



# Select Committee on Science and Technology

## Corrected oral evidence: The science of Covid-19

Monday 6 July 2020

3 pm

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Members present: Lord Patel (The Chair); Baroness Blackwood of North Oxford; Lord Borwick; Lord Browne of Ladyton; Baroness Hilton of Eggardon; Lord Hollick; Lord Kakkar; Lord Mair; Baroness Manningham-Buller; Viscount Ridley; Baroness Rock; Baroness Sheehan; Baroness Walmsley; Lord Winston; Baroness Young of Old Scone.

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Questions 121 – 131

### Witnesses

**Baroness Harding of Winscombe**, Chair, NHS Improvement; **Simon Thompson**, Managing Director of the NHS COVID-19 App, NHS Test and Trace, Department of Health and Social Care.

### USE OF THE TRANSCRIPT

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## Examination of witnesses

Baroness Harding of Winscombe and Simon Thompson.

Q121 **The Chair:** Good afternoon, everybody, and welcome to the first evidence session today. First, I welcome Baroness Harding and Mr Thompson; you are most welcome. Thank you very much indeed for making time today to help us with this inquiry. This session is important and I am sure that the wider public are probably listening and are very interested.

Our adviser, Professor Abubakar, is listening, as are Simon, Amy, Cerise and Henry, our office team. Assisting us today is Jack Harty. I must mention him three times because he loves his name being recorded three times in *Hansard*, he told me.

I will start with the first question; I have a main question and two supplementaries. How did the Government decide on the test and trace strategy that we now have? How are local public health doctors and local health professionals involved in that strategy?

**Baroness Harding of Winscombe:** Thank you very much for inviting me to appear before you all. On your first question, contact tracing is a tried and tested approach that has been used for many years to prevent the spread of infectious diseases and to contain and stop outbreaks. Our Public Health England experts have considerable experience of using this methodology of testing and tracing to prevent and contain outbreaks of different diseases and help to keep the public safe. As I am sure the Committee knows, that is a well-worn path for diseases the world over.

The approach that we have adopted to tackle Covid in England has included building a large-scale version of that tried and tested model. I have been involved for the past two months, so forgive me if I focus mainly on what has happened since the beginning of May. If we step back, our test and trace strategy consists of four main components. The first is scale testing. Since March, the team working on the testing strategy has been racing to increase availability and improve the speed of testing to underpin the launch of test and trace. That is the first component: a very large capability to test.

The second element is trace. When someone tests positive, we need to be able to identify quickly anyone whom they have been in close contact with to identify whom they may therefore have infected and break those chains of transmission. Through April and into May, as I arrived, we significantly scaled up our tracing capability, at both the national and local level. I will pick up your second question in a second.

The third element of the strategy is contain: the ability, once you have identified where there are outbreaks, to use data analytics through the Joint Biosecurity Centre and our local teams in local government and Public Health England to look directly at cutting those chains of infection at a local level to contain outbreaks. That includes supporting people locally, usually by doing more and more testing and tracing, and

supporting and isolating people who may be infectious. Then, it is about looking at how to reconfigure workplaces and other locations to make them safer.

The fourth element of our strategy is what we call enable: learning more and more about the virus, including looking, as the science develops, at ways of enabling individuals, businesses and public services to start to manage their individual risk. I would argue that the app plays an important role in all four elements, particularly the fourth: enabling individuals.

That is the overall strategy—grounded, as I say, in a very tried and tested approach to containing outbreaks of infectious diseases, but scaled up. The WHO has advised that contact tracing is an essential public health tool in controlling infectious diseases. The modelling that was used to scale up was based on work done by SAGE, SPI-M, SPI-B and NERVTAG to work out exactly how to scale the test and trace operation.

Let me answer your follow-up question. Local public health teams are an intrinsic part of our test and trace service. The teams in local government and the regional teams in Public Health England are an absolutely essential component of that end-to-end, national-to-local, multichannel test and trace service.

**The Chair:** You describe very fully the strategy of forward tracing the contacts of somebody who tests positive, so why does the strategy not address backward tracing—tracing backward from the index case that tested positive—which many other countries have found very effective? New Zealand has done that and one of the SAGE minutes suggested that that should be done.

**Baroness Harding of Winscombe:** We are building that backward tracing capability as we speak; in fact, we are trialling it in Leicester. As the rate of infection comes down, backward tracing becomes increasingly viable. I agree that it is an important component in the overall model. We normally trace back two days to identify the close contacts who may have been infected. I know that that is going backward by two days, but it would be termed forward tracing.

