HOUSE OF COMMONS

Public Accounts Committee

Oral evidence: Test and Trace 2, HC 182

Thursday 8 July 2021

Ordered by the House of Commons to be published on 8 July 2021.

Watch the meeting

Members present: Meg Hillier (Chair); Dan Carden; Barry Gardiner; Sarah Olney; Nick Smith; James Wild.

Also attended: Greg Clark (Chair), on behalf of the Science and Technology Committee.

Gareth Davies, Comptroller and Auditor General, Robert White, Director, National Audit Office, and Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1 - 178

Witnesses

I: Sir Chris Wormald, Permanent Secretary, Department of Health and Social Care; Shona Dunn, Second Permanent Secretary, Department of Health and Social Care; Jonathan Marron, Director General, Public Health, Department of Health and Social Care; Baroness Dido Harding; and Dr Jenny Harries OBE, Chief Executive, UK Health Security Agency.

HOUSE OF COMMONS

Report by the Comptroller and Auditor General

Test and trace in England – progress update (HC 295, Session 2021-22)

Examination of witnesses

Witnesses: Sir Chris Wormald, Shona Dunn, Jonathan Marron, Baroness Dido Harding and Dr Jenny Harries.

Q1 **Chair:** Welcome to the Public Accounts Committee on Thursday 8 July 2021. We are returning as a Committee to look at the performance of NHS Test and Trace and its future, as it is now being wrapped into the new UK Health Security Agency and is facing big challenges with the beginning of the opening of lockdown and the changes in isolation rules expected later in August.

We have seen some changes since we last looked at NHS Test and Trace. There have been some successes: genomic sequencing has been a UK success; the provision of testing for the lorry drivers stuck in Kent at the end of last year, as the National Audit Office has highlighted, was seen as successful by all the partners there, which was a sudden and unexpected activity for Test and Trace; and we have seen an improved turnaround time for PCR testing, with the testing infrastructure now well established. There are still concerns about the budget, about how Test and Trace will cope with the future, and, generally, about reliance on contractors and some of the other financial issues.

We are delighted to welcome as guests in the room with us, which is a nice change, Sir Chris Wormald, who is the permanent secretary at the Department of Health and Social Care, so a regular visitor, although recently more online; Dr Jenny Harries, the chief executive of the new UK Health Security Agency; and Baroness Dido Harding, who is the chair of NHS Improvement, but is here in her context as the former accounting officer for Test and Trace.

Online, we have Shona Dunn, the second permanent secretary at the Department of Health and Social Care, and Jonathan Marron, the director-general for public health at the Department of Health and Social Care.

I am delighted that we are joined by Greg Clark, the Chair of the Select Committee on Science and Technology here in the House of Commons. He is a guest on our Committee today.

Before we go into the main session, I want to ask you some questions, Sir Chris, about the letter you sent us in response to our request for information about care home discharges. In summary, the letter says that it is a lot less certain about the testing levels that can prove people had covid when they left hospital and went into care homes than we had perhaps been led to believe. It goes into a lot more detail. Would you like

to comment?

Sir Chris Wormald: I will give some comments and then hand over to Dr Harries, who has been looking at this, both in her previous capacity as Deputy Chief Medical Officer and in her current capacity.

First, obviously this is an incredibly important topic and worthy of deep scrutiny. I know that Mr Clark's Committee has been looking at it as well. We are not saying—I want to be very clear about this—that the PHE study you were asking about is the definitive story. This is a matter that is still under scientific debate. This is one contribution to that scientific debate, but there are several others.

What we will say, however, is that although that scientific debate has not concluded, and there will clearly be a lot more study of this important question, all the studies we have at the moment are pointing in roughly the same direction. As we quoted in the letter, we have a study from Scotland and a study from Wales, using different methodologies, but they all point in the same direction. I think there are some others as well. We do not currently have studies pointing the other way—

Q2 **Chair:** When you say "the same direction", you mean community transmission was more the reason?

Sir Chris Wormald: That discharge from hospital was not a particularly significant vector of transmission in this case. The studies may point to various things, but mainly to community transmission. The importance of this for us is it is a part of a number of studies, and to get a full picture we clearly have to look across those studies.

I will turn to Jenny on the specific questions you ask on this study, but I wanted to put it in that context and, as I say, to make it very clear that we do not think that this is the end of the debate. We think that the debate is pointing in a clear direction—that we do not have any evidence going the other way at the moment—but that, formally, for the record, that debate has not concluded in the scientific community. Jenny, do you want to—

Q3 **Chair:** Dr Harries, this is why we are having the debate. It seems that the data is inadequate to actually give a very clear story on this.

Dr Jenny Harries: The data is difficult in adult social care, which I think we have learnt through this exercise. In fact, what is in the letter is a number of studies. Some of the best data, actually, is from Wales. They have SAIL data, which has very good linkage across community data. But nevertheless, the PHE study looked at those cases who were confirmed positive—I will come back to that, because I realise it is one of the potential critiques—and followed them through to see which associated cases there were in care homes. At the time that study was on, I was actually chairing, in my previous DCMO role, the care sub-group. We had a number of people looking at this; it wasn't just the Department of Health. It actually included, for example, people representing the National Care Forum, people from other, devolved authorities and scientists around—and

we actually held a care summit as well, to check that all the data and all the findings were tallying together, if you like.

There were other studies, as Sir Chris has said, relating to looking the other way, if you like—trying to see what had happened in care homes and how many of those you could trace back. There was the SIREN study, which of course is ongoing and provides ongoing information through the pandemic, and then Scottish and Welsh studies as well. And all those studies point to—as community levels rise, the rates in care home staff rise, and that appears to be the biggest ingress risk for care homes. So, it doesn't say that there are no cases coming in from hospitals—and I think that's what the PHE study said—but it definitely suggests that those are by far the minimum number.

Q4 **Chair:** In terms of the data, one of the things that jumps out is that if someone was tested, having left a residential address but then moved to a care home afterwards, the test result would be registered to where they had lived rather than where they were going. That's just one example. Is there any other? You are in charge of a lot of this now, so what will you be doing differently to make sure that proper data is collected, because this is a very serious issue? We saw very high rates of death in care homes and lots of people bereaved, obviously, as a result.

Dr Jenny Harries: But of course, actually what we have seen in the second wave is a significant reduction in that, and that is where we have put in testing, both PCR and lateral flow device testing, for care staff, on a regular basis, coming in, and also prevented movement of staff between care homes. That has had a very significant impact. If you look back at the mortality rates in care home residents during the second wave and particularly now—obviously, with vaccination, we are in a completely different place from where we were in the first one.

Going back to your point that the data is an important issue, the PHE piece of work actually was extremely difficult and very labour intensive in order to try to link that data, and I think there is a recognition, going forward, that all parts of the health service need to link that data.

Q5 **Chair:** That is really the point. You are now going to be in control of a system that could sort this out. The vaccine may help with this pandemic, but— So, you are going to be looking at this and making sure there is proper checking, testing and tracing, so that you can keep the data and look back and see where the problems are, quickly?

Dr Jenny Harries: This was about linkage between hospital data and residential care, and, as you say, obviously patients or care home residents move very quickly. They won't all be in my remit, but there is definitely—I am sure we will come to this—in the Health Security Agency a real move to use data and analytics to—

Q6 **Chair:** You just slightly alarmed me by saying it's not all in your remit. Which other bodies are involved? We are going to bring in Greg Clark in a moment on this.

Dr Jenny Harries: Well, obviously, it involves hospital data and general practice data, because residents move, and one of the problems you will have seen with this was that an individual—

Q7 **Chair:** We know that on the ground. Who, though, in Government—maybe it's Sir Chris—is responsible if it's not all down to the UK Health Security Agency? Who will be responsible for making sure that we do not have that gap if, God forbid, there is another outbreak or a future pandemic?

Sir Chris Wormald: As you probably know, we have just actually published our new data strategy, which aims to bring this together. It is, as this Committee is well aware, a complex picture, because the health service owns its own data, etc. So, what UKHSA will be doing is—they should be the people who make sure that all that adds together in a way that allows us to deal with pandemics better in future. That is not the same as owning all the data, because obviously, NHS data is used for lots of purposes and is—

Q8 **Chair:** But there will be a controlling mind in your Department?

Sir Chris Wormald: We look across the whole of health and care, as you know. We don't own all that data, either, but it is our role to make sure that there is a framework in place so that UKHSA can do its job properly.

Just on the general point and your point, I think you're completely right. I would say that this situation, compared to the first wave, is completely transformed. Data sharing has been one of the big advances we have made during the pandemic. Of course, one of our challenges was the creation of data in the first place and the very low levels of testing capacity then as opposed to now.

On your lessons learned question, we are in a completely different place from where we were at that point. Clearly, one of the things that we will want to be doing is making sure that we retain that capacity and that way of working going forward, whether we are in a pandemic or not.

Chair: I call Greg Clark, Chair of the Science and Technology Committee. Welcome.

Q9 **Greg Clark:** Thank you, Chair, and thank you for having me here.

As Sir Chris said, the Science and Technology Committee has taken an interest in this report. We thought it was a somewhat strange report, I might say, from Public Health England. It came out without any fanfare and seemed not to focus on the key point, which is, as we all know, that there is a big question—and everyone is keen to get to the bottom of it—whether the discharges from hospitals during the early weeks of the pandemic contributed to infections in care homes. Yet the report that was commissioned, or so it seemed until the Chair asked her questions, gave a summary from 30 January to 12 October—in other words, long after this initial period. However, the focus of interest is those early weeks, so we did not understand why, in commissioning the report, it was decided to pool all that data together. Dr Harries, do you recall why that decision was made?

Dr Jenny Harries: I think I wasn't personally responsible for commissioning the report. I certainly was in receipt of it, as it came in for significant discussion, as you can imagine, in the care sub-group, and for appropriate scientific discussion and challenge.

Part of the issue, as we have just described, is trying to get the right datasets in order to get sufficient numbers. As far as I understand it, PHE has now supplied a split of data for you that broadly evidences the same thing in both the pre-period—the early one—and the later one. In many of these cases, it was simply about getting a sample size sufficient to draw robust conclusions, and I am sure that was all that they were doing at the time.

Q10 **Greg Clark:** Who did commission it? Sir Chris, did you commission it, or was it the former Secretary of State?

Sir Chris Wormald: I will have to go away and check exactly who commissioned it, but the idea was, as Jenny said, to get an overview of what was happening not solely to answer the question that you are asking, but to understand how transmission happens in care homes. As Jenny says, the data that you are after is available. As far as I understand it, it does not show a different pattern, does it, Dr Harries?

Dr Jenny Harries: No.

Q11 **Greg Clark:** But the problem was, and is, this: in order to identify someone who had covid during that time—the period, say, from the end of January to the beginning of April—you needed to have a test. In order to join the sample, as it were, you needed to have tested positive for covid. However, we know that there were hardly any tests being made at that time. In fact, during March, there were as few as 1,500 tests a day across the whole country—not much more than two per parliamentary constituency.

Sir Chris Wormald: This goes to exactly the point that I started with. That clearly tells you something, because if a patient went on to develop symptomatic covid, they were tested, wherever they were, and, as Dr Harries was describing, you can then track where that patient came from. That is one part of it, but it is also why it is very important to look across the studies, as opposed to saying, "This study provides the answer."

As I understand it, the Scottish and Welsh studies were looking at the correlations between discharge patterns and other factors, i.e. regardless of testing: where the outbreaks were and what the common characteristics of the patients in those were. They found evidence that goes in the same direction as the PHE study, and that is why I started with the point that we should not over-focus on a single study here. What we have is a series of scientific investigations that, between them, give us the pattern that Dr Harries described—and, not to labour the point, it is not complete yet.

Q12 **Greg Clark:** My concern is that excessive weight might be placed on something when the impossibility of knowing who was coming into care

homes with covid was palpable because there were not the number of tests available.

Sir Chris Wormald: Yes, but what we do know is where were discharges made to and where were outbreaks. That is clearly, in the situation that you describe, extremely important evidence about what the relevant correlations were. Your point about let's not over-rely on a single methodology and a single study I agree with 100%, which is why I started with the phrases that I said.

Q13 **Greg Clark:** The deployment of this study, including by the former Secretary of State when he appeared before our Committee, placed great weight on this. I wonder, Dr Harries, whether it is important that we do shine a light on it. That is difficult, given the lack of data, but to draw the conclusion that the seeding from hospital is relatively small seems a little premature given that this is one very methodologically constrained, if not suspect, way of proceeding.

Dr Jenny Harries: The researchers who were doing this piece of work reported back on a regular basis to the social care working group. The purpose of that group was to answer the question, "Where is infection coming from in care homes?" with a completely open mind. As Sir Chris has said, this was just one piece of that. It was as robust as it could be. I am very confident that the caveats around the data are written into the paper, and in fact the caveats go both ways. For example, somebody coming from hospital might have got their infection before. Somebody who then goes on to have an infection might get it from the care home. It becomes extremely difficult without genomic studies to track this round.

When we have looked at genomic studies—there was some really good work in East Anglia, a relatively small amount—and we got quite a varied pattern. Most of them, the majority, were staff coming in and out, and you could track the genetic family, if you like, of the virus. You would see occasional ones coming in from hospital as well. Of course, if a patient has, for example, gone from residential care into hospital, then been discharged and become symptomatic and tested, they might have actually got their infection starting in the care home, not from the hospital. All the points that you make are entirely valid, but they apply to the difficulties of translating this, particularly with elderly people who have very unusual and often absent symptomatologies.

Q14 **Greg Clark:** That is completely understood. It is about the weight that is placed on the conclusions. Given, as Sir Chris said, the importance of having different perspectives on it, peer review and the openness of data are very important. You will know from your work how reproducibility of empirical analysis is very important. Sir Chris has been helpful in splitting the data out into the early phase and the later phase. Would you make available that data so that other researchers can make their own calculations based on it, in the interests of transparency and getting to the bottom of all this?

Dr Jenny Harries: I am very confident that the paper has been peer reviewed already. It was actually peer reviewed in action, because many

of the researchers working on this topic were in the social care working group critiquing each other's documents and trying to draw those conclusions. In fact, the purpose of that group was to try and find information as early as possible because of the significant morbidity that was affecting care homes and to pass that on to ensure that policy was developed as rapidly as possible. So, every time a recommendation was made, or a finding was there, it was having automatic scrutiny from some of the leading academics and researchers right across the UK.

Q15 **Greg Clark:** That is very helpful to know because we did not get clarity on whether it had or had not been peer reviewed. If you are able to supply the referees, that would be—

Dr Jenny Harries: Very happy to confirm that. As I say, on every article here and the other documents that were here—so, the Scottish study and the Welsh study—we had very helpful contributions from individuals in all the UK countries. They would be contributing to the discussion and critiquing it at the time.

Q16 **Greg Clark:** You will make the dataset available for researchers—

Dr Jenny Harries: It is obviously not my dataset, but I am sure PHE can provide whatever evidence you require.

Chair: There is huge public interest in this.

Sir Chris Wormald: We will go away and confirm exactly what is available and what isn't, and whether we ought to go further.

Chair: I am sure the Science and Technology Committee can see it.

Sir Chris Wormald: We do not disagree with anything you have said, Mr Clark.

It is very important to look across the various studies here and to note that this is not a complete thing yet. As you would expect, I chose my words very carefully at the beginning of this. All the studies we have point in the same direction. We do not have any pointing the other way. We think there is a significant point to be made here, but we recognise that that is not the final story.

Greg Clark: Understood.

Nick Smith: Good morning, all. Mr Wormald, further to our last session on PPE and your letter since, I have a couple of questions for you.

Sir Chris Wormald: I am actually going to pass this to Mr Marron, who is much more of an expert on PPE than I am. He has appeared before you before. I will leave the answers to him, if that is okay.

Q17 **Nick Smith:** Of course. At the worst of the pandemic, between March and July 2020, the Department was distributing some 500 million pieces of PPE. That was great work, but from May to July, you ordered a further 28 billion items—enough for over four years. Why did you buy so much PPE

then?

