Witness Name: Professor Sir Stephen Powis

Statement No: 1

Exhibits: SP0001 – SP0352

Dated: 27 February 2023

UK COVID-19 INQUIRY

FIRST WITNESS STATEMENT OF PROFESSOR SIR STEPHEN POWIS

CONTENTS

I, Professor Sir Stephen Powis, will say as follows:

1. Introduction

1. Responding to the pandemic has been the single biggest challenge the NHS has faced in its history. Since the summer of 2020 this challenge has become increasingly complex as the NHS has had to manage the pandemic alongside a rebound in demand, elective recovery and vaccine deployment.

2. When SARS-COV2 was identified in early 2020, little was known about the novel coronavirus; how it would affect the human body; what might be effective in treating it; whether, how quickly or in what ways it could be transmitted; and to what extent it would impact on individuals and countries around the world. Globally, healthcare providers and the systems supporting them had to adapt and expand their care offering to look after people with Covid-19, continue to care for people with other conditions including emerging ones such as post Covid disease/long Covid.

3. By mid-April 2020, the NHS in England was treating nearly 19,000 Covid-19 positive patients in hospital, with almost 3,000 on mechanical ventilation, and the country was in lockdown. By the end of September 2022, there had been nearly 20 million cases in England and more than 175,000 people had very sadly died as a result of Covid-19. The 'second wave' was, in many respects, worse than the first. At the peak of the pandemic in January 2021 over 34,000 NHS hospital beds were occupied with patients with a Covid-19 diagnosis, with almost 4,000 new Covid-19 positive admissions every day.[1] More lives were lost in the second wave than the first.[2] Later, in the Omicron wave, these kinds of figures were much reduced, helped by the routine use of these trialled therapeutics, the national vaccination roll-out and the maturity of community testing and self-testing. However, by the end of September 2022, there had been nearly 20 million cases in England and more than 175,000 people had very sadly died as a result of Covid-19.

4. The NHS, as a national service, was able to transfer admissions regionally between hospitals as needed, preventing hospitals from being over-run, and had the ability to rapidly stand up large-scale clinical trials, which has been one of the great success stories of the pandemic.

5. Throughout these periods the NHS also continued to treat non-Covid patients. At no stage were NHS hospitals "Covid only", although hospitals had to adapt their spaces into Covid and non-Covid areas. Even at the peak of the first wave, there were

1 NHS England's Annual Report 2020/21
2 Gov.uk statistics on deaths of people whose death certificate mentioned Covid-19 as one of the causes

significantly more non-Covid inpatients than Covid inpatients. By the peak of the third wave, the proportion of non-Covid inpatients was considerably higher still.

6. The pandemic is not over for the NHS. Staff saw more people with Covid-19 in hospital during the summer of 2022 than the last two summers combined. The World Health Organisation ("**WHO**") has not declassified it and, as it did throughout the period the UK Covid-19 Inquiry ("**the Inquiry**") will examine, community prevalence drives admissions and other health complications as well as staff absences.

7. On 14 December 2022, the NHS in England reported around 6,720 in-patients with Covid-19. It is estimated that 1,095,100 people in England had Covid-19, equating to 1 in 50 people infected. We are now seeing waves of other infectious diseases at levels similar or above those pre-pandemic, with some of them occurring outside of their normal seasonal patterns; in the same week in December 2022, the number of patients in hospital with flu was over ten times the number seen at the start of December 2021. The baseline (i.e. the number below which occupancy did not usually fall) for Covid occupancy for the past 28 months had been between 4,500 and 5,000 inpatients; since October 2021, the number of Covid-19 inpatients has only fallen below 5,000 for three periods (30 Sept 2021-5 Oct 2021; 24 May 2022-16 June 2022; 7 Sept 2022-21 Sept 2022). Bed occupancy is only one measure of health system impact, but an important one to use when dealing with a hospitalising virus in a capacity constrained system.

8. NHS staff and teams were put under sustained pressure and responded with dedication and compassion as they cared for patients with Covid-19, many of whom were redeployed to work in difficult conditions and support people and families through the most difficult and emotional situations. Staff are also members of the public, with families and friends from whom many isolated to continue to perform their job; they are patients too. Many suffered personal loss and some very sadly lost their own lives. The country recognised this frontline battle and sacrifice. We want to put on record our thanks to all the staff across the NHS for their extraordinary work during the greatest public health emergency in the NHS' history.

9. NHS England offers condolences to all those impacted in so many ways.

10. Pragmatic decisions were required to identify where, how and by whom decisions were made to ensure NHS England and the NHS in England provided the most appropriate and best possible care to patients. These decisions included whether

action was taken at local, regional or national level and most importantly, what other roles and responsibilities were needed to deliver the response.

11. NHS England's response to Covid-19 was necessarily expansive and sustained. To ensure optimum co-ordination of the NHS in England, NHS England declared a Level 4 Incident, which is an incident requiring NHS England Command and Control to support the NHS response in England. This meant NHS England (the organisation at the 'centre') had to change its own way of working for such a role: all seven regions stood up response arrangements; over 30 dedicated national cells were set up with staff from across the organisation redeployed to support them; and new decision-making and management architecture was introduced informed by new data flows. We were supported by NHS leaders in trusts and other organisations joining us to add expertise and operational capacity and insight. As well as conducting our own internal and NHS facing daily incident meetings, we linked into the Department of Health and Social Care's ("**DHSC**") daily incident management architecture.

12. NHS England's Covid-19 incident response governance was stood-up with the appointment of the Strategic Incident Director and the establishment of the Incident Management Team (National) and Incident Coordination Centre (National) along with early cells. This was followed by daily meetings, the establishment of the National Incident Response Board ("**NIRB**") and the set-up of the Central PMO. Throughout the response, NHS England's governance evolved and augmented to the changing nature of the incident, including transitions between a Level 3[3] and Level 4 Incident response.

13. At the same time as needing to engage more intensively into NHS organisations, NHS England also intensified its relationship with government. Similar to how we brought in support from other NHS organisations, we often supported government by seconding people with relevant expertise to them.

14. Collaboration was seen at so many levels in the pandemic response and the NHS did not work alone. We thank all NHS staff, NHS England employees, other key workers, particularly in the care sector, the hundreds of thousands of volunteers, tens of thousands of staff who returned, the student nurses and medical students who stepped up and our colleagues in the armed services and public health. They are part of this country's greatest peacetime mobilisation. We are also grateful to all those

[3] See section 4 for an explanation of a Level 3 incident.

who played their part in reducing infections and slowing the spread of the virus, which has undoubtedly saved many lives.

2. Corporate witness statement

15. I have been the National Medical Director of NHS England since early 2018. I was also Interim Chief Executive Officer of NHS Improvement between 1 August 2021 and 31 July 2022 (when NHS Improvement was abolished and legally became part of NHS England). I was in post throughout the Covid-19 pandemic, an NHS England Board Member and member of NIRB. From time to time, I deputised for Lord Stevens (former Chief Executive) at government meetings. I attended SAGE meetings regularly from 25 February 2020. I occasionally attended other key government meetings in the management of Covid-19 such as Covid-O.

16. This witness statement was drafted on my behalf, but with my oversight and input, by external solicitors acting for NHS England in respect of the Inquiry. The Module 2 Rule 9 Request to NHS England is broad in scope, and goes beyond matters which are within my own personal knowledge. As such, this statement is the product of drafting after communications between those external solicitors and a number of senior individuals (both current and former NHS England employees) in writing, by telephone and by video conference. I do not, therefore, have personal knowledge of all the matters of fact addressed within this statement. However, given the process here described, I can confirm that all the facts set out in this statement are true to the best of my knowledge and belief.

17. As this statement includes evidence from a breadth of sources, combined to represent the evidence and voice of NHS England, references throughout to 'NHS England', and 'we' represent the voice of the organisation. I have referred to all individuals (including myself) in the third person, by job title.

18. This corporate statement has been produced with input from a large number of colleagues across NHS England, and following targeted review of emails and other documents collated to date. In the time available it has not been possible to review every potentially relevant document, and it is highly likely that relevant documents exist that have not been reviewed. This statement therefore provides the 'high level summary' requested by the Inquiry, and is accurate to the best of our knowledge, but we cannot exclude the possibility that it will require updating as further evidence emerges through our ongoing process of internal investigation and document review. NHS England will of course notify the Inquiry as soon as practicable if information

comes to light that would have been included in this statement if it was available before the deadline for its production.

3. Approach to the Module 2 Rule 9 Request

19. NHS England welcomes the chance to assist the Inquiry to understand the key issues it has identified as in scope for Module 2 of the Inquiry (and in subsequent engagements with the Inquiry team).

20. We understand that the purpose of this document is to provide a corporate statement on behalf of NHS England to assist the Chair of the Inquiry in understanding a range of matters as set out in a draft request received on 19 October 2022 pursuant to Rule 9 of the Inquiry Rules, specifically relating to Module 2 of the Inquiry ("**the Module 2 Rule 9 Request**").

21. We understand that the scope of Module 2 is focussed on the UK's core political and administrative decision-making in relation to the pandemic between early January 2020 and February 2022, with particular attention paid to the period between January and late March 2020.

22. We further understand that the Module 2 Rule 9 Request seeks information about NHS England's engagement at the most senior level on the development of key policies and decisions made by Government during the course of the pandemic. This statement therefore concentrates on the most significant matters as identified by NHS England which appear to be within the scope of the Module 2 Rule 9 Request.

23. The information requested is provided to differing levels of detail. Certain aspects are dealt with at a relatively high level as we understand that many of the issues to be discussed may be addressed in greater detail at a later stage in the Inquiry. Other matters are included in more detail: based on the fact this is the first formal evidence the Inquiry has asked NHS England to produce, there is some uncertainty about both the level of detail that will best assist the Inquiry, and the state of knowledge of the Inquiry, other core participants, and the public.

24. In order to ensure that the statement is as accessible as possible material which is primarily required for contextual or reference purposes, notably NHS England's legal duties and functions and approach to records management, is contained within annexes at the end of the statement.

25. This statement is intended to be read alongside the chronology of events and key decision-making in which NHS England was involved.

26. The chronology is separated into two timelines. The first runs from 1 January 2020 to 30 April 2020, and the second from 1 May 2020 to 24 February 2022. This reflects the Inquiry's focus on the period in early 2020 for Module 2.

27. As requested by the Inquiry, the chronology covers the involvement of representatives of NHS England in Ministerial, Cabinet, Cabinet Office Briefing Room ("**COBR**"), Ministerial Implementation Groups, Covid-S, Covid-O and other Cabinet Committee and core political meetings (e.g. with the Prime Minister / No. 10). Also as requested, the chronology does not attempt to include details of every meeting, nor details of NHS England's role or decision-making concerning delivery and implementation which is not related to core political and administrative decision-making. It focuses on those that NHS England considers will assist the Inquiry Chair in understanding the role of NHS England in the decision-making process of the Prime Minister and the Cabinet in response to the pandemic.

Outline of this corporate witness statement

28. This statement contains responses to topics and questions set out in the Module 2 Rule 9 Request. As suggested by the Inquiry, the statement adopts its own structure and deals with the Inquiry's questions and topics in a different order to the way they appear in the Module 2 Rule 9 Request. This is because we considered that it would be helpful for the Inquiry to understand contextual matters such as NHS England's structure and role in the wider healthcare system, its involvement in modelling and NHS capacity before going on to explain NHS England's role in initial government strategies.

29. The statement begins with an introduction to NHS England and its role in central government decision-making and policy formulation so as to provide context to the Inquiry and the public of the way in which existing structures and capacities mobilised in the early stages of the pandemic, who the key decision makers were, and the scale of change in ways of working with central government and other public bodies, including devolved administrations, during that time and beyond. This section explains the role of NHS England in the wider healthcare system and its relationship with central government decision makers.

30. As explained in section (5), NHS England is not a government decision-making body (and that remained the case through the pandemic) and it did not take decisions on the government response, such as decisions to impose lockdowns or non-pharmaceutical interventions ("**NPIs**"). On a practical level, NHS England was available to central government and other bodies such as Public Health England ("**PHE**") to provide advice and information that central government could use in making decisions. In particular, this included advising Government on the existing and potential capacity of the NHS, the operational challenges, and the steps that could and were being taken to respond to the pandemic and the likely impact on the NHS of developing Reasonable Worst-Case Scenarios ("**RWCS**") and other potential scenarios.

31. The statement then covers NHS England's initial understanding of Covid-19, and how that developed over time, and its role in the collection and dissemination of data and modelling. The chronology of NHS England's understanding of Covid-19 is set inside the wider context of information that was in the public domain at the time to provide context. During January and February 2020, existing emergency response structures across government and NHS England were mobilised in response to Covid-19. In particular, in January 2020, the NHS England Emergency Preparedness Resilience and Response ("**EPRR**") function followed its processes for responding to an emerging threat, and on 30 January 2020 NHS England declared a Level 4 Incident.[4]

32. Initially, NHS England did not have a presence on Scientific Advisory Group for Emergencies ("**SAGE**"), although by 25 February 2020, the National Medical Director began attending SAGE meetings, and thereafter attended regularly. Central government modelling was undertaken by the Scientific Pandemic Influenza Group on Modelling ("**SPI-M-O**"), with relevant input from NHS England, including key operational data as the pandemic progressed. In the weeks before the first lockdown announcement, NHS England was carrying out its own internal modelling and data collection to inform its operational response and was also sharing data on NHS capacity with central government through SAGE and the Chief Medical Officer. As the pandemic progressed and to support decision making for the second wave in Autumn 2020 NHS England collaborated with SAGE's modelling organisation SPI-M-O. From 2021, NHS England expanded its data infrastructure to encompass reporting on vaccine deployment.

[4] For a timeline of NHS Incident Levels during the pandemic, see Annex 8

33. The statement goes on to cover NHS capacity pre and during the pandemic. As explained in that section, NHS capacity is not as straightforward as counting beds available for patients, and depends on a number of factors including availability of workforce and medicines. This section also covers the ways in which information about capacity was shared with central government, how it was monitored and NHS England's role in preparing to provide for surge capacity.

34. The statement then sets out NHS England's role in initial Government strategies in response to the emergence of Covid-19. NHS England worked closely with DHSC, PHE, and others to respond to the pandemic, as well as being present at some meetings with the Prime Minister, No.10, and other Government ministers, and through its attendance at SAGE, COBR, Covid-O etc. meetings, where relevant to do so. This included existing meetings (such as Quad meetings) as well as other meetings or groups set up specifically in response to the pandemic, and formal and informal contact where relevant. This section also covers NHS England's role in supporting repatriation and providing isolation facilities, the provision of data and advice in respect of the impact on the NHS and the extent to which such matters were relevant to Government decisions about community testing, the movement from contain to delay, contact tracing, advice to health and social care providers, and support to Government's efforts to source PPE. This section also details how the NHS England provided information to the Prime Minister on NHS capacity in advance of the first lockdown, through existing meetings such as Quad meetings (with DHSC) and attendance at and provision of papers to SAGE (from 25 February 2020). NHS England also provided information about operational pressures to Government in Autumn 2020 which the Government then considered when reaching decisions about imposing or easing regional restrictions, together with a range of voices and sources of information which they drew upon when determining policy. From Autumn 2020, NHS England played a similar role in relation to the Government's decision to implement the Tier System and further lockdowns in the UK.

35. The statement then covers specific topics from the perspective of NHS England's involvement in the wider Government response: at-risk and other vulnerable groups, ventilators, creation of Nightingale Hospitals, intensive care, public communications and legislative measures.

36. Finally, the statement sets out its current view on challenges and things that worked well in supporting core political and administrative decision-making and details of the ongoing work that NHS England is engaged in so as to identify and implement lessons

learned and future scenario planning. NHS England is still very much experiencing the pandemic and is an organisation that is constantly learning. We will continue to reflect on challenges and accomplishments as our own work in this area and the Inquiry progresses.

4. Introduction to NHS England

37. NHS England is an Arm's Length Body (**"ALB"**) sponsored by the DHSC. It exists alongside other ALBs such as NHS Digital, which is (as at the date of this statement) a separate legal entity but which is expected to be formally merged with NHS England in early 2023.

38. NHS England is primarily responsible for the co-ordination of the provision of health care services in England and oversight of local commissioners and providers of those health care services. NHS England's core legal function and purpose is to arrange for the provision of services for the purpose of the health service in England, a duty owed concurrently with the Secretary of State for Health and Social Care ("**SSHSC**"). As part of its role NHS England can identify NHS-wide difficulties and determine policies to make improvements within the NHS, such as planning for service change and supporting our staff. NHS England is not a core political or governmental decision-making body. It is important to note that NHS England is not the same as 'the NHS in England', the latter being the phrase often used to collectively refer to all bodies which make up the publicly-funded health service in England. NHS England does not have significant public health functions, but the SSHSC routinely delegates specific functions to NHS England on an annual basis.[5]

39. NHS England is a Category 1 Responder pursuant to the Civil Contingencies Act 2004, meaning it must co-operate with a group of other named responders in an emergency. NHS England maintains an Emergency Preparedness, Resilience and Response ("**EPRR**") Plan not only to discharge its obligations under civil contingencies legislation but also because NHS England has a duty under NHS legislation to plan for and respond to a wide range of incidents and emergencies that could affect health or patient care. This includes planning for events such floods, mass casualty events and cyber-attacks as well as pandemics. Throughout the pandemic (and as described in more detail below), NHS England was operating at an NHS Incident Level of either:

[5] Pursuant to section 7A of the NHS Act 2006

a. **Level 3**: An incident that requires the response of a number of health organisations across geographical areas within a NHS England region. The NHS England Regional Team take command, control and coordination of the NHS across their region. Tactical command will remain with local responding organisations, as appropriate; or

b. **Level 4**: An incident that requires NHS England National Command and Control to support the NHS response. NHS England coordinate the NHS response in collaboration with local commissioners at the tactical level, as appropriate. For responses at Level 4 NHS England (national) may take command of all NHS resources across England. In this situation direction from the National Team will be actioned through the Regional Teams.

40. Decisions to declare a Level 4 Incident or transition to a Level 3 response are taken in accordance with the escalation and de-escalation criteria set out in Appendix 1 to the EPRR Framework (2015).

41. Further detail on NHS England's applicable legal functions and duties can be found in Annex 4, and further detail on NHS England's EPRR function can be found in Annex 5.

5. NHS England's role in central government decision-making, including policy formulation

42. In general, it is the responsibility of Government departments to direct national strategy and set funding levels.

43. DHSC is responsible for setting policies that deliver the Government's strategic health objectives; and in turn for making sure the legislative, financial, and administrative frameworks are in place to deliver those policies.[6] It oversees the health and social care system through its 14 agencies and public bodies, holding them to account for delivery on agreed plans and commitments.

44. Statutory ALBs (such as NHS England) do not set national policy in the sense of priorities, but have a key role in implementing and advising on it. The Government, via DHSC, will seek input from NHS England on how to improve existing policies or address new challenges. In turn, NHS England may engage other people and organisations across the healthcare sector, including service users before providing

[6] NHS mandate 2021 to 2022

expert advice. The Government then is responsible for selecting from the policy options and ensuring any policy selected is appropriately financed.

45. NHS England is responsible for determining how to operationalise those policies to ensure effective delivery and evaluate their impact. This is reported to Government, via DHSC, through the usual arrangements.[7]

46. One method NHS England uses to communicate priorities out to the sector is through publication of the annual NHS Priorities and Operational Planning Guidance which sets out the NHS' priorities for the year ahead.[8]

47. Whilst many things changed operationally during the pandemic and NHS England took on many roles beyond its usual remit as part of the 'all hands on deck' response, the overall parameters of its role in central government decision making and policy development remained broadly the same as before the pandemic. NHS England did not take on exclusive responsibility for any government policy, and we retained our role of providing expert and advisory input, information and modelling, all of which the Government used to inform its decision-making. Both prior to and during the pandemic, NHS England officials at all levels of the organisation regularly met with policy-makers in Government, as part of NHS England's role contributing to the development of Government policy. There were and continue to be a myriad of informal channels, including bilateral and ad-hoc meetings, which compliment more formal structures, such as regular EPRR and Quad meetings (outlined below and in the chronology). NHS England officials also attended Government meetings such as COBR meetings when requested by Government to do so, and advisory groups such as SAGE. In reaching its decisions, Government had to consider not just NHS England's input, but also that of many others, in and outside the health sector.

48. See Annex 7 for a brief explanation of NHS England's role in cross-government exercises during the pandemic.

6. Overview: key officials and decision-makers

49. We have been to asked provide details of NHS England's key officials or decision makers involved in key central government decisions in the response to the Covid-19 pandemic between 1 January 2020 and 24 February 2022, together with details of the role that each person played in decision-making.

[7] NHS England 2020/21 End-of-year Mandate Assurance Report
[8] NHS England 2022/23 priorities and operational planning guidance

50. As already noted, NHS England officials will rarely if ever have been key decision-makers in the context of Module 2. Senior leaders within the organisation were, however, very closely involved in the Government's response to the pandemic. The key officials were:

Key Leader	Role
Lord Simon Stevens	• Former Chief Executive Officer (until 31 July 2021)
Amanda Pritchard	• Former Chief Operating Officer of NHS England (until 31 July 2021) • Accountable Officer for Emergency Preparedness, Resilience and Response (until 13 December 2021); Chair of National Incident Response Board (NIRB) • Chief Executive Officer of NHS Improvement (until 31 July 2021) • Chief Executive Officer NHS England (from 1 August 2021)
Professor Sir Stephen Powis	• National Medical Director of NHS England • Interim Chief Executive Officer NHS Improvement from 1 August 2021 to 31 July 2022 (when NHS Improvement was abolished)
Dame Ruth May	• Chief Nursing Officer (throughout)
Professor Sir Keith Willett	• Former Covid-19 Strategic Incident Director (until 4 July 2021 and again from October 2021 to 31 March 2022) ('GOLD' Commander NHS in England) (short intervening period leading vaccine programme) • Former National Director for Emergency Planning and Incident Response (until 4 July 2021)
Julian Kelly	• Chief Financial Officer

Key Leader	Role
Ian Dodge	• Former National Director of Primary Care, Community Services and Strategy (until 30 June 2022) (retired)
Dame Emily Lawson	• Chief Commercial Officer (until 5 July 2021) and Senior Responsible Officer for Vaccines Programme (until 5 July 2021; then a further period from October 2021 until February 2022) • Secondee to DHSC for supply affairs (PPE)
Prerana Issar	• Chief People Officer (until 14 December 2021)

51. Further details of key officials' roles and the high-level Government meetings they attended are provided in Annex 1.

7. Relationship with devolved authorities, regional and local administrations

52. We have been asked to explain the extent to which NHS England liaised with or provided information to the devolved administrations in Scotland, Wales and Northern Ireland, and regional and local authorities, about key decisions on the management of the pandemic. We have been asked to include a summary of all the organisations with which NHS England co-operated in the devolved administrations and regional and local authorities and the types of information shared between them.

Devolved authorities

53. Pre-pandemic, the Chief Nursing Officer ("CNO") attended regular meetings with the CNOs of devolved administrations, and the National Medical Director of NHS England from time to time would meet with Chief Medical Officers ("**CMO**") from devolved administrations individually or collectively. The Chief Nursing Officer ("**CNO**") is employed by NHS England and also fulfils a Government role. The National Medical Director works solely for NHS England. England is unique among the Four Nations in having both a CMO and a National Medical Director; in the devolved authorities the roles are essentially combined.

54. The CNO for England's regular meetings with her Devolved Authority colleagues continued throughout the pandemic to share learning and ensure alignment across the UK on nursing and midwifery issues. The CNO first met with the UK CNOs and

their teams and the Nursing and Midwifery Council on 12 March 2020. The CNO chaired this meeting and matters discussed included temporary professional registration, staffing and the use of students.

55. Thereafter, there were regular meetings held, and engagement, with the CNOs, whether as a group or individually. The four CNOs discussed workforce proposals, the use of returners, critical care capacity and emergency registration.

56. NHS England's Chief Executive met with Four Nations counterparts during the pandemic on an ad-hoc basis.

57. NHS England officials met with the CMOs from the Four Nations on an ad-hoc basis when required, for example:

    a. NHS England National Medical Director met with Scotland's CMO on 7 February 2020;

    b. NHS England's National Medical Director met with UK CMOs regarding clinical prioritisation in March 2020;

    c. NHS England's Strategic Incident Director attended a meeting with the CMO discussing the definitions of "Covid cases", definition agreed across four nation CMOs;

    d. NHS England officials attended Senior Clinicians Health Care Workers Testing Sub Group with UK CMOs in May 2020; and

    e. NHS England's National Medical Director met with UK CMOs regarding UK Alert Level in November 2020.

58. Further examples of NHS England's interactions with the Devolved Administrations include:

    a. Updates via the Critical Care Capacity Panel ("**CCCP**"), which also considers approaches from the Devolved Administrations for data-sharing or co-operation **[SP/0001 – INQ000087493]**;

    b. The CCCP was also informed by information covering the Devolved Administrations. For example, the CCCP received the ICNARC (Intensive Care National Audit and Research Centre) report on COVID-19 in critical

care at meetings which included the position in England, Wales and Northern Ireland **[SP/0002 – INQ000087506]**; and

c. Mutual aid:

i. Five English Ambulance Services took Scottish Ambulance Service Calls; whilst all ambulance services in the UK have well established buddy arrangements for dealing with spikes in 999 calls, these new arrangements, which were overseen by the National Ambulance Co-ordination Centre, built upon those existing arrangements and strengthened them further **[SP/0003 – INQ000087484]**; and

ii. Discussions took place at CCCP and Strategic Fusion regarding Northern Ireland **[SP/0004 – INQ000087510]; [SP/0005 – INQ000087511] [SP/0006 – INQ000087515]; [SP/0007 - INQ000087516]**.

59. Operationally, EPRR teams are central to planning for a pandemic (as will be considered in Module 1), and to an organisation's operational response to an incident such as a pandemic. There is a well-established relationship between the EPRR teams across the Four Nations and NHS England has a Four Nations Operational Group which meets monthly to work in a collaborative manner, to share good practice and intelligence in relation to all matters concerning health and social care resilience. During Covid-19 the regular engagement meetings were suspended but the Four Nations continued to meet via monthly DHSC coordination meetings, and there was informal contact between NHS England and Wales and NHS England and Scotland at various times during the pandemic.

Regional and local administrations

60. NHS England operates by way of a centralised national NHS England team and then a number of regional teams, which are further broken down into area teams. From 2019 there have been seven regional teams: East of England, London, Midlands, North East and Yorkshire, North West, South East and South West. The regional teams are led by regional directors with a single reporting line to the NHS England Chief Operating Officer. Regional teams are responsible for the performance of all NHS organisations in their region in relation to quality, finance and operational performance.

61. NHS England's regional teams represent NHS England on Local Resilience Forums

("**LRF**") and Local Health Resilience Partnerships ("**LHRP**") (including sub-groups) and various regional groups (e.g. steering groups and health protection groups) as well as directly with (for example) NHS funded organisations, NHS commissioners, safety advisory groups, Ministry of Defence (Joint Regional Liaison Officers), Directors of Public Health and PHE (now UKHSA). It is important to recognise that the geography and the demographics of each region is different, and therefore, challenges and/or pressures throughout the period covered by this statement would have varied on a region-by-region basis. Regional Teams engaged directly with NHS provider organisations and local Clinical Commissioning Groups (where issues and pressures could be seen at a macro level and inform strategies to deal with the pandemic).