**The Chair:** That is the contact of the index case, but backward testing is about how the index case got the infection.

**Baroness Harding of Winscombe:** Yes, it is about going back a full 14 days to understand where the individual may have been infected, then contacting everybody who might have been infected at the same time. That is exactly why we have asked all entertainment venues to keep records of all the people who have attended their premises; as pubs and restaurants opened on Saturday, I am sure the Committee will have started to see that. It is a key element of the backward tracing system that we are building so that we can identify quickly and make it faster for our contact tracers to do that full backward trace.

Q122 **Lord Borwick:** Good afternoon. What proportion of the people who have tested positive have been successfully contacted so far? How quickly were

they contacted? What are the barriers to establishing contact with them?

**Baroness Harding of Winscombe:** I will take the figures for the first month of the service. Remember that this is still a new end-to-end service that has been up and running since 28 May. Some 27,125 people have had their positive test results transferred into the contact tracing system, of whom 20,039—73.9%—have been reached and asked to provide the details of their close contacts. They have given us the details of 153,442 people, 86.4% of whom have themselves been contacted and reached. In that process of contacting the contacts, more than 80% of contacts were contacted within 24 hours of their details being given to us by the person who tested positive.

**Lord Borwick:** What was the problem with the 7,000-odd you mentioned, because they have all been contacted to tell them that they were positive, presumably?

**Baroness Harding of Winscombe:** At one level, they have all been contacted, because, as you say, they have all received their positive test information and advice on what to do, and a number of them will already have let their friends and family know that they have tested positive, but they will not have responded to the phone calls or email messages that NHS Test and Trace has sent them.

We contact them up to 10 times over a 36-hour period. Some of them will be feeling very ill and will not pick up the phone and return the call. Others might not have given us the right information. For a small number, the data will not have been right, but those people will then call in to find out their test result, and they will then be identified.

With each passing week—I emphasise that this is a four-and-a-half-week-old service—we are learning how to tailor the messaging. A lot of people do not immediately respond to a text message or an email out of the blue, or to a call from a number that they are not expecting to hear from. So we are testing different ways of describing the message at different times of the day. We have extended the calling to later in the evening now that we are in the middle of summer. For a consumer or citizens' service that is a month old, to have nearly 75% of people contacted is a good start. The target that SAGE has set us for a mature system is 80%, so we are a very long way towards that in a very short space of time.

**Lord Borwick:** Some of those whom you have been able to establish contact with will not tell you whom they have been in touch with. Why should they refuse?

**Baroness Harding of Winscombe:** The vast majority of people give us the information.

**Lord Borwick:** Yes, in detail, as you have said.

**Baroness Harding of Winscombe:** With some people, it is not so much that they refuse to give us the information as the fact that they genuinely do not have any additional contacts. Remember: the definition of a contact is not just someone whom you have been in a room with; it is someone whom you have been within two metres of for at least 15

minutes. So where some people return zero contacts, it is because they genuinely believe that they have not had any close contacts in the previous 48 hours.

**Lord Borwick:** Is it possible to split those who have had no contacts from those who will not tell you who those contacts are?

**Baroness Harding of Winscombe:** We are working on doing that. I have been very keen to make sure that all the data that we publish is quality assured by the UK Statistics Authority. Because of the speed of standing up this organisation and the sheer scale of it—we now have a testing capacity of nearly 300,000 tests a day—I just do not yet have sufficient granular, quality-assured data to share, but that is exactly the sort of breakdown that we would want to share in due course.

**Lord Borwick:** When you do get that information, could you let us know what it is?

**Baroness Harding of Winscombe:** Absolutely.

**The Chair:** We would be grateful if we could be informed of that. Carry on, Lord Borwick.

**Lord Borwick:** I have finished my questions.

**The Chair:** One question was how much Public Health England is involved locally compared with the call handlers.

**Baroness Harding of Winscombe:** Maybe I will start by explaining what the national teams do and when they refer cases to local teams. If you test positive, you are asked various questions about where you work and whom you might have been in contact with. If you work in what we would call a complex environment—for example, in health or social care, or in schools or prisons—your case will immediately be escalated to the local public health groups. They will have the expertise on the ground to support and advise the employer or institution that you work or live in. That is what we call tier 1 in the contact tracing system.

