HOUSE OF COMMONS

Science, Innovation and Technology Committee

Oral evidence: Emerging diseases and learnings from covid-19, HC 506

Wednesday 28 February 2024

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Watch the meeting

Members present: Greg Clark (Chair); Dr James Davies; Katherine Fletcher; Rebecca Long Bailey; Stephen Metcalfe; Carol Monaghan; Graham Stringer.

Questions 304 - 455

Witnesses

I: Nicola Newman, Managing Director, Berkshire and Surrey Pathology Service; and Sarah Brampton, Deputy Chief Executive, University Hospitals Plymouth NHS Trust.

II: Ian McCubbin CBE, Former Industry Adviser, UK Government Vaccine Taskforce.

III: Professor Dame Jenny Harries, Chief Executive Officer, UK Health Security Agency (UKHSA).

Examination of witnesses

Witnesses: Nicola Newman and Sarah Brampton.

Q304 **Chair:** The Science, Innovation and Technology Committee continues its inquiry into emerging diseases and lessons from the covid-19 pandemic. We start by looking at preparedness on diagnostics for emerging diseases in the UK, following some earlier evidence sessions.

To help us with that I am very pleased to welcome Nicola Newman, who joins us here in Westminster. Ms Newman is the managing director of the Berkshire and Surrey Pathology Service, one of the largest pathology networks in England. She has been there for the last four years and has 20 years' experience working in NHS pathology laboratories. During the covid pandemic Ms Newman was responsible for running the covid-19 Lighthouse laboratory at Brants Bridge on behalf of the UK Health Security Agency.

Joining us virtually is Sarah Brampton, who is the deputy chief executive of the University Hospitals Plymouth NHS Trust. Ms Brampton joined the NHS in 1996 and has worked in various NHS organisations, again for more than 20 years.

Thank you both very much for joining us.

The relevance of both of your organisations is that you are under contract with the UK Health Security Agency to provide diagnostic—testing—services needed in the event of a future pandemic. This Committee took extensive evidence on testing capacity during the course of the covid pandemic, and it is fair to say that it was one of the aspects of the response to the pandemic that was least satisfactory. Indeed, at many times it was shambolic. It took us a long time to ramp up, in the phrase that was then used, to an adequate level of testing capacity.

During the pandemic a number of Lighthouse laboratories were established, including at both of your trusts. Members of the Committee visited one of them, the Rosalind Franklin laboratory in Leamington Spa, but following the decision of the UK Health Security Agency they have been discontinued and closed. They will no longer be there. In answer to our questions, the UKHSA has pointed to your organisations and the contracts that are in place as providing the necessary security that we will have an adequate diagnostics facility.

That is the context. Perhaps I can start with your organisation, Ms Newman. What types of services are you under contract to provide to the UK Health Security Agency in the event of a future pandemic?

Nicola Newman: We currently provide a fully UKAS-accredited multiplex PCR test. That multiplex contains diagnostics for covid-19, influenza A and B and respiratory syncytial virus or RSV.

We have also undertaken some research for UKHSA during this time in the form of comparison studies, such as on how lateral flow devices compare to qPCR, and some sample tube longevity studies.

During the pandemic we processed over 8 million covid-19 PCR tests on behalf of UKHSA and we are still providing it with that service in the form of multiplex PCR testing, but now in much lower volumes. We currently process about 400 samples a day. We are currently contracted to provide that until the end of March.

After March '24 we have a subsequent contract, which runs to 30 June, where we will provide a standby service. We will maintain the facility and the equipment within it, and will have a much scaled-down workforce of about 20 people, but we will not be commissioned, within the contract, to provide any more testing, from the end of this financial year.

Q305 **Chair:** And you say that that standby facility contract is from June, or to June.

Nicola Newman: To June. We do not have a contract beyond the end of June.

Q306 **Chair:** You have no contract in place with the UK Health Security Agency for any activity beyond June.

Nicola Newman: Correct.

Q307 **Chair:** Is that because you don't want to have such a contract, or have not been offered one? Is it in a process of negotiation?

Nicola Newman: No. We are very supportive and engaged with UKHSA colleagues, and very supported to continue our resilience efforts and support to UKHSA. They are aware that we are keen to continue with our pandemic preparedness and resilience testing with them, but we do not have a contract beyond the end of June.

Q308 **Chair:** Do you have any insight into why that might be? If we are talking about future preparedness—and, to be fair, it is the UKHSA's responsibility to provide that—you would think they would be anxious to have you contracted, rather than the other way around.

Nicola Newman: It is probably a question for UKHSA colleagues but I understand there are challenges around financial approvals to progress with a longer-term contract.

Q309 **Chair:** I see. Let me ask the same question of Sarah Brampton, in Plymouth. What is your current contractual relationship with UKHSA?

Sarah Brampton: Very similar. In Plymouth our Lighthouse laboratory was a bespoke facility, which was stood up in response to the pandemic. It was commissioned from March '21 and designed to give a high throughput for PCR testing. It supported the cov-2 pandemic response. We ramped up quickly to 20,000 tests per day and then, at the request of UKHSA, we ramped up to deliver up to 50,000 tests during the height of

the pandemic. We are currently not doing any tests, though, and our contract, similar to Ms Newman's, runs out at the end of June '24.

Q310 **Chair:** And do you have any insights into why that contract has not been renewed?

Sarah Brampton: Similar to Ms Newman, I suspect it is about staffing and resourcing.

Q311 **Chair:** We will come on to this but, just for context for colleagues, Jenny Harries wrote to the Committee at the end of September last year pointing to the assurance that should be taken from the fact that the UKHSA holds retainer contracts with Berkshire and Surrey Pathology Service and the University Hospitals Plymouth laboratories, which could support surge testing as required. When that letter was written to us, on 29 September last year—just to confirm, you were not in contract: it is not that the contract has been terminated, but it only went to the end of the financial year, or June. Is that correct?

Nicola Newman: Yes. We had a contract with UKHSA until the end of this financial year, and in January it offered us a three-month new-look contract, which runs until the end of June. The current contract that we have with UKHSA, until the end of March '24, is to provide a surge capacity, as required, to be able to do 30,000 PCR tests for what we call pathogen X within a 30-day period. Currently, we provide capacity for 5,000 tests per day, but, as I said earlier, we are processing only about 400 samples per day.

Under the contracts from 1 April to the end of June we go into what is termed, within the contract, a freezing state; so there is no money within the contract to do any testing. We then go into standby to maintain the machines, with a core workforce of around 20 people who would be responsible for scaling up that facility, should we need it going forward. Under that contract, for the three months, we have a commitment to scale up the facility to 60,000 pathogen X PCR tests per day within a 12-week period.

Q312 **Carol Monaghan:** It is quite interesting because the impression we have been given is that there is capacity to scale up, but you seem to be saying that, yes, there is, until June, but that beyond June you do not have capacity for that. Can I check that you said there would be 20 staff?

Nicola Newman: Yes. We are currently running the facility on about 50 staff, because we are still doing live testing of about 400 PCR tests per day, but from 1 April we will go down to a core group of 20 staff.

Q313 **Carol Monaghan:** What will they do? You have said they will maintain the machines. That is a lot of staff just to maintain the machines.

Nicola Newman: They will maintain the machines. There may be work that we could do with UKHSA around validating assays. We are working closely with suppliers—and have done over this latter quarter—to modify our equipment. The technology that we had in the laboratory was for

covid-19 testing only. We hope that we can continue to work with our technology provider to open those platforms to be able to respond more broadly to what is termed pathogen X—to a broader range of respiratory pathogens, for example. That workforce is a core workforce; it would allow scaling up and ramping up to our contractual obligations, which would provide the validation and verification of those assays, the technology and expertise, and the ability to train and mobilise a workforce rapidly.

Q314 **Carol Monaghan:** And beyond June what happens to them?

Nicola Newman: Our contract ceases at the end of June. We had a workforce of over 400 people at the peak of the pandemic when we were doing 50,000-plus covid samples per day. We have a large pathology network of over 1,600 individuals across the six hospitals in our pathology partnership. We have taken 10% of that workforce, historically, into our pathology network, so with the remaining staff we hope that they will integrate within our pathology network as well.

Q315 **Carol Monaghan:** Are there any examples since covid where your services have been used for a public health outbreak? I am thinking of Mpox, for example.

Nicola Newman: No.

Q316 **Carol Monaghan:** Can I put the same question to Sarah?

Sarah Brampton: We did offer to provide support for Mpox but we were not taken up on our offer.

Q317 **Carol Monaghan:** Do you have any idea where testing was being done for that?

Sarah Brampton: I don't know—sorry.

Q318 **Carol Monaghan:** Okay. If you look at current infectious diseases, what is your current diagnostic capacity? You were doing 50,000 a day.

Nicola Newman: That is right. Our current contractual commitment is to provide the ability to surge to 30,000 tests per day within a 30-day period.

Q319 **Carol Monaghan:** Do you think you could do that within 30 days, just now?

Nicola Newman: We could do that. We have a current capacity to provide 5,000 tests per day and are currently receiving about 400, but, based on experience, we have good confidence that if we needed to scale up the facility we could.

Q320 **Carol Monaghan:** 30,000 in 30 days.

Nicola Newman: Yes.

Q321 **Carol Monaghan:** Again, Sarah, could I ask you the same question?

Sarah Brampton: We could ramp up to 8,000 tests per day within 30 days, and it would take us 14 weeks to get back up to 50,000 tests per day.

Q322 **Carol Monaghan:** Okay, and just a final question: post June, which seems to be when these contracts are ending, how quickly could you scale up?

Nicola Newman: We would not have a contract after the end of June, so we would release the facility. The equipment would go back to UKHSA, so I do not really have a way to scale up a facility—

Q323 **Carol Monaghan:** That you don't have.

Nicola Newman: Yes.

Q324 **Carol Monaghan:** Sarah?

Sarah Brampton: It is slightly different in that our facility is off-site, so we will maintain the facility. We are going to use it for decanting from our hospital site for our future hospital build, but we will maintain the equipment, so if we were given an additional contract we could ramp up, recruit the staff and be ready to run within 14 weeks to maximum capacity.

Q325 **Carol Monaghan:** Where would the staff come from?

Sarah Brampton: We have a really good relationship with the recruitment agency that we used during the pandemic, and we would use that recruitment programme that we put in place during the pandemic to get those staff back. The staff tend to be local staff from the university and from science organisations around the south-west whom we are keeping in touch with. We also employ quite a lot of biomedical scientists within the hospital that we would second to the Lighthouse laboratory.

Q326 **Carol Monaghan:** To clarify that, during the pandemic a lot of university students came and lent their services; so do you envisage that this would be a similar situation, with people being seconded, or leaving university courses, to come and provide the service?

Sarah Brampton: Yes.

Q327 **Chair:** A couple of colleagues have supplementaries on this, as do I. Obviously, you are both running NHS trusts. You are there to cater for the health needs of your local population, so I assume that you cannot simply keep people on permanently without a contract—in other words, payment; otherwise, it would be detrimental to the service that you provide to your local patients.

Nicola Newman: Yes.

Q328 **Chair:** And the same for Ms Brampton.

Sarah Brampton: Yes, exactly.

Q329 **Katherine Fletcher:** Thank you both for coming. I am grateful for your expertise and time today. Having 20 people to keep a lab going when no tests are going through it could raise some eyebrows and I just wanted to push slightly on the answer that you gave to my colleague Carol about what they are doing to maintain a facility that doesn't have any tests going through it. Could you perhaps share that, because, annualised, it is a big number?