Chief Nursing Officer's local and regional advisory groups

62. On 15 March 2020, NHS England's Chief Nursing Officer first met with an informal strategic advisory group she had established, consisting of senior Directors of Nursing from across the country **[SP/0008 – INQ000087544]**. The CNO used these meetings to seek views and feedback on operational issues such as student deployment during pandemic, PPE, the need for staff reassurance and the use of returners and retired nurses. This group was subsequently established as a formal group – the NHS Directors of Nursing Strategic Advisory Group ("**CNO SAG**") – on 6 May 2020, with an agreement to meet bi-weekly. On that date, the first formal meeting of the group, the terms of reference set out that the aims and objectives of the CNO SAG were to ensure that the CNO has access to advice from a group of senior nursing and midwifery professionals to help inform decisions during the pandemic (issues including workforce and clinical) and to provide a consultation group where new nursing or midwifery operational policy is proposed and discussed as appropriate.

63. In addition to the CNO SAG, the CNO also regularly held calls with the Regional Directors of Nursing in NHS England as and when required. There was also a series of webinars rolled out from mid-April onwards to keep directors of nursing informed and updated.

8. Initial understanding of Covid-19 – up to 26 March 2020

64. NHS England has been asked to provide a high-level summary overview of the details of NHS England's initial understanding of the nature and spread of Covid-19 in light of information received from the WHO and other relevant international and national bodies, advice from scientific, medical and other advisers and the response of other

countries between 1 January 2020 and 26 March 2020. We understand that the Inquiry wishes to understand what information was known about the emergence of the Covid-19 virus during this period and what information NHS England provided about it to the Prime Minister / No. 10, Cabinet, Cabinet Committees, the DHSC, SAGE and SAGE sub-committees.

65. We set out below, in chronological order, events that explain the development of NHS England's initial understanding of the nature and spread of Covid-19, and how knowledge evolved quickly over this period. The formal route for information sharing was that information about events in Wuhan was shared by the Chinese Authorities to the World Health Organisation and then WHO cascaded it internationally. The UK received that information from WHO and discussed it at various governmental, public health and scientific meetings, including SAGE, NERVTAG and SAGE sub-committees. The outputs from these high-level governmental, public health and scientific meetings were shared with NHS England and the information and guidance given informed NHS England's operational response. Representatives from NHS England were invited to join either COBR or similar other meetings when government considered it appropriate to do so. In general terms, however, a number of senior NHS England officials regularly attended meetings with various levels of central government throughout the pandemic.

66. NHS England was not asked to send representation to early SAGE meetings, although our EPRR team were routinely sent meeting minutes from the third SAGE meeting onwards. Our National Medical Director began attending SAGE meetings from 25 February 2020 at his request.

67. Many individuals within NHS England have good relationships with a network of peers internationally and so, as well as us receiving information via formal routes, we also picked up information from informal international contacts, which helped our understanding of what was happening on the ground in those countries. This information also helped to inform us about how the UK may be impacted and how NHS England could respond and operationalise what was likely to happen.

68. NHS England was therefore learning about the development of Covid-19 from the WHO, from the Government (which in turn was being advised by scientists in PHE and elsewhere) and from informal contact between officials and their counterparts overseas. We were not initially generating information of our own about the characteristics or epidemiology of the disease, as there were no detected cases in the

UK. As cases began to spread in the UK, so the NHS in England began to gather data about those cases, which NHS England collated and shared with Government. This is described in section 9 of this statement.

69. It is relevant to consider the interplay between NHS England, PHE and the Government in the early part of the pandemic. Although NHS England received data and information about Covid-19 from others and also shared their own information and data, the Government and PHE took the clear lead, because they had the overall responsibility for public health and infectious disease control, as well as the scientific, and modelling expertise. For example, predictive modelling, for how the pandemic may impact, was produced through the Government and SPI-M-O. Throughout the pandemic, many different people and organisations produced their own modelling, including NHS England, but it was vital that all organisations, including NHS England, responding to the pandemic were doing so aligned behind the official modelling relied upon by Government, which was undertaken by the Government and SPI-M-O. Given SPI-M-O's specific remit and function, namely to feed into central government and not into NHS operational planning and delivery, the modelling they produced was not necessarily what we specifically needed for own purposes (particularly from the perspective of regionally segmented modelling). NHS England therefore developed its own modelling for these purposes.

70. Another important feature of the world and the UK's understanding of Covid-19 in the early part of the pandemic was that, in large part, this was based on information coming from China. As the SAGE minute of 11 February 2020 **[SP/0009 – INQ000087552]** records that information (on which early assessments were based upon): "*A lack of data from China continues to hamper understanding of Covid-19*". This hampered early understanding of symptoms, transmission and risks to the UK public.

71. Knowledge and understanding of epidemiology and transmission developed very quickly, particularly in the early part of the pandemic. Because of the mix of formal and informal routes, and the asymmetric distribution of information, it is difficult (particularly with the intervening passage of time), to look back and be clear exactly what NHS England's understanding was at each moment in time.

72. The following paragraphs attempt to set out NHS England's developing understanding of Covid-19 as a disease, but inevitably draw upon materials that are available now publicly (and to NHS England), and so some elements below may have been known

to others but not to NHS England at that point in the timeline. Wherever possible, we have flagged this for clarity.

73. We have included key events in the following description of events, that are relevant more widely than strictly in relation to NHS England's understanding of the epidemiology of Covid-19. Our aim in doing so is to make the statement more easily readable as a whole. We have sought to explain the significance of these events in the subsequent sections of this statement. Later in this statement, under the heading "*NHS England's role in decisions around non-pharmaceutical interventions (NPIs)*", we will discuss in more detail the active operational role of NHS England. However, the paragraphs that follow in this section attempt to give a broader overview of the movement of information nationally and internationally during the early part of the pandemic.

Timeline of NHS England's developing understanding of Covid-19

January 2020 – vigilance and concern

74. On 31 December 2019, the WHO China Country Office was informed of cases of pneumonia of unknown aetiology detected in Wuhan City, Hubei Province of China.

75. By 2 January 2020, we were aware, along with PHE and the CMO, of this cluster of cases of novel virus in Wuhan, Hubei Province and we began monitoring the situation. At that stage, all that was known was that there were a number of people in hospital in Wuhan with a pneumonitis and acute respiratory illness which had been uncharacterised. At that stage, it did not have any of the criteria of a new infectious disease, nor was it considered potentially pandemic-generating given the small number of people reported as being sick. There was no direct evidence of human-to-human transmission.

76. An announcement by the WHO on 5 January 2020 **[SP/0010 – INQ000087554]** confirmed that as of 3 January 2020, a total of 44 patients with pneumonia of unknown aetiology had been reported to the WHO by the national authorities in China. Of the 44 cases reported, 11 were severely ill, while the remaining 33 patients were in a stable condition. According to media reports, the concerned market in Wuhan was closed on 1 January 2020 for environmental sanitation and disinfection.

77. NHS England's National Medical Director updated the NHS Executive on the "Wuhan coronavirus" as it was known then in a meeting on 7 January 2020 and noted it as an

issue to keep under review. The NHS Executive comprises NHS England's executive directors and its seven regional directors, amongst others who provide executive leadership in NHS England.

78. On 9 January 2020, senior leaders in NHS England were briefed that PHE had declared a National Enhanced Incident following a preliminary determination of a novel (or new) coronavirus by officials in Wuhan, China **[SP/0011 – INQ000087237]**. Coronaviruses are a large family of viruses with some causing less-severe disease, such as the common cold, and others more severe disease such as MERS and SARS. Some transmit easily from person to person, while others do not. Around 59 people in Wuhan had become infected by a pneumonia-like illness, with 7 in a critical condition. Chinese officials had identified the new coronavirus in 15 of the patients. At this stage, there was limited epidemiological information from the Chinese authorities.

79. At this date, there had been no reports of patients with these symptoms in the UK.

80. With regards to Wuhan, NHS England understood at that time that some of the cases had been associated with a seafood and live animal market in the city. The market had been closed on 1 January 2020 and there had been no cases since then. There was no evidence of human-to-human transmission.

81. Wuhan was a major travel hub within China and received flights from three European airports including London Heathrow. We understood that no additional checks on travellers from the area were being implemented at the UK border, nor was there any restrictions or advice against travelling to the region. PHE had assessed risk to travellers to the area as "very low."

82. The WHO issued a press release on 9 January 2020 **[SP/012 – INQ000087555]**, announcing the discovery of the novel virus and calling for more research. The WHO release also stated: "*WHO does not recommend any specific measures for travellers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available.*"

83. At this time representatives from NHS England joined a PHE communications cell. PHE had issued updated coronavirus information and laboratory diagnostic information to microbiologists, and NHS England was supporting PHE to distribute this information to a wider healthcare audience.

84. On 10 January 2020, the WHO Strategic and Technical Advisory Group on Infectious Hazards with Pandemic and Epidemic Potential ("**STAG-IH**") met to risk assess the outbreak **[SP/0013 – INQ000087498]**. Following this and by 12 January 2020, the WHO published a package of guidance documents for countries, covering topics related to the management and outbreak of the disease.

85. On 12 January 2020, China shared the genetic sequence of the Wuhan novel coronavirus for countries to use in developing specific diagnostic kits.

86. PHE issued a press release on 13 January 2020, alerting those travelling to China for the Chinese New Year that they should take additional precautions to guard against the new coronavirus. The Ministry of Public Health in Thailand reported an imported case of lab-confirmed novel coronavirus from Wuhan, the first recorded outside China **[SP/0014 – INQ000087556]**. The WHO published its first protocol for diagnostic testing **[SP/0015 – INQ000087238]**.

87. On 14 January 2020, the WHO held a press briefing during which it stated that, based on experience with respiratory pathogens, "*it is certainly possible that there is human-to-human transmission.*" However, in its risk assessment, the WHO said that additional investigation "*was needed to ascertain the presence of human-to-human transmission, modes of transmission, common source of exposure and the presence of asymptomatic or mildly symptomatic cases that are undetected.*" **[SP/0016 – INQ000087558]**.

88. On 15 January 2020, the DHSC published clinical guidance to clinical diagnostic laboratories on the handling and processing of specimens for the detection of Wuhan novel coronavirus and covered laboratory investigations as well as sample requirements.[9]

89. PHE published its first infection prevention and control guidance on 15 January 2020, outlining the PPE that should be worn when dealing with coronavirus patients. NHS England was not involved in the drafting of this guidance.

90. On 16 January 2020, the UK Four Nations public health High Consequence Infectious Disease ("**HCID**") group made an interim recommendation to classify Covid-19 as a HCID in the UK. The UK Four Nations public health service agencies (in England, PHE) then classified it as such.

[9] Wuhan novel coronavirus: guidance for clinical diagnostic laboratories published 15 January 2020

91. A HCID is an acute infection disease with potential for a high case fatality rate. In the UK, an HCID is defined by PHE according to the following criteria:

    a. Acute infectious disease;

    b. Typically has a high case fatality rate;

    c. May not have effective prophylaxis or treatment;

    d. Often difficult to recognise and detect rapidly;

    e. Ability to spread in the community and within healthcare settings; and

    f. Requires an enhanced individual, population and system response to ensure it is managed effectively, efficiently and safely.

92. As a consequence of Covid-19 being classified as a HCID, NHS England – as the national commissioner of HCID treatment centres – took steps to secure care and treatment for Covid-19 patients in HCID and other infectious disease specialist centres during the early weeks of the pandemic. In practice, this meant that early coronavirus cases in the UK were dealt with in a small number of highly specialist HCID treatment centres. In the early cases we would have established an HCID activation call, whereby the clinicians working in the High Level Isolation Units around the country would meet virtually to discuss cases and to determine where best needs could be met i.e. in which unit. Additionally, the classification of Covid-19 as an HCID also determined the type of PPE that was recommended to be used when treating patients with Covid-19.

93. NHS England's knowledge of Covid-19 continued to be informed by PHE publications. On 20 January 2020, PHE published and NHS England distributed the latest PHE clinical guidance to medical directors, Clinical Commissioning Groups ("**CCG**") clinical leads, NHS 111 and 999. NHS England did not have any involvement in drafting the guidance. At this point, the UK risk level (set by Government) was "very low." WHO published guidance on home care for patients with suspected infection from the Wuhan novel Coronavirus **[SP/0017 – INQ000087247]**.

94. On 21 January 2020, PHE published guidance for primary care professionals outlining actions to be taken around dealing with potential Covid-19 patients in primary care settings, when transferring them to other settings and environmental cleaning **[SP/0018 – INQ000087559]**.

95. On 22 January 2020, PHE announced it was moving the risk level to the British public from "very low" to "low". DHSC and PHE released a statement on enhanced monitoring of passengers travelling from Wuhan **[SP/0019 – INQ000087560]**. A National Co-Ordination call took place between representatives from DHSC, PHE (and its Welsh, Northern Irish and Scottish equivalents) and representatives from NHS England's EPRR team including the National Director and Deputy Director to discuss the emerging situation. The notes of the call confirmed that there were three suspected cases (as yet unconfirmed) in the UK; two patients in Manchester who were hospitalised in isolation units and one in London who was isolated at home **[SP/0020 - INQ000087239]**.

96. The Government activated SAGE and its first meeting in relation to Covid-19 took place on 22 January 2020. Its membership did not originally include representatives from NHS England. The minutes from this meeting **[SP/0021 – INQ000087535]** are now publicly available, and we note that the meeting considered the following:

    1. The current understanding of WN-CoV;
    2. A summary and review of NERVTAG conclusions;
    3. Transport related issues;
    4. UK health readiness and planning; and
    5. Triggers for escalating the Government's response.

    At this point, the understanding was that there were 440 cases in China (375 in Wuhan) and that there were also cases in Japan, Korea, Thailand, Taiwan and the USA.

97. SAGE specifically minuted the following:

    a. There was evidence of person-to-person transmission but it was unknown whether transmission was sustainable;

    b. The incubation period was unclear but it appeared to be within 5-10 days and 14 days after contact was a sensible outer limit to use;

    c. It was highly probable that the reproduction (R) number was currently above 1;

    d. It was currently estimated that the mortality rate for WN-CoV was lower than for

SARS but it was too early to reliably quantify that rate;

e. There was insufficient information currently on the genetic strain to comment on its origin;

f. There was no evidence yet on whether individuals were infectious prior to showing symptoms.;

g. There was no evidence that individuals were more infectious when symptoms were more severe, but that was likely;

h. There appeared to be very little genetic diversity in WN-CoV based on sequences available so far; and

i. It was reasonable to argue, based on lessons from MERS and SARS and consistent with exported cases of WN-CoV that individuals returning from Wuhan were no longer at risk if they showed no symptoms after 14 days.

98. On 23 January 2020, a tripartite letter, signed by Professor Chris Whitty as CMO for England, Professor Sharon Peacock as Director of the National Infection Service at PHE, and the National Medical Director on behalf of NHS England, was sent to medical directors, CCG clinical leads, NHS 111 and 999. This letter contained hyperlinks to the latest PHE published guidance which covered the initial assessments and investigation of cases, infection prevention and control guidance, guidance on diagnostics and guidance for primary care.

99. On the same day the wording of the tripartite letter was also issued as a Chief Medical Officer Alert about Wuhan novel coronavirus via the NHS Central Alerting System ("**CAS**").[10] **[SP/0022 – INQ000087561; SP/0023 - INQ000087240; SP/0024 - INQ000087241]**. This CMO Alert stated as follows:

"You will be aware of the evolving situation in China where, as of 23 January 2020 it has been reported that around 583 people have been identified with respiratory infections caused by a novel coronavirus. Most reported cases are at the mild end of the spectrum; with no confirmed cases in the UK. The severity of the infections ranges from mild symptoms of upper respiratory tract infection (with or without fever) to fulminant pneumonia requiring hospitalisation and advanced respiratory support, and the disease has sadly proved fatal in 17 cases in China. The annual Chinese

[10] See the Central Alerting System Alerts as published on the MHRA website

New Year celebrations are imminent (start 25 January 2020); this typically involves the mass movement of people both within and outside China and may amplify transmission. At the current time, if the novel coronavirus is seen in the UK it is most likely to be in a traveller who has visited Wuhan City in China. To date, all cases detected outside China, currently 12, are in patients who have recently travelled to Wuhan."

100. The alert provided advice for NHS organisations, as follows:

    a. It is essential that an accurate travel history is obtained from all patients with acute respiratory infections to help identify potential cases.;

    b. Primary care practices are asked to identify possible cases, isolate them immediately, and seek specialist advice from a microbiologist, virologist or infectious disease physician at your local trust. They are not expected to undertake any clinical assessment or sampling;

    c. All acute trusts are expected to assess possible cases of Wuhan novel Coronavirus using appropriate isolation facilities. They should review the PHE guidance and ensure that they have considered how to operationalise this;

    d. Acute trusts should be prepared to undertake sampling and transport samples to PHE for testing as well as making arrangements for such patients to be identified immediately and isolated according to the PHE guidance, or in discussion with PHE, in home isolation if appropriate; and

        e. If the Wuhan novel coronavirus is detected, the patient will be transferred to an Airborne High Consequences Infectious Diseases centre. PHE will undertake contact tracing and advise on management as more is known about this infection. Guidance will be updated.

101. On 25 January 2020, the WHO issued a public statement confirming that the Wuhan novel coronavirus outbreak in China was a sign that every country needed to be ready to detect and manage outbreaks of any type **[SP/0025 – INQ000087562]**. It also stated that the first cases of 2019-nCoV confirmed in Europe were not unexpected, and they served as a reminder that the global nature of travels exempted no country from infectious disease spread. The public statement also confirmed that no country could afford to postpone the establishment of all necessary measures to protect their people. The statement continued as follows:

"Timely action is fundamental for early containment and France's fast notification to WHO and rapid public communication is an example of that. It is also an example of global collaboration and solidarity.

At a time of uncertainty about the way a virus originates and behaves, it is even more critical that countries, organizations and the international community act as one. We need to move as one region, as one world in scaling up our ability to prepare and respond together.

This includes being ready at the local and national levels to detect sick people, test samples of those suspected of 2019-nCoV infection, manage patients adequately, maximize infection control, and maintain open communication with the public.

This also includes reaching out to the right sectors and partners, engaging health professionals and communities, supporting countries in need, and sharing information in a transparent manner to facilitate knowledge and action.

The time is now to make ourselves ready. WHO is doing everything it can to investigate this outbreak together with Chinese authorities, global experts and partners to understand it fully and contain it as early as possible. The Regional Office is working round the clock to equip European countries with guidance and support."

102. On 28 January 2020, the Foreign and Commonwealth Office updated its travel advice to recommend against all but essential travel to mainland China **[SP/0026 - INQ000087563]**.

103. On the same date, SAGE met for the second time since activation. The now publicly available minutes record that the situation update confirmed that SPI-M had become a formal sub-group of SAGE **[SP/0027 – INQ000087566]**. DHSC provided an update on current declared cases, deaths and geographic spread. 50% of new cases in China were now occurring outside of Wuhan. A specific diagnostic test would be ready by the end of the week, with capacity to run 400 to 500 tests per day. Guidance was being rolled out to laboratories in the UK. The sensitivity of the test was unclear, particularly in the early phases on the illness or when symptoms were mild. The documents record that the current view at that time was that it would not be useful to test asymptomatic individuals as a negative text result could not be interpreted with certainty.

104. SAGE's understanding of WN-CoV at this time was noted to be as follows:

a. Current evidence suggested a single point zoonotic outbreak, which was now being sustained by human-to-human transmission;

b. There was no evidence of ongoing zoonotic transmission;

c. The case fatality rate was currently estimated to be lower than SARS, but many uncertainties remained;

d. The Reproductive number was estimated to be between 2 and 3, in accordance with estimates from the Chinese authorities, but these figures were uncertain;

e. The doubling rate was estimated at 3 to 4 days;

f. The clinical presentations varied, from mild coughing to fever and pneumonia. There was uncertainty regarding clinical symptoms for individuals with mild illness;

g. The Incubation period was thought likely to be an average of 5 days, but there was considerable variation in specific cases;

h. The duration of infectivity was unknown, but 14 days seemed a reasonable estimate;

i. There was limited evidence of asymptomatic transmission, but early indications implied some is occurring. PHE were developing a paper on this;

j. Transmission route was considered to be respiratory;

k. SAGE urged caution in comparing WN-CoV with SARS and MERS: the transmission dynamics were different;

l. Control measures were ideally infection control in healthcare settings and rapid detection of cases;

m. It was agreed that Pandemic Influenza infection control guidance should be used as a base case and adapted;

n. There was no evidence of control measures having an impact on transmission rate, but this was to be expected as not enough time has passed since implementation of measures;

o. SAGE supported the principle of self-isolation (but this required behavioural science input on public communication); and

p. SAGE endorsed NERVTAG's position that those coming into contact with returning travellers to the UK, e.g. Border Force agents did not need additional infection control measures to those currently advised.

105. On 29 January 2020, WHO published advice on the use of face masks in the community, during home care and in health care settings in the context of the Wuhan novel coronavirus outbreak **[SP/0028 – INQ000087439]**. This confirmed that the current information available suggested that the route of human-to-human transmission of 2019-nCoV was either via respiratory droplets or contact. Any person who was in close contact (within 1 meter) with someone who had respiratory symptoms (e.g. sneezing, coughing, etc.) was considered to be at risk of being exposed to potentially infective respiratory droplets. It was confirmed that wearing a medical mask was one of the prevention measures to limit spread of certain respiratory diseases, including 2019- nCoV, in affected areas. However, the use of a mask alone was said to be insufficient to provide the adequate level of protection and other equally relevant measures should be adopted. If masks were to be used, this measure must be combined with hand hygiene and other IPC measures to prevent the human-to-human transmission of 2019-nCov.

106. Also on 29 January 2020, NHS England's EPRR and Specialised Commissioning teams wrote to Chief Executives of providers that hosted a HCID facility, asking them to prepare to treat patients and to act as an advice resource to other providers. A COBR meeting also took place on this date. Following that meeting, NHS England's National Director of EPRR was asked to confirm with the Foreign and Commonwealth Office when details of the isolation facility for those UK nationals returning from China could be shared.

107. On 30 January 2020, the first two positive cases of Covid-19 were identified in the UK (in Hull). They were transferred to a HCID unit in Newcastle.

108. On the same date, a statement from the UK Four Nations Chief Medical Officers updated the UK risk level from "low" to "moderate" **[SP/0029 – INQ000087570]**. They explained that: "*in light of the increasing number of cases in China and using existing and widely tested models, the 4 UK Chief Medical Officers consider it prudent for our governments to escalate planning and preparation in case of a more widespread outbreak.*" They further noted that: "*This does not mean we think the risk to individuals*

in the UK has changed at this stage, but that government should plan for all eventualities."

109. On the same date, the WHO declared the spread of Covid-19 to be a public health emergency of international concern.

110. On the same date, NHS England declared an NHS Level 4 Major Incident. This is the highest category of emergency under the NHS England EPRR Framework. Appendix One of the Framework sets out factors underpinning the escalation and de-escalation of levels of emergency. A Level 4 incident indicates that national coordination and communication in response to an incident are necessary and proportionate. Practically, it allows NHS England to take command of all NHS resources across England. During an evolving situation where information is emerging from a variety of sources it is the role of NHS England to share information and develop plans to be able to respond to the emerging threat. NHS England in its EPRR coordination role is also responsible for ensuring that DHSC (as the Lead Government Department) and Ministers are kept appraised of progress and the impact of an incident on the NHS. That is done by the collection of information (Sitreps) and through a series of briefings with regional and local teams to ensure a shared situational awareness.

111. Although the Framework is the backdrop to decision-making about levels of emergency, the process followed in determining whether to move to a Level 4 Incident is set out in the NHS England Incident Response Plan ("**IRP**"). In particular:

    a. paragraph 4.1 outlines the risk assessment criteria to work through;

    b. paragraph 4.2 describes those with authority to activate the declaration of a Level; and

    c. paragraph 4.3 sets out the activation.

112. Also, on 30 January 2020, in considering the criteria, NHS England took careful note of the developing context, especially (a) the decision of the four UK CMOs to raise their Alert Level to moderate (from low), enabling an escalated response from the Government, (b) the decision of the WHO to declare the outbreak to be a Public Health Emergency of International Concern and (c) the fact that the UK was beginning to see confirmed cases of infection.

113. The recommendation to move to Level 4 was made to the Chief Executive and to the Chief Operating Officer in her then capacity as Accountable Emergency Officer. They

made the decision to proceed.

114. Once the Level 4 Incident was declared, the Incident Management Team ("**IMT**") was activated. The decision to escalate was not communicated to the system immediately at that point, because once a Level 4 Incident is declared, the priority is to set up the IMT first and then communicate next steps to the system. This is why communications to the system shortly after the Level 4 Incident was declared do not specifically show that.

115. On 31 January 2020, NHS England's Strategic Incident Director sent a letter to all Chief Executive Officers and all Medical Directors of acute NHS and NHS Foundation Trusts, Community and Mental Health Trusts with UTCs **[SP/0030 – INQ000087245]**. This confirmed that in order to support them in delivering the best service to patients, plans had been developed to avoid surge in emergency departments due to coronavirus. It was noted that whilst the risk level in the UK remained moderate and so far, there had only been two cases, the NHS was putting in place appropriate measures to ensure business as usual services remained unaffected by any further cases or tests of coronavirus. The letter went on to say Trusts were being asked to organise a "Coronavirus Priority Assessment Pod" to enable those patients with symptoms indicative of the infection to get quick assessment whilst other patients continued to receive appropriate care. The Pod would need to be in an isolated area of the hospital, away from the Emergency Department and would need to be suitable for frequent decontamination. The request was that these plans should be operational as soon as possible, but by no later than Friday 7 February 2020.

116. Also on 31 January 2020, an update on the previous CMO Alert (circulated on 23 January 2020) **[SP/0031 – INQ000087572; SP/0032 - INQ000087244; SP/0033 - INQ000087243]** was shared via the CAS Alert system. This provided updated numbers of cases worldwide and confirmed that as at 9am on 31 January 2020, the UK had 192 confirmed test results. Of those, two cases were positive. The updated advice was that all travellers who develop relevant symptoms, however, mild, within 14 days of returning from mainland China, should self-isolate at home immediately and call NHS 111.

117. On the same day, the first UK nationals were repatriated from Wuhan, to be accommodated in supported isolation facilities at Arrowe Park.

<u>February 2020 – escalating concern</u>

118. On 1 February 2020, PHE issued guidance for professionals advising the general public on Covid-19.

119. On 2 February 2020, DHSC commenced its Covid-19 public information campaign which advised the public on how to slow the spread of coronavirus and reduce the impact on NHS services **[SP/0034 – INQ000087564]**. The campaign was aimed at promoting important hygiene practices, such as regularly washing hands and always sneezing into a tissue, to stem the spread of the virus. The public information campaign also re-iterated that people who had travelled back from the Hubei Province in China within the last 14 days should stay indoors and avoid contact with others and call NHS 111. Anyone who had travelled from elsewhere in China to the UK in the last 14 days and had developed symptoms of cough, fever or shortness of breath should do likewise.

