Wednesday, 28 May 2025

(10.00 am)

LADY HALLETT: Ms Cartwright.

MS CARTWRIGHT: My Lady, please could Baroness Harding be sworn.

BARONESS DIDO HARDING (sworn)

Questions from LEAD COUNSEL TO THE INQUIRY FOR MODULE 7

MS CARTWRIGHT: Could you please give the Inquiry your full name.

A. Baroness Dido Harding.

Q. Thank you. Baroness Harding, you've provided a witness statement to the Inquiry dated 9 April of this year.

Could we please turn to page 49 within that statement, where you confirm that the statement is true to the best of your knowledge and belief. And can I ask you to confirm, is the statement true to the best of your knowledge and belief?

A. It is indeed.

Q. Thank you. Can we then start, please, with identifying your relevant background and experience, which is detailed within the statement. Plainly, the significant aspect of the evidence that we will deal with together is your role following appointment on 7 May 2020 as the executive chair of NHS Test and Trace, but can we please then identify your career history.

It's right, isn't it, from 2010 onwards you had a career in telecoms?

A. That's correct.

Q. And before that, between 1988 to 2010, you also had a career in retail?

A. Correct.

Q. And do you want to give some relevant context as to those careers and skills to contextualise, then, skills that you deployed when you were chief executive in NHS Test and Trace?

A. So if you think of the skills that you needed to grow NHS Test and Trace, you needed people leadership experience, and I'd worked in very large organisations in both the public and the private sector, scaling them particularly in the private sector. You needed understanding of healthcare and public service and I'd been involved in our NHS Improvement.

You needed retail and logistics experience because testing and tracing was fundamentally an enormous logistics exercise. And you also needed experience of digital -- digitally-enabled large-scale citizen or consumer services, which I'd done a lot of in telecoms as well as in retail.

Q. Thank you.

Now, you've identified your role with us as chair of

NHS Improvement, and I think it's right, isn't it, that you had that role from October of 2017 and you held the role until October of 2021?

A. That's correct.

Q. You were also, from 18 August 2020, which we'll come on briefly to deal with in your evidence, interim executive of the National Institute for Health Protection, which was a body that then became part of UKHSA; is that correct?

A. Yes, I was interim executive chair.

Q. Thank you. And you were also chair of Genomics England from 2019 until October 2020?

A. Yes, that's correct.

Q. Thank you. And I think, more broadly, you are a member of the House of Lords and have been so since 2014?

A. That's right.

Q. Now, I know one of the things you particularly want to deal with at the outset is what's dealt with at your paragraph 1.4, at page 2, where you wish to express your condolences to those who lost loved ones in the pandemic.

So if we could just display paragraph 1.4, please.

Baroness Harding, do you want to address that aspect first of all, please.

A. Thank you.

Yes, just before we get into the detail, my Lady, I just wanted to express my sincere condolences to everyone who lost loved ones and who suffered because of the pandemic, and just to reiterate how important I think this Inquiry is that we really learn the lessons of what happened.

Q. Thank you.

Now, can we then, please, start with your appointment, please, as the chief executive of NHS Test and Trace, and can we move to paragraph 3.1, please, on page 5.

You detail that on 5 May 2020, the then Prime Minister, Mr Johnson, called you and asked you to lead what was then called the Test and Trace Taskforce. You say:

"From the conversation, I understood the role was to be an operational (as opposed to a policy or political) one and involved the rapid expansion of the infrastructure to facilitate widespread testing for COVID-19 and contact tracing, which would produce in essential end-to-end population service ie a service accessible to all the population ... and to recruit a permanent leadership team to lead what would be a large organisation."

It details that:

"[You] understood that the role would be temporary. [And you] accepted the position, and [your] appointment was announced publicly two days later, on 7 May 2020."

A. Yes, that's correct.

Q. I think it's right, isn't it, and it's well known, that there has been a judicial review in 2022 of both the Prime Minister and the Secretary of State for Health and Social Care brought by the Good Law Project and the Runnymede Trust in relation to a number of appointments, including your appointment both to NHS Test and Trace and then latterly to the role of the NAHP, but I'm referencing that at this stage because it's right, isn't it, more factual context was given to the lead-up to the telephone call with Mr Johnson on 5 May within that judicial review?

And is it right that the background that's detailed within the judicial review includes essentially that there was a shortlist of candidates that had been identified to be approached in respect of the ask to be the chief executive, and then the role as to how it was you were then identified as the ultimate candidate and approached by Mr Johnson?

A. Yes, I don't have any more knowledge than that which any of us would have reading the outcome of the judicial review. So I've read that and that was the first time

I was aware of the detailed process that went on before I received the phone call from the Prime Minister.

Q. Thank you.

So can you give us some idea as of 5 May, because we're going to look at the scale of the task ask that faced you, having said yes to the Prime Minister. Can you perhaps just give a bit more of an idea of, when the Prime Minister had that conversation with you on 5 May, what was really the detail of what was being asked of you and what was required.

A. So by 5 May the government had already announced the intention to launch a citizen-level mass testing and tracing service. It had already been decided how many contact tracers were needed to do that, and the teams were working flat out to stand that up, several of the Lighthouse laboratories had already got started, and the team that existed had delivered 100,000 tests at the end of April, which was the first target that the National Testing Programme had been set by the Secretary of State.

So there was the beginnings of what became NHS Test and Trace, with a relatively small team in the Department of Health and Social Care working, sort of, 20 hours a day, seven days a week, trying to scale this and launch the service as fast as they possibly could.

And the brief that I received from the Prime Minister and from the Chancellor in that first week was to do everything possible to launch and then scale a -- in their words, not mine -- world-class testing and tracing service to support the country as lockdown measures were released.

Q. Thank you.

Now, you've referenced that the Chancellor was also in that initial meeting. I'm going to deal with it at this stage because one of the reflections that you've provided in comments for future pandemic planning is the need to essentially have regard to the most vulnerable in society and the need to be essentially money there to assist with isolation.

Was anything said in that initial meeting around that problem in terms of an identified issue that those individuals who perhaps were vulnerable or most needing were not isolating because -- and not testing, because essentially they had to feed their families?

A. To be honest, in that first meeting, no. At that stage the brief I was receiving from the Prime Minister and the Chancellor was all about scale. And it became clear to me as I spoke to public health experts and people from local government, from Public Health England, from my colleagues from NHS England, that it was really

important to build a service that supported the most vulnerable. But that wasn't in the brief that I initially received at all.

Q. Thank you.

Now, it's clear from your statement that that is something that became a real concern for you. If my summary of it is inaccurate, please correct me, Baroness Harding. But can you help us then on the timeline once you were in post and dealing with the issues to scale up testing and contact tracing when you realised that was a big issue relating to there not being support payments there to assist those most vulnerable to isolate?

A. For isolation support specifically?

Q. Yes.

A. So I think through May and early June, as we work through what makes for a really successful testing and tracing service, it's obvious -- and I know others have said this -- it's only useful if the service enables people to actually isolate and break the chains of transmission.

And through the course of early June, as we got early feedback from people using the service, it became increasingly clear that one of the main reasons people didn't come forward to get a test in the first place,

why they didn't come into the system at all, was because they were afraid of the consequences of needing to isolate, both financial and non-financial.

So from June onwards, from a purely operational perspective, and my brief was operational, not policy or political, but in order to make the service I was being charged with building more effective, it was clear that one of the biggest levers you could pull would make it easier for people to isolate. That we were only finding a relatively small proportion of the people who had Covid at the time. And we could assess that through comparing with what the ONS survey was telling us the prevalence of the disease was with the number of people who were testing positive each week.

So all of the economic modelling showed you that the most effective thing you could do was make it easier for people to isolate. And then all of the human lived experience told us the same.

So I'm a retailer by training, as you've said, and retailers, we go out to our shops and we talk to our customers and we talk to our staff and they always know what's really happening.

So I went out in June, July, August, all the way through, really and I talked to staff in testing sites, I would do virtual listening groups with a variety of

different groups of generally unheard, disenfranchised, disenchanted groups in society, who didn't feel like the system was working for them, and they all said the same thing, which was that isolation was really hard to do, and we weren't doing enough to support them.

So I started trying to fight for this in June 2020 and, to be honest, my Lady, I feel like I still am, and I think it's one of the most important learnings for this Inquiry, that a mass testing and tracing system can have a huge impact in reducing the harm of a pandemic but it is so important that we support the most vulnerable. They're the most exposed to every infectious disease and that means you have to put isolation support at the forefront of your testing and tracing system.

Q. Thank you. Baroness Harding, we will come back to that issue and topic as we work through the chronology. Can we then, please, deal with what you've told us about your role being an operational one. Please could we display your paragraph 4.2 at page 7. You tell us that:

"[NHS Test and Trace] was an operational organisation implementing UK government policy when first created, [NHS Test and Trace] operated effectively as a new operating directorate of the [Department of Health and Social Care] with a specific remit as part of

the pandemic response. The policy decisions were all taken by Ministers and as indicated above, Ministerial accountability for the programme remained with the [Secretary of State for Health and Social Care]. My role was an operational one. I had to take Ministerial policy decisions and the scientific and medical guidance that the Scientific Advisory Group for Emergencies and [Chief Medical Officers] provided and then advise ministers as to the best operating system and service to meet those requirements. Following Ministerial steers, I was then charged with implementing and running this operating system and service."

So, it's clear what you're saying there as to your remit, your role, and plainly it required also input from ministers for decisions you were to make; is that correct?

A. Absolutely.

Q. I think one of the things that we'll come on to as we move through is the limits you had on procurement that was also a fetter on your ability to operate operationally; is that a fair summary?

A. At certain times during my tenure, yes.

Q. Thank you. We heard yesterday from Mr Munn from the Cabinet Office, who effectively said, when asked who was responsible for NHS Test and Trace, that it was you.

I'd like to give you an opportunity to respond to that in the context of what we've just looked at, by reference to your operational role, please.

A. Well, I've tried to describe I was operationally accountable for the organisation, but the strategy was set by the government, policy decisions were therefore made by ministers. The accounting officer was David Williams, the second permanent secretary in the Department of Health and Social Care. It's important I didn't have any spending authority. So although I very much felt accountable for the operational performance and delivery of NHS Test and Trace, I don't think you could say that I was single-handedly responsible and accountable for everything because it sat, as it properly should do, within the system of ministerial and Civil Service responsibilities.

Q. Thank you.

Can I then, please, identify what already existed, which the Inquiry has heard some evidence from. We know that by the time of your appointment of May 2020 the first four Lighthouse laboratories had opened in April 2020, and the Inquiry has heard some evidence about the taskforce that had put that together and I think, on your appointment, was stood down from their role under the operation of the Lighthouse laboratories.

Did you have any handover from those teams that had scaled up the first four Lighthouse laboratories when you took on the role in May 2020?

A. Yes, absolutely. So the senior team who comprised the National Testing Programme, who had come from -- variously from the Office of Life Sciences, from the Department of Health, from the military, they transitioned -- most of them, the senior leadership, transitioned off by the end of May and we recruited in to replace them. Some stayed throughout the whole duration of the whole pandemic. So we tried, wherever possible, to maintain the knowledge that they had built as they'd done that first phase of scaling testing.

Q. Thank you. Now, you've already mentioned that at the time of your appointment there were these -- I call them call centre, or virtual call centre contact tracers that had already been appointed, but certainly what seems to follow from May onwards, and certainly towards July 2020, under the contain framework was more input from the local resources on contact tracing and in particular the directors of public health.

We can see that one of those that I think was appointed as part of your team was Mr Tom Riordan from Leeds City Council.

A. Yes.

Q. So can you help us in terms of what you did in your role around the central to local, and acknowledging or realising the need for more input from the local contract tracers' expertise, please.

A. Yes, so when -- as I say, that first week I was appointed, I made a number of calls to people that I knew in the NHS and in local government, and I've listed some of them in my statement, and had pretty universal feedback that local authorities were feeling excluded from the plans to scale up contact tracing, and that we needed to make much greater use of their expertise and relationships and capability. So the first weekend I worked with Mark Lloyd -- at the time, was the chief executive of the Local Government Association -- with others to find a respected local authority chief executive to come into the test and trace leadership team, and that was Tom Riordan. And Tom, in turn, recruited a team of mainly ex-local authority chief executives to act as regional coordinators to help us coordinate better with local authorities. And Tom held the pen on developing the contain framework.

So one of the things, my Lady, that wasn't in place at the beginning of the pandemic was a clear sort of set of the relative responsibilities between sort of local

government, regional government and national government, in testing, tracing and isolating. So Tom worked really hard to set that out, and present that for approval to a Covid-O, I think it was approved at some point in June.

So it was very clear to Tom and I we needed to get more local. We also had to have scale. So you mentioned the 15,000-odd contact tracers that were being recruited. They were literally being recruited live and trained during that three-week period from my starting and the service launching. That was a non-trivial and enormous task that was being run by NHS Business Services and Michael Brodie, as part of a virtual team with Public Health England.

So this was lots of different moving parts but, from the very beginning, I felt that I needed to be, the phrase we used was a team of teams, that you needed both the scale of a national call centre to provide surge capability if you had an outbreak in one part of the country or another, you needed a national data spine, a lot of the contact tracing we did ourselves when we filled in the information ourselves on the webform. You needed that all to be consistent but you also really needed the local knowledge and expertise.

Just by way of context, when I started, there were

290 trained contact tracers, as -- in the director of public health teams and the PHE regional teams, in the whole of England. So -- and we needed 15,000.

So you had to have some form of virtual national call centre but you needed the local expertise as well and, through the course of 2020, we shifted more and more towards that local and national team of teams. Maybe one fact that's not in my statement, that probably should have been before is, if you look at the budget for contact tracing for 2020 -- the year 2020/2021, we spent £1.8 billion in the local outbreak containment fund, which was all money that went to local authorities for their local contact tracing and isolation support, and we spent 900 million, so roughly half, on national contact tracing.

So it took time and, with the benefit of hindsight, you'd do it earlier, but we worked really hard from May onwards to get this balance right of local and national working together.

Q. Thank you.

Can I ask you, with identifying the budget that was then provided I think in the July of 2020 to local authorities, was there any discussion around why there had been the under-utilisation of the directors of public health before you had been in post in the May of

2020?
A. I think that -- I think that this is quite a Whitehall disease to not understand's how local government works, and I think it actually can be quite a local government disease not to understand how national government works, and so it wasn't discussed.
Q. If I can ask you to slow down, I'm sorry, for the stenographer. I'm sorry for interrupting you.
A. Sorry, I'll try and speak slower.

I think it's quite an institutionalised disease for the national teams not to really understand the strengths and benefit that the local teams bring, and vice versa, which is why I think it's so important to have both.

So, from memory, Tom was widely respected amongst his local authority colleagues but also widely respected in Whitehall. He'd done a job in what was -- what's now the -- in the -- what was then the Department for Levelling Up, so he had relationships at both national and local level, and therefore was heard, but I don't think it was something that had -- the discussions had happened before we brought him in.
Q. Thank you.

Can we then, please, move to your paragraph 4.22 on page 16 of your statement. You detail the following:

"I recruited the majority of the first executive committee of [NHS Test and Trace] over the first weekend after I was appointed. Whilst the leadership team (mainly comprised of secondees from [the Department of Health and Social Care], NHS and Office for Life Sciences) I inherited at the beginning of May 2020 had done an extraordinary job scaling PCR testing to 100,000 a day. They were utterly shattered and did not have the operational experience that was needed to lead [NHS Test and Trace] to the scale required. Although a small number of the senior team stayed on with [NHS Test and Trace], most were exhausted and took leave before returning to their home departments. I therefore set out to bring into [NHS Test and Trace] experienced, seasoned leaders from the NHS, local government and the private sector. I sourced candidates by headhunters, the Chair of the Local Government Association, the Cabinet Secretary and the Deputy Chair and Chief Operating Officer of NHS England and, where it was possible to identify multiple candidates, interviewed them over the weekend and first week wherever possible, together with the Second Permanent Secretary at [the Department of Health and Social Care] or [NHS Test and Trace's] Chief People Officer once the latter was appointed. The individuals we appointed were either

seconded from their permanent organisation or on gardening leave from commercial jobs, and therefore immediately available. I asked them to serve for 3 months initially. This process is obviously not standard for public or private sector recruitment, but was essential given the urgency of the problem at hand."

Can I ask you then, in terms of that and also what you go on to deal with, which was essentially after that first three months, that, again, a number of the staff you lost in the August/September time, so were the urgent measures you outlined there necessary because of the absence of planning before you being in a role?
A. Yes, but I think it's also the reality of a crisis that, no matter how well you've planned, you will need to do some form of urgent recruitment for skills that you hadn't thought about before, but the reality was there was no plan for scaling a national level testing and tracing service, so the fact that there was nothing at all obviously meant that we were having to start from scratches in recruiting people.
Q. And you say no plan. The evidence the Inquiry has heard is as to what was being done to scale up the Lighthouse laboratories, and so can you just contextualise what you say there, that there was no plan still, notwithstanding the existence of the Lighthouse laboratories?

A. So I was really referring to January, February, March, that there was no plan before the start of the National Testing Programme.

So the team I inherited were necessarily focused on a very, very short-term objective, which was to stand up the first phase of Lighthouse labs to get to 100,000 tests. I think within a week of my arriving, the Prime Minister announced the 200,000 test target for the end of the month, and we had a goal of launching the end-to-end testing and tracing service by the end of the month.

So the time -- it almost seems crazy describing it here now -- you had three weeks to launch a national citizens service, and the management team for the National Testing Programme had literally been working all the hours that they had, and in my first meeting with them, in the first week, most of them told me how they were just about to finish and go back to their home department.

And that's no criticism of them at all, my Lady. They did an amazing job. But we needed, in literally a matter of hours or days, to have really experienced leaders to tackle this enormous task. And inherently, you could only plan towards that first objective, which was getting the service up and running.

My first chief people officer, her primary objective in the three months that she was seconded to us was to recruit a permanent leadership team. You couldn't recruit a permanent leadership team over a weekend; you could only recruit people to come in on secondment or free of charge on loan from another government department or from a company, and you couldn't ask them to stay indefinitely. The only way I could persuade great leaders like Tom Riordan to come, Sarah-Jane Marsh, who came from Birmingham Women's and Children's NHS Trust, for example, was to promise their respective chairs that I would send them back after three months.

Some of them stayed longer than that, for which we should all be eternally grateful, but it was an exercise of gentle arm twisting to persuade experienced leaders from across society to come and help.

Q. And perhaps this appropriate opportunity to ask also, did you receive remuneration for your role as chief executive of NHS Test and Trace?

A. No, though I was executive chair -- not that it makes a huge difference --

Q. No, it does.

A. -- but, no, I was paid as the chair of NHS Improvement, I continued to be paid as chair of NHS Improvement,

I took no additional remuneration for test and trace.

Q. Thank you.

Can we then, please, move to paragraph 4.29, please, at page 18. Thank you.

You detail that:

"Once [NHS Test and Trace] had been launched and it was clear that the service would be required for more than a few months, the then-Chief People Officer launched several concerted efforts in the summer of 2020, including a 2-week resourcing 'sprint' in late August and early September to fill vacancies and to recruit civil service staff to replace consultants, especially in management roles, on the basis this would be both less expensive and provide greater long-term continuity and therefore be better value for money. This proved extremely difficult to achieve, partly because some of the skill sets were in very short supply across the civil service (eg programme management, digital development) and partly because working in [NHS Test and Trace] was inherently a short-term assignment under enormous scrutiny and pressure, which certainly deterred some candidates. Given the frequently changing course of the pandemic, it was difficult to provide certainty to colleagues for more than a few months and as the pandemic progressed this became less and less

appealing to those in permanent civil service roles who understandably looked beyond the pandemic."

So can I ask you, in terms of the gap in staffing that certainly you detail in the statement was acute in the third week of August of 2020, can you help as to what accounted for that gap?

A. So, in a crisis, there are two places that government goes to get resources. So the first place is you look to second civil servants from non-crisis departments or functions. So that's the first place. The second place you go is to the military, to use military resources to urgently stand up services. They're particularly brilliant at logistics.

And NHS Test and Trace and the National Testing Programme had used those two sources to in extremis, to the extent that we were using all that we could from the public sector by civil servants and the military. So you have to then fill the gap with short-term consultants or contractors, and that was how the Vaccine Taskforce was stood up, it was how the Ventilator Challenge was stood up, it was also how the National Testing Programme was stood up.

So when I arrived in May, a substantial proportion of the operating workforce were consultants and contractors, and we recognised from an early stage, as

the statement says, that you want to have more permanent expertise and knowledge, and it will be cheaper to have people in permanent roles.

So the work that went into trying to replace temporary consultants with permanent civil servants began in real haste and scale in that summer under the then chief people officer, using the full support of the chief people officer of the Civil Service and the team in the Cabinet Office, but to be honest we didn't move the dial at all, because as fast as we recruited permanent civil servants to come in, new tasks were set us, either by the disease or by ministerial decisions because of the disease, to build new services.

So as fast as we filled vacancies with permanent staff, we ended up recruiting more consultants, such that by the time I handed over to Jenny Harries, the numbers were not that dissimilar to the way they were in the summer. And I know that she then led similar exercises to replace temporary consulting staff with civil servants.

Q. Your statement identifies volatility in the laboratory workforce, including staff as a factor affecting capacity in September of 2020 which continued into the autumn. Should there have been a more robust approach to recruiting competent and reliable staff in the

preceding months of May to September rather than recruitment to generalist consultants?

A. I think the thing to remember about people working in the laboratories is that they were working on a shift system, 24 hours a day, seven days a week, and they got Covid too. So when we refer to volatility, it was volatility from absence because of Covid illness and Covid isolation rather than any lack of capability to do the role.

I think that the combined teams of biomedical scientists and students who worked in those laboratories did an extraordinary job. And if anything, one of my concerns I have, my Lady, is that it's tempting to assume that because they were temporary they weren't good; they worked really hard and they deserve our thanks, I think.

Q. Thank you. Can I ask then, in terms of this shortage of staff in the autumn time, is the lesson for the future, then, that there needs to be planning and trained and exercise specialists who can rapidly stand up such agencies and recruit relevant competent staff at pace?

A. Yes, I have been doing lots of thinking around how do you have that surge capability because it's plainly not economically sensible to have all of these people waiting with nothing to do and so, for both scale

testing and contact tracing, working through how you have some form of reserve force, it's almost easier to see in contact tracing, where the local authorities, directors of public health, but also people working in local authorities, could easily be a public health reserve force, able to contact trace if needed at scale, just in the same way we think of military reservists.

So that's I think an easier way of thinking about it. For the setting up of laboratories, clearly you need more specialist expertise but, again, thinking about how do you have more of the sorts of things like the government -- that the Government Commercial Office, who actually did fantastic work, the GCO, a small team of world experts at procurement who were able to be deployed during the pandemic, we should have a similar small team of experts for programme management, a similar small team of experts for digital product design, a similar small team of experts for diagnostic quality assurance, et cetera.

You could build that sort of capability that could be deployed from existing organisations. And I think that's at the heart of how you have a system that can stand up faster.

LADY HALLETT: Can I just go back. First of all, you mentioned the reserve force local public health

specialists, you said that you could use, deploy them as a reserve force who could then scale up. How do you do that with the limited number of public health experts? As you'll appreciate, every time I make a recommendation, I've got to work out how much will it cost --

THE WITNESS: I understand.

LADY HALLETT: -- because I'm not going to get recommendations past a government strapped for cash unless I can make it cost effective. So how do you have the kind of reserve force you're talking about and then maybe move on to the project management teams and the other teams -- how can you make them able to have the surge capacity but not cost a fortune in ordinary times?

A. I think you have to use the existing health and social care ecosystem that we have. So we spend 150 billion on our health and care system, so I think we need to think about how we are pandemic prepared in the way we spend all of our money in health and social care. So, for example, on the laboratory side, if you think about how we have scale pathology labs in the NHS, as opposed to lots of small labs in individual trusts, one of the big differences between Germany and the UK, as we went into the pandemic, is that Germany had regionalised pathology networks. Lord Patrick Carter actually recommended

reducing the number of pathology labs in the NHS from 120-odd to 29, I think, in 2008 but, as we went into the pandemic, that still hadn't happened.

So if you had a more scalable pathology service, which would actually give better diagnostic capability for the NHS today, that helps with your labs. If you follow the evidence of Lord Bethell on more focus on public health, more focus on prevention, more community services in our approach to health and care, what that will give you, my Lady, is a larger team of people who won't be public health experts but who could do half a day, a year's training in contact tracing, so that when their local public health experts need them, they're able to be deployed.

LADY HALLETT: Thank you.

MS CARTWRIGHT: Thank you.

Can we display your paragraph 4.31, please, at page 19. You detail that:

"There were occasions on which [NHS Test and Trace] was instructed by HMT and/or the [Cabinet Office] to reduce operational capacity ..."