Jonathan Marron: We bought, in total, 32 billion items of PPE. We have already supplied 11.7 billion to the frontline—to health, social care and a few other uses. We currently expect to use another 11 billion. Essentially, we are providing about a billion items a month. Of those billion a month, a significant proportion are now going through the PPE portal, and we are now providing free PPE to social care, GPs and pharmacies in a way that we were not able to do at the very beginning, when we had an emergency service for those areas. There has been a significant increase in the amount going through.

In terms of how much we bought overall, we were working on several assumptions. Our overall stance was to make sure we bought enough. You will remember—in March, April and May—the pressure and the absolute importance of making sure that our staff were protected. We had no real prior experience of how much PPE would be used in this kind of circumstance, so we had to build a theoretical model. The model was based on modelling how many interactions we felt there would be between staff and patients with covid—that was really important, particularly for things such as FFP3 respirator masks, which are only really used with covid patients—and how many general interactions there would be between the public and staff. As the guidance changed at the end of March and in early April, we started to use PPE on a precautionary basis for any interaction between a member of the public and a health or care worker. There was a massive increase in the use of PPE, and not just based on cases; it was based on activity in the NHS and social care. For covid cases, we used the worst-case assumptions that were around at that stage. For how much activity there would be in the NHS, we made assumptions on how quickly it would open up. As it turns out, our model was generous on the amount of activity that would be undertaken and, therefore, on the amount of PPE. Our model probably overestimated.

The second set of issues were really around the fact that, in those very difficult days when we were purchasing and placing contracts, we were not certain that the contracts would come through. In March, April and May, and into June and July, we simply were not getting the orders through that we were expecting, so we made additional purchases to cover what we expected to be a significant shortfall in order fulfilment. As it turned out, most of those orders came through late, as opposed to not coming through at all, which has ended up with our having slightly more. Obviously, this puts us in a position where we have had very significant stocks, which has allowed us to be really confident that we can meet the needs of health and social care and provide PPE to open up the wider economy. Schools have had significant PPE from us, to help in their opening up in the last period. We have been able to help with transport.

We are in a really strong position. It is not over yet, so we are looking at making sure that we can use our stocks. In the areas where we feel that we have more than we are likely to use, we are looking at the possibility of sale and whether we can look at overseas donations. About 0.5% to 0.8% of the stock that we have is not fit for any purpose, and we have started

to look at repurposing that. We have managed to recycle some of our out-of-date visors into food trays. There are some interesting things that we are doing to try to deal with the end, but I would go back to the beginning. The purchasing decisions were really clear. The mission was to make sure we had enough. If we took some conservative assumptions around what we would need, it was driven by the fact that we did not want to run out.

Q18 **Nick Smith:** Thank you for that. Can you send us more detail later about your recycling visors into food trays?

Jonathan Marron: Yes.

Nick Smith: Of your long answer, that is the bit that caught my eye, I must admit.

Chair: Good diversionary tactic, Mr Marron.

Q19 **Nick Smith:** It worked. I am a bit unsure about it, so more information, please.

I want to pick up the point about contracts. In Mr Wormald's letter—you probably kindly drafted it for him—the Department outlined very high levels of PPE in stock, which you have talked about, but some of these contracts are still to be met and will likely involve hundreds of millions of pounds of what may be unnecessary expenditure. Looking at the letters that we were sent last week, for some items you have stocks that may last you up to six years. How successful have you been in negotiating those contracts down, and can you quantify the financial downside, or the risk, if that is not possible? It is a lot of money.

Jonathan Marron: To date we have secured, through either negotiated cancellations or variation in the contracts, a reduction in PPE of around 1 billion items, at a value of £475 million. That is money that we do not need to spend and PPE that we will not receive. We are in commercial discussions on a further 40 contracts to a value of £1.2 billion, relating to another 1.7 billion items. Those discussions are ongoing. Let's see where we get to at the end. I am obviously happy to update the Committee as we come to the end of those negotiations, but that is where we are currently, if that is a helpful update.

Q20 **Nick Smith:** I am pleased to hear that, but given what we know about the 30-odd billion items of PPE that were ordered in the end, that is a small percentage, and given the high cost of it can we, with your next update, have an assessment about the risk and the money that you hope to save, please?

Jonathan Marron: Yes, of course.

Q21 **Nick Smith:** Thanks. My third question comes back to the large stock. You are going to be giving it away, and that is great because I can think, as of course we all can, about the social care sector and others needing it in the future, but the nub is: won't it be very hard for domestic suppliers and manufacturers to maintain their business in this market, given that it is

pretty much drowned with PPE that you already have in stock?

Jonathan Marron: On UK manufacturing, the UK Make programme has been one of our great successes. Of the 30 billion items, 2.5 billion are from UK manufacturers, and much of the material is yet to arrive. There are, of course, ongoing contracts with those manufacturers, so that is there. The thing that is often missed in the discussion about UK Make is that the investments that companies have made in machinery and plant are allowing them to compete in global markets at a competitive price. The idea that the UK is always a high-cost environment is not true. While it might be difficult in some of the really labour-intensive markets—gowns, for example, require lots of hand sewing—when it comes to things like masks, visors and aprons it is much more likely that we can meet a competitive global price. We are seeing negotiations on where price can go looking that way and, indeed, some of our firms successfully selling their products into other markets already.

We will continue to work with UK Make on how we ensure resilience, and as part of the long-term strategy for PPE we want to see a more resilient supply with greater UK manufacturing capability. We all saw back in March/April the difficulty of securing internationally and the value of having that UK resilience. We are confident that we can keep that going. You are right that, while there are very large volumes of PPE currently manufactured, and other countries also have significant PPE, we will need to work through how we ensure that the investments in the UK continue to work. Part of that will be bringing together the NHS demand in the work that we are taking to say what the future of the NHS supply chain is, how we ensure that we have a better conversation with the NHS about what it needs overall and how we procure that, and whether that can be helpful in securing UK manufacturing.

Q22 **Nick Smith:** Just one question, please, Chair. Don't you expect other countries that have a PPE shortfall to produce their own domestic supplies as well, though? Doesn't that mean that it will be hard for our suppliers to sell their PPE around the globe too?

Jonathan Marron: It certainly could be the case that there is an excess supply of PPE, but let's see. This pandemic is a long way from over, so I am slightly cautious.

Q23 **Chair:** That note of caution is very welcome, I think. We had some witnesses in from PPE suppliers, and they were very clear that their focus was on high-end PPE, not manufacturing the mask stuff, because they could not compete on price. You have just said that they can compete on price, so can you tell me specifically how many companies, which companies, and just some further information about who is able to provide this cheaply in the UK?

Jonathan Marron: I am happy to come back with greater detail, but from the work we have done with companies manufacturing masks and some of the other products, generally it is capital investment. Once you have your machines, the actual costs of manufacturing here are no greater than in other countries, so we think we have firms that are well placed to

compete. I will happily come back with the details of the individuals: we have worked with over 30—

Q24 **Chair:** If you could. We and other Committees may want to pursue this, because it is just that we are getting very different messages. Obviously, there is only a subset of people we have as witnesses—we can't speak to everybody—but it jarred a bit.

Jonathan Marron: If they are gown manufacturers, then I would understand. That is one area where it is very difficult to compete in the UK.

Q25 **Chair:** So when it is basic sewing, it is more expensive here—is that right?

Jonathan Marron: Yes, very hard. The other area is gloves, where there just is not the infrastructure here. That would require a significant investment in gloves manufacturing, which as you know is largely in Malaysia.

Q26 **Chair:** I think we have picked up on the gloves one before. In answer to Mr Smith, you talked about the amount of PPE that we think might not ever be usable, whether it is converted into food trays or whatever. Do you have a forecast or an estimate of what the final level of unusable medical PPE will be from what you have commissioned?

Jonathan Marron: We are still working through. As you know, we have taken the stock quality assurance process really seriously, and the way we have done that is as the materials have come in, we have had a first pass, and anything we have not been confident of, we have just held.

You will have seen, with the materials we provided you in Chris's letter and others, that the numbers in that "do not supply" stock are coming down as we are able to go back through them and look for whether we have the right certification and testing to allow us to use them. For example, we have now managed to pass a significant block of masks. There was a concern about whether they might react with skin—the actual biosensitivity testing. We did not have confidence that we had all the paperwork when we did the first pass. We have now got that agreed by the manufacturers and the regulators, so those have been released.

Q27 **Chair:** So you are going through a rigorous process, so when do you think you will know?

Jonathan Marron: We are down to about 1.3 billion that we are still looking at, and over the next few months, we will be able to be absolutely clear about those. Of that 1.3 billion that are not used in the NHS, there is quite a broad set of categories there. For example, there will be things that the NHS do not want to use, such as aprons. We have aprons in boxes, which are perfectly legitimate and meet all the standards, but the NHS do not like them in boxes; they like them on rolls because of how they use them in the wards. So for some of the products that are not for the NHS, it is not because there is any kind of problem with the standard of the product: it is just not what they use. With gloves, the NHS prefers nitrile; we've got latex gloves, so that is one set of things. Then we have

some others—for example, surgical gowns, which obviously need to be sterile. We have some of those that are not sterile but could be used as isolation gowns, so some of it is about where there is a different use from what is bought. It is about working with each of those.

Q28 **Chair:** When will you have worked through this, and when will you have an idea of what is usable? It is fine to categorise it as "some could be used for medical settings."

Jonathan Marron: We are continuing to work through. We are now through the main bulk of new stock coming in, so we are accelerating our way through the existing stock. I think that over the next coming months, we will have—

Chair: Next coming months—by the end of the year? By the end of the summer? Give us a stab, Mr Marron.

Jonathan Marron: We will certainly update you by the end of the summer, and then let's see where we are then.

Q29 **Chair:** Thank you: we are keen to learn that. We now need to move on to the main discussion today after that, but it is very important to get to the bottom of this issue, particularly around care home discharges, which I know will be the subject of long discussion as we go forward.

We want to now move on to Test and Trace, and I want to get some facts straight first, Baroness Harding, about your role and when it began and ended. As we understand it, you left on 20 April this year. Is that right?

Baroness Harding: Not quite.

Q30 **Chair:** Perhaps you could just update us on your dates, then.

Baroness Harding: Thank you. I thought I also ought to start by correcting something you said in the introduction. I was not the accounting officer, as a non-civil servant. The accounting officer, for the vast majority of the time that I was executive chair of NHS Test and Trace, was David Williams, the second permanent secretary, and then towards the end it was Shona Dunn, who is at the hearing. I just want to be clear, as that is obviously important.

Q31 **Chair:** Day to day, you were watching the budget and handling—

Baroness Harding: I am absolutely comfortable taking responsibility for the leadership of the organisation, but as we know, "accounting officer" is a specific technical term.

The Prime Minister called and asked me to take on the role on 7 May 2020. Coincidentally, my last day at NHS Test and Trace was 7 May this year. Dr Harries started at the beginning of April of this year, and we spent the month of April in a very managed co-ordinated handover.

Q32 **Chair:** So your responsibility completely finished on 7 May?

Baroness Harding: That is right.

Q33 **Chair:** Who was the responsible owner of this during the month of April?

Baroness Harding: Operationally, I was responsible. Clinically, Dr Harries took increasing ownership, particularly of the management of the delta variant, for example. Shona Dunn was the accounting officer throughout that time.

Chair: That is very helpful, and thank you for the correction. I will ask Barry Gardiner MP to kick off on this issue.

Q34 **Barry Gardiner:** Baroness Harding, let me share a secret with you: the Chair has said to me that I must be nice to you at the beginning, so I think that means that she has some really nasty questions lined up for you later on.

In the year that you were the chief executive, there were two national lockdowns and more than 4 million confirmed cases. Given that Test and Trace was supposed to break the chain of transmission, to get life back to normal, those figures do not really spell success. My gentle question to you is: do you think you were given an unrealistic brief at the beginning to break that chain of transmission and get life back to normal?

Baroness Harding: First, thank you for being nice, and thank you, Chair, for your kind words at the beginning of the introduction. I will just start, in answering your question, Mr Gardiner, by putting in some context. The purpose and objective of NHS Test and Trace was to help break the chains of transmission as part of the overall covid response. It was one tool—not the only tool—that the Government set out as their response to covid. The non-pharmaceutical interventions, the restrictions, and the NPIs that we have all had to live through were the first element. Obviously, NHS Test and Trace was the second. The third is the vaccine programme and the fourth the therapeutic treatments to help people cope with covid better. NHS Test and Trace was never set up to be the single solution to covid. I think it is important that we start with that context.

I say this with some trepidation because, just as with the discussion that the Committee has just had about infections in care homes, the science is still evolving as we learn exactly how to evaluate all those different programmes, but as the National Audit Office Report sets out, the evaluations that exist to date suggest that NHS Test and Trace had a material impact in reducing the rate of infection. In the work quoted by the NAO—a number of different scientific groups had been trying to model the impact—there was a reduction in the infection rate by the order of 18% to 33% due to testing, tracing and isolation. I appreciate that that is a very wide range, and as the Report rightly points out, there are lots of assumptions, and there is a lot of ongoing work around the world to evaluate the effectiveness of these sorts of interventions.

I do appreciate that a lot of people listening might find this rather incredulous given some of the way that it has been reported, but I would actually argue that NHS Test and Trace has been a success—that it has delivered on the objective to help break the chains of transmission, as set out in the NAO Report.

Q35 **Barry Gardiner:** I refer you back to the two national lockdowns and the more than 4 million confirmed cases. If you think that Test and Trace has been a success—

Chair: Mr Gardiner, could you lean into your microphone, please? We are having trouble hearing you in the room.

Barry Gardiner: Of course. Given the two national lockdowns and the 4 million-plus confirmed cases, you have correctly identified that Test and Trace was not on its own in seeking to break the chain of transmission. However, that means that other areas, you would have to say, have failed in their objective if you are not allowing that there was any failure in Test and Trace. I am not sure whether you are trying to shunt the blame off somewhere else by saying, "Well, we were only part of the picture and we have been successful." Let us look exactly at what your particular—

Sir Chris Wormald: I need to come in on this point. Baroness Harding described this absolutely correctly. The Government effectively has four pieces of weaponry with which it fights covid, one of which is NPIs including lockdowns. We deploy Test and Trace and contain, vaccines, therapeutics and lockdown. That is basically what we use to control the disease. Where you are completely right is that the balance of how we used those four things in conjunction has changed over the course of the pandemic. What we are seeking to do, as you know, is move away from reliance on legal NPIs and move much more towards, at the moment, vaccines, and, hopefully, improved treatments and therapeutics in conjunction with vaccines going forward,. I do not think it is possible to say: Test and Trace has this specific role. It has evolved over the pandemic. The important thing is how those four things interact. Of course, we have used NPIs. We have used them from the beginning and at times we have used them more intensively in response to the way the disease was reacting at that point. That is a separate question from the effectiveness of Test and Trace within those four. It is certainly not blame shunting to say that we use all four of those and we use them in different combinations as we go forward.

Q36 **Barry Gardiner:** Of course it is not blame shunting; you are absolutely right. However, 130,000 people have died and if, as Baroness Harding was saying, Test and Trace has been a success, it implies that the failure is elsewhere. So let us focus on Test and Trace.

For the tests to be effective in breaking the cycle, it is best that there be no more than 48 hours between identifying an index case and their contacts self-isolating, but my understanding is that you have not always operated to that target. Do you agree with the NAO that you need to speed up the process, including how quickly people book their tests once they notice symptoms?

Baroness Harding: I absolutely agree that speed is hugely important and as the NAO Report sets out, over the course of the last year, we have learned a lot and we have got a lot better at turning around tests and contact tracing end to end. I may defer in a second to Dr Harries to describe the clinical logic for why it is not a binary one-zero thing of a

certain date or turnaround time is good and anything beyond it is bad. Actually, the faster the system works, the better. The sooner we isolate if we are infectious or are at risk of infection, the better.