120. On the same date, a further 11 UK nationals from Wuhan on a joint European repatriation flight were transferred to the supported isolation facilities at Arrowe Park.

121. Also on 2 February 2020, NHS England's IMT received a report of PPE shortages in an ICU in the North West. The IMT also noted that the PHE modelling on the Wuhan outbreak may only represent 5% of cases. There was limited testing, the 'R' number was 2-3, doubling was 2.5-3 days and incubation was 4-6 days.

122. On 3 February 2020, the SPI-M-O published a paper on the impact of possible interventions to delay the spread of a UK outbreak of 2019-n-CoV **[SP/0035 – INQ000087430]**. SPI-M-O was a sub-group of SAGE that gave expert advice to the UK Government on Covid-19 based on infectious disease modelling and epidemiology. NHS England was not represented at the SPI-M-O meetings, whose membership comprised of a range of independent scientific experts on epidemiology and data modelling (including from the leading universities in the UK, the London School of Hygiene and Tropical Medicine), the Deputy Chief Medical Officer, representatives from NHSx and PHE. Members of NHS England's modelling team sometimes did attend SPI-M-O as observers, although never at this point.

123. On 3 February 2020, the SPI-M-O Consensus Statement on 2019 Novel Coronavirus (2019-nCoV) **[SP/0036 – INQ000087415]** confirmed as follows:

    a. *The number of confirmed cases of 2019-nCoV in China is estimated to be at least 10 times higher than the number currently confirmed;*

b. *Cases of 2019-nCoV are infections that fulfil the case definition and are therefore symptomatic. Asymptomatic infections (sometimes called asymptomatic cases) do not have clinical signs;*

c. *The reproduction number seen in the city of Wuhan in the early stages of the outbreak are estimated to be in the region of 2–3. It is not yet clear how this has changed in the last two weeks, or what the reproduction number is in other parts of China. There is insufficient data available to determine whether there is sustained transmission outside of the province of Hubei, but it is likely to be the case;*

d. *The doubling time in Hubei is estimated to be 3–5 days;*

e. *It is unclear whether outbreaks can be contained by isolation and contract tracing. If a high proportion of asymptomatic cases are infectious, then containment is unlikely via these policies. Countries with less effective health care systems are less likely to be able to contain sustained outbreaks;*

f. *Population-wide reduction in contact rates, for example through the mass closure of schools, will impact transmission regardless of the importance of asymptomatic transmission but the potential effectiveness of such measures is unclear;*

g. *The Case Fatality Ratio ("**CFR**") is the proportion of people with clinical infections who die. It is not homogenous across groups and will likely depend on several factors such as an individual's age and co-morbidities. It will also vary between countries, especially depending on the effectiveness of healthcare;*

h. *Precise estimates of the CFR in China are not possible because of both under-ascertainment of cases and the time lag between clinical cases and deaths (the average time between symptom onset and death in early cases from China has been 15 days, with wide variation). The average CFR is very unlikely to be higher than 3%;*

i. *The CFR is determined by the average mortality across all clinical cases (regardless of their severity) but mortality rates in different groups could vary greatly. Current estimates of the mortality rates amongst hospitalised cases with pneumonia in China are around 13%;*

j. *Limited evidence from China suggests that severe cases are more common in*

older age groups and those with other health conditions. It is unclear how 2019-nCoV affects children and children's role in transmission;

k. *The hospitalisation rate is currently unknown and greatly influenced by access to health-care;*

l. *The serial interval is the average time between symptom onset in primary and secondary cases. Current estimates of the average serial interval vary from 3–8 days;*

m. *The incubation period is the delay between an individual becoming infected and developing symptoms. Current estimates give an average incubation period of 5 days (range 1–11 days). This is approximately twice as long as for influenza. The maximum incubation period is used to define the period required for isolation, currently believed to be 14 days;*

n. *The long incubation period means isolation of contacts of cases would need to be lengthy and that entry screening is likely to be ineffective; and*

o. *Preliminary forecasts and accurate estimates of epidemiological parameters will likely be available in the order of weeks and not days following widespread outbreaks in the UK (or a similar country). While some estimates may be available before this time their accuracy will be much more limited.*

124. NHS England's understanding of the epidemiology was informed by this statement, which represented the consensus view of the UK's eminent scientists gathered for the purpose of understanding the new virus.

125. Also, on 3 February 2020, a tripartite communication from Professor Chris Whitty (CMO), Professor Sharon Peacock (PHE) and NHS England's National Medical Director was sent via the CAS Alert system. This communication was addressed to all healthcare professionals in primary and community care settings including pharmacy and gave advice on the evolving situation regarding Covid-19 **[SP/0037 – INQ000087565; SP/0038 - INQ000087246]**.

126. On 4 February 2020, the Foreign and Commonwealth Office updated travel advice to recommend that all British Nationals leave China.

127. On the same day, the WHO published a Strategic Preparedness and Response Plan **[SP/0039 – INQ000087457]**, which outlined the public health measures that the

international community stood ready to provide to support all countries preparing for and responding to Covid-19.

128. SAGE also met on 3 February 2020 and 4 February 2020, and we were provided with the minutes of both meetings on 5 February 2020. In particular, SAGE noted that a "*lack of data sharing was seriously hampering understanding of WN-CoV*" and the action for this was that the Foreign and Commonwealth Office was to work with the CMO and DHSC communications to ensure that there was a message coming from the UK on the need for greater sharing of data internationally.

129. On 5 February 2020, NHS England's Strategic Incident Director, Strategic Incident Director, attended a COBR meeting in which RWCS planning was presented, and which he subsequently shared within NHS England to add to our capacity modelling.

130. On 6 February 2020, SAGE met and considered UK testing for WN-CoV following a third UK case which had tested positive for WN-CoV, although the individual concerned had not been to China, but had recently visited Singapore **[SP/0040 – INQ000087551]**. In light of this further evidence of human-to-human transmission beyond China, SAGE discussed whether advice should be changed and if so, the most appropriate way to widen testing of suspected cases in the UK depending on their travel history.

131. Also, on this date, flowing from the declaration of the Level 4 National Incident the preceding week, weekly webinars commenced with leaders from NHS organisations, hosted by NHS England's Strategic Incident Director.

132. On 7 February 2020, the Foreign and Commonwealth Office updated its travel advice for people returning from Hubei Province and new advice was issued for those returning from China, Thailand, Japan, Republic of Korea, Hong Kong, Taiwan, Singapore, Malaysia or Macau **[SP/0041 – INQ000087557]**. Additionally, the Government announced that the diagnostic test developed by PHE to detect Covid-19 would be rolled out to 12 PHE and NHS laboratories across the UK in order to accelerate the country's testing capabilities **[SP/0042 – INQ000087567]**.

133. NHS England's IMT, produced analysis of the ability of the NHS in England to free up beds if elective treatment was stopped, except for urgent emergency care and cancer services. There were between 12,000 and 13,000 (of the c.100,000 general and acute NHS beds - see **[SP/0043 – INQ000087571]** for a definition of 'acute care bed') occupied by non-cancer / non-critical elective patients, of which 6,500 were non-

urgent and 5,800 were day case beds. Of that 12-13,000, 50% of those beds could be freed in 5 days, with 90% being freed in 28 days. The remainder were urgent and emergency care beds including some who were fit for discharge.

134. On 7 February 2020, a further tripartite CMO Alert from DHSC, NHS England and PHE on Novel Coronavirus was sent out via the CAS Alert System. This alert updated the advice sent on 31 January 2020[11] **[SP/0044 – INQ000087568; SP/0045 - INQ000087249; and SP/0046 - INQ000087248]**. The key changes were to the case definition. This included the expansion of geography for clinical case definition from mainland China to mainland China, Thailand, Japan, Republic of Korea, Hong Kong, Taiwan, Singapore, Malaysia and Macau; and the modification of the clinical case definition so that fever without any other symptoms was sufficient criteria for testing (if the patient has also travelled from or transited through the previously names countries in the previous 14 days). It was also advised that alternative clinical diagnosis for fever in a returning traveller should be considered and tests performed at local NHS laboratories, according to published PHE guidance. As of that date, it was confirmed that around 31,479 people worldwide had been identified with respiratory infections caused by 2019-nCoV. Most reported cases were at the mild end of the spectrum.

135. The alert stated that as at 9am on 7 February 2020, PHE confirmed that the UK had 628 confirmed test results and of those 628 tests, three cases had tested positive. The first two cases in the UK were announced on 31 January 2020 (as set out above). The third was announced on 6 February 2020. The severity of the infections (known about internationally) ranged from mild symptoms of upper respiratory tract infection (with or without fever) to fulminant pneumonia requiring hospitalisation and advanced respiratory support, and it was confirmed that the disease had sadly proved fatal in 636 cases in China.

136. The 7 February 2020 tripartite CMO Alert provided the following advice for NHS organisations:

    a. *"It is essential that an accurate travel history is obtained from all patients with acute respiratory infections to help identify potential cases.*

    b. *We are now recommending that all travellers who develop relevant symptoms, however mild, within 14 days of returning from mainland China, Thailand, Japan, Republic of Korea, Hong Kong, Taiwan, Singapore, Malaysia or Macau should*

[11] See the Central Alerting System Alerts as published on the MHRA website

self-isolate at home immediately and call NHS 111. We are already recommending that travellers from Wuhan and Hubei Province should self-isolate for 14 days, even if they do not have symptoms, due to the increased risk from that area.

c. *Primary care practices are asked to identify possible cases, isolate them immediately, and ask the patient to call NHS 111 from their mobile (or GP landline if a mobile is unavailable). Primary care settings are not expected to undertake any clinical assessment or sampling. Guidance for primary care can be found here.*

d. *All acute trusts are expected to assess possible cases of novel coronavirus using safe ways of working, including appropriate personal protective equipment. They should review the PHE guidance and ensure that they have considered how to operationalise this in conjunction with regional NHS England teams. Clinical criteria for assessment has been updated today in the light of emerging evidence from China and the south-east Asia region.*

e. *Acute trusts should be prepared to undertake sampling and transport samples to PHE for testing as well as making arrangements for such patients to be identified immediately and isolated according to the PHE guidance, or in home isolation with an appropriate risk assessment documented.*

f. *If the novel coronavirus is detected, the patient will be transferred to an Airborne High Consequences Infectious Diseases centre. PHE will undertake contact tracing and advise on management as more is known about this infection. Guidance will be updated."*

137. Also on 7 February 2020, a briefing to NHS England's Top of the Office (i.e. the Chief Executive, directors and senior managers) ("**TOTO briefing**") was circulated which confirmed the contemporaneous picture of what was happening with Covid-19 **[SP/0047 – INQ000087250]**. We will refer to TOTO briefings in this next part of this statement as they were a concise daily summary of the fast-moving daily picture that the NHS was responding to and helps to show its evolving response to the emerging pandemic. The TOTO briefings tended to be circulated at the end of each day and encapsulated matters which had been discussed in earlier meetings during the day. The TOTO briefing of 7 February 2020 confirmed that there was limited epidemiological information from Chinese authorities. 619 tests had concluded in the UK and 554 of those patients had been tested in England. Human-to-human

transmission had been confirmed. The risk to the UK population was initially categorised by PHE as "very low" but had now been re-categorised by PHE as "moderate". The WHO had declared a Public Health Emergency of International Concern, emphasising that it was particularly concerned about the impact that the spread of the virus would have on health systems in poorer countries.

138. NHS England distributed the latest PHE clinical guidance to Medical Directors and CCG clinical leads. DHSC were holding daily coordination and oversight calls involving the Permanent Secretary, and NHS England was liaising with devolved administrations about NHS preparations for potential surges in people requiring treatment.

139. The 7 February 2020 TOTO briefing also confirmed that NHS England had started the process to commission additional capacity in HCID beds at the Royal Free Hospital and additional call handler capacity in the NHS 111 service. The Royal Free Hospital was selected for the additional bed capacity because it is one of the two hospitals in England which has been designated by NHS England as having the specialist facilities to manage contact HCID patients (the other is at the Freeman in Newcastle, with back up facilities in Liverpool if required). NHS Estates were determining the need for portable units to establish Coronavirus Priority Assessment Service at the front of hospitals including NHS 111 Coronavirus Pods. A standard design had been agreed and units would be ordered next week in response to trust requests.

140. On 9 February 2020, PHE published self-isolation and Infection Prevention and Control ("**IPC**") Guidance for health and social care providers in connection with the risk of healthcare workers (including care home staff) spreading Covid-19 by reason of their travel history in countries affected by Covid-19 and/or having come into contact with confirmed or possible Covid-19 cases **[SP/0048 - INQ000087579]**.

141. On 10 February 2020, the Government announced new regulations coming into force the same day, to ensure that the public were protected from the transmission of the virus enabling greater enforcement of quarantine powers. We have dealt with NHS England's input into legislation in section 18 of this statement.

142. On 12 February 2020, a ministerial exercise (Exercise Nimbus) on the Wuhan novel coronavirus took place. Attendees included representatives from No10, PHE, DHSC, Home Office, Go Science and the cabinet office. NHS England's Chief Executive, Strategic Incident Director and National Head of EPRR also attended. The aim was to rehearse ministerial-led decision-making for the UK's pandemic preparedness and

response within the context of the present Wuhan novel coronavirus outbreak. The objective was to expose the potential scale and range of impacts arising during a pandemic and to identify the likely type and range of decisions that would need to be made by minsters at key points during the pandemic. A further objective was to rehearse the structure, process and protocols for supporting clinical, strategic decision making in the response to the Wuhan novel coronavirus outbreak in the UK.

143. On 13 February 2020, SAGE met. There was no representative from NHS England at this meeting. SAGE concluded that neither travel restrictions within the UK nor prevention of mass gatherings would be effective in limiting transmission. SAGE concluded that public messaging should stress the importance of personal responsibility and responsibility to others.

144. During that week, NHS England sent a letter to hospital chief executives and medical directors advising them of DHSC/PHE plans to roll out community testing of the virus. It confirmed that while NHS 111 would remain the main route for managing people with concerns, community testing would take pressure away from emergency departments blocking cubicles because they need decontamination after swabbing. NHS England sent a document to the NHS system that day setting out minimum operating standards for every stage of the patient pathway, from identification of a possible Covid-19 case, through co-ordination of required steps and on to discharge.

145. On 14 February 2020, WHO published guidelines on mass gatherings **[SP/0049 – INQ000087520]**. This did not recommend blanket cancellation of mass gatherings, but advised that careful planning around these should take place and that risk assessments should include whether the mass gathering should be restricted, modified, postponed or cancelled in light of advice from national public health authorities.

146. On the same date, NHS England, via the IMT, agreed to share modelling data with SAGE and NHS England's "Two Steps Ahead Group" meetings commenced (twice weekly until 24 April 2020) to support strategic planning. On 17 February 2020, PHE published guidance for education providers on how to address Covid-19 in educational settings.

147. On 18 February 2020, the first meeting of NHS England's NIRB took place. This meeting covered the set up and scoping for NIRB. NHS England's National Medical Director chaired this meeting on behalf of NHS England's Chief Operating Officer and the Accountable Emergency Officer for the pandemic incident.

148. On the same date, a meeting took place with the SSHSC to discuss Covid-19. NHS England attended, along with representatives from DHSC and PHE. Also on 18 February 2020, NHS England and PHE provided guidance for primary care providers including what to do if a patient presented with suspected Covid-19.

149. On 20 February 2020, SAGE met and noted that initial estimates were based on SPI-M-O RWC scenario for Flu Pandemic **[SP/0050 – INQ000087553]**. Core modelling parameters were:

    a. 50% (30m) of population of England become infected;

    b. 4% (1.2m) will require hospitalisation;

    c. 25% (300k) of those hospitalised will require critical care;

    d. average length of stay for those hospitalised will be a mean of 6 days (based on influenza over the past 3 years of minimum of 3 days and maximum of 39 days);

    e. length of pandemic period 16 weeks; and

    f. SPI-M-O modelling cited a RWC mortality rate of 2.5% which has been used in the modelling.

150. As previously, NHS England was not represented at SAGE, but minutes that are now publicly available, record that it was agreed that it was essential "*to understand the objectives behind seeking to manage the epidemiological curve, informed by key challenges the NHS was seeking to mitigate*." Actions were raised for NHS England to (i) provide SPI-M-O with a list of precise and essential criteria upon which NHS planning depends, in order for SPI-M-O to model these in different outbreak scenarios; and (ii) clarify for SAGE the profile of the epidemic that would allow the best NHS response.

151. On the same date, 20 February 2020, a first patient was reported in Lombardy, Italy, with the first deaths from the region being reported on 22 February 2020. Also, on 20 February 2020, NHS England's Strategic Incident Director produced a paper to NHS England's Board regarding Novel Coronavirus. This gave a detailed account of the understanding of Covid-19 at that point in time and also highlighted the various actions which NHS England was taking in conjunction with PHE, including issuing guidance.

152. On 21 February 2020, NHS England's Two Steps Ahead Group noted an action to raise with DHSC/Government (as subsequently happened) that the initial modelling suggested, that even with continued mitigation work, the NHS would be overwhelmed well before the peak without significant interventions to flatten the curve.

153. By this time, NHS England had been providing extensive communications support to trusts around the country. Trusts that had not seen cases had been given material to support their staff briefings. Trusts that had seen cases had been getting support from NHS England's Communications Response Team and from their regional communications teams. The generic website copy for trusts and CCGs which included public health advice and messages for the public had been shared for uploading. NHS England had established weekly webinars with staff across the NHS, including CCG clinical leads and hospital Chief Executives and Medical Directors. A separate call had been established for communications staff and they were receiving daily bulletins to support them with their communications. Additional work was also underway to brief primary care and a briefing had been prepared for NHS England's board.

154. A TOTO briefing of 22 February 2020, noted that SSHSC had announced the immediate creation of a capital monies facility to access for any urgent works the NHS needed for the Covid-19 response, such as the creation of further isolation areas and facilities. To that date, NHS England had been funding all these initial responses out of existing budgets.

155. On 24 February 2020, NHS England worked with PHE to establish a new surveillance system (CHESS) to detect cases of Covid-19.

156. On 25 February 2020, PHE published guidance for social or community care and residential settings on Covid-19, setting out specific IPC guidance for social or community care and residential settings.[12] This guidance introduced the concept of isolation for 14 days, at home or in their own room in a care or residential home, of people who had come into close contact with a confirmed case of Covid-19. NHS England did not have any involvement with the drafting of this piece of guidance.

157. On the same date, 25 February 2020 a third CMO Alert on Wuhan novel Coronavirus (tripartite alert from DHSC, NHS England and PHE) was circulated.[13] **[SP/0051 –**

[12] See the PHE 'Guidance for social or community care and residential settings on Covid-19' published on 25 February 2020

[13] See the Central Alerting System Alerts as published on the MHRA website

INQ000087569; SP/0052 - INQ000087259; and SP/0053 - INQ000087258]. This advised as follows:

a. *"It is essential that an accurate travel history is obtained from all patients with acute respiratory infections, using any one of the following: cough or fever or shortness of breath to help identify potential cases;*

b. *If you have returned from these specific areas since February 19th, you should call NHS 111 and self-isolate even if you do not have symptoms:*

    i. *Iran,*

    ii. *Specific lockdown areas in Northern Italy as designated by the Government of Italy,*

    iii. *Special care zones in South Korea as designated by the Government of the Republic of South Korea,*

    iv. *Hubei Province (as previously noted),*

c. *If you have returned from these areas since February 19 and develop symptoms, however mild, you should self-isolate at home immediately and call NHS 111. You do not need to self-isolate if you have no symptoms.*

    i. *Northern Italy (defined by a line above, and not including, Pisa, Florence and Rimini),*

    ii. *Vietnam,*

    iii. *Cambodia,*

    iv. *Laos,*

    v. *Myanmar,*

d. *Those who have returned from previously identified geographic areas within the past 14 days and develop symptoms, however mild, should self-isolate at home immediately and call NHS 111;*

e. *Local pathways are being established, working with NHS 111 to assess returning travellers from these areas and develop community pathways for individuals who are clinically stable and meet the clinical and geographic*

components of the case definition; and

f. *We recommend that travellers with fever returning from these countries should still have a clinical assessment in order to assess for other important diseases, using appropriate PPE if carrying out a face-to-face consultation."*

158. From 25 February 2020, at our request, NHS England's National Medical Director started attending SAGE.

159. The SAGE meeting of this date considered potential measures to limit the spread of Covid-19. SAGE considered that interventions should seek to contain, delay and reduce the peak incidence of cases, in that order and consideration of what is publicly perceived to work was essential in any decisions. SAGE discussed a paper modelling four NPI's: university and school closures, home isolation, household quarantine and social distancing, including use of interventions in combination **[SP/0054 - INQ000087503]**. Members noted that all measures required implementation for a significant duration in order to be effective. Evidence from social distancing and school closures implemented in Hong Kong, Wuhan and Singapore indicated that these measures could reduce the Covid-19 reproduction number to approximately 1 (a 50-60% reduction). Reduced spread in the UK through a combination of these measures was assessed to be realistic. It was noted that any combination of measures decided upon would slow but not halt an epidemic, and would therefore need to consider the impact on the NHS.

160. SAGE also noted that extremely mild symptoms should be enough to trigger home isolation if this intervention was adopted, and this would need to be clearly communicated to the public. It was also noted that although current confidence in SPI-M-O modelling conclusions was low, and further review was needed. It was agreed that further work was unlikely to generate different conclusions in the short term and that policy decisions would need to be based on the currently available modelling outcomes and the experience from other countries including Singapore and China.

161. Discussions at SAGE during the period before NHS England joined SAGE meeting included whether the NHS had capacity to cope with the pandemic, based on the scientific modelling **[SP/0055 – INQ000087416]**. At this stage, the view based on the NHS modelling was that the NHS would not have sufficient capacity if the modelling proved to be correct. To test whether this emerging view about NHS capacity was justified, it was agreed that SAGE's SPI-M-O modellers should meet with NHS

England analysts and modellers with the aim of reaching a consensus between SPI-M-O and the NHS on the underlying model parameters about the RWCS including estimated hospitalisation rates (and they did so on 1 March 2020). SPI-M-O took an action from the 25 February 2020 SAGE meeting to produce a consensus statement for SAGE on 3 March 2020 covering measures to seek to achieve containment, delay and adjustment of the epidemiological peak and the effects of early implementation of those measures.

162. On 27 February 2020, NHS England's National Medical Director attended the next SAGE meeting. At this meeting, SAGE reviewed the Covid-19 planning model parameters and agreed that in the RWCS, 80% of the UK population may become infected, with an overall 1% fatality rate in those infected. Only a proportion of those infected would experience symptoms. This fatality rate represented a reduction in the number of excess deaths relative to previous planning model parameters. It was agreed that the case fatality rate (2-3%) remained the same, but the fatality rate for the overall infected population (identified and unidentified cases) was closer to 1%. This better reflected the expected proportion of mild and possible asymptomatic infections. It still included an assumption that there was a higher fatality rate in vulnerable groups. The case fatality and infection rates only reflected deaths as a direct result of infection, not those related to NHS overload or other second order effects.

163. Two action points flowed from this:

    a. that NHS England should confirm with SPI-M-O the variables for which we needed numbers in order to model NHS demand; and

    b. the UK academic modelling groups (Imperial, Oxford, London School of Hygiene and Tropical Medicine) and NHS planners should organise a working group to analyse key clinical variables for RWCS planning for the NHS, for review by SPI-M-O and then discussion at SAGE.

164. A further action point from this meeting was that SPI-M-O were to produce a narrative describing effects of non-pharmaceutical interventions attempted in other countries (to support an existing table that had been produced) and they should develop illustrative scenarios showing the plausible impacts of combinations of interventions in the UK for review at the SAGE meeting on 2 March 2020.

165. Also, on 27 February 2020, the RWCS, without mitigations, that had been agreed by

SAGE at their meeting of 27 February 2020 was:

a. 81% of the population eventually infected;

b. of which 8% would require hospitalisation; and

c. of which 9.3% would require mechanical ventilation.

166. On 28 February 2020, the NHS rolled out services on NHS sites to test people for Covid-19, including offering "drive through" testing. Seven more cases were identified that day and , NHS England's Strategic Incident Director, made an HCID change request to the Senior Clinical Leaders Group. He gave a warning to DHSC that the NHS would need to move from hospitalisation of all positive cases, especially if well or awaiting test results to become negative, and so policy around this needed to be reconsidered. He also expressed this in meetings held by SSHSC with the CMO and PHE.

167. On 28 February 2020, a TOTO briefing confirmed that the change in case definition (as regards the Foreign and Commonwealth Office's travel advice now being expanded to include travel from Italy, as well as China and South Asia) continued to have a significant impact on NHS 111 services. From the period 25 January to 27 February 2020, 20,365 people had used the Covid-19 shortcut on the NHS 111 system, of whom 9,469 required further assessment by clinical staff.

March 2020 - leading to lockdown

168. On 1 March 2020, there was an all-day meeting in Professor Neil Ferguson's office in Imperial College London co-chaired by NHS England's National Medical Director and Professor Sir Jonathan Van Tam with the aim of reaching a consensus between SPI-M-O and the NHS on the underlying model parameters on which to base the RWCS such as hospitalisation rates. The SPI-M-O modelling looked at deaths and hospital admissions as these were the key priorities for central government and SAGE. However, our modellers at NHS England were converting this data into bed capacity and length of stay in hospital to inform operations. This workshop established a shared ground and common set of model parameters in modelling upon which to work out what would need to be done for the NHS to be able to cope. A key omission in the initial SPI-M-O work that was resolved in this workshop, was that it did not include accurate model parameters about the length of stay; the correction of which rapidly increased some of the concerns about lack of capacity.

169. At this stage, our estimations were that average length of stay would be 10 days for a Covid-19 inpatient (so one patient would require 10 'bed days') and using this assumption, it was estimated that under a RWC scenario, the NHS would be unable to meet all demands placed on it, with demand on beds being likely to overtake supply well before the peak was reached. This is the model that was produced and presented at the SAGE meeting on 3 March 2020.

170. By 2 March 2020, there were 40 confirmed cases of Covid-19 in the UK. A statement by the Prime Minster on this date confirmed that "*it is very important that people consider that they should, so far as possible, go about their business as usual.*"

171. Also, on 2 March 2020, NHS England sent an NHS Preparedness and Response letter to the NHS system instructing acute providers to step up preparations, including how they should segregate clinical areas in the event (as transpired) that the pandemic escalated in the UK. By the same letter, and following a decision by DHSC on who should be tested, all intensive care units and severe respiratory failure (ECMO) centres were asked to commence Covid-19 case detection by testing patients admitted with an acute community acquired respiratory infection of any kind, regardless of known or suspected causative pathogen and clinical features **[SP/0056 – INQ000087445]**. This was in addition to the testing and isolation protocols already in place for patients meeting the PHE Covid-19 case definition.