I'm going to move to paragraph 5.11 in a moment.

"... in testing and contact tracing only for infection rates to rise rapidly with the consequence that resourcing needed to quickly scale up existing

services to meet demand. Further to that, [NHS Test and Trace] was frequently tasked with building new services within short time frames (such as testing the whole population of Liverpool and standing up education testing over the Christmas holidays in 2020/2021), which required consultants to be brought on and retained. As such, despite sustained efforts to reduce the use of consultants, [NHS Test and Trace] continued to use substantial numbers of temporary labour and resourcing throughout the pandemic."

Can I ask you, you've identified rising infection rates. Could you just give some clarity to the Inquiry about the role of the JBC as a resource that you had from May onwards that helped identify infection rises or things on the horizon, please.

A. So the Joint Biosecurity Centre was conceived as the data analysis engine for the testing and tracing service. So they provided -- they took all of the data that came from our test results and contact tracing, and used that to provide analysis to the CMO and to ministers to enable them to make decisions on implementing other non-pharmaceutical measures like local lockdowns. So the JBC was a core part of my team, because they relied on the wiring, if you like, the data flowing from test and trace, and they played a role in

thinking through what questions do you ask someone to fill in when they order their test, so that you get, you know, demographic information, for example, to help you understand who might have the disease and whether there are particular pockets.

So they needed to be integrated into it. They were the data providers and analysers in the Local Action Committee, the bronze, silver and gold meetings, the silver chaired by the CMO, the gold chaired by the Secretary of State for Health and Social Care. So they were using what Test and Trace -- and they used other data from the NHS and other publicly available data sources to provide advice on where and how to combat the disease at a local level.

Q. Thank you.

Can I ask you, informed by that resource and expertise, you reference rising infection rates. Are you able to assist as to whether the JBC provided intelligence before as to the increase in infections in the community again, prior to us going into the second lockdown on 5 November 2020?

A. Yes, they did. So I think -- I wasn't obviously there during the first lockdown and the decision where there wasn't the data. But by August 2020 it wasn't perfect but the JBC were producing sort of daily readouts from

the Bronze Committee, weekly readouts for Silver and Gold, and in the early -- we'd seen in Scotland, when -- schools go back earlier, in the middle of August in Scotland -- when the schools went back earlier, Scottish infection rates had risen and, as schools came back in that first week in September, you started to see the infection rates rise and the JBC did highlight that to me and also through me to the CMO and Secretary of State and I think -- I know others have commented on this that -- through September, October and November, it was clear that infection rates were rising and, you know, it's so easy with the benefit of hindsight but, with the benefit of hindsight, I suspect we all see that should have locked down earlier.

Q. Thank you.

LADY HALLETT: Thank you. You've linked the rise or may have appeared to some to have linked the rise in infections to the schools going back but, of course, the schools are going back at a time when restrictions were being eased.

A. Yes, and I'm not an epidemiologist, so I need to be very careful, my lawyers keep telling me to stay in lane, and the CMO would be far better placed to give you the full answer. What I can say is that it was the JBC's role to give you the present that data and the head of the JBC,

with me sitting beside her, did do exactly that in those early couple of weeks in September to both the Secretary of State and to the Prime Minister.

MS CARTWRIGHT: Thank you.

Can I ask you, then, perhaps looking earlier in the chronology as well, as to what impact decision making may have had upon capacity or demand on NHS Test and Trace. Obviously, restrictions were eased and the original coming out of lockdown was around the June period of time. Was there any feeling, equally, that that had been too soon in terms of then the impact that was having around the demand being placed for tests on NHS Test and Trace?

A. I mean, as I say, I'm not the expert, so I need to be careful, but I think that through that summer, as a country, we were running hot in terms of the infection rates, compared to some other countries that had taken longer to come out of lockdown, and a testing and tracing service is going to be operationally more effective with lower infection rates. So there's no doubt that it made it harder, but that's a political judgement. Not one for me.

Q. Now, I promised that we'd go to your 5.11 but can we move first of all to 5.10 on page 20, please. You detailed that:

"For example, [NHS Test and Trace] faced various difficulties in obtaining HMT and [Cabinet Office] approval for Lighthouse Laboratories in the summer of 2020, and this meant that the approvals process for the expansion of the Lighthouse network took far longer than it should have in the circumstances. Had [NHS Test and Trace] had greater delegated procurement authority during this time, this would likely have reduced the capacity issues we experienced in the autumn. It was these frustrations which led to the substantial delegated authority to directly approve spending on PCR and [lateral flow device] tests and award contracts up to £150 million that was agreed with the Prime Minister and HMT from 22 September 2020."

Now, I think there's some underpinning material that details the problems around the continuation of the scaling of the Lighthouse laboratories.

But can I ask you, can we display, please, just briefly to capture the state of play in May, INQ000587456. Thank you.

We've looked at this map on a number of occasions with individuals and we can see that the first four Lighthouse laboratories were established in April but then it was not until October 2020 that the Newport Lighthouse laboratory was operational, November for

Charnwood, and then it took until March 2021 for the further laboratories at Plymouth, Brants Bridge and Baltic Park to then come on line, before finally the Rosalind Franklin Laboratory in June 2021.

So, April to then October before Newport, and so can you assist: did the procurement issues that you've identified result in what seems to be a big gap and a slowing down of the scaling up of the Lighthouse laboratory network?

A. Yes, I think it did and, just to give a bit of context, if you go back to how we all felt as we came out of that first lockdown, it was very tempting to believe that Covid was beaten, the world was getting back to normal, and I think that's what we experienced in government procurement decision making. There were, you know, substantial voices wanting it to return to pre-pandemic normal procurement processes, which would have been, you know, months if not years before you would procure at this scale, and that definitely slowed down the next phase of the building of Lighthouse laboratories.

It also slowed down the scaling of the existing Lighthouse laboratories, so the path to 500,000 tests a day for the end of October, that we were tasked with, required us to expand capacity in the existing labs as well, not just the Lighthouse labs, it required the NHS

and PHE labs to expand and other labs too.

The business case for all of that expansion took far too long to get approved through June and July. Some of that may well have been due to inexperience in my own teams. You know, it was the first time we'd done something of that scale but it's really stark when you look at the map here how quickly the first set of Lighthouse laboratories went from concept to operation and how much longer it took.

And I have some empathy for why colleagues in the Cabinet Office felt they needed to scrutinise, for fear of sitting in an inquiry such as this and explaining why they'd approved things out of process, but that's why, through August, we'd discussed with the Secretary of State and with the Chancellor and the Prime Minister how we'd changed the way procurement worked because, otherwise, we were cutting off our nose to spite our face. We were slowing down when it was clear the country needed that testing and tracing capacity for the autumn and every day really mattered.

Q. Thank you.

Then to inform the "everyday really mattered", did the data and information you were receiving from the JBC further support that every day mattered to get greater laboratory facilities for tests?

A. Absolutely. And I think you can see in the emails, in the evidence, you know, this is senior people sending emails at midnight saying, you know, basically "I'm scared, I can't deliver what I know I need to because we're stuck in the bureaucracy and we need to find a different way of doing this."

So, as you look forward, having crisis-appropriate procurement processes -- I'm not suggesting that scrutiny isn't appropriate, of course it is, but the risk of not building the labs was so much greater than the risk of spending 10% more on the procurement. And that wasn't being recognised in that summer.

Q. And can I ask you, then, because we know that until December of 2020 you had a reporting line to the Prime Minister, and so, particularly with the frustrations you've expressed from the summer of 2020, would it be a fair assumption to say you would have been raising these frustrations in meetings that you were having with the Prime Minister?

A. Yes.

Q. What assistance did the Prime Minister give to you to essentially get a solution as quickly as possible?

A. Well, in the end it was through the Prime Minister and colleagues such as Ollie Munn in the Cabinet Office that we negotiated a different process with the Treasury and

with the Cabinet Office, but, as I know in Module 2, my Lady, you've been exploring, government decision making is complex, and one of the things that you learn, taking on the role that I did, is that actually that politicians still need to find a point of consensus amongst their cabinet, and it took a while to get that consensus through the summer, and I do think that there were a lot of us as citizens who wanted to believe that it was all over and we didn't need to do it. And that was what was playing out amongst the politicians who needed to make these decisions.

Q. Thank you.

Now, Baroness Harding, last week we looked at some of Lord Vallance's evening notes, and caveating that they are not anything other than handwritten notes of an evening, but one of those entries was from 6 August 2020, which described:

[As read] "People changing all the time, no one knows who's actually in charge of Lighthouse labs."

Can I ask, did the Lighthouse laboratories suffer from a high turnover and unclear leadership in the summer of 2020?

A. Um, I think everything is context dependent. So at that point, at the beginning of August, we must have been just at the point at which Chris Molloy, who I know has

given evidence, was standing down as the head of the Lighthouse laboratories, and Dame Anna Dominiczak was taking over. So I can understand why Lord Vallance would have been observing quite a cast of characters changing.

It was also at the time where, if you think of the senior leaders that I'd brought in had done their three months, and we were changing.

But I think it's a mischaracterisation to say that it was all unstable. It was a crisis situation where people were doing a tour of duty, and then the next team was coming in. And, you know, Dame Anna had been leading the set up of the Glasgow Lighthouse laboratory. So she wasn't new; she'd been the dean of the Glasgow Medical School, she's now the Chief Scientist for Scotland for health matters. So Anna was deeply involved in the programme, and was transitioning I think at that point. So I think yes, in part. You know, crisis are chaotic, and there were a lot of changing and moving parts, but I don't think it was more than you'd expect given the rate of growth of the organisation.

Q. Thank you.

Can we then go back to paragraph 5.11, please. We've dealt with 5.10, which identified the ability from 22 September to award contracts up to 150 million, but

you then go on to say:

"These challenges were further exacerbated by the inherently unpredictable nature of the pandemic. In December of 2020, [NHS Test and Trace] was encouraged to move towards a more 'business-as-usual' environment and increase focus on value for money across the organisation (including in relation to procurement). Shortly afterwards, a new variant of the virus emerged which led to the standing up of new use cases such as the testing of hauliers at the border and of secondary school staff and pupils at very short notice and the need for a third lockdown. This meant that simultaneously [NHS Test and Trace] was being challenged by the Prime Minister to scale faster, and the [Cabinet Office] to slow down."

So it seems that that is a tension throughout the year that you were the Chief Executive of NHS Test and Trace; is that accurate?

A. I think the tensions were particularly evident at the point where very, very difficult political decisions needed to be taken. I don't think it's a coincidence that we're looking at this correspondence in December 2020, or that the previous point that we were talking about was August, September. In both cases that was where -- you know, for a lot of us, we all wanted to

believe that it was over, but actually the data and the disease had got a different plan, and the data was pointing to infections on the rise.

So, in December 2020, there were, you know, perfectly reasonable, very smart people wanting to believe that Christmas would be normal. But what the JBC was telling me and the Secretary of State for Health and the Prime Minister was that actually, we urgently needed to scale, and there was a real risk of needing to have another lockdown, and my instructions were: do everything you possibly can to mitigate the risk of that.

And hence getting those very conflicting instructions.

When there was a clear political path -- so, as we came out of the third lockdown, the path out of lockdown was very clearly documented, with clear rules and guidelines for how government would make its decisions. Then government was completely aligned.

Now, I'm not naive, I don't expect that in a crisis the government can be completely aligned and rely on a publicly published document, but in those particular points in 2020, NHS Test and Trace was being given directly contradictory instructions by different parts of the machinery of government. And I've no doubt in my

mind that if there was a more structured process in place -- it would still have led to changing instructions, but not entirely directly opposite ones at the same time, if there'd been closer -- and I know that's more the subject of Module 2, my Lady, so I'm sorry if I'm erring where I shouldn't.

Q. Thank you.

Can we then continue with the questions on Lighthouse laboratories, please, and move to your paragraph 5.19, please, on page 24.

Thank you.

Now you detail within paragraph 5.19 and 5.20 the expansion of the Lighthouse laboratory network in the summer of 2020. Can I ask you, on 23 July 2020, Vaughan Gething announced a new Lighthouse laboratory in Newport, that we've looked at together didn't come online until the October of 2020. The expectation had been that that laboratory would be up and running by August but it didn't open until 5 October.

Can you assist, please, Baroness Harding, as to how the location of the laboratories was identified and selected?

A. I'm sorry, I can't really give you an awful lot more detail on that. I'm sure that we can go back through the records and write to you if that would be helpful,

but I wouldn't have been personally involved in the specific site selections, that would have been Chris and then Anna's team working through what they thought was the right sort of geographic location for the very complex end-to-end logistics, and to ensure wherever possible that all four nations were being appropriately supported.

Q. Thank you.

Can I ask you then specifically with the Newport example, what was the -- are you able to give the specifics as to why there were such serious delays in setting up the laboratory in Newport? Is it under the context of the discussion we've already had about the problems with getting the procurement for the continuation of the Lighthouse laboratories?

A. I think all of these things are multifactorial, and it's tempting to make it one. I think we've talked about procurement as being one. The sheer complexity of sourcing the equipment -- remember there was a global race for all these PCR machines, recruiting the teams, making sure that they're clinically -- the processes are clinically validated. This is a non-trivial exercise. I can't, I'm afraid, speak to the detail of exactly why that took what, in Covid time, feels like a very long time, but in normal time would still be probably about

ten times faster than you would ever sensibly set up a laboratory.

Q. Thank you.

Now, if we look at paragraph 5.21, you deal with the response of NHS Test and Trace to the demand for increased testing. And can I ask you in particular about paragraph (b), which included procuring short-term PCR processing capacity from private surge providers.

Can I ask you therefore, are you able to assist as to the -- was the reason and frequency for that linked to the fact that the Lighthouse laboratories hadn't progressed as quickly as they could or should have done?

A. It was all forms of testing, weren't proceeding as fast as we would want. So I think there are a number of exhibits attached to mine and to the UKHSA corporate statement that show you the complexity of going from 200,000 test capacity at the end of May to 500,000 test capacity at the end of October, and then 800,000 by Christmas. We were pushing every type of laboratory to expand as fast as they possibly could.

So existing Lighthouse laboratories, whether that was Milton Keynes or Randox or Alderley Park, pushing them to expand their capacity, that was about procuring more robotic automation. So automating more and more of the end-to-end factory, if you like. We were also

pushing NHS labs across the country to expand theirs. Less full automation there because they had less space but they were still doing some of it. And then pushing for the new labs to get set up.

And as it was approaching through September, that target of 500,000 tests by the end of October was looking at risk, so we were looking for any laboratories that were clinically valid to add into the network if we possibly could.

So it was all of the above, my Lady, not just one.

Q. Thank you.

Can I ask you then, you identify in that paragraph obviously that using those, short-term PCR capacity, was more expensive --

A. Yes.

Q. -- and difficult to oversee. So was there actually value for money in going to this resource?

A. Making that value for money judgement, one of the things that the team were always doing was looking at the average cost per test and looking to drive that cost down as we got more scale.

So, as soon as you could, you would want to remove the most expensive tests on a cost-per-test basis and also the ones that were hardest to manage and ensure quality and performance. So these were our -- you know,

they were called surge labs for a reason. You didn't want to use them unless you absolutely had to. And so if we'd had more Lighthouse capacity come on earlier, then logically you wouldn't have needed to use them as much and logically you would have delivered more testing at a lower cost.

Q. Thank you. Can I ask you then, you identified that you were essentially utilising every possible resource for sources of testing. The Inquiry has heard some evidence from Professor McNally, for example, about what could have been offered through the university network, their ability to scale up PCR testing and with their connection to existing hospitals through the framework of medical schools, and also from the Crick in respect of their facilities and their offer of testing.

So can you assist, in terms of going to every available resource, were you aware of the offers that had been made by a number of academic institutions and research laboratories like the Crick?

A. Yes, and I can completely understand why anyone, who felt they could, really wanted to contribute and help. I think that the laboratories in London were connected in to the NHS Test and Trace Pillar 2 system in the autumn of November/December time, doing sort of single digit thousands tests per day. Now, I wasn't involved

when the original decision was taken to set out the -- set up the first sets of Lighthouse laboratories, but I think -- and I've thought about this quite a lot, having listened to a lot of the evidence in this module -- I suspect that there was no other choice in March/April 2020 but to take those Thermo Fisher machines out of the universities in order to get them working 24 hours a day, seven days a week, not because the machines themselves couldn't work like that in the universities but because the logistics that you needed to have them working 24 hours a day, seven days a week, were of a scale that needed to be centralised.

And I am obviously a retailer by background, I think of the laboratories as the warehouses. The piece that really needed to be local in testing was the testing sites: the shops. You needed to get the testing sites as close as possible to people who most needed testing.

So, actually, with the benefit of hindsight, I wouldn't change the decision on setting up the Lighthouse labs, but I would change which of the testing sites that you opened first because the same scale, national approach, went into the testing sites. So I think the first testing site was at -- was in the car park of Boots' head office in Nottingham and the second was at Chessington World of Adventures. Both could only

be accessed if you had a car.

If you were doing this again, you'd set up your first set of testing sites in local community halls in Tower Hamlets, not in Chessington World of Adventures. So I think it's a bit of a false dichotomy. I totally understand why the university leaders really wanted to help and, you know, I wish -- I think Lord Bethell said in a perfect world we would have been able to context them faster, but you had to make choices and you needed the -- it sounds very mundane but imagine 30,000 boxes -- we all filled in and did tests and put them in the boxes and sent them back. Imagine 30,000 boxes arriving in this room, my Lady. They have to be unpacked safely because they might contain obvious virus; they've all then got -- all of the waste from those boxes has got to be dealt with; all of the machinery, the robots need to be working 24 hours a day to work through what is a production line. And so to get to the scale you needed in the summer 2020 you needed that.

Now, I do think -- if I may, I do think there is another way you could, looking forward, tackle this, which is why the Germany example is so important. If we had a slightly more regionally-scaled pathology network in the UK, along the lines that Lord Carter recommended

in 2008, so you had high throughput pathology services for the regular diagnostic tests that we all received from the NHS -- in this modern world of data moving, that's perfectly doable because other countries do it -- you would then have laboratories within our NHS ecosystem that would be more suited for scaling than the laboratories that we had in academia and the NHS in 2020.

Q. Thank you.

Can I just explore with you your paragraph 5.24, where essentially you deal with the analysis we've just looked at together around existing laboratory capacity. But if we go over the page, please, you essentially detail that it was not possible to scale at the speed required via existing NHS, PHE or university laboratories:

"A university or hospital laboratory that in peacetime may conduct a few hundred PCR tests a day, did not have the space, systems or processes to conduct 30,000 tests per day within a couple of months and this was the brief that was given to and urgently implemented by each Lighthouse Laboratory ..."

The evidence the Inquiry has heard is that certainly Professor McNally thought they could get to 3,000 to 4,000 tests a day and, obviously, if you multiply that

across the 40 universities that are linked to medical schools, there's that connectivity, as well as other institutions, other universities, that have the relevant PCR testing.

Similarly, the Crick, Sir Paul Nurse gave evidence that they, with support, believed he could scale to 10,000 tests a day and obviously gave the example that you only needed then ten places that could do that to get to the 100,000.

So can I ask you, in providing your statement and giving the answers you've just given, have you had the appropriate regard to what those that operated these laboratories believe was possible if they had been utilised, rather than moving to the Lighthouse system?

A. I mean, I've thought about this quite a lot over the last couple of weeks, and I think that there is a -- the thing to realise is the challenge -- the exponential complexity of having multiple laboratories. So I've no doubt that Professor McNally and Sir Paul Nurse are right that they could have scaled, themselves, to a few thousand or 10,000 but we needed hundreds of thousands, and every time you added a new laboratory, keeping them working, all the machines, all the people, working 24 hours a day, seven days a week, requires you to balance the load of tests that are arising to them. So

you're creating an ever more complex system. So what we had to do was make priority judgements, and the judgement was to prioritise the biggest laboratories first, in order to scale quickly because, as I've said, my Lady, that doesn't affect your ability to deliver a localised service.

And I do think, when you look at the testing capacity for the UK, compared to all other countries, there's only one country that had more testing capacity than we did by the end of 2020, and that was Denmark. Every other country including Germany was substantially less than we were. So it wasn't perfect. I'm sure that, you know, again, with the benefit of hindsight, if you'd started all of this in January 2020, could you have got more of the university labs onstream a bit earlier? Maybe you could, but you needed to have those big scale factories and, because of the lack of machines, you had to take the machines we had in the UK, which wasn't a decision I took; it was a decision Sir Jeremy Farrar and Sir John Bell advised on before test and trace was started but, with the benefit of hindsight, I suspect that we'd all do the same thing again.

Q. Thank you. Can I ask you, in terms of when we looked at the private surge providers, did the data issue not

apply when you were using private surge providers about how you could get the results and data across, or was there a contingency for that?

A. I wasn't aware of any data issues while I was there, recognising that obviously after I left there were. But I think there is a sort of higher-level point to this which the issues with the Immensa lab do show you, which is the added risk of having multiple small laboratories: that the quality assurance becomes exponentially more complex.

And this isn't a static world. So, during the year I was running Test and Trace, we learnt about the different genomic variations of Covid. We started implementing a genomic assay in the laboratories to be able to identify faster than full genomic screening whether or not you had new variants. That had to be -- those new processes had to be rolled out to every single laboratory.

So the complexity of doing that and the risk of making mistakes grows exponentially, and so I think you do have to be mindful of that when you're scaling:that you want to have fewer of these high-quality -- high-risk environments, if you possibly can.

Q. Thank you.

Now can I ask you about the Rosalind Franklin

Laboratory that we've already seen came online in June of 2021, so a month after you had ceased in the role; is that correct?

A. Yes, it was running pilot testing just while I was leaving.

Q. But can I ask you, just broadly speaking, in respect of that Lighthouse laboratory, which I think was the only one owned and operated by NHS Test and Trace itself, we know that, I think, by 2023 it was fully decommissioned.

Professor McNally, for example, has described the Rosalind Franklin testing laboratory as an example of an investment waste, and that the Leamington Spa lab never really made a significant contribution to the UK testing capacity or infrastructure.

Can I ask, do you have any views as to that particular laboratory?

A. Yes. So the Rosalind Franklin Laboratory was very much the brainchild of Dame Anna Dominiczak. We were all mindful of how much public money was being spent on this programme and how important if it was to have an eye to the future and leaving a positive legacy, and Dame Anna's vision was to create a reconfigurable, high throughput diagnostic laboratory, that then could be used for public health screening going forward.

At the same time that -- her vision included the

high throughput nature of the Rosalind Franklin Laboratory, it used a particular form of PCR testing called ePCR that came from the agricultural sector, actually, from testing of seeds, that was very, very large scale and would have enabled the cost per test to be substantially lower than the original Lighthouse laboratories.

So I can understand why Professor McNally might not have seen the strategy, because it wasn't available publicly, but the strategy that we were working to was, as the Rosalind Franklin Laboratory was being commissioned, if you remember at that stage the vaccination programme was rolling out, but we didn't know how much testing capacity would be needed for 2021 and 2022, and the vision was that you would close down the higher-cost Lighthouse laboratories and use the Rosalind Franklin ePCR factory flows to deliver large-scale, lower-cost-per-test PCR testing through the rest of the pandemic.

I can't speak directly for the decision making that happened after that, but I do think it is a real shame that Anna's vision for a public health legacy of high throughput testing that could be part of this government's vision for more focus on public health proactive screening -- it could have played a role. And

that was very much what was envisaged at the time that I was there.

Q. Baroness Harding, you express that as a "real shame". Bearing in mind the costs of the establishment of the Rosalind Franklin Laboratory, would you agree that it's something farmer than a "real shame" that, essentially, that whole laboratory has been completely dismantled and low longer exists?

A. I think the biggest shame is not taking seriously the importance of public health, that actually we -- and I believe Lord Bethell said this as well -- one of the most important learnings for me, working on this, is that prevention is so much better than cure and yet we spend so much more money so much more willingly on the cure, and so I do think it's a great shame and maybe it was an idea ahead of its time but that vision that high throughput diagnostic capability, coupled with a highly local, you know, targeted public health system that really looks after the people who most would benefit from that support, ought to be one of the legacies from Covid.

Q. Very briefly on cost before we break for 15 minutes, can we please just have displayed INQ000528313. You've already referenced, I think, correspondence that passed between you and Lord Agnew. This is obviously the

letter he sent on 10 December covering a number of matters. If we could just move to page 2., we can see in particular, he was questioning the long-term strategy for testing and under "Value for money" raised the query, in particular around the costings of consultants at £3 million per day.

Can I ask, given the persisting problems with staffing, resourcing and equipment, what your view is on consultancy costs of £3 million per day and whether that did in fact reflect value for money?