The SAGE advice that we have worked to throughout has been clarified since I last appeared before the Committee to confirm that the operational target they set us was to go from test booking to contact reached within a 48 to 72-hour turnaround. On in-person tests, we have been hitting the 72-hour target since January and because we were hitting it, we increased the target to make it harder to drive further performance improvement to 48 hours, which we hit in March of this year. That is not to say that we cannot continually keep improving or that it is something that the team has to keep working on.

Q37 **Barry Gardiner:** I will come back to the in-person tests in a moment, but my question was: do you agree with the NAO that you need to speed up the process of how quickly people actually book their test once they see symptoms? I am just worried about how you are encouraging people the moment they feel symptoms to get the test.

Baroness Harding: I agree that it is important that we encourage people and we work on the whole process, end to end. I also agree with your statement that, as we stand today, the single biggest opportunity to continue to improve performance is people coming forward if they have mild symptoms and getting a test, and making sure that then the process kicks off as fast as it possibly can.

Q38 **Barry Gardiner:** So what improvements have you made in that? How are you taking that forward to encourage the public to get the test the moment they are symptomatic?

Baroness Harding: Obviously I finished in NHS Test and Trace two months ago, so I can talk up until May and then Dr Harries can speak to what is live now. If you look back through the course of the last nine months, we substantially expanded the number of testing sites to make it ever easier for people to get a test—over 1,000 face-to-face testing sites for symptomatic tests and a further 1,000 for asymptomatic testing.

We have worked with partners throughout the end-to-end journey to make it easier. For example, for home tests the Royal Mail now picks up from priority post boxes on a Sunday, and that is the first time they have done that for over 100 years. So we have worked with partners to make it easier and easier to access tests, whether they are done face to face or at home.

We have done a huge amount of work with local authorities, community groups and voluntary organisations to make testing accessible for people for whom English is not their first language. If you call 119, over 200 languages are spoken. The test kits come in a variety of different languages, including Braille and British Sign Language. We have made a huge number of changes through the course of the last 12 months to make the system more accessible and to communicate and explain to

people why they should come forward even if they only have mild symptoms. But, I am two months out of date—

Q39 **Barry Gardiner:** Before I move on, you have cited a number of things that you have done. How did you quantify how quickly people were coming forward once they were symptomatic? How has that changed as a result of all the things that you have done? Have you been able to say, "This is where we were at a baseline. This is what we did, and as a result of what we did we now know that people who are symptomatic are actually booking their tests more quickly and notifying."?

Baroness Harding: You hit upon something that is very hard to fully quantify, because the only way of really being able to tell if people are coming forward when they should is based on what they tell us. We run a series of increasing surveys with the ONS to understand whether people are coming forward or not. I am not trying to be evasive. I am genuinely two months out of date and it is important that you get the up-to-date view from Dr Harries.

Q40 **Barry Gardiner:** I am happy to hear Dr Harries' view.

Dr Jenny Harries: There is an important point that overrides all of this, which is that a third of cases are asymptomatic. For those individuals, this is where lateral flow comes in, because it is important that we are picking up those asymptomatic cases. They will not be coming forward because they do not have symptoms, so that is an important point.

For the other two thirds of the cases, exactly as Baroness Harding has just said, it is possible to ask individuals in retrospective surveys, but like many people in this room I know that self-reported surveys, particularly if they are post hoc—people are remembering back to when they first got symptoms—are quite unreliable in some ways. Speaking from personal experience, I had anosmia and I know when I became anosmic, but for many people that is not the situation.

Q41 **Chair:** I think we know what anosmic means, but do you want to just explain it?

Dr Jenny Harries: When you get a loss of taste or smell. For most people, their experience is not that they can say precisely at which time and on which date they had this. In fact, once they have symptoms or once they have a positive test, their historical memory of when their symptoms started is quite challenging.

There is data. There are opportunities through contact tracing, but equally, and probably more important, there are robust scientific studies focusing on individuals and trying to look at that. It is a very complex picture and it is quite difficult. I think the answer to your question is actually the contribution to national communications, as Baroness Harding said. I would argue that a really important one is the increased engagement with local authorities and directors of public health, who know their communities and who will know how to focus messaging in a trusted way. I think this is not simply about communication; it is about trust in the

system, and what we can definitely demonstrate from Baroness Harding's time, and mine as well, is that it is about moving forward, liaising with local authorities and getting those messages through trusted leaders.

Q42 **Barry Gardiner:** Indeed, Dr Harries, that is what many MPs were saying at the beginning of the process, when that message was not implemented in the way it subsequently has been.

I want to pick up on what Baroness Harding was saying about in-person tests. My understanding is that you do not have a target for end-to-end timeliness of home tests and tests in care homes, which are actually the majority of PCR tests, aren't they?

Baroness Harding: Actually we do. We do monitor it just as closely, so the timeframes I described for in-person tests were that by mid-January, for all tests, from test through to contact identification, 73% were completed within 48 hours and 91% were completed within 72 hours. We do monitor it.

You are absolutely right that there is more work to do on home testing. That is one of the reasons I point to the work we have done with Royal Mail, who have been excellent partners in making it ever easier for people who can't get to a physical test site to get their home test back quickly and turned around, but I would not want you to think that we do not take home testing turnaround time seriously. We really do.

I would say, though, that the substantial majority of positive test results do actually come through the in-person channel, because home testing is used for asymptomatic testing in care homes, so there are far fewer positive tests that come through that, and it is also used for our borders testing programme and quarantine programme; again, a lower percentage of positivity. So there is a logic for wanting to make sure that the in-person is absolutely hitting the targets.

Q43 **Barry Gardiner:** Initially, I believe, you estimated that there would be about 15 to 20 contacts from each person who tested positive, but actually people only told you about three or four contacts—basically their household members. Is it that people were embarrassed and didn't want to lose their friends by identifying them, and how have you sought to overcome that problem?

Baroness Harding: I will answer that in just a second—I just realised I have given you the wrong numbers. I am very sorry, I gave you the in-person percentages. For the record, the figure for all PCR tests within 72 hours is 75% and within 48 hours is 54%. Apologises for confusing the Committee.

In terms of the number of contacts, you are correct that when I arrived last May, the SAGE modelling upon which the Government had decided to scale contact tracing was based on the assumption that in ordinary life, you would have circa 30 close contacts as you go about your business. That was one of the reasons the contact tracing system was scaled to the level that it was during last May.

What we found from the very beginning of the launch of NHS Test and Trace was that, coming out of lockdown, we were not living in normal times and people were not having that number of close contacts. They were also, I think and suspect, heeding all the clinical advice not to get within two metres of people who were not close family that they were living with, so we did see—and have continued to see—a much lower number, as you say.

Dr Harries will have the up-to-date numbers, but there is a much lower number of close contacts, in part because of the other interventions in the Government's approach to fighting covid. What we do see from the NHS covid-19 app is that it is able to identify contacts that you do not know you had, so we do see more close contacts identified through the app, through digital contact tracing, than through individuals reporting their own close contacts.

Q44 **Barry Gardiner:** Only a minority of people who develop symptoms request a test. In fact, the NAO Report suggests that older people, men and poorer income groups do not request a test, even though they recognise that they have symptoms. Is it fair to say that Test and Trace is operating fairly well for wealthier, middle-class white women but not terribly well for anybody else?

Baroness Harding: You have hit upon one of the most important learnings from the course of the past 12 months, which is that covid-19 is an incredibly unfair and unequal disease. I know that Dr Harries and all her colleagues in public health would say that this is true of almost all infectious diseases—that they disproportionately affect the most vulnerable in society. Probably one of the most important learnings for us as a country as we look back on the last year is how we target and tailor these services to genuinely work for the people who most need them.

Dr Harries has referenced how important it is that we work closely with local authorities. As you know, that was one of the big priorities of the NHS Test and Trace business plan published in December. One of the first things I personally did last May was appoint Tom Riordan, chief executive of Leeds City Council, to my leadership team, so that we could really work closely with local authorities. With the benefit of hindsight, which is a truly wonderful thing, last May, the Government strategy, and indeed the WHO strategy, was to build scale—we were told to test, test, test and to build scale—and over the course of the year we have got better and better at supporting the most vulnerable and targeting our testing services towards them—

Q45 **Barry Gardiner:** With the benefit of hindsight, of course that is right, but many people were saying this at the time in Parliament. However, I do not want to refight that battle. I want you to focus your answer on how the Test and Trace system can now reach those people who the statistics in the NAO Report show are not being reached—the elderly, men and poorer income groups. That challenge still faces the Test and Trace system, and if we are to have a system that is fit for not only the end of this pandemic but future pandemics, it is critical that we get over that challenge.

Baroness Harding: I would completely agree with you. That is why the NHS Test and Trace business plan put working collaboratively in a team of teams with local authorities as the No. 1 priority in the December. It is an ongoing programme of work. As you rightly phrased the question, how do we continue to get better now? I think Dr Harries is better placed to answer for now.

Dr Jenny Harries: I think, No. 1, we need to understand the data—we need to know who it is who we need to reach. That data is really good now. We look routinely at the data that comes through from Test and Trace. It goes through the Joint Biosecurity Centre, and it is evaluated as well with Public Health England. We look at, for example, age group, ethnicity, working group and locality, and we match up the testing data, and particularly the immunisation data as well, because often the communities or particular groups who are not coming forward for vaccination are also not coming forward for testing.

Picking up on some of the learning that Baroness Harding described, in some areas, which we may go on to in the future, we have looked at surge testing, for example, in different communities, actually putting the NHS and Test and Trace alongside directors of public health. Pushing those groups together has been very successful. As I have said previously, it is about working with local leaders, whether they be local council leaders or, particularly, local faith leaders, for example.

There is some difference in data, though. There was actually another study that showed that women were not coming forward, so it does vary. The geography, the age group—there are all these different variables, so having the granularity of the data is really important, and I think that area has also improved dramatically as we have gone forward and will continue to under the Health Security Agency.

Q46 **Barry Gardiner:** Of course, those demographics may actually cross-infect—the reason that women are not coming forward in some communities may well be because they are from ethnic communities where that is not done in the same way.

Dr Jenny Harries: There was an ethnicity study, again in one of the SAGE sub-groups, by Professor Kamlesh Khunti, who highlighted that in some ethnic minority groups of Indian heritage women were more affected. So, that is absolutely right—it needs the granularity of the understanding of the communities.

Q47 **Barry Gardiner:** So, are you confident that you have now established the baselines for those under-represented groups and that you have targeted operations, which are locally targeted and specifically targeted—demographically and geographically—to change those baselines and bring them up to what you would like to see as the target average?

Dr Jenny Harries: Yes. Clearly, there will always be more we can do, and we will continue to do that. But I think there have been a number of very specific interventions—again, as Baroness Harding has said—not just in the written language but in other communications. It is who you are

communicating with, it is how you are putting out your services in a sensitive way and also just practical things such as disabled access for testing. If people feel they cannot get to a test site and it does not work for them, that will soon spread and people will not go. We have net promoter scores, for example, and there is no difference in the scores between those who need disability access and those who do not.

So I think we are monitoring a lot of these areas far more than we could ever have done to start with, and we will continue to do so.

Q48 **Barry Gardiner:** Finally, could I ask you to send to the Committee a range of baselines that you focus on, so that you can tell us in a few months' time exactly the changes that have taken place in those numbers and the Committee is able to afford to monitor them properly?

Dr Jenny Harries: I am very happy to do so, just with a slight caveat at the start, which of course will flow through all of this. The pandemic is changing hugely as we go forward. So, the combination of rising and hopefully then falling rates, and vaccination, will mean some of that data before you have even got it—we will send it—may be quite difficult to interpret.

Chair: We will touch on the future, of course, later. But thank you very much, Mr Gardiner, for now. I am now going to turn to Sarah Olney MP, online.

Q49 **Sarah Olney:** Baroness Harding, at your previous appearance before this Committee, we talked a bit about the importance of self-isolation once contacts have been traced, and you said on that occasion that it was beyond the remit of Test and Trace to enforce self-isolation or to come up with the policies to encourage self-isolation. What progress has been made, to your knowledge, in other parts of Government to improve self-isolation rates since then?

Baroness Harding: I can answer briefly, but one of the things that has changed since I appeared before you last is that Jonathan Marron is the cross-Government senior responsible officer for self-isolation, so really I should pass most of that on to Jonathan.

Jonathan Marron: We have done significant work on trying to improve self-isolation. The first thing I would say is that the monitoring that the ONS is doing now of self-isolation among positive cases is really strong. We are seeing over 80%—86% in the latest data—of people saying that they fully meet the self-isolation requirements. And with contact, it is even higher—93% is the latest figure reported. Isolation of people who have had a test or who have been contacted by Test and Trace is really quite good indeed.

Mr Gardiner raised the wider data of people with symptoms—43% are coming forward to have tests, because, as Baroness Harding has talked about, trying to tackle that has been a major part of what we might do. I would just add to Baroness Harding's answer that of the people not coming forward, about 40% are essentially dismissing their symptoms;

they do not think they are ill enough, or they get better. So Jenny's message about making our communications really clear about when to have a test is really important and will continue to be important.

In terms of trying to improve self-isolation, there are three things that we have really tried to think about. One is the communications—making sure that people still realise it is important to get a test when they have symptoms. I think that will continue to be an important part of our overall strategy. Again, as Jenny and Dido have both said, the way we work with local authorities to get targeted messages to particular communities is a really important part of doing this. You cannot do all of it just from the national headline messages. So that is part one.

The second thing is to make sure that it is easy to get a test by removing the physical barriers. Again, Dido spoke about it. There are over 1,000 sites and 35,000 post-boxes; there is home testing and pharmacies can give out kits. We have really tried very hard. There is no physical barrier. It is not that you cannot get a test. Again, we had some comments—

Sarah Olney: Mr Marron, sorry to interrupt—

Jonathan Marron: I have one more thing that I want to talk about.

The final bit is that we have tried to work on any barriers to self-isolation. What is it that stops people? We have gone for three significant things. One is that we have made really significant sums of money available to local government to make support payments to people who need to self-isolate. That comes in two parts. In the overall scheme, we have made £176 million available. The first £73 million of that is for the main national scheme, the Test and Trace support payment, which pays £500 to anybody who needs to self-isolate and is on a set of qualifying benefits: the people who are most in need.

We have always understood that there are some people who face hardship but do not quite meet those criteria, so we have made another £75 million available to local government to allow them to make discretionary payments to people facing hardship. There are really significant sums of money going into local authorities to help them pay £500 payments so that people can afford to self-isolate. We have worked really hard to address the real concern that people are not isolating simply because they cannot afford to. Obviously, it is a burden for local government to do it—it is a lot of work—so we have made £28 million available to local authorities to run the schemes. We are trying to make sure that we protect that as well.

On practical support, since March, we have been running two schemes. One is a medicines scheme: if you need to get medicine while you are self-isolating and cannot get a friend or family member to get it for you, you can now contact your pharmacy, which can find a volunteer or get somebody to you. That is £32 million a month. We have provided £12.9 million a month to local government to fund practical support. We have been working with a range of local government colleagues; in particular,

about 20 local authorities have been very active in helping us to define good practice in practical support. Clearly, knowledge of your community on the ground, and working out how you do that, is the most important bit. That is available everywhere.

Finally, we have another £12 million to fund a range of pilots to look at what we could do further. This is in four blocks. We have some local authorities looking at intensive support: do you need to buddy people up? What is it that some people need to ensure self-isolation? We have some pilots around crowded accommodation; it is hard for some people to isolate because they live in very crowded accommodation. We have a pilot working on the awareness of the need to isolate, which comes back to some of Mr Gardiner's questions earlier: how are we getting those messages across? A third set of pilots is looking at speed. Are there things we can do that really speed up those initial steps?