172. Modelling documents considered at the SAGE meeting on 3 March 2020, stated that on a RWCS, the unmitigated epidemic was expected to result in demand for 990,000 non-ICU beds and 130,000 ICU beds at its peak, with 570,000 deaths. The paper discussed mitigations to reduce the demand and deaths. The result of all four interventions (school closures, social distancing, home isolation of cases and cocooning of the elderly) was a reduction in demand for hospital beds by about 75% and a reduction in deaths by about half. For context, the average total number of beds across the whole of the NHS between January 2020 – March 2020 was around 129,000 in total, including maternity and mental health. Of those, around 100,000 were 'General and Acute'[14] ("**G&A**") beds, of which c.90,000 were occupied. It is worth noting, that G&A beds are what people primarily think of when referring to "NHS beds". Not all of these will be in Acute hospitals, some beds, for example, reside in community trusts under the care of a consultant whose specialty comes under the G&A umbrella. Of that overall G&A bed count, in January 2020, 4,123 beds were adult

critical care beds (3,423 of which were occupied). ICU is a subset of critical care (which is described in more detail in section 10 below), so the number of ICU beds was lower than the number of critical care beds.

173. On the same day, the UK Government published its 4-phase action plan ((1) Contain (2) Delay (3) Research and (4) Mitigate) **[SP/0057 – INQ000087573]**, explaining that: "*As there are already cases in the UK, the current emphasis is on the Contain and Research phases, but planning for Delay and Mitigation is already in train.*"

174. By 23:00 on 3 March 2020, a TOTO briefing note **[SP/0058 – INQ000087267]** set out NHS England's understanding, which was that even with additional capacity being brought online at infectious disease centres in Hull, Northwick Park, Manchester and Stoke, the number of additional patients would exceed capacity.

175. The 3 March 2020 TOTO Briefing confirmed that a plan had been made to separate cases into three categories:

    a. Category 1: Where the patient must be moved to an HCID facility immediately;

    b. Category 2: Where we would like to move the patient that evening; and

    c. Category 3: Where the patient could remain in situ for the time being, until Hazardous Area Response Team (HART) and bed capacity allowed them to be transported to a HCID centre.

176. On 5 March 2020, representatives from NHS England attended a meeting with the SSHSC and key personnel from DHSE and PHE. The meeting was to discuss the logistics of moving from the "contain" to "delay" phase ahead of a meeting which the SSHSC was due to have with the PM that afternoon **[SP/0059 – INQ000087268]**.

177. Also on 5 March 2020, the CMO Professor Chris Whitty, announced the first death of a patient with coronavirus in the UK **[SP/0060 – INQ000087574]**.

178. On 6 March 2020, PHE published updated UK IPC Guidance, following approval by NERVTAG the same day **[SP/0061 – INQ000087540]**. This guidance signalled the change for NHS staff to use fluid resistant face masks for coronavirus cases outside intensive treatment/therapy units ("**ITU**") AND high dependency units ("**HDU**"), with FFP3s only being required for these settings or when aerosol generating procedures were taking place. NHS England was not involved in the production of this guidance.

179. On the same day, the National Medical Director represented NHS England at a cross government meeting, organised by the Civil Contingencies Secretariat of the Cabinet Office**[SP/0062 – INQ000087272]**. The meeting was to discuss SAGE's epidemiological modelling data and what this data would mean in practice for UK citizens and public services. **[SP/0063 – INQ000087270; and SP/0064 – INQ000087271]**

180. On 6 March 2020, NHS England agreed an interim regional HCID surge plan. This proposed a model whereby new patients would be admitted to one of the surge providers. The surge providers would offer advice to non-surge providers about patients already admitted. This might include advice to transfer the patient to the nearest HCID / affiliated infectious diseases centre.

181. On the same day, a ventilator survey was sent out to trusts seeking information about available ventilators across the NHS, with advice being given that all trusts needed to mobilise maximum capacity and prepare space. Vulnerable adult groups were defined and NHS England's Strategic Incident Director gave advice to DHSC covering (1) moving from "Contain" to "Delay", (2) stopping hospitalisation (3) stopping HCID classification, (4) selective testing, (5) early discharge (6) testing more healthcare workers and (7) cohorting patients.

182. On 8 March 2020, the Government published an action plan **[SP/0065 – INQ000087281]** containing a series of countermeasures, including supporting retired clinical staff to return to the NHS. It included a RWCS that a fifth of workers could be off sick and that the police would refocus away from less serious crime.

183. On the same day, the CMO indicated that the UK would soon be moving from the 'contain' phase of the plan to the 'delay' phase. DHSC had confirmed there were 273 patients across the UK – an increase of 67 –with 244 (an increase of 60) of these being in England . Four patients in vulnerable groups had died in England – one at the Royal Berkshire Hospital, one in Milton Keynes, one in Manchester and one in Royal Wolverhampton. On that day, NHS England had been informed of 33 cases. There were 35 inpatients at that date across the HCID/IDU network with approximately 43 beds remaining ready for use.

184. Measures to free up hospital capacity were discussed and agreed with the Government in the week beginning 9 March 2020, ahead of issuing NHS operational guidance setting these measures on 17 March 2020.

185. On 11 March 2020, Ministers agreed measures to free up hospital capacity, including legislative action to support "*early discharge of patients from NHS hospitals/trusts and local authorities to free up hospital space for those who are ill*." (Subsequently on 23 March 2020 the SSHSC was able to tell Parliament that: "*The [Coronavirus] Bill also allows for an expansion of NHS critical care by allowing for rapid discharge from hospital where a patient is medically fit. NHS trusts will be permitted to delay continuing healthcare assessments, a process that can take weeks, until after the emergency has ended. The people who need this support will still receive NHS funding in the interim.*")

186. In a statement to the House of Commons, also on 11 March 2020, SSHSC said: "*It is critical that we ensure that discharges are as fast as possible. That is important in normal times, but when large proportions of those in hospital could, with the right support, leave hospital and be in a setting that works for them in social care, we have to make sure that that happens*."

187. On the same day, 11 March 2020, PHE set the eligibility for Covid tests, which given the limited UK testing capacity did not therefore include testing for patients being discharged from hospital. That testing prioritisation was endorsed in a meeting with SSHSC that day.

Pandemic

188. On 11 March 2020, the WHO confirmed that the outbreak had reached pandemic status **[SP/0066 – INQ000087300]**. There were approximately 80,778 confirmed cases in mainland China with 3,158 deaths. There were 37,677 additional cases confirmed outside mainland China and 1,132 deaths. There had been 27,476 individuals tested in the UK, with 24,202 of those being carried out in England. There were 39 UK nationals outside of the UK who were confirmed cases, with two fatalities. Six of the cases were in France, eight in Vietnam, 12 in cruise ships (Japan), two in Spain, one in China, three in Switzerland, one in Senegal, one in Poland and one in Austria. A British national was confirmed to have died in Indonesia. Particular attention had been given to Italy and South Korea. South Korea had reported 7,755 confirmed cases (an increase of 242 in the past 24 hours) with 60 fatalities (an increase of six in the past 24 hours). Italy had reported 10,149 cases (an increase of 977 in the past 24 hours) and 631 fatalities (an increase of 168 in the past 24 hours). The Italian government had announced further measures to halt the spread of Covid-19. Strict quarantine measures, which included a ban on travel for non-essential

reasons and a cancelling of public gatherings, had been extended from the North of Italy to the whole country. The Foreign and Commonwealth Office had announced it advised against all but essential travel to Northern Italy and advised all British nationals currently in Italy to leave. Germany had seen the number of cases rise by 157 to 1,296 in the past 24 hours, with the country experiencing its first two deaths. France had also declared 1,784 cases, up by 372 cases with three additional deaths in the past 24 hours.

189. On 12 March 2020, the UK CMO raised the risk level posed by Covid-19 in the UK from "moderate" to "high", and the DHSC announced a move from the "contain" to the "delay" phase of the UK's response to the pandemic.[30]

190. On the same day, a confidential draft model of the potential Covid-19 impacts on the NHS in England produced by SPI-M-O was shared with NHS England. The modelling included projections on likely deaths and hospitalisations in England across a number of different scenarios.

191. The RWCS in this confidential model (which assumed 80.5% of the population of England becoming infected), with no mitigations, projected a potential death toll of over 450,000 within five months (with about 70% of deaths concentrated in the 70+ age group), with NHS overall bed capacity and critical care surge capacity quickly becoming overwhelmed, with a projected shortage of 700,000 NHS beds (of which 70,000 NHS critical care beds) at the peak, and an overall shortage of over 310,000 critical care beds throughout the projected wave of hospitalisations.

192. The RWCS with mitigation measures in place including home isolation, household quarantine and the protection of vulnerable groups, projected overall NHS bed capacity becoming overwhelmed within 12 weeks, with a projected shortage of about 160,000 NHS beds at the peak, and NHS critical care surge capacity becoming overwhelmed within 11 weeks, with a projected shortage of about 22,000 critical care beds at the peak, and an overall shortage of over 127,000 intensive care beds throughout the projected wave of hospitalisations.

193. The modelling referred above, coupled with the emerging news of intensive care units in Northern Italy becoming rapidly overwhelmed by a sharp rise in Covid-19 hospitalisations, escalated further the consideration of urgent steps across the NHS to free up acute and critical care capacity in anticipation of a significant surge in Covid-19 patients in need of respiratory support. As the scale of the RWCS became ever clearer, NHS England continued at this time to go through a mass re-deployment of

internal staff and leadership, in order to deliver different facets of the incident response.

194. On the same day, 12 March 2020, the Prime Minister as well as senior Number 10, Cabinet Office, DHSC and NHS officials met to review and agree measures to be taken by the NHS to seek to accommodate the expected influx of emergency Covid-19 patients (known as a 'Resilience Meeting'). The meetings discussed stopping non-urgent operations, reducing hospital long stays and faster hospital discharge, use of the independent sector, and funding for social care providers. They also covered intensive care units and general hospital bed capacity, procurement of equipment including ventilators and oxygen supply, and workforce issues **[SP/0067 – INQ000087307]**.

195. Ahead of that meeting and at the request of Government, NHS England shared with Government a set of draft slides setting out the likely pressures on NHS bed demand for Covid-19, as highlighted in the SAGE confidential draft model that NHS England had received the same day. The slides described in broad terms the limits of the NHS's ability to absorb the projected rise in hospitalisations **[SP/0068 - INQ000087304, SP/0069 - INQ000087305; and SP/0070 – INQ000087306]**.

196. On 13 March 2020, data that had started to be collected by NHS England for regular 'sitreps', began to show how many people were in ITU in London, with Covid-19 **[SP/0071 – INQ000087309]**. This suggested that the UK was further into the pandemic than predicted. This information was shared with the CMO.

197. SAGE met on 13 March 2020. SAGE minutes acknowledged that "*owing to a 5-7 day lag in data provision for modelling* [i.e. the "rear-view window" effect described in paragraph 232]*, SAGE now believes there are more cases in the UK than SAGE previously expected at this point and we may therefore be further ahead on the epidemic curve, but the UK remains on broadly the same epidemic trajectory and time to peak.*"

198. The SAGE minutes also stated that *"the science suggests that household isolation and social distancing of the elderly and vulnerable should be implemented soon, provided they can be done well and equitably. SAGE is considering further social distancing interventions – that may be best applied intermittently, nationally or regionally and potentially more than once – to reduce demand below NHS capacity to respond."*

199. SAGE requested that SPI-M-O investigate what kinds of interventions might be sporadically or continuously implemented to enable the NHS to meet demand and at what points and to set out its confidence levels in the impacts of these interventions. SAGE also noted concerns around the social and health disbenefits of shielding the elderly, and an action point around this was that DHSC's Moral and Ethical Advisory Committee should be invited to consider the ethical ramifications of household quarantine, given the increased risk to other residents where one resident is symptomatic. SAGE noted the importance of comparing UK interventions with those of other countries, such as Germany, and modelling the efficacy of those countries' interventions in the UK.

200. At a SAGE meeting on 16 March 2020, the Medical Research Council Centre for Global Infectious Disease Analysis, J-IDEA; Department of Infectious Disease Epidemiology, Imperial College submitted a report which stated that of the two strategies available to deal with Covid-19, namely mitigation and suppression, the only viable strategy for the UK at that point was suppression and that population-wide social distancing measures already applied in other countries should be adopted imminently.

201. On the same date, an NHS England EPRR briefing to Government confirmed that the total NHS bed stock as per Q3 FY19/20 was approximately 131,400 overnight consultant led beds (both core and escalation) of which c.100,000 were general and acute, 18,000 mental health, 8,000 maternity, 1,000 learning disabled and 4,100 acute critical care beds **[SP/0072 – INQ000087316]**. Additionally, there were day-only consultant led beds (no number confirmed) and 99% of these were acute/general medicine. The same briefing confirmed that ventilator provision (based on a response rate of 94% of acute trusts as of 13 March 2020) was 6,669 mechanical adult ventilators and 878 paediatric ventilators. There were an additional 2,221 adult ventilators ordered and on route to the NHS and 163 paediatric ventilators that could be brought online. Whilst discussions were being had with hotel chains about the possibility of using their facilities for those who do not need oxygen, and also accessing the c8,000 beds in private hospitals, it was confirmed that there were no plans to use military field hospitals currently but it was another option being looked at.

202. On 17 March 2020, Exercise Novus Coronet commenced. This was a system wide table-top exercise facilitated by PHE's Emergency Response Department, to stress test local arrangements for surge and exploring Covid-19 RWCS. The exercise was delivered over six working days from 17 March 2020, and a summary is provided in

Annex 7 to this statement.

203. On the same day, new evidence from SPI-M-O gave a lower overall hospitalisation rate of 4.4% but with a higher proportion of those (30%) requiring mechanical ventilation. Models were beginning to emerge that more systematically estimated the impact of different mitigations. NHS England's data run of 17 March was not published, although it was shared for internal briefing. With no mitigations this model had a peak demand for V beds (a V bed is a bed in a NHS hospital which can provide mechanical ventilator support to a patient) of 138,000. The output also included a model based on c.75% compliance with social distancing, which reduced the estimated peak demand for V beds to 2,400-11,300, depending on what other mitigations were implemented alongside social distancing.

204. Also, on this date, 17 March 2020, following Government decisions on freeing up NHS capacity and other readiness measures, NHS England sent a letter to the NHS System setting out next steps for the NHS' response to Covid-19 **[SP/0073 – INQ000087418]**. This advice included:

    a. Freeing up inpatient and critical care capacity;

    b. Preparing for and responding to the anticipated large numbers of Covid-19 patients who would need respiratory support;

    c. Supporting staff and maximising their availability;

    d. Playing our part in the wider population measures newly announced by the government;

    e. Stress testing operational readiness; and

    f. Removing routine burdens to facilitate the above.

205. The letter stated that *"Emerging international and UK data on Covid-19 patients suggests that a significant proportion who are hospitalised require respiratory support, particularly mechanical ventilation and to a lesser extent non-invasive ventilation."*

206. The letter continued:

    "In respect of PPE, the DHSC procurement team reports that nationally there is currently adequate national supply in line with PHE recommended usage, and the pandemic influenza stockpile has now been released to us. However locally

distribution issues are being reported."

207. On 18 March 2020, the NHS England Chief Executive Officer attended a Covid-19 Strategy meeting with the PM, the SSHSC and senior figures in the cabinet office, Number 10, DHSC and the Treasury. As part of that meeting, Lord Stevens discussed NHS capacity and resilience, including providing a Sitrep on current capacity and demand and steps being taken to free up bed capacity **[SP/0074 – INQ000087319]**.

208. On the same day, NHS England published Clinical Guidance on the management of persons admitted to hospital with suspected Covid-19 infection **[SP/0075 – INQ000087320]**. This confirmed that *"Covid-19 infection may present with mild, moderate or severe illness; the latter includes severe pneumonia, acute respiratory distress syndrome (ARDS), sepsis and septic shock. Early recognition of suspected patients allows for timely initiation of infection prevention and control (IPC) measure. Persons less than fifteen years of age have been less affected (about 1% of hospitalised cases [Guan, 2020]). Patients who require admission to hospital and*

    a. *Have either clinical or radiological evidence of pneumonia; or*

    b. *Acute respiratory distress syndrome; or*

    c. *Influenza like illness*

are considered possible cases, regardless of epidemiological link. Clinical features at presentation are not discriminatory for Covid-19 infection, particularly when symptoms are mild. A combination of new fever, cough, lymphopenia and bilateral lung infiltrates is characteristic, but not diagnostic."

209. The Clinical Guidance also confirmed the current understanding and clinical course associated with Covid-19:

    a. ***"Uncomplicated illness***

    Patients with uncomplicated upper respiratory tract viral infection, may have non-specific symptoms such as fever, cough, sore throat, nasal congestion, fatigue, headache or muscle pain Incubation period 14 days The elderly or immunosuppressed may present with atypical symptoms.

    b. ***Complicated illness (pneumonia, ARDS* [acute respiratory distress syndrome] *or septic shock)***

Onset: In approximately 15-25% of reported cases, clinical deterioration is described with new or worsening respiratory symptoms within 5-12 days following onset of mild symptoms.

c. ***The average time from symptom onset to:***

   i. *Admission to hospital is 7 days.*

   ii. *ARDS is 8 days.*

   iii. *Admission to intensive care unit (ICU) is 10 days.*

Those with underlying medical conditions (diabetes mellitus (any type), chronic respiratory disease including asthma, chronic cardiovascular disease including hypertension and severe immunosuppression as per Green Book definition are significantly more likely to progress to complicated illness. Lymphopenia is common (>75%).

a. ***Chest Imaging (plain radiograph or CT scan or lung ultrasound)***

Three patterns are described on CT chest imaging according to stage of illness (from symptom onset):

   i. *Early (0-2 days): normal or rounded ground-glass opacities.*

   ii. *Intermediate (5-10 days): crazy-paving opacities.*

   iii. *Late (>10 days): consolidation.*

The changes are bilateral in the majority (>60%) with the lung periphery and lower lobes most involved. Early ground glass appearances may not be visible on plain chest x-rays.

b. *Organ failures*

c. *Up to 50% of critical care cases have exhibited cardiac injury (troponin rise), renal injury or liver dysfunction, and up to 30% have developed shock with multi-organ dysfunction. Mortality in ICU-admitted patients is about 50%."*

210. Also, on 19 March 2020, the Government announced that Covid-19 was no longer classified as a HCID **[SP/0076 – INQ000087332]**. As noted in paragraph 166 above, NHS England officials had previously expressed concern about the capacity of the

NHS to continue to treat every case as an HCID despite having increased the number of beds that could be used for that purpose. Indeed, by this time, positive patients were being asked to isolate at home.

211. NHS England raised those issues with PHE and with the SSHSC. The Government took its decision after consideration by PHE and the other public health bodies in the UK and a recommendation from the Advisory Committee on Dangerous Pathogens ("**ACDP**"). This meant that Covid-19 patients would no longer only be treated in the small number of HCID treatment centres in England. It also changed the requirements for PPE that should be used when in contact with someone with Covid-19 or suspected Covid-19.

212. It is worth noting that by the end of March 2020, the CNO's office was in touch with peers in Lombardy and other locations round the world about the situation in those countries. The messaging they received was that their regional infrastructure and health services were severely struggling. Events that were depicted in Lombardy included ITU being rationed, decisions around whether to ventilate or not being made on the basis of whether the patient had children as they had limited ventilators, two nurses had taken their own lives, and there were reports of thefts of PPE. The CNO's office was also in touch with peers in France and Germany and received a paper from the Chinese Nurses Association covering how to ventilate patients in the pandemic. A virtual meeting was held with senior clinicians in Sweden.

213. On the days between 19 and 22 March 2020, there were a number of important events: for example the Government announced the introduction of shielding, DHSC published Hospital Discharge Service Requirements **[SP/0077 – INQ000087450]** and the Government announced further social distancing measures including school closures. On 23 March 2020, the national lockdown was announced. These and subsequent events are described in our timeline and in further detail in this statement as relevant to Module 2.

9. NHS England's role in the collection and dissemination of data and modelling

Overview and introduction

214. We have been asked to describe, to the extent it is relevant to the scope of Module 2, NHS England's role in the collection and dissemination of data, and modelling, of

aspects of the Covid-19 virus, including data relating to the spread of the virus and details of the Covid-19 data store. We have also been asked to explain if and how that data was provided to central government departments, the Prime Minister's office, SAGE, SAGE sub-committees and, as far as relevant, the devolved administrations, regional and local administrations, and the care sector. We have been asked to describe any challenges encountered by NHS England in relation to that data collection and dissemination, and modelling. We provide further detail on modelling in Annex 10.

215. In order to provide some context to the steps taken by NHS England in respect of data and modelling in response to the pandemic, we described in the preceding sections our and others' state of knowledge in the early months of 2020. We now set out our approach to data and modelling before the pandemic began. As set out above, NHS England's functions are, essentially, as a commissioner i.e. to make arrangements for the provision of certain healthcare services, which are then provided by other bodies (such as NHS Trusts or Foundation Trusts).

216. As such, the data routinely collected by NHS England was limited to that reasonably necessary in order to discharge those particular functions mindful of information law obligations (primarily through sitreps). In order to assist with the collection, use and dissemination of data to assist the response to the pandemic the SSHSC issued a notice under the Health Service (Control of Patient Information) Regulations 2002 ("**COPI Notice**") to the health and care system, which provided a legal gateway by which specified bodies could access and use data more broadly and widely than might typically be the case for the purpose of responding to the pandemic. NHS England was one of the bodies to which such a COPI Notice was issued. This provided an important foundation to enable NHS England to establish the data and modelling infrastructure that it subsequently did.

217. The data produced on a daily basis by NHS England, notably the sitreps, was large and so not very easily digestible if read as a sequential series of hundreds of reports. With that in mind we have exhibited a selection of sitrep reports produced by NHS England over the course of the pandemic [**SP/0078-SP/0099 - INQ000087369, INQ000087370, INQ000087413, INQ000087414, INQ000087432, INQ000087433, INQ000087451, INQ000087452, INQ000087482, INQ000087483, INQ000087495, INQ000087496, INQ000087497, INQ000087499, INQ000087500, INQ000087501, INQ000087507, INQ000087508, INQ000087509, INQ000087517, INQ000087518; and INQ000087519**].

218. Finally, by way of orientation to assist the Inquiry, we provide a brief explanation of the structure applicable to data and modelling within NHS England:

a. In March 2020, NHS England established the Covid-19 Data Cell, to act as the first port of call for newly initiated data and information requirements relating to Covid-19. This was initially led jointly by NHS England and NHSx, with our Chief Financial Officer as SRO. NHSx was established in February 2019 by the SSHSC as a joint unit of NHS England, NHS Improvement and DHSC, with responsibility for setting national policy and best practice on technology, digital and data. It was not a legal entity in its own right, and we do not otherwise propose to cover the work of NHSx in detail within this statement;

b. Also, in March 2020, NHS England established the Covid-19 Epidemic Modelling Cell and Covid-19 Data Reporting Cells, which took the lead for modelling Covid-19 impacts and data reporting through sitreps; and

c. In June 2020, those separate cells were merged to form the Covid-19 Data, Reporting and Analytics Cell, for which NHS England had complete responsibility and oversight with NHS England's National Medical Director and Chief Financial Officer as joint SROs.

NHS England data – January to March 2020

219. Set against the backdrop of NHS England's routine uses of data and modelling pre-pandemic, NHS England had to build new data infrastructure at pace for Covid-specific purposes. In so doing, we worked closely with Government and, at least initially, we produced modelling based on the same assumptions and models used by SAGE (notably the Imperial model).

220. Our internal modelling team shared initial modelling with NHS England's Strategic Incident Director on 12 February 2020, as part of NHS England's EPRR work **[SP/0100-SP/0103 – INQ000087426, INQ000087427, INQ000087428 and INQ000087254]**. It focussed on operational pressure on the NHS by applying SPI-M-O's RWC scenario which at that time was based on pandemic flu.

221. During this initial period, led by PHE and DHSC who had overall responsibility for community testing and decisions on testing prioritisation. NHS England supported their ability to make decisions by helping PHE establish a new surveillance system

(CHESS) to detect cases of Covid-19 (24 February 2020).

222. Our National Medical Director attended his first SAGE meeting on 25 February 2020. In advance of that meeting, he was provided with the latest modelling projection prepared by our internal team (which was an update to the version originally circulated on 12 February 2020). During that meeting he suggested to SAGE that SPI-M-O modellers should meet with NHS England's own analysts, to ensure coordination of approach to modelling. NHS England understood that it was not NHS England's remit to produce modelling to inform Government decision-making, as that was addressed by SPI-M-O through SAGE. However, NHS England wanted to support and align with SAGE as much as possible.

223. As noted above, on 1 March 2020 there was an all-day meeting at Imperial College, co-chaired by our National Medical Director and Professor Sir Jonathan Van Tam (the Deputy CMO) (by telephone and for part of the day). The aim of this was to reach a common understanding between SPI-M-O and the NHS on what was known so far and discuss a range of potential values for key parameters likely to impact the NHS, such as:

    a. Infection Hospitalisation Rate – the proportion of people infected with Covid-19 that will go on to require hospital care for Covid-19;

    b. ALOS – the average length of stay for a patient hospitalised for Covid-19;

    c. Critical Care Use – the proportion of those patients requiring hospital care also requiring critical care (HDU/ITU bed); and

    d. Deaths – the proportion or rate of those with Covid-19 that will die from Covid-19.

224. It was important to establish a set of common model parameters upon which to work out what would need to be done for the NHS to cope.

225. In that meeting attendees put together data that the Imperial College had produced on potential deaths and hospital admissions. Imperial College had not initially modelled how many beds would be required, as they had not calculated the likely length of stay. At that stage, it was estimated to be 10 days. By the end of that Sunday meeting, attendees had produced models for admissions, the types of beds required by patients, length of stay and the number of beds required. The modelling indicated a RWCS for wave 1 that the NHS could need up to 1 million beds at the peak, and there

could be 500,000 deaths cumulatively throughout the wave without mitigation. Outputs from the meeting were sent to NHS England's National Medical Director that evening **[SP/0104 - INQ000087265; and SP/0105 – INQ000087266]**.

226. SPI-M-O continued to develop the models over the following fortnight; all illustrated that the NHS would be under severe pressure, without mitigation to reduce numbers. NHS England's modelling team liaised with SPI-M-O and Imperial to ensure a consistent approach was adopted in respect of the input model parameters used, and population base. Based on RWCS, even with differing modelled NPIs, the number of beds and ventilators required would exceed the current capacity within the NHS many times over. The shared (by NHS England, Imperial and SPI-M-O) input model parameters were reflected in the SAGE modelling presented to the Prime Minister around 16 March 2020.

227. On 23 March 2020, Imperial College advised NHS England that the appropriate assumption for short-term national planning was a 3 day doubling time for the rate of infection, which was an increase from their previous 5 day doubling rate. Imperial also advised that the impact of NPIs would unlikely take effect for at least two weeks (based on the then estimated time from infection to hospitalisation). It was understood by our modelling team that this applied not just to London but across the UK more broadly. Those model parameters were reported internally to the Chief Executive's office, the Strategic Incident Director and the National Medical Director, and used to inform guidance to the regions about critical care planning.

228. NHS England produced regional scenarios based on Imperial modelling, which modelled a doubling of hospitalisations every 3 days between 23 March 2020 and 5 April 2020, based on the infection rate growth before lockdown was announced.

