Witness Name: John Newton

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UK COVID-19 PUBLIC INQUIRY
MODULE 7
WITNESS STATEMENT OF PROFESSOR JOHN NEWTON

Section 1: Introduction and Background

I, Professor John Newton, formerly of Public Health England, Wellington House 133-155 Waterloo Road London SE1 8UG, will say as follows:

1. I am a physician, epidemiologist and public health specialist. I undertook my medical training in Oxford and London (BA Oxon 1979, MB BS London 1982). After further medical training in London, I became a member of the Royal College of Physicians in 1985, (and later Fellow of the Royal College of Physicians in 1998). In 1988, I started my training in public health in Oxford and at the London School of Hygiene and Tropical Medicine (MSc (Community Medicine) London 1989). I became a member of the Faculty of Public Health Medicine in 1991, and Fellow of the Faculty of Public Health Medicine in 2000. I was an epidemiologist at the University of Oxford from 1992 to 2003, and Director of R&D at the John Radcliffe Hospital in Oxford from 2002 to 2003. I was then appointed as the first Director and Chief Executive of the UK Biobank project based in Manchester and in 2004 became an Honorary Professor of Public Health and Epidemiology at the University of Manchester. From 2007, I was Regional Director of Public Health for the NHS region of South Central and, in 2012, I became a Professorial Fellow of the Royal Society for Public Health.

2. When the Strategic Health Authorities were abolished under the Health and Social Care Act 2012, I was appointed to the role of Chief Knowledge Officer at the newly formed Public Health England ("PHE"). I could have transferred across as a Regional Director, but I chose instead to apply for one of the advertised, national specialist public health Director roles at PHE of which there were three (Chief Knowledge Officer (CKO), Director of Health Protection (Paul Cosford was appointed) and Director of Health and Well-Being (Kevin Fenton was appointed)). As CKO I was responsible for PHE's regional and national intelligence and data functions including cancer registration and the functions previously performed by the regional Public Health Observatories. I was also responsible for research, libraries and knowledge management across the whole of PHE, building on my previous experience as a Director of R&D in the NHS.

3. In 2017, Kevin Fenton left PHE on secondment to local government. Following the subsequent reorganisation, I took on many of the functions of his Health and Wellbeing Directorate in addition to my responsibilities as CKO. My post was renamed Director of Health Improvement. In the new role, in addition to most of my existing duties, I became responsible for health advocacy and programme delivery in areas including but not limited to screening, diet and obesity, tobacco control, alcohol and illegal drugs, mental health, sexual health, inclusion health, healthy environments and cardiovascular disease prevention. By 2021, when PHE was abolished, my Directorate consisted of approximately 1,100 staff and had a budget of £130M per annum.

4. With such a broad remit, I delegated day to day responsibility for much of the work of the Directorate to six senior colleagues reporting to me as Deputy Directors. I was nevertheless more closely involved in various topics from time to time, for example on cardiovascular disease prevention, mental health or tobacco control, when my skills and experience were needed. I would also regularly act as spokesperson at external events or in the media and appear as a witness at Select Committees when the topic was relevant to my remit. I also engaged with other stakeholder organisations at a senior level, for example, in 2017 I attended the Board of NHS England to present on health inequalities and I was the deputy chair and interim chair of the NHS National Information Board from 2013 to 2018 and a member of the national Cancer Task Force in 2015.

5. In parallel with my full-time employment at PHE I maintained links with the public health community externally. In 2016, while I was at PHE I was appointed to an Honorary Chair in Public Health and Epidemiology University of Exeter and I was elected and served as Vice-President of the Faculty of Public Health from 2019 to 2022. Following the abolition

of PHE in 2021, I applied for and was appointed to a substantive post of Professor of Epidemiology and Public Health at the University of Exeter. I chose to take up the post in Exeter on a part-time basis (one day per week) as I was also offered the role of Director of Public Health Intelligence at the Department of Health and Social Care ("DHSC") reporting to the Chief Medical Officer ("CMO"). Most of my staff transferred *en bloc* to the DHSC in October 2021. I wanted to support them following the transition and to help establish the new OHID function at the DHSC. I left the DHSC in March 2024 when my post was deleted following a reorganisation.

6. In June 2021, I was appointed by the French Government as chair of the scientific advisory board of the French national public health agency *Sante publique France,* advising on the full range of its scientific programme. I have also been an expert advisory member of the board of the Saudi Arabian public health agency since 2022.

7. In January 2020, at the beginning of the period of interest to this Inquiry, I was working at PHE full time as the Director of Health Improvement. On 1 February 2020, I started a sabbatical at the University of Exeter (based in Cornwall at the European Centre for Environment and Human Health). This was an opportunity for me to spend some protected time in an academic centre specialising in the role of environment in health and for me to do some scientific writing. Rosanna O'Connor (Deputy Director for drugs, alcohol, tobacco and inclusion health) was appointed as Acting Director of Health Improvement in my absence.

Section 2: Roles and Responsibilities from March 2020 to June 2022

8. The arrangement I refer to above was intended to last 3 months. In mid-March 2020, however, the sabbatical came to an end because of the implementation of lock down and I returned to my home in Oxford.

9. On my return, I decided to leave the acting up arrangement in place as this was working well, and it allowed me to offer my services as a supernumerary Director to Duncan Selbie the CEO of PHE to support the pandemic response.

10. In late March 2020, I was supporting my teams many of whom were now working on the pandemic response in various ways. For example, the health intelligence team were setting up a system to calculate and report weekly excess mortality statistics to estimate and track the impact of COVID-19. These were first published in July 2020 and were

later published by age-group, ethnicity, region, and cause **[JN1/01 INQ000397151]**. The data science team were working with EpiCell colleagues on the COVID-19 Dashboard. At the same time the EpiCell in PHE were working on a data linkage project to better enumerate all deaths from COVID-19 especially those who died outside hospital by linking laboratory results to the NHS central register for primary care. On 30 March 2020, we were seeking approval from No 10 for reporting publicly a separate count of deaths out of hospital to give a more complete estimate of overall mortality. Approval was given soon afterwards. We were already supplying this data to modellers such as Prof Neil Ferguson. Many other staff were seconded to various "cells" within the PHE incident response structure including the evidence and guidance cells which were undertaking rapid reviews of the literature to support new guidance. The diet and obesity team were working with DEFRA on plans to provide food supplied to vulnerable people when isolating. Many of my colleagues were able to use their specialist experience to support the incident response by providing advice in areas such as end of life care, the criminal justice system, and sexual health. The inclusion health team were very active in working with the Home Office and the Ministry of Housing, Communities and Local Government on addressing the needs of vulnerable groups including asylum seekers and people experiencing rough sleeping. My tasks at the time as Director were to co-ordinate this effort, manage competing demands for staff across the incident response, and provide advice myself on certain aspects of the work. However, my normal workload was reduced because of the pandemic because many external meetings and events were cancelled. I was however attending the daily internal PHE "COVID-19 Cabinet" calls.

11. On 1 April 2020, I received a call from the Secretary of State for Health asking me if I would help him deliver the five-pillar programme to expand testing capacity in England (I provide more detail about the programme below). As I recall he said that he needed someone to provide leadership internally and be the public face of the programme externally. The term he used for the role was "testing tsar". He wanted to appoint someone who understood the technicalities and could explain them clearly to general audiences. He also said he needed someone who could deal with complex problems as they arose, ensure good communication within the programme and build confidence in it while other people leading the various elements of the programme could focus their effort on delivery. I was expecting this call following a discussion the day before with Duncan Selbie the CEO of PHE, in which he asked me if I would agree to be recommended for the role. He had been asked for suggestions by the Secretary of State. Duncan called me again on 1 April 2020 to let me know that the offer was coming.