If we look at what we have done over the course of the pandemic and how we have learned, we have put in place really substantial funds for all local authorities to make payments available for people on qualifying benefits; further funds for hardship payments at local authority discretion; and a set of practical support measures. We are really trying to learn from the set of pilots: are there more things that will drive a substantial increase in the uptake of testing and in self-isolation?

Q50 **Sarah Olney:** Thank you very much, Mr Marron. Did the funds that you are talking about come out of the Test and Trace budget, or did you have to lobby the Treasury for additional funds?

Jonathan Marron: The funds are agreed with the Treasury and have come out of the Test and Trace budget.

Q51 **Sarah Olney:** Thank you very much. I am now going to move on to the new variant. This might be a question for Dr Harries. The delta variant has been in the country since about April. My understanding is that it now accounts for 99% of all positive cases of covid that are reported. We talked earlier about the genomic work, which obviously helped us to identify and track the delta variant quickly, but why has Test and Trace not been more successful at stopping the delta variant from spreading?

Dr Jenny Harries: I might start outside the UK. If we look across Europe at the moment, or even to other places that we often describe as being highly successful, for example, Singapore, they also have a problem with the delta variant. I would forecast, fairly robustly, that over the next four to six weeks we will see this variant cause huge problems across Europe. You can see cases just starting to tick up now.

One of the issues is that the delta variant is highly transmissible. It is more transmissible than the alpha variant, which, if you remember, was the cause of our second wave and followed a similar pattern, with a very sharp rise. That was the start of our understanding of the importance of very early genomic detection. We have gone on since then to develop reflex assays—a very general way of switching in testing to enable us to see which variants are causing the problem across the UK, without

necessarily having to wait for the detailed genomic testing to come back. We have really good detection mechanisms now; we are probably leading the world.

In relation to this particular variant, it is difficult. Looking at the South African one, we have been highly successful. We had quite a number of pockets of the South African variant that were brought into the country, and they have been stifled. There has been lots of great work with local authorities and Test and Trace. There are still a few cases around, and we continue to monitor them, but it has not turned into the sort of wave that we have seen with the delta variant. I think transmissibility is a really important one, and there were some successes in controlling the delta variant as well, actually. The one that I tend to refer to is Sefton, where we saw quite a sharp rise and then a fall. We often refer to Bolton, where there was really brilliant work. I went there and saw local authorities and local teams working on that. Certainly, that has come up and come down more quickly, but it has not been containable right across the country.

Q52 **Sarah Olney:** But with the benefit of hindsight, once we knew that the delta variant was in the country—we knew, I assume, quite early on that it was more transmissible—is there anything we could have done differently, via the Test and Trace programme, to stop it spreading quite as quickly as it did?

Dr Jenny Harries: My point, in referring to other countries, is that I think it is extremely difficult to do. We did have some successes. One of the difficulties with variants—we talk about variants of concern and variants under investigation—is that there are thousands of mutations ongoing. I think there have been more than 4,000 mutations of this virus, and it will continue to do that. We hope it will settle down in due course.

Trying to work out which variants are of significance is quite difficult. If a mutation signals that it has some sort of characteristic that we think might signal a problem, might be linked to other cases with higher transmissibility, or might indicate that it could be a vaccine escapee, we will be watching it and it will be under investigation. But it takes some time to understand whether it is actually more transmissible. It is almost as if, by the time you have got there—it does not matter whether it was the UK or anywhere else—you need a significant number of cases to be absolutely definitively sure about the clinical characteristics and transmissibility of the variant. It is one of the huge challenges of managing this, because if we shut everything down every time we had a mutation, society would stop. Obviously, we would have done it 4,000-plus times, which is just not realistic.

There is a gradated way of trying to manage variants under investigation and variants of concern, and UK data often informs the rest of the world now; 40% of the genomic sequencing globally is from the UK. We had some successes in many places, and I have highlighted some of those. We had enhanced response areas, where we worked absolutely alongside local authorities. We had the armed forces helping with the logistics. We had

work with local communities, and it has had success, but the transmissibility is quite difficult to control.

Q53 **Sarah Olney:** Thanks very much. We know that restrictions are going to be lifted on 19 July, but we are not stopping the requirement for people to self-isolate when they are pinged by the app. This is causing some concern in the business community and in the NHS, because if we still have rising cases, there is a big risk that people will be pinged and have to self-isolate. The NHS is particularly concerned about the impact on its workforce—it will have lots of staff self-isolating instead of being at work. What can the Test and Trace programme do to try to address some of these workforce concerns?

Dr Jenny Harries: Just as a starting point, there are two things. No. 1 is that the decision will be made on the 12th, so not yet. I realise that that might sound like a technicality, but it is very important, given that the data is changing quite rapidly at the moment.

Secondly, we still need to remember that, if you are pinged or you are a contact, you are at higher risk, even if you are double vaccinated, of becoming a case if you are a close contact of somebody. This is there for a purpose, not for annoyance. It is a public health management thing. But as the population becomes more vaccinated—we know that there is a significant reduction in risk, particularly for the elderly, of serious illness, hospitalisation and death—obviously the move to reduce self-isolation is appropriate, to get society back again.

In relation to the health workforce, we have a piece of work actively ongoing on that with other senior clinicians across the UK. You will appreciate that for the clinical workforce—I would include the care workforce in that as well in care homes, for reasons that we have said—where you have high rates of infection society may be getting on otherwise outside, or infections may be mostly in younger people, but hospitals will have people coming in who are infected. It is really important that we look at that particular element really carefully.

On the app, we again have a piece of work ongoing at the moment, because it is possible to tune the app to ensure that it is appropriate to the risk. Of course, when the app came into action, it was Baroness Harding's efforts at the start of that. We know that it has been hugely successful, but it has been utilised in a world where we did not have vaccinations. Working through what a vaccinated population using the app means is something that we are actively doing at the moment.

Sir Chris Wormald: If I may come in on that, the two sides of your question exactly demonstrate why the judgments in these areas are so difficult. Looked at from the perspective of variants, of course you dial up all the various measures, as Dr Harries was describing. The equal and opposite desire, which everyone understands, to reopen society and diminish some of the other detrimental impacts of our NPIs push you in the opposite direction. These are the decisions that the Government and Ministers have to take, and there isn't an algorithm that tells you how to

do it. This is what Professor Whitty was describing at the press conference earlier.

These are exceptionally difficult judgments; we have to balance up exactly the concerns raised in the two halves of your question and come to what we think is the greatest public interest approach, but I think we all should recognise that that will always push in two directions, depending on whether your question is how we control the delta variant or how we minimise the disruption to people's lives, their wider health and the economy.

Q54 **Chair:** I now want to turn to the money, so I am going to turn to Baroness Harding first, as the person who was responsible for money, but Shona Dunn stand by, as you were the accounting officer. I will come to Dr Harries in a moment.

Figure 6 on page 33 in part 2 of the NAO Report lays out a very clear table, Baroness Harding, which gives me the basis for trying to understand what has happened. In November of last year, you, as the executive chair, led the bid to the Treasury for extra money to increase your budget from £10 billion for the financial year to £22 billion. In January of this year, when we had evidence, the expectation was that spending would reach £21 billion by the end of the financial year. Yet we have seen a significant underspend of 39%. First, could you give me the headlines on why you think that is? Then I want to go through some of the detail in this figure about why money has not been spent as expected.

Baroness Harding: There are three main reasons for the underspend. The first, which accounts for circa £4.3 billion, is costs avoided because of activities that were cancelled as a result of the country going into lockdown at the beginning of the year. The second main area, for £1.7 billion, is activities that were moved from the financial year 2020-2021 into 2021-22—so delayed because of the decision to go into lockdown. The third large bucket is £2.2 billion, which were commercial savings, where we were able either to negotiate lower rates or to stop doing non-value-added work with various partners.

Q55 **Chair:** Okay, but it is a significant shift. While elements of this are unpredictable, let's go through the table. Testing obviously takes up the bulk of the budget for Test and Trace, as was—now part of the UK Health Security Agency. I am puzzled, though, why for example in pillar 1—the NHS swab—the budget was nearly 50% less. That is a significant shift downwards. What happened there? Why was NHS swabbing reduced so much?

Baroness Harding: As you say, the vast majority of the budget for NHS Test and Trace is for testing—70% to 80%—and testing is a volume variable activity, so the cost is highly correlated with the number of tests, which in turn is a function of what is happening with both the disease and Government policy. We saw the country go into lockdown and the number of tests conducted drop dramatically.

Q56 **Chair:** But even in the NHS—that's why I'm particularly picking on the

NHS. Even with NHS staff? Fewer NHS staff were being tested, even though they go to work every day?

Baroness Harding: Pillar 1, NHS swabs, isn't NHS staff; it's predominantly NHS patients. There will be some NHS staff in there, but the regular asymptomatic testing of NHS staff will be in the mass testing line.

Q57 **Chair:** Okay, that's clear. NHS swabs is for patients. That dropped because out-patients dropped, presumably—because there would have been testing of anyone walking into a hospital?

Baroness Harding: I would have to come back to you with the full detail because that cost is managed through the pillar 1 team in the NHS. I don't know whether Shona Dunn has more detail that she could provide.

Shona Dunn: I don't have any more detail than you do, Baroness Harding. We will absolutely come back with more.

Q58 **Chair:** Okay. Then there is antibody testing. Perhaps you could explain the rationale on antibody testing. There was that budget of £220 million, but then only £36 million was spent.

Baroness Harding: This is as the science and understanding of immunity develop for covid. When I joined last May, there was great hope that antibody testing would provide a means of accurately assessing whether you had immunity, and as we have all learnt—I am clearly straying on to clinical territory here, rather dangerously—the behaviour of your T cells is just as important as whether you do or don't have antibodies. So, the antibody testing budget has not been spent because the science has changed, and it has not been able to be deployed in the way that people had originally thought—

Q59 **Chair:** Dr Harries?

Dr Jenny Harries: Yes, although—

Chair: Have you anything scientific to add to that?

Dr Jenny Harries: I would say, going forward, antibody testing is likely to come back on its own, because now we have vaccines, of course, it's important that we understand who has had a good response. For example, a clinically extremely vulnerable individual who is immuno-supressed—so we will see more of this. In pure budgetary terms, I think it is probably better if we come back with the detail, but absolutely recognise the scientific approach, which was that we didn't have sufficient tests to do—

Q60 **Chair:** So what you are saying to me, if I put it in simple terms, Baroness Harding, is that that £220 million set aside for antibody testing in—well, around May, when you were set up. Even when you bid for more in November, that was still a budget line—

Baroness Harding: Things have been moving—

Chair: So it wasn't that you bid for more in November for that particular

budget line? That budget line stayed the same, but then you didn't need it because of the science?

Baroness Harding: Let's be clear on all this: we agreed a funding envelope with the Treasury to make sure that the funds were available, based on a range of different possible paths for the disease and Government policy. This is in some ways quite a strange conversation, because what we have demonstrated is that NHS Test and Trace was able to adapt, based on changes in Government policy and changes in the disease, and not spend money unnecessarily. I think that's a good thing.

Q61 **Chair:** While this Committee is always keen to see money saved, normally we would expect somebody running a budget this size to be much closer to what they predicted. This is the biggest out-of-kilter budget I have ever seen in a decade on this Committee.

Baroness Harding: I understand, Chair, but these are not normal times, and of all the things about NHS Test and Trace, it is an enormous new national citizen service and, at the point at which we were discussing funding with the Treasury in November, the service was only six months old. In my experience of a wide range of citizen services, your budgeting and forecasting get better as you build evidence and data upon which to forecast.

Q62 **Chair:** But you must have been fairly sure to ask for that extra £12 billion in November. That is a lot of taxpayers' money. It was mainly for mass testing, of course, which did come in at a later date. It just seems—well, can you walk us through what sort of modelling you were doing such that you could go to the Treasury with a convincing business case for such an increase and get the money from the Treasury? It would be interesting to know what the Treasury's reaction was when you didn't spend it all, and I will come back to Ms Dunn on that.

Baroness Harding: Well, we weren't modelling for a national lockdown at the beginning of the calendar year and we were modelling for testing numbers to continue to grow and large-scale, mass asymptomatic testing to be rolled out, because people were going out and about in a more normal way.

We were also, just in the way Mr Marron has described on PPE, modelling in such a way as to ensure that we had the flexibility to adapt should the disease change its course or Government policy change. You rightly pointed to some of the successes of the programme at the beginning of this hearing. We would not have been able to react to the need to test hauliers at the border on Christmas eve without having flexibility in both resources and funding. What you have seen is that we have reacted both ways. Where we have needed to immediately put resources on the ground, we have had the flexibility to do that, but also where the disease has changed and we have not needed to spend the money, we have not spent it unnecessarily. That is a sign of a well-managed budget in a crisis, rather than something that is wrong.

Q63 **Chair:** It feels like the taps were turned on regardless and that there has

not been proper financial control. Perhaps I will go to Shona Dunn on this because overall—

Baroness Harding: May I just say first that what we are showing is a slide where the taps categorically were not turned on? The potential to have the taps on was there, rightly, in case the disease went in a different direction, but we did not turn the taps on.

Q64 **Chair:** Maybe Sir Chris or Shona Dunn will come back on this. In Whitehall terms—this contingency and the fact that the Treasury can turn the taps on if there is a crisis, so perhaps the lorry thing—we recognise that the capacity needs were there, but you have had surplus capacity for much of this. Test tracers, for example, massively underused: 1% last summer up to less than 50% even at peak, while 11% to 49% is the more recent figure. So, you have had that capacity paid but underused. You could have ramped that up potentially for the lorry drivers, but why was it that it was put into your budget, not there—some discussion with the Treasury? Perhaps I will ask Ms Dunn because it is more of a Whitehall issue and then I will come back to Baroness Harding.

Shona Dunn: So exactly as you say, Treasury is very interested in the quality of our forecasting, very interested in our modelling and has a strong interest in making sure that, as far as we can, we are coming in as close to the budget that we set. However, Treasury colleagues at the time—David Williams, I think, was the accounting officer—absolutely recognised the exceptional circumstances that Test and Trace was operating in and the expectation at the time of both the substantial increase in PCR testing that was being modelled and the asymptomatic testing plans that were being pulled together in November.

The uplift in November was from £15 billion to £22 billion. That £7 billion was specifically about those two things and an expectation that they would happen. As Baroness Harding has said, through December, January and into February, circumstances changed very substantially and that is why a significant chunk of this money was not spent.

The Treasury—I have had this conversation in the last two months since I have been here—understands the circumstances that were faced and the very rapidly changing operational position and policy position. We have been through, in significant depth, where we have underspent to explain all the different elements of that coming through. We are talking to them about how we are using the learning that the organisation has developed over recent months and the information that we now have—the data that we now have—to improve the forecast modelling going forward.

Q65 **Chair:** So how much of this was because the Prime Minister had stood up and said, "We want a moonshot", Baroness Harding?

Baroness Harding: If we go through the reasons for the underspend, there are a series of activities that were cancelled because of moving into lockdown. There are a series of activities that were delayed.

Q66 **Chair:** But the Prime Minister made an announcement about having a

moonshot—throwing money at it—didn't he? That then fell to Test and Trace to deliver.

Baroness Harding: Let me just take you through the three pieces. The mass testing—the universal offer for everyone to have access to two lateral flow tests a week—is the £1.7 billion I referred to. It is predominantly that, which shifted from earlier in the year to after we came out of the full restrictions of lockdown. So, it's a timing issue.

Q67 **Chair:** Can I just be clear? I was going to ask you about that. Did that money get shifted from one financial year to the other? You already had allocated money for it.

Baroness Harding: Yes. The £1.7 billion had been moved into Dr Harries's budget for 2021-22 and we are all now able to access two tests a week.

Q68 **Chair:** To be clear, that money was because the Prime Minister made an announcement about the moonshot?

Baroness Harding: No. Our plan, as set out in the Government's winter plan and then in the NHS Test and Trace business plan, was to roll out mass asymptomatic testing, first to high-risk workplaces and then to all citizens, which is what we did, but we delayed the roll-out of the universal offer to everyone because of the national lockdown. That is the reason for that underspend in the year.