Nicola Newman: It is about retaining a number on the future ramp-up and scale of the facility. It is really dictated by the speed and pace that we want to scale up at. If you go lower than that, you push out the ability to scale up the facility at the speed and pace asked of us in the current contract. To get to 60,000 tests in 12 weeks is mobilising a workforce of over 400 individuals not just from agencies, as Sarah says, but drawing on our local pathology networks and university colleagues. We have close links with the Pirbright Institute just up the road. To mobilise that size of workforce, and to respond in terms of validation and verification of new assays, scaling up equipment and getting the training and competencies, and working with our accrediting body to ensure that we meet UKAS standards going forward, is a massive commitment.

We could go slower. You could go on a lower number, and that is really up to the UKHSA and how it wants, if it can, to shape a future contract around future pandemic preparedness; but we have heard others in this Committee talk about keeping the light on, and that sort of muscle memory. It is about how much capacity one wants to sit on, to have ready. That is really dictated by—

Q330 **Katherine Fletcher:** That is really helpful. So it is not the technical maintenance of the machines that the 20 people would be doing. It is more about the readiness to press the button and go, and get the whole thing set back up again. If a contract was not awarded post June but somebody asked you to maintain a kind of capacity—I grant you it would not be as quick as having 20 people sitting around waiting to go and being paid to do it—would they literally be doing nothing or would they be repurposeable to other tasks within your organisation?

Nicola Newman: There is an element of maintaining the facility. Our machines do not perform well if they stand idle. These are high-throughput analysers that do need ticking over, and regular maintenance of samples going through, even it if is at low volume, so there is an amount of that work to be done.

That said, during the pandemic and in the quieter times, under our contracts with UKHSA, we have seconded some of our individuals to other UKHSA sites, such as the Cambridge site. We have seconded individuals into our NHS pathology network and used the opportunity to develop those scientists and give them state registration, working with the Institute of Biomedical Science so they can get to be HCPC state-registered biomedical scientists.

We really try to develop and retain that workforce and not stand idle, but, "What else can we do with that workforce?" We have touched on some of the work that we have done with UKHSA on validating and comparing assays, and working with industry providers as well.

Q331 **Chair:** I think we need to move on. I think Ms Brampton had her hand up and wanted to come in on that, before I go to Stephen and then James.

Sarah Brampton: I just wanted to build on that. We have 30 staff in our lab at the moment, all of whom are bank staff and are seconded back into the hospital. We have such turnover of staff in our pathology department that we can always make good use of these staff, so no one sits idle. We have one engineer in the lab who is there to maintain the equipment.

Q332 **Stephen Metcalfe:** Sarah, you were making a point about ramping up staff, and you said you had a good relationship with an agency that you used before. I am concerned that if that capacity were needed again, the environment from which you would be recruiting would be very different from what it might have been at the height of the pandemic, so that staff might not be as available to fill those roles, because they would more readily be fulfilling their primary roles. Have you given any thought to that: what if you needed staff but could not recruit because we are more used to home working, or working around pandemics?

Sarah Brampton: Yes, recruitment, particularly to this hospital, is always a big topic for us, in all the professions. We work really closely with the university on lessons learned. We took a lot of learning from the recruitment campaign for the Lighthouse laboratory, about what we can do to strengthen relationships—particularly with science graduates.

I guess we are fortunate in that we live in a holiday destination, so there is always a temporary workforce that we can call on. We do not have all the answers but we are aware that we were fortunate with the lockdown situation, but that that might not happen again; so we are thinking about other ways. How do we grow our workforce, and strengthen our relationships with the University of Plymouth and our schools, as well? It is work in progress.

Nicola Newman: I very much agree about those local relationships with the universities. We also have a close working relationship with the Pirbright Institute.

Q333 **Dr Davies:** Rounding off the contracts issue with UKHSA, is it a real problem that you do not have certainty beyond June? If you were to have the contract rolled over, or a new one, would the terms that you already have be adequate for you to plan for the future?

Nicola Newman: I think it is challenging, around the current contract. From mid-May we would need to look at redeploying the workforce, to exit at the end of June. It is a problem. The short-term nature of the contract extension means that we are paying a premium for some things,

such as our warehouse leasing on a short-term lease. So it does come at a cost.

Sarah Brampton: We plan in the NHS on a 12-month basis, so it is really helpful to have certainty for at least 12 months ahead, so we can understand how we are going to access our resources and deploy them. A three-month contract is not helpful.

Q334 **Dr Davies:** I have a much more general question about the challenges in being pandemic-ready and having diagnostics capability for the UK. What are those challenges, and how could they be overcome?

Nicola Newman: I think, looking back, the relationship with suppliers and industry is key. I think that could be strengthened, based on our experiences. For us, in building a laboratory capability, understanding what was available within the market was really key. That really drives the design and build of the laboratory and the type of workforce that you need, based on the technology available. Strengthening those relationships would certainly help us, going forward.

Something that has been spoken about in this Committee previously is the variety of test tubes. That made a huge impact on us. When you have such high-throughput automated platforms, to receive these tubes and try to turn them around very quickly we have to validate and verify, and manual handling becomes a lot greater.

You also run a risk of contamination in the facility, so that supply chain was particularly challenging. By the time our covid laboratory came online, a lot of the broader supply chain issues had passed.

Q335 **Dr Davies:** That is really helpful. Are there any additional thoughts from Plymouth?

Sarah Brampton: On the training, and going back to staff readiness, I would agree with everything Nicola has said about making sure we continually train our existing staff in the hospital or NHS trust, so that they can step into a pandemic resource should they need to. That is an important piece of learning that we are taking forward.

Q336 **Stephen Metcalfe:** As I understand it—I just want to be absolutely clear—post 30 June there is no contract and no obligation on either of you to continue to maintain these facilities. So, because of the cost involved—warehousing, machinery, staff, etc.—you will start to decommission them and wind down to complete zero. The learnings will exist but there will be no physical presence of the labs. So if they were required again in six, 12 or 18 months' time, you would be starting from a standing start. How long would it take to get up to a reasonable capacity? I think, Sarah, you said 14 weeks.

Sarah Brampton: Yes.

Q337 **Stephen Metcalfe:** So you would have learned from the first time you

had done this, and that would help, but, in acquiring machinery, space, etc., what would the challenges be, and what have you learned that would help to speed that up? Are there things that we could recommend to put in place that would cut the 14 weeks down, or is that literally the length of time needed to acquire everything needed?

Sarah Brampton: Physical capacity and equipment are here and will remain here on site. As I say, it is an off-site facility—a warehouse, if you like—with the equipment maintained in it. The equipment will remain in there. The 14 weeks is predominantly staff recruitment time, so if there is anything we can think of to reduce that, we could go faster. Automation of the current equipment would also help us to speed up that time.

Q338 **Stephen Metcalfe:** So, despite the cost, you are not going to release the warehousing and capacity—the physical space.

Sarah Brampton: No, because it is part of our future hospital plan, so we want to use it at a future stage, to decant some of the services from our hospital site into it.

Q339 **Stephen Metcalfe:** Okay, that is great. Thank you. Nicola, presumably it is not the same for you.

Nicola Newman: No, it is not. We are in a slightly different place. Beyond the end of June we would commence our exiting arrangements, in line with the contract, so we would decommission the facility. We are in, probably, prime NHS diagnostic space, so it is highly sought-after. We are not in a position to be able to hold that space.

The 12 and 14-week response time that you refer to is our response assuming we have space and equipment in that facility, to be able to hit 60,000. Without that equipment readily available in a dedicated space and location we certainly could not meet the 12 to 14. I know the broader aspirations around the 100-day plans. We could not do that without a facility.

Q340 **Stephen Metcalfe:** No, so if you were starting from scratch how long would it take you?

Nicola Newman: It depends on the availability of a facility, and then on quite what pathogen X is, going forward. You would, roughly, be talking about two or three months, I would imagine, to find a facility and then start building the equipment going into it.

Q341 **Stephen Metcalfe:** Okay, so that is quite a challenge. Can anything be put in place that would support that? If the contract that you will enter into on 1 April were to be maintained, would that help to cut down the two to three months?

Nicola Newman: Hugely. If we look at our commitment within the contract that we have, from 1 April to the end of June, that assumes that we have the space and the fleet of equipment available to us. Our

commitment there is, very much, 12 weeks to provide 60,000 tests going forward. We feel that based on our experience we could commit to that.

Q342 **Chair:** Your two labs made a very important contribution during covid. I think I am right in saying you were two of seven Lighthouse labs across the country. At the peak of the pandemic, 500,000 tests a day were being carried out. I think you said that you could get to about 30,000 a day on the current scheme. Is that the case for both your trusts?

Sarah Brampton: 50,000 a day.

Q343 **Chair:** Fifty thousand?

Sarah Brampton: Yes.

Q344 **Chair:** And Ms Newman.

Nicola Newman: Our current contractual obligation up to the end of the financial year is 30,000, but we have capacity within the facility to scale up to 60,000.

Q345 **Chair:** That is 110,000 between you. Given that previously we required 500,000, do you have any idea where the extra capacity would come from? The evidence from UKHSA is that the contracts with your trusts will support the needs of the country.

Nicola Newman: I don't think I can answer that, Chair.

Sarah Brampton: I imagine it needs to come from the other Lighthouse laboratories, and I believe there are 10 or seven in total.

I suggest that we need to look to automation. The 50,000 is on current processes. If we were able to automate our processes, we could go to more than 50,000 per day.

Q346 **Chair:** Are you aware of a programme to develop the automation of these processes?

Sarah Brampton: I am not, personally, no.

Nicola Newman: We are working closely with our provider. During the pandemic we were working on 5,000 tests a day per unit. We have driven some efficiencies with the supplier to 7,000 tests a day, but we are still talking about a much smaller scale—nothing like the 500,000.

Q347 **Chair:** Is there a funded programme—from NHS England or the Health Security Agency—to reduce the reliance on people?

Nicola Newman: We have some funding within our current UKHSA contract until the end of the financial year to work with our technology supplier, but that is more about opening the platform; rather than just covid-19, there is the multiplex and future pathogen X response.

The technology that we used in our Lighthouse was highly automated. We got a lot of efficiencies from the equipment that we used historically.

Q348 **Chair:** As well as giving evidence on behalf of people who ran Lighthouse labs, you are employed by your local NHS trusts and have responsibility for the health of your community. With that hat on, are you concerned at the prospective provision of testing capacity for your local people, were these arrangements to be discontinued?

Nicola Newman: Yes, during the pandemic the Lighthouse laboratory network played a huge role, particularly in community services. Our hospitals were very much reliant on the local hospital service providing covid testing for patients in hospitals, but community services across our geographical area were hugely reliant on testing by the Lighthouse laboratory, so I would be concerned if it was not there going forward.

Sarah Brampton: I am really proud to have been part of the national response, and it would be such a shame if that responsibility were to be let go. It feels right to maintain the facilities and the network we have established.

Chair: Thank you both for your evidence. You have been very clear and very direct, drawing on your experience of putting your skills into practice during the pandemic, for which we are very grateful. We are very grateful to you for helping us to think about our preparedness should such an event occur in the future.

Examination of witness

Witness: Ian McCubbin.

Q349 **Chair:** Our next witness is Ian McCubbin, CBE. He is chair of the Cell and Gene Therapy Catapult and has over 30 years' experience in the pharmaceutical industry working for GSK, Merck and IVAX. He chairs the Manufacturing Advisory Board under the Industrial Strategy Challenge Fund. Most particularly, he was a member of the vaccine taskforce from May 2020, where he led manufacturing activities.

Thank you for your service during the pandemic. I do not think you have appeared before the Committee before on these matters, but it is good to talk about future preparedness.

Will you outline your role in the vaccine taskforce, particularly on the manufacturing side, and give us your reflections on the taskforce itself?

Ian McCubbin: It was a chance of a lifetime to be part of the response and do something good. While it was stressful, I am incredibly grateful for that opportunity.

I should declare that I am chair of Roslin Cell Therapies, a cell and gene therapy company in Edinburgh.