12. Following the call with Secretary of State, I was contacted that afternoon by Andrew Gilligan (a Special Adviser) and Kathy Hall (Senior Civil Servant overseeing the testing programme). I was given a list of people to speak to the next day including Dr Aidan Fowler ((DCMO) who was leading pillar 1), Kristen McLeod (Director of the Office for Life sciences and leading pillar 2), Tamsin Berry (a senior civil servant leading pillar 3, and later pillar 4), Lord Bethel and Sir John Bell. I was immediately seconded to DHSC, and as I recall, there were no written terms of reference for the secondment. From the outset, I asked that my role be described as Clinical Coordinator for the new testing programme rather than "tsar", as I did not want to disempower those who were already getting on with the work by implying that I needed to approve all significant decisions.

13. The next day (2 April 2020), I received briefings from the pillar leads (see paragraph 12 above) and others on the objectives and existing plans for the pillar programme (which is outlined in more detail below at paragraph 14). The leads of the pillars explained the status of each, including an outline of the successes to date and current challenges. I understood that work had started at the lab in Milton Keynes to compile the equipment, consumable and staff resources, and to establish the necessary processes and quality controls to provide a reliable laboratory facility. However, there was still a lot to do before routine samples could be tested. The priority for pillar 2 was to have a high-volume channel of testing distinct from the NHS where NHS staff (and later other key workers, and members of the public) who had symptoms and may be infectious could attend for testing without introducing infection into NHS facilities. This required a lot of collaboration, for example, from Boots one of the companies that was providing a lot of the clinical staff to operate the testing centres, the military who were delivering mobile testing facilities to support outbreak management, for example, in care homes, and Amazon UK who were delivering postal tests to people's homes. A crucial issue to the whole programme was successful procurement of adequate supplies of reagents and consumables for the closed platform PCR testing machines being used in most laboratories. This was being handled by colleagues in the DHSC led by Dr Sam Roberts (who I think was then on secondment from NHS England at the time but is now Chief Executive of NICE). Her team's success in this regard was absolutely essential to the overall success of the programme. My role was announced later that day when I appeared alongside the Secretary of State at the No 10 press briefing at which the five-pillar programme itself was announced. By then I was sufficiently familiar with the programme to be able to answer questions from journalists.

14. By way of background, the five elements (pillars) of the programme were as follows:

i. To achieve a progressive increase in numbers of tests available in existing NHS and PHE laboratories, in England and in the Devolved Authorities ("DAs"), rising to 25,000 tests per day by the end of April. (PHE had negotiated a progressive increase in supply of the reagents, consumables and machines needed from the manufacturer Roche to support this objective).
ii. To establish a completely new large-scale end to end testing facility with analysis performed in three new large laboratories of samples taken at 50 new drive-in testing centres, in mobile testing centres, or at home. These new labs were a commercial partnership co-ordinated by the Office for Life Sciences under the leadership of Chris Molloy, CEO of the Medicines Discovery Catapult and using Thermo-Fisher machines on loan from universities and other labs.
iii. To provide reliable antibody tests to monitor immunity in the population.
iv. To establish a set of surveillance studies to monitor the spread of the infection in the population including in subgroups and in clinical staff.
v. To encourage innovation and growth in the commercial diagnostics industry in the UK as a longer-term strategy.

15. Each of the pillars had operational leads who were very capable individuals brought in from a variety of backgrounds. A senior DHSC official (Kathy Hall) was appointed as the overall lead for operational aspects of the programme. My role as clinical co-ordinator was to ensure the different pillars were working in a complementary way and generally to help support delivery of the whole programme. Each element was delivered by a number of responsible bodies and groups. All these groups reported to the weekly "Testing Taskforce" meeting chaired by Secretary of State. Pillar 2 was perhaps the most complex logistically and was supported by a wide range of bodies including the military and Deloitte. I remember visiting the Department of Health building in mid-April to find that most of the first floor was occupied by staff working on delivering the programme many of whom were in military uniform. For pillar 3 a group was set up co-ordinated by Prof Derrick Crook in the University of Oxford to oversee the assessment of candidate tests. For pillar 4, a number of surveillance studies were established to supplement existing PHE routine surveillance systems including the ONS and REACT surveys each of which had its own management group, but which all reported results every Thursday to a Data Debrief Group (supported by one of my PHE staff on secondment to the DHSC). There were many related strands all of which needed to make progress rapidly and in parallel in order to achieve the overall objective. While all

these groups got on with their tasks, I had a significant part to play in liaison with stakeholders internally and externally and in briefing the media and other interested parties on the progress of the programme. I was not responsible for advising on policy on the use of tests and I was not responsible for PHE's work on testing, which involved the provision of testing capacity through its national and regional laboratories, as well as reference microbiology services.

16. In May 2020, I was working closely with the NHS (mainly NHSD including Dr Simon Eccles) on the requirement for IT and software systems to allow the public to request a test and get the result. I was not involved in developing the NHS social distancing COVID-19 App.

17. On 7 May 2020, it was announced that Baroness Harding had been appointed to Chair the NHS Test and Trace programme (NHST&T) and that my role was to continue and be expanded to cover the whole programme. It was described in the DHSC press release as follows:

> "*Professor John Newton will be the professional link into public health expertise and will support the science of the programme alongside the deputy chief medical officers. His role is being expanded to allow him to ensure coordination between the testing and test and trace programmes, supporting Baroness Harding.*" **[JN1/02 INQ000119787]**

18. The previous week, the Secretary of State had told me about the appointment of Baroness Harding (the then Chair of NHS Improvement) and asked me if I would carry on in my co-ordinator role as he was very pleased with my contribution on testing. The conversation took place in his office just before the press briefing on 1 May, for which we were already late. It was not the time for a detailed discussion, and I agreed. Although I was uneasy about my lack of experience of contact tracing, I was keen to continue my work on testing and felt that I could negotiate an appropriate remit later. I got the impression from our conversation that the announcement was imminent although in fact it then took a week to come out.

19. The appointment of Baroness Harding marked a significant change in my work and in the programme, as decision-making was now more centralised through her office and the existing pillar structure was no longer the basis for managing the work. However, it took some time for the new management processes to be established. On 12 May,

Sarah-Jane Marsh (NHS Hospital CEO) was appointed to lead the testing component and Tom Riordan (local government CEO) to lead the tracing component. A new group was set up in the DHSC on testing prioritisation, which aimed to anticipate and allocate the testing capacity required for different purposes. The group was chaired by Gila Sachs, a senior DHSC official. I was a member of this group. The group was not a decision-making regroup, instead it was intended to track and anticipate testing capacity and to match it with likely demand from different policy commitments. Also, at this point the DHSC press office largely stopped approving invitations for me to speak to the press. I was never told why this was, but I got the impression that the DHSC wanted to position the newly appointed leaders (such as Baroness Harding) as spokespeople. I was less centrally involved in supporting the testing programme given Sarah-Jane Marsh's appointment and it also seemed that the programme was making very good progress with less need for my input. My contribution overall to the programme was therefore considerably less than it had been during April. The new "Lighthouse" laboratories went on to undertake very large numbers of tests and provided a high quality and timely service. The focus eventually switched to tests undertaken at home using lateral flow devices and the central laboratories became less important.