229. These were complemented by data from Imperial College which modelled different levels of compliance with social distancing of 40%, 60% and 75%.

230. The regional projections based on these three scenarios all projected a peak demand for V beds[15] of around 17,500 in mid-April 2020, driven by infection growth before lockdown was announced, but then had very different rates of decrease. The three models predicted demand for V beds by the end of April, of 11,700, 8,700 and 6,300 respectively, all of which substantially outnumbered available capacity **[SP/0106-SP/0110 – INQ000087341, INQ000087342, INQ000087343, INQ000087344 and**

[15] I.e. mechanically ventilated. See section 10 of this statement for an explanation of the 'V bed' terminology

INQ000087345].

231. Initial estimates of consumables (i.e. items required other than drugs) were also provided at this stage, based on initial clinical estimates of likely usage per admission or per bed day, depending on the nature of the consumables. These were based solely on demand for direct Covid care. Neither supply estimates nor previous (non-Covid) usage estimates were available to the team and so it was difficult to appraise the quality or significance of these estimates. Partly for these reasons, partly to avoid deterring people from coming forward for essential non-Covid health care, and partly because of the risk of incentivising unhelpful local stockpiling, consumable estimates were not shared with the wider NHS system at this point.

232. Data based on community testing which would have been the optimal mechanism for tracking Covid-19 population incidents was limited until the expansion of PCR capacity and the introduction of rapid point of care lateral flow devices, meaning the course of the first stages of the pandemic was largely tracked using a 'rear-view mirror proxy via the volume of hospital cases. Notwithstanding efforts described above to ensure alignment with SAGE/SPI-M-O on input model parameters, NHS England's outputs did diverge from theirs on occasion. We do not propose to cover that in detail here, not least because the primary purpose of NHS England's modelling was to inform operational planning rather than to directly feed into central government decision-making. In brief terms, NHS England's perspective was that any divergence arose as a result of differences in the inputs used for population base, hospitalisation assumption and age-increasing probability of critical care use.

233. A more detailed explanation of NHS England's modelling work and how it fed into operational decisions both nationally and regionally will be provided in Module 3.

Data reporting and analytics

234. Alongside the data modelling, NHS England established data collection arrangements to receive information from across the country. This is what is referred to as 'sitreps', and this was the primary dataset routinely shared with central government (at least initially). As set out above, NHS England had collected sitreps as part of its BAU data reporting processes for many years prior to the pandemic, resulting in published data providing headline figures on occupancy of critical care beds both nationally and by individual NHS providers.

235. In light of the pandemic NHS England concluded that the information collected

through existing daily sitrep reporting from NHS providers should be supplemented with a more Covid-19 focussed data collection, to enable NHS England to better understand the real-time impact of the pandemic across the NHS system. Over time, the specific data collected through sitreps **[SP/0111 – INQ000087382]** also evolved (noting that, as set out above, as of February 2020 data was reported by a breakdown of adult, paediatric and neonatal critical care bed occupancy). A brief, focussed, timeline of the key phases to that evolution is set out below:

a. From January 2020 to mid-March 2020 PHE took the lead for daily Sitrep reporting on Covid-19 cases;

b. Between 10 and 16 March 2020 NHS England's existing Sitrep reporting was expanded to include numbers of patients with Covid-19 and of which how many were in HDU or ITU beds. These were shared with DHSC;

c. 17 March 2020 – daily COVID-specific collections from Type 1 providers of NHS acute services (i.e. those with major emergency departments providing a consultant-led 24-hour service) commenced. These were shared with DHSC on a daily basis and, from 21 March 2020, directly with the CMO;

d. 20 March 2020 – daily collection expanded to include community providers and mental health Trusts;

e. 26 March 2020 – the scope of sitreps expanded to include the number of patients receiving oxygen, non-invasive and mechanical ventilation, and the independent sector were required to report the number of NHS patients that were occupying both critical care and non-critical care beds **[SP/0112 – INQ000087447]**;

f. 2 April 2020 – the scope of sitreps expanded to include the number of available beds which could provide mechanical ventilation, non-invasive ventilation and oxygenated support;

g. 14 April 2020 – daily collection expanded to include reporting from independent sector providers on ventilator availability (both mechanical and non-invasive) **[SP/0113 - INQ000087394; and SP/0114 – INQ000087395]**;

h. 27 April 2020 – daily collection expanded to include the number of suspected Covid-19 cases **[SP/0115 – INQ000087411]**;

i. 5 June 2020 – daily collection expanded to include staffing absence and time between admission and diagnosis;

j. 13 October 2020 – daily collection expanded to include reporting breakdowns by reference to BAME, more granular age brackets, surge bed availability and repeat admissions/diagnosis; and

k. June 2021 – daily collection expanded to include whether the patient was primarily treated for Covid-19 rather than something else.

236. NHS England also asked Trusts to submit notification of patient deaths, staff deaths and data on protected characteristics, via the Covid-19 Patient Notification System (CPNS). Initially, from 15 March 2020, this was a manual reporting system whereby providers reported daily on any deaths to NHS England. On 18 March 2020 NHS England commissioned a CPNS portal, an early version of which was launched on 24 March 2020 and subsequently refined over the following months.

237. In light of the switch to a Covid-19 focussed daily sitrep collection from 17 March 2020, so from 19 March 2020 the collection was taken through the Strategic Data Collection Service (SDCS) run by NHS Digital from 19 March 2020. The reported data was then collected every morning, collated and sent to a wide circulation list which included the CMO, the National Medical Director, the Strategic Incident Director and the Chief Executive's office (the latter of which then provided the data to DHSC on a daily basis).

238. On or around 17 March 2020 the Cabinet Office commissioned a daily 'dashboard' from a number of central government bodies, including DHSC and MHCLG, Devolved Administrations and NHS England. NHS England was responsible for inputting data on the number of Covid-19 cases admitted to hospital and deaths by NHS Region, as well as a high-level summary of the impact on the health system (again broken down by region) This dashboard was initially circulated to a wide audience across central government by way of PowerPoint presentation. From 23 March 2020 or so onwards the dashboard was digitised, and NHS England's data was automatically fed to the Cabinet Office via an API to populate their dashboard for their cabinet briefings, and also to the Joint Biosecurity Centre. NHS England also responded, from time to time, to specific data requests from Number 10 and the Cabinet Office which fells outside the BAU reporting.

239. The data was also used to developed dashboard-style presentations, initially on

software called 'Tableau' from March 2020 and subsequently through a bespoke Strategic Decision Makers Dashboard which was made available to the Cabinet Office and Number 10 from 25 March 2020 before being rolled out to regional decision-makers from April 2020. Example screenshots of the Dashboard are exhibited at [**SP/0116 - INQ000087575**] The NHS data platform was demonstrated to the Prime Minister by NHS England's Chief Operating Officer and senior representatives of NHSx on 21 May 2020 **[SP/0117 – INQ000087429]**. It was also subsequently demonstrated to the Minister for the Cabinet Office, who requested a note summarising the lessons learned by NHS England in establishing the platform. NHS England provided the note on 1 July 2020, which contained a high-level summary of how to replicate the approach elsewhere **[SP/0118 - INQ000087443; and SP/0119 – INQ000087444]**.

240. NHS England made use of a range of tech solutions during the timeline covered by the Inquiry, but we do not propose to cover that in detail here, focusing rather on the substance of what data was being collected and shared with central government (rather than the underlying technical infrastructure through which we were able to do so). One point to note is that the COPI notices enabled NHS England to share secure, reliable and timely data needed to coordinate the Covid-19 response with the Government so that they were able to make informed decisions. This included standing up automatic feeds so that decision makers in Government had access to information in near real time.

April 2020 onwards

241. Throughout the pandemic our National Medical Director had regular meetings with the Strategic Incident Director, the Deputy Strategic Incident Director and NHS England's analytics team. At times, these meetings were daily, and NHS England analysts worked closely with NHS England decision-makers throughout. The focus and purpose of those meetings was to present latest estimates produced by NHS England based on SPI-M-O modelling, to understand operational pressures and inform decision-making on delivery of NHS services. As such, we do not propose to outline those meetings in detail within this statement albeit we have covered elsewhere by exception where that modelling was fed into central government decision-making, for instance on capacity decisions relating to the establishment of the Nightingale Hospitals.

242. The next particularly notable modelling event was in Autumn 2020, when the Alpha

(initially "Kent") variant became prevalent. The SPI-M-O modelling indicated that a 'circuit-breaker' lockdown would assist in managing the peak of infection and bed demand. The 'Oxford model' had been developed by that stage, and was producing projections of significant levels of transmission. Our Strategic Incident Director was also concerned at that stage, as the modelling projected around 35-40,000 NHS beds would be fully occupied by January 2021. That modelling proved to be broadly accurate.

243. In January 2021 NHS England expanded its data infrastructure to encompass daily reporting on vaccine deployment (shared daily with DHSC, SPI-M and published daily). In broad terms this covered the following actions:

    a. Track how many vaccinations were administered, and compare sites to identify best practice, and where to target support;

    b. Estimate maximum capacity for vaccinations and confirm the number of vaccination sites needed;

    c. Highlight inequitable access and uptake by geography, gender, ethnicity, disability and deprivation;

    d. Understand vaccine stock in the system with the ability to move vaccines to where needed most;

    e. Assess when priority groups should become eligible for rollout, determine which groups can go to which delivery models (such as GPs or vaccination centres) and assess which delivery models should be prioritised;

    f. One system for everything – delivery sites confirm that their site is ready for delivery, monitor vaccine supply, and ensure they have enough staff for a safe rollout; and

    g. Identify social care workers, unpaid carers and care home residents to prioritise vaccines (in light of mandatory vaccination requirements).

244. Vaccine planning, monitoring and deployment will be covered in further details in subsequent Modules.

10. NHS capacity pre and during pandemic

245. NHS England has been asked to give a high-level summary of inpatient and critical care bed availability in the NHS during the pandemic, with a particular focus on the period between 1 January 2020 and 26 March 2020, and details of efforts to expand capacity. This is addressed below, by reference to the baseline position coming into the pandemic before moving onto the period covered by the Module 2 Rule Request itself.

Capacity in early 2020

246. Bed capacity is not something which can be considered in isolation. "Bed capacity" means *all* of the resources required to undertake the work/task in question and includes equipment, rooms and the people with the necessary skills to do it. It has to be considered alongside other key factors, notably workforce and estates. The NHS Estate is the largest and most complicated in the UK, encompassing some 17,000 buildings. While many of these are newly and purpose built or refurbished facilities, many are not.

247. The current age profile of the NHS estate varies significantly: 12% of the total estate pre-dates the founding of the NHS in 1948, around 17% is over 60 years old, and around 44% is between 30 and 60 years old. This meant that on entering the pandemic, there were significant numbers of buildings that were not ideal for modern, digitally-enabled healthcare. Ensuring these properties are fit for purpose requires retro-fitting them with the necessary utilities infrastructure such as power, water and oxygen supply – this is a material baseline to have in mind when considering the resilience of NHS capacity coming into 2020, as it is not simply about increasing bed numbers but also have the workforce (both in numbers and clinical specialism) and the infrastructure to safely provide the required services to patients affected by Covid-19. The available space and its layout inside a hospital (or any healthcare setting) is also a constraining factor when implementing new Infection Prevention Control guidance i.e., separating Covid and non-Covid patients and distancing between beds.

248. 'Critical care' does not refer solely to the availability of a bed. Taking over life and organ support requires specialist equipment for each organ (heart, lungs, kidneys, liver etc) supported by highly skilled medical, nursing and AHP support. Critical care is usually referred to as the very complex care that occurs for patients who suffer one or more body system failures (heart, lung, brain, liver, etc). This takes place in very complex and intense environments, i.e. ICUs, ITUs and High Dependency Units. At the start of Wave 1 NHS England decided to establish a more precise subset of

descriptive measures for the types of care needed. We knew that Covid patients would have lung failure (1 system) and if they had more than 1 system (heart, kidneys, etc), they would need to be in critical care. Therefore, for the purposes of Covid-19 planning, we used revised nomenclature:

a. "V-beds" = beds where you can ventilate patients with lung failure but no other system failure (this was important because when we went into surge we could put V beds outside critical care, such as in operating theatres, anaesthetic rooms, etc);

b. "O+ beds" = Beds with high oxygen flow;

c. "O beds" = Beds with oxygen; and

d. "S beds" = Beds without oxygen (while vast majority of beds have an oxygen portal, if you switch all on the oxygen at once in a hospital the entire system would become overloaded and stop working).

249. The NHS has historically had low bed numbers and high bed occupancy levels compared with other G7 and European countries, which meant that coming into 2020 there was little flexibility in the existing capacity to respond to a rapid and significant surge in demand. This has routinely meant the need to reduce elective care during an average winter in order to cope with surging emergency demand (and the associated significant increase in bed occupancy). The NHS routinely balances its resources in this manner.

250. NHS England has collected and published data on bed occupancy in its current form dating back to 2010.[16] The data is segmented as follows:

a. Day only inpatient beds, which includes General & Acute, Learning Disabilities, Maternity and Mental Illness admissions;

b. Overnight inpatient beds, again which includes General & Acute, Learning Disabilities, Maternity and Mental Illness admissions; and

c. Critical care beds.

251. The following levels of care are pertinent to understand what is meant by "critical care beds":

[16] See NHS England's published 'Bed Availability and Occupancy Date' – Overnight Statistics

a. Level 0 – patients whose needs can be met through normal ward care in an acute hospital (i.e. not in critical care, but included in this list for context).

b. Level 1 critical care – patients at risk of their condition deteriorating or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team.

c. Level 2 critical care – patients requiring more detailed observation or intervention, including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care. Also known as 'high dependency units' (HDUs).

d. Level 3 critical care - patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure. Also known as 'intensive care units' (ICUs) or 'intensive treatment/therapy units' (ITUs) **[SP/0120 – INQ000087550]**.

252. The data reported by NHS England on occupation of critical care beds therefore entails patients who required either Level 2 or Level 3 support.

253. In addition, critical care beds are also distinguished and broken down in data reporting by reference to the age of the patient, in the form of adult critical care, paediatric intensive care and neonatal intensive care. For adult and neonatal patients Levels 2 and 3 are considered critical care, whereas for paediatric patients it is Level 3 only.

254. The bed occupancy position in December 2019, i.e. coming into the period covered by Module 2, across England was as follows:

a. Adult critical care beds – 3,048, or 75.3%, of 4,048 beds were occupied;

b. Paediatric critical care beds – 246, or 79.6%, of 309 beds were occupied;

c. Neonatal care beds – 1,036, or 71.5%, of 1,449 beds were occupied;

d. Inpatient overnight beds – 111,321, or 86.3%, of 128,943 beds were occupied; and

e. Inpatient day only beds – 10,325, or 81.2%, of 12,716 beds were occupied.

255. Moving onto 2020, the position in the early months for critical care was as follows:

a. January 2020:

i. Adult critical care beds – 3,423, or 83.0%, of 4,123 beds were occupied;

ii. Paediatric critical care beds – 247, or 79.2%, of 312 beds were occupied; and

iii. Neonatal intensive care beds – 1,024, or 71.2%, of 1,439 beds were occupied.

b. February 2020:

i. Adult critical care beds – 3,342, or 81.1%, of 4,122 beds were occupied;

ii. Paediatric critical care beds – 260, or 81.3%, of 320 beds were occupied; and

iii. Neonatal critical care beds – 1,003, or 69.3%, of 1,447 beds were occupied **[SP/0121 – INQ000087378]**.

256. Inpatient overnight and day only bed data was as follows at the end of March 2020:

i. Inpatient overnight beds – 76,641, or 64.7%, of 118,473 beds were occupied; and

ii. Inpatient day only beds – 4,952, or 50.5%, of 9,798 beds were occupied **[SP/0122 – INQ000087542]**.

Capacity from March 2020 onwards

257. Daily Covid-19 focussed reporting from NHS England (in the form of the Covid-19 specific sitreps) commenced on 17 March 2020 (as set out above a slimmed down version of daily Covid-19 reporting had taken place between 10-16 March 2020 as part of existing sitrep collections). Those sitreps were shared with a number of internal and external stakeholders, including Number 10, and incorporated time-series graphs which were updated cumulatively. We have exhibited a sample of sitrep

reports in which the 'Patient & Ventilation Charts' show trends of the following for Type 1 Acute trusts:

a. Covid-19 patients in HDU/ITU;

b. Covid-19 patients in HDU/ITU and all beds;

c. Covid-19 patients on mechanical ventilation;

d. Covid-19 patients on non-invasive ventilation; and

e. Covid-19 patients receiving oxygen.

258. In addition, bed occupancy figures also formed part of daily sitreps reporting, presented by reference to individual NHS Trusts as well as the regional and national picture.

259. Around 21 March 2020, NHS England London Region reported that Oxygen supply was emerging as an issue. At this point there was no dedicated Oxygen Cell set up. London trusts were asked to advise how many additional critical care (ventilated) beds they could make available and how quickly.

260. With the exception of the London-specific picture presented to the Prime Minister on 23 March 2020, NHS England reported concerns regarding NHS capacity and resilience to central government – particularly by reference to whether the NHS would likely become overwhelmed if modelling proved correct. As such, there were no specific 'incidents' relating to bed capacity but instead periods over the course of the pandemic where demand for critical care expanded or contracted. Sitreps daily reporting provided a real-time update as to where that demand was at any particular point in time.

261. NHS England's primary function and remit in light of those headline capacity concerns was to expand it (i.e. creating surge capacity). Three key ways in which we did so in the early stages of the pandemic were:

a. Initial finance discussions with central government, to include funding the costs of the Nightingale Hospitals;

b. Engagement with the independent sector; and

c. Workforce changes.

262. The efforts taken to expand capacity in those areas are described in further detail below. It is important to appreciate, however, when assessing overall hospital bed capacity during the pandemic that it was reduced by the need to comply with Infection Prevention and Control ("IPC") measures designed to prevent the spread of infection and keep staff as well as patients safe. A detailed review of the guidance issued by PHE on IPC from time to time during the pandemic is outside the scope of this Module, but the following headline consequences of IPC measures all had a material impact on the available capacity in hospitals, and the speed of treatment of patients in hospital settings:

    a. **Admission of patients**: before patients could be placed in appropriate clinical areas they had to be tested via PCR for possible Covid-19 infection. Additional space was required to hold patients while awaiting these results;

    b. **Cohorting of patients**: while awaiting test results and also subsequently once these results had been obtained, patients had to be placed into separate cohorts in different rooms/wards, reflecting their suspected/confirmed Covid-19 status. This cohorting impacted on capacity as for example areas were set aside for positive patients which could not always be fully used if there were insufficient positive patients.

    c. **Physical distancing**: As with all public settings, physical distancing of 2m was recommended, which led to reductions in the numbers of beds which could be accommodated in multi-bedded wards; and

    d. **Physical environment**: enhanced cleaning measures introduced to clean beds and rooms between occupants took additional time and impacted on patient flow. In cases where aerosol generating procedures took place, additional time (fallow time) was required before re-use of the space to reduce infection risk. In some areas, additional physical infrastructure (partitions etc.) was created to separate Covid-19 and non-Covid areas, which had an impact on the available space.

263. The implementation of all of these measures had a marked impact on the ability of hospitals to increase capacity as described elsewhere in this section of the Corporate Witness Statement. This was particularly evident at times of high community infection, when the number of Covid-19 patients was highest.

Finance

264. NHS England's finance team liaised closely with decision-makers in DHSC and HM Treasury (HMT).

265. In February 2020, conversations began between NHS England and central government departments about the likely need for additional bed capacity in the NHS. Conversations took place between NHS England's Chief Financial Officer and HMT, in which NHS England was reassured that funding would be made available to increase capacity as needed. Following this assurance from HMT, NHS England undertook analysis of expenditure at an individual trust level in order to introduce new cost control rules. The initial approach was materially simplified from the normal NHS financial framework and provided reimbursement for additional costs incurred in responding to Covid-19. The framework was subsequently adjusted from the second half of 20/21 to reflect the progression of the pandemic and support enhanced cost control and value for money.

266. On 11 March 2020 the HMT budget provided a £5bn Covid-19 response fund for pressures on the NHS and other public services, and the Chancellor of the Exchequer committed to make additional funding available to the NHS as required. NHS England communicated this key decision to the wider NHS system on 17 March 2020 as part of a letter from the then Chief Executive and Chief Operating Officer:

> *To free you up to devote maximum operational effort to Covid readiness and response, we are now taking the following steps nationally:*
>
> …
>
> *Additional funding to cover your extra costs of responding to the coronavirus emergency. Specific financial guidance on how to estimate, report against, and be reimbursed for these costs is being issued this week. The Chancellor of the Exchequer committed in Parliament last week that "Whatever extra resources our NHS needs to cope with coronavirus – it will get." So financial constraints must not and will not stand in the way of taking immediate and necessary action - whether in terms of staffing, facilities adaptation, equipment, patient discharge packages, staff training, elective care, or any other relevant category.*

267. By 19 March 2020 DHSC was able to confirm to the NHS and social care system that the Government would fully fund the cost of new or extended out of hospital health and social care support packages for people being discharged from hospital or who

would otherwise be admitted into if for a limited time, to enable quick and safe discharge and reduce pressure on acute services. This was a key enabler of the drive to free up space in acute hospitals for the wave of Covid-19 patients we knew were coming by that point.

268. By 23 March 2020, HMT had agreed to fund the building of Nightingale field hospitals, and the block booking of capacity in independent sector health providers, to provide additional capacity.

269. Daily meetings between NHS England's finance team and officials at DHSC and HMT began on 16 March 2020 and continued throughout the early phase of the pandemic, as we worked closely to ensure that financial issues did not block (or slow) urgent measures required in response to the pandemic.

270. A separate thread of finance work commenced in April and continued through to the September 2020 Spending Review regarding NHS England's concerns for future waves of community prevalence and the impact they could have on hospital capacity. NHS England proposed to expand overall bed capacity by up to 10,000 so that if Covid-19 inpatients increased again, they could be looked after with less disruption to non-Covid services, e.g. treatment of those already on NHS waiting lists. NHS England's Chief Financial Officer, engaged in ongoing discussions with Government, about the need for additional funding for non-temporary bed capacity.

271. On 1 April 2020, DHSC wrote to NHS England to explain that the request for an additional £288m was not accepted and that future capacity plans should fit the existing capital allocated (the existing capital referred to was the *"roll forward of the additional £1bn of NHS capital announced in Summer 2019 in to the CDEL budget for 2020/21, increasing the available budget to £5.8 billion")*.

272. The process of agreeing budgets is always iterative and negotiated, and NHS England understands the need for HMT to balance competing needs. Some of this is set out below at a high level.

273. On 30 April 2020, NHS England's Chief Financial Officer attended a meeting with Cabinet Office, DHSC and the HMT spend lead for the health sector and presented slides which set out amongst other items, NHS demand and what winter would mean for NHS planning and the sorts of work that would be needed for this (e.g. retaining critical care capacity through to next winter). On 12 May 2020, a Cross System Efficiency and Finance Board meeting also discussed this.

274. This was followed in mid-May by correspondence from DHSC to NHS England with an invitation "to pitch for new capital investment", as well as correspondence from the Prime Minister's private office asking for NHS England to prepare a capacity plan. This was to be discussed with the Prime Minister for decision by Ministers. It asked for it to be agreed first with the SSHSC and the Chancellor and to set out multiple costed options, to cover staffed critical care and G&A bed capacity; staffed use of Nightingales, staffed independent sector beds and any other surge capacity. It also asked for proposals on how any increases could tackle recovery priorities.

275. On 4 June 2020, NHS England sent a slide pack **[SP/0123 - INQ000087437 and SP/0124 – INQ000087438]** to No. 10 and HMT which set out NHS capacity planning for the remainder of 2020/21. The slides were discussed at the Covid-O meeting on 11 June 2020. A request was made by the Healthcare Capacity C-19 Task Force (Cabinet Secretariat) for detail to be shared on outcomes, including how the package could help tackle waiting lists and other benefits such as the impact on health inequalities.

276. NHS England's proposals were discussed throughout June 2020 but ultimately, were not approved. An email, dated 14 July 2020 from the Prime Minister's Private Office confirmed that "*any additional permanent capacity should be considered in the SR* [Spending Review]". At that time, tackling community prevalence was a key Government priority and investment was needed elsewhere, for example, to establish Test and Trace.

277. The NHS used Summer and Autumn 2020, with Covid inpatients down, to expand inpatient and critical care capacity as far as possible, and also to treat more non-Covid patients so that the median wait for routine hospital care fell from 19 weeks in July 2020 to under 11 weeks by November 2020. Alongside this work, finance discussions with the Government continued into the Autumn when the Government undertook a one-year Spending Review.

278. From the outset of the Spending Review ("**SR20**") process, NHS England worked with DHSC to set out the priorities for the NHS. DHSC were alert to the fact, and wrote to HMT stating this, that there was a need to resolve issues with poor and ageing estate and technology and infrastructure, and that providing additional funding for bed and diagnostics capacity and for continuation of the discharge arrangements were a vital step to managing the incoming pressures.

279. NHS England contributed to a letter which was sent from SSHSC on 24 September

2020 to the Chancellor of the Exchequer, which set out that "the impact that Covid has had on healthcare services including the NHS, both in terms of the costs of delivering services, and the unmet need that has built up during the course of the pandemic" cannot be ignored **[SP/0125 - INQ000087453; SP/0126 - INQ000087454; and SP/0127 – INQ000087455]**.

280. On 22 October 2020, there were numerous outstanding issues with the Government regarding finance **[SP/0128 – INQ000087463]**.

281. On 24 October 2020 NHS England's Chief Executive Officer et the Prime Minister, Chancellor of the Duchy of Lancaster, the Health Secretary and CST to discuss NHS winter preparations. There it was noted that Covid-19 inpatient demand was rising and there would be less capacity this winter than in April-June due to higher demand for non-Covid urgent care.

282. This point was confirmed by SPI-M-O / SAGE projections in late October 2020, which showed a big increase in likely Covid hospitalisations. They showed that the two main strategies to contain growth i.e. Test & Trace and regional tiered lockdowns had not made sufficient impact to prevent levels of Covid hospitalisations that would exceed NHS capacity. By the end of October hospitals were seeing Covid-19 admissions and inpatient numbers increasing far faster (more than double the rate) than the RWCS against we had been told to plan.

283. At the start of November, HMT signalled they were unlikely to agree Covid-19 costs and potentially other aspects of funding for 2021/22 until the new year. The Quad meeting on 9 November discussed this in anticipation of a meeting with the Prime Minister to discuss secondary care capacity.

284. NHS England continued to negotiate in November for additional funding for capacity, including extending the 6 week discharge scheme, additional diagnostic capacity, additional general and acute beds, and additional funding to respond to demand as elective care demand recovered. Ahead of the Spending Review being published, NHS England set out their request for assurances to be sought on the Spending Review settlement **[SP/0129 - INQ000087475, SP/0130 - INQ000087472; and SP/0131 - INQ000087473]**.

285. On 19 November 2020, NHS England considered the adequacy of the HMT offer **[SP/0132 - INQ000087470; and SP/0133 – INQ000087471]**. The final spending review was published on 25 November . Whilst it contained, amongst other things,

additional funding to help with backlog recovery and (subject to stretching efficiency assumptions and based on assumptions about pay and non-pay inflation) maintain operational capacity at the 20/21 level, it did not allocate funding for the up to 10,000 additional beds originally sought.