A. So I think you've also got in evidence Lord Bethell's response to Lord Agnew's --

Q. Sorry, Mr Hancock's. We do.

A. Yes, I think --

Q. From the January, I think --

A. Yes.

Q. Yes, we do.

A. And set this all out. So you ask a much bigger question, which is about value for money, and I think to answer a question on value for money, you have to first step back and say what are you trying to achieve? So the brief that I was given, that the Prime Minister and the Chancellor gave me was to build a testing and tracing service that would reduce the risks of much more painful lockdowns and other non-pharmaceutical

interventions, and so you judge the effectiveness and the value for money of the spend on whether or not Test and Trace succeeded in reducing infection rates, reducing hospitalisation, reducing the amount of time that, as a country, we needed to spend in lockdown.

There are a number of independent assessments of that. It's quite a complex thing to determine, so it's not an easy question to ask, is it value for money or not. But the evidence that I've seen, whether it is the Rùm or the CARNA models that were commissioned by UKHSA, or the Ernst & Young Oxford work that looked at the cost per test and concluded that the cost per test was value for money in terms of QALYs, so Quality Adjusted Life Years, which is the way that in healthcare we assess the cost of pharmaceutical interventions. Both Rùm and CARNA models concluded that the Test and Trace programme meant that we spent less time in lockdown, and that was worth considerably more than £3 million a day. But, as I say, it is a complex judgement on whether or not -- and I appreciate when you look at this, this looks like an enormous amount of money because it was an enormous amount of money.

But as we went through earlier, the reason you had to use consultants was because we'd exhausted the pool of military and civil servants who could be deployed,

and the team were working, as this letter was written, flat out to recruit civil servants while, at the same time, the disease had a different plan for us, had mutated, and we were about to be asked to scale up even further, which meant, actually, that consulting costs had to go up again because we needed more people to make sure that lateral flow tests were delivered to secondary schools for testing in the first week of January.

MS CARTWRIGHT: Thank you.

My Lady, is that a convenient moment?

LADY HALLETT: Certainly. I shall return at 11.35.

I hope you were warned that we take beaks but I promise you that we shall finish you before we break for lunch.

THE WITNESS: Thank you.

(11.19 am)

(A short break)

(11.35 am)

LADY HALLETT: Ms Cartwright.

MS CARTWRIGHT: Thank you, my Lady.

Baroness Harding, in the remaining 20 minutes that we have together I want to deal with, please -- just to identify -- hopefully briefly, Operation Moonshot, then contact tracing, a little more around support for isolation, and then, finally, issues that linked to

recommendations.

So I set that out bearing in mind that we've got those topics to cover, but I think Operation Moonshot we can cover fairly briefly because you detail in your witness statement obviously the announcement by the Prime Minister in September of 2020 that he had the plan for a whole-population testing, and you therefore detail at your paragraph 5.15 that you were among those who expressed concerns about adopting a whole-population testing model.

Then you go on at paragraph 5.17 to then say you were relieved that a more targeted testing proposal was then adopted.

But can I ask you, when you had the responsibility for Test and Trace, and then the Prime Minister had his own pilot or plan for this mass testing, to what extent did that add to your burden or detract resources? I know ultimately those lateral flows were used as part of the full Community Testing Programme, but can you help as to whether that was an added complexity on the timeline we've looked at from the September time till essentially those tests forming part of the Community Testing Programme?

A. So, you know, obviously my role was to try to build and deliver whatever it was that our political leaders

wanted the service to do. But there's no doubt that pushing to try to test the whole population twice in a two-week period was, I think in my view, a bit of a distraction.

There is a counter to that, which is that it drove tremendous innovation in the team scouring the world for tests that were cheap enough, fast enough, easy enough to deploy. In August 2020 no one knew that it would be possible for lateral flow devices to work so effectively. And so you could make an argument that without the Prime Minister's desire to do Moonshot, that might not have happened so quickly. And certainly, one of the things I'm proud of is that the team found tests that worked, developed a means of validating them, procured them, scaled them, far faster than many other countries in the world. And it's not absolutely certain you would have had that without the Prime Minister's push for Moonshot.

That said, I was deeply sceptical that it was practically possible to test everyone within a two-week period. It would have involved having roughly 10,000 testing sites, and we'd been going absolutely flat out to get 1,000 testing sites. And what I learnt from the public health experts was that, you know, you could test 99% of the population, but if only 1% of the population

had the disease, you could actually fail to test anybody positively, especially if you were running a sort of command and control operation that scared away the very people most likely to have the disease.

So I was sceptical about it, I do think it was a distraction, but it wasn't all bad.

Q. Thank you. And you detail in this run of paragraphs essentially that it was not just you but the Chief Medical Officer also had their concerns.

You say it was not all bad, but would you agree that the Operation Moonshot was an example of poor decision making by the government, set in the wider context of what you were doing on NHS Test and Trace?

A. Well, I was trying to steer, all the way through that autumn, towards multiple-use cases to reach the people most likely to have the disease.

I think that looking forward, my Lady, one of the principles for building a future mass testing and tracing service is that you should design for the disadvantaged, that you should in every element -- we've proven that you can have scale testing and tracing, and Moonshot actually led to a very wide range of different use cases, testing in schools, testing in all vulnerable communities, it made a huge difference, but if you designed with the principle of designing for the most

disadvantaged first, you wouldn't have Moonshot, you would have had community testing first.

And I tried, through that autumn, to keep presenting all the different options that weren't just testing the whole population twice in a fortnight.

Q. Thank you. And so, in giving that answer, so would it be fair to say that you were equally, then, pushing, having identified the issue for community testing of those most vulnerable?

A. Yes, I absolutely was. And we learnt a huge amount in Leicester in the summer of 2020, working really closely with the director of public health in Leicester and the regional public health teams with PHE about how important it was to design differently for the most vulnerable.

So testing sites populated by, brilliant though they are, the military in military fatigues scare people away. Testing sites with your local pharmacist and a friendly translator at the front of the queue welcome people in. Testing people on the right side of the road for each respective community in their community centre, all of that makes a huge difference. And unless you design in that way, actually the risk is you conduct lots and lots of tests but you don't have the impact of a test, trace and isolate system that actually addresses

the disease and supports most vulnerable.

Q. Thank you.

Can I ask you, you've just identified a number of further examples of learning that you've -- you identified in your year in office. Was there a handover of all these key pointers that you sort of committed to writing or passed on before you left, as to what you identify as the most important thing for a future test, trace and isolate system?

A. Yes. All of us who worked on the programme knew that we were coming for a period of time and leaving, and worked very hard at doing lessons learned exercises all the way through. So, you know, there are very detailed lessons learned exercises on each element of the Test and Trace programme, and I'm sure that continued after I left.

Q. Thank you.

Can I ask you briefly as we move to contact tracing, one of the novel things you identified in the statement was that all communications relating to NHS Test and Trace had to be approved by a Number 10 communications team. Briefly, was that a problem, that essentially it all had to be approved by Number 10?

A. Yes. It meant that particularly at times where it was very tempting for the performance of NHS Test and Trace to be the subject of debate rather than whether or not

we go into lockdown, we and NHS Test and Trace weren't allowed to communicate publicly.

There was a slight quirk to the system, which is there's the Number 10 comms team didn't block communication on regional and local channels, so we did a lot of -- which actually is a very effective way of reaching vulnerable communities, using community radio, so we tried to do a lot of communication with regional radio, because that was a way out of the system.

But I felt quite strongly that, going forward, there will be a need for a mass testing and tracing service in a future pandemic, and whoever is leading that at that time, I think, my Lady, you should think more like, for example, the National Cyber Security Centre, who have deep expertise but also permission to speak. And I think it's quite important that a future health protection agency is able to do that, because trust in a system like this is our most important quality. And I would have been the first to say that we could have been done better at building society's trust in this system.

Q. I think you make that point, we don't need to display it, but on the basis that trust was so important, I think you detail that requests for you to essentially directly communicate on those issues was refused and

essentially you ended up feeling like NHS Test and Trace became the whipping boy?

A. Yes.

Q. Can we then move, please, to contact tracing please. It's dealt with in your witness statement, so I'll just be picking out particular paragraphs, but could we display, please, paragraph 6.7 at page 34 and I think this is an issue of preparedness that perhaps created the scale of the problem for you that you've identified.

You say:

"Prior to the COVID-19 pandemic, the UK did not have a scalable contact tracing contingency plan. However, the balance between data privacy and public health for the purposes of contact tracing had been extensively debated upon in many Asian countries post SARS and MERS, with plans and legislation subsequently put in place. For example, public health authorities in South Korea were able to access individual credit card data to track potential contacts. On the other hand, the UK had not conceived the need for a national scale contact tracing service and therefore all discussions about the use of personal data in contact tracing started from scratches during the pandemic."

Can I ask you, do you agree that this was a major problem, with substantial adverse impacts, and one which

could not be fully rectified during the pandemic, of really failing to not establish the necessary systems informed by SARS and MERS?

A. Yes, I do.

Q. Then can I ask you, because obviously one of the reflections you have is around future systems, and particularly data, and one of the complexities, I think, of data that we've encountered in this Inquiry is blockages said on the basis of the complexities that go with health data.

Do you have any reflections, informed by your time, about how that problem or issue can be engaged with to ensure that those don't become problems in future pandemics?

A. Yes. I think you have to think about three different things. You need to think about the data architecture, you need to think about the data policies, and you also need to think about the culture around data. All of which you can do the pre-work before a pandemic, rather than after.

So the data architecture, you need a local to national architecture for contact tracing. Countries that relied solely on local contact tracing had to suspend contact tracing in waves 2 and 3 because they couldn't surge capacity around the geography. So you

need a national system, of data architecture. There's no reason you can't have that in place and know how to scale it.

You need to have a debate, a national debate, about the data policies. So you couldn't, in the height of the pandemic, start a debate about how do we as citizens feel about the state having access to our credit card statements? But you could have that debate in preparation, as other countries. And, you know, I'm not pre-judging the answer, but it's really important that as a country we have that debate for our culture.

Which takes me to the third point, which is culture. Health data is the data we all hold most dear to ourselves, that we are most concerned about, and that makes the incentives for sharing data really hard to navigate, because there are lots of negative incentives not to share, personally, as individuals, but also within the health and care ecosystem. You know, academic research is founded on your data. There's lots of incentives not to share data with other bodies.

And so I think there's a real -- and we see this for 20-odd years in our National Health Service, we've encouraged different hospital trusts to compete with each other rather than collaborate and share data.

So you've got to address not just the architecture,

but also the culture of this being a national asset and, with that, bringing with you the trust of individuals, but also recognising that you can't be selfish about this, that we all -- we're only as safe as the most vulnerable person in a pandemic, and so you have to find a way of enabling that data sharing.

I do think there's hope because we need to digitise our health and care system anyway. You know, last week the government announced what in other sectors would be completely normal: the ability to track your prescription through the system through to a pharmacy. You know, if you go into a future pandemic with a properly digitally enabled health system, actually this becomes substantially easier, which is why, my Lady, I think you have to think about leveraging the 150 billion spent on the NHS and social care not just the money spent on UK Health Security Agency in order to drive change.

Q. Thank you.

Can I then briefly ask you, paragraph 6.5, you deal with the SAGE advice for it to be effective, needing the 80 per cent figure, but we know that SAGE also advised on the need for there to be backward contact tracing. Can you assist as to why that wasn't incorporated, namely backward contact tracing as a sort of across the

board part of the tracing system implemented, please.

A. I think you had evidence, I think it was from Ben Dyson, saying that we did integrate backward contact tracing into the system as fast as we possibly could. By the time I arrived, it was already acknowledged that it needed to be, but you had to build the system step by step. So step one was asking people to give contact details of people they'd been in close contact with for the previous two days. In order to backward contact trace you have to go back much further, so that's a whole tranche more data.

So we did build, it was undoubtedly too slow and, again, if you were doing that from scratch again, you would have that system all set up and ready to go.

Q. Thank you. Would you agree that the contact tracing system rolled out in May 2020 did not reflect the diversity and needs of the United Kingdom's communities, including the diverse language needs and barriers to equality?

A. I think that as we built the system, we looked and worked really hard to try to make the very best accommodations possible for all diverse communities. But as I've said earlier, my Lady, I think that the principle upon which we were instructed to build the system was one of scale and looking forward. I would

start with a slightly different principle, which is start by designing for the most disadvantaged, and there's no doubt that that wasn't the principle that we were given. We were given design for scale and I think you'd need to reverse those two round, and then the things that were done in terms of multiple language provision, ease of access for partially sighted or blind, or deaf, all of those things would have been the first things you did rather than the things we did through June, July, August, September and onwards.

Q. Thank you.

Can we then move, please, to support to those self-isolating at paragraph 7.3, please. I think, with what you've said at the outset, you've already made your views fairly clear about the importance and necessity of funding to assist those two of the most vulnerable to self-isolate. But can I ask you briefly, at paragraph 7.3, you specifically identify that you were championing for an equivalent process to that provided to those who do jury service, namely a £64.95 per day type rate to be an appropriate way of looking at how you support to isolate; is that correct?

A. Yes, that was, yes.

Q. Thank you. I think it's right, if we perhaps move forward, please, to your paragraph 7.8, please, and

obviously the detail of the exchanges but also the underpinning material that we have, you say this at paragraph 7.8:

"The UK spent proportionately much less than other developed countries enabling disadvantaged people to self-isolate. If we had allocated more of the [NHS Test and Trace] budget to isolation support, I strongly suspect that fewer would have died, and infection rates would have been lower with all of the benefits that would have brought."

Do you stand by that statement?

A. I do.

Q. Can I ask: do you hold any responsibility here for the way the NHS Test and Trace budgeting unfolded, particularly efforts to identify or get the isolation support in place?

A. Well, it's certainly the thing that I wish I had succeeded in persuading ministers to do. We had the money in the budget, you know, we didn't spend all of our budget, and I also think that spending more on self-isolation would have reduced the need for testing. But I wasn't the decision maker. The decision maker in this was the Chancellor and, at every opportunity from June onwards, the Chancellor rejected the proposals and, in the end, that was not in my control.

Q. Now, again, my summary of a lot of material and documentation, I think even when the support system came into place at the end of September, it was clear that there was identified low take-up and I think you continued to champion for more to be done and we can see, on occasions, describing it like banging your head against a brick wall. Would that be the best way to summarise the whole process and efforts you made to seek to get appropriate financial support for those to isolate?

A. I think the more I learnt from the data, as I said earlier, the modelling showed that the best way to get an operationally effective test and trace system that would reduce the rate of infection and enable us to get back to a more normal life was to encourage more people to come forward for testing, and that the data told us that people weren't coming forward for testing because they were scared of the consequences of isolation. The more I spent time with people from disadvantaged groups, that was -- I had the qualitative evidence. They would tell me that personally as well.

And yes, to be honest, it was intensely frustrating, and what you see through the paper trail, I found it quite distressing reading it, to be honest, because we did try really hard to persuade ministers that this

would be a good thing, not just for the individual wellbeing of those disadvantaged people but also economically. This was one of the ways you could have had less economic harm for the country as a whole.

And I think the Chancellor particularly, this was a point of principle for him, it wasn't a -- I don't think there was any amount of data and analysis that I could have put that would have changed his mind. It was a point of principle that he didn't want to create an additional welfare benefit.

Now I do appreciate that this is a complex thing and, you know, before we had certainty that you could ask contacts to test themselves every day, it would have been possible, if I'd tested positive, for me to say to the contact tracing system, "My 500 mates were all in the room with me yesterday", and they could all get their non-means tested isolation payments.

So there is a policy conundrum there but what I was unable to achieve was any substantive engagement in how to mitigate that policy problem and to recognise that, actually, the policy problem of not supporting the vulnerable to isolate was a much bigger one. And that was -- you can hear my frustration as I say it now. There was an intransigence to that that I think was very sad.

Q. Thank you.

Finally, Baroness Harding, you have already spoken throughout your evidence about key reflections, learnings, and you detail in your witness statement from pages 44 to 48 other reflections and I hope between us we've identified the key learnings that you wish her Ladyship to have regard to.

But I know finally, before concluding your evidence, you wanted to publicly acknowledge and thank those from your team at NHS Test and Trace, and I don't want to take away what you want to say, Baroness Harding.

A. Thank you. I did, if my Lady will forgive me.

There were in total, at its peak, over 55,000 people who worked on this programme and I'm not for a moment suggesting that we got everything right. There is so much to learn from this but they were all people, whether they were manning testing sites in the snow, in the rain, in the winter, or sitting at home making those contact tracing calls, which are not easy calls to make, to tell someone that they've got to isolate, or whether they were civil servants or soldiers or commercial leaders, they all stepped up to serve and I think we should all thank them.

MS CARTWRIGHT: My Lady, there are Core Participant questions.

Thank you, Ms Baroness Harding.

LADY HALLETT: There are. Ms Parsons, if you look that way, you'll see at the back.

THE WITNESS: Thank you.

Questions from MS PARSONS

MS PARSONS: Thank you, my Lady.

Good afternoon, Baroness Harding, I ask questions on behalf of the Covid-19 Bereaved Families for Justice Cymru. I want to ask you about collaboration with devolved administrations, in particular the Welsh Government. This is addressed from paragraph 4.12 of your witness statement. We don't need to go to it, in fact. In short, I think you say that collaboration with the devolved administrations was crucial to the effectiveness of Test and Trace, and you give the example of the UK Government and Devolved Administrations Board being set up to ensure collaboration and shared learning.

Some in the Welsh Government have been critical of the levels of collaboration. I'll take you to a quote from Mr Gething, the Health Minister up until May 2021. He said this, it was in a statement prepared for this module:

"There was more than one occasion where the UK Government made choices without consulting us or taking

into account how Lighthouse laboratories would need to be integrated into the NHS in Wales Test, Trace and Protect, or our wider infrastructure."

Then this:

"The lack of consistency and quality of engagement by the UK Government meant that time, resources and energy were wasted, which could have been directed meaningfully toward a four nations fully-integrated testing and contact tracing system."

Were you aware of problems or perceived problems with the engagement of the devolved administrations, in particular the Welsh Government, and, if so, what were those problems from your perspective?

A. So, clearly, it was a very complex set of relationships, at multiple levels. So, you know, I can only really speak to the operational side of Test and Trace, as opposed to some of the political engagements. So at an operational level for both the National Testing Programme, for testing and for the JBC, we had members of staff from the devolved administrations embedded in the teams in Test and Trace and, generally, I think that operational embedding worked very well.

Now, I -- it doesn't surprise me at all that Mr Gething felt that there were occasions when that wasn't perfect. There were so many moving parts and so

much change happening as the testing service doubled in size every one to two months. I'm sure there were moments when that operational communication wasn't as smooth as it could have been, but the embedding of representatives from each of the devolved administrations into the core team, I think, worked.

At the clinical level, the four CMOs worked very collaboratively, as far as I could see. They were providing us with very clear direction as a united team of CMOs. And I also observed, because I attended it several teams, the four health ministers working very collaboratively.

I think where things got difficult is well beyond my pay grade, in the sort of big political discussions and decisions where it was beyond Covid, where certainly I experienced COBR meetings where the policy that was being debated had been announced by one or other First Minister or Prime Minister before the meeting itself, and that was so beyond the operational sort of integration and communication that I was involved in, but I imagine, and I'm only imagining, for Mr Gething, those are all intertwined.

Q. Thank you. Then taking into account what you say about being involved only on the operation side of things, how, if at all, would you ensure better engagement with

the Welsh Government next time round?
A. I think, step one, don't break what isn't broken. So embed representatives from each of the devolved teams in any national service. I think the thing we didn't do, that you might want to consider in the future, is doing the reverse as well, so having national representatives in the devolved teams. So actually the data flow wasn't as good as it probably should have been from devolved activities back. So I give an example, would be the Merthyr Tydfil mass testing trial. Actually, I was quite blind to some of that because, rightly, the Welsh Government were leading on it. But I think we could have improved the operational integration still further by having sort of mirrored embedding in both sides.
MS PARSONS: Thank you, Baroness Harding.
Thank you, my Lady.
LADY HALLETT: Thank you, Ms Parsons.
Professor Thomas, who is that way.

Questions from PROFESSOR THOMAS KC

PROFESSOR THOMAS: Good afternoon, Baroness Harding. My name is Leslie Thomas and I'm representing FEMHO, that's the Federation of Ethnic Minority Healthcare [Organisations].
Baroness Harding, you say the following at paragraph 5.29 of your statement:

"If the National Testing Programme had been started in January 2020 when the NHS began planning to expand critical care capacity and ventilator beds, the government might not have had to ration access to testing for as long as was necessary during the summer of 2020."
Question: can you say what impact on setting up the National Testing Programme in January 2020 would have had to have to protect ethnic minorities and other marginalised communities early on?
A. I mean, it's hard to give you a quantitative answer to that question but qualitatively it has to have -- it would have had to have meant that those communities would have seen lower infection rates, fewer hospitalisations and fewer deaths.
Q. Yes.
A. So I think, you know, looking forward, it's really important that we recognise that you need to stand up a scale mass testing and tracing service immediately upon declaring that you're in a pandemic situation and not waiting six months.
Q. Thank you.
Do you consider it was a failing by government to have more attention on testing capacities than catering to vulnerable groups who needed more support to

self-isolate?
A. I think I've already said yes to that in many ways. I think that it's not that scale doesn't matter; you've definitely got to build very quickly in a future pandemic a large-scale testing and tracing service. But if you start by designing for the disadvantaged, you will -- as I said earlier, you'll have testing sites in the places that are most needed at the beginning rather than a few months later. You'll have the services easily accessible for the communities that are most likely to be the ones that will be ravaged by the disease. So I do think it requires a different mindset to building a scale system than the one that was had in 2020.
Q. Thank you.
In an email to Shona Dunn, dated 2 December 2020 you said:
[As read] "The biggest concern is the very low-paid workers not being willing to come forward for testing because of the fear of the cost of the self-isolation."
And Helen Whately, whose constituency is in Kent, raised it and asked you:
[As read] "If you and I could support these two areas [that was Medway and North Kent and Boston Lincs] to work up what might make a meaningful difference, both

financial and non-financial, in terms of support. Both communities have large migrant workforces, living in dense housing, where I doubt our positive incentives will make a difference, but support for isolation just might."
Question: seeing as you clearly understood the concerns being raised amongst these ethnic minority communities, did you ever communicate these views to cabinet?
A. Oh yes, many times, and I wasn't alone. I don't want to give the impression that this was just me. This was very much, as I think Ben Dyson said yesterday, a considered view of all of us working on Test and Trace and of ministers in the Department of Health and Social Care, not that I should speak for them. And I -- as I said earlier, I feel like I'm still campaigning on this topic.
Q. Can I move on to another topic, which is public communications. The evidence has shown that some communities, particularly ethnic minorities, experience barriers to trust due to a lack of cultural confidence in public health communications. You seem to agree with this sentiment in your statement.
So the question is, I suppose, from your perspective, how can we ensure more effective public

health messaging around testing, tracing and isolating for a future pandemic, especially for communities with historically low trust in government and state-run services?

A. I think that's such an important question, and I know that Dame Jenny Harries cares deeply about this topic as well. What I -- if I may, I can tell you what I learnt in Leicester is that there is no substitute for talking directly to those communities themselves. There's a danger that you have an argument about is it national or local government who should lead on this, and the reality that I discovered is that most of these communities don't trust any government. It's their own local community leaders that they will trust. And so building in listening, access to those community leaders, you can only do it locally on the ground. But just because you're on the ground doesn't mean that you will necessarily hear them.

So you have to create a culture where local community leaders feel there are safe spaces for them to speak up. And that's a problem for society in the round, not just for pandemic response.

Q. Well, that leads me on to my next question, which I suppose is tied into it a bit. To what extent do you believe that institutional bias or a lack of

consideration for ethnic and socioeconomic disparities influence who was able to access testing early on?

A. I think that this is something that is much broader than testing and tracing, and you could ask that question of any public service. I think that one of the examples that really struck me was in the early days, we opened a testing site, I think it was in Birmingham, and it was right opposite a taxi rank, and no one initially could understand why the testing site wasn't busy. And it wasn't busy because the predominantly ethnic minority taxi drivers didn't want to get tested, because they couldn't access benefits because they were making good money as taxi drivers but they had to be able to pay the rental on their cars. And so they just couldn't risk getting tested. So even though the testing site was right next door, they didn't use it.

So I think the premise of your question is correct: that for no, sort of, conscious fault, the system didn't work because we didn't have the isolation support in place, because we hadn't really heard how challenging it was for particular communities, professions, roles, to comply with what was a very, very difficult system called isolating for two weeks.

Q. Finally, do you think there was adequate consultation with community-based health organisations, particularly

those serving minority communities, in the development and deployment of communication strategies regarding testing and contact tracing?