My role was manufacturing and supply, but the chronology might interest the Committee. My first engagement was on 10 February 2020, very early and before the vaccine taskforce started.

I am close to the BioIndustry Association. Patrick Vallance said to Steve Bates, the CEO, "This could get really bad. Borders might close. Thousands of people will die. Can you figure out a way to create supply chains for the Oxford University vaccine", which was in train at the time, "and for the one at Imperial College, London?"

We got together on 10 February and decided that we would survey members with a view to trying to sketch out a supply chain for the two vaccines. Within two weeks, we had a skeleton supply chain. Steve and I agreed that I would set up a group of experts in the BioIndustry Association and that we would begin work. This was four months before Kate came.

I mention that because it is quite important. The vibrancy of the bio community in the UK is really strong, and that accelerated start helped things to progress quite quickly. People gave their time freely, willingly and unconditionally.

I was also involved with a group that Patrick had set up—a much more senior, strategic group that was the forerunner of the vaccine taskforce.

That was the first four months up until May. It was quite hard work. We started working with the Government at fairly junior level. It was hard to make things happen, but through Innovate UK we managed to progress the Oxford University vaccine with a small amount of money. We kept it moving quite quickly until the government machinery got into gear.

That happened when Kate came around May. She led—everybody knows Kate, so I will not dwell on that. She asked me to be part of the vaccine taskforce, with Clive and a number of other industry representatives. Steve Bates was involved in that.

The period between May and the end of the year was hugely productive. All of a sudden, the machinery of government and funding connected well with the stuff developing through the vaccine taskforce. That was the productive time in the vaccine taskforce.

As you all know, vaccines were eventually approved towards the end of the year—thankfully.

The final part of my chronology was the beginning of 2021 until May/June time. It was different again.

In the course of the three phases I have outlined, I was leading on behalf of the BIA. I was supporting while the government machinery came into play, and by the end of the year it was pretty self-sufficient, so I advised from that point.

To some extent, the beginning of 2021 was much less productive, but perhaps it did not need to be.

That is the chronology of it. That is how I was involved.

Q350 **Chair:** We are grateful for that, and it is very clear. You were good enough to sit through the earlier panel on diagnostics testing. You know that the purpose of our inquiry today and over recent weeks has been to establish whether we have learned the lessons and are well-enough prepared for a future pandemic.

Some similar questions apply to the field of vaccines. In your estimation, does the UK Health Security Agency have an adequate plan on surging vaccine—discovery, procurement, manufacturing and all the things that the taskforce did?

Ian McCubbin: I think that the answer is, probably not. I will caveat that answer. All of us tend to make an assumption if we are not closely involved that nothing is happening—and I am not closely involved.

Let me explain why I say that. Looking back at what happened in 2020 and 2021, no individual part of the UK capability could have solved this problem on its own. The Government couldn't; the NHS couldn't; industry couldn't; academic couldn't.

The biggest conclusion I drew from the success was that because everybody was working together it was effective—we pulled together the best of what the UK could do.

Let me clarify my answer. I have not heard of anybody in my sphere of influence in the industry talk about how they are supporting UKHSA in a future pandemic. No one in industry is talking about it.

In my role in the Catapult, we would be a natural place to go and learn from the previous pandemic to create capability, either physically or through people.

I have not heard that. I have talked to a number of academics who lead in this field, and they have had no communication. That leads me to believe this calls for a collective plan where the best of UK capability in academia, the industry and the NHS could be built together. Jenny will, I am sure, be able to answer that a little later.

I am quite aware of what is happening in Europe. Our industry is very networked; people know each other all over the place. I was asked to review the plan of HERA, the UKHSA's equivalent in Europe. The plan is really extensive and I know that actions are in place to execute the plan. I have not seen anything on the same basis in UKHSA.

Finally—I think this is relevant—when I left the vaccine taskforce I applied to be a non-executive in the UK Health Security Agency. I talked to the chairman. I think he was on the same wavelength around what a plan was. I went to the interview and through the interview process I got cold feet. I thought, "This is not a job for a non-executive." The gap between what I was asked at the interview and what I thought needed to be done was huge. I was not prepared to commit that amount of time in

a non-executive capacity to address it. I am completely ashamed of that, actually.

Q351 **Chair:** Amplify that a little. What was the expectation and why was the gap unbridgeable?

Ian McCubbin: It was unbridgeable on time, I think. My interpretation at that time—the middle of 2021, I think, or around then—was that things were so fresh with regard to what had been done and what therefore needed to be done, yet the thrust of the questions I had in the interview were all "processy" questions, not getting-things-in-place questions, if that helps to explain.

It was one of those things where you go, "This doesn't feel like I could do it in the time." Entering into something that maybe I couldn't see through felt like the wrong thing to do.

Q352 **Chair:** Who was conducting the interviews?

Ian McCubbin: Ian Peters was the chair. I don't remember all the panel. Some of the things that happened in and around the pandemic are all a bit of a blur to me now.

I thought quite hard about whether I should raise this here, but it feels relevant. I don't have the detail in my head on who interviewed me; I am sorry, chair.

Q353 **Graham Stringer:** You are using very moderate language but you are painting a not very appealing picture. A year last January, Kate Bingham gave an excoriating picture of how the Government had not used the experience of the taskforce, which most people around this table and generally think did an extraordinarily good job. Would you agree with Kate?

Ian McCubbin: Kate and I are very different people. She expresses herself differently from me. The content that she expresses is exactly as mine; I just express it differently.

Q354 **Graham Stringer:** You think that we have not learned the lessons and that the benefits of having the private and public sectors work together have been squashed by the civil servants, who pulled up the drawbridge and said they will get on with it; rather than learning the lessons, we have unlearned the lessons.

Ian McCubbin: I have no personal experience or engagement in that type of conversation. I could draw that conclusion. I am not trying to be awkward, but I prefer to talk about things I have seen and experienced personally. I have heard all the stuff, second or third-hand.

Look at the outcome. There is no tangible outcome. How we ended up there—whether it was civil servants or drawbridges coming up—I don't know, but the danger is that we do not have an adequate preparation.

Q355 **Graham Stringer:** You talked a little about how the taskforce was set up. Do you have further reflections on what was good and bad about that, and how, if we need a taskforce in the future, we should go about it?

Ian McCubbin: Yes, I have views on that. I think that Patrick was very influential in how this was set up. I know Patrick quite well. We worked together at GlaxoSmithKline. He was the perfect chief scientific adviser for a pandemic. All his background, all his education and everything he had learned in industry and academia was perfect. That's a bit lucky. He could have been a nuclear physicist, which would have been great but inappropriate in a pandemic.

The way it was set up was heavily influenced by Patrick Vallance. Putting Kate in charge was a masterstroke because of who she is and what she has learned in her career. She is exactly the right person to get medicines through process quickly.

Some structural things about how it was set up were outstanding. Kate had a line to the Prime Minister if she needed it. I don't think she used it very often, but having that line was very important.

We had a ministerial committee. I don't remember all the people involved, but I will try my best. There was Treasury, Cabinet Office and Department of Health and Social Care.

Q356 **Chair:** I think that the business department was represented as well.

Ian McCubbin: Thank you.

In pharmaceutical speak, that would be like an investment committee. Kate had somewhere to take our proposals to a very focused decision-making authority that could enact the outcome. That was really important.

The composition of Kate's team was good. I think you have met Clive. He's a super scientist. There was myself, with manufacturing expertise; Steve Bates, Mr Encyclopedia about UK industry; and Divya Chadha Manek, NIHR and everything you could possibly need to know about regulation and clinical trials.

The industry experts were there, and, most importantly, Nick Elliott, the director-general, was outstanding at making the government machinery work. Madelaine McTernan did the negotiations—superb. There were really good civil servants, which is why I backed off a little from your previous comment about things being squashed by civil servants. In this instance, my experience with these guys was amazing. Ruth Todd was my opposite number in manufacturing and supply. Although she is from automotive, she was self-sufficient come the end of that year.

The structure, the composition of the team and the decision-making points are probably the key elements of why that succeeded.

Q357 **Graham Stringer:** You said something there—I have sat through hours and hours of inquiries into this issue—that I do not think anyone has said before. You said that the background of the scientific adviser matters greatly. We have had scientific advisers who have served as chemists, who were expert in biology or all sorts of population genetics and different areas. If we faced another pandemic, would it be the right thing to do to make the senior adviser to Government on science an expert—in the way Patrick Vallance was—on pandemics?

Ian McCubbin: I imagine that a chief scientific adviser may need to be many things. I heard Patrick talk about climate change at the time the pandemic was on. They are not so linear that they cannot expand, but you, Chair, asked me about the plan. In my head, the plan would be, in the event of a pandemic we should have the following processes: the chief scientific adviser should have experience of all things associated with a pandemic and lead perhaps on behalf of the then chief scientific adviser, who might be a nuclear physicist. I say "nuclear physicist" because it is quite far removed from the need. That should be part of the plan.

Q358 **Graham Stringer:** That is really interesting.

I will ask Jenny Harries about this point later, which will give her time to think about it. One of my worries is about changing the time to develop a vaccine from 300 days to 100 days, or changing the time to develop a vaccine from 10 years to 100 days. You are upping the risk profile quite considerably. Look at the time it took to realise that swine flu vaccines cause narcolepsy. It was eight months before those effects became clear. Have you any thoughts on that, and on how we should respond to that change to the risk profile?

Ian McCubbin: It isn't my field of expertise, but I shall avoid sitting on the fence. The key is in the design and numbers of people in clinical trials. The greater the number from the population in the trial, the higher the chance of finding anything untoward. With any medicine, there will always be some risk/benefit profile. If the risk is of thousands of people dying without something, that always modified the decision-making process, which brings the regulator and the MHRA into play. We are very fortunate in having a good regulator. Working out future scenarios with the MHRA would be the way forward in my view.

Q359 **Graham Stringer:** You mention the MHRA. The pharmaceutical side of it is funded by the pharmaceutical industry. Do you think that is satisfactory?

Ian McCubbin: I didn't know that.

Q360 **Graham Stringer:** I won't ask you to comment. The device side of it is funded by the NHS, but the pharmaceutical side is funded by pharmaceutical companies, which clearly have an interest. If you haven't thought about it I will not pursue the question.

Ian McCubbin: I will make a comment. Even in the vaccine taskforce there was a massive firewall or brick wall between me and other members of the taskforce and the MHRA to maintain their independence. In my 40-odd years in the industry, I have only encountered complete independence.

I understand your question. I would have to think about that a little rather than answer off the top of my head.

Q361 **Stephen Metcalfe:** Dr Clive Dix made some recommendations at the end of 2020, following the establishment of the vaccine taskforce. Have you looked at them in any great detail?

Ian McCubbin: Yes.

Q362 **Stephen Metcalfe:** Do you broadly agree with them?

Ian McCubbin: Yes. I remember when they were written—it was around December—and I was partly involved in their construction.

Q363 **Chair:** They were recommendations of the outgoing vaccine taskforce—Clive Dix and Kate Bingham. Were you one of the co-authors?

Ian McCubbin: Yes, I was a lesser author, but I was particularly involved in the manufacturing and supply part of it.

Q364 **Chair:** Anyone apart from Clive, Kate and you?

Ian McCubbin: I think that Steve Bates might have been involved. I am sure that Divya was involved in things written around the clinical trials side of it.

Q365 **Chair:** It was the senior people.

Ian McCubbin: Yes, exactly.

Q366 **Stephen Metcalfe:** You were involved in those, which is great. Looking back, is there anything that you consider should have been changed, or would have liked to change or add?

Ian McCubbin: I think they were written in 2020. It would be a good time to review them, because some things have changed, some have not, and some things have got better and some have not. It would be good to refresh and review that.