If you do not work in one of those environments, you will have a telephone conversation with one of our clinical call handlers in our tier 2 team, who have been recruited by NHS professionals. These are all NHS clinicians. If you have tested positive and do not work in one of those complex clinical settings, you will have a telephone conversation with one of these professionals. Your contacts will be identified, and they will be contacted by our tier 3 call handlers, unless of course one of your contacts themselves works in a complex setting, in which case they will be escalated to tier 1.

**The Chair:** When the individual is phoned—this has been raised in newspapers—how do they know that it is not a sham call?

**Baroness Harding of Winscombe:** It is a good question. We are working really hard to do everything in our power to help people understand when it is and is not a legitimate call. If somebody calls you from NHS Test and Trace, they will never ask you for any financial information at all. They will never ask you to reveal personal information

other than the details of the people you have been in close contact with over the last couple of days. They will never ask you to give them access to your computer.

**The Chair:** How do the public know all this?

**Baroness Harding of Winscombe:** It is on the NHS section of the GOV.UK website.

**The Chair:** Where I live, for instance, every household got a five-page pamphlet, signed by the First Minister, explaining all the aspects of test and trace. Would it not be beneficial to send that to everybody in England?

**Baroness Harding of Winscombe:** We have been doing a significant amount of local and national marketing. However, I think that underneath your question is the question: should we be doing more to educate, inform and give confidence in the service? Yes, I think that we should. It is still only four and a half weeks' old. My biggest concern is that less than half the population in England are aware that they are eligible for a test—that everyone can get a test if they are feeling unwell.

**The Chair:** We are not trying just to ask questions; we want to be helpful, too. I understand that this is the beginning of the process.

Q123 **Lord Browne of Ladyton:** In the infection survey data, the ONS indicates that a significantly greater number of people are being infected each day than are being diagnosed each day. Can the test and trace system be effective in containing the epidemic when a significant proportion of cases are apparently not being diagnosed, and consequently the contacts are not being traced?

**Baroness Harding of Winscombe:** This is the single biggest challenge presented by the virus for everyone world wide. A significant number of people think they have the disease because they have a cough, a cold and a temperature but actually turn out not to have it. Ninety-eight per cent of the people who have a test today do not have Covid, but, as you have just said, a significant number of people who think that they are completely well do have it. There are other data points, so this is not firm science at this stage, but the ONS survey suggests that roughly 70% of people who have the disease have no symptoms. I do not think this is a unique challenge for the English test and trace service or for the services of any of the four nations; it is a challenge that the virus presents for all of us.

There are two things that we need to do. We have covered the first, which is to work really hard to make sure that everybody understands that if they have symptoms—a fever, a persistent cough or a loss of taste and smell—they must get a test straightaway. We also need to get better and better at the targeted testing of people who are in high-risk environments.

I am afraid that I am the Grinch of Covid. I am probably one of the few people in the country who would like to see the number of people testing positive go up as we capture more and more of the people catching the

disease each day. It is particularly important that we focus that testing in high-risk environments—in our vulnerable communities, where, again, the evidence suggests that it is more likely that people will catch the disease and be severely affected by it.

**Lord Browne of Ladyton:** Talking about broadening the strategy, if I heard properly your answer to the first question asked, you said that testing of contacts is already part of your strategy. Could the system cope with testing more first-degree contacts—presumably they are the people with a higher likelihood of having the infection even before the symptoms develop—and then tracing their contacts if need be?

**Baroness Harding of Winscombe:** I am sorry if I was not clear. That is my mistake. At the moment, we are not testing contacts unless they show symptoms.

The reason for that is guidance from the CMO, the Chief Medical Officer. The concern is that if we test contacts, particularly in the early days of their isolation, and they test negative, it will reinforce the view that they do not need to continue isolating. The period in which you could start to show symptoms or test positive—that is, have sufficient virus in the back of your throat to register on a test—can be as long as 14 days, so a test on day two or three of isolation tells you only that you do not have the virus on day two or day three. You could easily start to become infectious on day four, day five, day six, day seven, et cetera.

We are currently building a research study with Public Health England to look at the decay curve of people who then get the disease over those 14 days. If we could prove that if you tested negative on day 10 you had a very small chance of contracting the disease at all, we would be able to reduce the period of isolation for those individuals, but nowhere in the world has that research proved conclusive yet. Our understanding is that all other countries are also using the 14-day isolation rule. I would love it if that research enabled us to free people from 14-day isolation earlier if they test positive, but at this stage I do not have sufficient medical evidence to make that possible.

**Lord Browne of Ladyton:** If the people who have been in contact with the people who have been diagnosed are not people whom the medical advice you are getting suggests should be your target for broadening this strategy, who should be? We seem to agree; I agree with you that you probably should broaden it and try to catch more of the people who have the virus.