20. During May 2020, separately and in addition to my work on the testing programme, Professor Sir Chris Whitty, the Chief Medical Officer ("CMO") asked me to oversee PHE's epidemiological review of disparities in risks and outcomes, subsequently published on 2 June 2020 and updated in August 2020 **[JN1/03 INQ000101218]**. The original request was to look at the effect of ethnicity, but this was soon expanded to all other causes of disparity including age, sex, geography, deprivation, occupation, certain inclusion health groups (people experiencing rough sleeping and recent migrants), residents of care homes, and those with other illnesses. The review was an analysis of the data available to PHE and was to be supported by further research commissioned by the National Institute for Health Research in areas where the relevant data were not already available. There were draft terms of reference for this work **[JN1/04 INQ000544693** but these were for a review just of ethnicity and made no mention of any recommendations. I remember also that PHE were asked by the DHSC to nominate Professor Kevin Fenton to lead the review despite the fact that I was already overseeing the work and the content was much more suited to my experience as an epidemiologist. It took some time to get the terms of reference agreed between PHE and the DHSC. During this period, a separate stakeholder engagement exercise was initiated by PHE to document the experiences of people from ethnic minorities during the pandemic and to make recommendations about how to help them. This work was led by Professor

Kevin Fenton and reported slightly after the epidemiological report. My recollection is that work on our epidemiological report was well underway before its terms of reference were finalised. It was a surprise to me to find that the final terms of reference included making recommendations about what should be done about the disparities as this was outside the normal remit of an epidemiological report and would have required a very different approach **[JN1/05 INQ000563863]**. This was not something we were in a position to do based only on the data analyses and without wider consultation and certainly not at that late stage. Once our report was published, Secretary of State immediately and appropriately in my view asked the Race Disparities Unit to work on monitoring and addressing the disparities associated with ethnicity. The terms of reference for that work were published on 4th June.

21. The most demanding aspect of the work was to undertake statistical analysis to try and separate out the effects of different factors, say of ethnicity from that of age and deprivation. The results showed for example that after accounting for the effect of sex, age, deprivation and region, people of Bangladeshi ethnicity had around twice the risk of death compared with people of White British ethnicity. People of Chinese, Indian, Pakistani, Other Asian, Black Caribbean and Other Black ethnicity had between 10 and 50% higher risk of death when compared with White British **[JN1/06 INQ000101218]**. These analyses could not account for any potential effect of occupation, comorbidities or obesity as the information to do so had not been collected. These are important factors because they are associated with the risk of acquiring COVID-19, the risk of dying, or both. Other evidence for example from ICNARC (Intensive Care National Audit & Research Centre) had shown that when comorbidities are included, the apparent differences in risk of death among hospitalised patients due to ethnicity is greatly reduced. This is because people from some ethnic backgrounds have higher rates of comorbidities such as diabetes or heart disease and that is at least partly why their outcome is less good. It was unfortunate that PHE received a good deal of public criticism at the time because of misunderstanding over the purpose and nature of this report. This included confusion between our report and the stakeholder engagement report led by Professor Kevin Fenton. Also, we were criticised for not making more substantial recommendations about policy and practice to reduce the impact of COVID-19 on ethnic minorities. In October 2020, we set out in more detail in a published blog what was known and what could be done about inequalities in outcomes from COVID **[JN1/07 INQ000563858]**. Measures mentioned in that blog included ensuring that everyone has the same opportunities to protect themselves from exposure to the virus, addressing specific causes of vulnerability such as obesity, and targeting support

towards those affected by COVID-19 who are less resilient or less able to look after themselves for whatever reason. The test and trace programme had a role to play in ensuring testing and contact tracing was available to everyone who needed it.

22. In late May 2020, I felt increasingly that I was not being of much value to NHST&T given all the new leadership posts that had recently been created. My early role was intended to provide visible leadership to the new programme and that was now available from these new posts. There was inevitably a period when newly appointed leaders working to Baroness Harding were becoming familiar with the situation and their role. This seemed to lead to a certain loss of momentum. This did not matter much for the testing programme which by then was well underway and making good progress, but I do think the contact tracing work suffered from some lack of clarity at this stage about strategic direction. In my view there was an urgent need at that point to empower PHE scientists to establish a professionally led contact tracing strategy. Conversely there was a lot that I could be doing back at PHE (working on functions such as the COVID-19 dashboard for example). On 8th June, I wrote to Baroness Harding by email explaining that in my opinion my function needed to be replaced with an arrangement for obtaining expert public health advice that was better suited to the current needs of the programme **[JN1/08 INQ000563856].** While I was knowledgeable about testing, I am not an expert on contact tracing and was increasingly uncomfortable with any suggestion that I was as implied by my role description. Also, I felt a direct link with PHE experts was required rather than a link through me as an intermediary. Baroness Harding agreed and a few days later my secondment ended, and I went back to my work in PHE.

23. After I returned to PHE, I worked on the surveillance of COVID-19 including as chair of the steering group for the COVID-19 dashboard and as a contributor to the ONS COVID-19 study. After it was announced that PHE was to be abolished, I was significantly occupied in helping to design the replacement structures for the functions of my Directorate and to manage the transition of over a thousand staff and their functions to new organisations. I was also engaged in other (non-COVID-19) work including an important review of the NHS Health Check programme.

24. I left the DHSC in March 2024 and now work part time as Professor of Public Health and Epidemiology at the University of Exeter. I also continue to Chair the scientific advisory board of the French national public health agency.

Section 3: System Readiness

25. Prior to March 2020, I was not involved in testing and tracing functions for respiratory diseases so I cannot describe or comment on the adequacy of immediately pre-existing arrangements.

26. In 2010, however, following the 2009 Swine Flu pandemic, I was asked to chair the CMO's Statistical Legacy Group. The Group undertook a review for the then CMO (Sir Liam Joseph Donaldson) of the surveillance arrangements in place at the time and what improvements would be required for a future influenza pandemic. The group included many leading experts and published a report with recommendations in December 2010 **[JN1/09 INQ000114786].** I was not responsible for implementation of the recommendations which were directed mainly at The Department of Health, the NHS and the then Health Protection Agency. The report was mainly about surveillance systems and their contribution to management of the pandemic. It recommended the establishment of additional data collection systems from health care in advance of another pandemic, more representative serological surveillance and regular community surveillance of both infection and immunity (as provided by the ONS survey).

27. In early March 2020, on my return from Cornwall I ensured that colleagues in PHE were aware of the report and sent a copy for example to Prof Sharon Peacock the then Director of the National Infection Service at PHE. My understanding is that PHE colleagues were aware of the report but that the recommendations had only been partially implemented in the intervening decade because of insufficient resources. As it happens the recommendations were very relevant to the challenges of COVID-19 including for example the value of a regular weekly community surveillance function during a pandemic (as delivered in COVID-19 by the ONS survey). If the surveillance systems we recommended (see paragraph 26) had been in place (for example monitoring cases in intensive care), it might for example have been possible to detect disparities in outcomes in hospital sooner. In addition, more comprehensive community surveillance at the outset might have detected asymptomatic transmission earlier.

Section 4: Co-working

28. I was not responsible for policy or strategy in relation to the Test and Trace programme. My involvement was largely limited to the implementation of the testing programme. I was a member of a number of groups that oversaw the implementation of the testing

programme. The most significant one was the weekly "Testing Taskforce" chaired by the Secretary of State which included all the different agencies involved in delivering the increase in availability of testing. The meeting was an opportunity for each of the pillars to report on progress and identify any constraints and dependencies. Actions were then identified for various organisations to facilitate progress. They were very large meetings with some 30 or 40 people online including civil servants, senior NHS and PHE colleagues and external collaborators such as Seb James, the CEO of Boots, and Doug Gurr, CEO of Amazon UK. The meetings were useful to share information amongst colleagues, but the operational management work was done in smaller teams.

29. I also had regular meetings with my counterparts in the DAs to discuss progress on testing capacity. I worked especially with Dr Rob Orford who was the Chief Scientific Adviser for Health in the Welsh Government, Dr David Crossman who was then Chair of the Scottish Government's COVID-19 Test Strategy Group, and Dr Sinead McGuinness a public health doctor at the Public Health Authority in Northern Ireland. On the whole, the DAs were able to increase their testing capacity in the NHS more readily than the NHS in England. Perhaps this was because of a history of closer collaboration and interoperability across the various labs. Since 2017 in England, NHS pathology services were organised in 29 networks. These were intended to allow individual hospital Trusts to pool their resources across larger areas to achieve both efficiency and consistency in the levels of service provided. However, each network was somewhat stand alone and there was little national co-ordination or consistency between the approaches taken in different networks. It was also the case that contact tracing in the DAs was expanded largely by strengthening existing arrangements, whereas in England some entirely new functions were established. I also had regular meetings with regional NHS England leads on testing.