A. There's probably never adequate. You could always do more in this space. We worked really hard from the very beginning, when the NHS Test and Trace launched at the end of May, to engage and listen and learn. We had a series of sprints into different groups, that's detailed in the UKHSA corporate statement, and we kept learning. But I think that, as I said, probably repeating myself, this is something that you can't do too much of. And with the absence of preparation, everyone was starting where you wouldn't want to be. So this is something that you should be building into your pandemic preparedness so it's not something people have to think about on day 2, it's something that's been thought of on day minus a thousand.

PROFESSOR THOMAS: Thank you, Baroness.

Thank you, my Lady.

LADY HALLETT: Thank you, Professor Thomas.

Mr Weatherby. He's just there.

Questions from MR WEATHERBY KC

MR WEATHERBY: Baroness Harding, I ask just a few questions on behalf of the Covid Bereaved Families for Justice UK group.

You've identified recruitment as one of the key challenges faced in the scaling of NHS Test and Trace, and that persisted, didn't it, and, for example, you discussed in an email exchange with Gareth Williams from the DHSC on 20 August the problem of a large recruitment gap of thousands of vacancies. I won't take you to that but just for the record I'll give the reference, which is INQ000592556.

But it's right, isn't it, that at the time you were appointed, there was no emergency plan to create a national test and trace isolate and support system, and, in turn, that meant that not only was there not a structure for that, but there was no recruitment infrastructure. And that would include recruiters, relevant IT, human resources and, perhaps crucially, a cadre of key workers to be seconded.

And that was the underlying problem, not the recruitment issue, wasn't it?

A. Yes. And I think it's actually broader than that, in that I don't think that in any of our civil contingency planning in any of the potential risks on the National Risk Register had anyone thought that you might need to build a national citizens service that would need to employ tens of thousands of people within the course of six months. So there wasn't any plan to pull off the

shelf to say: this is how you do it.
Q. As a follow-up to -- in your recommendations you've -- and this morning -- or this morning you referred to a public health reserve -- resource. Would you add to that a resource for recruitment?
A. Yes, I would.
Q. Yes.
A. I would. And some of the other corporate services -- sorry to use very corporate speak -- the human resources, the project management, the IT development, that regardless of the nature of the emergency, if you need to scale a service up of this sort of scale, how do you do it, and I think --
Q. You need the infrastructure?
A. -- we should have that plan as a country.
Q. Yes. I'm going to move on quickly because I've got very limited time, but next topic, different topic, specific topic, about the accuracy of testing.
On 29 September of 2020 you reported to the Covid-O Committee, chaired by Mr Gove, now Lord Gove -- and I'll just give the reference again for the record, INQ000090086 -- you reported to that meeting that between 2 and 2.5% of all tests were being voided each day, and that was mainly due to the leakage of the equipment, the tubes in particular.

Was that a persistent problem, given that here we're talking about September?
A. So I think that this was taken from the standard daily and weekly reporting that we shared on the performance of each of the Lighthouse laboratories and all of the testing channels, and the different testing routes. So you would always have a percentage of voids, whether that was because test tubes had got broken in transit, whether or not they'd not been closed properly and sealed properly, whether or not there'd been an error in the processing in the laboratory, there was always, you know, either human or robotic error. The percentage void rate was monitored extremely closely across every single lab and every single channel to try to identify potential issues.
Q. Yes, but would you agree that your 2 to 2.5 per cent is a significant percentage, that would have impacted the efficacy of the system as whole but also confidence in the system?
A. Yeah, I'm afraid I can't remember what the range of voids were, and I'm sure, if my Lady needs to, we can dig that out. One of the concerns in the early days was that the home testing route would have a much higher void rate than the supervised testing route. It turned out actually we were very good at swabbing ourselves and

the home testing route was about the same. But I'm afraid, I'm sorry, I just can't remember whether 2.5 was above normal or not but it was never going to be zero.
Q. It was significant enough for you to raise at a Covid-O --
A. I think, sorry, just to correct, I think that was more that one of the members of Covid-O was remarking on the number and asking me a question, rather than my raising it directly.
Q. Are you able to help us how this was addressed?
A. By continuous process improvement. Again, this sounds very small and detailed, but getting to a uniform size and shape of test tube made a very big difference to the performance of the end-to-end laboratory system, changing and continually improving the instructions on the test kits to make it easier, improving the materials in the -- of the bags. This was the sort of industrial process re-engineering that the team was continually doing.
Q. Yes, okay.
Next topic. You've referred to the business approval for Lighthouse labs issue that arose in July of 2020. So in an email exchange with Gareth Rhys Williams, between 22 and 27 July -- and again, for the record only, INQ000575993 -- relating to the business

approval that you were seeking for extension of the Lighthouse labs, he raised a number of questions around value for money, including whether taking a cost-per-test approach was appropriate, efficiency, and the requirement of improvement and turnaround times.
So the question is this: given the persistent issues relating to staffing levels, leadership, potentially equipment in Lighthouse labs which impacted testing capacity into the autumn, should the contracting have been linked to efficiency and output as well as cost per test?
A. Well, cost per test and bringing cost per test down is an efficiency measure, in some ways. All of the questions in Gareth Rhys Williams' email are completely legitimate questions. They were questions that his own team had been working through before and so the reason I was challenging it was not that it was inappropriate to look at how do you drive efficiency, it was more that we risked failing to open up the testing capacity while we reopened the same debates that his own team had reviewed in the previous few days.
Q. Yes. Now, you've been asked about Lord Agnew's letter of 10 December, which was about the long-term strategy for testing, and you've been asked about the particular reference to previous consultancy was costing £3 million

per day, and the question of what trajectory do you anticipate and what governance exists around this deployment, and you referred to Lord Bethell's response of I think 10 January 2021. We haven't got time to go specifically to that but my Lady has it.

But my Lady may come to the conclusion that, on this particular point of value for money, that letter doesn't in fact say very much. Are you able to help us how value for money in this emergency context, the cost to the taxpayer, was assessed during the six months between May when you were appointed and December when Lord Agnew's letter was written?

A. Yeah, I tried to set that out earlier, but maybe if I can unpack it a bit more. So we commissioned a number of independent reviews to establish the efficacy of the testing and tracing service. So the Rùm model, the CARNA model and then, after I left, UKHSA commissioned Ernst & Young and Oxford University. All of those were attempts to assess the value for money of the testing and tracing service and, as I say, I think one of the most important conclusions to draw in this module is that population scale testing and tracing can be value for money.

Q. Yes.

A. It's very dangerous and very tempting to assume that

efforts, the evidence would suggest it wasn't, that it was too complex a means of delivering and, because it was different from other benefit systems, people didn't know it existed. The people who would most would benefit from it found it hard to find.

Q. Acknowledging, of course, the very important role of local authorities in test and trace response, would it be your view that the appropriate mechanism for financial support is one delivered centrally, rather than locally?

A. I think you need to have a bit of both, but yes. I think, fundamentally, the debate we need to have in peacetime, if you will, is what that sort of isolation support payment should be and I would suggest a national system delivered probably via DWP is a better thing to do than creating something completely different.

Q. In terms of eligibility for support, the Test and Trace Support Payment Scheme, in broad terms, operated along the lines of eligibility for in-work benefits. Was that too narrow, in your view, in that it excluded people who would feel the disincentive to self-isolate but were not eligible for any support under the scheme?

A. Yes.

Q. In terms of the amount of payment, in England £500, some variants elsewhere, in Wales, for example, what were

scientific developments in the future will mean that we don't have to have a system of this scale in the future. I think that would be a huge mistake to make.

Q. Final point. You've been asked about Operation Moonshot. In your view, did the government support for Operation Moonshot take priority over financial support for those who were required to isolate?

A. Well, I think the facts sort of speak for themselves in that, yes.

MR WEATHERBY: Thank you very much.

Thank you, my Lady.

LADY HALLETT: Thank you, Mr Weatherby.

Mr Jacobs, who is right down the end by the clock.

Questions from MR JACOBS

MR JACOBS: Baroness Harding, just a couple of questions on behalf of the Trades Union Congress. You have given evidence about the principle and importance of financial support for self-isolation. I'm going to ask you about the mechanisms for delivering it effectively, okay?

To be effective, presumably a scheme of support needs to be one that is accessible to those who need it. Did you have reflections on whether the scheme, delivered as it was by local authorities with their own approaches and criteria, was sufficiently accessible?

A. I think, despite local authorities' brilliant best

your reflections on that?

A. On -- I mean, as you can see from my evidence, personally, right at the beginning, I thought that you should sort of take the benchmark of jury service, a different but similar example where we ask people to perform a public service. But I think that this is, as you look forward, exactly what the government should consult on and settle before you're in a pandemic, not during.

Q. If we look at the purpose of financial support, if the purpose is to remove the financial disincentive to self-isolate, is the simple way forward, in your view, to have a scheme which provides sufficient funds to remove it entirely?

A. Yes, but it is, as I said earlier, also quite complex, to make sure you don't have sort of unintended second or third-order consequences. So, you know, you don't want to incentivise people to get the disease either, so it's important to get that balance right. And what I would say is that other countries, I think, got that balance right, both in Europe, in Australia and in Asia, in a way that we didn't.

Q. I note that you give some examples in your statement.

A. Yeah.

MR JACOBS: Thank you very much, Baroness Harding.

LADY HALLETT: Thank you, Mr Jacobs.

That completes the questions we have for you, Baroness Harding. You raised some really important issues. There are a number of themes that go on, as I go through the Inquiry in different modules: planning, or lack of planning. I can't tell you how many times -- well, you'll have probably gathered -- I'll have heard that. The other is the number of unsung heros and heroines of the pandemic, and you've mentioned many thousands more, and I totally agree with you that we owe them all a huge debt of gratitude. I mean, people were working until they were, as you say, absolutely exhausted, making themselves ill in the process.

But I think we also owe you a great debt of gratitude. You didn't have to take on the huge task and put yourself in the firing line and I know that you have put yourself in the firing line. So thank you for all the work that you did, all that you tried to do and thank you for your very helpful contributions to the Inquiry.

THE WITNESS: Thank you very much, my Lady. That means a lot.

MS CARTWRIGHT: My Lady, can I just briefly apologise to you and Baroness Harding. When I put the letter from Lord Agnew, I incorrectly said that the response letter

had come from Mr Hancock in January. In fact, as Mr Weatherby has just identified, it was in fact Lord Bethell in the statement of 15 January 2020, so I apologise to you and Baroness Harding by misleading you in that question.

LADY HALLETT: Thank you.

Thank you very much.

Sorry to keep you, Dame Jenny.

MS CARTWRIGHT: Thank you.

Can I ask for Professor Dame Jenny Harries to be sworn, please.

PROFESSOR DAME JENNY HARRIES (affirmed)

Questions from LEAD COUNSEL TO THE INQUIRY FOR MODULE 7

MS CARTWRIGHT: Thank you.

Can you please give your full name to the Inquiry .

A. Jennifer Margaret Harries.

Q. Can I just check, I apologise, to ensure that I get things correct, do I refer to you as Dame Jenny or Professor Dame Jenny?

A. Any will do. I think it's been Professor Harries through most of it because that's -- for other people, so I'm happy with anything.

Q. On this occasion, Professor Harries, you've provided a corporate witness statement on behalf of UKHSA. If we could please turn to page 114 within that witness

statement, dated 14 April 2025 and can I ask you to confirm, is this statement true to the best of your knowledge and belief?

A. Yes, it is.

Q. Thank you. In identifying that you are here to speak to the corporate witness statement and appreciating also that you talk about legacy matters, there are a number of questions I will be dealing with this afternoon, where it goes back to earlier statements you provided in a personal capacity, so can I just make that clear at the outset.

But can we then, please, identify together -- in fact this is your speaking to, I think, what's the 13th corporate witness statement on behalf of UKHSA that's been provided across the modules, and I think that you yourself have identified that you have given personal witness statements across Modules 1, I think, 2, 3 and 6.

A. Everything but 5, I think.

Q. Yes, and so can we thank you once again, Professor Harries, for the care taken to provide this corporate witness statement on behalf of UKHSA.

Can we then, please, just identify your relevant experience and expertise over the time period that we'll be looking at together today. I think you identify that

during the relevant period we'll be looking at you were the Deputy Chief Medical Officer from 15 July 2019 to 31 March 2021.

A. Yes.

Q. Then you essentially took over from Baroness Harding. I think you tell us at your paragraph 1.6 that, from 1 April 2021, you essentially became the Executive Chair of NHS Test and Trace, formally taking up the operational role from 7 May 2021 when Baroness Harding completed her one year of service?

A. Yes. So nominally from 1 April, following Baroness Harding on the 7th, but operationally fully then for UKHSA on 1 October.

Q. Thank you. I think we know that UKHSA, as an organisation, I think, had been referenced in being from April 2021 but, as you've just identified, did not become operational --

A. Yes.

Q. -- until October 2021.

A. Yes.

Q. So are we right, then, for the period from 7 May 2021, to essentially see you as performing a similar role as the Executive Chair of NHS Test and Trace?

A. Broadly, yes.

Q. Thank you.

Now, you plainly have detailed within your witness statement the extensive relevant experience you have, and so please excuse me by not going through all of that, but perhaps of significance to what we're going to deal with today, it's right, isn't it, that from April 2017 until July 2019 you formally held the Strategic Incident Deputy Medical Director role at Public Health England?

A. Yes.

Q. Also, alongside that, you were interim Deputy National Medical Director for PHE from 2016 to 2017, providing specific support for strategic incident response?

A. Yes.

Q. Then, even before then, you have relevant experience as a director of public health. You tell us that you were director of public health in Norfolk and Waveney, Swindon and Monmouthshire, and you were also a chief officer in Norfolk and Waveney and Swindon?

A. Yes.

Q. So you have relevant public health experience alongside all the other qualifications that you've detailed in the witness statement?

A. That's right.

Q. Can I ask you specifically, then, is there any other relevant experience that you wish to particularly draw

to the fore, by reference to what we'll be looking at together in test, trace and isolate?

A. I don't think so, the point about having DPH experience both in Wales and in England but also obviously I've worked in hospitals and in primary care as well, so it's a lens, I hope, that has looked through many of the different views that the Inquiry will cover.

Q. Thank you. So then bringing things up to today's date, you are the chief executive of the UK Health Security Agency and, in fact, I think you've already formally announced your retirement, so your position in this role is perhaps coming to an end, is it, soon --

A. I have slightly postponed it in order to be here, so I finish on Friday.

Q. Well, thank you. Can we then just identify UKHSA again, her Ladyship has heard quite some evidence about UKHSA but let's identify it as an organisation. If we could display your paragraph 1.2. You confirm that:

"UKHSA is an executive agency of the Department of Health and Social Care and carries out certain statutory functions for the Secretary of State for Health and Social Care."

A. Yes.

Q. "[It was] Fully operational from October 2021, UKHSA's role is to protect the public not only from infectious

disease but also from external hazards such as chemical, radiological, nuclear and environmental threats. It brings together expertise from predecessor organisations, including Public Health England, NHS Test and Trace, the Joint Biosecurity Centre and the Vaccine Taskforce."

A. Yes.

Q. Thank you.

Now, with the time we have together today, Professor Harries, I'm not going to be dealing with the whole chronology that you detail and set out in terms of the legacy organisations, then NHS Test and Trace and also UKHSA but please be assured that this statement will be published. So can we then perhaps start with the first topic, please, of preparedness, please, and if we could turn to your paragraph 3.31, please, at page 24. Thank you.

Now, you detail within the witness statement that:

"As of 1 March 2020, PHE was able to process up to 2,100 PCR tests per day (ie collected, delivered and processed by laboratories). PHE laboratory capacity had been required for the delivery of its public health specialist functions and to support the NHS. Therefore, the government's strategy reflected the fact that PHE had never been resourced to undertake large-scale

population testing or tracing, and the need to focus efforts on scaling capability and capacity rapidly."

So can I ask you: in that context, had the risk of a pandemic requiring large-scale testing and tracing been assessed by PHE and/or across the government?

A. So the role that Public Health England had and was specified in its remit was providing specialist public health laboratory services, and what that means is that the clinical care, normal clinical testing of patients with infections would be part of the NHS responsibility, and the role that Public Health England did would be, if you like, for sort of rare diseases, so things like Ebola, things entering the country, but also, it had specialist labs looking at things like antimicrobial resistance or specialist reference laboratories, for meningococcal diseases or flu viruses --

LADY HALLETT: Remember we have a stenographer. Thank you.

A. Sorry.

Then also used its services for things like surveillance, so looking at tests for that. But routine testing and for large patient numbers would normally be part of the NHS's responsibility.

MS CARTWRIGHT: Can I ask you, then, in terms of PHE's role, obviously there's reference to PHE laboratory capacity, do you know whether there have been any preparedness

work and particularly post-MERS and SARS, that had looked at what else existed beyond the PHE laboratories, such as the virology network and how that stood in 2020, please?

A. So I think this goes back to my first point, which is it was a -- they would tend to be specialist public health laboratories. So as I know her Ladyship has heard, the test, the assay, the diagnostic assay, was actually part of the work of that virology network. It was internationally linked in and was specialist work. So it was that sort of lab work, the initial phase of testing, that would normally be the responsibility of Public Health England.

It had never been funded and I don't think it had been assessed for whether it could roll out into a very large system. The role it took was to expand to its own labs, but it wasn't responsible at the time and was never funded to go beyond that level.

Q. Thank you.

Can I ask you, then, with the current state of affairs as of 2025, does there now exist essentially a directory that identifies what laboratory capacity there is existing across virology, pathology, that actually identifies where the laboratories are with the specialism to scale up in a future pandemic?

A. That's quite a complex question, which I'll try to answer. So we have reviewed and we have a programme of what we call agency surge capability and preparedness across the UK Health Security Agency now, which includes our labs -- in this case the reference virology labs are mostly based at Colindale -- and across some of our regional laboratories. The rest of the laboratories are either private sector or they are owned by the NHS.

So I know where our capacity is and I can talk later about how we're trying to work to increase our capacity and speed of surge. I do not have control over the other parts of the laboratory systems.

Q. No, I appreciate that, but in terms of an identification of where, across public and private, the laboratories sit, is there anyone that's collating that information, so there's an understanding of infrastructure both publicly and privately owned?

A. We have quite a lot of good information, and we work very strongly, which we may come on to, with various elements of the private sector, but the overarching responsibility for pandemic preparedness sits with the Department of Health, and so what I try to do is, within a -- boundaries of finances, which we may come on to, is create our responsibility to that boundary and then seek out -- and we are working with others, but I don't think

we have mapped out precisely where those will be. We are exploring and we've done some market exploration ourselves to do that.

I think what you're asking is has somebody nationally done that?

Q. Yes.

A. And I think that would normally sit with the Department of Health and also with the Office for Life Sciences, who deal with many of those companies regularly.

Q. Thank you. Well, perhaps we'll look at that when we look at recommendation, because I think you do give some understanding as to what UKHSA would have available by way of testing.

A. Yes.

Q. And I think is it somewhere in the order of 3,000 tests a day that would be essentially --

A. That would be the smallest amount, because that would depend on the high containment level, which we've discussed. We could surge up to 12,000, if the containment level was lower, and we are actively working in that preparedness plan, hopefully with an update by September, and within our means, to have under our direct control up to 25,000 tests within six weeks. Because -- because of the experience, I think, of the last pandemic, we feel that it's important that we can

surge further than was available previously.

Q. Thank you.

Can we then please -- I've already highlighted that I'm taking you back to your earlier statement. Can we please go to your fourth statement, which is INQ000273807. It's page 142 but it's your paragraph 10.5 and 10.6, please.

So that's INQ000273807. Thank you.

You detail that:

"Testing and contact tracing does not however confer the same benefit for all diseases. In the context of seasonal influenza, the disease usually has a relatively short incubation period of one to three days. The consequence is that once exposed, people rapidly become symptomatic and infectious themselves. Contact tracing aimed at identifying these people and enabling their absence from societal interactions before they have had the opportunity to spread the disease is therefore more difficult."

Then you go on:

"10.6. Further, as the disease transmitted predominantly by the respiratory route, influenza can be spread to large numbers of people who might then be difficult to identify ..."

And obviously give the various examples of that.

A. Yes.
Q. "Accordingly, the opportunity to test an individual, identify them and intervene before they have had the opportunity to spread the disease is correspondingly lower. The consequence is that testing and contact tracing are likely to be of less assistance in the control of a pandemic with pathogen characteristics similar to seasonal influenza. Accordingly, widespread testing and contact tracing has not historically been employed successfully or recommended in the management of influenza pandemics."

Can I ask you, did the failure to consider and/or develop contingency plans for rapid scaling of testing and tracing prior to 2020 result from excessive focus on the risk of a pandemic influenza, and lack of focus on the public health interventions which might be required to deal with a pandemic caused by a novel pathogen?
A. For my own perspective, I don't think it is the influenza that's the important point. But I do think you have hit upon probably what, for me, is the biggest learning from this, not just for the UK but for almost all western countries, which is actually in -- nobody, I think, had really caught up with the 21st century. Nobody had really thought through can we test at the scale that we now know that we can, following the work

which NHS Test and Trace had done.

And so -- and probably, in a resource-constrained environment as well, it was very unlikely any public health person would have thought that resource would come forward to do that sort of scale of testing.

So I think there is a point, which is -- both on moving into the 21st century and what was possible, in the way of testing and digital infrastructure, but also considering asymptomatic transmission as well.

And those two combined, if put at the front of this, so almost forget the pathogen but put those two at the front, and then the scenarios of what -- of the art of the possible in pandemic preparedness changes considerably.
Q. Thank you. And then can I ask you in particular, you'll have -- you'll know that a lot of the questions of a number of witnesses have related to asymptomatic transmission, and you seem to be saying that needs to be considered at the start of the process now as an assumption. Is that --
A. So asymptomatic transmission, and I think the Inquiry has heard evidence frequently, it is always considered, I think, by individuals who understand infectious diseases. The issue is the proportion of cases which are asymptomatic is a really important one, because if

it's 0.1% you probably wouldn't set up a system designed around asymptomatic transmission. But the consideration of it in pandemic planning, or indeed in any infectious disease outbreak, is really important. And I think that is one of the big learnings from this pandemic.

It is a general point which says each time we look at a potential pathogen, its characteristics and what it could do, we need to think: what would the differential response be if a large or a small portion of this -- proportion -- was asymptomatic transmission?

I mean, we are trying to do some of this work, we may come on to, in looking at priority pathogen families, setting that framework, looking at the testing that we can develop ahead of any potential outbreak or pandemic.
Q. Thank you.

Can I ask you, in terms of the approach that was adopted for Covid-19, are you able to assist us as to why the UK Government did not follow the approach of South Asian countries in creating a rapidly scalable TTI infrastructure following the response of SARS and MERS, or even contingency TTI plans?
A. I think it goes back to the points which I've just said. In the environment -- and it wasn't just the UK. I mean, I think it's very important that all systems,

more or less I think, are outside Southeast Asia, where they had had direct experience. So maybe that is significant. I don't think there was a belief, perhaps, that you can stop a pandemic or curtail it in such a way. You can see from the historic teaching, almost, for infectious disease management in large outbreaks like this, is that you will change your definition of a case as the outbreak progresses.

And that's exactly what happened through Covid: we changed, you know, the first case's definitions -- the first definitions were travellers coming back from Wuhan, then it changed to people in a wider geography, then it changed to those who needed -- for whom you need tests for clinical care, and then when we had a wider system, it changed then to those -- you know, universal testing.

But that's probably all I can say at this point.
Q. Thank you. Can we move, still in this statement, please, your fourth witness statement, to paragraph 5.21 on page 24, please.

Now, you highlight in paragraph 5.21:

"I was aware from my previous roles however of the excellent scientists and very committed teams within PHE who regularly provided internationally recognised health protection expertise as well as direct contributions to

local, national and international infectious disease control and scientific understanding. I was also aware of the resource constraints of that organisation. These included sustained reductions in funding over the life cycle of the organisation, with a 40% reduction in the overall PHE budget between 2013/14 and 2019/20."

So, are you able to offer any views as to whether resource constraints inhibited effective pandemic preparedness as far as test, trace and isolate infrastructure or planning was concerned?

A. So I can speak with some personal experience of this, because at the time of much of this I was the regional director for the South of England for Public Health England, and even our front line what I would call routine health protection teams, which would have been -- which have been very active during Covid, were at a bare minimum when I left the organisation.

I think it's had two impacts. Number 1, there was no flexibility. It was continuing to do vast amounts of work, including international surveillance, on what -- the budget of one small -- well, medium-sized hospital. I mean, it's quite -- so an extensive emergency response system across the country for more than just infectious disease, and international work.

But I think also what's happened is, and

systems, despite the fact that we are now running a whole load -- we are a new organisation, we do genomics, we do data analysis, a whole load of new things.

So it's difficult to say because I absolutely recognise the resource constraints of the current system, and that is important. And therefore, I do my role and work within the budget.