Q69 **Chair:** I remain concerned, though, that we have a budget underspend of this magnitude. Let me take another couple of areas of the spending. Laboratories have been a success, to some extent, although we are going to touch on some of the challenges around that as well. That was an underspend. Was that because fewer tests were going through laboratories?

Baroness Harding: Yes. The good thing about laboratory testing—in fact, all testing—is most of the costs are variable, so we don't need to incur them unless we really need to use the tests, and that is what you have seen.

Q70 **Chair:** It is odd to say "relatively small" in relation to millions of pounds, but innovation and partnerships were increased by £3 million, which is small. Indeed, there is £37 billion allocated overall. Why was that? What is innovation and partnerships?

Baroness Harding: That is the work continually looking at improving and working in partnership to develop new testing technologies and methodologies.

Q71 **Chair:** Science then testing, but not with—

Baroness Harding: Yes. We were one of the first countries in the world to scale lateral flow testing. We have worked, through the course of the last 12 months, with a variety of different technologies to work through which tests could be more effective and more efficient, but lower cost. That's the R and D budget if you like.

Q72 **Chair:** I am going to bring in Sir Chris Wormald, who is the accounting officer for the Department as a whole. In your career in Whitehall, which is long and distinguished, have you ever seen a budget so out of kilter?

Sir Chris Wormald: No, and I have never dealt with a pandemic before either. The approach that we have taken across Government, which we described in relation to PPE the last time I was here and in which Treasury has been our partner and we have not been at loggerheads at all, has been to ensure that we can deal with the worst of what can happen, both financially and in terms of the pandemic. It goes back to answers that were given to Mr Smith on our approach to PPE. As Jonathan described, we looked at a reasonable worst-case scenario and bought for that, which gives us a 90% chance of having too much, by definition. We took the same approach to finances.

The Chancellor was clear right at the beginning that we would have the resources that we needed to tackle the pandemic and budgets were set accordingly. We knew the risks that there would be significant underspends. We didn't know that they were going to be of the size that you have described, which were drawn up for the reasons that Baroness Harding suggests, but all our discussions were on the basis that we couldn't be in a position where we couldn't fight the disease for lack of resources, approvals or those sorts of thing. Those were the discussions that we had with the Treasury. So yes, it is unprecedented, but it was in an unprecedented situation.

To go back to your core question, I think it is considerably better to set a generous budget and then not spend up to it where we don't need to. That is clearly better for the taxpayer—

Q73 **Chair:** Clearly. We are a Committee that is always happy to see taxpayers' money saved, but in January this year we were told that this budget would hit £21 billion by the end of the financial year. That was in January, when we were going into lockdown and we had had the Christmas issue. That is a big shift in a very short time. Can you explain it? I will come back to the Baroness.

Sir Chris Wormald: Well, I think the Baroness has explained it.

Q74 **Chair:** But the predictability of some of this was there in January, surely.

Sir Chris Wormald: No, I don't think it was.

Q75 **Chair:** As we were moving into lockdown, the modelling would have shown that you would have too much.

Baroness Harding: I really don't think it was. The Government hadn't made the decision to not roll out mass asymptomatic testing at the beginning of January. My programme was still working to the Government direction at the time, which was to prepare to roll out mass asymptomatic testing to the whole population. That decision was taken through the period between January and March. So no, I don't think it was possible to have foreseen that, and operationally it was important that we were able

to respond to whatever those Government policy decisions were and the course of the disease itself.

Q76 **Chair:** At that point in January, we knew schools had closed and that people were instructed to work at home again. What were the discussions that were going on about mass testing between you and No. 10?

Baroness Harding: Well actually, between Christmas and new year my team was rolling out asymptomatic testing to schools. So actually no, we were in full roll-out of mass testing in early January, rather than slowing it down at that point.

Q77 **Chair:** Right, okay. Sir Chris, on the same point?

Sir Chris Wormald: I would agree with what the Baroness has just said.

Q78 **Chair:** But this is money. One of the other concerning points is that we want to see taxpayers' money saved, but that is because it can be spent—whichever Government is in power—somewhere else, so this is money that has been forgone for other parts of the system.

What conversations have you had with the Treasury about this? As an accounting officer for the Department as a whole, have you had some uncomfortable moments? Have they challenged you?

Sir Chris Wormald: No. As I say, we and the Treasury have been clear partners in this. Shona has been having the conversations recently. This is emergency funding; it is not something that you would normally reallocate to other purposes.

As I understand it, this is money the Treasury is weighting specifically for this purpose. In a normal budget you would be correct, but in something that is being funded for an emergency—Marius may want to confirm this—I don't think there is a question of reallocation. It would be a question of not weighting it.

Q79 **Chair:** So you haven't drawn it down, is that right, Ms Dunn?

Shona Dunn: The funds are fully available to us.

Chair: Yes, that is what I thought.

Shona Dunn: The funds are fully available to us, and we have, as Chris said, been having those conversations in a very transparent way and in the spirit of partnership. We have these conversations with the Treasury all the time. Whenever information comes to us, we are very rapid in sharing that with the Treasury. That is the way we will continue to run this.

Q80 **Chair:** Did you consider bidding for a range of costs? As accounting officer, were you trying to make sure that that was held tightly to account for taxpayers?

Shona Dunn: I was not personally involved in the discussions at the time, but the discussions through to November were focused on the Test and Trace business case at the time. The demand modelling and the cost

modelling that were done to support that were done very much with an eye to the full range of circumstances we might meet, and also to meet the peak requirements of those.

As both Chris and Dido said, largely we weren't judging needs to an average or to a central point at that point in time; we were making sure that we had whatever resources were necessary to deal with whatever circumstances we faced, as rapidly as we possibly could.

Certainly, there were models that gave us that range of figures, but the figures that we put forward to the Treasury, and were accepted, helped us deal with that full range, right up to peak scenarios.

Q81 **Chair:** Okay, so the Treasury knew about the range, the lower and the upper-end amount of what might be spent?

Shona Dunn: I was not involved in the detailed conversations at the time, but they had full access to the information that Test and Trace was developing based on the cost modelling they had.

Q82 **Chair:** Mr David Williams would have been responsible for that?

Shona Dunn: Yes. I know the Treasury had full access to all the information coming from Test and Trace, and so understood the basis of those assessments.

Q83 **Chair:** Before I go to Dr Harries briefly on some of the challenges for this financial year, I want to ask about the Royal Leamington Spa laboratory. The lab is one potential element of prize from what comes out, which we will talk about a little more later, but is it ready yet? Is it completed? Has that contributed to the underspend, it being a bit late arriving?

Shona Dunn: The Royal Leamington Spa lab is up and running. I will pass the baton to Dr Harries to give you a full update. You are absolutely correct that it is part of the future infrastructure that the country will have as a result of all this work.

Like any other laboratory, the number of tests processed drives the cost, so there has been cost saved because there have been fewer tests processed.

Dr Jenny Harries: It is up and running and processing tests. It is not up to full capacity yet; that will come on over the next couple of months.

Q84 **Chair:** So that has presumably contributed to the underspend? They avoided it through lockdown costs, possibly, £4.3 billion.

Dr Jenny Harries: Yes.

Baroness Harding: There will be a relatively small contribution because it was not planned to be on a large scale in 2021.

Q85 **Chair:** Because it was due online in May or June this year? It might have been in this financial year.

Baroness Harding: Yes, that is correct.

Dr Jenny Harries: I think you are asking about the longer-term legacy.

Q86 **Chair:** Yes. We have the questions that Ms Olney was asking about the delta variant. That is all well acknowledged, and we don't need to go through those figures again. We are going to have release of lockdown, a spreading variant—lots of challenges for Test and Trace. How are you managing the cost? What are your projections on the cost, given that you have this large sum of money allocated?

Dr Jenny Harries: Listening to the conversation, it is extremely difficult. I felt for Baroness Harding, because all of the data and demand have been modelled against SAGE modelling, effectively. Many of you, I know, will have been watching that. There is a high degree of uncertainty even with the best modelling.

When you translate that through to the logistics and the throughput of tests through a laboratory, it becomes extremely difficult. Just in the last week, we have had a 20% uplift in the number of tests that need to be processed. Hence, in relation to some of your comments earlier about the under-utilisation of laboratories, it is actually important, first, to understand that labs need to be working safely—

Q87 **Chair:** We recognise the 80% threshold.

Dr Jenny Harries: It is probably 70%, actually, when you do that. When they are peaking, which they are now, that means we need to have thought, several weeks back, of bringing on new capacity, which we are doing. We are stepping up that capacity, and we can share those predictions with you, but it is difficult to predict with the precision that you would want.

Q88 **Chair:** What is the window on the budget? The figures we are quoting, I should stress, are not audited figures; those will come through in the Department's accounts in due course. What is your expectation about the budget range and the target you will hit on the budget? Will you be more within target than the 40% variance from last year?

Dr Jenny Harries: I think it's extremely difficult to say, because it is driven by the number of tests that are going through, and the tests actually cost different amounts. If we are using Lighthouse labs or private, additional procurement—we will obviously use the cheapest one first and then move on—it's extremely difficult to predict the cost going forward, because we do not know when or what the peak will be.

Q89 **Chair:** You must have modelled options, given what you know so far.

Dr Jenny Harries: We are modelling the numbers and then we procure the additional testing depending on what is available within the timeframe.

Q90 **Chair:** So, even with all the Lighthouse labs and the NHS's resources, you are having to commission new private lab support.

Dr Jenny Harries: Yes, that is part of the planned step-up. Of course, this is part of the challenge going forward: how do you plan for a pandemic when you need to pull on tens and tens of thousands of tests at

very short notice? There is a full model, but the costs will accrue depending on which services can be brought in at which times.

Q91 **Chair:** I have a last couple of questions. I just want to be clear about this. Baroness Harding's gone from Test and Trace now. You are in charge of the UK Health Security Agency. Who is in charge of Test and Trace right now?

Dr Jenny Harries: I am in charge of Test and Trace. The UK Health Security Agency comes into formal operational being from 1 October and, in terms of the budget, Shona remains the accountable officer.

Q92 **Chair:** Okay. So, even though you will be in charge of the UK Health Security Agency, Ms Dunn is in charge as accounting officer.

Dr Jenny Harries: I will be the SRO, overseeing the finance.

Q93 **Chair:** But the finance is down to you, Ms Dunn.

Shona Dunn: I am the relevant accounting officer until the beginning of October.

Q94 **Chair:** Okay, and you become accounting officer at that point.

Dr Jenny Harries: Yes.

Q95 **Chair:** So you are running Test and Trace yourself. But once the UK Health Security Agency comes in place, will you have somebody else looking at Test and Trace, or is that going to be one of your main focuses?

Dr Jenny Harries: The Health Security Agency will have in it the whole of Test and Trace, including the Joint Biosecurity Centre, which has come in.

Q96 **Chair:** I am just trying to be clear. In terms of day-to-day operations, you are going to be in charge of Test and Trace from now for—well, while you have the job.

Dr Jenny Harries: For the foreseeable future.

Q97 **Chair:** So it is rolled into everything; you are the main woman in charge of all of that. That is helpful to know.

My final question before I pass to Mr Clark is to you, Baroness Harding, on the use of tracers. We won't go through what we discussed last time about the low take-up. Mr Gardiner touched on the numbers that you were expecting and that you then got; there were all sorts of issues there. Did you look at how you could flexibly recruit them, so they could do other things? We understand from the NAO that it was difficult to change their contract once you got them in place. For example, we have had a lot of discussions about border security and checking at the border. We had a lot of people available and trained up. What is the flexibility in that team? Looking back, do you think you got it right, and would you do it differently?

Baroness Harding: It is one of the things that the commercial team has been able to renegotiate in the course of the last year to give us more flexibility. As we said, right at the beginning, the SAGE modelling was for

30 contacts per person, and we had to stand a service up in three weeks flat, so there was limited flexibility initially. We have since been able to renegotiate those contracts so that it is possible to both increase and decrease the numbers of contact tracers in the national teams far quicker. I would just remind everyone—I know you know this—that these are human beings we are talking about, who have employment rights and who need to be trained. There will always be a time lag.

Q98 **Chair:** My point about flexibility is that the NHS has bank staff, for example. Teenagers across London are working in the NHS as bank staff. But there is a flexibility there, where they are deployed where there is a vacancy.

Baroness Harding: Yes.

Q99 **Chair:** Many of the organisations we will touch on that do this—that is how they employ people. We are not going to discuss the employment practice, but that happens.

Baroness Harding: That is absolutely correct, and those sorts of flexible arrangements are now in place. So, for example, for our call centre staff, over a four-week period, we can now flex up to 50% up or down, and over an eight-week period, up to a 100% up or down.

Q100 **Chair:** Can they be redeployed to other areas, if you had to send them to the border?

Baroness Harding: Yes, and the border policy has meant much more work for people—from their living rooms and kitchens—calling, and the teams have been able to flex across the whole of the contact tracing and quarantine services.

I would just say, though, that the speed at which the virus changes, and therefore the importance of having spare capacity, make this a very unique situation. You saw in December the volume of people needing to be reached by our contact tracers grew fourfold over the space of three weeks and then fell again by 85% over the following three weeks.

Q101 **Chair:** My final question is: were you having any discussions? You had a hotline to No. 10. You were appointed directly by the Prime Minister. Did you discuss anything around border control, what Test and Trace could do and what these tracers could do at the border when you took over over the summer?

Baroness Harding: Last summer, no. I was not involved in border discussions last summer, personally.

Q102 **Chair:** So you had no discussions at all?

Baroness Harding: Personally, I was not involved in border discussions last summer.

Q103 **Chair:** Did anyone in Test and Trace have those discussions? Obviously, that is not a trick question. There might have been somebody, somewhere. I mean, not that you know of; it was not that you deputed it

to someone else.

Baroness Harding: Given that, at peak, there were 55,000 people working in Test and Trace, I am not sure.

Q104 **Chair:** But you hadn't deputed somebody to go?

Baroness Harding: No.

Chair: Okay.

Q105 **Greg Clark:** Just one question to Baroness Harding. You have clearly learned a lot during your year in post. Why did you leave on 7 May, rather than later in the pandemic, perhaps when the new organisation was going to be created in the autumn?

Baroness Harding: One of the things I said last September, when what was provisionally called the National Institute for Health Protection was set up, was that I intended to help recruit a permanent chief executive and chair and that I did not intend to be either of those two people. So I left at the point at which a chief executive and chair were appointed and a sensible, managed handover had been completed.

Q106 **Greg Clark:** Dr Harries is very experienced throughout the pandemic, but specifically on Test and Trace aren't there experiences that you could have brought to bear for a few more months?

Baroness Harding: I spent a month working hand in hand with Jenny, which, in the total life of NHS Test and Trace, is actually quite a large proportion of its life. I am also still here, as you notice, two months after I have left. I am incredibly proud, and view it as a huge privilege, to have served in the covid response. I am always there if Jenny and Ian Peters, the chair, need any help or advice.

Q107 **Greg Clark:** There is a question of continuity. When you have appeared before my Committee, we have been concerned that some of the directors—the director of testing and the director of tracing—have changed, in some cases several times, within the last year, which has not been helpful. However, let us leave that for another day.

I have a question to Dr Harries about the app. You mentioned a couple of things about the app. In the National Audit Office Report, they say that in the week commencing 22 April, 16 million people had the app fully or partially enabled. Can you bring us up to date with what the latest figure is?

Dr Jenny Harries: I think it is over 25 million, but obviously that number will vary as time goes on. I do think, actually, it is important just at the moment to remind people how important it is to keep the app running. It is an advisory piece of information in terms of managing the pandemic.

Q108 **Greg Clark:** Are you sure that is the app fully or partially enabled, rather than downloaded?

Dr Jenny Harries: I believe that is the case, but I will get a number for you for today.