30. I joined the CMOs' UK senior doctors call that happened at the end of each day. The members of this group were the most senior doctors involved in the pandemic response across the UK including all four CMOs and their Deputies, the Medical Director of the NHS in England and other specialists including senior colleagues at PHE and NHS Digital. The purpose was to share clinical and scientific knowledge quickly and confidentially. For example, I briefed the call on progress with the testing programme and on our review on inequalities as soon as the results were available.

31. I joined a daily early morning call chaired by Lord Bethell as the Minister responsible for the testing programme to brief all the communications leads of the health organisations

involved in England (such as DHSC, PHE and the NHS). I also had weekly review meetings with Lord Bethell. I was not involved in discussions with industrial partners or the commercial or financial aspects of the programme.

32. I also held bespoke meetings with external stakeholders to receive their views and advice and to answer questions, including for example a meeting with senior staff at the Crick Institute, Chris Hopson of NHS Providers, Martin Marshall Chair of the RCGP, David Spiegelhalter the statistician, Shirley Cramer Chief Executive of the RSPH, Jo Martin President of the Royal College of Pathologists, Anne Johnson the President of the Academy of Medical Sciences, Sue Hill Chief Scientist of Genomics England, and the professional body representing UK laboratory staff. As Vice-President of the Faculty of Public Health I had regular meetings with senior public health colleagues and with the officers of other Royal Colleges.

33. I joined the CMO's regular briefings for Directors of Public Health in local authorities at which he provided updates on the national situation and sought their advice and perspective from across the country. I provided updates on the testing programme and on the review of inequalities in relation to COVID-19 as required and discussed any concerns where relevant to my role such as on interpreting a negative test.

34. I gave online briefings to Government bodies such as to Select Committees and with Lord Bethel to the House of Lords on the testing programme and its objectives.

35. In my role as the Clinical Co-ordinator for Testing, I took part in several press briefings at No 10 and gave many informal briefings to the media including through the Science Media Centre as well as broadcast interviews to explain the objectives and progress of the testing programme to the public.

36. Drawing on my experience and contacts from setting up the UK Biobank study, I was in regular contact with many senior scientists in England with relevant expertise such as Sir John Bell and Prof Derrick Crook in Oxford and Sir John Burn in Newcastle, but also others. This was helpful for me to understand the rapidly evolving technical developments in testing and especially in the area of antibody testing.

37. I had brief weekly review meetings with the Secretary of State. I would get email or WhatsApp messages from his office when I was needed for a No 10 press briefing (usually the same day). In the margins of the No 10 press briefings in May and June we

would discuss the programme in preparation for the Q&A session, but these were not policy discussions but only about ensuring we had the information required to respond accurately to questions.

38. Once Baroness Harding was appointed, I attended meetings as part of her senior leadership team and the Testing Taskforce meetings continued but they changed in focus to be more of an update and less strategic, as I recall. I had one to one meetings with Baroness Harding from time to time to report on my work which by then was largely providing epidemiological advice for example on interpretation of test results.

39. We had good working relationships with colleagues in the DAs especially those mentioned above (Rob Orford (Wales), David Crossman (Scotland) and Sinead McGuiness (N. Ireland) and the respective CMOs. The CMO's daily senior doctors meeting was well attended by colleagues from around the UK. In relation to the testing programme, I was mainly concerned with the situation in England. It seemed that the context was sufficiently different in other parts of the UK that it was necessary to develop distinct solutions although sharing best practice and supporting efforts across borders wherever possible. Overall, there was good communication and co-operation across Government, and I was not aware of any difficulties created by poor communication or lack of co-operation in relation to the testing programme. I am not aware of anything that could have been done differently to improve the collaboration across the UK. The only difficulties we encountered were because of the different surveillance systems in each country making the task of compiling daily statistics for the UK very challenging.

40. The Cabinet Office provided daily situation reports which were useful background. There were many tasks undertaken by DHSC which facilitated the testing programme for example to enable procurement of adequate supplies of reagents from international suppliers (led by Dr Sam Roberts), but I am not familiar with the detail of these. Activities which required working across Government departments were handled by DHSC colleagues.

Section 5: NHST&T

41. On Saturday 9th May, I was involved in a call with DHSC Ministers and Baroness Harding about the launch of NHST&T scheduled for 18 May 2020. We held a meeting with the pillar leads on how to prepare the testing programme to support NHST&T. I was given the task of summarising by 10 May the current plans for testing and contact

tracing in a paper which could be used by the DHSC comms team to develop launch materials. In order to do so, I had urgent discussions and received written comments from colleagues at PHE, Dr Isabel Oliver and Richard Gleave, who were both working on the PHE contact tracing function. I duly produced a paper setting out what the relevant experts felt was needed and what advice had been received from NERVTAG and other bodies on what was needed to contain the virus **[JN1/10 INQ000563859].** The paper was fairly high level, but it stressed for example the need to work closely with local authorities and the need for extensive public communication. In parallel, Simon Eccles who was leading the Design Authority for the IT functions of T&T produced a similar document which largely agreed with my assessment of the requirement **[JN1/11 INQ000563860]**. Both documents were discussed at a comms meeting chaired by Lord Bethell. My document was intended to summarise the current position and identify remaining open questions so that these could be addressed in time to allow the system to be designed and implemented. I cannot now recall the meeting itself in any detail, but I seem to remember that the paper was broadly supported. It largely represented the recommendations of PHE experts.

42. I do not recall any further direct contributions to the work of NHST&T. During May a considerable number of new staff were appointed at T&T as Baroness Harding established her leadership team and my role became less significant in supporting implementation and more advisory in nature.

43. When NHST&T was set up there was a requirement for additional capacity to massively expand tracing capability nationally. This was a huge operational challenge. It was also important to provide a strong management and governance structure for the new free-standing testing programme in pillar 2. Expertise and experience of contact tracing was available within PHE and to a smaller extent in local government. PHE also had some good IT systems which were being modified very quickly to meet the new requirements. NHST&T set up new externally provided tracing structures managed separately from PHE. Without additional public health capacity these functions relied heavily on the existing limited pool of scientists and clinicians in PHE for their expertise. This is not my area of expertise but in my view, it would have been more efficient to have expanded the existing system for contact tracing led by PHE's regional teams with local authority support, using the new resources to make best use of the scarce scientific and clinical advice in PHE and in local public health teams, which is largely what happened in other parts of the UK.

44. Also, it was not clear to me how more strategic scientific and clinical advice was being obtained to inform the development of the programme. On 2 June, I wrote to Baroness Harding to suggest the establishment of an Expert Scientific and Clinical Advisory Panel (ESCAP) for the Test and Trace programme **[JN1/12 INQ000563852; JN1/13 INQ000563853].** This was based on my experience of chairing a similar panel for many years on the NHS Health Check Programme. Baroness Harding welcomed my proposal and shared it with PHE's recently retired Medical Director Dr Paul Cosford and Mark Baillie at DHSC who was working on antibody testing **[JN1/14 INQ000563851].** Dr John Watson (a recently retired senior public health expert, ex DCMO and adviser to PHE) then wrote back summarising the results of discussions with Dr Yvonne Doyle (PHE's then Medical Director). The options being considered included a subgroup of SAGE dedicated to advising NHST&T with a secretariat provided by GO Science and PHE. This seemed to be the option that was supported by my senior colleagues. My recollection is that it was felt that advice was available if needed already from SAGE and within PHE and that the additional capacity to provide an ESCAP dedicated to NHST&T would not be available **[JN1/15 INQ000563854].** I supported the idea of a dedicated subgroup of SAGE but as far as I am aware it was never set up. In my view the existence of SAGE (however good it was at providing advice) was not the same as having an inhouse expert group reviewing strategies and policies as they were developed. It is hard to hypothesise how such a group might have changed subsequent decisions, but it may have helped target resources to where they would be most effective.