I do raise issues where I think that is difficult for health protection, and where they are important for the protection of the public. But nevertheless, the decision finally on the resource and the surge capability and expandability of the service relies on risk appetite and ministerial decisions, and quite rightly, those are political decisions.

The one thing would say is I will fight very strongly to maintain baseline capabilities, so losing scientific skills in an area where you can -- where you stand no chance of surging them again or reducing to a certain level where they are not operable is an area where I call a red line.

And we are not there. We have a very good service in this country. And I'm very aware that actually some of our really important areas, things like our high-containment labs, have been noted publicly to be

I referenced it earlier, it probably resulted in a bit of a minimalist mindset, in the sense that if every time the budget cycle came round it was cut, the idea that you might start thinking through -- I mean, this is my own reflection and not evidence -- but it wasn't in the psyche to start thinking through: if somebody injected £1 billion here, could we set up a new testing system for a potential -- for a pandemic? Because it was effectively a breadline health protection public health service.

Q. Thank you.

Can I ask then as to how things currently operate with UKHSA with a health protection service, essentially. Is that appropriately funded now? So not operating on the breadline that you've just identified that PHE England was -- or Public Health England.

A. So I think I have shown the efficiency of myself and the management in the reduction of our budget. So we, I think, I'm advised, have delivered the largest single downsize in the budget post-war, from 15 billion to 3 billion in one year, and my overall budget now -- there are slightly different figures, I know, have been presented, because we have vaccines budgets running through the organisation, if you like, but we are back to effectively a one medium-size hospital for our

under immediate consideration in the spending review.

But we are in a very different place. I think the vision for the organisation when I came in is probably not achievable on the budget that we have at the moment.

LADY HALLETT: Sorry, under immediate consideration for a decrease or an increase?

A. No, so there is a particular issue -- and I say it here because it is in the public domain and has been the review for National Audit Office and Public Accounts Committee -- for replacement of the countries, so -- which UKHSA oversees, high-containment laboratories. So these are the CL4, above CL3 pathogen level. So there has been a significant amount of urgent consideration. The runway into building these is actually about 15 years, and so there's been a delayed programme in the country that should be -- I know is under active consideration for the spending review this year.

LADY HALLETT: Thank you.

MS CARTWRIGHT: Thank you.

Can I pick up on the red lines and what is appropriate and necessary, just deal with at this stage. Obviously the roles you've had at UKHSA have involved essentially the mothballing or dismantling of the UK Lighthouse laboratories, and perhaps the most significant example of that being the Rosalind Franklin

Laboratory, NHS Test and Trace owned, that had a vision for a long-term role, we've heard, when created, that it would exist beyond a pandemic.

Are you able to assist whether you're a party to or any of the discussions around that decision to essentially dismantle the whole laboratory -- Lighthouse laboratory network that had had so much public funding into it, invested into it, but specifically where Rosalind Franklin was wholly owned by NHS Test and Trace?

A. So actually, important objective, I think the Rosalind Franklin Laboratory, it was actually leased, so we need to be quite careful about who owned it and whether it was sold or not. I think the key point you make is it has ceased to function and I do have some insight into that. I mean, clearly, all of these decisions are ministerial decisions, they're not ones I make on my own and, each time a decision is made, it will be a balance between highlighting what I've been asked to do, with a budgetary constraint, for example, and making sure ministers understand what the impact of that might be.

I think, for the two different areas, Rosalind Franklin Laboratory was not -- I didn't conceive the idea, I wasn't part of the original business case, and there is a reflection on that, which I think comes back

to perhaps nearer the end about looking forward, on making sure that where we are investing as a country and where government invests in different building structures and programmes, they are aligned, and there is a case for them to be running in peacetime.

That was not the position with the Rosalind Franklin Laboratory and, in fact, my own organisation put in a very, very significant amount of work, almost retrospectively, to try to work with academia, with local universities, with the private sector, to see what could be made of it, so that it could continue to everyone and then, in the future, turn back to being something that we might be able to use in the event of a pandemic.

That was not possible, and, I mean, I think the costs for maintaining these are quite staggering. I think, if I remember correctly -- and I might need to confirm after -- it's about 500,000 a month for it not to be working, if you see what I mean, just sitting there. There are also, another key point, issues to do with maintaining staffing of these establishments, as well, which was always a problem.

So I think, on the face of it, it looks like a huge loss. It actually, in fact, only, I think, at the peak delivered 125,000 tests a day of the 850,000. So

I wouldn't personally necessarily say that was the crown jewel, if you like. I think we need to be really, really good, systematic, over the long term at looking at what we're building and how we build into it, the functionality to turn it into a country operational use, if you like, in the event of a pandemic.

And if I may, I mean, I've been -- we worked closely with my equivalent agency, KDCA in South Korea, and I've looked with them, with Dr Jee, the director, quite carefully, at how they used their laboratories, and a lot of this is about turning facilities that are there and having them available directly for government for intervention.

Q. Thank you, and thank you for that additional insight around the decision making to the closure of the Rosalind Franklin.

Can I then, finally before lunch, just deal with another topic under the heading of preparedness, please. Can I ask to be displayed please INQ000535912. Thank you. This is an Independent SAGE paper. I hope you've had an opportunity to consider this as part of the material, Professor Harries.

Can we move into the fourth page, please. Thank you.

We can see under the heading "The UK experience", it

expressed the view that the UK could have:

"... broken transmission chains if we had mobilised local test and trace capacity during February and early March, with proper incentives for isolating households, and community facilities provided for less severe cases."

Can I ask, do you agree with the conclusions of Independent SAGE that TTI could have been effectively mobilised at this stage, despite the barriers including lack of infrastructure and speed of widespread seeding of infection?

A. I think it's important to realise that local testing and tracing systems were mobilised and, in fact, they never paused. I think we've had their statements, I've seen in different documents, saying, you know, why was community testing stopped? Why was something stopped? In actual fact, where it was possible to keep going, it was. It tended to be focused. So Public Health England teams then would, for example, look at backward contact tracing on, you know, different outbreaks.

So I think that's an important point. I think I broadly -- it goes back to my comment I've just made, which is, whilst I don't agree with the detail here, I do think there is an issue which the UK, plus many, many other countries, did not have a capacity sitting

ready for the eventualities and the mindset that said, "We can stop this", and for me in my current role, that is actually the really important element to go forward because, in doing that, it encourages us all, I think, to look at all of the opportunities and set out on a long term basis how we can manage these in the future.

There are some particular issues here around, for example, isolating households, that we may come on to, and, I'm sure, about how we support households. And I think there is a much wider issue, which is really important, around where were those local hotspots, why were they the hotspots and who was most affected, that again, we need to address in peacetime, in a much more transparent way, than perhaps normally occurs for our health service. We need resilient communities, as well as all of the things that we're discussing.

Q. So can I ask you, in terms of that we need to identify the hotspots, why they're there, and do that work in peacetime: has that reflective work happened in UKHSA?

A. Yes, definitely. So I mean, those are -- identifying hotspots can be a surveillance issue, which I'm happy to pick up separately, but what I'm referring to is there are two things that I did when I first came in and this does pick up my background as a director of public health. One thing was about starting the "Future of

Health Protection" work programme, which has actually yielded some really positive results recently. It was the first thing I kicked off, and it has taken three years to get to the answers, but it is co-produced with local authorities, with ADPH, with environmental health officers. So that's a really important piece of work.

But what I'm really referring to, is actually we know where the communities are who are going to be least confident to come forward, who are least going to trust us, who are also going to have the worst underlying health conditions, and those underlying health conditions and the disparities in them are there now.

So the real question is, why are we not addressing them now so that when the next pandemic starts off, we're at least on an equal platform? And the work I have done there and probably as I'm leaving -- I'm doing my legacy point -- which is actually to -- I think we are the first Health Protection Agency in the world to have a health -- equity in health protection strategy, so that's an overarching strategic to really push this out into the domain of routine work, and then we've just done our first report, which highlights the different rates of infectious diseases, admissions to hospitals. And you can see this by deprivation. And

much of this is vaccine preventable disease, that we could -- we can amend.

But we need to work with communities on the longer term, not just when a pandemic hits.

MS CARTWRIGHT: Thank you, my Lady, is that a convenient moment?

LADY HALLETT: Certainly.

I'm sorry we couldn't finish you before lunch, I know busy you must be, if anything else, tidying your desk.

I'll return at 2.00.

(1.00 pm)

(The Short Adjournment)

(2.00 pm)

LADY HALLETT: Ms Cartwright.

MS CARTWRIGHT: Thank you, my Lady.

Professor Harries, before lunch I think you made the point that testing didn't stop at any point completely, or contact tracing, and perhaps that's referable to clarifying what happened after 12 March, and the movement from the 'contain' to the 'delay' phase.

Building on that, can I ask you a question, please, by reference to the quote attributed to yourself linked to the "test, test, test". I'm going to first take you to an Irish Times report but then I will give the full

context from within your statement, your fourth statement.

So can we look, first of all, please, at The Irish Times article, which is INQ000474852, and if we move to page 2, please, we can see you were referenced there by reference to "test, test, test", linked to what had been said by Tedros Ghebreyesus, and then you were suggested as saying:

"... 'test, test, test' was intended for countries less developed than Britain."

And over the page, please, to page 3. Thank you.

We can again see, again, selective quotes from you relating to:

"So the point there is that they are addressing every country, including low and middle-income countries, so encouraging all countries to test of some type."

So I think this is the foundation for a question I'm going to ask you about, but I know in particular that the context to this quote you're anxious to be considered, and so, please, can we then move to the full context that you've provided linked to the comments made on 26 March 2020.

Can we move to INQ000273807, at page 145. Paragraph 10.18. Thank you.

And so we've looked at aspects of what you said within The Irish Times article, but we can see that you address this within your fourth witness statement, giving the full context, I think, to what was said.

And if we go over the page, please, we can see in particular at page, paragraph -- yes, at the end of paragraph 10.18, again further context that you've highlighted in bold:

"So obviously if there was infinite testing facilities, and we were growing them at pace and we will have them, then it moves to the public, but we need to be very careful about focusing where it's clinically most valuable."

If we go and just expand out again, we can see further you give context to this conversation at paragraphs 10.19 and 10.20. So that -- there's wider context there, but can I ask you, do you agree that essentially what was said by you around these quotes linked to the 26 March ignores the fact that other countries with at least as well developed public health system as the UK were at this time testing extensively at a rate many times that in the UK?

A. So thank you for showing the complete section there, which I think The Irish Times does not pick up fully, and I would encourage the Inquiry to look back at the

detail of what I've said. I think that's important. What I actually said, and I think you showed it, was it was encouraging all countries to test of some type, that included the UK. The reason that I flagged the lower/middle-income countries was actually because, at the time, 80 out of 194 of the WHO countries had not reported any cases at all, and WHO was including and exhorting all countries to do so, regardless of what their -- you know, constraints. Some of them were political, I think, and many of them were the lack of capacity, and in fact the UK had been supporting them. And that was exactly my point. So I felt that perhaps that had been misconstrued and I was actually encouraging countries and other countries to support those without testing capacity.

The point -- the other point I think that you've flagged there is, and I mentioned this just before lunch, was that back around -- as we were moving from 'contain' to 'delay', there had been a change in advice Public Health England had published, that changed back on 14 March, and I think my comments there were made on 26 March, so they were following effectively that movement in the case definition and targeting the testing that was there towards those cases where it was most appropriate.

And if I remember, this data actually goes on to flag that if you -- whatever testing you have, you need to use it effectively. If you're using it in community testing, where most people are likely to do well, and not using that for those who need the test for clinical benefit, you will disadvantage the people who need it.

Q. Thank you.

Can we next move, please, to the topic of capacity, please. And I asked you before lunch around experience, international experiences, but can I ask you, did the UK fail to mobilise TTI resources at an early stage and emulate the approach adopted by countries such as Taiwan, Singapore and South Korea? First of all, do you accept that as a proposition?

A. So I think international comparisons generally are extremely difficult, and I know many people who have commented here and put in statements and in other modules have flagged the differences. It's not simply what testing capacity you have or how you might use it; it's actually the context in which you're using it as well.

So, for a country like Taiwan or South Korea, which I've visited myself, there were some very, very -- how shall I put this? -- non-Libertarian interventions for individuals. So for things like the use of credit card

details to know where individuals were travelling, so -- as well as a very, very highly developed digital infrastructure.

So, on top of the points I've made earlier, which is actually I don't think -- it's not just the UK. I mean, Germany is flagged as a country which had a lot of testing, but the testing fell over I think in the second wave, as well. I don't think many countries outside the ones that you have mentioned, which are predominantly around Southeast Asia, and I think probably had learnt from MERS more effectively, and had very highly developed infrastructure systems, did very well in this space.

So I wouldn't necessarily pull the UK out as different to other countries but obviously what you see in the development of the activity and the start-up of test, trace and isolate is a decision, and I think it came on 17 March at a roundtable from Number 10 I wasn't at, where there was clearly a ministerial decision to move to building a testing capacity for the country which had not been envisaged before.

Q. Thank you. And so can I seek your views. Would you agree that there was a failure to take proper account of international experience and expertise in establishing the TTI system?

A. I think that's a different question, if I've understood it correctly, which is: did people look to see what systems had been developed elsewhere as they developed TTI? Is that the question? I don't think that is the case, because there were a number of different strands of -- you know, there are automatically a lot of links that we have for different countries. I've just mentioned we have MoUs for different countries so we can ring different colleagues up and ask what they're doing, but I think more importantly Cabinet Office right through the pandemic actually ran a comparator, international comparator. So I think people were looking for international experience to help and support them in how they developed a service.

Q. Can I then ask to take it back a step in terms of you identifying that South Asian countries had learned from MERS and SARS.

Do you think there's an identified failure to not respond effectively in preparedness to look to what South Asian countries were doing, informed by the experience of SARS and MERS?

A. I think in retrospect -- and I say, I'm not singling out the UK from this -- given my points earlier about planning through for a different -- for example, a disease with asymptomatic transmission -- or more

importantly, I think, is this mindset which says we can actually stop a pandemic. And that, I think, is the critical learning point for the future.

I think for those countries who were very nearby -- I mean we have had MERS cases and we have managed them perfectly effectively. So that in itself is slightly problematic, because if you manage an infection effectively, perhaps it reinforces the idea that this is -- you know, you have systems that work. And evidentially, we have done that. We haven't had epidemics emerging.

Q. Thank you. Can I then, please, take you back into your fourth witness statement, please, to paragraph 9.41 at page 135 which is INQ000273807, and this is on the question of discharge to care homes, please. You say this:

"I am aware that in an email of 14 April 2020 the [Chief Medical Officer's] advice was that testing within care home settings was a priority following concern highlighted by a recent study of 39 care homes indicating potential high rates of nosocomial transmission. The issue of ingress into residential settings was one of significant clinical consideration, including at the [Social Care Working Group], where workstreams were delivered on an ongoing basis through

the pandemic to support testing policy development and changes including for individuals being discharged from acute care settings to care homes. However, despite clinical support for discharge testing to be undertaken as soon as possible, testing was not initially available at the scale necessary to achieve the objective."

You go on:

"Any system of testing prior to discharge from hospital into care home settings would have been dependent on there being sufficient tests available, as well as ensuring the appropriate process parameters -- such as time of test, time period over which a test remained valued, turnaround time of the test result -- were agreed and evidence based. These were fundamental considerations for the [Social Care Working Group] work programme."

Can I ask you then, are you aware of any analysis, in March 2020, of the testing capacity that would have been required to implement mandatory testing prior to discharge to care homes?

A. Not specifically at that point but, given that we know what the testing was, capacity, and I think it was -- from memory, it was somewhere between 5,000 and 10,000 in mid-March, and on 17 March there was a roundtable where the country was -- where ministers agreed to start

developing a testing system. I mean, that would not be a difficult test -- number. That wasn't the planning issue, I think the issue was that the country was starting to develop a large testing system, it would be very easy to calculate the numbers that were needed at that point.

Q. Thank you. Then following on from that, then, are you aware whether there's any consideration given to implementing alternative measures in the event of anticipated shortfall in testing capacity, such as deferral of transfers into care homes until testing could be implemented and/or mandatory isolation of patients to mitigate the risks of transmission?

A. So this is going to quite a long space outside testing. So if I go back to the previous question, I seem to remember, and I can't remember who said it, listening to some of the previous representatives, that there was an email from Ros Roughton, it may have been Mr Hancock, actually, who -- there was a series of hearing information presented where it was made very clear that she had calculated -- so she was the Director General for care at the time and, on the afternoon that the decision was made, they had actually calculated how many tests were required. So, I mean, I think that is, and it was going to be difficult, both in practical terms to

do, as well as the delivery of the tests because, clearly, you need to ensure that staff on the front line in hospitals are able to do that and process the results and what have you.

Just going back to that one, I think it was calculated. That was not the issue.

The second point is a very, very different one because, actually, and probably a point I should have made right at the start -- on all of these issues, the test is not the intervention; the test is -- the intervention, for safety, is the isolation. The test is an adjunct to all of this and, even if you have a test, if somebody doesn't act on it and self-isolate, then it is not really of any validity. It might give you surveillance information but it won't protect anyone.

So when we come up on then to care homes, actually the critical intervention here was about keeping the patient safe and the safest thing for these -- and I can reference back, I'm sure, to a number of other Inquiry documents -- is staying in hospital, if you're usually elderly and frail, is a very dangerous place to be, so that is not a helpful thing to be retained there. And importantly, even if you have had a test and it is negative, it doesn't mean you won't develop -- it's only negative at the point the test is taken. So the really

critical intervention for the individual and for the care homes who were receiving them was for the individual to go into isolation after they moved.

So testing at this point is an adjunct but it is not the main intervention for keeping an individual safe.

Q. Can we then, please, look briefly at your paragraph 4.33 in the UKHSA corporate statement, please, which is at INQ000587365, at page 46, please. Thank you.

You say this:

"In September 2020, after schools reopened, the UK experienced a second wave of infection resulting in further lockdowns across the [United Kingdom]. It was anticipated that the winter would create a dual challenge of managing flu and Covid-19, and the UK Government wanted to avoid a second lockdown. [NHS Test and Trace] was therefore asked to expand PCR testing capacity with a target to meet processing of 500,000 tests per day by the end of October 2020 already part of the July 2020 [NHS Test and Trace public plan]."

So, can I then ask you, you have had provided to you statements from Professor Fulop and Professor Pagel, around the second wave, and so can we briefly look at Professor Fulop's statement, please -- sorry, I think this is actually Professor Pagel's then, I do apologise. But, in any event, if we look at paragraph 8,

essentially it details about symptoms but then, if we go over the page -- and particularly to paragraph 22, please, it again details essentially the predicted autumn second wave.

Thank you.

If we can then go to Professor Pagel please, which is the -- sorry, I do apologise. Sorry, I'm going to start this questioning again.

If we can start, first of all, with Professor Pagel, thank you.

INQ000575988 -- thank you -- which is paragraph 36 on page 14, please. Thank you.

We can see here reference to the tests, but also increasing prevalence from September onwards, and then, please, if we can separately, then, deal with Professor Fulop, which is INQ000587244, paragraph 19, please. Thank you.

If we can go to paragraph 19 to 21, essentially the same point identifying the failure to prepare for the second wave, if we move over to paragraph 21, please. Thank you.

So can I ask you, do you agree with Professor Fulop and Professor Pagel that the United Kingdom had failed to prepare adequately for the predicted autumn second wave, including by failing to improve testing, tracing

and isolation, despite calls for such improvement from bodies such as the Academy of Medical Sciences, SAGE and Independent SAGE?

A. So I obviously was nothing to do with test, trace and isolate at this time, so it's difficult for me to be absolutely clear beyond what I've put in the statement about what preparations were made. I know there was a winter plan and that, actually, it took a lot of those into account. I did notice in reading through that specific Pagel had said much of this was predictable and, of course, all the bits that one would think about, people going inside more because it's cold, and mixing, as far as I can see from the evidence, was actually considered.

The only thing I would say is that I don't think it was actually predictable because these were some of the least predictable winters that we had. If we looked, actually, flu didn't go up in the way we thought it would, it went down, and children's illnesses changed because they weren't mixing, so it varied quite a lot.

So I think it really is -- just highlights that planning throughout this phase was incredibly difficult for all sorts of people, for the health services and particularly, I think, for which I experienced later, trying to predict, for example, the number of LFDs and

then actually moving that through a procurement system and sign-off.

So as I said, beyond that, I don't think I can really add more to what's in the statement.

LADY HALLETT: Wasn't a second wave predictable? Putting to one side winter, I thought the evidence I'd heard was people like Sir Patrick now Lord Vallance and Professor Whitty were advising of the possibility of a second wave or the likelihood of a second wave quite early on.

A. So waves are definitely predictable and I think one would anticipate this, that there would be other waves. So that's absolutely the case. The precise point and severity of a wave is not and, actually, what this highlights -- and I agree with Professor Pagel in the sense of, you know, we know what the normal in infectious disease patterns are during the winter and so what you had then is not being precisely sure of when it is going to come and knowing that, if they hit together, you would have one impact; if they hit in close succession, it might have another.

So for example, if you did have a wave of flu and then you had a wave of Covid, you would have them building on each other. You'd have people remaining in hospital from previously. If you have Covid, and everybody locks down, you won't have the flu,

potentially, and so it goes on.

The point, I think, is there are predictabilities around winter normally but this was not a normal winter, and you can predict new waves but you can't predict precisely when they come, which is why the surveillance is so important because you can start to see where those peaks and troughs are happening.

MS CARTWRIGHT: Now, obviously, you've identified winter but I particularly want your views, please, before September 2020, what preparatory steps should have been taken by NHS Test and Trace before September 2020 and, in particular, during the period of low prevalence over the summer of 2020?

A. I mean, I'm happy to make some general comments but I think those are probably questions that were better addressed to Baroness Harding because it's difficult for me to be precisely sure what measures were taken. I wasn't involved in that. I would have seen plans, general plans come forward.

Obviously, at any point during the pandemic preparedness you will want to have a reasonable amount of tests, but you will have to vary that with the controls, which I think we've heard from ministers, on deciding about costs and expenditure, and I think, as I suspect Baroness Harding has said, but I would

certainly endorse if that's the case, that was particularly different because the flexibility to turn on additional resource for procurement and then actually get the products in, bearing in mind that much of it was in high demand globally and was being produced overseas, was incredibly difficult. So whether or not the planning was there, it may not have resulted in, you know, all of the capacity that you may have wished for.

Q. Thank you. Now, we looked, before going to Professor Pagel and Professor Fulop's statement, at your statement which had identified the second wave after schools reopened, and can I ask you now some questions, please, about testing in schools.

Could we please display paragraph 4.117, at page 68 of your statement, please. Thank you. In fact, if we go back a page again, please, I think we can see the section where you dealt with testing in schools. Thank you. We can move up a page, thank you.

You tell us in the witness statement that:

"Mass asymptomatic testing was implemented after schools and further education colleges reopened [we're now in March 2021] following the national lockdown. Asymptomatic pupils initially tested at ATSs within their educational settings supervised by staff. Tests were repeated onsite for pupils ideally at

a three-to-five-day interval, and for staff, twice weekly through self-tests at home."

Then, as we see at 4.117:

"After two weeks, pupils move to home-based self-testing when the levels of self-test stock available allowed."

I think you've also had provided to you the paper from the Secretary of State for education, titled Asymptomatic Testing in Schools and, if we can briefly display that, please, which is INQ000075484. Thank you.

If we move in particular to page 6 of this paper, paragraph 13. Sorry, we'll go back a page, please. Again, it details:

"... core proposition will require asymptomatic test sites to be set up in every secondary school and college ..."

You've also, I think, had a chance to review the statement of Kate Bell where she specifically deals with the fact that schools were informed of plans to implement asymptomatic testing in schools on the last day of term in December 2020 and the reference for all that, although I don't think it needs to be displayed, I think you've had an opportunity to read it, is INQ000587569, paragraph 96.

Can I then ask you, please, Professor Harries, do

you consider that sufficient plans were in place to enable asymptomatic testing in schools to be effective?

A. So first of all, the tests need to be effective and I think you've highlighted there I'm very familiar with the fact that many of the tests, actually, could not be used, although we've all got used to that now -- were not able to be used for self-tests because they weren't accredited that way through MHRA at that time. So I think there is a practical issue there. I'm afraid the rest of it not my domain. It's clearly a decision made by the Department for Education, I'm sure they're much more familiar with what schools are able to do or not. My experience of teachers during the pandemic was they were absolutely wonderful and delivered a huge amount but whether or not that was practical for an average school, I think is for the teachers and for the Department for Education to answer.

Q. Then can I ask you, from your public health expertise perspective, would you agree that testing regimes in schools should have had greater involvement from persons with specialist expertise, from local public health, and those administering/supervising the tests should have been provided with better training?