Q109 **Greg Clark:** This is clearly very important and you mentioned it earlier. There is some concern about the role of the app and, in particular, this extension by a month beyond 19 July of people needing to isolate. There are some suggestions that people might be deleting it or stopping it being enabled. I assume you are keeping an eye on this. One of the good things about technology is that every minute you can tell what the number of downloads is. What is the trend?

Dr Jenny Harries: I don't have that figure with me, but we will get that for you. I would like to challenge this word about the "extension" of contact tracing, because we are not ceasing isolation—

Greg Clark: Continuation—you are quite right.

Dr Jenny Harries: It's the continuation of an intervention for a particular reason. The point is that when we get into the middle or particularly the end of August, we hope that we will start to see a turn in that peak and that we will have nearly 75% of the adult population doubly vaccinated, which gives a completely different degree of protection to the one that we have at the moment.

Q110 **Greg Clark:** I understand that. I think a lot of people in the country, when they heard the Prime Minister talk about the terminus date, reasonably expected that that might extend to the need to isolate on receipt of a message from the app. You might not have the exact figure, but are you aware of whether there has been a reduction in the number, just in the last few days, of people with the app enabled?

Dr Jenny Harries: I am aware that people are choosing not to use the app. Hence my point at the start, which is that it is very important for two reasons. First, the one I have just given, which is that we are seeing a rise in cases. This is not an inconvenience. It is actually to alert people to the fact that they have been in close contact and might be at risk of becoming infected themselves and passing that infection on to other people.

Secondly, it is good to have it there for advisory reasons. We can pass information to people. It is the quickest way. It is 15 minutes to get information to people. It is often the easiest way in some areas. For example, in large numbers of cases of younger people and adults, often in hospitality settings, you would not necessarily be able to contact-trace easily, so there are very good reasons why you might want to keep that app running. As I think Baroness Harding said earlier, we know that it is difficult for the numbers that she mentioned, but 500,000 cases have been detected that way and transmission chains ceased.

Q111 **Greg Clark:** I think you have hinted that there are going to be some changes to that, presumably to reflect the fact that the context changes. If someone has been double-jabbed, they will feel, perhaps not unreasonably, that the threat is less than during the raging height of the pandemic in which very little of the population—

Dr Jenny Harries: This goes back to public perception and the whole of the Test and Trace service. All the different parts of it need the public and

the system to work with them. It is the same for the whole of the pandemic response, actually, with all of the non-pharmaceutical interventions and social distancing. It is a partnership to support the population to get through the pandemic.

Greg Clark: I understand that.

Sir Chris Wormald: And it comes back to my point about the balancing of the four pieces of weaponry that we have, so you are completely correct. As one of those pieces of weaponry expands, as Jenny has described, we of course keep under review how we use the other three. Therapeutics, as they increasingly play a part, will do likewise. That is why we are able to take some of the decisions that we do.

Q112 **Greg Clark:** I was interested in what you said, Sir Chris, on that balance. Clearly, there is a balance. There are two sides of the equation. There is the isolation that is imposed on people, extended for another month, including people that are jabbed, versus the impact on hospital admissions. Obviously, as the permanent secretary, you must be familiar with that data. What are your estimates of the number of people that will be required to isolate as a result of extending the isolation requirements until 16 August?

Sir Chris Wormald: Sorry, as Dr Harries described, this is a continuation of the existing policy.

Greg Clark: Correct, so for that month—

Sir Chris Wormald: I don't have that exact number with me. The point is that, as vaccination rises over that period, we are able to turn off some of our other interventions.

Q113 **Greg Clark:** But you have described making a balance, and if you are making a balance you read the scales—

Sir Chris Wormald: I don't have the specific number that you are after with me. We will check.

Dr Jenny Harries: If I can come in on that, the cases yesterday were around 33,000. On Wednesdays, they are sometimes slightly different, but they are rising. So the estimate of the number of contacts will change on a day-to-day basis, depending on the steepness of the curve.

Q114 **Greg Clark:** The Health Secretary talked about 100,000. Is that a figure that you recognise?

Dr Jenny Harries: I think that was a potential peak figure, as I have said, and I know some people are quoting 5 million contacts. Of course, you can work out what you think it might be for each stage of the cycle—

Q115 **Greg Clark:** What is your central estimate?

Dr Jenny Harries: Well, it depends on where you think the peak is going to be. If you say there are 2.4 contacts on average, which was the question we had earlier, so 2.4 to 3 contacts for every new case, you then

have to assume how many people are using the app, to take that through, and that will depend on the different age groups. So it's a very difficult one to do, because you will have a changing age prevalence on a day-to-day basis as well.

Q116 **Greg Clark:** Of course, but you must make a judgment; you must have a feeling—more than a feeling, an estimate—for how many people are going to need to isolate as a result of that, to compare, which we understand is the logic, against the increase in hospital admissions if you didn't do that.

Dr Jenny Harries: I think the other point, as I have said, is this is an extension of existing policy, and the decision around that policy end happens next Monday. One of the reasons for the extension is partly for the vaccine coverage, because that will also impact the number of people who will become positive as we go forward. As the vaccine rate is changing, the risk of somebody becoming an infected contact also changes.

Q117 **Greg Clark:** As the Prime Minister and many others have said, it's data, not dates, so what is the data?

Dr Jenny Harries: It depends on how many people have the vaccine as we go forward over that period.

Q118 **Greg Clark:** So an assessment has been made, as Sir Chris said, to—well, whether it's to delay, or not remove the requirement for isolation, for a month—

Dr Jenny Harries: Quite apart from modelling every day on everything, the issue here is that we are still monitoring the hospital admissions—I am sure you will have seen that hospital admissions, whilst much lower than they have been, have started to rise. So, actually, rather than calculating that daily, the bit that is really, really important is whether our hospitals are going to fill and whether we are going to have deaths.

Q119 **Greg Clark:** I completely understand that, and obviously it's an important equation to balance, but I think the implication of it being about data is that we get to see the data and scrutinise it as parliamentarians.

But let me ask another question—we have a number of things to talk about. In terms of the NAO Report on lateral flow tests, the National Audit Office said that NHS Test and Trace "forecast that" by the end of "May 2021, 655 million tests would be used". Do you have an estimate of how many have been used?

Dr Jenny Harries: We don't, and you will see from the Report that the registered test figure is 14%. If you actually take out the numbers of tests that we know are, if you like, in transit or in store, that figure rises to 20%. But surveys suggest that more than 40% of people are using the tests there, and it's difficult to estimate beyond that.

One of the points about the use of the tests has been that it's a new technology. We have pushed it out—clearly earlier, before I joined Test and Trace. But we have absolutely pushed out the tests at a time, partly,

as we discussed before, to cover those very high-risk settings like care homes. And as time has gone on, in order to understand better what the utilisation is and be clear about the value of utilisation, we are turning it over into a pull mechanism, so we can be really clear.

The other thing that we have been doing is putting in much tighter logistics, if you like—practice—so that as you pull through the system or as we deliver to a home, you can see how many of those tests are coming back and being registered. But at the end of the day, we know that many people are using them and not registering them. It's very difficult then, beyond that, to know—we can tell you how many have gone into each setting, for example, into each channel, whether it be schools or care homes.

Q120 **Greg Clark:** I think my colleague Sarah Olney might have further questions on that. Finally from me, and perhaps to Baroness Harding, as has been said, we have people testing positive for covid. I think that yesterday there were over 30,000 people testing positive; that was up from 5,000 at the beginning of June. It is increasing exponentially. In autumn last year, you made a business case for the extra funding that we have talked about—that it would be used to prevent a second lockdown. It is pretty evident, is it not, that were it not for the success and effectiveness of the vaccines, we would now be in another lockdown? Has that revealed that the aspiration for Test and Trace to prevent lockdowns has evaporated?

Baroness Harding: I think this takes us back to what Sir Chris was saying and I said at the beginning—that Test and Trace has always been one of four main planks of our covid response, and not the single one. So no, I am afraid that I do not recognise the way you describe that.

Q121 **Greg Clark:** To quote from your business plan, "NHST&T aims to avoid the need for a second national lockdown". Were we placing too much weight on the potential for Test and Trace to avoid that?

Baroness Harding: The NAO Report itself sets out that Test and Trace's objective is to help break the chains of transmission, and in doing that, obviously, we would all hope that of the four interventions—frustrating and difficult as it is for individuals to isolate, it is clearly less damaging for the population as a whole than large lockdowns. But large lockdowns are one of the four tools that we have had to use as a country and that the Government have to use.

Q122 **Chair:** Is it not just a bit over-optimistic? To have it put in the business case is quite a gung-ho approach.

Baroness Harding: Again, it is two months since I was in the thick of it, as it were, and you sort of step back and there is a bit of distance. You can understand why: this time last year, no one thought that vaccines would be deliverable. It is not actually that surprising that the whole country wanted to believe that we could beat covid without having to do the incredibly unnatural, difficult things of lockdowns. It is not just about—

Q123 **Chair:** Who put it in the business case? Was that your decision or was it driven through No. 10?

Baroness Harding: I would refer back the business plan that was published, which is really clear that the Test and Trace role was to help break the chains of transmission.

Q124 **Chair:** But the bid for the money was that it would avoid a lockdown.

Baroness Harding: I do not actually think that that is the essence of anything that I have ever said. I have been to this Committee before, and to many other Select Committees, and said again and again that Test and Trace is one of the elements of tackling covid. It was never set up to be a single-handed tool, and it never could be. If you look at every country in the world, that is the case.

Q125 **Greg Clark:** Procedure is important here. This was in the business case that requested an eye-watering sum of public money and it was justified on the basis that it "aims to avoid the need for a second national lockdown". That was an important contributor to getting the money, so I think it is reasonable—especially for the Public Accounts Committee—to reflect and ask whether an accurate representation had been made.

Baroness Harding: And all I am saying, Mr Clark, is that the Government policy was that Test and Trace was one of the elements—not the only element. I do not believe that the Treasury believed that Test and Trace was the single-handed reason we would fight covid.

Q126 **Chair:** Who owns the business case? Was it you or was it Shona Dunn and the Department who signed up to bidding to the Treasury on the basis that Mr Clark has just outlined?

Shona Dunn: The business case will have been put forward by the Department; it will have come forward from Test and Trace and will have been considered by—

Q127 **Chair:** So who signed off that wording, then? Why was it not described as one of four things?

Shona Dunn: The business case will have been signed off by the accounting officer at the time, David. I am absolutely certain that, as Baroness Harding said, the Treasury was under no doubt whatever that Test and Trace was only one element of the response and would not at any point have thought that there was a suggestion that it was the sole answer to avoiding a further lockdown.

Chair: We refer everyone to the National Audit Office Report, which highlights the facts on that.

Q128 **Nick Smith:** Shortly, I will go on to the issue of consultants, but I want to take a quick deep dive into a little bit of the detail of the Report. On page 47, figure 17, for the period between March and 1 April, there is a big dip in the tests taken. Baroness Harding, would you please give us an explanation of that? Is it a data thing or an ops thing? Is it some other issue?

Baroness Harding: That is the school Easter holidays. Just eyeballing it, it is a substantial reduction in lateral flow testing, and we know that when schools went back at the beginning of March, they did an outstanding job at testing. Not unsurprisingly, once our teenagers went home for the holidays, we saw a dip in the testing volumes. That came back up again when schools went back.

Q129 **Nick Smith:** Anybody else? That is pretty obvious. Thanks.

Turning to this vexed issue of use of consultants, it seems that they are over 50% of the staff total at the central office, which is more than 2,000 people. They have very high day rates. Some of them have earned over £200,000 this past year; some £300,000. We need to dive into this a bit more.

Baroness Harding, why are the numbers of consultants employed by NHS Test and Trace higher in April that they were in December, despite your plans to reduce them?

Baroness Harding: First, I do not recognise the sums of money that you have just described for individuals' earnings, so I think we have to be careful that we are not just multiplying by assuming that people are working the whole time.

Q130 **Nick Smith:** What would you say the highest one is?

Baroness Harding: I don't have a figure, I am afraid.

Q131 **Nick Smith:** I think there does need to be clarity about this. Will you let us know how much?

Baroness Harding: I'm afraid I can't. I would refer you to Shona Dunn to describe what is and isn't possible.

Q132 **Nick Smith:** Shona, how many of those consultants will have earned over £200,000 since March 2020?

Shona Dunn: I don't have figures for individual consultants in front of me. I think we have issued information that says that the average day rate for our consultants on contracts is £1,100. The NAO Report and other sources cover the spend on our top consultants' contracts.

Undoubtedly, there will have been a number of consultants with day rates higher than £1,100, but I do not have that information, blow by blow, in front of me. I am happy to consider what we can share with the Committee, Chair, but obviously you will understand the personal—

Chair: Let me chip in here. I appreciate, Ms Dunn that it might be commercially confidential, but if we could have a reading room approach to seeing some of that information, we have done that with other Departments and a lot on Brexit, and we obviously never leak anything. If we could do that, that would be great.

Shona Dunn: I am happy to talk to the Clerks about what we can provide in that context, Chair.

Q133 **Nick Smith:** The back of the envelope count-up for the last year at £1,000 a day would very quickly add up to over £150,000, and up to £200,000 per year for some of these 2,000 people, I am sure. Could you write to us about how many people have earned more than £150,000, or £200,000, or £250,000, out of those 2,000 people in the last year ,please?

Shona Dunn: I will talk to the team about the granularity of the data we hold, and absolutely, as the Chair has asked, talk about what information we can share while respecting individual confidentiality.

Chair: We have a well-worn route for doing this, Ms Dunn, so we will go to back channels to sort that out.

Q134 **Nick Smith:** We wouldn't want to break any confidentiality, but it can't be that hard.

Back to my question. Baroness Harding, why are the numbers of consultants employed by the organisation higher in April this year than they were in December 2020?

Baroness Harding: Maybe I could just start by saying they are lower today than they were in April. Today, consultants make up about—

Q135 **Nick Smith:** To come back to the question.

Baroness Harding: Okay. Sorry, I just want to give you the full context.

You have to remember—and we have just been discussing it in the context of money—how much things have been changing, and how important it is that NHS Test and Trace is able to react very quickly. We have had a plan in place since January, with named SROs for each of the consultants, to roll consultants off and replace them with permanent civil servants. That process is not easy, if we are really honest.

Up until the end of May, we have run 523 recruitment campaigns to fill 1,894 roles. Of those 523 campaigns, 196 of them—37%—have failed to appoint anyone. Those were particularly in data, digital, operational and project-delivery roles, all of which are skills that are in very scarce supply in the civil service in general and, actually, in the economy as a whole. Mr Clark was asking about me personally, but it is really important that we don't just focus on removing the consultants. We need the permanent civil servants in role, and, in all honesty, that has actually been quite hard to do.

At the same time, the demands of the programme are changing. I don't want to hand the problem to Dr Harries, but as the Government's policy is changing that, in turn, right now, will be changing the requirements. As Jenny and her team are forming UKHSA, it is important that we are only making permanent appointments through proper due process, and it is only gradually becoming clear what the permanent structure should be in some areas.

This is a very long-winded way of saying that I do not think anyone wants a service that is this important to be dependent on temporary resources.

Q136 **Nick Smith:** It's over half the staff.

Baroness Harding: It is 40% now, so it is going in the right direction. No one wants the service to be dependent on temporary resource, however good and committed those individuals are. However, it is also important that we make the transition in a measured and sensible way and that we recognise that some of these skills do not exist in the civil service and we need to bring them in.

Q137 **Nick Smith:** As you have had to lay off more expensive consultants and bring in better value, cheaper consultants, how have you retained the knowledge from the earlier, more expensive consultants? I know the job is changing a little, but there will still be important organisational knowledge that needs to be kept.