Given also that testing capacity is not being used to its fullest extent—it is being underused, in fact, so there is scope for it—how should you broaden it, in your mind?

**Baroness Harding of Winscombe:** Our thinking is that we should broaden it in high-risk environments, particularly where there is an outbreak. If, in a hospital ward, there are one or two positive cases, we are now looking to test everyone who has been in that ward in the previous 14 days. We will look there.

Likewise, this morning I was in Leicester, where we know that we have much higher prevalence than in other parts of the country. We were testing everyone in the parts of the city with the highest prevalence, even within the city, and focusing our asymptomatic testing on areas where we think there is a higher chance that we will find people who have the disease.

I completely agree with you that we need to make the best possible use of our testing capacity. The biggest thing that I want to do to broaden and use more of the testing capacity is to encourage everyone to get a test if they or one of their family members has shown symptoms. For example, if one of your children has had a fever overnight—my children are not that old; I can still remember easily the days of the three year-old with the high temperature at 4 o'clock in the morning, you give them some Calpol and they seem fine the next morning—you should get a test for that child the next day and the whole family should stay at home. You will get the results the following day. That is probably the biggest way in which we could broaden out the use of testing. It is for people who have symptoms.

**The Chair:** Does it include care homes?

**Baroness Harding of Winscombe:** Yes. We have just completed the first complete testing regime of care home staff and residents and have announced the process for the next iteration of that. That is a very important high-risk environment.

Q124 **Baroness Hilton of Eggardon:** I have a rather more theoretical question. What proportion of contacts do you feel you should be able to contact to be effective in preventing the spread of the infection? How has that target been set?

**Baroness Harding of Winscombe:** The target that we are working to has been set by SAGE. The target that it has challenged us to meet is to isolate 80% of contacts within between 48 and 72 hours.

**Baroness Hilton of Eggardon:** Are you meeting that target, or will you meet it soon?

**Baroness Harding of Winscombe:** We are not far away from it. We are not exactly there yet, but we are close enough that we can see the path. Actually, the part of the isolation process, or the time process, that I am most focused on is the point from having symptoms to getting a test. For the vast majority—over 98%—of people who have a face-to-face test, we will get their results the next day. Then, circa 80% of people give us their contacts and we reach those contacts within 24 hours.

So for the vast majority we are nearly there. If you do the maths, 80% times 80% is not 80%, so we are not completely there yet, but you can see the path to that part of the funnel, if you like, being deliverable.

The piece that is much harder to measure is the point at which you have symptoms to the point at which you order the test. That is why my focus is more there than on the operational pieces, which are a bit more easily controlled.

**Baroness Hilton of Eggardon:** Do you think that the target will vary as time goes by? Do you expect perhaps to be set a higher target in due course, during the process of the pandemic?

**Baroness Harding of Winscombe:** I am learning that the thing about infectious diseases is that the virus is constantly changing. The evidence base—the science—is evolving as the world’s brilliant scientists, doctors and nurses learn about it. The one thing that we can probably be certain about is that all these targets will change. Whether they go up or go down is another matter altogether, as is whether we will become more focused on really understanding the vectors of transmission. We must hope that the scientific evidence base grows so that we can target our efforts, both to identify the virus and to contain it so that we need to use fewer blunt tools going forward. That should be the North Star that we aim for.

Q125 **Lord Hollick:** A number of witnesses have raised concerns that the isolation element of the test and trace strategy is not being emphasised enough and may therefore result in lower levels of adherence. How are you monitoring adherence to the self-isolation request made through test and trace? What steps are you taking to increase adherence, for example by offering support to those who find it difficult to self-isolate?

**Baroness Harding of Winscombe:** At the risk of sounding like a broken record, remember that this service is four and a half weeks old, so we have only a few cycles of people going through the full 14 days of isolation.

There is still a lot of evidence to gather and learning to be had. The early evidence from our surveys of people who have been asked to isolate shows that people find it hard, as you say. The main reasons why they find it hard tend to be financial, practical or emotional. We have put in place a number of things to support people through that isolation. The first is financial, in access to statutory sick pay. On the practical aspect, all local authorities have local systems and services in place to make sure that people who do not have easy access to food or either physical or mental health support can access it. All 152 local authorities published their local action plans last week, laying out how they are doing that and how they are learning and improving.