As I refresh myself on it, I would like to see more emphasis on a plan. A lot of what was in the recommendations was what should be done. What often happens with things that are described as "what should be done" is that they do not come alive until you can answer the questions: "Who is going to do it? When will it be done by? How will we know whether it is successful?"

If they were accepted, they need to be moved from "What" into the rest of it.

Q367 **Stephen Metcalfe:** That is helpful. We had a very successful vaccine taskforce. A lot of learning went on and some recommendations came out, but we don't seem to have anything structurally in place post that. Because of that, it has been said that the disbanding of the vaccine taskforce has damaged the UK's reputation in the vaccine development sector. Do you agree? If so, why has it damaged us?

Ian McCubbin: I agree with the outcome; I don't necessarily subscribe to the view that it is the disbanding of the vaccine taskforce.

Q368 **Stephen Metcalfe:** Separate those out for us, if you would.

Ian McCubbin: Looking at the chronology, when the vaccine taskforce was in place we recognised immediately that we were a small country in a globally competitive world for vaccines, so we were never going to be the biggest purchaser.

We were on the cusp of leaving Europe, with all the schmozzle that was going on with that, so we had to make ourselves attractive to companies developing vaccines. It was clear in our modus operandi that we would be working in partnership with those companies to bring together a successful vaccine as quickly as possible.

It was one of collaboration. Although it was short term, it was a strategic relationship.

From the beginning of '21 and later in '21, some things happened. Industry looked at the Valneva situation and went, "That's not a very strategic relationship." Here is a company that bent over backwards to try to create a form of vaccine—a platform—but we end up in an acrimonious situation in which the company almost deceased.

There was a similar thing with Novavax. I have heard—I am not so sure about this—that there is some stuff with AstraZeneca as well. To me, in the pandemic AstraZeneca was so magnanimous and gave their resources, time and expertise to make the Oxford vaccine possible.

It was not necessarily the disbandment of the vaccine taskforce that created that situation. It might have been different if the vaccine taskforce had existed, or if people had taken a more strategic, collaborative approach with the industry.

Q369 **Stephen Metcalfe:** The reinstitution of the taskforce will not repair that damage. What might repair our standing in global vaccine development?

Ian McCubbin: Do you mind if I slightly broaden this?

Stephen Metcalfe: No.

Ian McCubbin: We need to think about improving our standing between pharma in general, including vaccines, with the UK as a country. We need to develop more of a strategic relationship between the two, because life sciences industries are long term. The outcomes of a successful life

sciences strategy were seeded in 2017 or 2018 when the first one was written, which you were co-leading.

If we can create a longer-term strategic view and move away from the tactical relationship that, to my mind, seems to exist at the moment, that would be a massive step forward.

If you look at the press around how big pharma sees the UK, in a way it reluctantly accepts the UK, but then it builds a factory in Ireland or somewhere else and the whole connection that the economic benefit pharma can create is missed in the negotiations around price and uptake. I am not sure I said that as well as I could have, but hopefully the essence of it came through.

Stephen Metcalfe: I think the point came across.

Q370 **Carol Monaghan:** We have heard some evidence from a number of people. I want to talk about the vaccine platform itself. Dr Dix has been sceptical about the mRNA vaccine development. He does not think that it will produce a sufficient future pandemic response. I think he said it was a nice deal with Moderna, but was rather more sceptical about its ability to deal with what may come along. Sir Andrew Pollard agreed with that. He warned that relying on one vaccine technology limits your ability to respond to the unknown. Do you agree? What should we be looking at rather than mRNA?

Ian McCubbin: The strategy that the vaccine taskforce put together was, "We don't know what's going to work." At the time we were putting it together there had not been an mRNA vaccine approved, so that came completely out of left field. That was why a number of people were interested in the Valneva vaccine, because, if anything might work, probably the virus itself inactivated would create some kind of response.

It needs to be a range. This is a big question. In general, you need to have more than one platform and one way of working to improve the chances of success.

The only other thing to say about mRNA is that it is not brilliant; it has to be stored really cold; it does not travel very well; its activity is of short duration.

Q371 **Carol Monaghan:** Am I right in saying that its efficacy with influenza has not been as good as traditional vaccines?

Ian McCubbin: I do not know the answer to that, Carol, but that would possibly prove to be the situation. I think that relying on one platform would not be enough. It is illogical to think that it would necessarily work, and you will not get two better scientists than Clive and Andy.

Q372 **Carol Monaghan:** Do you have any recommendations in how the UK then diversifies the platforms it considers?

Ian McCubbin: I was thinking about the questions you were asking Nicola. There was a little bit about doing all of them if money was infinite. If money was infinite you would maintain pandemic readiness in perpetuity, but I would think of it as the pandemic lottery. Nobody knows when it will come back and what the pathogen will be, so how do you de-risk it? We should investigate how normal life science work is done and what the Government want to attract into the UK in normal circumstances.

The secondary question would be: in the event there was a pandemic, how would we migrate that to a vaccine platform, or platforms, and a manufacturing facility, or facilities, that could be used in a future pandemic? Effectively, that was what we did in the vaccine taskforce.

By far the most successful global company in producing the Oxford University vaccine was Oxford Biomedica in Oxford. Why? They are a gene therapy company. What do they do? They make lentiviruses. Therefore, we moved their capability to making adeno-associated viral vaccines.

I think there is something about de-risk in this pandemic lottery by thinking about your core life sciences strategy and how you adopt a pivot in the event of something significant. It is a bit like the Territorial Army.

Q373 **Carol Monaghan:** I was going to mention the armed forces. That would seem to be a decent analogy. We have armed forces and hope not to use them, but they are there ready to go when a threat presents itself. But this was a much bigger threat to life in the UK than has been met since the second world war. Has sufficient seriousness been placed upon this? I get the sense of a bit of frustration from some of the witnesses. Everything was stepped up four years ago and now we are almost back to where we were.

Ian McCubbin: It is the pandemic lottery. If we thought there would not be another one until 2119—that is the sort of rate at which they occur—it would change things. Money is not infinite. However, we could make much more of what we spend and use and assure ourselves a bit better. Goodness knows how hard it must be for people who are trying to allocate funds in this world to the military, sustainability, education or whatever. We have to figure out that resources are not infinite and we have to make better use of what we need to do anyway. That is a bit philosophical, but if you drilled under that you could get somewhere.

Carol Monaghan: I think it comes back to resilience. That covers a whole lot of different sectors and this would be one of them.

Q374 **Chair:** On the vaccine taskforce recommendations—they were submitted by Clive Dix and we published them today on the Committee's website—they were written originally in December 2020 following the experience of that first year and the triumph of having vaccines available.

I will not go through all the recommendations, but just a couple of them.

One was that you recommended the creation of a new permanent successor agency and specified that it would be within the business department. That has not happened. The UKHSA, which is part of the Health Department and its associated bodies, is responsible for this. Can you remind us why there was an obviously unusual recommendation to have a body responsible for vaccines hosted in the business department?

Ian McCubbin: I do not know the answer to that.

Q375 **Chair:** It was a while ago.

On manufacturing, which was another of the recommendations—your career has been in manufacturing—when I was in office we established the vaccine manufacturing innovation centre. That has been sold and, when we last checked, it is now mothballed. Was that a mistake, or has it met its purpose and is time expired, and should something in the manufacturing space be laid down for future use?

Ian McCubbin: The answer to the second part of the question is yes. I think there should be something in the manufacturing sector. It probably was a mistake, but I think the reason it was sold was that the facility had got bigger and was very expensive to run. What do you do with a facility that is expensive to run but you are not doing anything about pandemics? It is a little bit like Carol's question. How much do we spend militarily in case we might need it? If that facility was in place, not only would we be able to do more work physically but it would have a nucleus around which other expertise could gather. I could not overestimate how important that is in a community to make things work. From a straightforward pandemic preparedness point of view, that is a mistake.

Q376 **Chair:** It is ironic that it was established in 2017, before the pandemic, because we seem to have a bit of a gap in manufacturing innovation when it comes to vaccines. It was then rapidly expanded during the pandemic and, paradoxically, became so expensive that they needed to save money.

Ian McCubbin: All these things in the sequence of time were very sensible, but when it comes to the point in time when you need to fund it the problem arises that money is not infinite, but in terms of a pandemic it is a mistake to have lost it.

Q377 **Chair:** Mr McCubbin, you have been very clear and reflective on the lessons learned. We are grateful to you for your past and current service, chairing the very important Cell and Gene Therapy Catapult, which is continuing to do very good work.

Ian McCubbin: And Roslin Cell Therapies.

Chair: Indeed. Thank you very much indeed for your evidence.

Examination of witness

Witness: Professor Dame Jenny Harries.

Q378 **Chair:** Dame Jenny Harries has very kindly been in attendance for most of our sessions.

Professor Dame Jenny Harries is well known and has been kind enough to give evidence to this Committee on several previous occasions. Dame Jenny has been chief executive of the UK Health Security Agency since April 2021. She was previously deputy chief medical officer, including during the period of the pandemic. Before that, she served on the Joint Committee for Vaccination and Immunisation.

We should be reminded that her early career was in public health. That was very important during the pandemic. Dame Jenny, thank you very much indeed for joining us today. You have heard some of the evidence we have been taking. There are two applications of it. One is diagnostics and the other is vaccines. Let us start with the diagnostics. You will recall from your role during the pandemic how frustrating it was that the testing capacity took a long time to build up. During that time, people could not be tested and no doubt, sadly, some died as a result. In writing to us on 29 September about what assurance we could have about testing capacity for the future, you pointed to the retainer contracts, as you put it, with Berkshire and Surrey and University Hospitals Plymouth as providing that assurance.

That was the reason we invited them to give evidence today. I do not think you were here for the beginning of their evidence, but you probably heard that they said that their contracts would come to an end at the end of the financial year with a backstop in June. That is obviously rather concerning to me and, I am sure, other members of the Committee, given that was the basis of your assurance that our preparedness was in place. What is your response to that?

Professor Harries: I may go in a number of directions in due course, but I will answer that one now. First, can I put on record my thanks to both of those institutions and all their labs because, as they described—I heard only the end of the evidence—they have been brilliant in responding to the pandemic?

Both of them highlighted a number of things that are important to me and, I think, Government as a whole in trying to set a system for understanding what we think is the right amount of testing to go forward.

Pandemic preparedness is overseen by the Department of Health, and clearly we are waiting for some of the recommendations from the public inquiry, without allowing that to stop preparations.

When it comes to testing specifically, inside the UK Health Security Agency we have been doing a huge amount of work to make sure we are absolutely clear about developing diagnostic assays for new pathogens, how quickly we can roll them out, where that would get to and when that can be transferred over to industry in the sorts of numbers that colleagues from Plymouth and Brants Bridge were talking about.

However, I have prioritised that testing over the winter period, which is one of our most difficult periods. As we go forward, funding for covid and the pandemic response particularly fades at the end of this year, and we move, quite rightly, I think, to a living with covid agenda, because we are managing covid in the same way as we deal with other respiratory pathogens.

For the country, there are ministerial decisions to make about what totality of preparedness needs to be retained on a long-term basis. Some of that will be testing; some of it will be vaccine development, which we have just been hearing about. I can contribute to that.

As articulated a little by those colleagues and organisations, we are in a down period; it is a lower-risk period during the year because we are entering summer months. We have retained facilities over the winter period, and in my mind we need to establish—this relates to the vaccines conversation—the long-term, underlying systems that the country has going forward for pandemic preparedness.

What I think we have seen are surge capabilities. At each point, we need to know what we are going to surge and how. It is a scalable issue. We may come on to RFL in a moment, but one of the things I would point out—there are lots of positive things about that—is that on its peak day it delivered some 7,000 tests out of a total capacity across the country of around 850,000, so it is somewhere around 14%.