LADY HALLETT: You'd need to know what the baseline was, before you could say they should have had better?

A. I would also add a comment about -- for the reasons which I flagged at the start, which is, you know, local public health, I have worked in local public health, if I had been part of this team centrally, would that have been adequate input or not? I mean, there is a general point here and it's one that UKHSA tries to work toward, which is around co-production of all of this guidance, and I suspect that Baroness Harding will have flagged that -- which I know is the case, that as NHSTT developed, they tried to move more of their services in the way that they did things to the community and work with community and absolutely recognise that.

But I think that, you know, these are different demands in a very fast-moving space but I wasn't directly involved so I don't think I can add more.

MS CARTWRIGHT: Finally, can we go back to your statement INQ000587365, at page 68, please, and if we could just look at the statistics you have helpfully provided in the corporate statement, which is at paragraph 4.117.1. That's INQ000587365 at page 68. Thank you.

You've helpfully provided these statistics:

"Reported participation varied between secondary school pupils (27%), college pupils (8%), primary school staff (43%), secondary school staff (34%) and college staff (15%), although it's considered likely that there

was under-reporting of negative self-tests conducted at home."

In light of those statistics that you have been able to provide, are you able to assist as to what are the lessons to be learned from asymptomatic mass testing in schools?

A. So I'm just trying to look at the point above this, again, this is not a piece of work I was directly involved with at all, and I'm just reading very quickly, and I think it says focusing on a five-week period from 1 March '21 to 4 April '21 and, obviously, how effective something will be will depend on a whole load of other contextual areas. So one of the things about testing, which I am aware of, in schools is that at different points, actually, it was very -- the pupils and staff found it very supportive. They found -- and I think one of the general endeavours -- this is standing back from this particular element -- was we all recognised how important it was for children to be in school. That was an absolute priority. So for -- to support and encouraging individuals back to school, testing can actually be quite a supportive -- it gives them confidence to be there.

The timing here, to me, suggests that you can also find that people -- their engagement diminishes and so

I'd be interested, on this one, just it would perhaps be helpful to compare what happened in January and February with March and April, because I know, from my own experience from some of the care home testing, was that, actually depending on the regimens and whether you were a PCR or LFD and at which point in the pandemic cycle it was, people were more or less engaged with it.

So I think that's probably more -- all that I can say. I don't think we should assume that those apparently low numbers, that, you know, necessarily mean it was not effective and we need to define what we mean by effective at the end of it, if more children were in school and they were healthy, that probably has extremely long-lasting positive effect.

Q. Thank you. Can we then, please, move backwards to your paragraph 3.40, please, at page 27 within this statement and I want to see, please, Professor Harries, if you can assist us a little bit more on asymptomatic transmission and testing and prioritisation.

We can see there, from 15 April 2020:

"... PCR testing will be offered to 'everyone who needs one' in social care settings. The press release stated that all symptomatic care home residents would be tested; all patients discharged from hospital were to be tested before going into care homes 'as a matter of

course', and that all social care staff in need of a test would 'now have access to one'."

Obviously, the caveat:

"Of course, this depended on the availability of tests."

Now, the Inquiry has heard evidence that, by March 2020, it was established that there was credible evidence of asymptomatic transmission, and that PCR tests could pick up asymptomatic cases, meaning that there was value in testing people with and without symptoms, even if those tests were not 100 per cent sensitive.

Now, you reference there the announcement of 15 April 2020 about testing in social care settings, including the commitment that all patients discharged from hospital would be tested as a matter of course.

Therefore, can I ask you, in light of this, do you agree that the measure should have been adopted earlier, and particularly, when the Covid-19 hospital discharge service requirements were published on 19 March 2020, to promote discharge in order to free up hospital beds.

A. I think I'm probably going to repeat myself slightly because we established, I think, on -- when the prioritisation of testing note was established, on 8 March by PHE and then was put out on 14 March, that

there couldn't have been testing on 19 March, so I mean the basic point is you would need a test to implement this. So I think that would not have been a possibility, notwithstanding whether it was desirable, there is a second point, which is we start with the premise that asymptomatic testing and the risks were completely understood, I think, in March.

In fact -- and I think again, Mr Hancock made these points in his evidence -- at the start of April -- and I've made it -- you've actually pulled up my own evidence here -- there was a particular study in the US, in the Seattle care home, which gave a lot of strong evidence with very good data and denominator factors of asymptomatic transmission, and then PHE actually did what's known as an Easter 6 study, in the Easter weekend, which gave us, if you like, homegrown UK figures for the first time, which were really robust and then went on to do some more detailed evidence.

So I think it was generally around April time, which is when the reality of the proportion of cases, if you like, of asymptomatic transmission was recognised, and that is exactly why the DoH moved quickly for their 14 April announcement, and this one, actually.

So I think, on the one hand you need a supply of tests, so it's -- they can't have put something in if it

wasn't there; and, secondly, I think, as far as I can see, it was put in as soon as the evidence base was clear for the country.

Q. Thank you. Can I just pick up about -- with what you've just said about the prioritisation list.

A. Yeah.

Q. Can we briefly look at, I think, the 11 March prioritisation list, which is INQ000270014. I hope that's the correct reference. Thank you.

Now, we can see the prioritisation list devised, I think, by Public Health England on 11 March 2020, so just building on the question I asked a moment ago, should that have been amended to include all patients being discharged into care homes at that time?

A. So the basis -- I mean, this is an evidence-based clinically agreed proposal that I think was put forward by Public Health England and considered by the UK CMOs and a number of other senior clinicians so this is an agreed position. It predominantly runs with those individuals for whom, at this stage, testing was required for the management of their clinical care, and you can see that running all the way through.

So this feels the right prioritisation. I can't -- I don't think anybody that I've spoken to since has looked back and felt this was wrong for all the test

capacity and clinical care requirements at the time, and also bearing in mind, of course, we're still quite early on it pandemic to understand what the different outcomes might be for different groups.

Q. Can we then next move to a new topic, please, on symptoms. Can we display, please, INQ000151498. Thank you.

Now, you tell us in your fourth witness statement -- so rather than going to the statement, I thought it better to look at the email itself. You refer to the not of advice you gave to the DHSC on 20 February 2020 listing symptoms associated with Covid-19 infection, saying:

"Top ones ... are, in order, history of fever/chills, cough, sore throat, general weakness, runny nose, headache, muscular pain, diarrhoea, shortness of breath."

Can I ask you, please, what involvement did you have in identifying the symptoms which were communicated to the public as sufficient to require or trigger symptomatic testing for Covid-19?

A. Just for clarity, this is an email responding to Miriam Wraight, who actually headed up the visual aids and communication sides. So this is not clinical advice to the Department of Health or anyone else. Usually

what would happen is they would be crafting pictures and/or posters and they would pass them through myself and Professor Van-Tam to see if we could spot obvious issues.

Second point is all of those symptoms you've just listed, as it says in the email, are the ones which have come from a release from WHO, so these were not my advice; these were the ones which WHO had put forward. So this is not advice to the clinicians or the Department of Health, it's what the WHO had said.

Notwithstanding that, your question is, usually it wasn't my responsibility. I would perhaps see end results or that came into Senior Clinicians Group for observation for, you know, recognition and discussion, but all of the symptoms which arose would routinely be looked at and reviewed, because the importance of symptoms is that you have a very high positive predictive value, if you're going to use them, and you can't put 99 things out in a list to the public because, actually, the whole of the public would come forward with something.

So I wasn't directly involved. Often, it would be colleagues in NERVTAG, for example. So Professor Van-Tam, Sir Peter Horby, Andrew Hayward, and it would be those in Public Health England who were looking at

the evidence base.

Q. Thank you, I appreciate the clarification you've given to this email. Perhaps if I just summarise how you've referenced it in your fourth witness statement please, you say this, it's your paragraph 7.23, I don't think it needs to be displayed:

"On 20 February 2020, I emailed DHSC advising them of the symptoms associated with Covid-19 infection in order to respond to questions on material to be included and social marketing health promotion messages."

So can I then ask you, please, given the range of symptoms that we see identified in the email, and particularly you identify the source of that being the WHO, do you share the concerns expressed by Professor Spector about the impact of relying solely on testing and the two to three symptoms of Covid-19 -- fever, cough, shortness of breath -- that essentially remained as the list until loss of taste and smell was added on 18 May 2020.

A. These were two separate things, for the reasons which I've just said, so I don't think we should consider this as advice. As I said, it was for social media, and I think I note somewhere it's very early on, this is around the -- when is it -- 20 February. So I think Professor Spector, from memory, didn't actually start

using the app until around the 23rd, I think, of the next month.

Q. That's correct and certainly by 1 April he had identified and indicated loss of taste and smell was a strong indicator?

A. Yes, but he wasn't the only one, obviously. There was -- and all of the new symptoms that arose, and there were numerous symptoms, would be considered, and by -- through an evidence base.

And, in fact, there were three different groupings for symptoms that were recognised reasonably early on. One was what you might call the respiratory ones, which were predominant, probably, there were a group of neurological symptoms and there were a group of gastrointestinal symptoms, the important thing is that you can't go out to the public with every symptom. What you actually have to do is get the highest sensitivity and specificity in those listings that will give the greatest care to the population. Otherwise, you'll over-flood -- you'll flood the symptoms.

I mean, the other issue is, I think, that when Professor Spector raised those points -- I think we were in lockdown about then anyway, so I think we need to think through the practical implications. Key point is, those are symptoms -- and in fact Professor Spector's

work was actually funded by the Department of Health between 2020 and 2022, and I know that colleagues in NERVTAG were in continuous communication with him. So I did listen to his evidence, but I think he may have been slightly mistaken about some of the communications.

Q. Can I ask you, as a proposition, certainly using 1 April and the loss of taste and smell, would you agree that those symptoms should have been added much sooner than 18 May 2020 as indicators of infection for Covid?

A. So regardless of whether it was anosmia, ageusia, or any of the other symptoms, only if they were going to deliver the greatest benefit for the population in getting them the right care at the right time.

My point is, and I think and I'm fairly sure it has been disclosed to the Inquiry, if you look at the conversations between colleagues in NERVTAG, particularly Sir Jonathan Van-Tam, they were asking, from Professor Spector, for the data in order to make the appropriate comparisons and to get the right grouping. And once that moved to -- and it did change, actually, through the pandemic, as well -- then those symptoms were included.

So this was all symptoms, including anosmia, were under consideration right the anyway through, and it is the grouping of those to give the right sensitivity and

specificity that were the ones that were utilised for the public.

Q. Thank you.

Can we then, please, move in your witness statement, please, to INQ000587365, please, to paragraph 3.77. So it's page 36 of INQ000587365, please.

Now this falls under a run where you deal with contact tracing -- sorry, the statement deals with contact tracing and the development of the Covid-19 app, and if we can then -- sorry -- you give update figures, and they are, please -- sorry, if we can move now to 4.144 -- sorry, page 74, please. Thank you.

Can I ask you then just generally on the app and Wales, can you assist as to what consideration was given to the population in Wales who did not have smartphones or may have had challenges due to technological illiteracy?

A. I don't think I can -- apart from the fact I am a Welsh resident, so I could make comments about the signals in Wales, but I don't think I can because I wasn't involved with the development of either the first app or the second and, whilst we did work very closely with Wales, I wasn't involved in this particular bit, so I don't think I can help any further with that.

Q. Thank you. Can we then just complete the questions on

the app then, please. Can we move forward to page 74 and paragraph -- in fact, sorry, it's 75, 4.146.

I think you give details within the statement about the priority was ensuring it was broadly accessible, the languages. And can I ask you, was the data obtained about the number of users of the app in languages other than English obtained?

A. I don't think I would be able to answer that. I can -- I mean, it would probably be a good question for people like Professor Fraser, who I think you've spoken to.

Q. Thank you.

And then can we move forward to your paragraph 4.151, and again, we have specifically asked Professor Fraser about this.

You reference at 4.151 and 4.152 essentially the success stories of the app when it was available after 24 September, including downloads, uptake and prevention of hospitalisations and the like, including deaths averted.

For time, I'm not going to display it but I think you've had an opportunity today, because you reference the Nature article as the foundation for these statistics. We've asked number of witnesses who have relied upon the data whether or not they can assist with the map that shows almost universal low uptake in Wales.

Can you cast any light on that?

A. I'm afraid I can't. I mean, obviously I felt, as an agency preparing for pandemics, I should understand whether the apps have been useful or not, and I think there's universal agreement that they are. They're not the only thing but they have been very successful in saving lives and preventing cases. But the distribution across Wales, I'm afraid I can't.

Q. Can you assist, bearing in mind the positive things about the app that have been quoted by way of the data, as to whose task it would have been to look at that, what appears to be a trend of very low uptake across Wales?

A. Well, I think if I was sitting in Public Health Wales at the moment, which I have done previously, I would be very interested to understand that. And I do think it is important to understand the technology sitting behind it as well, because obviously you -- there is a gadget and an app to use, but you have very -- you know, the area of central Wales, for example, I know from my own past experience of being a director of public health there, is very sparsely populated, so you would not expect to have significant high uptake, and actually signals are very poor. I was joking before, but this is a fact. So people may not have found it as useful to do

that.

I think this is one that -- we talked about local understanding, and this is exactly the sort of area where you would need local insight both to the digital infrastructure, the telephony infrastructure, and actually utilisation by people in communities.

Q. Thank you.

Can I next move then, please, to support for self-isolation. And can we move to paragraph 6.32 of the INQ000587365 statement at page 100.

INQ000587365. Thank you.

We can see at paragraph 6.32 you detail that -- the financial support provided under the Test and Trace support scheme, and you say this:

"Finances can act as a brake on the ability of those who are otherwise willing to self-isolate. That can be because they are in precarious employment or have been told that they do not have recourse to public funds. While this is not a matter that falls directly within UKHSA gift, it is an important point which was highlighted during the pandemic and continues to be so because it has the relevance to the ability to control the spread of an infectious disease. From historic experience, this is both for population and individual disease transmission risks."

So can I ask you, do you consider that the TTSPS and the discretionary support scheme adequately address the issue which you identify that finances can act as a brake on the ability to self-isolate?

A. So I think "adequately" is a challenging word, but the point about, for example, precarious employment, I think it's precarious lives. I think Professor McKee mentioned this. It is very obvious that if you live hand to mouth day by day, you need to know that you have an income. And if you don't have that and you have demands on your finances, you're very unlikely to engage in these sorts of settings. And I think that is evidently obvious.

I know that NHS Test and Trace -- so I know that the Secretary of State -- I was in personal meetings -- was really trying to promote this and make sure it was understood across government that this was -- it may be a financial burden on the country but actually it would have financial implications in terms of the economics of the country as well, in terms of extending potentially the length of the pandemic.

The issue I've put at the bottom there, and this was -- actually, it reminded me particularly of a meeting that I was in with the Secretary of State on this topic at the time, which was he -- this is

Matt Hancock, he was trying to understand how we could do this, what the challenges might be, and also how important it was. And I had flagged that through my time working with communities on infectious disease, this is a recurrent problem: if you have a case of something and somebody needs to be -- you would advise them to be off school or off work but they are not ill themselves, this is actually a major block to their engaging with that intervention.

And he actually asked us to go away and see if we could come up with something which we could utilise both for Covid and for this. And because -- it was actually extremely difficult, and so my recommendation at the end of this is that, actually, it does need looking at, not -- I mean, obviously with the UKHSA support, but it's a DWP Treasury, I think, opportunity, because it affects the economy, and we do not want infectious people going in and out of work on a routine basis as well as during pandemics.

Q. Now, with giving that answer and also the identification that it's not within UKHSA's gift, has that view been fed back as to the -- those relevant departments that really need to grip this issue in peacetime?

A. I think it's very well recognised. I mean, I think most people who have been working certainly on the front line

for this have made this point recurrently. I think it's become -- it was perhaps hidden for routine health protection cases, but it's well known amongst those, as I say, working -- whether in local authorities or actually whether in UK Health Security Agency and predecessor organisations, I -- I am trying to think, I don't think -- well, I think we have formally raised it in many of the products that we have published. We've looked at inequalities. We did a review of the interventions, so those are available and will be available to other government departments. We've put everything into the public domain.

Q. Thank you. And can I ask, that included any consideration about whether the £500 support payment that was introduced in England was sufficient?

A. So I think we -- you can see through the evidence that people suggest it's not. It feels -- logically, it feels relatively little to encourage somebody with family, for example, responsibilities to be immediately staying out of employment. Clearly, there is a demand on the public purse for that, and that's why I think it is entirely appropriate and reasonable that the Treasury is the centre point for consideration of that alongside DWP.

But the precise amount and how it's administered

I think needs some wider thought. I don't think -- we can help but I don't think it's (unclear).

Q. Thank you. Can we then go back to paragraph 6.5, please, on page 92. You detail that:

"The pandemic highlighted the need for more agile, responsive, and comprehensive approaches to health inequalities. Pre-pandemic planning did not fully account for the scale of inequality revealed by the COVID-19 pandemic, particularly in emergency response scenarios."

Given that extent of health inequality was known, can you assist as to why pre-pandemic planning did not really engage with this issue fully?

A. So I think anybody working in health protection knows that a pandemic and infectious disease generally will follow in the wake of inequalities. That's nothing new. The inequalities agenda is -- I don't think is recognised enough routinely. It was the point I was making before the break. And it's one of the reasons while I have, right from the start of UKHSA, had a strategy which highlights inequalities and the need to reduce them.

We have an inequalities strategy but, most importantly now, we are increasing the data that we are putting out to effectively ensure that other parts of

the system, so, for example, trusts and ICBs, are able to look at the data and understand it for their areas, and actually take action. Because that action will allow the health of the population to improve and the economy to improve but it will mean that we are much more resilient in all of our communities the next time a pandemic hits.

Q. And can I ask you, does that analysis of data now also include disaggregated data?

A. So wherever we can we are working to do that, and in fact I think -- I made some comment, there was a Public Health England heat tool before, but we have built in a number of what I would call automatic checkpoints. So if we are doing emergency response, inequalities immediately gets flagged up for our emergency response. It's inescapable, if you like. If we're looking at data, we're asking the questions.

We don't always have the data and I think this is an important point. If it's not disaggregated when it is collected, so if a survey is not done with data which can be disaggregated, then clearly we can't then analyse it and look at what the impacts and the outcomes are likely to be. But wherever it is, we do, and if we find areas where we want to know more, we will be pushing back on those data streams.

Q. Thank you.

Can we just go to the next paragraph, 6.6 and over the page, you've just referenced the heat tool.

A. Mm.

Q. Are you able to assist as to when that was actually brought in?

A. So this was actually a Public Health England introduction, so again I wasn't directly involved with it, but I was aware of it, and I think it's an example of ensuring that everybody who was working in health protection emergency response, but actually routinely as well, when you're planning services or looking at any intervention, consistently looks at the inequalities lens.

Now, I would say most public health trained individuals do that routinely, but it also doesn't hurt to be reminded to do it absolutely systematically, not as a tick-box exercise but actually to say, "We have this data, we don't have this data", and have a feedback cycle to go back so we know if it's not there this time, that we can improve it the next.

Q. Thank you.

And just on a further topic, we know that latterly, targeted testing came in. Can you assist as to why that wasn't introduced sooner to essentially assist with sort

of groups that were hard to reach and engage?

A. Do you mean the Targeted Community Testing?

Q. Yes.

A. I mean, that's -- obviously that was very much introduced -- the start of that was the Community Testing Programme, which again predated UKHSA. I think -- I go back to the comments I made earlier on, and I know from having come in behind Baroness Harding, there was a growing recognition of the importance of community engagement, but I think a growing evidence base as well about underserved communities who do not necessarily engage through the same routes, do not feel comfortable, we don't make the easy for access. But I think I am probably picking up my director of public health experience and know that those communities are very well known in local authorities and that's probably where the starting point should be.

Q. Thank you.

Now, finally for my purposes, under lessons learned and recommendations, can we thank you and UKHSA for the 14 pages of reflections which are contained within the witness statement but can I pick up on a couple of issues, please.

Can I ask you first of all, we've heard from Professor Fraser, linked to apps, that it was his

evidence and understanding that it would take three months to deploy a new version of Exposure Notification in a pandemic.

First of all, is that accurate and is that the current position?

A. Well, Professor Fraser would probably be better informed to give a precise timeline on that than I personally would, but I think two things: one is we did consider this very carefully. There was a ministerial decision to decommission the app. But along with many other things, we've had passage-in-specific -- so Covid-specific interventions where we actually are trying to grow systems routinely which can surge for anything and are pathogen agnostic. So this didn't fit that, and I think we would like -- we recognise how valuable an app can be. We have explored to a degree, again within our budget, what would be possible. We do not have that in active consideration at the moment, partly because we actually do need to understand what our budget settlement will be going forward and how many of these different interventions and programmes we have running we'll be able to take forward.

Final point is, I think, that, as we've seen during the pandemic, the three to four months with -- you know, could well come down with the right budgetary input and

the right ministerial direction at the time, and we would obviously respond to that very quickly.

Most importantly, you know, we have good connections with people like Professor Fraser and so we can automatically link with them now, in perhaps a way that was not there at the start of the pandemic.

Q. Thank you.

Professor Harries, you will have heard no doubt Lord Bethell's evidence essentially about how we have gone backwards in the last three years, not forwards, the diagnostic infrastructure is dismantled, data spine closed down.

Obviously you deal with aspects of UKHSA's preparedness for a future pandemic, and appreciating it could be any pathogen, but can you assist: is UKHSA currently in a position to effectively fulfil its role to provide the UK's standing capacity to prepare for, prevent, and respond to, infectious diseases and other threats to health?

A. So I think the short answer is: within the budget envelope that we have, but we have programmes in progress. Lord Bethell's comments I agree with in some ways, which is many systems have been decommissioned. But I think it's important to realise, as I've just mentioned with the app, that the majority of those were

built very quickly, quite expensively, for one pathogen, during the pandemic. And what we are trying to do is go back -- so they will have been decommissioned, and we're trying to rebuild a system, which we are partly doing to get to a point where the country can surge, so -- to our boundary envelope.

So we have got a new, for example, equivalent of the CTAS system, the community tracing system, in development. We've got a prototype, we're working on an NH5N1, so avian flu, PCR model, so that -- but something that in the future can be used for any pathogen. So even on a daily basis, if we have an outbreak in a region, we could use this, but we can extend it out to national levels.

And I think I've outlined a lot of these issues there.

The bit that I think -- and perhaps if I could indulge a few minutes -- that I think where we are missing out, is we do not have, and this was one of Lord Bethell's points, the production capacity, if you like, to, for example, deliver to make our own LFDs, and yet, we in UKHSA are developing techniques which might mean that we don't need large quantities of the PCR testing capacity. If you can take from an LFD the viral RNA and find that out, you actually avoid the need to have any

of the community PCR testing. So we have set up a diagnostics accelerator but it's not linked in right across Government to investments which would allow spin-off companies to build those up, for production lines, and some of the digital infrastructure.

And I think my sadness, as I leave my post, let's put it that way, we've done lots of work with the private industries because we need to do that to be better prepared. We're working on the 100 Days Mission for -- and we've described the priority pathogens and worked out which tests we don't have and which vaccines we don't have. So we have a roadmap, if you like, for the UK to build on.

But actually the Civil Service is quite a clunky system to get to unite. In a way, there will be a new life sciences plan, life sciences sector plan, which will be helpful and so I think the Government is very much in this way. But actually, the Civil Service itself does not enable some of these logical investments, interventions and connections which otherwise, I think, could be win, win, win, so we don't have empty factories and we don't have empty buildings. We're using them for developing life sciences routinely, and then we can turn them more logically together at the event of a pandemic.

Q. Thank you. Can I just ask then finally, for my purposes, to get to that joined-up system and with the identified issue linked to the clunkiness of Civil Service, who has to be part of that collaboration to get that joined-up system?

A. So nominally it is there. I'm being very realistic as I leave post because it is one of my frustrations. We've done a lot of -- as I've outlined, a lot of what I would call front end work, we're working very closely with industry but if I go and ask some of the industry colleagues I've been working with, they will tell you there are five or six different front doors to come through. And I know the Government is currently working on that, and so the ambition and the vision is exactly as I think it should be. I actually think the culture, if I'm being entirely honest -- and I'm critiquing myself, because I'm part of it -- needs to move into the 21st century in the same way we need to move forward in our thinking about actually stopping a pandemic, and that's -- my term about scientific pre-emption is yes, we need big testing capacity but most of the time we shouldn't need to get there. We should have done a lot of upstream work, we should have tests more or less available, we should know who we're linking with and we should have colleagues in production, in private sector,

who are working with us routinely, all with appropriate governance frameworks, that we can just turn on and go.

And it's those same connections which, out of a pandemic, could be supporting life science growth.