286. NHS England understands that the Government had a range of competing and important priorities to take into account when deciding to allocate funds, not least in tackling community prevalence.

287. Ahead of the Spending Review 2021 **[SP/0134 - INQ000087512; and SP/0135 – INQ000087513]**, NHS England again liaised with DHSC, including during August 2021. Interactions set out that the conditions under which the NHS operates are not going to return to those that existed pre pandemic over the next six or even likely eighteen months. The information also confirmed that NHS England was dealing with new demands i.e. Covid and Long Covid, and these created new pressures or exacerbated existing ones e.g., need for more staff, higher drugs spend.

288. Given the proposed funding for the period, NHS England would target to recover above pre-pandemic activity but would need to stop all new investment in primary, community, cancer and preventative services **[SP/0136-SP/0139 – INQ000087486, INQ000087487, INQ000087504 and INQ000087505]**.

289. NHS England continued to work with DHSC and HMT in relation to funding, which included the activity thresholds for the Elective Recovery Scheme. It is worth noting that NHS England provided monthly packs to HMT where funding conditions specified this, for example, in relation to the hospital discharge programme as a condition for the provision of £588m of enhanced discharge funding from 1st September 2020 to 31st March 2021**[SP/0140 – INQ000087485]**

290. In February 2022, the Delivery Plan for tackling the Covid-19 backlog of elective care was published, having been discussed and finalised between NHS England, DHSC and HMT, which included various conditions from the Chancellor **[SP/0141 - INQ000087533; and SP/0142 – INQ000087534]**.

Independent sector

291. In addition, NHS England also entered into arrangements with the independent sector to create additional capacity. On 16 March 2020, NHS England entered into discussions with a number of independent sector healthcare providers in England that

collectively represented 80% of the acute overnight capacity within the private hospital sector in England. The discussions were to enable the NHS, from 21 March 2020, to utilise the providers' premises, beds, staff and equipment for the provision of healthcare services to NHS patients. It was reported to NIRB on 23 March 2020 **[SP/0143 – INQ000087340]** that of the 7,956 beds available within the independent sector providers, 160 were ITU and 107 were HDU beds. There were a total of 1202 ventilators (of which 1012 were in theatres) and 5,803 beds had piped oxygen. The combined providers had 680 theatres, 911 recovery bays, 140 endoscopy rooms and 31 catheterisation laboratories.

Workforce

292. A key factor influencing capacity was the availability of staff to carry out the necessary actions in respect of patients with different needs, e.g. staff familiar with ventilators for patients in ventilated beds.

293. In the early days of the pandemic, modelling of the impact of workforce absences on NHS operations was considered. Modelling on 5 March 2020 estimated an absence rate across the NHS workforce of 21% **[SP/0144 – INQ000087269]**. Further modelling was carried out on 10 March 2020 **[SP/0145 – INQ000087288]** and data relating to workforce was provided to SSHSC on the same day.

294. There was inter-organisational discussion on the impact of NHS workforce absences. On 11 February 2020, NHS England's Strategic Incident Director emailed DHSC on the impact of schools and childcare facilities being closed (i.e. a "high impact event" with 50% of the population affected) on the assumption of workforce absences in NHS primary care. It was considered that workforce absences could be 20%-30% in a RWCS **[SP/0146 – INQ000087252]**. NHS England and DHSC discussed potential solutions to mitigate workforce absence such as mandatory vaccinations for seasonal flu and, should it be developed, Covid-19. Other mitigations were considered, such as emergency registration of nurses and allied healthcare professionals, and bringing other medical professionals (including doctors) out of retirement.

295. On 12 February 2020, NHS England's Chief Executive, Strategic Incident Director and Incident Director attended COBR, the aim of which was to rehearse Ministerial-level decision making for the UK's pandemic preparedness and response within the context of the current Wuhan novel Coronavirus outbreak **[SP/0147 - INQ000087251; and SP/0148 – INQ000087256]**. In advance of this meeting, the Strategic Incident Director shared details of likely absences to feed into the exercise. Following this

exercise, the Strategic Incident Director continued to liaise with DHSC, on request, about potential impacts on the workforce capacity. Issues considered included the robustness of the model parameters and data, and later in February, NHS England shared further workforce modelling with DHSC and attended a meeting of SAGE with workforce on the agenda.

296. In early March 2020, DHSC requested a range of modelling data from NHS England setting out the impact of implementing the SAGE's NPI proposals on the NHS, including on bed numbers, workforce and capacity **[SP/0149 – INQ000087277]**. Limitations to the modelling were shared within the group. DHSC updated sitrep requirements to include, amongst other things, absences from staff, broken down by paediatric and adult. As March progressed, NHS England continued to work with DHSC to provide updated sitrep data **[SP/0150, SP/0145, SP/0151-SP/0153 – INQ000087287, INQ000087288, INQ000087308, INQ000087348 and INQ000087349]**.

297. This collaborative working between DHSC and NHS England continued throughout the latter part of March with NHS England's Head of Analysis and Insight for Finance, Strategic Incident Director, Chief Commercial Officer and our Director of Performance Information, liaising as frequently as daily with Chris Stirling (DHSC) on critical care physical capacity including staff. Support on workforce planning was also provided by both HEE (deployment of students and returners) and KPMG (Nightingale staff planning) **[SP/0154 - INQ000087402 ; and SP/0155 – INQ000087403]**.

Primary care

298. NHS England is responsible for commissioning primary care services in England. As with all services primary care, and in particular General Practice, was impacted by the social distancing guidelines set out by Public Health England.

299. NHS England's letter of March 19 2020, to GPs and their commissioners *"Next Steps on General Practice Response to COVID 19"* set out the major immediate changes to how general practice would be required to work in the context of the decisions outlined in the 17 March 2020 letter. This letter confirmed that non-urgent face-to-face care was to be mostly suspended in the community. General Practice was to be adapted to a total triage model, meaning the public would be told to phone their GP surgery in the first instance to receive advice and care, and not attend practices in person, unless in-person care was clinically required **[SP/0156 - INQ000087325]**.

300. Given the actions taken above, primary care capacity did not form part of the ongoing daily sitrep / decision makers dashboard suite of data that NHS England provided to Government to inform national policy decisions. Separately NHS England engaged with Government throughout the pandemic on actions taken on primary care, such as changes to GP contracts. However, these were predominantly operational issues covered within the scope of Module 3, rather than significant Government policy decisions as set out in the scope of Module 2.

Steps taken before 26 March 2020 to increase hospital bed capacity

301. On 11 March 2020 Ministers agreed measures to free up hospital capacity, including legislative action to support the early discharge of patients from NHS hospitals/trusts and local authorities to free up hospital space for those who are ill. The Chancellor of the Exchequer presented his Budget in which he committed additional resources for the NHS and social care which was used to fund this enhanced discharge from hospital.

302. On 16 March 2020 NHS England officials attended a Quad meeting to discuss among other things, plans for the rapid expansion of hospital and "step down" capacity[17] and the publication of the Government's "Covid-19 Hospital Discharge Service Requirements" **[SP/0157 – INQ000087491]**.

303. On 16 March 2020, the SSHSC and Social Care announced in an oral statement to the House of Commons that the NHS would be confirming these agreed measures to free up hospital capacity "later today".[18]

304. That NHS communication setting out the actions agreed with the Government to free-up hospital capacity was in fact deferred until the next day - 17 March - after the Prime Minister's national televised address that evening in which he advised the UK population at large to stop all non-essential contact with others and all unnecessary travel by stating, among other things, that:

> *Today, we need to go further, because according to SAGE it looks as though we're now approaching the fast growth part of the upward curve. And without drastic action, cases could double every 5 or 6 days.***[SP/0158 – INQ000087577]**

[17] "Step down" care is part of the pathway for patients no longer in need of acute care intervention, but requiring ongoing bedded rehabilitation.
[18] See Hansard 'Volume 673: debated on Monday 16 March 2020'

305. In line with the agreed government strategy, on 17 March 2020 NHS England's then Chief Executive and Chief Operating Officer requested NHS bodies to enact a number of urgent measures that were considered vital to free-up the necessary capacity to cope with the incoming wave of infections. These measures included, the urgent discharge of hospital inpatients who were medically fit to leave, with the aim of freeing up 15,000 acute beds occupied by patients either awaiting discharge or with lengths of stay over 21 days **[SP/0073 – INQ000087418]**.

306. The 17 March 2020 letter said explicitly that "*Emergency admissions, cancer treatment and other clinically urgent work should continue unaffected*."

307. It is important to note that:

    a. The operational request in wave one to defer non urgent elective surgery only lasted six weeks, from 17 March 2020 to 29 April 2020 (when the 'Second Phase of the NHS response" letter was issued by NHS England to hospitals **[SP/0159 – INQ000087412]**; and

    b. From April 2020 NHS England began urging the public to continue to come forward for non-Covid care. NHS England stated publicly it had concerns about the 'Protect the NHS' and instead said 'Help us Help You' by coming forward for care and by helping limit the spread of covid so that clinical capacity is not displaced.

308. On 19 March, Hospital Discharge Guidance was issued with the aim of setting out the details of the "hospital discharge" element of the 17 March letter **[SP0077 – INQ000087450]**. It was published by the Government and co-produced by DHSC, the Ministry of Housing, Communities and Local Government ("**MHCLG**") and NHS England, with input from the CQC, the LGA, ADASS, the Academy of Medical Royal Colleges, care home associations and a number of NHS providers.

309. The cover letter to the Hospital Discharge Guidance explained that:

> *…One of the most important tasks will be to ensure we have the capacity to support people who have acute healthcare needs in our hospitals. To do this we need to organise the safe and rapid discharge of those people who no longer need to be in a hospital bed. The new default will be discharge home today.*

…Each system will tackle this challenge from a different starting position and should take account of their local workforce and care home/domiciliary care supply dynamics, together with awareness of the capacity of family carers and volunteers in the community to continue to support local action. Supporting and sustaining social care will never be more vital to these efforts.

A range of virtual resources and live interactive sessions have been developed to support every sector to work through how to achieve this new way of operating and are detailed in the document.

310. As set out in the paragraphs relating to finance above, NHS capacity and resilience was actively discussed with the HM Treasury throughout 2020. On 24 December 2020, NHS England provided an update to Number 10 (via the SSHSC) on the demand and capacity picture in London as well as data on mortality of patients in hospital with Covid-19 and length of stay; we identified that there was a potential shortfall in available critical care and G&A beds based on projected demand. NHS England confirmed its plan to increase capacity, which included surging capacity in tertiary sites and stretching staffing ratios **[SP/0160 - INQ000087479, SP/0161 - INQ000087480; and SP/0162 – INQ000087481]**.

11. NHS England's role in initial government strategies in response to the emergence of Covid-19

311. We have been asked to describe the role played by NHS England, and individuals within NHS England, in the provision of advice and in key decision-making relating to the Government's initial strategies relating to community testing, surveillance, contact tracing, the movement from 'contain' to 'delay' and guidance and advice to health and social care providers.

Repatriation

312. Before discussing other Government strategies, it is important to remember that NHS England were involved in supporting repatriation in the very earliest stages of Covid-19.

313. On 27 January 2020, NHS England joined a cross government meeting, including with representatives from the Foreign and Commonwealth Office and the DHSC to discuss planning for repatriation flights for UK Nationals from Wuhan **[SP/0163 –**

INQ000087242]. In the days that followed, much of the focus for the NHS was on the repatriation of UK nationals from Wuhan and latterly Japan.

314. On 27 January 2020, the Foreign and Commonwealth Office begin work on the repatriation of UK nationals from Wuhan.

315. NHS England suggested one possible solution; a dormant hospital facility at Arrowe Park Hospital, Merseyside, which could be used as a reception facility. That proposal was accepted and the NHS England EPPR team were tasked with supporting this provision. NHS England supported the creation of isolation facilities at Arrowe Park Hospital where 83 repatriated patients received care after they landed at RAF Brize Norton on 31 January 2020, and a second isolation facility at Kents Hill Park Hotel in Milton Keynes.

316. On 28 January 2020, following a request from DHSC, NHS England's EPRR (N) team provided an onsite liaison officer to the Foreign and Commonwealth Office supporting repatriation of UK nationals from Wuhan and their transfer to the supported isolation facility.

317. On 4 February 2020, NHS England's IMT were exploring options for a second venue for repatriated UK nationals on a third planned repatriation flight and were also testing day 12 Arrowe Park discharge planning. NHS England's Strategic Incident Director attended a meeting with the SSHSC. They discussed the uncertainty about case numbers. Actions arising included maintaining DHSC stockpiles of PPE by DHSC and PHE, prioritising critical supplies of PPE and to consider RWCS planning around beds, respiratory and mortuary services.

318. On 6 February 2020, Preparations were also initiated for a second supported isolation facility at Kent's Hill Park Hotel and Conference Centre in Milton Keynes, to accommodate further UK nationals repatriated from Wuhan.

319. By 8 March 2020, regional EPPR teams were in the process of establishing coordination centres which would mirror the National Incident Coordination Centre. NHS England had secured a hotel in Heathrow for travellers arriving in the UK without a forwarding address who might require self-isolation. This location was reported to now be open and had 16 individuals isolated, seven of which were symptomatic.

Covid-19 testing between January to April 2020

320. Test and trace programmes are a core public health response in epidemics. The basic principles of test and trace are identifying infected individuals or groups through testing and tracing their contacts as early as possible. Potentially infectious contacts are then encouraged or obliged to reduce interactions with other people to help reduce the spread of the disease.

321. These public health functions are the concurrent responsibility of the SSHSC and Social Care and Local Authorities pursuant to s.2A NHS Act 2006.

322. However, the NHS does have a role and function in the testing of individuals for viruses and disease as patients for diagnostic and treatment purposes. The NHS also had a role in the testing of its staff and/or visitors to identify potential carriers of the virus and protect staff and patients.

323. As knowledge and understanding of Covid-19 developed the NHS was able to utilise existing hospital laboratory capacity to undertake this testing and capacity across the hospital sector was rapidly increased subject to the constraints of sufficient trained staff, equipment and critical supplies.

324. On 2 March 2020, NHS England wrote a letter to senior leaders across the NHS (entitled "Covid-19 NHS Preparedness and response") setting out steps they were required to take at that time to prepare for the anticipated escalation of the pandemic **[SP/0056 – INQ000087445]**. Following a DHSC decision on who should be tested, all intensive care units and severe respiratory failure (ECMO) centres were asked to commence Covid-19 case detection by testing patients admitted with an acute community acquired respiratory infection of any kind, regardless of known or suspected causative pathogen and clinical features. This was in addition to the testing and isolation protocols already in place for patients meeting the PHE Covid-19 case definition.

325. NHS laboratories were asked to increase testing capacity, focusing on identified hub laboratories, and to commence working up both the PHE approved PCR protocol test and begin the validation of commercially available tests that could be automated to further increase available testing capacity.

326. The NHS/PHE laboratory testing capacity (Pillar 1) at the start of March 2020 was around 2,000 tests a day, with a targeted plan set by DHSC to achieve 25,000 tests per day by the end of April 2020. The ability of relevant testing sites to increase capacity at that point was largely dependent on their existing equipment and

infrastructure, and was subsequently impacted by the limited availability of raw materials (i.e. plastics and reagents).

327. Hospital capacity was not sufficient to meet the wider public health testing requirements and additional testing facilities were commissioned by DHSC and PHE. DHSC led on the procurement of the raw material in the following weeks and months through a centralised procurement approach.

328. The NHS laboratories were used alongside some commercial laboratories to meet the Pillar 1 test requirements but alternative Covid-19 provision was required in order to enable the hospital laboratories to resume their usual diagnostic operations to support patients who did not have Covid-19.

329. On 11 March 2020 PHE identified a prioritisation list for Covid-19 tests, given the limited UK testing capacity **[SP/0164 - INQ000087298 and SP/0165 – INQ000087299]**. The prioritisation list was as follows:

    a. Group 1 (test first): patient requiring critical care for the management of pneumonia, ARDS or influenza like illness (ILI)†, or an alternative indication of severe illness has been provided e.g. severe pneumonia or ARDS;

    b. Group 2: all other patients requiring admission to hospital for management of pneumonia, ARDS or ILI;

    c. Group 3: clusters of disease in residential or care settings e.g. long term care facility, prisons, boarding schools;

    d. Group 4: community patient meeting the case definition and not requiring admission to hospital - over 60 years or risk factors for severe disease (recognising that this is challenging); over 60s should be prioritised over other risk factors;

    e. Group 5: community patient meeting the case definition and not requiring admission to hospital – under 60 years and no risk factors for complications; and

    f. Group 6 (test last): contacts of cases.

330. Given the constrained testing capacity, PHE's testing prioritisation was accepted for the time being by the CMO, DCMO, and senior clinicians in PHE and NHS England and endorsed at a meeting with the SSHSC on 11 March 2020.

331. The decision to move from contain to delay, announced on 12 March 2020, and the events leading up to it, are described in section 9. As is seen in that timeline, NHS England was engaged in constant discussion and provided information on NHS capacity during this period, and that would have been a factor taken into consideration by the Government in reaching that decision.

NHS Test and Trace

332. 'NHS Test and Trace Service' was launched by the Government and set up by the DHSC in May 2020. It was a public health service providing Polymerase chain reaction ("**PCR**") laboratory testing for individuals who had symptoms of coronavirus to find out if they had the virus and lateral flow device ("**LFD**") testing to identify people with Covid-19 who were not showing symptoms.

333. NHST&T also conducted contact tracing to advise those who had been in contact with individuals testing positive to self-isolate and provided telephone monitoring and support to those isolating. It also provided information to the Joint biosecurity centre to support the tracking of variant forms of Covid-19.

334. Although it was called NHST&T, the programme was not commissioned or assured by NHS England. In 2021, management of it was transferred from DHSC to the UK Health Security Agency. NHST&T worked with PHE and local authorities to address issues relating to the testing and contact tracing of members of the public.

Guidance and advice to health and social care providers

335. Throughout the pandemic NHS England published a series of guidance notes and advice. The purpose of these documents was to help the NHS operationalise Government policy, either by providing the latest information on the pandemic, setting priorities, or providing by guidance. Many of the documents published, particularly in the early stages, were removed, updated or replaced as new information and evidence became available as the pandemic developed. Some of the documents published on NHS England's website, or cascaded out through our Single Points of Contact, were not produced by NHS England nor was it responsible for the underlying policy or operational area.

336. With specific regard to clinical guidance, in the early pandemic, NHS England rapidly developed and issued a series of clinical guidance notes, for Covid-19 specific clinical management scenarios, to support and guide healthcare providers. These focused on

ensuring essential care was maintained, whilst the NHS responded to the emerging pandemic (for example the care of surgical patients). This advice sometimes captured intelligence obtained informally via clinical networks. NHS England would not normally develop clinical guidance; however, the scientific and clinical understanding of Covid-19, and its implications for NHS service delivery, were evolving rapidly, and NHS England needed to support clinicians urgently.

337. On 11 March 2020, NHS England agreed with the National Institute for Health and Care Excellence (NICE) that NICE would pause development of its 'business-as-usual' guidance and take over responsibility for developing and updating rapid Covid-19 clinical guidance (which would supersede earlier NHS England guidance). On 20th March, NICE published the first three NHS England-commissioned rapid Covid-19 guidelines on critical care, delivery of systemic anticancer treatments, and dialysis service delivery. These guidelines were developed according to an interim process agreed with NHS England. Later in 2020 the hosting and management of all remaining NHS England clinical guidance was transferred to NICE. NICE subsequently continued to publish rapid guidance for more specialties, with input from NHS England and national clinical leads, as appropriate.

338. Guidance to social care providers was predominantly published by Government, with advice and support from NHS England where appropriate.

NHS supply chain

339. A lot of work had already been done in relation to the overall NHS supply chain in preparation for EU Exit. As such, in January and February 2020, NHS England was able to adapt the structures that it had established to manage potential supply issues for EU Exit to deal with the challenges that the Covid-19 pandemic was beginning to raise. For example, the national supply disruption response line was opened during February so that any call that was "red" could be answered within 24 hours.

340. On 10 March 2020, NHS England's Chief Commercial Officer attended a supply response meeting. DHSC was responsible for the supply response and was owner of the company that was known as NHS Supply Chain ("SCCL"). The meeting's purpose was to consider operational issues, requiring a representative from NHS England to inform considerations on approaches to supply response. DHSC set up 45-minute calls on supply chain. There were 5 work streams on supplies and others from those workstreams attended these calls, including NHS England representatives.

341. NHS England continued to attend meetings on supply chain issues with Government. These included NHS England's Chief Commercial Officer attending a meeting on 29 March 2020 organised by the Cabinet Office, which included government representatives from around the world.

342. Thereafter NHS England's Chief Commercial Officer attended a regular weekly meetings where she was able to explain what the NHS needed in terms of urgent supplies from around the world (at times, this covered PPE). Leading on from this involvement, she became more closely involved in assisting DHSC with PPE matters. ultimately providing direct support to DHSC through a secondment.

343. This series of meetings, in the commercial/supply chain area is, from an NHS England perspective, an example of how in the early phases of the pandemic, NHS England worked with everyone across government (including the Armed Forces) to put in place structures, process and connections in order to get rapid results to address emerging supply problems. This meant supporting steps taken to address those supply issues, even if those issues were not, technically, NHS England responsibilities.

12. NHS England's role in decisions around non-pharmaceutical interventions ("NPIs") – Wave 1

344. NHS England has been asked to describe our role in both UK-wide and England-wide NPIs, particularly any advice or data shared which fed into decisions to impose or ease restrictions.

345. NHS England's focus and role in the first phase of the pandemic response was on (1) understanding the pharmaceutical and clinical interventions we should be developing to ensure the NHS had as much capacity to handle patients in hospitals as possible, and (2) expanding wherever possible that capacity.

346. NHS England was focussing on how the NHS could care for patients that fell ill. Others with public health responsibilities had the wider responsibilities to consider what other steps could be taken to slow down transmission in the national population. Therefore, while we were involved in SAGE and other discussions NPIs were discussed, our priority and area of expertise was always at the patient level focus.

347. Some of the information included elsewhere in this statement is represented here in the context of this topic.

National lockdown March-July 2020

Recap of key measures taken by Government during this period

348. The first national lockdown was announced on Monday 23 March 2020 although a number of measures to reduce transmission had already been introduced prior to this date which we reference below. On 26 March 2020 regulations were made which gave effect to the lockdown restrictions. On 28 May 2020, the Government published a three-step roadmap to lifting restrictions:

    a. Step 1- allowing outdoor recreation, people could meet with one person from outside their household outdoors. This took effect on 13 May 2020. Prior to this, meeting with others outside your household was not permitted;

    b. Step 2 - Opening non-essential retail, permitting cultural and sporting events behind closed doors, and a relaxation of gathering rules including the introduction of some form of bubble system. This was anticipated to commence 1 June 2020; and

    c. Step 3 - opening the remaining businesses including hospitality and leisure facilities. This was anticipated to commence 4 July 2020.

349. On 15 June 2020, the Prime Minister announced that retail businesses would be permitted to reopen from 15 June and people who live alone or in single parent households would be able to form a support bubble with one other household.

350. On 23 June 2020, the Prime Minister announced the relaxation of restrictions and the 2m social distancing rule.

NHS England activity in the run up to the first national lockdown

351. As discussed earlier in this statement:

    a. NHS England began taking steps to prepare for increased demand for NHS services and increase capacity from early February, with the collation and consideration of data (sitreps), and early modelling. This modelling informed early decision making on the need to increase critical care capacity to cope with anticipated demand;

    b. SAGE was activated on 22 January 2020 and NHS England's National Medical Director began attending from 25 February 2020. RWCS clearly and consistently indicated that the NHS would not have sufficient bed capacity to

treat the possible numbers of patients requiring hospitalisation. The issues still to be determined at that stage were the sets of model parameters upon which the RWCS modelling had been based;

c. Minutes of SAGE meetings held before NHS England began attending, record that a range of NPIs were already under consideration to potentially delay the spread of a UK outbreak. A report from Imperial considered by SAGE on 3 February 2020 **[SP/0035 – INQ000087430]** suggested initial data from China on the age-distribution of cases was that the risk of being reported as a case varied relatively little across ages from 20 to over 70 but deaths were markedly skewed towards the over 70s;

d. On 20 February 2020, an action point was raised in the SAGE minutes for NHS England to provide a list of precise and essential criteria upon which NHS planning depends, in order for SPI-M-O to model them in different outbreak scenarios **[SP/0166 – INQ000087502]**;

e. On 27 February 2020, the Government Chief Scientific Advisor and the CMO formulated 7 key stage priorities for discussion at the SAGE meeting which were:

    i. Detect & monitor any outbreak as effectively as possible

    ii. Understand effective actions to help contain a cluster

    iii. Understand measures to alter the shape of a UK epidemic

    iv. Model UK epidemic & identify key numbers for NHS planning

    v. Generate Behavioural Science insights for policymakers.

    vi. Ensure NHS trials key interventions

    vii. Consider emerging therapeutic, diagnostic & other opportunities **[SP/0167 – INQ000087434]**.

f. A report produced to SAGE on 27 February 2020 confirmed that without action, the NHS would be unable to meet all demands placed on it and that demand on beds would overtake supply before the peak was reached. NHS England took an action to confirm the variables with SPI-M-O to model NHS demand;

g. Following the SAGE meeting on 27 February 2020, on 1 March, NHS modellers met with Imperial College and by the end of that meeting, attendees had produced models for (1) admissions, (2) the types of beds required by patients, (3) length of stay (4) number of beds required **[SP/0168 – INQ000087261 and SP/0169 - INQ000087262]**. The modelling indicated a RWCS at the peak of wave 1 that the NHS would need 1m beds and there would be 500,000 deaths. The modelling, now based on an agreed set of model parameters, clearly demonstrated that if the RWCS played out in reality, or came close to it, demand would undoubtedly exceed NHS capacity. The question then became whether the model parameters were correct and whether the UK would come close to the RWCS modelling or whether the impact of Covid-19 would be less. At that time, the position was still uncertain. However, it was starting to become clearer as accumulating information was coming through from other countries; and

h. Outputs from the 1 March meeting were provided to Chris Whitty, Jonathan Van-Tam and Patrick Vallance in advance of a modelling meeting they attended with NHS England's National Medical Director that same day **[SP/0170 – INQ000087263 and SP/0171 - INQ000087264]**.

352. From all of the above, it was clear that the NHS would be overwhelmed without mitigations. There were two possible responses to the pandemic in order to limit the impact of Covid-19 on the NHS:

a. Increasing capacity and resource available within the NHS; and

b. Introducing a set of NPIs that would reduce demand upon the NHS.

353. Throughout February and March 2020, extensive work was undertaken to determine what NHS England could reasonably do to increase NHS capacity.