One of the reasons for that was that, first, very quickly we had a successful vaccine. Secondly, and very importantly for this, we had different tests. We had lateral flow devices. As we go forward, for coronavirus testing in particular—SARS-CoV-2—we have had a relatively low sustained PCR capacity and a stack of lateral flow device tests. Therefore, it is not just the PCR capacity we should be looking at.

Q379 **Chair:** You mentioned the approach of living with covid. We understand that. Our inquiry is into preparedness for future pandemics. The implication of that is that they are either not covid or a new variant of covid that is not susceptible to some of the treatments and vaccines that we have. That is the concern. Having just taken evidence from someone from the vaccine taskforce who regards the development of vaccines as being a high point of the response, I think we would look back at the absence of testing capacity at key periods as one of the low points.

That is a lesson we need to address. I was not very clear from your initial answer where the testing capacity will come from for a new virus or new pandemic, given that the contracts with these two organisations are coming to an end. Where will we have that testing capacity?

Professor Harries: If I may go back to your point, I hope that is a statement about where we are with covid at the moment; why we are where we are; and why we have had that testing capacity to this point. As we go forward, we are into the vaccines discussions; it is diagnostics,

therapeutics and vaccines, and we do not know what it is that will be coming.

Some of our testing capacity that we have contracted for can turn to a new pathogen. Our systems—I include the digital infrastructure for reporting tests—need to be linked together to be able to evaluate the effectiveness of vaccines, whether we need more tests and so on. Those do not necessarily follow from the contracts we have, which is why we are at a specific point in time where we need to review as a country—again, not all my decision, but with UKHSA strongly contributing—what testing we think we do want and where that testing should sit.

As for RFL, you may want to ask me more questions on that and I am very happy to answer them. When we looked at this going forward and thought about disease X or a new pathogen, as I think Dame Anna explained when she was giving evidence—

Q380 **Chair:** Can we come to Rosalind Franklin in due course, because my colleagues have questions on that?

Professor Harries: The point I was going to make is that it is set up for a single pathogen. The fact that there is potential to have a contract somewhere now does not mean that contract would necessarily cover what we want in the future, so we need pathogen agnostic contracts and diagnostic assay systems ready to set up, and then we need to understand what Ministers' appetite is for managing the risk because, as many people have said, we may have a pandemic tomorrow; we may not have one for another 100 years. I think the MP here was flagging some of the ongoing costs. These are opportunity costs for other areas of expenditure.

Q381 **Chair:** When you wrote to us at the end of September last year our question was about preparedness for future pandemics. You said that, "UKHSA is establishing scalable diagnostic processes to effectively manage the initial diagnostics requirements for a significant outbreak or pandemic with a new or known pathogen. UKHSA holds retainer contracts with Berkshire and Surrey Pathology Service and University Hospitals Plymouth laboratories which could support surge testing as required." Those contracts come to an end next month.

Professor Harries: That is correct, and those were funded from covid funding, which also comes to an end at the end of this financial year. That is one of the reasons there is a point here. As we move back to living with covid we need to understand right across the country, on all these areas, what proportionate resilience we need to have.

The bit on which I can assure the Committee is that the work we have done inside UKHSA on that initial step-up means we have 11,000 tests that we can push. We have tried this; we have modelled it through the H1N2 variant, the swine flu variant, which you may wish to ask about.

We can push that up to 20,000 tests and pull out new diagnostic assays, and we are very confident that will work.

We can do our bit, if you like, within our organisational remit, and we are making proposals or suggesting ways that can be taken forward for future contracts, if Ministers choose to have wider testing available.

Q382 **Chair:** In your answer to us reassuring us that there was preparedness in place, you specifically referred to "a significant outbreak or pandemic with a new or known pathogen". The two labs may be funded out of covid funds, but you cited them as evidence of our national preparedness for a new pathogen. If those contracts are coming to an end next month, where is that preparedness and diagnostics to be found?

Professor Harries: If I remember correctly, that letter was dated 29 September 2023 and it carried us over the winter. I stand by that assurance. I hope I have some very positive comments to make on the vaccines and the element behind it. What I am saying is that we are at a point where, having got through a pandemic—many contributors say they are concerned about things that have stepped back or opportunities lost—there are elements of pandemic preparedness that do not sit completely with UKHSA. We can and wish to contribute, but it needs to be considered at a level that the country wishes to take forward, and Ministers are and will be considering those. I do not have a confirmed budget for my own organisation at the moment, but I am confident that we will be moving forward and, therefore, am very confident up to the 20,000 tests at this point.

Q383 **Chair:** It is fine to have a review; it is fine to look forward and prepare, but we do not have that luxury now because these contracts are coming to an end. We are in a situation where, having learnt the lesson that we were caught short by not having testing capacity, in a matter of weeks we will not have testing capacity available. We may decide following this review that we need it again, but after four years we are back to square one, are we not, at least in terms of capacity? Obviously, there are learnings in how to respond in organisational terms.

Professor Harries: There are a lot of learnings and we should not underestimate them.

Q384 **Chair:** That is accepted.

Professor Harries: We have a small team that retains the knowledge.

Q385 **Chair:** In terms of the physical facilities?

Professor Harries: Yes. At the moment, that is the position. Clearly, we are not at the end of that contract.

Q386 **Chair:** That is in March and this is the penultimate day of February.

Professor Harries: That decision sits with Ministers, not just with me.

Q387 **Chair:** You said at the beginning that some of these decisions are for

Ministers. Ministers are responsible for preparedness. I think the implication was that you implement them. In the scheme of things, you head a relatively new organisation, the UK Health Security Agency. Is there a risk that the public, noting the existence of the UK Health Security Agency, may think that you are responsible for providing health security to the UK but that that may not be the case? It is the responsibility of the Secretary of State for Health. I think you are saying your role is an operational one to implement Ministers' views. To what extent are you responsible for securing, in so far as it is possible to do so, the health of the nation?

Professor Harries: The new title is helpful; it puts the agency, in a way that predecessor organisations have not been, into recognition that it is part of the national security infrastructure. That is important, because we are now contributing biosecurity strategy in a way health has not done before. There were comments earlier about why we are not considering this like the Army. I agree we should be. We have seen what the impact on the country has been.

That is very positive. We do have an operational arm and we are modernising that and trying to make it much more responsive, efficient and digitalised, where it is appropriate to do so, and we are taking that forward. We make recommendations.

If I talk in real extremes, whether it be this country or many others considering the same thing, one could argue that on average a pandemic of this type has happened once every 100 years, and therefore we are not going to do anything about this as a country but scramble in 100 years' time, or we could say we want to retain absolutely everything we have had through this last pandemic in case we want to act. My suspicion is that somewhere in between that are some sensible parameters, but they do not sit solely with this organisation.

On the positive side—this relates to some of the comments about vaccines, testing and diagnostics—within the biosecurity strategy work we are contributing really strongly in looking at priority pathogens and other infectious disease elements in a risk-based way. What do we think are the ones most likely to cause pandemics, building on work that CEPI and WHO have done, looking at where we do or do not have vaccines already—there are opportunities for manufacture in liaison with life sciences—where we do and do not have diagnostic tests, and where the supply chains sit behind those, because they are equally important things?

There is ongoing work, but it is for me to contribute to the decisions on all of that but not to define them completely.

Q388 **Graham Stringer:** Before I get to my question, I would be interested in your comment on what I am about to say. There is a dispute about whether covid-19 was manufactured or altered in China, but clearly pathogens can be created or altered to be more dangerous, so it would

be very difficult to predict that. Further, in a world where you can travel essentially to anywhere, do you not think—I understand why you refer to 100 years; it is a rational thing to say—first, that we may be up against something we cannot see at the moment, and, secondly, it might happen more quickly, because there are some seriously bad people out there?

Professor Harries: I was using that as an example. I personally think it is likely to be sooner than 100 years. All the indicators are that we have zoonotic spillover; we have encroachment from farmland on to wild habitat; we have migrant populations; and we have climate change, which will be a real driver. Things like tick-borne encephalitis and vector-borne diseases coming to the UK in due course, not necessarily all within our lifetime, are almost certain.

If you look at the national risk register, you see the risk is around 5% to 25% in the next year. I absolutely agree with you. I was using it as an example. There is a need for somebody to make a decision. I know what I can provide robustly from the organisation, and we will definitely be able to do the points I have just made. The contracts beyond that need to be a national decision.

Q389 **Graham Stringer:** Looking at lessons learned, all the way through the pandemic, whether it was true or not, Ministers and advisers said we were following the science, whatever that was. You said at the beginning of covid that masks were not necessary—indeed, that they might make things worse. I would be interested in what changed your view on that scientifically, and whether there have been any double-blind tests to see whether masks work.

Secondly, controversially, it was decided to vaccinate children who, if they were healthy children, essentially were not at risk. What was the science behind that?

Professor Harries: These are topics which will be explored in some detail in the public inquiry.

Q390 **Graham Stringer:** I am sure they will, but I am asking you.

Professor Harries: I can give a brief comment. On masks, this point has been made by the CMO and many others. I think both of these questions are answered in the technical report, to which I have contributed. The evidence around the potential for harm from masks is that historically in flu seasons people will wear masks around their face. Particularly in healthcare settings, when somebody stops for lunch and puts it on the table and there is a touch mechanism, they can infect themselves and somebody else.

What we saw in evidence as we went through the pandemic—this would be the same for new pathogens—is that we learn as it goes along. The evidence changes. Touch risk was not as significant as first considered. You work from what you know already and what is reasonable from

previous coronavirus or other pandemics and then move forward. This is learning that moves from one place to the other.

On the detail of childhood vaccinations, those are independent views taken by JCVI. I am not on JCVI now, so I would not personally have been involved in that specific decision, but your point is that any individual medical practitioner always has to make sure when prescribing something that the benefit outweighs any harm. I would have to refer you back to the JCVI's detailed decision on that.

Q391 **Rebecca Long Bailey:** You mentioned that covid funding fades at the end of the year. We have already heard today from two significant diagnostic labs that their contract for funding runs out in June. They are already operating on a reduced staffing structure because their previous contracts reduced the volume they were required to produce. To ask a very simple question, does the UKHSA have enough resources to ensure that the UK is prepared for another pandemic if one occurred tomorrow?

Professor Harries: I go back to an earlier question. We contribute to pandemic preparedness. We are not just a response organisation. Most of our work is on the science side, and that is where we can contribute hugely to life sciences and economic growth. Often, that is not fully appreciated. We feed very strongly into vaccine development and new test development.

The responsibility overall sits with the Department of Health and across the health family. As I have just done for testing, I can describe exactly what we can do. I try to make those parameters clear within the pandemic plans being developed, and then there can be national choices about whether risk wants to be taken or mitigated.

Q392 **Rebecca Long Bailey:** In your expert opinion, does your organisation as it stands now have sufficient resources to be prepared for a deadly pandemic if it happened tomorrow?

Professor Harries: For the parts I can define I can say that, but no public health protection agency in the UK that I know of, historically or now, has ever been funded fully to mount a full response as we have seen to a pandemic. It would always be something of that proportion, and one would then turn to Government because it would be a national emergency.

I am trying to be really clear in maintaining the science and scientific knowledge and grow that. That is what we are doing. For example, we developed a vaccine development and evaluation centre exactly to provide a front door for industry and grow that. I met academics yesterday at the pandemic sciences network meeting, which I organised, to try to ensure we can share those skills and keep them warm, if you like.

We have developed new ways of pushing up contact tracing and can tell you the timeframes in which we can bring in contracts, but we are not

resourced—I do not think that was ever intended—to maintain the billions of pounds' response that was prevalent for the actual pandemic. We are talking about the vaccine taskforce. I think that within a few months the budget for that was around £9 billion, and in the public space the UK Health Security Agency's budget is £395 million. We need to understand the proportionality. We can do lots of really good science and be very prepared to scale up, and that is the critical point for national response.