MS CARTWRIGHT: Thank you. Professor Harries, those are my questions.

My Lady, there are Core Participant questions.

LADY HALLETT: Ms Parsons I think is going first -- who is, if you look that way, to your right.

MS PARSONS: In fact, my Lady, in light of evidence given already, we don't need to ask our question of Professor Harries, but thank you very much, my Lady.

LADY HALLETT: Thank you very much, Ms Parsons.

Right, Professor Thomas.

Questions from PROFESSOR THOMAS KC

PROFESSOR THOMAS: Good afternoon, Professor. I'm Leslie Thomas, representing FEMHO, the Federation of Ethnic Minority Healthcare Organisations. I only have a small handful of questions for you.

FEMHO members found it nearly impossible to feed back to those in charge about the practical issues associated with the TTI policies. Help us with this: why was it not possible for expert healthcare workers to provide feedback from the front line with the aim of improving the services for ethnic minority individuals?

A. I think this probably relates to NHS Test and Trace and, obviously, I was only responsible for that for the last part of the journey. So I can only say really what we're doing in UK's Health Security Agency now. I think there are two points: one is I would hope and expect that the early comment on that for the future would go through your -- for the different health organisations, and, actually, we have means of picking that up both at national level and local, particularly we work through directors of public health, as well, very closely, so each of our local health protection teams usually has a nominated, actually, consultant, who will link with the director of public health for a patch. So that's one very good route.

I think the other one is we now have -- work -- manage with the Department of Health and NHS England, a voluntary organisation oversight group, which should allow for information to feed back in but I think the obvious practical answer is, we hope -- I hope we are very responsive to any routine requests that come in and we have a routine system for doing that.

Q. So you would agree that there should be such a pathway?

A. Well, I think there should be a pathway for anybody to feed back on services. We should have strong customer services. I think my problem is I wasn't -- I didn't

set the TTI agenda at the start, so I'm not really very able to be helpful with that, with the early phase of development.

PROFESSOR THOMAS: But, my Lady, there was one other small question that arose out of Ms Cartwright KC's question. May I ask it? It's very short.

LADY HALLETT: You may, Professor Thomas.

PROFESSOR THOMAS: I'm most grateful.

Professor, just one question that arose in relation to the questions that you were asked about whether the UK should have taken more heedance from what was happening in Asia. Can I just follow up on that, just in this way: do you believe there were missed opportunities for the UK to learn from countries that successful managed their Covid testing and tracing and isolation response, particularly not just from Asia but also from Africa as well; do you think more lessons could have been learnt?

A. There's a general point here I think: you're inviting me to say should we learn from other countries? We absolutely always should and we do. And, in fact, actually, UKHSA works very closely with Africa CDC, we actually have somebody embedded in that country and we actually have two teams -- so I myself have been out to Nigeria, for example -- and would liaise very carefully.

We support surveillance systems in other parts of the world. So my experience from it always is, it is two-way learning. It's never one way. There are lots of things. And actually, importantly, as we go forward -- and we haven't mentioned vector borne disease, will come to the UK, and colleagues in Africa are experts, and we have to learn from other countries in our preparation.

PROFESSOR THOMAS: My Lady, thank you very much. Those are all my questions.

LADY HALLETT: Thank you very much, Professor Thomas.

Mr Jacobs, right down the end.

MR JACOBS: My Lady, my question was on financial support. In fact, I don't think I can take it further than the questions and answers given.

LADY HALLETT: I'm very grateful to you and Ms Parsons for curtailing the questions you need to ask.

Thank you very much.

That completes the questions for today. I'm afraid you may have retired but you can't escape my clutches. So I'm going to have to ask you, I think, to come back for the next module, I think, isn't it?

THE WITNESS: Yes. One more, I hope.

LADY HALLETT: But I do appreciate the burden on you, as I've said many times, and of course on the UKHSA, so

thank you very much for your help to the Inquiry so far. I hope the next time I'll be able to say good bye. Thank you.

THE WITNESS: I would like that.

LADY HALLETT: Very well. I shall break now and return at 3.25.

MS CARTWRIGHT: Thank you, my Lady.

(3.08 pm)

(A short break)

(3.25 pm)

LADY HALLETT: Ms Islam.

MS ISLAM: My Lady, the next witness is Mr Fell.

MR GREG FELL (affirmed)

Questions from COUNSEL TO THE INQUIRY

LADY HALLETT: Sorry you're the last witness of the day, Mr Fell.

A. That's okay. Someone has to be.

LADY HALLETT: They do, I'm afraid.

MS ISLAM: Good afternoon.

Please could you tell the Inquiry your full name.

A. Thank you. I'm Greg Fell.

Q. Mr Fell, you've provided the Inquiry with one witness statement, dated 30 April 2025. It's Inquiry reference INQ000587434, which should be coming up in front of you just now.

At page 50 it's signed and dated with a declaration of truth. Can you confirm that you've read your statement recently and that the contents are true to the best of your knowledge and belief?

A. Yes, correct. Read it this morning.

Q. Thank you very much.

We're going to deal with the following topics in your evidence, firstly touching on your background and professional experience. Secondly, looking at an overview of ADPH and the role of directors of public health, then moving on to the centralised approach, the TTI system, some data challenges, the directors of public health's role in respect of local contact tracing, self-isolation, inequalities, and lastly your observations on any lessons to be learned for the future.

So turning then, please, to your background and professional experience, it's right that you are currently the president of the ADPH, which stands for the Association of Directors of Public Health.

A. Yes, that's correct.

Q. And you've been in that role since November 2023?

A. Correct.

Q. And prior to this role, you were a director of public health yourself in Sheffield for ten years?

A. Correct. I still am a director of public health as well. I have to balance the two jobs.

Q. Thank you very much. So it's right to say that you held that role during the pandemic?

A. Yes, absolutely.

Q. Thank you. And in terms of the ADPH itself, it's a representative organisation of the directors of public health across the UK?

A. Yes, correct.

Q. And you work in partnership with other organisations, including a range of government departments, the NHS, local authorities, and the like?

A. Entirely correct, yes.

Q. And the ADPH represents the views of directors of public health on public health policy?

A. Yes.

Q. And you advise on public health policy and legislation?

A. Yes.

Q. And in respect of the Covid-19 pandemic specifically, the ADPH collated and present the views of the directors of public health to help inform the government's response; is that right?

A. Entirely correct.

Q. And is it also right to say that the ADPH had a good working relationship with the Local Government

Association?

A. Very good. Then and now.

Q. Thank you. We don't need to go into the detail of it but it's outlined in your statement between paragraphs 21 and 39. In summary, the ADPH is governed by a board?

A. Yes.

Q. There are four membership types?

A. Yes.

Q. And as of October 2024, there are a total of 448 members; is that correct?

A. Yes. I can't remember the exact number --

Q. Approximately?

A. -- but approximately.

Q. Thank you very much.

So the Inquiry has heard quite a lot of evidence about directors of public health, and I'd like to ask you some more detail about their specific role and function.

So can we go to your statement, please, pages 10-11 looking at paragraphs 47 and 49. Starting, please, with 47. You say that:

"The core purpose of the DPH is as an independent advocate for the health of the population and to give system leadership for its improvement and protection."

Is that right?
A. Entirely correct. I could unpack that more if needs be.
Q. Thank you.
And you go on to say that it's a high-level statutory role which sort of bridges local authorities, the NHS and other appropriate sectors; is that right?
A. Still correct, yes.
Q. Thank you.
And then briefly, please, paragraph 48. You say:
"It is important to note that the ... purpose [of the director of public health] and core role is the same whatever the structures within which they sit across the UK."
A. Yes, in Scotland, Wales and Northern Ireland, the DPH is based in the health board or equivalent. In England, it's based in local government.
Q. Thank you. And we'll come on to the devolved administrations in just a moment and I'll ask you a bit more about that.
Before we do that, can we look at paragraph 49 please. Here you set out more about the responsibilities of directors of public health.
Just looking at the first four bullet points, you talk about being responsible for: measurable health improvement?

A. Yes.
Q. Health protection including emergency response; public health input to health and care service planning and commissioning; and also the reduction of health inequalities?
A. Yes, that's entirely correct.
Just one thing to clarify. Emergency response would be with respect of a public health emergency, perhaps not a major fire. That would be a different part of local authority and obviously the fire service. So it's the emergency response but it's particularly pertaining to things that are classed as public health.
Q. Thank you very much indeed.
And also the next two bullet points, you talk about being an independent advocate for the health of the population, and also to be the person who elected members and senior officials look to for expertise on a range of public health issues such as outbreaks of disease and emergency preparedness; is that correct?
A. Entirely true.
Q. Turning then to the devolved administrations, and you began to touch on this just a moment ago and we don't need to go to it but you deal with it at paragraph 52 of your statement, and you talk about there being a distinction between how the arrangements operate, and

I think what you say is that in England the directors sit within the local government, and in Scotland and Wales they sit within the NHS on the boards; is that right?
A. And the same in Northern Ireland.
Q. Thank you very much.
And just in terms of the numbers of directors of public health, are you able to assist us with how many there are in total?
A. 175. I can do the proper count later and get back to you. It's in that order.
Q. Thank you very much. I think you told us there's one in Northern Ireland.
A. Yes.
Q. Are you able to assist us with how many, approximately, are in Scotland?
A. One in every health board. I am slightly guessing now, I'd say it's about ten, twelve. And one in every health board in Wales, which I think is eight or nine.
Q. Thank you very much.
A. But if precise numbers are needed I can get those to you.
Q. No problem at all, thank you very much.
And then in England I assume the remaining numbers --

A. Yes, correct.
Q. -- would be in England? Thank you.
I wonder if you can help us with this, please: the Inquiry heard evidence last week from Mr Hancock who was asked about the capacity of directors of public health to perform the role of contact tracing, and he said that the capacity was wholly inadequate because, in the context of England, there was one person in each of the upper tier local authorities and therefore around 100 people. And my question is -- we'll come back to capacity shortly, but in practical terms, is it just one director of public health as the individual officeholder or do they in fact work in bigger teams with shared expertise?
A. So we have a team. I have about 30 or 40 people in my team, and in the period of the pandemic they were fully deployed on the pandemic and nothing else.
So it's not true to say DsPH were one-man bands or one-woman bands. We have a team.
It's probably also true to say that we drew on the capacity and capability of the whole of the local authority, and we deployed them in contact tracing and a range of other activities with regard to managing the Covid pandemic.
Q. Thank you.

And would that be the same across all of the devolved administrations, that they would work within teams as such?

A. Oh yes, yes. I don't know the detailed arrangements for the Covid response at local government level in Scotland, Wales and Northern Ireland, but in England that's actually categoric -- categorically the case. For the public health teams, ie, my direct team, yet all of my oppos in Wales, Scotland and Northern Ireland will have a them of people.

Q. Thank you. And turning then just exploring specifically the relevant expertise that directors of public health have in relation to a TTI system, can we go to paragraph 84 of your statement, please.

It's page 19 over to 20.

You talk about:

"[Directors of public health] and their teams have extensive knowledge of their communities and the wider health and social care system. They have a critical contribution to make in developing approaches that work on the ground and in ensuring solutions are tailored to the diversity of communities and the range of needs that exist (from language to inequalities)."

How was this particular expertise relevant in the context of a test, trace and isolate system, please?

A. So if we need to get testing rates high in response to an outbreak in a particular part of a certain town, and that happens to be multi-ethnic, deprived part of town, there's no -- to be overly blunt, don't give me a megaphone and tell me to stand on the steps of the town hall, because I'm a middle-aged white bloke. Work with and through community faith leaders, which -- you know, all of us will know who they are in our towns. And that's how we get reach and trust in the message to the places where it's needed.

That definitely can't be done adequately from national perspective; it has to rely on local contacts, local expertise and, importantly, trust.

That's in addition to all of the technical competencies that you'd expect directors of public health, importantly, and their teams to have.

Q. Thank you.

We're just coming on to the more technical expertise. If we could look at paragraph 92, please, of your statement. You talk in this paragraph about directors being:

"... trained in containing infectious diseases, both understanding and interpreting data, recognising risk factors, understanding the evidence base and what motivates behaviour change, and helping develop policy

interventions."

Can you expand, please, on this particular paragraph in the context of developing and operating a TTI system.

A. So we'd expect -- or I would expect all directors of public health to be appropriately qualified and competent. They should be either on the GMC or the UK Public Health Register. Most of them have undergone a formal public health training programme that lasts five years, which includes all of those aspects of training and competency development and more.

We'd expect all qualified public health specialists, some of whom are directors of public health, some of whom are consultants in public health, to meet the faculties' public health training requirements, which is set out in a very detailed curriculum which includes all of those factors and more. Some of our teams will then have further specialisms and have deep knowledge in behaviour change. But we'd expect DsPH and their immediate consultant team to be fairly competent generalists across all of those -- all of those aspects.

LADY HALLETT: I couldn't ask you to slow down, Mr Fell, could I? The poor stenographer has had quite a day.

THE WITNESS: Sorry, I had been warned, my Lady. Yes, I will. Apologies.

LADY HALLETT: I share the same failings. I understand.

MS ISLAM: Thank you, my Lady.

Can we go to paragraph 93, please, where you talk about another aspect of expertise, and it's in relation to contact tracing and you say:

"Contact tracing is a tried and tested public health intervention. [Directors of public health] -- and their teams -- have experience and knowledge of contact tracing, their local communities and the wider health and social care system."

You talk about:

"Within local government, there [being] numerous people with the skills -- from environmental health officers to public health specialists and sexual health staff -- to support the contact tracing efforts in response to the coronavirus. However, the involvement of local councils and DsPH in the Test and Trace service was, in the beginning of the pandemic, fairly limited."

So would it be right to say -- we've looked at the three elements, we've looked at the local community expertise, we've looked at the containing infectious disease and all those training requirements you've told us about, and we've looked at contact tracing. It's right to say that directors of public health had clearly relevant and applicable expertise to TTI matters, would you agree?

A. My view is that's entirely fair. The important -- there is an important point, at the beginning of the pandemic was fairly limited. That did improve over the course of the pandemic. Our environmental health teams, that's what they do with regard to food-borne outbreaks. Our sexual health services, that's what they do with regard to containing sexually-transmitted infection outbreaks. And they're very, very, very good at it.

Q. Thank you. And we'll come on to that, we'll talk about the improvement and the timeline of that in due course.

I wanted just to ask you some questions, please, about the centralised approach, which is a topic you touch on quite a lot in your statement. And I'm going to invite you to offer observations on that approach and the extent to which directors of public health were engaged sort of initially and later on.

So we don't need to turn to it, but at paragraph 141 of your statement you describe the structure of the test and trace system as opaque, and say it was unclear where responsibility lay for different functions.

Are you able to just expand on that, please?

A. Certainly earlier on the impression -- you know, my impression and the impression of lots of the directors of public health, as they've said to me, was that there was a predilection towards a central -- a centralised

system that's run nationally for the whole of the country, with very limited involvement in -- of local -- local authorities, not just directors of public health but local authorities, in the execution of that service.

Again, my recollection is I was never sure who was accountable for the totality of what became NHS Test and Trace, certainly in the early days, and there seem many people accountable for different bits of it but we weren't clear who was the person who was actually accountable and pulled it all together, and it was quite difficult to have conversations in that context.

It's worth remembering the context at the time was a very, very, very fast-moving situation. And that is an important caveat.

Q. Thank you very much.

Just unpicking, please, some more of your observations around centralisation. If we could go to paragraph 143 at page 34 of your statement, please, you say here that:

"Money spent on private sector outsourcing was wasted since local public health teams already had both the knowledge and expertise of contact tracing and their local area. Consultants had to spent time with public health and wider LA teams in order to understand the local situation. The DsPH view is that it would have

been more efficient to use existing local systems and support them with surge capacity as needed. This national centralised system didn't work optimally for these reasons and required local systems to mend the service and ensure the public was protected."

So I just want to ask you specifically, you talk about consultants having to spend time with public health officials and wider LA teams; can you just tell us a bit more about that specifically, please.

A. So my recollection, recollection of my colleagues, is that we all spent quite a lot of time explaining to the contractors of the day -- who did change from time to time, and not infrequently -- the situation on the ground, for me in Sheffield or for my colleague in Derbyshire or wherever. That took time and that took time for that person or that group of people to understand the local community organisations, what would and wouldn't fly, what would reach a community in a specific part of the country. And that would be different in different parts of the country, because these things are, by necessity, local. A huge amount of energy and effort was put into developing a trust with a local communities. The pandemic largely revolved around trust, actually.

So later on in the pandemic, when we had had stood

up, with resourcing from government, local contact tracing teams, we found that we were able to reach people quicker and close the case, ie, trace the contracts and ensure that we'd made sure that there was isolation support available. We were consistently able to do that much quicker than the national service. Which matters for disease transmission, obviously.

Q. Thank you. Then if we can please look at paragraph 102 of your statement, which is at page 24 and over to 25. You talk about, in the early stages, there being a significant disconnect between how policy was formed nationally and how it was implemented on the ground. You describe a top-down approach by government that meant that directors of public health were sidelined in terms of national decision making and centrally run programmes, such as testing regimes, and you say there was an assumption that decisions could be made at a national level that would be suitable for all local areas and that proved costly as a one-size-fits-all approach was not effective.

Can you just explain, please, more about the one-size-fits-all approach and why that wasn't effective. You've touched on it but is there anything further you want to say about that?

A. Just to -- I mean, to elaborate for what would work in

one part of -- I'll pick a town -- Wolverhampton, wouldn't work in another part of Wolverhampton because the conditions on the ground were different, the characteristics of the population are different and the types of networks that were needed to reach those populations with some trust and credibility would be different.

The same applies nationally. What will fly in Wolverhampton would be different to what will fly in Walsall, hence whilst it's not for directors of public health to be setting government policy, we aren't the government. That's not our job. It's not our job to be advising Government on Government policy because our responsibility is to local populations.

We consistently made the point that a one size fits all approach wouldn't be optimal by some stretch, and we will help the government execute the most effective policy on the ground, but that would need to be necessarily different in different parts of the country.

Q. Thank you very much.

You provide further detail throughout your statement about the practical consequences of the centralised approach. We can take that down now, thank you. I am just going to run through a few examples, we don't need to go to the statement itself but for example you say at

paragraph 123 that:

"DHSC, for example, did not have an up-to-date contact list for Directors of Public Health, which led to delayed or absent communication."

Is that right?

A. My recollection is that that is definitely true and was an issue on more than one occasion during the pandemic.

Q. Thank you. Another example you provide is that ambitious targets were set for testing but without a clearly communicated rationale for the programme overall, for example, there would be big testing venues such as stadiums but they would be inaccessible to certain communities, often the most vulnerable, which risked worsening pre-existing inequalities?

A. On a number of occasions, it wasn't clear what the strategy for a scaled-up approach to testing was and, obviously, if it happens -- if a testing site happens to be in a stadium that's some considerable distance from where a good proportion of the population live and they have low car ownership, they can't get there. So our experience is that local testing sites were much more accessible, particularly for low income populations where car ownership is much lower. If I can walk to it, I'm more likely to go to it.

Q. Thank you very much, I've been asked to ask you, please,

if you wouldn't mind, trying to slow down a little bit, and don't worry, I suffer from the same issue but I think we're just trying to catch everything you're saying, Mr Fell, so I'd be very grateful. Thank you.

Just touching on another example that you give, at paragraph 175, you talk about, again, this top-down approach. There was an expectation that local agencies would make national decisions functional but without any consultation on those processes being developed.

What was the sort of consequences of that and what would the practical -- what difference would it have made had there have been consultation on those types of decisions?

A. It may not have made lots of difference to the actual implementation. It's not for local authorities or directors of public health to set national policy. Never was, never will be. But the -- it was an issue quite frequently that a change in the rules or the change in a process was made on an evening press release, evening press release or one of those evening press conferences that happen most days during the pandemic, that was when we first learnt of that. Local stakeholders would legitimately come to me to say, "Well, what does this mean, Greg?" And I would be expected to have an answer and if I'd heard at the same

time as everybody else, sometimes I didn't have the answer. So then we all spent some time working out the implications. That wasn't optimal.

Q. Thank you. Just looking at one last example at paragraph 145. Again, we don't need to go to it, but you talk about there being a concerning lack of public health expertise and advice at all levels, with a reliance on short-term secondments and consultants, and that this severely limited the opportunity to build and maintain constructive relationships, and you talk about stakeholder engagement being rushed and fragmented. What do you mean by stakeholder engagement? Who specifically are you talking about there?

A. An example is the one I've just given --

Q. Thank you.

A. -- is the learning of a significant change to the rules or significant change to the process on the daily press call. I learnt at the same time as everybody else but I have to be on point to explain that to councillors or the leader of the council or significant other stakeholders within Sheffield.

On the significant lack of public health expertise, it was a public health emergency. Public Health England, as was, a lot smaller than it once was, and local authorities were a lot smaller in terms of their

public health trained capacity and capability than they once were. So we went into the pandemic with a smaller than optimal trained public health workforce to be responsible for managing what is -- what was a public health emergency.

Q. Thank you. I just want to touch briefly, please, on the reason for the limited engagement that you describe with directors of public health to begin with, and you touch on this at paragraph 91 of your statement. If we could turn to that, please, it's at page 21 and page 22.

What you say is this:

"The local public health system has been undervalued by successive governments, demonstrated particularly by lack of real term increases in England to the public health grant. The central Government response to the pandemic, and particularly the limited engagement with [directors of public health] in the early stages, reflects the historic lack of understanding of the importance of public health and the role of [directors of public health] in creating healthy populations and places. As [directors of public health] are responsible for their local population's health, they have information about rates of existing illness and disease, as well as a network of partnerships with individuals and organisations within communities that are ideally

placed to support planning and ensure that advice is delivered in the right way to the right people."

Can you tell us a bit more about what you consider to be the historic lack of understanding of the importance of public health and the role of directors of public health, please.

A. There's a few thoughts I'd have. I'd still stand by that. I think every DPH in the country would still stand by that. A few thoughts. It's harder to maintain an infrastructure when you can't see and count the benefits of what you do. No one can count the measles outbreak that don't happen. No one can count the meningitis outbreak that was closed down really quickly. That's the art of prevention. So it's hard to demonstrate that you've got value in that context because success is nothing happens, which quite hard when government understandably has significant resource constraints.

Also, I guess, public health workforces, soft "C", competing with the NHS, that treats people and, historically, a significant proportion of resource has given to treating people, not preventing illness in the first place, and that is a thing that's in the mix.

And third, the third thing that's worth saying in that context is that the consequences of the previous

Government's austerity policy is that the public spend at local level is very, very much smaller than it once was. I think I've commented elsewhere in the brief that the spend in public health teams, both the team -- my direct team and the services I'm responsible for commissioning, is 25/26 per cent less than it was. We have less staff and there are -- there were consequences of that.

One thing that's not in there, that is a really important context in terms of the lack of engagement, which is -- let's take us back to the context of the time -- an awful lot of developments were happening very, very quickly and I have no doubt that was very difficult for the Government to coordinate and engage as well. That is in the mix there.

Q. Thank you. I just want to touch briefly on the historic lack of understanding point a little bit more. The Inquiry this morning heard evidence from Baroness Dido Harding and she was asked about the under-utilisation of directors of public health and she used the term "a Whitehall disease for central Government not to understand local government", and there being a local disease for local government not understanding central Government but, in her view, we needed both central Government and local government, essentially, to work

together and I wondered if you had any observations on that particular view?

A. I would concur entirely with Baroness Harding. I will talk unrelentingly about local level response, that's my job, that's what I'm responsible for, as are my colleagues. The optimal is the right balance of local and national. Local can get to places with more grip, faster and with credibility, that national simply can't. But, equally, there is a role for national -- finding the right balance is difficult. I would also agree with the Baroness Harding that there's a longstanding culture of national not understanding local, witnessed by the "directors of public health are one-person teams". We're clearly not one-person teams. So -- but that does cut both ways. And some of that improved during the course of the pandemic specifically in this context, actually, as well. That's an important lesson for the future.

Q. Thank you. You touched on resources in one of your most recent answers and I just wanted to ask you if you could help us with this: so given the issues with resourcing and you touch on it in your statement, in your view, were the directors of public health still best placed to be engaged in the response in the ways that you've outlined and did they have the capacity to do so in real

terms?
A. No, not at the start of -- not at the start of the pandemic, and it's worth saying that we -- it's an untested question, we'll never know the answer, but many of us would contend that we could have scaled up really very quickly because remember, it's not just my team or my colleagues' team, the resources of the whole of the local authority were largely available to us.

So we quickly repurposed call-handling capacity that we used for handling a range of other things that come into a local authority, to be, in effect, the contact tracing team, so we could have scaled it up very, very quickly, and we'll never know whether we could because obviously that chance has gone.