We can undoubtedly do more. A number of the people we have contacted said that they simply had to go out for a walk. It is very easy to understand why you might feel like that. Helping people to understand and learn the important part that they are playing in society to break the chain of transmission is key. The support that local authorities bring is absolutely essential in providing that safety net for people who are struggling and finding isolation hard. That will vary from place to place; a number of local authorities have done a brilliant job of supporting the homeless through the Covid crisis, for example. When some people are asked to self-isolate, we need to provide accommodation for them to make that possible. Again, I had that conversation this morning with the leaders of Leicester Council this morning as they gear up to do that for some of their communities.

**Lord Hollick:** At what level of non-adherence would the system become ineffective in its primary aim of reducing transmission, and what data do you have available to monitor this?

**Baroness Harding of Winscombe:** This is very hard, because other countries with different political and socioeconomic approaches to life require people to report in twice a day via an app. Others monitor people's geolocation based on where their phone is. The judgment which I and my team are making at this stage is that mandating people to self-isolate and forcibly monitoring them is likely to discourage the very people who will most need support in isolation from coming forward for a test and naming their contacts, so it will be counterproductive. The means of monitoring are inherently qualitative rather than quantitative if we adopt the approach that support is more important.

The Secretary of State has the ability to mandate, but our judgment at this stage is that we have seen strong initial support for the scheme, with 75% of people testing positive contacting us straightaway and over 80% of contacts confirming their intention to isolate within 24 hours. However, we will continue to do more to gather the survey data and to understand whether there is more that we can do to support people and whether we need to be clear about the consequences of not isolating, while also giving people a reason for doing it.

**Lord Hollick:** Do you get data on outcomes—whether the contacts actually convert to people being tested?

**The Chair:** I think we have lost Baroness Harding. Mr Thompson, do you have an answer to that?

**Simon Thompson:** I am afraid not. I suggest that we wait for Baroness Harding.

**Baroness Harding of Winscombe:** Apologies—I have just had a technical hitch, and I lost you.

**The Chair:** I am glad you are back, otherwise we would be stuck.

**Lord Hollick:** My question was whether there is any data to help you assess whether the contacts are actually converting to cases being treated.

**Baroness Harding of Winscombe:** To make sure that I understand, you are asking whether people who have been asked to isolate then test positive and come into the loop.

**Lord Hollick:** That is correct.

**Baroness Harding of Winscombe:** That is absolutely the right question to ask. At this stage, being only four weeks in, we have not yet published that full loop, but it is the holy grail of being able to develop an entirely closed-loop system in which the people testing positive are those whom we already know about. However, at this stage I am afraid that I do not have that data to share.

Q126 **Lord Kakkar:** May I turn to the question of the assessment that has

been made of the relevant importance of being able to identify contacts who are known to the positive case versus contacts who are not known to the positive case? I am talking about the public health response as we have a further easing of the lockdown restrictions and people start to return to their normal daily activities.

**Baroness Harding of Winscombe:** If I may, I will ask Simon Thompson also to answer this question, because clearly there is a real opportunity here for technology and contact tracing apps potentially to make it easier for us to know whom we have been in close contact with, even if they are not somebody we know personally.

At the moment, as entertainment venues are opened up, there is one main lever that we are using to identify people we have been in close contact with but might not know. It involves asking all entertainment venues to keep a record of who has been on their premises. Even though I do not know who sat at the next table for two hours while we were in the pub on Saturday, it will enable our contact tracers to very quickly get the phone number of the lead member of that party and to contact everybody who had been at that table. This is standard public health contact tracing at work on a large scale.

There is no doubt that if you can make contact tracing apps and the Bluetooth technology work accurately enough, it will be of significant benefit and will free us all up a bit more. However, it is not something that we think anyone in the world has yet got working to a high enough standard to give us the confidence that, if we just receive an electronic message telling us to isolate, we will trust it.

I will hand over to Simon in just a second, but I would say that the most powerful tool that we all have in our hands as society opens up and gets more back to normal is to follow social distancing rules. The more we do that, the more we will limit the number of close contacts that we have while getting back to a more normal way of life.

Other than that, I do not think there is a silver bullet, but maybe Simon can give us a bit more information, if that would be helpful, on how technology might enable that.

**Simon Thompson:** Thank you, Dido. Looking at the benefits which the app can bring to the programme, there are three areas that we are really focused on. One is speed and the ability to communicate with users in minutes. The second and third relate to precision and the ability to have confidence about distance and time. Our sense is that the app needs to be of a really good standard, but we believe that it will definitely be better than what a human could manage to do. On the latter point, on the question of reach and the ability to know whom you have met but did not know you had met, we believe that the app can make real inroads.