Baroness Harding: Your question sort of implies the answer. This is the absolute challenge of managing this roll-off of consultants. Over the course of four and a half months, 17% of the consultants are rolled off. In any other public service, that would be a very large change that you'd say you did not want to push too much faster. It is important that you manage this in a staged way, that there are handovers, that you parallel run with people and that you are really thoughtful about the skills transfer.

I understand the Committee's concern about this, but it is also important to recognise the public service that all these individuals are doing. They have all cared deeply about making sure that that knowledge transfer really happens and that people are available, even after they have left, to those new permanent appointees once they come on board. We have seen fantastic public service from those teams across the board.

Q138 **Nick Smith:** I am just trying to understand it a bit more, because I am a little bit afraid that consultancy expenditure has got out of hand.

You have estimated that you will have a total consultancy spend of £195 million, but the indications are that you are going to spend £300 million on the top 10 consultancy suppliers alone. I am looking for more confidence that you are properly gripping this. Paint a picture of what these 2,000 people are doing.

Baroness Harding: Could I possibly hand that over to Dr Harries and Shona Dunn, given that you are asking about the now as opposed to where we were two months ago?

Q139 **Nick Smith:** A lot of this did begin under you. Tell us more about those 2,000 people. Paint a picture: what were those 2,000 people doing?

Baroness Harding: Okay, I'll paint a picture. You can see it from the skills that have been harder to recruit into: the digital, data and operational project management skills. A lot of these are jobs that in the wider economy, both the public sector and private sector, are done by people working in more short-term, consultancy-type arrangements. The IT sector works like that. It has been necessary to bring in people with those sorts of skills; they are used to coming in and working only on a project.

As the disease has changed and Government policy has changed, it has been necessary to mobilise teams at very short notice—you cannot give individuals clarity on how long the job is going to exist. By definition, you have to make it a short-term appointment. If give you an example of that, the very rapid changes in which Shona Dunn was leading on border policy required us to stand up a borders team very quickly. Inevitably, that meant we had to bring in contingent labour, short-term labour.

Through the course of the last year, we have used temporary contingent labour from all parts of society, whether it has been the Army initially, civil service people on secondments, people who have been between jobs and have come on volunteer contracts, unpaid, and then we have also had consultants, who have been paid. That is part of what they do in normal times.

We have had to fill those short-term skill gaps, partly because some of the skills just didn't exist in the civil service, and partly because we couldn't say to someone, "Here is a permanent job".

I think the Committee would rightly be very critical of me if I were sitting here now saying that we had a lot of permanent civil servants who we were about to make redundant because we had offered them full-time jobs, but then covid changed, the vaccination programme has been an enormous success and therefore their jobs no longer exist. So we have had to use temporary people, given the uncertainty that we faced.

Q140 **Nick Smith:** I now look at you, Dr Harries. With this change in operations, the different work that you had to take on board at short notice, do you think you will still rely on this high percentage of consultants— between 40% and 50%?

Dr Jenny Harries: That is certainly not the ambition. Shona may want to come in in a moment, because we have a very detailed ramp-down plan, taking into account, as far as we can, predictions around where the pandemic will be and where the new organisation will be. That is a staged plan, so it is looking forward over what we hope will be a wave now into the end of March, still covering the pandemic, and then obviously the forward flow of the organisation going forward.

Picking up some of the points that Baroness Harding has made, it is quite challenging. This afternoon, I know my next meeting will be to completely review all the work we are doing, including all the budgets and all the skills and capacity that we need, because the changes in policy will mean very significant changes to the way we are working.

For example, if we are not tracing as much, we have a potential dropdown on that, but we have winter planning arising. As covid goes down, we may well have flu rising, so it is not simply about being able to replace on a long-term basis and ramp down; it is about continuously changing.

One of the things that perhaps has not been highlighted is that we have just last week launched a formal consultation, so we have got very advanced plans for the organisation for 11,500 staff. This is quite a big

undertaking in the middle of a pandemic, to build a new organisation, but it has great opportunities as well.

One of the key difficulties is retaining staff, because many of them have come to contribute to the public health mission of managing and supporting controlling the pandemic on short-term contracts, and at the moment we are unable to offer substantive contracts until we are past the consultation period. So this is probably the most critical time of the organisation's development, where we are trying to ramp down consultants; we have very significant policy changes; and we have the risk of loss of staff that we currently have.

On a positive note, however, and picking up Dido's point, many people who have come into the organisation absolutely share the public health mission to protect lives going forward. I think, if we can get past that, we have a great opportunity for the organisation.

Q141 **Nick Smith:** We all accept that everybody is trying to do the right thing here, and they have public service missions. Ms Dunn, please give us some more comfort that you are going to to wean the organisation off expensive consultants and get better value.

Shona Dunn: This is a really sharp area of focus, I have to say. Even just over the past few weeks, Test and Trace has been doing a really granular, bottom-up exercise, looking at each directorate in turn. Take as a given all the things that Jenny and Dido have just said about the unpredictability of the situation, but none the less, each directorate is going through in great detail what they are going to have to achieve over the coming months, the context in which they are going to achieve it, and developing their workforce plan and strategy, which I am going through with them.

They have very extensive plans to bring the consultant numbers down substantially between now and next March, as Dr Harries has just said. There will be further opportunities that come forward over the next month or so, and I expect to see those numbers come down a bit more. I am keeping a very close eye on this, not just on consultant numbers but on contingent labour numbers overall. The Committee can be absolutely assured that we will not take our eye off this ball.

Nick Smith: Thank you for that. We will watch it with interest. The reason I asked the question, and the reason I am sceptical, is that—and I don't want to steal Mr Carden's thunder, either—about two months ago, I was in the carpark outside the Co-op in Blaenau, in my constituency—

Chair: We are getting to the important part of things now: Blaenau Gwent.

Nick Smith: It is somewhere I stop off, usually on a Thursday night when I'm driving home, to pick up some pasta and a sauce.

Chair: I am sure this is winning you votes, Mr Smith, but perhaps we can cut to the chase.

Q142 **Nick Smith:** It is a favourite retail spot for me, I can tell you, especially on a cold winter night. There was a temporary testing site there; there were about a dozen Mitie staff, I think, working there, doing a great job—good people. However, the truth is that there was very little footfall on that Friday afternoon when I was there. I suppose my worry is whether you are gripping the programmes that you roll out to ensure that they are effective and value for money. That afternoon, even though I am very fond of the Co-op carpark in Blaenau, my sense was that you weren't. Give us some comfort that you are going to do that better.

Sir Chris Wormald: I will come in first on that. I won't comment on your shopping, but you raise a lot of other points.

One thing that we should say is that part of the point of creating UKHSA was to bring certainty to this operation and move it out of its entrepreneurial phase, so that it is a permanent thing with permanent jobs in it. That whole process is part of that.

The issue you have just raised comes back to the discussion that we had with Mr Gardiner right at the beginning: how you balance traditional efficiency with access. Particularly when you are dealing with difficult-to-reach communities, having access everywhere, regardless of whether it is used all the time, is an object of policy. I do not know whether that's the case in the situation that you raise, but we certainly follow the principle that, if somebody needs a test, they ought to be able to access it easily. We do not take the view that, if that one over there only gets a few, shut it down. It is providing access for a community.

Chair: That brings us nicely, actually, to Mr Carden.

Q143 **Dan Carden:** No thunder, but welcome to our witnesses. Thank you for coming today.

Dr Harries, could I perhaps start with you? We have heard about your experiences, Baroness Harding, and the ways in which you've tried to change and develop Test and Trace. You have both been at pains today to talk about the involvement of local authorities and the importance of devolving down. We have heard for months, if not years, about the desire to more away from consultants. I speak to directors of public health locally who tell me that things have improved over a period of time; there has been more engagement.

However, what they want is more investment in local public health protection officers. They want responsibility at a local level. It gets me thinking: is this not a design flaw? From day one, we have tried to do something from Whitehall, from the top down, in a fragmented way. You are renewing contracts with Serco this year for around £300 million. The number of consultants remains too high.

When I look at what you have actually spent locally, it is about £2 billion handed to local authorities, £176 million for Test and Trace support payments, £13 million for practical support for self-isolation and £149 million for rapid testing. These are tiny figures. Isn't too much being held right at the top, fragmented and handed over to the private sector?

Dr Jenny Harries: Thank you for the question. Obviously, I am trying to learn from whatever has been developed through Test and Trace, take the good learning of that forward, and try to offer fresh insights as well. For me, some of that comes from having been a director of public health in several local authorities. I like to think—and I think this is great—that I have a good working relationship with all those directors of public health, which is actively continuing now that I am in this role.

On Monday, I had the first group meeting to address this exact question: how does national work with regional and local in the new Health Security Agency, and what is the design for that? I have asked them to come forward with different designs so that we can contrast and compare between the Faculty of Public Health, the Association of Directors of Public Health, the Society of Local Authority Chief Executives, and the Local Government Association. We had forgotten the Chartered Institute of Environmental Health and decided that we needed it in the room, exactly for the reasons that you say: we recognised how important local authorities are, and that all health protection issues start with individuals. We have lots of things that we can do outside covid to provide support.

Q144 **Dan Carden:** You have the public looking at the vaccine rollout—led and delivered by our national health service—saying what a success that is, but the criticisms and the polling shows public dissatisfaction with Test and Trace because they see it as privatised and fragmented. Will you empower local authorities—not just have a better working relationship with them, but actually hand over more of your budgets to allow them to employ more staff?

Dr Jenny Harries: Just to be clear, I will have to make a full business case in the spending review, for the new Health Security Agency going forward, so I think that is something to come forward.

Q145 **Dan Carden:** Is that what you want to do?

Dr Jenny Harries: What I want is a system that works best to protect the health of the population, and there is undoubtedly a key role for local authorities in doing that. I would also venture to say that I think in the time that I have been in public health, from 2013, a lot of the health protection skills actually moved away from local authorities, and I think there is an opportunity for us to support that. We need to discuss quite what the model for doing that would be, but my ambition would be to design with local authorities.

Another important thing is that the Health Security Agency has a global international role as well as a national one, and it is about getting the right proportionate balance of that across the whole system—absolutely recognising local, but also recognising that this is a UK national infrastructure.

Sir Chris Wormald: You are raising extremely important questions that we debate all the time. As we have acknowledged, working with local authorities in this area is one of the things that has evolved, and we have changed our approach. However, you are raising two slightly separate

issues: "national versus local" and "contractors versus permanent employees".

On the national to local issue, you raised the question of a vaccine, and that is a very national programme, which is one of its great strengths—the national health service, nationally procured, national standards, national access, same offer everywhere. It is not a given that local equals better. There are a lot of cases where it is, but there are cases where a national scale, and that sort of vaccine approach, is also extremely important, and that is true in Test and Trace.

We need to find the right balance of asking where are national standards—national entitlements—

Q146 **Dan Carden:** A lot of people would say the national response hasn't worked.

Sir Chris Wormald: Well, you raised the question about the vaccine programme. That is a national health service programme run to national standards.

Q147 **Dan Carden:** In the case of Test and Trace.

Sir Chris Wormald: This is where these questions are worthy of debate. I am not disagreeing with you that there is an absolutely vital local role, but there are also very important national roles, as the vaccine rollout shows. I am not disputing your question or the thrust of your argument at all; I am just saying that it is more about deciding what is best done nationally, with national standards, national frameworks and economies of scale, and where that local knowledge, that we have pointed to a number of times—

Q148 **Chair:** Just to cut to the chase on that, the testing and the logistics in testing, for example, is something that would have been difficult to deliver locally, but testing centres—

Baroness Harding: Even there, I think it is more sophisticated and subtle than that. That is why this debate, and raising these questions, is entirely right. Local decision making on where to site testing centres, what hours—

Q149 **Chair:** When I said testing, I meant the labs, really—the lab structure and the barcoding of tests.

Sir Chris Wormald: That's a perfect example.

Baroness Harding: Absolutely, and the data architecture—

Q150 **Chair:** But the testing centres, which I think Mr Carden was referring to, are more local.

Baroness Harding: Absolutely. At each part of the testing, tracing and isolation support process, it requires really quite careful, collaborative thought on—

Q151 **Chair:** Yet you commission the testing centres centrally.

Baroness Harding: No, we don't actually. We work very collaboratively, and the local testing sites are set up and manned by the local authorities. That has been one of the successes in reaching out to the more vulnerable groups in society, precisely because we recognise, just as you say, that local authorities are likely to be the best at reaching those communities.

Sir Chris Wormald: Just to be absolutely clear, we are not saying that we have always got this balance right, which is why your questions are important.

Dr Jenny Harries: Just to evidence that balance, working dynamically at the moment, where we have Local Zero, which is very much about giving local authorities control of the tracing, actually some of them, because of the sharp rise now, need to hand some of that back because it needs national capacity. It is overstretching local capacity. The really important thing here is about flexibility and recognising the value of both national and local working together.

Q152 **Dan Carden:** I'd like to move on because I want to ask about contracts. I think Shona Dunn will be the right person for this. How have you managed conflicts of interest in the handing out of big contracts?

Shona Dunn: All contracts that have been let during the pandemic have been through the same procedures that the Department would normally use. We have had some exposition of those, but all the due diligence that you would expect us to undertake in terms of conflicts of interest, but also in terms of capability, value for money, technical meeting of the requirements, et cetera, had been undertaken with all those contracts, and conflicts of interest are routinely recorded as part of the due diligence process.

Q153 **Dan Carden:** I think there was a delay in many of the contracts being published—was it up to five months for the Deloitte contract to be published? I want to ask about the Health Minister James Bethell, who has links with Deloitte. Deloitte seems to have some of the largest contracts and, as we heard earlier, the largest number of consultants. Is that just a matter that is simply recorded as a conflict of interest?

Chair: Figure 14 on page 41 highlights some of these issues.

Shona Dunn: It is important to note the role of Ministers in this. Of course, Ministers can be involved in investment decisions as part of the approval process for contracts, but they are not involved in the selection process itself. They are not involved in the contract management. If there is a direct conflict of interest for a Minister, that will be recorded. On the publication of contracts, as you rightly say, there has definitely been a catching up, but I think we are in a position now, barring some contracts that were let in April and May and are still due to be published, where we are up to date with publishing on Contracts Finder.

Q154 **Sarah Olney:** I am going to try to speed up and canter through some of the other issues that we still need to cover. On the lateral flow devices—Mr Clark mentioned this earlier on—as per the report, 691 million test kits

have been sent out but only 96 million have been registered as used. I wonder, Baroness Harding, whether you could say what your original plans were for lateral flow devices, why you think only a small number have been recorded, and what lessons you learned from the earlier parts of the roll-out as you ramped up that sort of community testing.

Baroness Harding: As I think Dr Harries said earlier, the lateral flow tests were developed in order to provide a really easy and much cheaper way of people finding out whether they have the disease asymptomatically. The purpose of the deployment of lateral flow tests has been to find positive cases. That has been the primary objective. We have done that very fast; we were one of the very first countries to make universal asymptomatic testing available to all citizens. We made that offer available at the end of March, and there are other western nations that are only just beginning to do that now. So that was the primary objective.

Lateral flow devices have been extremely effective at finding people who have the disease and don't know it. As the NAO Report says, up to the end of May there were 223,000 positive cases found, and found in some of our most high-risk environments: social care, the NHS, schools and so on. It is important to see that as the objective.

Because we were rolling things out so fast, again as Dr Harries said, we made a decision to push stock, to push tests out, to the organisations for those organisations to hand the tests out. That was the first phase of essentially filling that supply chain pipeline, so that people could get the tests really quickly.

As we have learnt, as people have got more used to doing regular lateral flow testing, we are now able to migrate to more "pull" ordering, where individuals or individual organisations are able to order only the tests that they need, rather than centrally allocate out. That is one of the big learnings, to have been able to move to that pull model.

We have moved to that pull model in social care, and the NHS is transitioning to that now. All of us as individuals ordering tests to be delivered at home is obviously a pull model; I order it only when I need it. Moving to that pull model enables us to be more efficient at deploying the stock.