Q393 **Rebecca Long Bailey:** Your agency is responsible for pandemic preparedness in the UK. While I appreciate you work with lots of different moving parts and organisations, you will have an overview of the amount of funding and resources that would be required for a pandemic if it happened tomorrow. The question I ask again is: do you think that the UK is fully resourced and funded sufficiently to be prepared for a pandemic if it happened tomorrow?

Professor Harries: I am not the agency. The Department of Health has the responsibility for pandemic preparedness and we work with them. I am not trying to ignore your question, but the answer is simply that we need to be clear what it is the country wants to retain. Is it everything that we have—850,000 tests a day sitting idle—or do we want to have a smaller capacity going forward?

Going forward into next year, I can assure you of the science. We can do work on vaccines, which we will do for preparedness. I can tell you exactly the number of tests we can do and we can get a diagnostic assay out. We have excellent scientists in the UKHSA. We can retain teams with the knowledge to step up, but to go beyond that is a national decision because it is an opportunity cost for public spending. I am not trying to be awkward, but that is why it does not all sit with me.

Q394 **Rebecca Long Bailey:** For the Committee and people watching, the contracts with the two labs that we discussed issues with earlier are coming to an end in June. The UKHSA would have nothing to do with the funding of those labs and would not be making representations to Government. Am I right in saying that?

Professor Harries: That is not quite what I said. The contracts for those labs have been funded as part of the past covid pandemic response. We are moving back to managing infectious disease, including covid, as usual. If we do not have those contracts, we will be managing covid in the same way as we would other respiratory viruses. We have surveillance systems; we have laboratory testing; routinely, we work with the NHS.

We are doing all of that, but those contracts were part of a step-up system. We can do our bit, but the country needs to decide. It is not for me; it is a ministerial decision. We have seen already with the public inquiry that the impacts of the pandemic are so significant that that discussion sits with UKHSA involvement. We can make recommendations

on testing and the scientific technical side of it, but the discussions on investment are beyond the organisation alone.

Q395 **Rebecca Long Bailey:** Have you made any recommendations or requests to Government to extend this funding for such facilities?

Professor Harries: We are working with the Department of Health in a number of these areas—testing and vaccines work as well—to indicate where we think there will be benefits, and it is for Ministers to consider those. They are doing that on an ongoing basis.

Q396 **Rebecca Long Bailey:** Are there any specific figures you would be able to disclose today in terms of the requests you have made to Government?

Professor Harries: In terms of funding?

Rebecca Long Bailey: Yes.

Professor Harries: No, because this is a decision about risk appetite and risk management to start with. The funding cost comes after that. It goes back to my point. We are in a different position. If something happens, we can step up 20,000 tests. We have also been working on a diagnostics accelerator. If we can manage to produce—we now have good manufacturing across the UK—a new LFD in three or four weeks, we might not need any step-up testing, so there are decisions here about what you want to keep hot and what you keep at bay.

In those cases, it is really important—it goes back to the commercial interface—that we stay very aligned with commercial production lines. That is something I want the organisation to be doing.

Q397 **Rebecca Long Bailey:** I am still not clear whether we are prepared for a pandemic. I do not feel very confident. UKHSA is responsible for the 100 Days Mission. We have heard evidence that the UK would not be in a position to achieve this target if there was an outbreak tomorrow. Do you agree with that position?

Professor Harries: I am just going to go back. The 100 Days Mission is a global ambition. It was very much launched by the UK—the G7. I am going back to 2021, I think. In fact, I had this conversation with Sir Peter Horby in a separate setting yesterday. We provide the secretariat for the UK. What you will see is a report that we published. There was the international report and then we published one on UK progress. You will see there is a difference between the two. The international report is not as positive, but if you look at the report we are clearly not there yet. The ambition is actually for 2026, but what you can see is quite significant progress.

If I, perhaps, pull out a few of those, the first one is around the biosecurity strategy because a huge amount of work is sitting behind that. Somebody mentioned HERA earlier, which is the European emergency response co-ordination system. We are effectively doing the

same thing with a UK lens and we will be able to take that forward. If you look even more closely, if you take something like the Moderna strategic partnership, the SRO for that sits within UKHSA. Then, if you go out to Oxfordshire, you will see labs being built.

Coming back to your pandemic question, that will provide the option within two years, we hope, for 250 million doses of vaccine, should we need it.

Q398 **Chair:** Dame Jenny, are you independent of Ministers?

Professor Harries: I carry a really tricky—I was thinking, when you were talking about civil servants, I am technically a second permanent secretary in the Department of Health but I am chief executive of an arm's length body. Most importantly to me, I am a professional medic and am registered on the General Medical Council. So, I can, to some extent, choose which hat I am wearing. What I would like to try to do is ensure I am doing what I should be doing in all places but keeping patients and public health right at the forefront.

Q399 **Graham Stringer:** Do the three of you get into conflict at any time?

Professor Harries: Not if I think through it very, very carefully, but there are a few moments where it is quite challenging.

Q400 **Chair:** To Rebecca's point, if it were the case that you thought there was insufficient funding for our health security in terms of preparedness for future pandemics, would you say so publicly?

Professor Harries: It is my responsibility in my job and, in fact, Ministers would expect me to say what I thought. That is the remit of the organisation. I have been very clear in budget discussions, for example, as the organisation was becoming established—

Q401 **Chair:** You would give advice internally, but would you say so publicly if you were of the view that the settlement was not adequate to the need?

Professor Harries: I am bound by civil service rules but I think I would feel that there was a professional responsibility to ensure that that was understood.

Q402 **Chair:** You would say that.

Professor Harries: I would put it a different way, which is I am a committed public servant and I have a professional responsibility. I would be very uncomfortable leading an organisation, particularly with all the brilliant skills that it has, if I did not feel I had resources to make a difference to the health of the public.

Q403 **Chair:** Obviously, this Committee has taken evidence from a number of witnesses. The Pandemic Sciences Institute, in evidence to us, said, "Recent events have demonstrated very clearly that the UK remains unprepared with a lack of diagnostic capabilities, treatments and vaccines." Do you agree with them?

Professor Harries: I was discussing this with them yesterday. We were actually having a network. One of the ways to go forward, I think, is to ensure, as with industry, that we are much better as the sum of our parts. UKHSA has a direct link into Government but we need the academic expertise that is around there. If we work on different things, bits of research or whatever it might be, then together we can fill all those gaps, not necessarily through my organisation alone, which was your point.

I doubt there is any country in the world that could put their hand up and say they are ready for a pandemic. I just don't think that is true. The question here is, are we heading—

Q404 **Chair:** We are not ready but no one else is.

Professor Harries: I do not think anybody is, so we are no different.

Q405 **Chair:** Unprepared; not ready—unprepared.

Professor Harries: Are we making good strides forward? Yes, and the point that I would pull up is the comment I was making about the biosecurity strategy. Sitting behind that is the absolute intention to be reaching out to the life science industry in a coherent way. If I take vaccines, for example, we have put out our own strategic goals. Goal No. 2 is absolutely about vaccine preventable disease. Yes, it might be about ensuring appropriate coverage for existing programmes, but it is also about ensuring that, where we can, we can get ready for pandemics. So, you are having banks of appropriate prototypes for vaccines or for tests going forward, and that is sitting behind the biosecurity strategy development.

Q406 **Chair:** Another piece of evidence to our inquiry from Microbiology International said, "The dismantling of this large-scale capacity for PCR testing post pandemic means that lockdowns are more likely to be required again, as it takes time to scale up and staff these testing facilities." Are they right?

Professor Harries: I am not sure on what basis they founded that. If we go back to my point about lateral flows, for example, historically we have never used lateral flow devices for whole population testing, surveillance and management. There is a point. We do mini NPIs every day. If I have a cold and I do not want to infect my elderly relative, I stay away from them. That is a non-pharmaceutical intervention.

Q407 **Chair:** But on testing, in particular.

Professor Harries: My point is that testing on its own is good for understanding severity of disease; it does not control pandemics.

Q408 **Chair:** You would agree with this, surely, from what you said: nor is there any longer-term plan for having this capacity available, should another pandemic occur. You said there isn't a plan because we have come to the end of the covid plan.

Professor Harries: There isn't a long-term plan now but there are a number of areas to this. I do not agree with that one because there are conversations linked to the pandemic preparedness work which the Department of Health is doing, and linked into biosecurity strategy, that will define what we do have on a long-term basis going forward. That is much better linked to national security because it starts to pick up the potential negative impact of NPIs as well as the positive ones of controlling infection.

Q409 **Katherine Fletcher:** Thank you so much for all the work you put in during the covid pandemic. I remember watching you on the telly and thinking, "I'm not that keen to swap jobs." This is all about making sure that we do not have to go through that again. So, we have this disease X that we need to prepare for; we do not know what it is, but we have some hints from recent avian and swine flu outbreaks. If I may, let us just test how far down on the blocks you are to prepare to spring if swine flu turns into disease X.

Recently, with poultry workers, there was an avian flu epidemic. Has it changed your view of it? Is the status of avian flu going higher up the list?

Professor Harries: You had my colleague Meera Chand to speak to you a few months ago, who is very into the detail of this; it is a specialist area. My point is that the situation has not changed. If anything, the number of premises incidents has gone down over the last few months in the UK. The risk level was set at 3 out of 6. What that indicates is there is mammalian to mammalian spread. Obviously, there is potential for bird diseases, but the risk to human health has not changed. That does not mean we have taken our eye off the ball at all.

Q410 **Katherine Fletcher:** Are you continuing to surveil all poultry workers or just in target areas?

Professor Harries: I did listen to what she said, so I will not repeat most of it, but she highlighted some of the opportunities and also some of the problems in doing that. We have to have the right premises; it is an informed consent. But we have had good success on engaging people. We do not have many infected premises at the moment to continue most of that work, so we will do.

There is a separate point, which is that historically we routinely offered flu vaccination to poultry workers. The rationale was very much about trying to limit the possibility of co-infection.

Q411 **Katherine Fletcher:** A base level of immunity to generic.

Professor Harries: It was not very well taken up and so it was ceased. People just did not avail themselves of that service, but we are looking at it again to see whether we can get a better uptake to reduce the risk.

Q412 **Katherine Fletcher:** That makes sense. I am conscious of the Chair's

edict to get on with it. Are you spot checking other potentially high-risk avian flu sites as part of the surveillance?

Professor Harries: We work with APHA and Defra. They lead on this, but there has been some brilliant co-working. The One Health agenda is a really good example of where that is moving forward very well—so working to check on both human and zoonotic genomic species linking up with Pirbright, for example, and looking through that.

Q413 **Katherine Fletcher:** So you are spot checking just to keep an eye on it.

Professor Harries: We have influenza surveillance, and then, if we have unusual cases, we do sentinel swabbing and various other things. You might want to ask about swine flu, and how we picked up that variant.

Q414 **Katherine Fletcher:** Yes, I am coming to that.

Professor Harries: APHA will take control, if you like, of the poultry side of things, and then we will deal with any of those workers who are coming through.

Q415 **Katherine Fletcher:** As for the organisational interworking, as you are referring to it, if they see something that is a bit dodgy in the chicken test, they are going to ring you guys up and say, "Do you want to have a look at this?"

Professor Harries: There is a continuous working relationship across it and there is a risk assessment ongoing. As I say, that has not changed. We publish; we have world-renowned briefings, technical briefings, a bit like the variant ones for covid.

Q416 **Katherine Fletcher:** Yes, Roger that. You have mentioned it, so let us come to H1N2, swine flu. What are the implications there? Are you worried?

Professor Harries: I was. On a day in November I was very worried. That is my job and that is entirely right. We have ongoing surveillance, perhaps not in the same density or depth as we did for covid routinely when the disease was settling down, but we routinely work with the Royal College of General Practitioners. For people who present with flu-like symptoms, they will swab a certain number in certain practices. They get sent off and, if they are unusual, then they will also go off for genomic sequencing. This was an H1N2 variant, which was the first swine flu variant case in humans in the UK.