Picking up the point about the confidence in the technology, it is worth bearing in mind that there was no Google-Apple API framework when we started developing the original app. I am pleased to say that the team made absolutely the right decision to start the development of our original approach and the Google-Apple API in parallel. However, when

we really reflected on it, we concluded that there were three elements to the functionality working to a really good standard. One is contact reliability, the second is distance, and the third is time measures. These are the three critical inputs required to produce a reliable risk score.

You will have heard that we recently did some work on the testing. We have learned an awful lot along the way by collaborating with Google, Apple and many others around the world, and we are increasing in confidence that we will have something that citizens can trust.

**Lord Kakkar:** You rightly identify the importance of the underlying or base technology of the app to its accuracy and reliability if you are using a Bluetooth-based approach, but where are you with that now? How confident are you that the approach you have adopted is reliable in that regard, as well as in the distance from individuals and the duration of potential contact, to inform an algorithm on which citizens will feel happy to act?

**Simon Thompson:** The introduction of the app is urgent and important, but it must be a product that users can trust. Our feeling is that it must work. It is also worth noting that the team has done excellent work on using Bluetooth that is neither LiDAR nor sonar—it is not really designed for distance—and on measuring the probability of how close people are to each other. Coming into my fourth week in the role, I am really pleased to report that our collaboration with many countries, and with Google and Apple, means that we have growing confidence that we will have a good product whose basic functionality citizens can trust.

**The Chair:** When might that be?

**Simon Thompson:** It is a question that I get asked very frequently, and I can totally understand why I am asked it. I apologise for repeating what I said earlier, which is that we recognise that the introduction of the app is urgent and important, but it must be a product that the user can trust and it must work.

I will say again that, thanks to great collaboration across many countries, and I am very grateful—

**The Chair:** Okay, so you do not have a date.

**Lord Kakkar:** Can we hear from Baroness Harding?

**Baroness Harding of Winscombe:** On the date, as many members of the Committee will know from personal experience, technology development paths often do not run in a smooth and linear way, so we are keen not to commit to a specific date as the technology development work is ongoing. As Simon said, it takes—

**Lord Kakkar:** Could I come back to do other issues with regard to this? In terms of manual tracing and notification versus app-based notification, what experience is there that we are right to assume that the response to being alerted through one or the other will have the same impact on the individual and their isolation?

**Baroness Harding of Winscombe:** I will start and perhaps Simon can give more technical detail.

It is a very wise question, because the early evidence that we have from comparing feedback from people who have been contacted by one of our clinical contact tracers on the phone versus feedback from people who have filled in the online form about their recent contacts is that the people who have had human contact on the telephone have felt much more supported. That is unsurprising; if you have just tested positive and you are scared about what that might mean for your family and friends, having an experienced NHS clinician to talk things through with you is very reassuring.

This is unusual for me to say as the chief exec of a technology company for eight years, but I think we are building a digitally assisted human service rather than something that will be purely digital. We will have to work really hard in the way we present alert messages, and not just from the app—we are learning from emails and messages that they need to be human, otherwise people are extremely reticent about giving up their freedom for two weeks based on a text message.

**Lord Kakkar:** Finally, on the adoption of the app, what have you learned in the experience so far that will allow you to increase or to get to an appropriate proportion of the population who install it?

**Baroness Harding of Winscombe:** This is where we have learned a lot from the pilot in the Isle of Wight. We have learned that community engagement in the fight against Covid is really important, and that an app can galvanise local enthusiasm to fight the virus. We saw fantastic engagement in the Isle of Wight, and Simon can speak to a few of the statistics.

Perversely, the app can act as a means of reminding us all that we are all in this together. In the modern world, where we all spend so much of our time looking at our phones and our apps, it is an important channel for us to have. We all, whether or not we download an app, have to play a part in the fight against the virus, so having an app in our pocket that might help us as individuals, which are the benefits to me, as well as play a role in helping my friends and family and people I do not know, which are the benefits to the community, is an important addition to it. I do not think it is on its own. Simon has the stats on the take-up in the Isle of Wight, which are very encouraging.

**Simon Thompson:** Yes, very much so. We had 56,000 downloads, which is about 40% of the population in the Isle of Wight and 60% of the population with a compatible smartphone. The statistics around the world show that the only country that gets close to that is Singapore. So I think we should be encouraged by our findings in the Isle of Wight that we have the right communication, which, as Dido has said, is not just about the benefits for me but about the benefit of the role I am playing in broader society. Based on our findings in the Isle of Wight I think we should feel good about getting good levels of adoption.