Q. Thank you. Just on this same theme, please, I'd like to take you to the witness statement of Professor Deenan Pillay, who the Inquiry is going to hear from later in the week. It's Inquiry reference ending 5152, paragraph 31, please. It's quite a lengthy bit of text. I'm not going to read it all out but, in essence, it talks about it being true that local authority capacity for public health has been reduced but, nevertheless, it seemed obvious that local public health structures were ideally placed to receive further investment to grow contact tracing and isolation support for the population

they serviced, since this would not only build on existing expertise but also be best placed to understand local drivers of the pandemic and how best to mitigate these risks.

So just pausing there, do you agree with that analysis?

A. Agree entirely. It's worth saying that the shift of local level capacity for public health to the Health Protection Agency in 2007 and then to PHE in 2012, in effect, that was the local-level capacity, some of the boots on the ground capacity, PHE fulfil that for us in peacetime perfectly well. That was the deal that was struck and, as I've said, we have local level capacity and capability for contact tracing in environmental health and sexual health services, all the time. That's what they do.

We have those key capabilities, we could have scaled up the capacity by use of furloughed and other staff within local authorities but we weren't given the chance early enough.

Q. Thank you. Just continuing with this paragraph, please. Professor Pillay says:

"By contrast, SERCO were contracted to undertake the Covid contact tracing function ... with underskilled staff tasked with dealing with the heterogeneous risk

within diverse populations over the telephone."

He talks about this not being joined up with the identification of particular risk individuals or communities. The advice on isolation was generic and one-dimensional. There seemed to be little understanding of the specific pressures people were experiencing, for example supporting people in isolation from multi-generational households, high risk individuals, those without private outdoor spaces, those on zero-hour contracts and, in his view, these challenges remained unevaluated without solutions being sought.

His view is that delegating such tasks to local health protection teams would ensure a more sensitive and responsive and indeed effective outcome; do you agree with that analysis?

A. I can't comment on the SERCO aspects because I wasn't there.

Q. Thank you.

A. I wasn't involved with that operationally. It would be fair to say that we developed local contact tracing services within each of the local authorities, certainly. That was with call centre staff who weren't trained. We were responsible for making sure they were trained and appropriately supervised, and I'm assuming

that some of that happen with SERCO, I can't comment on the quality of that because I wasn't there. It's mine and my colleagues' recollection that there was perhaps an overemphasis on the process of identifying the individual with the positive test, phoning her or him up and chasing down their contacts but not understanding the context and life circumstances that people were in, which clearly mattered to his or her ability to isolate.

Again, local trust in local stakeholders mattered. We had lots and lots of anecdotal experience that local accents really mattered in terms of developing that trust.

Q. Thank you very much, I'm going to move on to a new topic now and it's the topic of data and, again, the Inquiry has heard quite a lot of evidence about data and challenges around data flows from the sort of central level to the local level. You touch on this in your statement and, essentially, what you say, for example, at paragraph 152 -- we don't need to go to it -- is that national bodies were slow to provide local authorities with data, this caused significant problems, for example directors of public health struggled to get information on positive cases in their area, which meant that sometimes you were learning about cases via the media and left on the back foot.

Is there anything further you want to say about that?

A. It was unusual that we'd have learnt about cases from the media, except in the very, very, very, very early days, where there were a handful of cases. But it is fair to say that it did take too long for directors of public health and their teams -- let's be clear -- to have executable identifiable data that we could then direct to local operational response and that's a critical piece of learning for the next pandemic. It was four/five months into the pandemic. It was the worst public health emergency ever, the worst national emergency since World War II, that I had executable identifiable data that I could direct an operational response. We can do better; it's a key piece of learning for me.

Q. Thank you. We'll come back to the timeline on when the data improved in just a moment but I just want to touch on something you say in paragraph 153, which is:

"In general, data sharing from PHE to local authorities worked better when existing systems and processes were used, as opposed to new arrangements which would often create data flow issues."

Just on that, and this idea of using existing systems versus new systems, the Inquiry heard evidence

from Mr Cook on behalf of Deloitte and, in his evidence, he talked about the development of a new system called OMIP, which was designed to be a single source of truth, he said, of data with testing activity, results by locations and regions, and he said that the DHSC was provided that and some local authorities that access to that platform; were you aware of that platform?

A. Not unless it was also referred to by another name but I don't recall OMIP, it sounds quite useful.

Q. Thank you. Turning then, please, to another document. It's Inquiry reference INQ000104738. If we could go to page 1 of that document and, just to contextualise what this document is, you've had it by way of your witness preparation?

A. Yes.

Q. It's an advice memo -- it's MHCLG document. We explored it with Mr Garton from the MHCLG, when he gave his evidence and, as we know, the MHCLG is a conduit between central Government and local government. In summary, what this document is is summarising essentially that there are data requests from the local level and that there are some ongoing issues.

Can I take you first to page 5 specifically of this document. What you should see in front of you, it's just the page before that one, sorry.

A. I think I remember that table, however.

Q. Yeah, that one's the care home. We want the one before. Yes, "Test and Trace", thank you very much.

So I think you've seen this, Mr Fell, so just so we can see what we're looking at, on the left-hand side, the first column is "Who is asking?" We can see the directors of public health are listed in every row.

The next column is "What do they need?" We can see the different types of data categories that are being requested here, for example tests and positive cases, testing performance, demographic breakdown, contact tracing information, and so on.

The third column is "Why do they need it?" We'll come back to that.

Then the last column deals with "Does it exist?" We can see that in three of those rows it does exist, subject to some of those caveats and in two of those rose it didn't currently exist at the time of this document.

So I just want to look at, please, in further detail the "Why do they need it?" column, so by way of example, if we could look at the one dealing with demographic breakdown, please, it's the one just from the bottom, you can see it in front of you.

A. Yes.

Q. Then the one to the right of that talks about that was needed to understand coverage of different communities and sectors of society to target policy change and engagement activities. We can see in the last column that it wasn't currently available, although there were figures provided for mortality and cases.

So, in your view, what were the implications in this type of data not being available at this stage when it came to trying to develop interventions for particular communities?

A. To immediately spring to mind, one is inability to direct mobile testing sites and to get people to mobile testing sites in a specific community particularly affect, and there were times when there were very, very small numbers of people affected, and there were times when obviously that was much bigger. And the second is the ability to direct local comms, either comms via me and my team, or often, more importantly, working with and through voluntary and community sector stakeholders or faith leaders who, again, can get to communities with much more reach and grip and trust than I possibly could.

The ability to have really granular data enables us, or not having it doesn't enable us, to direct some of our interventions very precisely in a targeted way.

Q. Thank you very much. Just looking at a few more of these in this particular column in detail, "Why do they need it?" So for example, details of tests and positive cases in row one, "Why do they need it":

"To understand who is being tested and the specific hotspots ..."

The next category, it's channel turnout rates are needed to understand how well utilised testing centres are in different locations to better direct resources.

We've looked at the demographic breakdown one but, you know, so on and so forth, but the point is, it's right to say that -- and can you confirm it for me, please -- that these categories of data that you didn't have at this point were crucial to your work on the ground?

A. Yeah.

Q. Is that fair?

A. Not having them, we carried on doing the work we did but with less granularity, less specificity and less ability to precisely target. There were undoubtedly many more iterations of the "Why we need specific data" lines that aren't captured here. I'm sure could remember them if needs be, but we asked, and asked, and asked many times. I must say, credit to Public Health England teams who eventually built the data platform to enable us to have

the access. It did change the nature of our response quite markedly.

Q. Just touching on that, then: in your view, when did that become available to you?

A. I think it was May, June, July 2020-ish. I'm afraid I can't remember the exact dates but it was four or five months into the pandemic.

Q. Okay. I want to take you, please, to the statement of Joanna Killian from the Local Government Association and, again, you've had this statement in your pack and you've already told us you had a close working relationship with the LGA. I'm just going to take you, please, to paragraph 52 of her statement. I'm not going to read it all but, essentially, what she says in her statement is that:

"The lack of individual level data on Covid-19 cases being shared with [directors of public health] at the outset made it impossible to support those affected and to control outbreaks."

It goes on to say that:

"The LGA repeatedly requested this data ..."

Does that sort of accord with your experience? We touched on it.

A. Yes, I know the LGA did, I know ADPH did, and many others did individually, as well.

Q. Thank you. If we could look at briefly paragraph 59 of the same statement, in this paragraph Ms Killian talks about local authorities being excluded from the design of a data collection form which captured the information needed to act on a test result and, as a result, the forms are poorly designed for operational use. Can you help us, please, with what exactly these data collection forms were and how they were intended to be used locally?

A. I'm not sure I can, actually. I can't remember the specifics of what was on the data collection forms. My -- I've a vague recollection of being unhappy about being excluded from that, and certainly those who were very operationally involved were of the view that many fields should have been collected that weren't collected, but I can't actually remember, I'm sorry, the specifics of what were collected on the form.

Q. That's fine, thank you very much.

And paragraph 62 -- and again, just briefly, she talks about there being a general reluctance by government to routinely share individual test and trace data with local councils. And as a result, in her view, she says:

"... valuable time and effort was expended by local directors of public health in trying to access data that

would enable them to respond better ..."

Do you agree that there was a general reluctance to routinely share data?

A. Yes, for a number of reasons, one of which was a fear of breach of confidentiality, which is -- a true fear and should treat seriously, during the course of the pandemic, when we eventually had access to identifiable data about who was being tested, what test results -- what test results were, ie, the -- we could map epidemiological trends, we doubtless -- each authority doubtless handled many, many millions of lines of data. I don't think there was a single data breach in the course of the whole pandemic. We can be trusted with this data and we know what we're doing with it.

Q. Thank you very much.

I just want to touch briefly on the sort of timeline of when the data improved. Now, Mr Garton, from the MHCLG, who I've mentioned, in his evidence suggested that the issues were essentially resolved by the end of July. But reflecting on Ms Killian's statement, and we don't need to go to it, but she deals with it between paragraphs 65 and 69, seems to suggest that issues persisted well beyond July.

And I just wanted to put a series of propositions that she talks about, and ask you whether you agree.

The first one is that she says, despite the LGA requesting data on 29 July, it was not made available until some months later. And I think you've said four, five months onwards. So does that sound --

A. That's my recollection, yes. I can't remember the date of the big reveal where we actually got the executable and identifiable data, but from memory it was four to five months at least.

Q. Thank you.

She talks about poor quality data even when it was eventually shared. She says even by December 2020, data was poor quality, missing, or incomplete, for example lack of URPNs.

Does that accord with your experience?

A. Yes, but -- and it did improve over time. As is the case with new datasets, new data collections, often it is poor quality. In this case it was about Covid testing, but it did improve over time.

Q. Thank you.

She also reflects on issues with access and sharing, saying that when it did begin to flow -- and she says it was about ten weeks later after the request -- and you've touched on this -- access was hampered by multiple data sharing agreements and access protocols?

A. I can remember them only too well. We shouldn't --

again, a hindsight and learning point: there should be a single data sharing agreement and a single data sharing protocol that should be generic across the whole of the country. But there were multiple.

Q. Thank you.

She talks about another issue, that councils were required to nominate a single named person?

A. Yes.

Q. And they were given access, which would delay things?

A. From memory, I think for Sheffield I was the single named person. My team needed the data, because there's no point it just resting with me. Again, it goes back to the proposition that the director of public health was a sole actor. I was acting on behalf of an institution, the right people within the institution needed access to the data; so a single named person wasn't a good solution.

Q. Thank you.

And another issue she talks about is the fact that data was fragmented across multiple platforms with different rules, log-ins and access rights, and it meant that data was on different dashboards and dashboards didn't allow for the downloading of data which posed problems.

Does that accord with your experience?

A. That was an issue in mid to late summer 2020. It did improve. It did improve over time.

And again, credit to those people who made it improve, because it didn't happen by magic, it happened because people eventually listened to our feedback from the front line, so to speak.

Q. Thank you very much. I'd like to move on to a different topic now please and this is dealing with essentially when the local level became more involved, and in particular in relation to local contact tracing partnerships, I believe they're referred to.

If we could look at paragraph 97 of your statement, please. It's at page 23.

Thank you.

In this paragraph you talk about:

"Data demonstrated that local Test and Trace systems helped increase the uptake ..."

You give examples of Sandwell and Blackburn as being positive examples. Could you elaborate on those examples and particularly why this was a more effective model.

A. As I said earlier, this isn't about either national or local; this is about a blend of both. And early in the pandemic we had single -- a single national approach, which wasn't optimal in terms of the speed by which

cases were completed, ie, the contact -- the case was identified and called and the contacts were found, and the case and contacts were -- the appropriate interventions were in place.

Sandwell and Blackburn were typical examples of lots of places that had local contact tracing teams that were largely run by directors of public health or their teams, more to the point, using local authority employees quite often, often with close connection and collaboration with voluntary and community sector organisations that can really get into specific communities.

Two things, the intelligence I received and lots of people -- the directors of public health also received, the two things really mattered: local numbers, because people have more trust in local numbers; and secondly, local voices. I've still never quite got underneath why the local voices thing mattered, but that was a consistent piece of feedback throughout the whole course of the pandemic.

My experience, I think the data would back me up on this, is that when we had properly and fully established local contact tracing services, we could complete cases, ie find the case, find the contacts, and do the appropriate interventions, much more quickly, and with

the much more depth than a single national approach.
Q. Thank you very much indeed.
And just on that theme, can we turn to another document, please.
It's Inquiry reference ending 5177. If we could go to page 2 of that, please, it's an article by Adam Briggs, in the BMJ, talking about the role of local contact tracing.
And if we could highlight, please, sort of the -- that section there, thank you very much indeed.
I'm not going to read it all but it touches on some of what you've talked about, so, for example:
"Some of the cases missed by the national team don't want to be reached and may never engage. Some will have incorrect contact information and some will not have noticed the call coming through. But others will be vulnerable, socially isolated, digitally deprived, transient or economically worse off ... It's here where local systems can really make a difference."
And it goes on to say that local teams were more successful at reaching those cases compared to the national team, because they can:
"... draw on local databases to update missing contact details. Having a local phone number appeared to help, as does having local call handlers ..."

A local population can speak the right languages, et cetera. The capacity to visit people at home, and a heavy emphasis on being able to provide support around isolation.
In summary, do you sort of agree with that analysis as to why the local model was more effective?
A. Yes, entirely, I agree with Adam's article. I'll draw your attention to some of my earlier comments. Language mattered, obviously local dialects clearly matters, as I've said. Non-English -- non-English language speakers, we non-English language speakers in many of our contact tracing teams and drew on those.
And as you say, the ability to draw on the local databases, the council tax system, was an incredibly effective tool to fill missing fields that weren't available and thus enable us to reach a case or one of their contacts.
The other thing it's important to say is that the ability to quickly administer the isolation payment but also the wraparound welfare support, that can only be really administered locally.
Q. Thank you.
And that brings me on to the next topic, of self-isolation, which you've just touched on.
Can you just tell us briefly what role did, sort of,

your team, directors of public health, have specifically in relation to supporting self-isolation?
A. So we administered the system whereby for those cases that -- for those -- those people that were asked to self-isolate for whatever day it was, it started 14, it became 10, I think it became shorter later on in the pandemic, that we administered the isolation payment and got it into bank accounts as quickly as humanly possible, and did a broader wraparound support, food, medicine, other essential supplies.
Q. Thank you.
And do you, on behalf of, sort of, the ADPH, have any views about the adequacy of self-isolation payments?
A. It wasn't enough. That was broadly accepted by many people -- by many stakeholders. And many, including ADPH, drew that to the attention of government on a number of occasions.
It was particularly problematic if I am on a zero hours contract or am self-employed, because there isn't any sick pay at all. And from memory it was £500 for the period. It may not have covered rent, food, feeding the kids, important things of that ilk. So I don't think it was not enough. And many at ADPH felt the same.
Q. Thank you.

And do you have any views about whether the adequacy of what you've just described and barriers to isolation more generally have contributed to disproportionate outcomes for those from vulnerable and marginalised groups?
A. Undoubtedly. Transmission patterns followed occupational profiles. I could work from home, but folk that work in a warehouse, folk that drive taxis, folk that work in transport, can't work from home, therefore there's more occupational exposure.
I've got a spare bedroom. Maybe I can self-isolate in my spare bedroom. But if I'm in a very, very crowded house, I can't.
So all of that will have contributed to propagating chains of transmission.
If you add then onto that poorer baseline health, those in poorer health were much more likely to be severely affected by Covid infection, that will have made the difference to the eventual outcomes. Covid wasn't an equal opportunities disease.
Q. Thank you.
Touching briefly on something you describe at paragraph 85 of your statement, we don't need to go to it but you talk about a public health principle of proportionate universalism which requires that action be

universal but with a scale and intensity that is proportionate to the level of disadvantage, and you note that universal action, if not tailored, can widen health inequality.

Would you mind just elaborating on that in the context of the TTI programme, please.

A. So if I'm running a universal service, it's the same service for the whole of the given population.

I'll pick my population in Sheffield because it's easy. There's a fair likelihood, and experience backs this up in policy area after policy area, that I would find it easier to reach those in the more affluent parts of my city, Sheffield, and that population would find it easier to self-isolate because of larger houses with spare bedrooms and less occupational exposure because of the nature of occupations people can work from home.

Therefore, by having a single universal service, I can almost exacerbate inequalities by rote of who does and who doesn't or are more likely to take up a single universal service, hence the proportionate nature: I need to offer a different model and a different service for those with greatest need or -- and more vulnerability. Does that help articulate?

Q. It does. Thank you very much indeed.

Turning then, please, to lessons learned and

recommendations for the future. If we can very briefly display, please, paragraph 108 of your statement page 26, again here you display statement of principles for contact tracing and you list some bullet points as to what you consider would create a framework for an effective system looking forward.

So you've listed: whole system approach, subsidiarity, localism, minimum viable products, avoiding duplication, integration, responsiveness, data sharing, capacity and resources, proper recognition of multiple local roles and ownership.

Is there anything you want to expand upon in terms of this framework for lessons to be learned?

A. I don't think so. I broadly stand by it. Sometimes there may be the devil in the detail but there's a high-level statement of principles, I think I'd still stand by that.

Q. Thank you very much indeed.

And can we briefly please go to paragraph 139 of your statement. Here you summarise the ADPH data explainer:

"... key recommendations for more effective data sharing ..."

And again, you've touched on this, but essentially: sharing local data with directors of public health

should be default setting, consistent access, providing quality, timely access, and ensuring that data is usable. So the format of data which we've talked about.

Was there anything further you wanted to expand upon in terms of that as a lesson to be learned, please?

A. Not much. I'd still stand by that. There are two other things that are probably worth saying at this point -- three other things.

One, this is something that can be sorted in peacetime. There will be another pandemic, we need to sort this in peacetime because we can't go into another pandemic where it takes four, five months to get executable data.

My second point is, building on that, there's something about the technical capability in building the right data systems to enable that. Now, that can be done now, and I hope is being done. I don't know whether it's being done.

And the third point is about risk appetite. My experience is that data sharing or lack of it isn't really about the technical ability to share data; it's about risk appetite. There is a risk of a breach of confidentiality, which is a bona fide risk and needs to be managed carefully and appropriately, but equally there's a bona fide risk of not sharing data, as we

learned to our cost.

Q. Thank you very much indeed.

If I could turn, please, to another document, ending 4857, starting at page 1.

You've seen this as part of your evidence prep for today, it's a report from Independent SAGE titled "A blueprint to achieve an excellent Find, Test, Trace, Isolate and Support system", and the Inquiry has looked at this with other witnesses.

If we could turn, please, to page 2 very briefly, bullet point 1, under "Summary of blueprint":

"Independent SAGE [talks about calling] for the replacement of the failed, falsely named and private sector run 'NHS' Test and Trace with a system for England which is rooted in the regions of England and in local areas. It must be integrated throughout with the [NHS] and provide for the needs of people and the communities in which they live."

Do you agree with that sort of proposition?

A. Broadly. I wouldn't comment on the failed and falsely named private sector, that's a political call, that's and not for me to make, but we can have the basics of a scalable testing and tracing system for a future pandemic.

A future pandemic may have more or less of

a requirement for testing and tracing depending on the nature of the illness, the virus or the bacteria, and its characteristics, but it's fairly likely that we will need some form of capability and capacity which we already have at local level and, to a large extent, already exists within the health protection -- sorry, the UK Health Security Agency regional teams as well. They are very competent in such matters, and do that for outbreaks that have happened since the Covid pandemic as well.

LADY HALLETT: Can I ask -- sorry to interrupt -- do you agree it should be integrated throughout the National Health Service?

A. The anchorage to place these matters, yeah -- I'm not a part of the National Health Service. I'm an employee of the local government. I'm not wedded to the fact that it should be part of the National Health Service or not. It should be anchored to places and, if I'm responsible for it, preferably with some links to me and my team and the capabilities that exist within local government, because, again, it isn't a me and my team thing, this a corporate responsibility or a corporate capability.

MS ISLAM: Thank you.

And can be turn to bullet point 3, please, on the

same page. It talks about:

"In each top-tier local authority, the Director of Public Health should have the leadership role and convene the necessary management structure in conjunction with the local NHS and local authority."

Do you agree that it should be the director of public health that has that sort of leadership role?

A. If it's a public health emergency, then yes, it probably ought to be somebody qualified and capable in public health.

Q. Thank you. And if we can turn over the page very briefly, please, looking at the "New organisational principles", number 1 talks about operating at as local a level as possible, building community solidarity, which would encourage individuals to come forward for testing, utilisation of local civil society organisations, especially those from deprived and minority ethnic populations.

Do you agree with that sort of proposition?

A. I 100% agree. The role of voluntary and community sector organisations, faith organisations, was wholly unsung during the course of the pandemic and after the pandemic. It was absolutely critical to get to places with credibility that, bluntly, I couldn't have got to.

Q. Thank you very much.

We can take that down now.

In your witness statement -- we don't need to go to it, but it's at paragraph 202 -- you talk about TTI systems should be designed and delivered by teams that have a thorough understanding of vulnerabilities and inequalities, and you've talked about that in quite a lot of detail.

Are there any changes that you would recommend to ensure that those principles are implemented in future public health responses?

A. Probably not changes. It's just, I suppose, however we do the design, wherever we do the design, clearly there are some process issues that need to be attended to in running a test, trace and isolate system.

One of the weaknesses of the system that we had was it tended to focus on the process, the completion, rather than the complexity of someone's lives.

People weren't able to afford to isolate for ten days because they have to feed their kids, and if they're on a zero hours contract they've still got to feed their kids. So the understanding of how test, trace and isolate plays out in a context of the complex lives people have, is -- I'm not sure how we develop that as a design principle but it does matter.

Q. Thank you.

And in your view, should directors of public health be given a more formal role in national-level emergency planning and testing infrastructure design to ensure that these types of issues are accounted for from the outset?

A. Possibly. Worth remembering that directors of public health, they're responsible for local authority or health board populations, not national. So a voice and a perspective rather than a responsibility. I'll happily accept a responsibility but I'm responsible for the population of Sheffield. That's the day job. So there's something about making sure the voices heard rather than becoming -- directors of public health and their teams becoming the national public health agency. We aren't.

So there's a nuance in there that needs to be thought through.

Q. Thank you very much. The last question from me Mr Fell: you deal with lessons learnt and recommendations at length in your statement between 189 and 207 and we've covered those themes, communication and data sharing, poor recognition of the role of directors of public health, a disconnect between the national and local vulnerabilities and public health capacity resources and funding, but was there anything else that you want to

say at this juncture in terms of any lessons to be learnt for the future or any recommendations for my Lady to consider?

A. Two. One is we mustn't neglect regional teams in this. We've talked local and we've talked national at some length but there was regional coordination here as well, so we should make sure that we consider multiple levels of geography.

And the second addition is scope of planning and response. Going into the pandemic, Covid was seen as a public health issue, therefore public health professionals should respond. It was blatantly apparent very, very quickly that a whole of society response was needed and was eventually what was put into place. The next pandemic may be the same. The previous pandemic was a swine flu pandemic, it wasn't as severe, it didn't require a whole of society response. The next one may or may not but we should plan accordingly because we learned the hard way that Covid -- this pandemic was definitely a whole of society thing, so we should plan an exercise accordingly.

MS ISLAM: Mr Fell, thank you very much for your assistance.

THE WITNESS: Thank you.

MS ISLAM: My Lady, those are my questions.

LADY HALLETT: Thank you very much indeed, Mr Fell. That

completes the questions that we have for you. Thank you for your contribution, they've been extremely helpful and thank you to you and to all your colleagues around the country working -- or leading public health teams, for all the support and attempted protection that you gave to all your communities. So thank you very much indeed.

THE WITNESS: Thanks, my Lady. I shall pass that on.

LADY HALLETT: Very well. 10.00 tomorrow.

(4.29 pm)

(The hearing adjourned until 10.00 am the following day)

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