Q417 **Katherine Fletcher:** For the record and for everybody listening, that human had not been anywhere near a pig.

Professor Harries: So you say, "What do we do?", and this is where the operational side kicks in. We sent out our rapid support team, who vigorously tested the individual case and any other household members. They did very detailed histories. I would have felt much more relieved the first weekend if somebody had said they had a pet pig, because you will

get this occasionally if you have very close proximity. In this particular case they did not, which entailed us doing significant testing round—

Q418 **Katherine Fletcher:** What was your hypothesis? Where has it come from?

Professor Harries: You will get odd cases and we did not find any connection. We did a lot of testing. There was a link with a healthcare setting. We tested that really vigorously and rapidly, and we found no other cases.

The answer to the question about what we would do, yes, we spotted it on surveillance. Yes, we went in really fast. No, we did not find anything else, and there is this balance here about resource again. We had the capacity to do that and we have not seen any other cases. We will continue to watch.

Q419 **Katherine Fletcher:** As you are alluding to it, perhaps you can set out how you are keeping an eye on all the myriad different viruses that are popping up. As Carol said—unfortunately she had to go—"Covid was not one of the viruses that we were worried about," quite famously. How are you keeping an eye on the trends in this thing called a virus, which, as you know, comes in a rainbow of different varieties and it is a lot to keep on top of?

Professor Harries: It is not just viruses; it is bacteria. Some of the tricky things going forward are likely to be fungi, which is an area that has not been very well studied. In relation to that, this is our surveillance system, part of the new and positive structure for trying to detect pandemics and manage them before they turn into one—so, finding outbreaks, small epidemics and then trying to shut them down.

We have surged a lot of data and analytics. We have new skills. We have a data analytics and surveillance part of our system. We are now trying to extend outwards the sorts of dashboard that we did for covid. You will see if you google—other brands will do—that you will be able to link into that and you will see our trials to ensure that we are transparent with the public about what is happening with winter respiratory viruses. They are all behaving nicely at the moment.

When it comes to perhaps more exotic things, we have syndromic surveillance. If you take something like flu, we look out for surges in people presenting with influenza-like symptoms in this country. Then those sorts of things are mirrored in the information that we receive from overseas. We have an emerging infections team who will be looking at that and our surveillance data analytics and surveillance team will be continuously monitoring information coming in from overseas.

Of course, we work with the World Health Organisation directly. We work with other public health institutes, through IANPHI, International Association of National Public Health Institutes. Then we ourselves run a

number of programmes that are directly relevant and have positive benefit for the globe, if you like, but also to us in information.

We have teams supporting capacity-building for international health regulations, funded through FCDO and through the Department of Health. They are local teams—the UKHSA teams. I was out in Nigeria a couple of weeks ago and they support other countries to develop their centres for disease control. We also have a new variant assessment platform where we are supporting other countries to be able to build their genomics capability.

The whole mix of that, between professional data systems and surveillance systems, means that we won't spot everything, but we can start to get quite a rounded picture.

Q420 **Katherine Fletcher:** Your surveillance is anything from random symptoms popping up in unusual quantities in hospitals, right the way through to just randomly sampling the odd swabs that are coming to GPs, and also making sure you are keeping an eye on global events. Is that fair?

Professor Harries: Yes, except it is not random.

Q421 **Katherine Fletcher:** Fine. That was Mancunian random.

Professor Harries: What we have done is put in a systematic approach, an all-hazards, all-threats systematic approach to surveillance.

Q422 **Katherine Fletcher:** It is not mass surveillance; it is selected individuals.

Professor Harries: For example, for the winter, the ONS survey is commissioned by us. They deliver it for us and we commission that alongside things like our routine Royal College of General Practitioners' studies. Many of these have been running for many years. If we need to investigate something, a bit like the swine flu in Yorkshire, we can put in enhanced surveillance, either for a pathogen or for a local community or an area.

Q423 **Katherine Fletcher:** You can have the vets testing the pigs and your crack team is testing the humans.

Professor Harries: Exactly.

Q424 **Graham Stringer:** To follow up Rebecca's question on the 100 Days Mission, you heard me asking the question. Is there not an inherent problem in moving to get a vaccine in 100 days, however good your first testing is, that you cannot satisfactorily know how dangerous that vaccine may be, and the quicker you do it the greater the risk? With many pharmaceutical problems, vaccines, the problems occur only much later.

Professor Harries: I recognise that question from before. Going back to the swine flu variant, just as a matter of interest, we ran that effectively

exactly as we should have done. It is like a live sample: if we had disease X, what would we do, and could we push our testing out and what have you? We also included a conversation with an mRNA producer to say, "If your business was at this point now, would you be able to get us a vaccine, do you think?" The answer to that was yes, which is positive for the 100 Days Mission.

Q425 **Katherine Fletcher:** How long?

Professor Harries: Within the 100 days; that is what we were testing. It will not work for all. Not all pathogens will fit inside an mRNA vaccine; that is a very simplistic way of looking at it. It is not going to happen for all of them anyway and I am fervently in support of having multi-platform facilities across the country or access to multi-platform facilities; mRNA are fabulous for short turnaround times, which comes to your point. But I do not see they are the only way because we want different pathogens.

When it comes to your point about safety, which is where you are going, we will not reduce it to 100 days if it does not go through the normal safety routes. That vaccine cannot get signed off; it cannot be authorised by MHRA unless they have all the data that they need to give it a safe tick.

The thing that is a little bit different—it should be for MHRA to provide the details—is that, where you have new platforms that perhaps have one component that is repeated and you are changing part of it, there are opportunities to ensure that both bits of those are safe separately. The 100 days will still go through all the normal routine systems that any vaccine would.

Q426 **Graham Stringer:** I accept that. If you said the opposite of that or something different, I would be surprised. My point is, is there not an inherent risk, if you do it that quickly, that you do not pick up those effects that do not come out in the test, because some do not, and those that do come out are a considerable time afterwards? You are increasing the risk. I gave the example to Ian of swine flu, where it was eight months before the impact was felt for that small number of people who got narcolepsy.

Professor Harries: We have very, very good safety monitoring systems in this country, which I am sure you are aware of. The issue for something like a pandemic is the number of people who are vaccinated. In fact, in many ways it is not really the point of the 100 days; it is the number of people at which point you will start to see a negative outcome. If you have one in a million people who have an adverse reaction to something, it is only when a million tests have gone out that you will get the negative query. That should not make any difference whether you have done all the right processes in 100 days or 200 days. It is when you reach the number of people that would demonstrate that negative impact.

Q427 **Graham Stringer:** I want to make it clear, because these facts are used by anti-vaxxers, that I am not an anti-vaxxer; I am very strongly pro-vaccine. They save many, many lives. But there have been a number of parliamentary debates trying to examine the excess deaths. One of the concerns is that the Minister is advised by you. There is no detailed analysis of those deaths. We are just told by the Minister, "Nothing to worry about," and there is a generic answer. When there are all sorts of people out there who are anti-vaxxers, would it not be better to do a breakdown of the deaths to reassure people?

Professor Harries: I, as you would expect, am totally supportive of vaccines. While I recognise that rarely—very rarely—there will be a harmful impact, the country has a very strong record. Covid vaccination has saved many lives.

If we take measles, we have a drop in coverage. The way to support people, from what I have heard literally in communities, is that they need trusted voices and they need to be able to come and ask questions. The same probably applies to Members of the House; the clearer the information one can give, the more likely they are to be assured.

The issue with excess deaths is that the whole of the pandemic is so unusual in the sense that we have had vast numbers of vaccines given, we have had different vaccines given, and they all have their own safety records and it is possible to do that. Linked on top of that, we have had comorbidities and a significant impact on health services inevitably because of the ill health. In fact, a CMO's office, rather than mine, is looking very closely at excess deaths because it is not just the health protection issues; it is also that wider context.

If there was an easy way of splitting those numbers out very clearly, then, yes, I would support what you are saying, but it is very difficult to do that.

Q428 **Graham Stringer:** I am sure it is difficult, but I understand that the anonymised data has been sent to the pharmaceutical companies. I cannot see why, if that anonymised data has been sent to the pharmaceutical companies, it cannot be given to the public in general and Parliament in particular.

Professor Harries: That is probably a question for MHRA, who deal with the yellow card system.

Q429 **Graham Stringer:** Do you not have access to those detailed figures?

Professor Harries: We have safety reports. They go to JCVI normally, who make the final decisions. People in my teams will. I personally do not look directly at those; I have a large number of things. MHRA has the responsibility for that. I can look into it, but it is not—

Q430 **Graham Stringer:** If you could provide us with those detailed figures anonymised, I think MPs would find that very reassuring. Those of us who

believe in vaccines would find it even more reassuring. Generally in this country, we have a higher take-up of vaccines than in France and many other European countries, and we want to keep it that way. The way to keep it that way is to be open with the figures.

Professor Harries: It may not be for me to come back with those figures, but I will take the problem away and give you a response.

Q431 **Graham Stringer:** I have a final question on the Rosalind Franklin Institute. I know you have touched on that so far. I am not clear whether we are in a better situation than we were in February 2020, a worse situation or the same, and how the Rosalind Franklin Institute and other testing organisations fit into that.

Professor Harries: You heard from Dame Anna, who commissioned the Rosalind Franklin Laboratory. I was not part of that. There is an element of this that I am reading in the same way as you are. It was set up in record time—a phenomenal build. Within about six months, it put through its first test. But, for the reasons I have just said, it did not actually deliver huge amounts of value in the sense of the contribution it made to the totality of testing. Some of that, one could argue, is a timing issue. Some of it is because of the success of vaccines and the fact we had other tests, which is why I raised that as an important point as to how we get prepared. We do not necessarily want massive labs; we might do; we might not.

The other thing about Rosalind Franklin is that it is the lease that is for sale, not the building. I share many people's ambition that I would really like to see it used in a way to support life sciences and health outcomes. There have been two studies into it: Tim Briggs from the Getting It Right First Time NHS work. There was also a ministerial review to try to see what opportunities there could be. We have engaged with universities, life science funders and local people. We have tried to see whether there are opportunities for somebody to hold the lease and then use the different lab lines. So far, we have not been able to find somebody who wants to take that on.

Many of us feel that that is the right outcome, but then I also sit, of course, with an accounting officer hat on for public money within the UK Health Security Agency. There is no real justification at the moment for running that and keeping it hot.

Q432 **Dr Davies:** On vaccine development, you will be aware of a list of recommendations made by the leaders of the vaccine taskforce in December 2020. Did UKHSA have a copy of the recommendations before this Committee published them?

Professor Harries: No. I saw it for the first time last night. I have read it in some detail and I am very interested in it.

Q433 **Dr Davies:** What would you say has been achieved in terms of delivering those, despite the fact you had not had prior sight?

Professor Harries: I would say, at the moment, this is in the context of me looking internally, because I want our organisation to be fulfilling the opportunity that it has with its science leads—particularly at our vaccine centre at Porton Down—and to be working with industry in a way that the public sector has not done before. We have some very good relationships already.

When I looked at that report, I would say, first, I had not seen it before. We have not taken into UKHSA all the parts of the vaccine taskforce. Things like VMIC, which was referred to earlier, the big investments, are sitting with OLS, and not BEIS now but DSIT as the ongoing part. The global health connection sits with the Department of Health, but clearly we work with them very closely. The part that we took initially in this, particularly, had two elements.

One is the developing Moderna strategic partnership. It is a very challenging system because it does not fit within normal civil service boundaries around risk and management. For me, this was such an important thing in trying to bring new life science and new modes of making vaccines into the country that we have put a lot of effort into supporting that.