45. I found the management culture of NHST&T very different from what I was used to in PHE. I was sometimes unsure of the roles or relevant experience of some of the newly recruited senior staff. There was also a brisk turnover of personnel, many of whom had been brought in from different fields of work (for example Tony Prestedge a senior banker who came on a 3-month arrangement). I remember some very useful advice being given by people like Tom Riordan with direct experience of local government, but such appointments were also often short-term secondments. The testing element of the NHST&T programme under Sarah-Jane Marsh's leadership went on to great success and was a major contribution to the overall response to the pandemic. I also think the work done by Simon Eccles and his team in NHSX was extremely valuable and a crucial contribution to making testing available to those who needed it.

46. In considering any changes which could have improved performance at the time if implemented, I would say that the prior development of an IT system that could have been rolled out to support a national test and trace programme would have been hugely

helpful and saved a great deal of time. A clearer understanding of the respective roles of the national and local bodies concerned with contact tracing and outbreak control would also have helped. Some local authority public health teams felt that they could have done more and I am sure that is true in some areas. Many of those teams however had very few staff with experience of health protection so although it might have worked in some places, I am not at all sure that a locally delivered model would have been feasible as a national solution. It would definitely have been helpful if the regional teams of PHE had been expanded more rapidly. If that had happened, they would have been in a better position to work in support of local Directors of Public Health and to handle the heavy workload that later came their way because it could not be handled by the less skilled functions elsewhere in NHST&T.

Section 6: Development of policies and strategies for Test Trace and Isolate

47. As stated above, it was not part of my role to develop policy or strategies for NHST&T. My role was limited to implementation, that is operational and co-ordinating in nature. The aim of my work was to increase availability of tests in England. I obtained helpful specialist advice from senior scientists in PHE including Maria Zambon, and from external experts such as Derrick Crook in Oxford, Jo Martin at the Royal College of Pathologists, Sue Hill at Genomics England, and others, as well as by consulting the recently published scientific literature and other online resources.

48. In relation to the DAs, I had regular meetings with my counterparts including Rob Orford, David Crossman and Sinead McGuiness. One of the three new laboratories developed under pillar 2 was based in Glasgow. As referred to above, the DAs had their own programmes to increase availability of tests.

49. Beyond the DAs, there was a strong culture of learning from other countries in both the DHSC and in PHE. I remember being part of conference calls with South Korea and Germany. These calls were set up by PHE to ensure we were able to learn from their experience. My impression however was that the epidemiological context in these countries was very different to ours. The UK experienced a very large number of introductions of the virus in early 2020 as travellers returned from Europe. These rapidly led to community transmission and outbreaks all over the country. At the time, South Korea had a relatively small number of cases and outbreaks. I recall that I was in contact with the Director of The Robert Koch Institute (the German national public health institute) to ask him about the situation in respect of testing capacity in Germany. He

explained the different approach to funding and that in his view a lot of the testing going on in Germany was not very useful. Many people at low risk were being tested partly because in his view the laboratories were being paid for these tests regardless of the strength of the indication.

50. I believe the practice in other countries in respect of testing and contact tracing was well known among senior scientists in PHE such as Dr Yvonne Doyle and Dr Susan Hopkins and by CMO. It was necessary, however, for us to respond specifically to the situation as it evolved in the UK.

Section 7: Testing

51. I was not involved in developing the programme for increasing the availability of testing prior to its launch on 2 April. My understanding is that the overall design took shape during a telephone call between Professor Sir Chris Whitty and Duncan Selbie in early March. Prof Sharon Peacock at PHE then worked up an outline proposal that was discussed with Secretary of State and others in a workshop at No 10 on 17th March. There are two relevant papers which the Inquiry already has with Professor Yvonne Doyle's Module 2 statement **[JN1/16 INQ000119746; JN1/17 INQ000055915]**. The first paper was submitted by PHE to the workshop and proposes a 3-point plan for testing. The three "points" closely resemble the first three "pillars" of the subsequent five pillar strategy. At the time, PHE proposed that the second pillar would be a collaboration between the Office for Life Sciences and Industry and should be disruptive and innovative. The second paper is a note of the outcome of the workshop which provides more detail on the first three pillars and adds a fourth which is to increase mass population surveillance. Following the workshop, DHSC officials developed the plan further and by the time I was appointed it was a five-pillar strategy.

52. I was not involved in prioritisation of testing or any decisions, policy or strategies for the use of testing. Such decisions were made by Government on the basis of clinical and scientific advice including from CMO and SAGE. For example, on 23 April because capacity had increased it was decided by the Government to offer testing in pillar 2 to all essential workers not just those in the NHS. Because of my role in the surveillance studies, I was able to ensure by making representations to colleagues leading pillar 2 that testing capacity from pillar 2 was reserved to support the ONS COVID-19 survey. Later a testing prioritisation group was set up chaired by Gila Sachs a senior civil servant in DHSC of which I was a member. This group aimed to collate known likely

requirements in order to anticipate demand. It was more of a reporting and tracking exercise than a decision-making exercise. I recall some modelling was undertaken by a PHE / Cambridge university partnership to estimate likely numbers of tests required to support various proposed mass testing strategies.

53. *Dashboard*: My team at PHE included data scientists and epidemiologists who were very skilled in methods of presenting data online. From an early stage we had been asked by senior colleagues leading the response in PHE if we could develop a public-facing dashboard for key COVID-19 statistics especially mortality. Working with the EpiCell in the PHE incident team a process was developed for daily reporting of deaths from COVID-19 across the UK and publishing this data on the web each day at 16.00 hours. Constructing the "pipeline" for the data, processing and publishing it rapidly and accurately was a big task. It required statisticians, IT engineers and digital experts to design the whole function. The first dashboard started operating on 30 March 2020 and was gradually expanded to include data on hospitalisations, tests performed and vaccinations. It became very popular with a massive number of "hits" each day. At peak there were more than one and half million unique users each day. The value of the dashboard was that everyone could see all the data as soon as it was available. There was great interest in the data and in the design of the dashboard. To manage all the demands on the dashboard team, I set up and chaired a steering group to provide leadership to the team, agree priorities for the development and delivery of the dashboard, to ensure it met requirements of all the interested parties and had the resources it needed **[JN1/18 INQ000563864; JN1/19 INQ000563865].** Archived Dashboard webpages are publicly available online through the national archives, and exhibited here is the national archives landing page for the Covid-19 Dashboard and an example from 2 June 2020 **[JN1/20 INQ000544695 JN1/21 INQ000544694**

54. *ONS Survey*: On 8 April, Prof Sharon Peacock emailed me following a meeting earlier that day with the Secretary of State at which results of early surveillance were discussed **[JN1/22 INQ000563850].** It became clear at that meeting the existing serological surveillance systems (which are systems to test blood samples from representative groups to monitor levels of immunity in the population) were not yet giving useful results. One reason was that normal serological surveys were partly based on samples taken from blood donors and during the pandemic potential donors were advised not to give blood if they had been unwell. Also, patients visiting GPs for routine blood tests were much reduced. This was the problem that we had identified in 2010 in the CMO's statistical legacy group report. The solution as recommended by that group is to set up

regular community surveys specifically for this purpose but these are expensive and would not be justified outside a pandemic. The note from the Secretary of State's private office of that meeting included an instruction to PHE as follows: *"– to start working on a large representative sample of the country and London – using a proper representative sample – start to collect the blood even before we have an accurate test as the blood collection may take a while – SoS was very keen on this being set up and being representative of the population"* **[JN1/23 INQ000563850].**

55. Prof Peacock's email then asked me to take on the epidemiological design as follows: "*develop plans for a large new representative seroprevalence survey. John, I am grateful that you spoke with CMO tonight and offered your advice. Are you able to take on the epi side (or find someone that can), and how can we help you in the lab? Mark* [Driver] *has already planned out the extra capacity and we could compare notes as to how big you think this should go"* **[JN1/24 INQ000563850].**

56. I then contacted Sir John Bell who had already helpfully spoken to Sir Ian Diamond who was the head of the ONS. On 12 April (Easter Sunday), I contacted Sir Ian who offered to 'put the full resources of ONS at our disposal' to establish a community survey. In the meantime, Sir John Bell had helpfully enrolled the help of Professor Sarah Walker statistician at the University of Oxford. There were then a number of teleconferences over the next week involving the people mentioned above and Sir Jeremy Farrar Director of the Wellcome Trust to sketch out the design of the survey. Many others contributed to the design including colleagues in PHE. Progress was rapid and a detailed draft protocol was developed and finalised by 20 April for ethics approval **[JN1/25 INQ000223699]**. Data collection from 20,000 households started in late April. Soon afterwards, I invited Professor Paul Elliott from Imperial College to help us by setting up the REACT study originally using lateral flow tests that were already paid for but not accurate enough for clinical use to assess immunity in the survey **[JN1/26 INQ000563861].** Later the REACT survey sent samples to Germany for PCR analysis.

