Ms Lombardelli], [Patrick] Vallance ..."

And others.
Two questions. First of all, did you like the idea of an economics SAGE? And, secondly, did you follow up with those people about it?
A. So, I mean, I think that ... yeah, I think -- I am of the opinion that government doesn't make enough of their expertise that exists across the UK, whether it's in the academic sector or in the private sector. I think SAGE is a fantastic initiative, their science bit is the high water mark of government using the resources of the whole of the UK to bring to bear on a problem. So I think that obviously to me the economics similarly would be useful. The exact and precise method of doing that, to say whether it should be a SAGE-like structure or maybe having academic -- economists with a specialism working with departments, I'm not an expert on economics, I wouldn't be able to tell you the right docking mechanism, but obviously having the very 190

I don't know past that. I don't think it would have been appropriate for me to set up this type of body. I think that ... I'm not an economics ...
Q. Economist?
A. Economist, and I don't have a, you know, an in-built knowledge of government departments, the best way to lock it in, et cetera. But I do think an economic SAGE would have been -- or, no, I think us making more use of our academic sector across the piece, I mean, I don't think we should specialise just economics, there's other people -- for instance, I had a very interesting talk at one point with a health economist who I tried to dock into testing, because I think the more people we get in, and also the more resources, right? I think that throughout the time in Covid we saw that the capability and the capacity of the academic teams was -- they were struggling at times, and giving them that extra resource to give -- would definitely be helpful. You know, our academic sector is packed full of really talented people and we should always be trying to use them in government.
Q. Can I show you a related document, Dr Warner, and it's at INQ000226497. This is a recently published -- well, recently; it's April of this year -- report by the Institute for Government. We can see it's entitled "The 192

| Treasury during Covid". | 1 |
| :--- | :--- |
| I'm going to take you to one or two passages in | 2 |
| this, but perhaps before we do, it's important to | 3 |
| understand: did you have some input into the research | 4 |
| for this paper? | 5 |
| Yeah, I believe that the team that wrote this paper | 6 |
| talked to me before writing this document. | 7 |
| Q. All right. Well, I'm going to ask you about one or two | 8 |
| passages in here, and when I do so you can tell us | 9 |
| whether the subject matter is something that you spoke | 10 |
| to the team about. We don't want to have a sort of echo | 11 |
| effect. | 12 |
| It may just be that we can look at one passage. If | 13 |
| we can go to page 6, please, this is the executive | 14 |
| summary chapter. At the bottom of the page, please, | 15 |
| final paragraph, we see the report says: | 16 |
| "... when it came to more in-depth economic | 17 |
| analysis -- for example, predicting the potential | 18 |
| economic impacts of different policy options or | 19 |
| projecting how economic behaviour might respond to | 20 |
| a renewed spread of the disease -- the Treasury shared | 21 |
| information much less effectively with the rest of | 22 |
| government, particularly in $2020 . "$ |  |
| Then this: | 23 |
| "Senior Treasury officials also vetoed proposals | 24 |
| 193 |  |

told us you tried --
A. Sorry, I didn't want to give the impression that I tried
to set up an economic SAGE. I -- there was follow-up to that. I don't think I would have been the appropriate person to set up an economic SAGE. I don't even know who are the -- what are the best economic departments in the UK.
Q. I see.

All right, well, let's just look at one more angle on this -- it may be that it helps, maybe it doesn't -but it's a WhatsApp exchange you had with Tom Shinner, who worked at the Cabinet Office, did he not?
A. I believe Tom Shinner was brought into Number 10 to help with the tracking of projects.
Q. Right. So at Number 10 rather than the Cabinet Office.

If we can look at INQ000269187, please, page 17. So we note that this is -- it's towards the bottom of the page. Yes. So I'm showing you where it starts "Depressingly". So let's just note the date, we have gone forward a bit, it's February 2021. So I think it's Tom Shinner who says:
"Depressingly I think there's quite a lot of truth in this about Treasury approach."

You say:
"I am waging my own small war against HMT, their 195
from other departments to establish a cross-departmental group to discuss economic impacts and the proposal for a socio-economic version of ... (SAGE), which could have fed external expertise into government in a more systematic way."

First of all, was this an area of their research that you spoke to the researchers about?
A. I'm afraid I can't say with any certainty.
Q. All right.

Well, leaving that to one side, then, can you help us understand this suggestion that plans for economic SAGE, which we just saw being discussed at the seminar and in that email, may have been vetoed by senior Treasury officials?
A. I think that Treasury would have been the appropriate place for an economic SAGE, in the same way GO-Science is the appropriate secretariat for the scientific SAGE. It did not occur. That's all I can --
Q. Well --
A. "Vetoed" could mean an active veto or a passive veto, and I don't know which one the Institute for Government is referring to here.
Q. Well, let me just ask you about your own experience, Dr Warner. You were the person looking at that email who was tasked with trying to take this forward. You've 194
culture is fucked.
"My new favourite line whenever they mention VFM ..."

Value for money?
A. I believe so, yes.
Q. "... is 'well it's only $X$ percent of eat out to help out and probably won't have such a terrible effect'."