The other element of it is that whenever there is an incident—and we have heard lots about this, with Dame Anna and other individuals saying it, and I have seen this in action—everybody comes in together, works really well and, when the risk goes to a degree, people fall back. I am determined that we are not going to do that, but I do not have all the levers in UKHSA at the moment. So I was very interested.

People will see the Vaccine Agency, which is suggested, from the perspective they have. Clive Dix, as I have read it—and I would be interested to speak with him directly—sees it from a particular angle. I cannot see that because I know other parts of the system, connecting with the NHS for delivering vaccines or whatever it may be. But I can see parts in it that we can deliver and we could grow. So I am very keen to take some of that forward.

Q434 **Dr Davies:** Do you have a particular strategy in mind as to how to take those recommendations forward, if you believe they should be actioned?

Professor Harries: It would not be all of them. I think we are, but in quite a small way. If people want to encourage me more widely, the organisation is very keen to do so. We have developed, as I have said, a vaccine development and evaluation centre. We have published our own science strategy. We are majoring on pathogen genomics. There is a whole load of scientific skills that we can push towards that. We have already held industry days at Porton. We have a commercial directorate setting up.

The reason I was so interested was because I am just now at the point—as we move to covid vaccine being one of the vaccines, rather than the

only vaccine everybody is talking about—where I need somehow to ensure that we continue that work and have a just-in-time responsive approach for another pandemic, but also meld that into systems that we use routinely and improve those.

It will not be a vaccines taskforce, but we will be creating a mini-something vaccines part of our organisation over the next few months. With that and the vaccine development evaluation team, we can take over some of those responsibilities.

Q435 **Stephen Metcalfe:** You mentioned Porton Down. Obviously, this is a complex landscape. There are lots of different parts that make up "being prepared for another pandemic". Porton Down, as I understand it, is potentially reaching the end of its useful life as it is. There has been concern raised to us in the evidence that the availability of level 4 laboratories is of concern. I am sure you are aware—and if not you are about to be—that the NAO has today issued a critical report, saying, "What's happening with the site acquired in 2017 in Harlow?", which was the GSK site, on which hundreds and millions have apparently been spent, yet there is still no business case and still no decision. Can you give an indication of what is happening there and generally across that level 4 containment piece?

Professor Harries: I would like to reassure the Committee and the public, because I know there are headlines out today, that we run really, really tightly controlled, high-quality containment level 4 laboratories in Porton Down and Colindale. They have to be that way; we are not allowed to operate them any other way. People come to us from overseas to do work for them because they are of such high quality.

What this report is referring to is a forward look. Going back to your earlier question, Chair, about whether, if I am concerned about something, I will alert people to it, then, yes, this is an area where I have. We have heard the word "crumbling". They are not; they are perfectly there. Many media reporters have been down. We have had a day to show people around, obviously with appropriate security.

The issue about these labs is that, because they are so specialist and because you need such high security, quite rightly, you have to plan them years ahead. My concern in this case in terms of the original plans, which preceded the predecessor organisation, has been that, if we do not have definitive plans in place and progress them steadily through, we potentially end up with a gap in future years. But those future years are 15 years down the line; they are not now. These are all functioning perfectly adequately.

What you see also in that report is a slightly misleading figure. The £530 million and up to £3.2 billion is not quite right because they are slightly different. They are right but they have slightly different numbers in them. Inflation and VAT were not included in the first one. The critical point is—

Q436 **Chair:** It is very unusual for the National Audit Office to make such a mistake. NAO reports are agreed with the accounting officer, are they not?

Professor Harries: I agree, because it is what you describe in that. It is all agreed. In fact, I really welcome the NAO's review of this. It is very helpful. It sets out clearly, for something that is of significant national infrastructure criticality, and as it is such a long-term project and it is so expensive to the public purse, first, that it must go through and we need to have a clear way through, but, secondly, it needs appropriate controls and decision making.

On this one, the outline plan kicked off. I think the site was bought in 2017. I was not directly involved with that. Of course, you go through the site work and then there is the detailed plan. In the 2020 detailed plan—this again was before UKHSA—the cost was estimated at £2 billion. Because of things like changes in technical grading, requirements for these sorts of labs changing, inflation and all sorts of things, that has gone up again.

The other point about this is that the site at Harlow, as planned, is not the same as just building a high-containment lab. The original plan was to have supporting laboratories, CL 2 and CL 3, as well as offices for the whole of the predecessor Public Health England staff to go to that site. So it was a hub; it was not just a CL 4 build.

We are a health security agency. The risks have changed, as we have all said. Therefore, I think there was a responsibility to review that when the agency came into being. Ministers are very engaged, not only with the needs that we have at UKHSA but also what other parts of Government need in relation to high containment. We do have the biggest need and we are the only part of the system, apart from DSTL, which manages ACDP4, the human high-level risk.

Q437 **Stephen Metcalfe:** How long will this uncertainty around the site in Harlow last? If you have spent £30 million acquiring the site and £400 million getting to this point and still there is no business case, are you likely to say, "Well, we're going to walk away from that and we're going to do something completely different now," or are there going to be some decisions made?

Professor Harries: I am probably going back to the start of this, which is these are not all my decisions.

Stephen Metcalfe: No.

Professor Harries: You will realise this is an investment in a part of national critical infrastructure. It is quite right that those decisions are made outside UKHSA, but obviously with our technical support. What I can say is they are being very actively considered by Ministers currently. So I am sure a decision will be made.

Q438 **Stephen Metcalfe:** It is Ministers who will make the decision about whether to proceed or find this £3.2 billion.

Professor Harries: Generally, it will be more than just the Department of Health Ministers, but I am very confident that there will be a decision. What concerns me professionally, going back to the point, is that the country has the CL 4 containment laboratories that we need to go forward. I am confident that we will have. I am very keen to see that process conclude.

Q439 **Stephen Metcalfe:** As the UKHSA, is that site still—

Professor Harries: There are a number of issues about all sorts of different sites. I am most concerned that we have the facilities and that they have the appropriate security. In fact, we are not allowed to build them. That is not just the security for the lab; it is the security around the building. These are things which need very tight controls, and that is what the public would expect.

Q440 **Stephen Metcalfe:** Finally, when the Crick Centre was built, there was discussion about whether or not to include level 4. I believe they have level 2 and level 3 containment.

Professor Harries: Yes.

Q441 **Stephen Metcalfe:** Was it a mistake not to include level 4 at the Crick, seeing as we were spending quite a lot of money building it?

Professor Harries: This goes back to what sort of risk level you want and predicting hostile and natural threats, going forward. It is extremely difficult. We have been looking at it anyway with our current facilities. We are very aware that academics would like to have a little bit more access, if you like. We have been doing some work to see whether we can arrange the way we use the labs efficiently. Safety has to be at the top of the agenda, and appropriately trained staff. You cannot run them otherwise. But we think there may be some opportunity to support academics, and, again, that was one of the reasons I was speaking with them yesterday.

Q442 **Chair:** On this NAO report, am I right in assuming this has been agreed with you as accounting officer?

Professor Harries: Yes.

Q443 **Chair:** It has. You, therefore, agree with what the NAO says on page 12, paragraph 18: "In our view, the UK's future resilience to dangerous diseases and value for taxpayers' money are both being undermined by failures in decision-making for a key part of national infrastructure."

Professor Harries: A decision has not been made; we have not had clarity. This is a very large amount of money and needs to go through multiple business cases en route. The technical design and consideration needs to be thought through sequentially as well; they are not simple

things to build. If a decision continues not to be made then I agree with that, and that is what the NAO is basing this on.

Q444 **Chair:** As things stand, the UK's future resilience to dangerous diseases is being undermined. That is the situation.

Professor Harries: Without a decision, yes. If there is no decision, then I cannot see that forward look for the country.

Q445 **Chair:** It talks about failures in decision making. If you might be optimistic that they are about to come to an end, do you think they are? Are you given to understand that?

Professor Harries: You can probably tell from the tone of my voice that I am feeling very confident that a decision will be made on this. As I say, my main concern is not so much about the siting; I know there will be other interests. It is very much about whether the country has the facilities. On my watch, that is what I need to protect.

Q446 **Chair:** You did say a few moments ago that it was about future provision.

Professor Harries: Yes.

Q447 **Chair:** But this facility was due to be completed by 2021.

Professor Harries: Originally.

Q448 **Chair:** Indeed. When it was planned, it was presumably thought to be needed by 2021. According to this NAO report, if the decisions are taken, it will now not be fully operational until 2036.

Professor Harries: If you could bear with me a minute, what happens with this is you have to build the lab and then bring it into commission. The commissioning and testing to make sure it is secure, before it is used for high containment level pathogens, usually takes years. This is not something that you test for a couple of weeks and it is okay.

The other issue is that the site originally would have had people coming into offices, for example. It would not necessarily have had all the labs functional. This Committee, I am sure, will not want to go into the detail, but you get into these issues of which labs are going to come on and which ones are going to be double running in different places of the country.

On the timeframe, we continuously upgrade all of our laboratories; we are required to do so. As long as we continue to upgrade them and as long as a decision is made within a reasonable build time period, that is fine. The difficulty comes when the upgrading costs more or it becomes impossible to reach the standards required for high containment level 4. That is where you get into the—I was going to say the sweet spot, but it is not; it is the negative spot.

Q449 **Chair:** Katherine has one last question but there is one more from me. The UK Health Security Agency, as I mentioned before, is a relatively new

organisation. Is it an advisory body to Ministers or is it responsible for anything?

Professor Harries: It is responsible for health protection operations. It is responsible for delivering science. It is responsible for delivering surveillance and various other elements of response. We have, I would say, an operational and a clinical and science arm. Both are needed together; pandemic responses cannot be done if the maintained science is not going through. We do advise and make recommendations to the Department of Health and, through and with them, to Ministers.

Q450 **Chair:** Is it responsible for assuring that our preparedness, our health security, is adequately provided for?

Professor Harries: That is a question which maybe the public inquiry needs to look at. The organisation is—

Q451 **Chair:** I am not talking about covid; I am talking about across the piece.

Professor Harries: The organisation is responsible for assuring its own preparedness for the things within its remit.

Q452 **Chair:** Its own but not the country's.

Professor Harries: No, not the totality of the country because we do not have levers over all of those. The NHS needs to be prepared and respond. We work with them; we devise plans with them; we exercise with them. But, actually, the NHS itself needs to be responsible for its own emergency response and assurance.

Q453 **Chair:** Not providing the assurance that those measures are in place by other bodies.

Professor Harries: No.

Q454 **Katherine Fletcher:** To more localised business, the Committee has been running an investigation into fungi. One thing that has come up is the issues with amphibians getting wiped out by fungi. Four hundred million years is a long time between us and amphibians, but you did mention there were some things you were concerned about—potentially human pathogenic fungi. Do we need to worry? Is it possible that fungi is the next covid?

Professor Harries: I thought you were going to ask me about amphibians. I was going to say that is not my specialist area.

Katherine Fletcher: No.

Professor Harries: Yes, we should be worried. What we have seen is some fungal infections; this is more, I believe, under antimicrobial resistance. Often, we think about antibiotics, but actually it is about whether we can control fungal infections. In some cases, we have seen fungal sepsis, if you like, fairly uncontrolled. We do not tend to think of it as particularly damaging or threatening to health, but fungi can kill. We

do have specialist resource. We have particularly good work on that in our lab in Bristol. I can certainly provide some information on that. It is probably not something that I could give you the detail of now.

Q455 **Katherine Fletcher:** We would be grateful, but you are keeping an eye on it already.

Professor Harries: Yes.

Katherine Fletcher: Thank you very much.

Chair: Thank you very much, indeed, Katherine. Thank you very much, indeed, Dame Jenny, and to all of our witnesses this afternoon.