57. Both surveys were extremely successful and provided crucial information to inform the response to the pandemic. They reliably confirmed patterns of rising and falling infection rates across the country and later showed levels of immunity and risk of infection in response to vaccination and prior infection. In addition, they provided valuable scientific results of global significance **[JN1/27 INQ000563862]**. Few if any other countries had

such a powerful set of studies to describe the spread of the virus, development of immunity and response to vaccination.

58. During 2020, we held confidential weekly meetings (known as the Data Debrief Group) every Thursday afternoon to receive and discuss the latest results from the ONS, REACT and other surveys (including Zoe). From memory, the members were the scientists responsible for the various surveys and a small number of senior scientific advisors including myself, Sir John Bell and Sir Jeremy Farrar. The discussion was intended to clarify the findings, draw conclusions where possible and look for consistency and support for the findings across the different studies. Following these meetings an official would draft a short briefing note that evening for Ministers summarising the latest overall results.

Testing technologies and strategies

59. I was not involved in decisions on testing technologies. Nor was I involved in symptom trackers. It was not my role to provide advice on asymptomatic transmission or on testing strategies. In June 2020, I drafted a discussion document (in the form of a blog) summarising what was known about asymptomatic cases and what the implications might be for strategies for testing staff, but although it was circulated internally it was never published **[JN1/28 INQ000563855].** My main conclusions were that it is very important to detect asymptomatic cases as they are a frequent source of infection. However mass testing is very inefficient as even if groups are tested every week and people who test positive are isolated a large number of outbreaks will still occur in between the tests. I don't know what influence the blog had but I hope it led to some caution in respect of policies for mass testing.

60. There was concern expressed by commentators such as Professor Jon Deeks (a statistician at the University of Birmingham who specialised in the interpretation of tests) that the PCR tests had a high false negative rate and that this meant it could be risky to allow staff to return to work after a negative test. In June 2020, I wrote another blog on the reliability of a negative test to help explain the importance of predictive value as well as sensitivity. The blog was circulated internally among communications colleagues but was not published. Blogs were used because they were very quick to publish and could reach a wide audience of professional colleagues. They needed clearance from colleagues in communications for consistency with other outputs and from Special Advisers in DHSC and sometimes in No 10. It was increasingly the case that I did not

expect to get clearance for publication from SPADs, but it was worth writing them anyway in order to reach the internal teams. The process for obtaining clearance was opaque to me. It was not clear who was making the decisions or if a decision had been made but clearance was not forthcoming.

61. I was not involved in any reviews of testing technologies. As an epidemiologist that is not my expertise. Nor was I involved in choosing or designing testing sites. Others were in charge of the operational aspects of the individual pillars.

Centralisation

62. I was not involved in the decision making relating to the development of the TTI system. It was not clear to me at the time how the design was developed and approved. I know that colleagues in PHE including Isabel Oliver and Richard Gleave were consulted but I do not think they had the final say on design by any means.

Testing capacity

63. The approach to developing and scaling up testing was very close to that set out in advance by the Secretary of State in the announcement of 2 April and is described in the document published by the DHSC on 2 April **[JN1/29 INQ000512713]**. Any differences were pragmatic in response to unanticipated challenges or successes as the operations evolved. For example, the mobile testing centres developed by the army were very successful (especially in supplying testing capacity to care homes) and more of these were deployed than anticipated. NHS labs had problems securing adequate supplies of test reagents in time from Roche and in the end more tests were done by PHE at Porton Down than was anticipated. Use of home testing kits was delayed as arrangements for returning the tests needed to be established including designation of "priority" post boxes. Supplies of the correct swabs were also limited, and a lot of effort went in to securing those.

64. I was not involved in the setting of the 100,000 tests a day target which was announced very soon after I took on my role on testing. I am aware however of some background documents from the 17 March workshop which clearly indicate that significant amounts of testing would be required. The note after the meeting (exhibited at paragraph 51 above) refers to the need for "massively expanding our testing capacity" to test staff and to increase the NHS/PHE contribution to 25,000 test per day. I assume that the figure

was discussed at that workshop, but I was not present so cannot confirm it. As far as I was aware the target of 100,000 was based on a high-level modelling exercise by PHE's modelling team to estimate the amount of testing required to ensure NHS staff could all be tested if they had symptoms. It was not a precisely calculated figure, but it was adopted to express the approximate level of ambition for the programme.

65. The objective of the programme was to provide the testing capacity needed to respond to the pandemic as quickly as possible. No changes were made specifically to hit the target. It would be partly a matter of luck as to exactly when the target would be reached. In my opinion the target was extremely useful to explain quickly and effectively what we were trying to do and how quickly and to motivate the teams involved. For those of us who were following progress being made in setting up the new labs the target did appear realistic. For those who were just following the numbers each day it seemed unlikely that we could reach it. It was always going to be the case that the capacity would increase in big steps as the new labs came online and the postal route became available. It was to be expected that capacity would only increase slowly until the last week or so of April and that is exactly what happened.

66. The Secretary of State announced on 1 May that the target had been surpassed with 122,000 tests either performed or sent out. Fairly soon after that the numbers dipped slightly (as I recall one of labs had to pause for operational reasons) but quickly accelerated again. I was not involved in the counting of tests or the design of the approach. The counting approach adopted by the DHSC was on the advice of senior officials at the DHSC. It was discussed at a meeting of the Testing Taskforce. As far as I recall, the view I heard expressed was that the Government would have fulfilled its duty by posting out the test. It was down to the citizen if they chose not to return it. There was considerable subsequent criticism of the method used which was unhelpful and unfair in my view. Whatever method one might have used to count tests the increase in availability and use of tests during April was dramatic, very welcome and far greater than was expected by many observers.

67. In terms of the testing programme, it was necessary to develop capacity for end-to-end testing and reporting as well as the laboratory capacity to undertake the tests themselves. Then we had to ensure that eligible people understood how to obtain a test and came forward to be tested or to request a test by post. To begin with laboratory capacity inevitably outstripped the number of tests performed, which is one reason why I was pretty sure we could comfortably support the ONS survey (which just needed lab

capacity) with tests without compromising testing services for key workers. Once all three new lighthouse labs were functioning, potential capacity was very substantial. The 100,000 target was always intended to be the first step on a path to much higher levels of testing. Some of the criticism was that increasing capacity alone is not enough, it is also necessary to determine an effective strategy for using the tests. This is of course true, but unless capacity is increased first you cannot implement any ambitious testing strategy.

68. To be clear, it was not my role to implement the programme (the design of the drive-in testing facilities for example was done by others including consultants from Deloitte). My understanding was that it had been decided from the outset and at PHE's suggestion, that the programme would be a partnership between PHE, the NHS, industry and the academic sector. Pillar 1 was largely provided by PHE and the NHS, whereas Pillar 2 was led by the Office for Life Sciences. Having secured access to reagents provided by Thermo-Fisher, universities were asked to lend their Thermo-Fisher machines to the Lighthouse Labs, which they did. Staff were also seconded from various sources to work in the new labs. Some universities also offered to undertake tests in their own labs. These universities were directed to their local NHS pathology network so that they could support testing capacity in the NHS. This was only possible if the university could handle potentially infectious specimens safely, link into the IT systems used to order and report tests, and communicate results back to patients appropriately – just having a machine that could run tests was not enough. Some universities did this (Cambridge I believe was an example and also the Crick Institute who worked closely with UCLH). Others were not able to engage with the NHS but were able to conduct tests on their own staff.