What were your views about the HMT's culture in February 2021?
A. I think that HMT, in some ways they have a very strong culture that enables and empowers their officials, and that culture is very effective for some things they do. I think that that culture becomes -- has a positive effect, but I think it has a negative effect when it comes to places where special technical knowledge, like I mentioned around advanced analytics, data, technology, and I think in that areas it creates a negative effect.

Also at this point I think that we are discussing with head Treasury around the use of the toy model, and I feel like they -- as my witness statement documents, that I was concerned that the Treasury were not necessarily providing a neutral set of information for the Chancellor to make decisions upon.
Q. Yes. Well, that is something that's in your witness statement, but I'm not going to go into it with you in 196
detail now.
Just sticking with this idea of the culture, you've referred to matters that, as it were, internal to the Treasury, their resources, their analytical capability, what they were doing or not doing properly with the toy model. Is it possible that your rather jaundiced impression of their culture also relates to their co-working and the way in which they were or weren't working with other government departments and Number $10 ?$
A. I think that an open, transparent culture is always crucially important. I think that I had that working with numerous other organisations and groups. I think it is also important to mention, though, that for some of my interactions with Treasury, this message is true. However, in other areas they were unbelievably helpful, they were thoughtful, and really helped. For instance, they actually seconded a couple of officials into 10DS to help us around the spending review.

So I think it's important that, you know, when we reflect on these WhatsApps, that we're seeing a specific view at a specific point of time about, you know, one issue and it doesn't necessarily reflect my entire views of what is a complex organisation.
Q. Thank you, Dr Warner, we can take that down.

Just one further quick issue, and then I want to ask 197
Q. Yes, and there are other references in the book which make you think that we're certainly in the first few months of 2021 rather than 2020.
A. Yes.
Q. So with that in mind, here we have a reference to Long Covid then, in the spring or thereabouts of 2021. Can you help us with any more context or information about why you wrote that, what was in your mind, what considerations perhaps were being discussed at the time?
A. I'm afraid that my recollection of this meeting ... I don't know what meeting this is, I'm afraid. But it's clear at this time we did know about Long Covid and if infections increase then, even if we don't see deaths, then Long Covid is obviously another thing to bear in mind.
Q. All right. Well, I'll leave that there.

Finally, can we please go back to your witness statement and to paragraph 288 on page 75 . You refer here, Dr Warner, to a retrospective meeting which happened in February 2021.
A. Yes.
Q. We will remind ourselves that I think it was May 2021 that you left.
A. Yes.
Q. Did you already -- was that, as it were, a planned date?
you about Covid-A. The quick issue is about an entry in your diary referring to Long Covid. So can we -- sorry, I said diary; it's a notebook, another one of your notebooks.

Can we go, please, to INQ000264429, and it's -- you have gone straight to that page, which is fine, Dr Warner, because you have looked at this book and the other pages of it, haven't you?
A. Yes.
Q. So we see there about five or six lines down a line which says "Infections up -- long covid".

I want to ask you a few questions about that in a moment, but before that, are you able to help us roughly estimate the date on which you wrote that entry?
A. I believe from discussions earlier we decided it's about March 2021.
Q. Right.

We can see just below that it certainly seems to have been before June of whichever year you were in, because you are wondering what's going to happen on June 21st. So the main question was: was it 2020 or 2021?
A. You can see just above that it says, it may be spelt incorrectly, "efficiency of AZ", which I think is referring to the AstraZeneca vaccine.

Did you know in February of that year that you were coming to the end of your time, or not?
A. I believe so at this point.
Q. Because what we will see is that there was a meeting, which I think you instigated, involving senior decision-makers looking back over the last year or so and trying to understand what had gone well and what hadn't gone well.
A. Yes.
Q. I wonder whether that was partly because you knew you were coming to the end of your time, or maybe that's not the case?
A. I think that I was always trying to improve how we could do -- improve analytics, improve data. I think that it's important to realise that these are -- you know, there's a lot of people doing different things, some of which are -- fall within the government, some don't, ONS, and how we could enable and empower the teams was -- is always important. I actually did a similar lessons learned exercise in September to try and make sure we're understanding, making sure we're listening to those teams, so that we -- when we're talking from the centre, we're actually talking about the problems they have, not the problems that we believe they have.
Q. Yes. This was, as we've said, a little bit further on

a well known thing that is done often within software development teams, where it's basically just trying to uncover the mistakes that were made, and rather -- and as the sort of retrospective, sort of, I'm going to call it a creed, says:
"... [whatever] we discover, we understand and truly believe that everyone did the best job they could, given what they knew at the time, their skills and abilities, the resources available, and the situation to hand ..."

So what we're trying to do here is to say to teams: actually, like, it doesn't help us by playing some sort of blame game. Actually we know that improving analytics is important, we know this is a complex thing, we need to make sure that everyone's -- and so it's trying to promote that open, truthful, transparent culture that actually allows us to discuss the issues and move forward with solutions rather than play some sort of blame game et cetera, which I'm not -- I don't want to say in any way the fact that the senior leaders -- but it was just an idea that is done in software development that we thought might be valuable here.
Q. Yes.