What we do know is that a lot of people take the tests and don't report them. The surveys say it is some 40%. I was actually talking to one of my old team yesterday who apologised profusely that she just thrown her lateral flow test in the bin and hadn't reported it. It is completely understandable that people are doing that, so there is a lot of work—I will hand over to Jenny—that the team are doing to make it easier, to make the instructions simpler, and to communicate why we need to know that you have done the test, regardless of whether the result is positive or negative.

Q155 **Sarah Olney:** I want to skip on actually, because we are getting short on

time. This is a question for Dr Harries. *The Independent* reported today that lateral flow tests may not be free after this month.

I wondered if you could comment on that, and also whether any modelling has been done of how that might affect take-up of tests, reporting, and how that might impact schools.

Dr Jenny Harries: If I go in reverse order, for schools, we definitely have a commitment and we are working with the Department for Education, which is working with the schools representatives themselves, to do two supervised tests at the start of the autumn term. That was very successful at the last start of term. It encourages students and reminds them how to do the tests as they come back.

Q156 **Chair:** So the two then, and then what?

Dr Jenny Harries: On for the rest of September, and then to be reviewed for children.

Q157 **Chair:** Free, still? Well, not free because the taxpayer is paying, but the schools won't be charged.

Sir Chris Wormald: Free to the individual.

Dr Jenny Harries: Yes, for schools. For the general public, at the moment it will be possible to have testing until the end of August under the universal offer. However, I say that because—you will realise from the conversation we have had and the significant policy changes—we obviously need to work through what that means in terms of modelling, how many people are vaccinated, how many tests we think are going to be utilised and where they are best utilised.

One of the reasons that I say that is because we have been using lateral flow devices predominantly in an unvaccinated population. Obviously that is changing now, but in school settings and the working population, it is mostly younger people, and people's symptomatology may change. For example, you may still be able to transmit infection, but fewer people will. You may have lower viral loads. There are a lot of scientific elements behind this that we need to take into consideration.

Q158 **Sarah Olney:** In our last session, one of the weaknesses we identified is that it is really difficult to tell what contribution Test and Trace was making overall to reducing the transmission of covid-19. The Department accepted our recommendation that more data needed to be collected.

Could I ask you, Sir Chris, what progress you have made on reviewing your data collection and your plans for asymptomatic testing?

Sir Chris Wormald: I will hand back to Jenny on asymptomatic testing, but on the effectiveness, it is exactly as set out in the NAO Report and the 18% to 33% reduction we were quoting earlier, with all the caveats set out in the NAO Report on the ongoing work.

We are in a much clearer position. Not the final position, but a much clearer position on the effectiveness of the programme. On the individual evaluation of asymptomatic testing, Jenny?

Dr Jenny Harries: There are a number of different workstreams ongoing on that. In terms of the positive tests, I can provide that data for you for each channel, so you can see how many cases have been detected in each area. For example, there have been 49,000 in nurseries, primary schools, secondary schools and colleges, so we can see by each channel.

It is really important to look at wider data as well. To the point I made earlier about care homes, there is a combination there of using PCR and lateral flow devices. It is helpful and welcome that the case numbers and the deaths in care homes through the second wave have been significantly reduced. There are a number of wider areas as well, but each programme is evaluated not just for the numbers that are positive but for the approach that has been taken to see whether we can improve that with local providers.

Q159 **Sarah Olney:** I wanted to talk a little bit more about future plans, because you have already referred to potentially changing the role of lateral flow testing come August. To what extent are you planning for surge testing?

I notice that there is quite a lot of footage in the news today about lots of people in the pub last night. I am sure we can expect to see those scenes again on Sunday. Are you anticipating surges of testing demand going forward, and how do you plan to meet them?

Dr Jenny Harries: I am not going to trace them back to the individual television screens. Interestingly, one of the comments was that the early studies did show that there was a gender difference, particularly in the Scottish data. In Scotland that has evened out to be non-gender-specific, so obviously everybody is watching football now.

As we go forward, it will be important to understand how to use these various tests very specifically and in the right way, which I think is the point that you are referring to. Looking back at some of these individual areas, for events, we think—with those particular examples—it is not so much the outside football match that is usually the problem. It is the going through the gates, it is the socialising, and it might be the long trip down on the coach from Scotland, particularly, which causes the problem. All that data will come through, and we will follow all those contacts.

Q160 **Sarah Olney:** How are you involving local authorities and other stakeholders in designing a future operating model for Test and Trace?

Dr Jenny Harries: That goes back to the point that I made earlier. What I have done internally, and I think quite bravely, has been to use the specialist skills that we have—not just the scientific skills but also data analytics—to design a model for the new organisation. That has contributed to our overarching organogram now, as we go forward.

We are also trying to look ahead to the sorts of health risks that we might see in the future, things like entomology and vector-borne disease, for example, that we may not see now, but could become part of climate change. We will particularly be working with the US on the Centre for Pandemic Preparedness.

That is the internal part. Then it's exactly the part that Mr Carden has raised around how we link and work with colleagues in other critical parts of the system, whether that be local authorities or the NHS. The organogram is designed to have docking points, but the real critical point will be the way of working. In the roundtable that I chaired on Monday, we will have three sessions built in specifically to try to work through some models, and again we will co-create with local authorities what that model might look like for the future.

Q161 **Sarah Olney:** Very quickly to finish, are you going to continue to support schools with their testing and tracing programme from September?

Dr Jenny Harries: We have agreed a position, as I have just described, for the month of September until the end of September. Then obviously we will be reviewing, and quite rightly you would expect that to be in the light of the epidemiology, the vaccine development and a number of other issues.

Q162 **Chair:** Just to be clear, are you saying that there could still be free lateral flow tests available to people after the end of August, but you just do not know what the planning is yet because you are waiting for the figures?

Dr Jenny Harries: I think you would expect us to want to look at how effective they are in the new world—

Q163 **Chair:** It is just that people get them for free now. If there is a prospect, as Ms Olney was highlighting, that people have to pay for them, that could drive behaviours. I just wonder whether you can give any reassurance. It is under review at the end of August.

Dr Jenny Harries: I would perhaps rephrase the question to whether it is an effective and essential public health intervention going forward. Then I am sure it is likely to be part of the—

Q164 **Chair:** So if it is necessary your agency will still fund it.

Dr Jenny Harries: My concern is not putting too much emphasis on that—

Q165 **Chair:** No, that's fine. What I am just trying to get at is, if you are suddenly going to start charging at the end of August, that might drive interesting behaviour.

Dr Jenny Harries: For schools, exactly as Sir Chris said, lateral flow testing is there for children to use exactly as they have been now until the end of September.

Q166 **Chair:** Not just in schools, but for families who are collecting them as well.

Dr Jenny Harries: Yes, until the end of August that is approved.

Q167 **Chair:** Then you will review it.

Dr Jenny Harries: It will be reviewed within the whole policy—

Sir Chris Wormald: There are decisions to be taken—

Q168 **Chair:** I just want to know whether there is a cliff edge when you are suddenly going to start charging, but you are still reviewing whether it is useful at this point.

Dr Jenny Harries: There is no cliff edge, but there is a plan to be developed going forward based on the epidemiology.

Q169 **Chair:** Could it include charging for tests?

Dr Jenny Harries: Nobody has discussed charging at all.

Chair: Okay, that's fine. That is really helpful. No one has discussed charging. We will leave it there for now.

Sir Chris Wormald: Let's be absolutely clear on this point. What we are doing is looking at what the public health case use is going forward, and decisions are to be taken.

Chair: Clearly, people have to pay for them for holidays and things anyway, so there is obviously an element of that, for personal benefit.

Q170 **Greg Clark:** Another curious question about business cases, perhaps to Baroness Harding. The November 2020 business case for a £10 billion expansion of testing stated that part of the point was legacy to the NHS. It was to provide sustainable modern diagnostic capability, including early diagnostics for cancer, cardiovascular and metabolic diseases, but according to the NAO, NHS England said that it had not been informed of the business plan commitment for it to use Test and Trace labs for that purpose at the time that the commitment was made, and it has only recently started to have any conversations about that. How could that representation have been made in support of the business case to give assistance to the NHS when the NHS was blissfully unaware of it?

Baroness Harding: First, it is really clear that we need the lab capacity for covid now. Let's separate whether or not the recommendation to build the lab was a good idea. In terms of potential for the future, certainly I have had ongoing discussions with various people in NHS England and NHS Improvement over the course of the last 12 months recognising that one of the big learnings for us as a country, as we step back, is that we went into the pandemic without the diagnostic capability that some other countries had, and we have had to scale it up and build it from scratch. I think there is broad recognition across all parts of the health family that, coming out of this, we need to be in a much stronger place.

In terms of the specifics mentioned, the statement in the NAO Report surprised me.

Q171 **Greg Clark:** You agreed the NAO Report, didn't you?

Chair: Not Baroness Harding personally, but the Department.

Baroness Harding: Personally, the comments that referred to NHS England colleagues surprised me because I know that I had conversations with them. Most likely, the reality is that in January, February and March, as we were starting to work through what the legacy could look like, not unreasonably at all everyone in the NHS was extremely focused on managing the second wave and coming out of lockdown. As far as I am aware, those conversations are now fully ongoing.

Q172 **Greg Clark:** This was November, to be clear. This is the second instance of a representation that has been made in a business case that seems to be at the very least questionable, if not—

Baroness Harding: Sorry, on the November comment, the first director in charge of testing, Sarah-Jane Marsh, who has been back in her day job as chief executive officer at Birmingham Women's and Children's NHS Foundation Trust since November, initiated discussions with Professor Mike Richards and other colleagues in NHS England in September and October on legacy. So I do not think it is fair to say that there were no discussions with the NHS—quite the opposite.

Greg Clark: So the NAO—

Sir Chris Wormald: Certainly I read that as being about detailed plans, which there are not. I don't think the NAO got it wrong.

Q173 **Chair:** To be clear, NHS Test and Trace had agreed "to draw up a detailed benefits realisation strategy by the end of December 2020". Clearly, lots of things were going on in December 2020, but that did not happen. You acknowledge that. You do not disagree with the Report.

Sir Chris Wormald: From memory, there was a general acceptance of that case. We have said repeatedly, and the chief medical officer says this a lot as well, that the UK was badly placed on diagnostics before the pandemic. We need to come out of the pandemic, not just on diagnostics but more generally, with a much better plan. If you are asking whether there is a detailed plan for how we do that, I expect the NHS would answer that there is quite clearly not.

Q174 **Greg Clark:** It is an excellent initiative, but if the NHS is to be given a legacy, I would expect it to participate in the agreement of that.

Sir Chris Wormald: Of course.

Q175 **Greg Clark:** Finally, just to reflect on where we are, with the vaccines, thankfully, we have strong protection and therefore the role of NHS Test and Trace will change. Jenny Harries and Sir Chris have talked about the ways in which that might happen. One way or another, we will not have to contact trace quite so much, whether in August or sooner. Is it right to say that the future role of Test and Trace will be to spring to life and pounce on—God forbid—any new variant that escapes a vaccine? Will that be, if

not the most important, a very important role for Test and Trace?

Dr Jenny Harries: I would like to challenge the idea that we will not contact trace. We will be contact tracing—that is an absolute bedrock of any infectious disease practice. It is the isolation that is changing, and that is a risk-based element. We will keep contact tracing. We hope that, over time, as covid subsides, it will go back much more to the level of what I would call business as usual contact tracing for diseases.

Monitoring vaccine effectiveness is a critical component. Colleagues in Public Health England do that and they will formally be part of the UK Health Security Agency. We will continue to test. At the moment, Porton Down continues to evaluate all the lateral flow devices and other tests against new variants. Again, that is very important. Those are all critical components. First, can we detect variants? Then, how many have we got? Then, are our vaccines effective?

Q176 **Greg Clark:** Are the skills for that clearly understood? When we think back over the course of the pandemic, initially we did not have enough testing capacity, as has been well rehearsed. We reached September and the return of schools, universities and workplaces and again, we did not have enough testing capacity and people had to be dissuaded from taking tests. We have had an exchange about the aspiration to avoid a second lockdown through a Test and Trace alternative. Now we have surging infections, which—thank God for the vaccinations—are not having what would otherwise be the impact on hospitals. A lot rests on Test and Trace in the future, and the record over the past year has not been one of reliable springing into life to wrestle the virus to the ground. Are you absolutely seized of the need to do that and are you confident that you can break out of the pattern of the last year?

Dr Jenny Harries: I would like to go back to some of the earlier conversations and flag all the points that were made. Test and Trace is a component part of the response. The pandemic is changing and will continue to do so. Although some of my public health clinical colleagues will probably have thought about it, I do not think that when Test and Trace was conceived, the issue of variants arising and causing the waves quite as they have done, and with that speed, was factored into the organisation's development. There is a lot that we can learn. They are clearly issues that arise in pandemics, but we have not had one like this in any of our lifetimes. As Chris has said, it is exceptional.

Yes, we have some strong skills—as the Chair said, we have really good genomics—to take forward and we will continue to do that. However, it is not simply a matter of whether Test and Trace can do it. As we have seen with delta, if you have a very transmissible variant, as we will see across Europe, it is almost likely to go around. The criticality is getting this rapid flow, which is exactly where I hope the Health Security Agency will come in, understanding and keeping on top of the genomic sequencing and actually having those strong linkages with academia and with research. We have colleagues who look at, for example, structural biology and vaccine development, and who keep trying to reach the limits of science

as we have known it, because we have learned to do things much more quickly, bringing down the time to develop new vaccines so that we always stay one step ahead.

Q177 **Greg Clark:** I do not think there has been any doubt at any point about the excellence of the science. It has been the operational performance of Test and Trace that has given rise to repeated concerns.

Dr Jenny Harries: We are in a slightly different era. It goes back to the issues—

Chair: We recognised at the beginning that things had changed a bit.

Sir Chris Wormald: I would say two things that go very much with the flow of your comments; I have said some of this to the Committee before. The big lesson is on underlying resilience. As you say, in some very big areas, particularly including science, R&D, universities, the NHS, the military—a lot, actually—we had underlying resilience that allowed us to be flexible quickly, which is the other big lesson. There are some other areas, including lab capacity for diagnostics, where we did not have underlying resilience. Some people moved heaven and earth to create it, but that is slow, and the system does not have the flexibility to respond to those events. The challenge going forward is to have the underlying resilience that then gives you the flexibility to respond to unexpected things. I think you are completely right: in some areas, we had that big time, and have benefited, and in other areas we have had to build it up from scratch, which is really hard.

Q178 **Chair:** Certain things, such as the vaccine programme, which grew from scratch to procure vaccines at fast pace—had a residual system that was already in place, but at a different scale.

Sir Chris Wormald: And right through the chain—we have great universities to develop them, we have a pharma industry, we have the NHS.

Chair: And longer to plan for that, because the vaccines were procured—that is a point worth making.

I will just go back to the Report. I have just checked, and it is absolutely clear that NHS England also signed off the Report, so paragraph 21 on page 13, the summary of the NAO's Report, was agreed by both the Department and NHS England. Look, if £150 million of investment in lab infrastructure helps provide early diagnostics for diseases such as cancer, that small amount out of the £37 billion so far allocated to this—although not spent and, I stress, not audited—is a prize that we should be grateful for.

There is lots still to come. Dr Harries, we will be having you back once you are fully established; we will give you a bit of time after the autumn. We want to follow through these promises and see what our long-term legacy is from these eye-watering sums of taxpayers' money that have been allocated to Test and Trace, and of course what the long-term lessons are about efficacy. I thank our witnesses very much indeed for their patience

and their time today. It has been a long and useful hearing. Baroness Dido Harding, formerly of Test and Trace; Sir Chris Wormald, permanent secretary; Dr Jenny Harries; Jonathan Marron, from the Department of Health; and Shona Dunn, the second permanent secretary at the Department of Health—thank you very much indeed. The transcript will be up on the website, uncorrected, in the next couple of days. Our report will be due in the autumn after the summer recess.