354. NHS England's best estimates of likely surge capacity were provided to SAGE modellers so that they could then consider what further interventions would be needed so that capacity was not exceeded. For example, an email was sent on 14 March 2020 with information on likely bed numbers so that this could be used to inform further modelling on what NPIs would ensure that capacity was not exceeded **[SP/0172 – INQ000087314]**. Modelling prepared for SAGE showed the contribution that each NPI was expected to make to reduce the "R" value on transmissibility and

what combination of NPIs were needed to allow the "R" number to fall below 1 at which point the epidemic would start to shrink **[SP/0173 – INQ000087326]**.

355. SAGE modelling outputs informed decisions on NPIs. For example, on 8 March 2020, the Civil Contingencies Secretariat shared advice, to be provided to COBR(O) in advance of a cross-government ("xHMG") meeting on the impacts of NPIs as set out by SAGE and when decisions would need to be taken by Ministers.

356. During this time, there was a series of ongoing critical meetings:

    a. From 21 March 2020 there were very regular, often daily, informal meetings attended by the Prime Minister, senior Cabinet Office officials, the SSHSC and other senior Cabinet Ministers, the Chief Medical Officer, the Government Chief Scientific Adviser and NHS England's Chief Executive Officer to brief the Prime Minister on latest developments. These meetings subsequently became the 'dashboard' meetings, and further detail can be found in Annex 1; and

    b. NHS England representatives also attended various meetings as required including Quad meetings, Ad-hoc Officials meetings, cross-government Situation update meetings, Covid-19 Healthcare Ministerial Implementation Group ("HCIGs") meetings, Covid-19 meetings with the Prime Minister, COBR(O) and COBR(M) meetings. The focus of these meetings from the position of NHS England was to relay information about NHS capacity and receive information about next steps. On occasions, work and/or updates were commissioned from NHS England in advance of these meetings around NHS capacity to inform discussions and decision-making. This work was updated as more information became available.

357. DHSC established a new Covid-19 Oversight Board, which was known as the Reasonable Worst Case Scenario Board and its Terms of Reference related to overseeing the longer-term planning work taking place to ensure that England was ready for a potential Covid-19 pandemic. The meeting was chaired by Clara Swinson of DHSC with a board comprising of individuals from DHSC, PHE, NHSX and NHS England's Chief Operating Officer NHS England. NHS England's Strategic Incident Director attended a meeting on 11 March 2020 **[SP/0174-SP/0181 – INQ000087290, INQ000087291, INQ000087292, INQ000087293, INQ000087294, INQ000087295, INQ000087296 and INQ000087297]**. The Board's formal Terms of Reference was considered. The status report at that meeting confirmed, amongst other things, that DHSC had been working with CCS and EDS to develop detailed proposals for three

NPI social interventions: (i) self-isolation (ii) home isolation and (iii) social distancing (high and medium risk groups) and that Ministers would discuss these on 12 March with a view to possibly implementing self-isolation within approximately 10 days' time.

358. As also referenced in paragraph 194, on the evening of 12 March 2020, NHS England's Chief Executive and National Medical Director attended a meeting with the Prime Minister focussed on what the NHS was doing in terms of increasing NHS capacity **[SP/0068-SP/0070 – INQ000087304, INQ000087305 and INQ000087306]**. NHS England papers for that meeting included a slide deck entitled "*NHS bed demand for the reasonable worst-case scenario and impact of non-pharmaceutical interventions*". It provided modelling of the impact of three NPIs (home isolation, household quarantine and social distancing for age 65+) on NHS bed demand based on SAGE model parameters for the RWC and also on a comparison infection rate of 20%. The modelling clearly showed that for most of the models, demand would exceed the numbers of beds available. The second slide showed what work was being undertaken to maximise the availability and effectiveness of oxygen.

359. The meeting considered measures that the NHS could take to increase critical care capacity, the number of G&A beds available and discharge plans. Plans included stopping non-urgent operations, considering those on long stays, increasing the aggregate supply of oxygen, reconfiguring hospitals as required and getting the right numbers of machines and trained staff to operate them. NHS England also requested a drive to support manufacturing of ventilators **[SP/0067 – INQ000087307]**. Information was provided on how NHS expansion would look and attendees discussed potential expansion into recovery areas and theatre spaces.

360. That same day, the UK Government announced that it was moving from the 'contain' to the 'delay' phase of its response to Covid-19. People with symptoms were told to stay at home for 7 days and that they did not need to be tested.

361. Covid bed daily sitreps then started to come through from trusts providing figures on the numbers of beds occupied by Covid-19 patients, with a breakdown of those in G&A beds and those in critical care beds. The first of these came through on Friday 13 March 2020 and indicated that the UK was further into the pandemic than other available data had revealed. Further figures were provided on 14 March 2020 which contained greater numbers **[SP/0182 – INQ000087310 and SP/0183 - INQ000087311]**. It was on receipt of this further information it became clearer that the modelling from SAGE may be close to what the actual position could look like. In

addition, the evidence from other countries, and particularly from Northern Italy, was that without interventions to reduce the spread of the virus, health systems were indeed being overwhelmed. This information was immediately relayed to England's CMO.

362. On 16 March 2020, Imperial College published its report entitled "*Impact of non-pharmaceutical interventions (NPIs) to reduce Covid-19 mortality and healthcare demand*" **[SP/0184 – INQ000087315]**. SAGE advised that there was clear evidence to support additional social distancing measures to be introduced as soon as possible and should be accompanied by a significant increase in testing. SAGE confirmed it would further review whether school closures should be required to prevent NHS capacity being exceeded. NHS England was asked to look at impact of school closures on NHS staffing.

363. Also on 16 March 2020 NHS England officials, the DHSC Permanent Secretary and other officials attended a meeting with the SSHSC and other ministers to discuss, among other things, plans for the rapid expansion of hospital and "step down" capacity, the publication of the Government's "Covid-19 Hospital Discharge Service Requirements" and the simplification of the financial regime for the funding of hospital discharges.

364. That same day, the following were announced:

    a. New social distancing measures, including for anyone in a household with symptoms of Covid-19 to stay home for 14 days;

    b. Government commitment to increasing testing for Covid-19 to 25,000 hospital patients a day and calls on industry to develop an antibody test;

    c. Guidance published for Councils covering a range of measures to address Covid-19; and

    d. Foreign and Commonwealth Office travel advice is updated to advise against all non-essential world-wide travel.

365. On 17 March 2020, correspondence was sent from NHS England to the NHS in England detailing next steps to be followed on the NHS Response to the pandemic **[SP/0185 – INQ000087317]**.

366. On 17 March 2020, NHS England officials attended a Health and Social Care Select Committee on management of the coronavirus outbreak, to discuss pandemic planning. Information was provided on capacity planning and how the use of the measures introduced by the Government would need to be followed to ensure that the NHS could cope with the increased demand.

367. On 19 March 2020, the London School of Health and Tropical Medicine undertook some forecasting and based on the daily sitrep report for ICU admissions testing positive, indicated that by 31 March 2020, the NHS would need over 4000 ICU/HDU Covid only beds which would mean that we would run out of capacity. That report was also provided to Chris Whitty and Patrick Vallance on 19 March 2020 **[SP/0186 - INQ000087322; SP/0187 - INQ000087323; and SP/0188 - INQ000087324.]**

368. By 19 March 2020, the Government was considering whether any lockdown should be confined to London. NHS England's National Medical Director was asked for his view. His advice to Government on behalf of NHS England was as follows:

> *The NHS's advice is that it is essential that the population measures set out by the Government are fully adhered to, and enforced if necessary. Decisions on enforcement in London need to be taken within the next 48-72 hours on a precautionary basis, given the rising pressures on intensive care.*
>
> *However, reviewing the national ICU data suggests that over and above the London region, there is as of today no ICU-related basis for prioritising any one additional region over another. So the advice from the NHS England Medical Director is that the decision on closing social venues should now be taken for London solely or for the whole of England.*
>
> *However, strong consideration should be given to whether doing so only for London may be misinterpreted by the public who live outside of London to mean that the guidance currently in place does not fully apply to them.*
>
> *We agree that determining a geographical trigger for wider enforcement action would be helpful, and are considering appropriate triggers.* **[SP/189 – INQ000087328]**

369. On 20 March 2020, the following were announced on a national basis:

    a. Further social distancing measures to close entertainment, hospitality and indoor leisure premises;

b. Schools, colleges and nurseries in England ordered to close 'until further notice'; and

c. Government to publish the scientific evidence provided to SAGE supporting the UK government response.

370. On 22 March 2020, the following additional measures were announced:

a. Shielding measures - up to 1.5 million people identified as being at higher risk of severe illness if they contract Covid-19 should stay at home;

b. Guidance published on shielding and protecting people defined on medical grounds as extremely vulnerable; and

c. Further social distancing measures come into effect requiring people to stay at home, stop social gatherings and the closure of certain businesses.

371. On 23 March 2020, a meeting took place between the Prime Minister, the Chancellor of the Exchequer, the Minister for the Cabinet Office, the Prime Minister's special advisor, the cabinet secretary, along with a number of NHS England officials including the Chief Executive Officer, Chief Operating Officer, London Regional Director, and the Medical Director for London to discuss slides prepared by NHS England which showed demand for ITU beds doubling every three days and that additional premises would be needed to cope with potential demand. During this meeting, it was suggested that the ExCeL Centre should be converted into a 4,000 bedded field hospital.

372. That evening, the Prime Minister announced **[SP/0190 – INQ000087546]**:

a. that the UK population would need to stay at home and only leave for the following purposes:

i. shopping for basic necessities, as infrequently as possible;

ii. one form of exercise a day - for example a run, walk, or cycle - alone or with members of your household;

iii. any medical need, to provide care or to help a vulnerable person; and

iv. travelling to and from work, but only where this is absolutely necessary and cannot be done from home;

b. immediate closure all shops selling non-essential goods, including clothing and electronic stores and other premises including libraries, playgrounds and outdoor gyms, and places of worship;

c. prevention of gatherings of more than two people in public; and

d. prevention of all social events, including weddings, baptisms and other ceremonies, but excluding funerals.

373. This took the UK into its first national lockdown. The Prime Minister's statement expressly made the connection between NHS capacity and the Government's decision to impose the lockdown: "*To put it simply, if too many people become seriously unwell at one time, the NHS will be unable to handle it - meaning more people are likely to die, not just from Coronavirus but from other illnesses as well*"

UK Lockdown - 23 March 2020 onwards

374. Even though the UK had been put into lockdown by the government, work was still continuing at pace to ensure that operationally, the NHS could respond to the growing number of Covid-19 patients that were attending hospital.

375. On a high-level basis, during the period after the lockdown was imposed, NHS England continued to advise Government and SAGE on bed occupancy rates and service pressures, so that this could be inputted into decisions about the removal of lockdown measures. We often provided data to go into the data packs for the meetings, alongside data and information from other sources such as PHE. Often there were discussions about what may be the best course of action based on the data that was being shared, but Government policy decisions were not taken in those meetings.

376. From April onwards community prevalence started to fall, towards its lowest point in August 2020. During that period, NHS England continued to provide capacity planning data input into Governmental decisions around NPIs. However, NHS England's data models relied upon inputs from SAGE/SPI-M on critical issues such as infection curves, infection rates, likely bed occupancy and NPI compliance assumptions **[SP/191 – INQ000087406, SP/0192 - INQ000087407; and SP/0193 - INQ000087408].** On 25 April 2020, NHS England's lead Analyst sought a "consensus view" on various factors including current R number, and daily infection rate to assist with NHS England's modelling. However, the Deputy Director of SAGE's C-19

Response Team emailed back to confirm that *"at the moment we need to focus SPI-M priorities on the more immediate questions regarding the lifting of NPI measures but we should consider how best to fit this into the SPI-M forward plan and how much of the information you are after is readily extractable from current analysis"* **[SP/0194 - INQ000087409; and SP/0195 –INQ000087410]**

377. On 4 May 2020, ahead of the NPI review planned for that week, the C-19 Strategy Secretariat at the Cabinet Office, sought information from NHS England about "enablers" including NHS capacity, *"to ensure that the UK has met the five tests and can continue to do so as we remove some NPIs. For example, we're working out supply over time for ICU beds/ventilators/medicines and correlating to demand by hospitalised covid patients, plotted against expected changes in number of patients over time…To help us do that, I'd be very grateful if you could share data on the total number of covid cases in hospital per day. Do you have this broken down by region too?"* **[SP/0196 – INQ000087417]**

378. On 5 May 2020, the PM's Private Office emailed NHS England, the Cabinet office and Government Office for Science to seek modelling data which the PM wanted to consider in relation to discussions around NHS medium term capacity planning. The email outlined that NHS colleagues needed to update their own demand modelling so there could be a clear picture of Covid-19 and non-Covid-19 activity, but to do this, they needed SAGE/SPI-M modelling on the next phase of the infection curves (which had been requested previously and was outstanding) **[SP/0197 – INQ000087419; and SP/0198 - INQ000087420]**. Once the modelling assumptions were received from SPI-M, NHS England were able to update its own demand modelling **[SP/0199 - INQ000087423; and SP/0200 – INQ000087424]**.

379. On Sunday 10 May 2020, the Prime Minister addressed the nation on television. The messaging given by the Prime Minister was now that the Country must "Stay Alert" and he set out the Government's roadmap towards the release of lockdown restrictions. He confirmed that the Government were establishing a new Covid Alert System run by a new Joint Biosecurity Centre **[SP/0201 – INQ000087547]**. The Covid Alert System would be determined primarily by the 'R' number and the number of coronavirus cases and that in turn would influence the severity of social distancing measures (the lower the alert level, the fewer the measures). The Prime Minister confirmed that there would be five alert levels, with level one meaning that the disease was no longer present in the UK and level five being the most critical (the kind of situation we could have had if the NHS had been overwhelmed). He also confirmed

that during the national lockdown, the country had been in level four but that *"we were now in a position to move in steps to level three."*

380. Government alert levels are regularly reviewed by the four CMOs and the National Medical Director, informed by an assessment from the Joint Biosecurity Centre and recommendations on any changes to alert levels are made to Government ministers in the four nations.

381. On 13 May 2020, step 1 of the road map began. The Health Protection (Coronavirus, Restrictions) (England) (Amendments No.2) Regulations 2020 (SI 500) came into effect in line with step 1 of the roadmap.

Local and regional restrictions, including local lockdowns (for example Leicester, Blackburn and Luton)

382. As mentioned above, after the initial lockdown was eased during May and June 2020, unfortunately numbers of Covid-19 cases began to rise in different areas of England.

383. As a consequence, SSHSC announced, on 29 June 2020, that the first local lockdown in Leicester would begin on 4 July 2020.

384. Thereafter, regional / local lockdowns were introduced and revoked as follows:

    a. Leicester- introduced on 4 July 2020 revoked on 3 August 2020;

    b. Leicester- introduced 3 August 2020 revoked on 14 October 2020;

    c. Blackburn with Darwen and Luton- introduced 25 July 2020 revoked on 1 August 2020;

    d. Blackburn with Darwen and Bradford- introduced 1 August 2020 revoked on 22 September 2020;

    e. North of England- introduced 5 August 2020 revoked on 14 October 2020;

    f. Bolton- introduced on 10 September 2020 revoked on 3 October 2020;

    g. Birmingham, Sandwell and Solihull- introduced on 15 September 2020 revoked on 14 October 2020; and

    h. North East of England- introduced on 18 September 2020- revoked on 14 October 2020.

385. Prior to the announcement about the Leicester lockdown, a Joint Biosecurity Committee GOLD call which NHS England's Strategic Incident Director and Chief Nursing Officer joined, confirmed that No. 10 had asked DHSC to develop a playbook on responding to small local Covid-19 outbreaks through to regional and national lockdowns, including roles and responsibilities for triggering the use of NPIs and local enforcements. The playbook was being produced for the following week as there was a recognition that there was a potential for local outbreaks to lead to another national outbreak and a sense that there was some pressure from Government to be thinking one step ahead. A substantial data dashboard to support the management and monitoring of outbreaks was also being developed which would seek to capture the totality of the response, including NPIs, testing, community infection rate, COVID admissions, workforce infection profile etc with NHS England asked to contribute on health sector KPIs. Bradford, Leicester and Kirklees were discussed due to an increase in confirmed cases **[SP/0202 - INQ000087441; and SP/0203 - INQ000087442]**.

386. Also prior to the Leicester lockdown, the SSHSC had convened a meeting, on Sunday 28 June 2020, to discuss the worsening situation in Leicester. It was discussed that increased cases were primarily from community transmission between persons with minor/mild cases. Confirmed cases were primarily from ethnic minority communities, workers within large factory/food processing and manufacturing places and limited social distancing in retail environments had been witnessed. Transmission was mainly occurring in households and workplaces. The age distribution had evolved, with most cases found in persons of working age with a 50/50 gender split. In the areas affected there were large numbers of transient workers with many residing within cramped households.

387. As with the earlier decision about a UK wide lockdown, NHS England supplied information to the Government about operational pressures on the NHS nationally and within areas and regions. Government used the information we gave them when reaching decisions about imposing or easing lockdowns, together with a range of voices and sources of information which they considered when determining policy.

388. This continued over the summer and early Autumn of 2020 via a range of meetings or commissions from various Government departments including DHSC, the Civil Contingencies Secretariat and Cabinet Office. Data produced during this period included regional information about admissions and bed capacity, to help inform decisions around NPIs adjusted by location. See for example, the Covid-19 Situational

Awareness Meetings and the SILVER and GOLD calls and briefings, which NHS England were involved in.

The tier system (October 2020) and further lockdowns

389. NHS England played the same role in relation to implementation of the Tier System and further lockdowns in the UK.

390. On 12 October 2020 the Prime Minister announced that the Government was simplifying local restrictions by introducing a tiered system **[SP/204 - INQ000087548]**. On 14 October 2020 the new tiered system was implemented. This remained in place until the start of the second lockdown, announced on 31 October 2020 and imposed on 5 November 2020.

391. The tiers were as follows:

    a. Medium - Rule of six people prohibited from socialising in groups of more than six. Hospitality businesses must close at 10pm;

    b. High - People prohibited from visiting/meeting people they do not live with indoors. Hospitality businesses must close at 10pm; and

    c. Very High - People prohibited from mixing with other households both indoors and most outdoor settings. Hospitality businesses must close at 10pm. Pubs, bars and restaurants must serve alcohol with a substantial meal.

392. Prior to this announcement being made, NHS England's National Medical Director attended a SAGE meeting on 8 October 2020 **[SP/205 – INQ000087466]**, where adoption of NPIs to limit rises in cases was discussed because of the increasing numbers of infections. SAGE reviewed the SPI-M-O medium term projections and noted that in England, the numbers of infections and hospital admissions exceeded the RWCS planning levels at this time. Near-term projections indicated the number of deaths was highly likely to exceed RWCS planning levels within the next two weeks. Well over 100 new deaths per day were projected to occur within two weeks, even if strict new interventions were put in place immediately.

393. SAGE noted that the data showed lower prevalence and incidence in London compared to some other UK cities but there was variation within London. The reasons for apparent lower levels in London were not known but were discussed to

include (1) some degree of immunity (lower than 20%); (2) different population behaviours because London was hit hard in the first wave; (3) the effects of the loss of tourism and people working from home; (4) differences in population structure and housing densities; or (5) differences in levels of deprivation compared to other cities. Data suggested lower rates of contact in London than the North West of England over the summer period, which may have also influenced current incidence rates. ONS data also suggested a greater reduction in activity in the hospitality sector in London than elsewhere, in part due to reduced tourism.

394. SAGE discussed that NHS data showed increases in hospital admissions, particularly in the North West, North East and Yorkshire. If there were no decisive interventions, continued growth would have the potential to overwhelm the NHS, including the continued delivery of non-Covid treatments.

395. SAGE noted that the interventions previously recommended for consideration were those which would have significant population-level impact on reducing transmission. Case control studies indicated that restaurants and bars were associated with increased transmission risk.

396. SAGE also noted that the epidemiological impact of NPIs would depend on context and how they interacted, and public behaviours in response to the measures. Substitution behaviours were considered important (e.g. the impact of closing pubs would be reduced if people instead socialised in restaurants or private homes). Further studies (e.g. case control studies, cohort studies) were needed to understand where transmission was taking place and where people were at most risk.

397. SAGE determined at this meeting that a package of NPIs needed to be adopted to reverse the exponential rise in cases. SAGE noted that policymakers would also need to consider potential economic impacts and other associated harms, including non-Covid health harm, alongside the epidemiological impacts of NPIs on R and growth rates.

398. Also on 8 October 2020, NHS England senior leaders attended a meeting with the PM and various high-ranking Government officials to discuss increasing numbers of infections in the North West **[SP/0206; SP/0207; SP0208; SP0209 – INQ000087458; INQ000087459; INQ000087460; INQ000087461]**. The Cabinet Office had prepared a slide pack which considered the NPI choices for dealing with the high R number.

399. On 9 October 2020, an NHS official attended a NERVTAG meeting **[SP/0210 – INQ000087536**, in which it was discussed that several Covid surveillance indicators were increasing at a national level. It was also noted that Covid-19 remained high in the North East, North West and Yorkshire and Humber. Infection rates were noted to have increased again in most age groups in the last three weeks, particularly in the younger age group.

400. On 23 October 2020, the Joint Biosecurity Centre assessed it *"highly likely that a number of nations and English regions will exceed their spring peak for COVID in-patients within 21 days."* **[SP/0211 - INQ000087465; and SP/0212 – INQ000087464]**

401. A **second lockdown** was announced on 31 October 2020, and imposed from 5 November 2020. Regulations were made to implement the lockdown in England for a period of 28 days, which expired on 2 December 2020.

402. Responding to the Prime Minister's statement, NHS England's National Medical Director said (via an NHS England press release), on 1 November 2020 **[SP/0213 – INQ000087549].**

> *"Daily hospital Covid admissions are now higher than on 23 March when the Prime Minister announced the first national lockdown.*
>
> *"NHS doctors and nurses in many areas of England – including Liverpool, Lancashire and Nottinghamshire – are now treating more Covid-19 patients than at the peak of the first wave….*
>
> *…However, it takes around a fortnight for today's infections in the community to result in hospital covid admissions – so what happens over the next two weeks is partly baked in. But the measures announced today will help reduce the number of admissions beyond that, preventing more people contracting this debilitating and sometimes fatal disease for which there is currently no cure or vaccine.*
>
> *Across Europe governments are also reporting the increase in demand on their health service as the pandemic's second wave bites. In Spain, France, Italy and Germany health services are seeing peaks in infection similar or greater to that at the start of the pandemic. Angela Merkel said that: 'We need to take action now. Our health system can still cope with this challenge today, but at this speed of infections it will reach the limits of its capacity within weeks.'*

"Throughout the first wave, care was available to everyone who needed it and the NHS continued to treat thousands of people with and without Covid-19. Doctors, nurses and all NHS staff are determined to do the same throughout this second wave.

403. On 13 November 2020 slides were produced by NHS England and the Covid 19 Taskforce in response to a No10 commission on NHS Capacity **[SP/0214 - INQ000087468; and SP/0215 – INQ000087469**. The request related to establishing a common understanding of current capacity, including all available surge and bed occupancy for input into NPI decisions and the slides were to be presented at a meeting with the PM on 16 November 2020.

404. On 23 November 2020, the Prime Minister made a statement setting out the Government's Winter plan **[SP/0216 – INQ000087474]**. The plan reintroduced a modified tiered system from 2 December 2020 and special measures for socialising during Christmas. The main differences from the previous tier system were:

    a. The business rules applicable to hospitality businesses in tier 2 were those which had been applied in tier 3 prior to the national lockdown. Under the new system hospitality businesses in tier 3 were required to close and move their business to takeaway only.;

    b. Hospitality businesses permitted to remain open had to close at 11pm and not 10pm as permitted under the previous tier system; and

    c. Organised large events (elite sport events, live performances) could take place in tiers one and two (with restrictions). Previously, organised events were not permitted in any tier.

405. Work on the Government's Winter Plan had begun prior to this announcement being made and in the lead-up to 23 November 2020, there had been a number of meetings in which NHS England were involved. For example, on 22 October 2020, SAGE met (attended by NHS England's National Medical Director) and amongst other things, specifically discussed winter modelling and seasonality **[SP/0217 – INQ000087467]**. At this point, SAGE considered that several factors were likely to combine to exacerbate the epidemic during winter, including the continued susceptibility of the population; the direct effect of environmental variables (such as temperature and UV light); the indirect effect of poor weather leading to people spending more time indoors; and other seasonal changes in contact rates due to school opening and

seasonal festivals. Changes in susceptibility were likely to have a greater impact on transmission than environmental factors (high confidence).

406. SAGE considered that the direct effect of winter environmental conditions on transmission was likely to be small. Winter conditions would increase viral persistence on outdoor surfaces due to reduced temperatures and UV levels; in unheated indoor environments due to lower temperatures; and in day-time outdoor aerosols due to reduced UV levels (high confidence). However, the outdoor environment was not dominant in SARS-CoV-2 transmission, and indoor environmental conditions were more constant.

407. On 3 December 2020, Cabinet Office's C-19 Secretariat formally commissioned DHSC to work with NHS England colleagues to jointly prepare and present a paper on the NHS's capacity over the January to February 2021 period. The paper was to be discussed at the COVID Operations Committee meetings scheduled for Monday 14 December 2020. The brief set out the following:

"With an expected peak of non-Covid demand in England in January 2021, and a potentially increased Covid demand following festive period easements, the Committee will seek to understand the NHS's preparedness for the first 8-12 weeks of 2021. This meeting will focus on the NHS's preparations for, a reasonable worst case scenario, which will require the NHS to stand up and be in a position to make best use of additional acute capacity in response to increased demand, and its plans to make effective use of, and sustain, NHS workforce capacity over this period. The aim of this meeting is for Ministers to:

i. *Understand the maximum potential acute (NHS and non-NHS) capacity available over this period, and how many beds this additional capacity provides by region;*

ii. *Understand the NHS' plans for ensuring that this available capacity is used fully and effectively; including through the consistent use of best practices and management of variation;*

iii. *Understand the NHS's plans for staffing any additional capacity over this period; and*

iv. *Understand the potential impacts on the delivery of core NHS services, especially on the workforce, by interdependent events and*

programmes taking place over winter, including deployment of the national Covid-19 vaccination programme, and rollout of mass staff testing." **[SP/0218 – INQ000087476]**

408. The meeting took place on 14 December 2020 and was attended by NHS England's Chief Operating Officer. The slide deck set out that the Wave Two peak of 14,712 on 23 November 2020 had dropped off slightly, but it was starting to rise again. The current number of Covid-19 inpatients was only currently 1,000 lower than this peak and it was expected that a potential Wave Three would see an extra 15,000 covid patients on top of current levels meaning that Covid occupancy would far exceed levels seen in Wave One. **[SP/0219 - INQ000087477; and SP/0220 - INQ000087478]**

409. On Monday 14 December 2020 it was announced by the SSHSC that London would be moving to Tier 3 from Wednesday 16 December 2020, owing to rising numbers of Covid cases.

410. On 19 December 2020, Tier 4 was announced and came into force at 7am on 20 December 2020 across London and large parts of the South East of England. The tier 4 rules were broadly the same as those applied during the national lockdown imposed in November 2020. In tier 4 people were required to stay at home unless they had a reasonable excuse to leave. All non-essential retail and hospitality businesses were closed (apart from click and collect, delivery and takeaway services) and people could only meet with one other person in certain public outdoor places.