Q127 **Lord Mair:** You mentioned Bluetooth and the potential importance of that

technology, and you have talked about collaborating with Apple and Google. Can you give us a bit more background on what was learned in the Isle of Wight trial and the difference now, in your view, between a centralised contact tracing app and a decentralised contact tracing app?

**Simon Thompson:** Thank you very much for your question. Let me focus on the Isle of Wight, and then we will pick up your other two questions.

We will publish a full evaluation of the Isle of Wight findings as soon as that is practical, and while I have the opportunity I would like to say a big thank you to Matthew Gould and Geraint Lewis, who were before me on this programme. The work that they completed has given me and the team some excellent foundations to roll forward on, and we are already acting on the findings.

I want to focus on three particular areas: communications, participation, and privacy. The intelligence I am about to take you through was based on a survey; a letter to everyone on the island directed them to a website so that they could complete the survey. We also have some soft feedback from across the broad programme as the teams work together.

First, on communications, we learned that the support of local community leaders in explaining to their people the benefits of using the app is very important. We also learned that these ambassadors energised their citizens to participate, and I would like to say a big thank you to the team on the Isle of Wight; they really did a great job.

The team also produced some key-worker videos. Again—this is a very important point—those videos explained to the citizens that the programme meant a lot to the local community and an awful lot to the key workers. When we reviewed the videos, there was one very simple message: download the app.

We also learned that explaining to everyone how their individual actions can benefit not only themselves but others is key, as Dido has mentioned a few times, and that producing specific content on areas of concern proved to be particularly effective. The second part of that learning is that it is very important that the presenter has the technical and professional expertise in the particular topic of concern.

I will make a couple of final points, if I may.

**The Chair:** Go ahead. I was just going to ask you to be brief, because other Members are waiting to ask questions.

**Simon Thompson:** I apologise. I will try to summarise a little bit, although the findings are so rich; they are very, very important.

**The Chair:** You are going to publish a report soon?

**Simon Thompson:** Yes, we will.

**The Chair:** So we can find out from that.

**Lord Mair:** Obviously, as has been said, everyone is waiting very anxiously and with great interest for the app to be developed and to work. You have already been asked the question that everyone asks: how

soon? Is there any risk that the app might not be ready before what is referred to as a “second wave” of the virus?

**Simon Thompson:** Without wishing to repeat what I said before, which is that we have to make sure that it works—we are optimistic—we are leaving no stone unturned to make sure that we can accelerate at pace to make sure that we have a product that works and which we can put into the hands of our citizens to give them the maximum freedom and the minimum risk.

Q128 **Baroness Manningham-Buller:** I have another question about the app, although I think these points have been covered. Lady Harding, you have described the app as having significant benefit, which I think we agree. Mr Thompson, among the advantages that you have described is discovering unknown people who do not know that they have been contacted.

You said that this was urgent and important, and obviously we accept that you are not going to tell us, even optimistically, when that will happen, but we also heard Lord Bethell tell the Commons that this was not a priority. Is it your view that this is a priority? From what you have said so far, I think that it is, but perhaps you or Lady Harding would like to comment on that?

**Baroness Harding of Winscombe:** Perhaps I could start on the broad priorities of the programme. When, a few weeks back, Lord Bethell described the app as not being the priority, that was the point at which we were launching and scaling up the human contact tracing and launching NHS Test and Trace.

As I said earlier, I view this as a human service that is digitally assisted. The digital element is important but it is not the core. The core is the scale testing platform, the scale tracing and the integration of our experts on the ground in local communities with our clinical contact tracers and contact tracing teams nationally. The app can then accelerate, as Simon described, but if you do not have that core first, the app on its own will not work. That is what I see as the priority. It is really important, and if we can make it work to a level that people will trust it will augment our test and trace service, but it is not a silver bullet on its own.

**Baroness Manningham-Buller:** Does the manual service have a maximum capacity, or can it go on expanding in your view?

**Baroness Harding of Winscombe:** As with all things with human beings, it is obviously not infinitely capable of expansion, but if anything at the moment we have excess capacity. We launched the system using the SAGE advice of tracing 10,000 positive cases a day, with 30 contacts per day. The good news is that the rate of infection has fallen considerably since then, and as we have been in lockdown the number of contacts has been much lower.