69. There was a great deal of innovation in the laboratories and in establishing testing centres and the IT systems to support them. This was a remarkable collaborative effort with many bodies and individuals contributing from all sectors.

70. There were many barriers to scaling up testing capacity. These included a global shortage of reagents and consumables, limited numbers of testing machines, limited numbers of trained staff to operate the laboratories, potential contamination from positive samples either at the test site or in the laboratory, the lack of an integrated IT system to manage the testing capacity available, lack of an IT system for handling results and conveying them back to patients and into the medical records, need for an interface for the public to request a test and be directed to an available test site, requirement for new infrastructure to provide, manage and staff testing sites separate from the NHS

which was already overloaded. There was a good deal of scepticism about the new "Lighthouse" labs from technical staff in NHS labs. This was not surprising as the labs were set up very quickly and with a mix of staff from a range of backgrounds. One of my tasks was to tackle such scepticism head on by meeting any public critics and explaining what we were doing in detail. Also, the programme led by Chris Molloy implemented rigorous validation and accreditation of the new labs. In the end it was the case that the new labs provided an excellent quality of test at least as good as the long-established labs. For example, the new labs tested three genetic loci not two. The genetic loci are the codes which the test uses to identify the virus and using more can make the test more accurate. Also, some variants had genetic changes which meant that only two of the three sites showed up as positive. This allowed these new variants to be identified with a high reliability without full genomic analysis.

100,000 tests

71. As stated above, I was not involved in the setting of the 100,000 tests a day target I recall that the target of 100,000 tests was not broken down by type of test except that it was always envisaged that PCR, antigen and antibody tests would all be required. The initial requirement was for PCR or reliable antigen testing capacity.

72. Also as stated above, I was of the view the target was a helpful tool for communicating the programme's objective in terms of scale and pace and it was motivating for the teams involved. It is an example of something described in a 1994 book by Jim Collins as a "Big Hairy Audacious Goal". There is strong support among those who write about management techniques for these being used to motivate large and complex teams around a common objective.

73. I don't believe the target interfered with any other aspect of the response. Resources (reagents, consumables and staff) were scarce. I don't believe the resources allocated to the programme in order to meet its objectives could otherwise have been used at the same scale by labs elsewhere in the system. I say this because in the early period, the NHS was in a very weak position to co-ordinate its own testing capacity with a great deal of fragmentation and multiple individual contracts with different suppliers. I do not believe the same resources would have been used as efficiently elsewhere at this time. The situation improved considerably in the NHS after the first few months as new systems were put in place.

74. My impression was that the overall effect of the programme and the target was extremely positive in ensuring rapid expansion of overall capacity (including in the NHS) despite the limited resources available at the time.

75. I was not involved in any decision to increase the objective after the 100,00 target was met. I do know that the Prime Minister was keen to provide very much larger numbers of tests, but I do not know what advice he received on that topic – certainly it was not from me. There were a number of academics (including Professor Julian Peto an eminent statistician at the London School of Hygiene and Tropical Medicine) who had been promoting for some time an approach to containing the virus based on regular testing of the whole population. This approach would require something of the order of ten million tests daily. Apart from the difficulty and cost of making such numbers of tests available, this approach never struck me as being very feasible in terms of implementation and compliance. Models were run to estimate the effectiveness of this approach and as I recall the results were not encouraging. To eliminate most outbreaks even weekly testing of the entire population was not enough, it would need to be done every two to three days. Even so I believe this model was promoted by academics and various think tanks directly to advisors at No10.

PHE

76. I saw no evidence that PHE colleagues were unwilling to engage with the private sector on testing. On the contrary, my understanding is that the model of partnership with the private sector was PHE's suggestion at the 17 March workshop. Unrelated to the COVID-19 response I know that PHE had multiple long-standing relationships with the private sector especially through Porton Biopharma. It was not the case that PHE controlled or in some way obstructed activity in other labs as suggested in the media by some commentators.

Section 8: Tracing

77. I was not involved in any decisions or activity by PHE on contact tracing. At the time that community transmission was established (12 March 2020) I was still on sabbatical in Cornwall. I was not involved in tracing decision-making or implementation. Nor was I involved in developing the digital tracing App although I was aware of its progress as a stakeholder. As described above, my role until May 2020 was to co-ordinate the expansion of the testing programme. When NHST&T was formed, I joined the

leadership team and was involved in various meetings early on. My main contribution at that time was to work with NHS Digital colleagues to support the design of an electronic interface for the public to access testing and subsequent contact tracing if tested positive. I have no experience of contact tracing, and I am not a health protection expert. The tracing advice to NHST&T was being provided by the relevant senior PHE colleagues such as Dr Isabel Oliver and Dr Paul Cosford.

Section 9: Isolation

78. I was not involved in decisions relating to isolation or the development of support for those required to isolate.

Section 10: Data and modelling

79. My role was related to implementation of the testing programme and the data I used were mainly operational data about the programme. The most useful models for my purposes (for example for predicting the demand for tests) were those developed by PHE colleagues such as Dr Nick Gent in partnership with the University of Cambridge. These were originally based on death data but later used data on numbers of new infections from the ONS survey. These models made useful and relatively precise (compared with some other models) short-term predictions (so-called “now-casting”) of number of cases based on the most recent available data. I am not aware of any models developed specifically to support the test and trace programme.

Section 11: Borders

80. I was not involved in border policy and quarantine, and I cannot comment on how test, trace and isolate operated across borders.

Section 12: Enforcement

81. I was not involved in the development of enforcement as regards rules/guidance on test, trace and isolate.

Section 13: Adherence

82. I was not involved in adherence to test, trace and isolate rule/guidance.

Section 14: Public messaging

83. I was involved in briefing the public on the testing programme through appearances at the No 10 daily press briefings and in radio and TV media interviews. These were on the whole helpful opportunities to set out our progress and explain our objectives. Questions from the press and later the public were helpful to improve transparency. The messaging I gave was intended to inform and build confidence in the testing programme. It was not specific advice to individuals intended to influence behaviour.

84. The messages were developed mainly from my own knowledge of the programme and its progress. The daily calls with communication leads were useful to identify opportunities for presenting our messages and to ensure consistency of information and messages among different agencies and address any misinformation being reported by others.

85. For the No10 briefings I would first visit PHE's offices and be briefed by communication colleagues on current issues that might generate questions. I was also provided with an updated pack of detailed FAQs for use by any officials giving interviews. This was helpful background especially on those areas I was not involved in directly. Then I would travel to No10 and there would be a meeting with Special Advisers again to review the latest statistics and agree plans for the press briefings. We would also try to anticipate likely questions in order to ensure we had the right information available. The Secretary of State would join these meetings. Usually after the briefings there would be a washup session to consider any further work required to address outstanding questions.

86. On the whole, I feel the messages I gave to the public on the testing programme were clear and complete in so far as it was possible given the uncertainties we were facing. I was well informed by the various leads on progress, and this helped me to give confident answers to questions from the press. It was important to me that I always felt able to say what I felt was correct and appropriate without requiring prior approval. By late May and June 2020, that changed somewhat, as the DHSC stopped approving bids for interviews from the media, and I was less able to communicate directly through the media, which I regret. I made it clear to the DHSC communications team that I was happy to give interviews but still I did not get asked.

87. I was not given specific advice on behavioural science in relation to my public communications but then my role was to inform rather than to engender any particular

behaviour change. We did benefit from the advice of David Halpern (Director of the Government's Behavioural Insights Team) who was an active member of the Testing Taskforce, but I don't recall him ever giving me specific advice.