So if we can go over the page, then, the first of the themes that was to be addressed was governance and 202
hosted by the [Cabinet Secretary] is itself evidence of the lack of this forum."

Then we see comments by others, including from Patrick Vallance, commenting that there has been at times a lack of clear reporting lines for SAGE in the absence of COBR. And also Rob Harrison, for example -who was a director general of the Cabinet Office,
I think -- saying, referring to general lack of proactive longer term thinking.

So were these the problems to which you thought that Covid-A was the answer?
A. Yes. I think that, as it says there about the prioritisation of resources, the data infrastructure that needs to be built, where is the best place to put our software engineering talent at that point in time. Those decisions, there was no forum for that; for also discussing other problems that these teams were happening, there was no forum. So that's -- my idea of a Covid-A is -- it's just sort of like, well, there's a Covid Operational, there is a Covid Strategy, so Covid Analysis.
Q. Did you -- I think it did -- it was created, a Covid-A, was it not?
A. Erm, I don't know what the energetic force of this meeting and what it actually ended up doing, to

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a degree
Q. Let's not worry too much, then, about -- in any event, about what happened last time. But looking forward, can you see that this is a sort of gap which might need filling in future situations?
A. Yes, I think that ... I think it's important to realise that the -- to build data infrastructure takes a large amount of time, investment, to do analysis takes time, therefore you need some body that's saying: okay, given the amount of resources we have, we need to focus on this problem, or to be able to move in the right set of talent for the period in time. For instance, if you need -- at a certain point you might need data engineers to on-board the data, then you might need to bring more data scientists in, and you might be able to re-move those data engineers to another problem. So that ability to flexibly bring in your talent to focus on the priorities at the moment, given that with a long-term vision in mind, I think that that senior analytical leadership and how that is done for these type of cross-government problems -- obviously departments are doing this within their own sort of digital and data teams, for instance, but how do we do that for the cross-government problems, I think is what I'm talking about here.
of those specific areas, but in general those are problems that occur for not just Covid but many other government problems.
Q. And we heard about that in your evidence so far.

I suppose it stands to reason if there are problems getting data it impacts upon the problems of analysis, but can you identify for us were there any specific impacts upon areas of devolved administration that impacted upon your work?
A. I think that, as discussed previously, whenever you have a lack of data, it means that you can't focus on those problems. So the problems that you've mentioned about -- that existed around devolved administration I'm sure hindered the ability to analyse that data and then produce the information -- the necessary information to decision-makers.
Q. And was that something that you found? Were you hindered in that regard?
A. In my role, that type of level of specificity around a data source would not be what I would look at. We tried to set up a -- well, we set up a data sharing team within the central GDS, which I think moved to the CDDO office, to try and give teams that are struggling with those issues a set of experts that could them advice, including legal advice, to try and address these exact 207

MR O'CONNOR: Yes.
Dr Warner, thank you very much. Those are all the questions I have for you. There will be just a few more questions for you.

## LADY HALLETT: Ms Mitchell.

## Questions from MS MITCHELL KC

MS MITCHELL: I appear as instructed by Aamer Anwar \& Company on behalf of the Scottish Covid Bereaved.

Dr Warner, I'd like to ask you some questions about data, in particular availability of data.

The Inquiry has already heard a little -- and probably will hear a lot more in later parts of this module -- that there were problems obtaining data from devolved administrations, and that efforts were being made to resolve these, in particular, that devolved administrations thought they were unable to share data on Covid because of GDPR, and we understand that efforts were being made to obtain legal advice to explain to them that that wasn't the case.

Were you aware of these difficulties in obtaining data from devolved administrations, particularly in relation to the Scottish Government?
A. Across government data sharing is an issue, and then also how the statistics is done across the devolved administrations. I'm not -- I don't believe I'm aware 206
problems.
Q. Following up from that, can I ask whether or not you're aware of the person who was involved in liaising with the Scottish Government in that regard, so perhaps we can follow up and ask that question?
A. I'm afraid I don't.
Q. Would you able to find that out for us?
A. I'm afraid that the question you're asking is very important. It depends on the exact nature of the data, where that data -- which department it sits in. So that would -- that would be the place to ask, is the department that was interacting on the issues that you are worried about. And it could be actually multiple departments, which speaks to why data availability in government is sometimes very hard for these cross-government issues.
MS MITCHELL: Thank you.
Thank you, my Lady, those are the questions that I would like to ask.
LADY HALLETT: Thank you very much indeed, Ms Mitchell.
That completes the questioning, Dr Warner, thank you very much. I'm sorry it's been a long afternoon for you answering such questions, and with such care. Obviously you've been very careful with your answers.
(The witness withdrew)
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LADY HALLETT: Thank you for all your help, and we shall 1
resume tomorrow at 10 am . Thank you.
( 4.50 pm )
(The hearing adjourned until 10 am on Tuesday, 7 November 2023)
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