Therefore, we have a lot of spare capacity right now, which is a good thing. We will need to build more capacity, particularly in testing, ready for the winter flu season. Although, if we manage this well, we will not

necessarily see a spike in Covid cases, we know that we will have a significant spike in people with Covid-like systems. So the total capacity of the testing regime needs to expand to be able to test anybody with those sorts of symptoms. I am confident that we will be able to do that.

**Baroness Manningham-Buller:** May I pick up on a point that you made earlier? I apologise that I was not here at the very beginning, so you might have covered this. You talked about the routine testing of, for example, care home people. Is it your plan that there will be regular weekly testing, say, of all NHS workers, or will that happen only when cases appear to arise?

**Baroness Harding of Winscombe:** We are being driven by the advice that we receive from SAGE and from the CMO and the CSO. As the evidence grows and the scientific knowledge changes, I expect that some of that will evolve over the next six to nine months. As things currently stand, a regular asymptomatic testing programme of all care home staff and residents is being recommended, and that is what we are doing. Because there is a higher rate of the disease in social care than there is in the NHS, the CMO's advice is not to test all NHS staff weekly or fortnightly at this stage, but instead to focus on where there is an outbreak—so if there are a couple of positive tests in a ward, to test everyone who has set foot in that ward during the previous two weeks. When Simon Stevens gave evidence in the other place last week, I think he said that that approach might well change in the winter if the prevalence of the disease increases.

Therefore, we must not allow ourselves to get stuck on one approach or another. We need to be agile, and as we learn more about where the high-risk environments are and more about the testing regimes we need to adapt and learn as we go forward.

**Baroness Manningham-Buller:** Thank you. That is helpful.

Q129 **Baroness Sheehan:** Perhaps I may return to the question of pre-symptomatic and asymptomatic transmission. You talked about having to be agile and flexible. Are you familiar with the work of the Volunteer Testing Network? I am sure you must be. It developed a model to deliver full testing capability, and I believe that it is quite efficient.

**Baroness Harding of Winscombe:** Bearing in mind how little time I have spent on this endeavour, I am afraid that I have not heard of it. However, I am confident that my testing team has, and I will write to you to give a fuller answer based on their knowledge rather than mine.

**Baroness Sheehan:** Excellent. There was a Question in the Chamber last week on the VTN.

Q130 **Lord Winston:** This is a short question. Leaving aside the experience of the island off the British coast—the Isle of Wight—which might not be typical, why do people not trust you and what can you do about it? It is very clear that there is a lack of public trust, but trust seems essential if this is to work.

**Baroness Harding of Winscombe:** I certainly agree with you that building trust will be essential. In any new citizen service that is only five weeks old, trust is earned rather than automatically granted. If you look at people's experience over the past four months as the whole world has tried to get to grips with this, I do not think it is very surprising that, with the speed at which things have been evolving and changing, people are suspicious and scared.

In the four and a half weeks since we have been up and running, a customer feedback survey has been conducted by Public Health England to which over 30,000 people have responded. Eighty-seven per cent of them—either cases or contacts who have completed the survey—have said that they are very satisfied or satisfied with the service, and only 3% have reported being dissatisfied with the service. I am a retailer by trade and, in the end, in a physical retail service people judge you by the quality of the experience. The encouraging thing is that the experience is good. The vast majority of people get a test result the very next day and there is now spare testing capacity. People who go through the contact tracing journey tell us that they are satisfied.

I completely agree that there is more work to be done to build trust and confidence, but I do not think that is surprising with something that is so new and which matters so much to our society.

Q131 **The Chair:** There are only one and a half minutes left. My question is: what metrics would you use to judge the success or failure of the scheme?

**Baroness Harding of Winscombe:** That is a fantastic question. There are clearly some output metrics. The way we describe ourselves internally in NHS Test and Trace is that our purpose is to break the chains of transmission of Covid-19 and to enable more people to get back to and maintain a more normal way of life.

In the end, I would want to judge our contribution to that overall purpose. The questions to ask are: what proportion of infectious chains are we successful in breaking—that is, the 80% of contacts isolated within 48 to 72 hours—and how much do we succeed in avoiding the need for a large-scale national reimposition of non-pharmaceutical interventions? The more we have local targeted action, the more successful NHS Test and Trace will have been.

**The Chair:** Thank you. I thought you might have said that there will be no second wave if you are successful.

We very much appreciate your coming today, Baroness Harding and Mr Thompson. It has been a most interesting session, and we are very grateful that you made time to appear today. Thank you very much.