88. At the press briefings we were always presenting and responding alongside Ministers. This had some benefits, for example, we could correct or respond to Ministers directly, but it would have been helpful in my view to also have some sessions where the scientists and clinical experts could brief the public and the press on their own. This was the model adopted as I recall in some other countries such as the US and Sweden. I discussed the idea with David Spiegelhalter (Chair of the Winton Centre for Risk and Evidence Communication at the University of Cambridge), and he was very much in favour of it. I suggested it to the communications staff at No 10 but the idea was not taken up.

89. When NHST&T was set up there was strong pressure from SPADs (I believe from No 10 especially) for Baroness Harding and her senior staff to be the spokespeople for the programme. In my view this should have been combined with briefings from the clinical and scientific experts that were advising on the programme.

Section 15: Inequalities

90. My role was to increase availability of testing capacity across the country. The work was not related to any particular group, all groups could potentially benefit from better access to tests. The design of individual testing sites and the public interface needed to consider the different needs of various groups for example those with fewer resources, less capacity, living with a disability or with another protected characteristic. I was not directly involved in such design issues, but I am confident that they were considered by the relevant teams. The overriding consideration however was to increase testing capacity. The sooner we could do that the sooner tests could be made available to everybody who needed them regardless of their circumstances or background.

91. As referred to above, whilst on secondment to the DHSC I was asked by Professor Sir Chris Whitty the CMO for England to oversee an epidemiological report on disparities in the risk and outcomes of COVID-19. As I recall, in April 2020 it became clear that people from different ethnic groups were affected at different rates with an apparent increase in rates of infection and death among black and other minority ethnic groups. In order to better understand these disparities in risk and outcome and what might be causing them,

we were asked to analyse all the data available to us in order to describe the differences and see if they could be explained using statistical models to account for differences between groups in factors that might affect their risk. We were not asked to assess what might need to be done to address the disparities. At first, we were asked to look only at ethnicity, but we were soon asked to consider all possible disparities. The final report by PHE was published on 2 June 2020 **[JN1/30 INQ000101218]** and described differences in risk and outcome according to age and sex, geography, deprivation, ethnicity, occupation, inclusion health groups, deaths in care homes, comorbidities. Any limitations in the analyses were due to limitations in the available data, for example it was not possible to determine to what extent differences in death rates by ethnicity were explained by differences in occupation, levels of obesity or presence of other disease. The data simply were not available at that stage and only became available from subsequent research studies. Another problem for the review was the shortage of testing in the community in the early weeks of the pandemic. This meant that many cases of COVID-19 (especially those outside hospital) were not identified as such and were not therefore included in the statistics we used for the analyses. This situation improved considerably after June 2020 with the increased supply of testing and with the establishment of the population surveillance studies mentioned above.

92. The review contained a great deal of detailed information and concluded that:

> "*The results of this review need to be widely discussed and considered by all those involved in and concerned with the national and local response to COVID-19. However, it is already clear that relevant guidance, certain aspects of recording and reporting of data, and key policies should be adapted to recognise and wherever possible mitigate or reduce the impact of COVID-19 on the population groups that are shown in this review to be more affected by the infection and its adverse outcomes.*"

93. The contribution of this review was to highlight the level of disparity between groups in both risk of infection and outcome once infected. In my view the teams involved at PHE did an excellent job in a very short time with this report. It was widely welcomed by health service colleagues and helped to promote measures designed to address the known and suspected inequalities associated with the pandemic. Further work was taken forward to develop specific recommended actions by the race disparity unit led by the then Minister of State for Equalities, Kemi Badenoch. A second report was also

produced by PHE based on interviews with stakeholders led by Prof Kevin Fenton (then PHE's Regional Director for London) **[JN1/31 INQ000106482]**.

Section 16: Lessons Learned

94. My observations refer to two periods, the testing programme phase before the establishment of NHST&T and the subsequent period after its establishment until I left in June 2020.

95. Overall, I think the 5-pillar testing programme instituted in April 2020 was a very effective intervention and achieved its objectives in a remarkably short period. The crucial factor was the recognition in March 2020 that without a new additional stream of capacity outside the NHS and PHE we would never have the testing capacity needed to support the response. I cannot say for sure, but it seems it was PHE scientists (among others) who came to this conclusion.

96. The NHS laboratory system was at the time fragmented and poorly integrated nationally (for example without a common IT system). There was no provision for providing microbiology services on a large scale to the community including social care. In the past, I believe this function would have fallen to the Public Health Laboratory Service, but that capacity had been passed to the NHS many years before and the resources integrated into health care microbiology functions. There was lack of clarity about who was responsible for providing microbiology services for the country in the event of a pandemic with many commentators wrongly assuming it was PHE's responsibility. It was unfortunate that PHE was blamed for the delay in scaling up testing (compared say with what happened in Germany or South Korea) when this was not a PHE responsibility. It would have been helpful (for PHE) if this had been clarified at the time but perhaps not surprisingly it was not.

97. Regardless of who was responsible, it would not have been possible in my view to deliver the increased capacity only through existing NHS laboratories. Nor would it have been possible to do so by devolving the task to multiple existing labs in universities and elsewhere that had PCR machines (memorably referred to by Sir Paul Nurse as the "little ships"). Offers of help were of course welcome and some were very useful. It was essential however not only to have testing capacity in a lab but also to be part of an end-to-end service to test and inform patients on a large scale. Unfortunately, some commentators who criticised what was pejoratively described as a "centralised"

approach did not appreciate the limitations of an alternative solution built on large numbers of diverse "volunteer labs". In April 2020, it was essential to concentrate the available laboratory capacity in a limited number of large facilities in order to make best use of the limited supplies of reagents and consumables. A distributed national system was then put in place to enable testing (swabs taken from patients) to happen all over the country in local settings and even in patients' own homes. So, it was only the large-scale analysis that was centralised, the testing programme was widely distributed around the country. Consistency and standardisation was essential to provide reliable and meaningful results to patients and clinical teams and that was much easier to achieve in a limited number of laboratories.

98. Misunderstanding of the role of PHE in relation to the pandemic appeared to be common even in the highest levels of Government. As a result, blame was often directed towards PHE for perceived failings in the response regardless of which organisation was responsible. I can only presume that this contributed to the decision by Government to abolish PHE (announced in August 2020). This was a very difficult period for us in PHE at a time when we were actively involved in delivering a wide range of functions to support the ongoing response. My view is that a single national public health agency that covers health protection and health improvement was and is by far the best model and one that works well in other countries. A single agency covering both as PHE did takes advantage of the synergy between approaches to infectious and non-infectious diseases, allows for deployment of more staff across areas in a crisis (surge capacity) as we did for COVID-19, recognises that many current public health challenges such as climate change and health inequalities cross traditional organisational boundaries in public health, avoids duplication of common resources such as training programmes and expensive infrastructure such as data repositories and IT systems. It would have been much better to keep PHE as an over-arching structure but make any changes needed to address its shortcomings. The very substantial resources allocated to new organisations could equally have been deployed through PHE if it had continued albeit with augmented governance and leadership arrangements to address any perceived weaknesses in the existing arrangements. This was the model adopted in France where the national public health agency was given the required funds on a temporary basis to recruit staff and implement the programmes required on PPE, outbreak control and vaccination.

99. The core delivery activities needed to control a pandemic are public health activities and, in my view, PHE could have provided most of them if the organisation had been given

the resources needed, working alongside all the other bodies involved especially local government and the NHS. There is also a need for many activities that are outside PHE's remit for example on policy, the provision of certain specialist scientific advice and research. These functions sit elsewhere but many of the operational tasks were a good fit with PHE's capabilities. As it turned out the newly created organisations (NHST&T and JBC) remained very reliant on PHE's (later UKHSA'S) staff for their technical competence.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

Personal Data

Signed: ________________________________ Dated: 22 March 2025