411. On 4 January 2021 the Prime Minister announced a **third national lockdown** for England. The Government made Amendment Regulations on 5 January 2021 to the existing tier system. The changes came into force at midnight on 6 January 2021, although people were urged to stay at home from 4 January 2021. On 22 February 2021 a four step plan was published for easing the third lockdown which is outlined below. On 8 March 2021 people were permitted to leave home for recreation with their household and/or support bubble or with one person from outside their household.

412. The 4 step plan was as follows:

    a. *Step 1 from 29 March 2021* - International travel ban still in place, people were prohibited from meeting people not in their household or support bubble inside, outdoor gatherings involving more than six people were prohibited

unless exempted. Non-essential high street businesses remained closed (except click and collect, takeaway and delivery);

b. *Step 2 from 12 April 2021* - International travel ban still in place, people were prohibited from meeting inside with people not in their household or bubble, outdoor gatherings involving more than six people were prohibited unless exempted. Non-essential retail and personal care services were permitted to re-open. Hospitality venues could offer food and drink for consumption outdoors;

c. *Step 3 from 17 May 2021* - Outdoor gatherings of over 30 people prohibited, indoor gatherings involving more than six people were prohibited unless exempted. Hospitality could reopen inside for tale service only. Nightclubs and sexual entertainment venues had to remain closed; and

d. *Step 4 - no earlier than 21 June 2021*- involved removal of all legal limits on social contact. Re-opening of nightclubs and easing of restrictions on large events and performances. On 14 June the Prime Minister announced this was delayed until 19 July 2021 following concerns about the Delta variant.

413. The first Covid-19 vaccination outside of a clinical trial took place on 8 December 2021. This signalled the start of a new phase of the pandemic, which lasted until 23 February 2022, as was the point at which the approach to managing the pandemic began to move from being predominantly reliant on NPIs to the use of Covid-19 therapeutics; the rapid take up of vaccines has allowed the withdrawal over time of a range of NPIs, and drug treatments have become increasingly available.

13. NHS England involvement in impact on at-risk and other vulnerable groups

414. We have been asked to describe the extent to which NHS England was involved in any assessment of how emergency response measures, including NPIs, would impact upon at-risk and other vulnerable groups, including those with a protected characteristic.

415. We have provided further detail below on NHS England's role in two specific areas that engage issues falling within scope of Module 2: shielding and detained settings. More generally, in the early stages of the pandemic, in March 2020, there were various points of contact between NHS England and others where contributions were requested of NHS England, including:

a. DHSC requested input from NHS England and BEIS on advice to SSHSC on the "isolate to protect" advice **[SP/0221 - INQ000087273; and SP/0222; INQ000087274]**;

b. Jenny Harries, Deputy CMO, convened a meeting with both NHS England and PHE to discuss a definition of at-risk groups / clinical conditions for consideration in social distancing policies **[SP/0223 – INQ000087278]**;

c. Contributing to proposals for non-pharmaceutical interventions **[SP/0224 - INQ000087279; and SP/0225 - INQ000087280]**

d. Input into the definitions of clinically high risk and clinically at risk i.e. who would follow strict social distancing and who should work from home if they can respectively; and

e. Contribution to the agreement of clinical risk groups.

416. A further example of this later on in the pandemic, was the NHS England National Medical Director being invited to the Four Nations telephone call to discuss Group 6 JCVI vaccination priority groups **[SP/0226 - INQ000087488; and SP/0227 – INQ000087489]**.

417. The disproportionate impacts of Covid-19 on particular groups are now very well recognised. It is necessary to have an accumulation of cases to understand who it is affecting; early evidence from China was that it was primarily adults who were affected but at that stage there was a lack of scientific literature on the impact of Covid on ethnic minority groups. As April 2020 approached it became clearer that ethnic minority groups were being impacted disproportionately. NHS England's National Medical Director led an item at CMO's senior clinicians' meeting on 9 April 2020 on the impact of Covid on ethnic minorities **[SP/0228; SP/0229; SP/0230; SP/0231; SP/0232; SP/0233 – INQ000087387; INQ000087388; INQ000087389; INQ000087390; INQ000087391; INQ000087392]**, during which the Chief Nursing Officer raised the issue of ethnic minority staff deaths. The CMO asked PHE to lead on looking into the wider issue of the impact of COVID on the different **[SP/0234; SP/0235; SP/0236; SP/0237; SP/0238; SP/0239 – INQ000087396; INQ000087397; INQ000087398; INQ000087399; INQ000087400; INQ000087401]**.

Shielding

Overview

418. On 22 March 2020, the Secretary of State for Housing, Communities and Local Government advised people in England, who faced the highest risk of being hospitalised by the Covid-19 virus, to 'shield' themselves and stay at home. This became known as the 'National Shielding Support Programme', but we will use the phrase 'shielding programme' or 'programme' in this statement for short. Individuals falling within the scope of the programme became known as Clinical Extremely Vulnerable ("**CEV**"). To note that different government policy applied to CEV and 'high risk' cohorts, with the former advised to shield whilst the latter was not. NHS England had input to the clinical definition of each, but the focus in this statement is on the CEV in light of the formal shielding programme applicable to them.

419. The purpose of this section is to set out NHS England's involvement from a Module 2 perspective i.e. with focus on its input to key decisions taken by central government. Broad responsibilities can be summarised as follows:

    a. The Ministry of Housing, Communities and Local Government ("**MHCLG**") oversaw cross-government actions to identify, contact and support individuals considered clinically extremely vulnerable to Covid-19. DHSC and MHCLG provided Ministerial oversight of shielding through the Health Ministerial Oversight Group. Both organisations MHCLG developed and led the programme through chairing the National Shielding Programme Steering Group, and National Shielding Programme Delivery Group.

    b. The CMO for England and DHSC were responsible for formulating the shielding programme policy, on the basis that it fell under their collective duty under section 2A NHS Act 2006 to protect public health. This included advice and decisions on who should be considered CEV, the definition and scope of what were considered shielding measures, the length of time for which they should be observed as well as the mechanisms through which CEV individuals would receive shielding advice were communicated; together they led the **Clinical Review Panel for shielding** and **Shielding Oversight Group, and DHSC chaired the Risk Stratification Implementation Group** which oversaw development and implementation of the new Covid-19 risk prediction model tool; and

    c. NHS Digital was responsible for creating and implemented a 'shielded patient list' ("**SPL**"), which was a national database of all individuals identified as CEV based on definitions agreed by CMO.

420. NHS England's role in respect of the shielding programme was to:

a. Work with Government departments and NHS Digital to manage the operational production and distribution of communications outlining Government shielding advice to patients on the SPL. NHS England produced and made administrative arrangements, via the NHS Shared Business Authority, to send NHS England-branded letters informing individuals if they had been added to or removed from the SPL;

b. Provide direction to NHS organisations and GPs on the policy and operational requirements of the shielding programme, such as instructing them to identify patients who should be added or removed from the SPL;

c. Develop guidance for the NHS on the provision of healthcare to CEV individuals during their shielding period;

d. Commission the free medicines delivery services available to shielding patients; and

e. Oversee the NHS Volunteer Responders ("**NHSVR**") service, which prioritised support for shielding patients.

Lead up to formal announcement of shielding programme

421. As part of its emergency preparedness work, NHS England wrote to the members of its Clinical Reference Groups ("**CRGs**") on 27 February 2020 **[SP/0240 – INQ000087260]**. CRGs provide clinical advice and leadership for specialised services, such as cancer, and are comprised of clinicians, commissioners, public health experts, patient and public voice representatives as well as professional associations. The letter sought:

a. A list of diseases which would result in patients being at higher risk of developing severe disease as a result of Covid-19;

b. An average grading of the severity of that risk for each patient group; and

c. A list of medicines recognised to be causative or indicative of immunosuppression.

422. The intention, at that time, was for that information to then be used to "*interrogate GP records and provide practices with a list of individuals who may then disseminate*

advice and support at the appropriate time if Covid-19 escalate." In early March 2020 NHS England was asked to contribute to the definition of what would be considered CEV, and also to provide input on the emerging isolate to protect guidance. Both of those matters ultimately remained the responsibility of the DCMO, albeit NHS England did provide detail of operational models of support which could be provided to individuals at risk. Supported by the CRG, on 10 March 2020 a draft definition of 'highly vulnerable' was provided to DHSC for consideration **[SP/0241 - INQ000087284; SP/0242 - INQ000087285; and SP/0243 – INQ000087286]**.

423. On 14 March 2020 Jenny Harries, the DCMO, wrote to a number of organisations, including DHSC, PHE, NHS Digital, the CQC and NHS England, outlining an *"urgent commission"* to help identify the CEV groups **[SP/0244 - INQ000087312; and SP/0245 – INQ000087313]**. That email identified a number of workstreams, primarily for wider DHSC, PHE and NHS Digital.

424. On 16 March 2020, the Government published guidance advising that those groups at increased risk of severe illness from Covid-19 should follow social distancing measures (and included a list of clinical criteria to identify those groups). On 18 March 2020 the UK CMOs agreed the clinical criteria for CEV individuals who would be advised to shield **[SP/0246 – INQ000087321; and SP/0247 - INQ000087327]**, and on 20 March 2020 NHS Digital produced the first iteration of the SPL (which comprised 867,789 patients). On 21 March 2020, PHE published guidance on shielding measures for people at the highest risk of severe illness from coronavirus. People in this category were advised to stay at homes at all times and avoid any face-to-face contact for a period of at least 12 weeks.

425. NHS England sent out two letters on 21 March 2020, to the following recipient groups:

    a. All NHS Medical and Nursing Directors, asking them to identify and contact high risk patients in accordance with the CMO-agreed criteria **[SP/0248 – INQ000087449]**; and

    b. All GP practices to advise on the process by which high-risk patients would be contacted, and provided advice on how to support any individuals identified as CEV (following up a letter from the CMO and NHS England's National Medical Director) **[SP/0249 – INQ000087333]**.

426. The shielding programme was then formally announced by MHCLG on 22 March 2020.

427. On 3 April 2020 NHS England and the DCMO wrote jointly to GPs with an update regarding Government shielding policy **[SP/0250 – INQ000087374]**. GPs were asked to disregard the letter of 21 March 2020 in which they were asked to identify additional patients considered to be at highest clinical risk, and that a list of individuals who had self-identified would be shared with them the following week before reviewing to determine whether or not they should be included.

428. Throughout April, May and into June 2020 NHS England remained engaged with central government in relation to the shielding programme, either through direct contact with the DCMO, DHSC, MHCLG or other central government bodies or the governance groups identified above in this section. NHS England's input during this time primarily focussed on operational issues arising out of implementation of the shielding policy, including confusion amongst the patient group as to whether they fell within the criteria or not, as well as the operational pressure on primary care.

429. On 22 June 2020 DHSC and MHCLG wrote to all shielding patients to confirm the relaxation of social distancing restriction, phased to take effect in more limited fashion from 6 July 2020 and then more fully, albeit not completely, from 1 August 2020 **[SP/0251 – INQ000087440]**.

Wave 2 onwards

430. On 5 November 2020, alongside the announcement of new national restrictions, the Government advised all individuals on the SPL not to attend work or school. On 27 November 2020 the Government advised those on the SPL that they should follow the new local tier system in effect from that date. On 21 December 2020, the Government announced that those on the SPL should shield in those areas placed into Tier 4 (South East and parts of the East of England, as well as London).

431. The national shielding programme was re-introduced by the Government on 4 January 2021, at the same time that a new national lockdown had been implemented.

432. Government shielding advice was paused on 1 April 2021, and then all CEV individuals were advised to follow the same guidance as the rest of the population from 19 July 2021.

Detained Settings

433. In detained settings where NHS England has a statutory responsibility to arrange for provision of health and other services, the Health and Justice team had a close

understanding of various protected and other characteristics of the issues affecting those populations, as well as the continuing and specialised nature of the treatments they need.

434. The service deals with all ages of prisoners from all backgrounds and is experienced in meeting those needs, in challenging service delivery settings. Throughout the pandemic, the team had an effective relationship with a wide cross section of the justice system from the Prison service to the CPS to the Police and Judiciary all under the umbrella of a separate Gold Command arrangement led by a Minister from the Ministry of Justice ("**MOJ**") **[SP/0252 - INQ000087422; and SP/0253 – INQ000087490]**. This built on pre-pandemic partnering relationships between NHS England and the MOJ and HM Prisons service.

435. Based on that relationship the Health and Justice team supported the dedicated NHS staff from all providers who delivered health services in detained settings throughout the pandemic to all detained estate residents from Children and Immigration Detention Centres to prisons for all ages. There were particular issues about access to vaccinations in these settings but we understand that the Inquiry's intention is that they should be addressed in later modules.

14. Ventilators

436. We have been asked to discuss the availability, utilisation and capacity of ventilators before and during the pandemic. Ventilators are machines that assist or replace a patient's breathing by moving pressurised air with adjustable concentrations of oxygen in and out of the lungs. Patients with Covid-19 who are admitted to hospital often have problems breathing. If their blood oxygen level is low, the hospital may give them standard oxygen therapy using a loose-fitting mask, non-invasive positive pressure ventilation (oxygen under pressure, through a sealed mask) or invasive intermittent positive pressure ventilation (mechanical ventilation which takes over the patient's breathing via a tube in the mouth, nose or throat).

437. As ventilators require a supply of oxygen, considerable attention at the start of the pandemic was given to the continuity of supply of appropriate levels of oxygen to hospitals and the ability of the infrastructure of hospitals to cope with the increased demand for oxygen being piped to the relevant bedsides. The National Oxygen Infrastructure Programme (NOIP) was established as a sub cell of the Oxygen and Ventilation national Covid-19 cell (operated by DHSC). The NOIP team was a multi-agency forum that worked 'virtually' and collaboratively – working across

organisational and commercial boundaries - to assess system impact and determine national, regional and local NHS Trust medical oxygen requirements in response to the pandemic.

438. In early March 2020, an urgent national data collection across all NHS Acute Trusts in England was initiated to understand their oxygen infrastructure and bed capacity that was capable of delivering bed-head piped medical oxygen supply. Multi-disciplinary regional teams undertook surge planning exercises to explore how bed capacity could be increased, alongside immediate resilience issues, where it needed to be increased and by when. Where critical resilience issues were identified, these were collaboratively addressed as urgent priorities. With limited capacity in the supply chain, the NOIP team carried out further analysis which detailed all NHS Trust's proposed oxygen infrastructure projects, and the beds that could be created by them. This was presented back to regions who prioritised the schemes based on their surge capacity modelling exercises. A shortlist of urgent projects was drawn up, along with the Nightingale projects. The first phase of these projects delivered oxygen to over 3,000 additional beds at acute hospitals in just over 4 weeks with a further 1,547 in various stages of completion. Any one of these projects would have normally taken over 16 weeks to deliver. However, due to the close collaboration of the organisations from planners, designers and installers, the industry was able to respond very quickly. More detail on NHS England's actions in respect of oxygen supplies can be provided if required.

Numbers of ventilators available across the NHS in England

439. Provisional assessments, reported on 1 February 2020 and 1 March 2020 of critical care capacity and mechanical ventilators, indicated 3,500 critical care beds and the ability to double this to 7,000 by using anaesthetic recovery rooms and other areas, and approximately 7400 available mechanical ventilators. On 27 February, NHS England launched a further assessment of the preparedness of the NHS to provide critical care capacity in response to people suffering from Covid-19, including ventilator availability. This reported back in the first week of March. The total number of adult NHS acute trust ventilators available was reported as 4,954 and a further 1,362 could be brought online. An additional 878 paediatric ventilators were available with an additional 163 that could be brought online. The total number was 7,357.

440. On 6 March 2020, NHS England's Strategic Incident Director sent a note for the attention of all NHS Trust Chief Executives and Medical Directors indicating that they

now needed to prepare to maximise their capacity to provide Intermittent Positive Pressure Ventilation (IPPV) and non-invasive ventilation for patients who require respiratory support as a result of Covid-19 infection. The letter indicated that steps should be taken to ensure that all machines which are able to provide IPPV were serviced and ready for use - this includes anaesthetic machines used in operating theatres and anaesthetic rooms, and ventilators used in critical care, radiology, emergency departments and other remote sites in the hospital **[SP/0254 - INQ000087275; and SP/0255 – INQ000087276]**. It should also include returning to safe service any stood down and reserved machines.

441. As of 20 March 2020, the NHS had 6,500 mechanical invasive ventilators, with a further 1,500 that could be brought online at surge. There were also nearly 1,200 ventilators provided in private hospitals for use by the NHS.

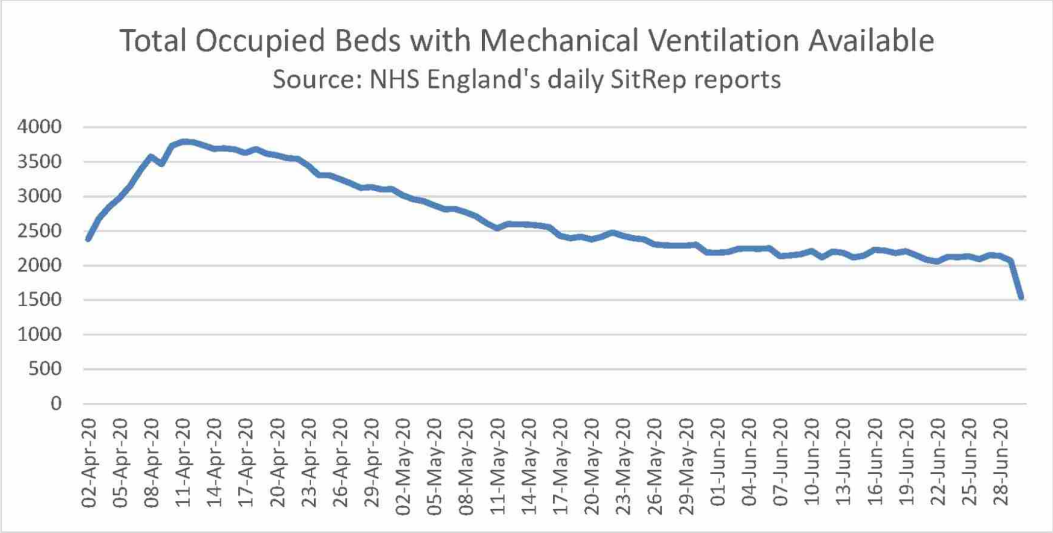
442. As at this date, the NHS had centrally bought an additional 6,600 mechanical ventilators which were to arrive imminently.

443. On 5 April 2020, it was stated that 9,000 ventilators were available in England.

444. As at 6 April 2020, there were 9,865 mechanical ventilators available to the NHS across the UK, with approximately 600 of those being in the devolved administrations **[SP/0256 - INQ000087380; and SP/0257 – INQ000087381]**.

445. By the end of June 2020, around 24,000 ventilators were available, rising to 30,000 by 3 August 2020 **[SP/0258 – INQ000087456]**.

446. The utilisation of ventilators is indicated by the graph below that shows the total number of V beds (i.e. those with mechanical ventilation available) that were occupied with Covid or non-Covid patients. This data was recorded daily within NHS England's sitrep reports from 2 April 2020 onwards. A breakdown of this data by geographical area and by Covid and non-Covid patients is available.



Modelling ventilator demand

447. Modelling of projected demand for ventilators was key to assessing whether enough ventilators would be available to NHS patients that required ventilation. NHS England was responsible for the development of planning scenarios which, on the direction of the Government, were based on SAGE/SPI-M-O/Imperial RWCS.

448. In early February 2020, while understanding of the virus and disease was still changing, SAGE/SPI-M-O recommended that initial modelling followed the RWC for pandemic flu. Some early indications were emerging from China which gave a first indication of the possible unmitigated impact. Early model parameters on infection, hospitalisation and ventilated bed rates translated to an estimated peak demand for ventilated beds of 59,000.

449. A new RWC was agreed by SAGE at their 27 February 2020 meeting and confirmed/ refined on 1 March 2020 during a workshop involving members of SAGE and SPI-M-O, with analysts from DHSC and NHS England in attendance. The new RWC translated into a peak demand of 90,000 ventilated beds.

450. On or around 5 or 6 March, SSHSC asked NHS England's Chief Commercial Officer to look at the supply position with ventilators to ensure NHS needs were being communicated effectively to DHSC. NHS England's Chief Commercial Officer subsequently became the SRO for the Oxygen Supply and Distribution Cell. From 6 March 2020, NHS England's Chief Commercial Officer had daily progress calls, including on ventilators, with DHSC officials.

451. On 15 March 2020, the Prime Minister asked leading manufacturers to build medical ventilators to deal with the anticipated demand during the pandemic. NHS England's Chief Commercial Officer had a call with the Prime Minister about ventilators when he launched the appeal. Weekly meetings were then arranged with the Prime Minister and a spreadsheet was created to track ventilators coming into the country, as this affected decision-making on lockdowns.

452. On 17 March discussions continued at the Cabinet Office with the Chancellor of the Duchy of Lancaster and Minister for the Cabinet Office and others to discuss ventilators. The team working on ventilators was well-structured and experienced. The main additional contributions from NHS England via the involvement of its Chief Commercial Officer was in relation to the additional relevant NHS data she obtained and the NHS perspective she provided to the team. She also helped develop tools for allocation of assets and supplies.

453. Also on 17 March 2020, new evidence from SPI-M-O gave a lower overall hospitalisation rate but with a higher proportion of those requiring mechanical ventilation. Models were beginning to emerge that estimated more systematically the impact of different mitigations. With no mitigations, this model had a peak demand for ventilated beds of 138,000. The output also included a run, including 75% compliance with social distancing, which reduced the estimated peak demand for ventilated beds to 2,400-11,300, depending on what other mitigations were implemented alongside it. The main planning scenario at the time was the Imperial-modelled RWC with a combination of the following mitigations: home isolation, household quarantine and wider social distancing. This scenario was associated with peak demand for ventilated beds of 11,300.

454. On 23 March 2020, cases were rising rapidly and Imperial provided updated advice on the two week lag of mitigations on hospitalisation rates. Based on this, NHS England issued a set of regional scenarios that were calibrated to give a doubling of hospitalisations every three days between 23 March and 5 April 2020, before gradually merging with the detailed runs from Imperial, based on different levels of compliance with social distancing. The modelled levels of compliance all had peak demand for ventilated beds of around 17,500 in mid-April 2020, driven by infection growth before lockdown was announced, but then had very different rates of decrease. For the end of April, the models predicted demand of between 6,300 and 11,700.

455. A briefing to NHS England's Chief Executive as preparation for a meeting with the Prime Minister on 23 March 2020 **[SP/0259 - INQ000087334; SP/0260 - INQ000087335; and SP/0261 – INQ000087336]** included the estimated number of patients in London requiring mechanical ventilation against the NHS surge capacity, with the former increasingly rising above the latter from that date.

456. On 31 March 2020, two scenarios of future infection growth were provided by Imperial and via the SAGE secretariat labelled "Good compliance" and "Poor compliance", with reference to adherence to social distancing rules. By early April, NHS providers had reported a reasonable time-series of sitrep data, allowing model outputs constrained to these levels. These showed that concerns of an initial period of three-day doubling were abating. When fitted to the sitrep data up to 1 April 2020, the latest good compliance scenario had a peak in the second week of April of 2,200 ventilated beds. The poor compliance scenario had a peak of around 4,000 ventilated beds in early May.

457. By late April comparisons between the sitrep data and planning lines showed the sitrep data trend falling between the good and poor compliance curves. An updated set of planning curves based on a 'blended curve' were produced and shared with Regions on 1 May 2020 to support local planning. The blended curve combined and fitted the Imperial good and poor compliance scenarios to sitrep data.

Efforts to obtain more ventilators

458. NHS England was responsible for the allocation of ventilators within England. DHSC was responsible for sourcing and procuring ventilators (and associated consumables) and for the management of commercial relationships with suppliers and manufacturers, except in relation to the Cabinet Office's ventilator challenge which the Cabinet Office oversaw.

459. There was close working between DHSC and NHS England. From 1 February 2020, NHS England representatives became part of the PPE operations team including DHSC and the Ministry of Defence/Navy. From 6 March 2020, NHS England's Chief Commercial Officer was the NHS England lead on ventilators. She started liaising immediately with officials at DHSC via the Oxygen and Ventilation national Covid-19 cell on multiple issues relating to obtaining ventilators. DHSC had been chairing emergency supply meetings for the previous six weeks before 6 March 2020 and DHSC had started efforts to obtain ventilators by this time.

460. Throughout March and April 2020, DHSC communicated with NHS England via daily calls and emails on all of the ongoing specific arrangements to source ventilators through multiple avenues. The latest demand modelling was discussed along with timings of deliveries of additional ventilators into the country. There were also discussions on payment for and utilisation of ventilators ordered by individual Trusts, which were to be held in central stock warehouses, to be allocated to regions that were evidencing high demand.

461. To assist the Inquiry, we set out below a brief overview of DHSC's and Cabinet Office's efforts to procure new ventilators as well as NHS England's efforts to arrange for the use by the NHS of ventilators located within independent sector healthcare provider premises in England. More detail is available on this if required.

462. From 3 March 2020, DHSC were seeking to secure as many ventilators as possible through existing routes **[SP/0258 – INQ000087456]**. The Government decided from 13 March 2020 to pursue all available options, with its strategy being to buy as many ventilators as possible from both UK and global suppliers as part of a wider 'oxygen, ventilation, medical devices and clinical consumables' programme (with contracts let by DHSC as part of this wider joint programme with NHS England)[19].

463. From 13 March 2020, the Cabinet Office worked with the industry to develop new, or modify existing ventilator or anaesthesia machine designs to meet standards that the MHRA developed for rapidly manufactured ventilators; and to increase manufacturing capacity to build each design at a much greater scale than usual by securing new factory capacity for each design, managing global supply chains and ensuring regulatory approvals were in place[20] **[SP/0258 – INQ000087456]**.

464. On 16 March 2020, NHS England entered into formal discussions with a number of independent sector healthcare providers in England that collectively represented 80% of the acute overnight capacity within the private hospital sector in England. The discussions were about enabling the NHS to utilise the providers' premises, staff and equipment for the provision of healthcare services to NHS patients. Processes were approved for transferring equipment, including ventilators, from these premises. On 20 March 2020, NHS England considered at its NIRB meeting **[SP/0264 – INQ000087347]** the potential additional ventilator capacity that could be provided from the independent sector. Utilisation of premises, equipment and staff commenced

[19] Further detail is set out in the NAO's 30 September 2020 report on ventilators.
[20] Further detail is set out in the NAO's 30 September 2020 report on ventilators.

around 21 March 2020. At its NIRB meeting of 30 March 2020 **[SP/0265 – INQ000087373]**, NHS England considered the approval process for transferring equipment to and from independent sector providers to support Covid-19 work. The need for this process to enable rapid and agile decision making was highlighted.

Incidents in which there were substantial issues as to ventilator capacity during this period

465. By late March 2020, we were receiving emails from colleagues in NHS England's regional teams expressing concerns that projected future demand for ventilators in their regions was exceeding the available supply. There were also emails stating that the allocation of the central stock of ventilators to regions was inequitable.

466. There were reports that some of the newly obtained ventilators sourced directly from China had issues with connections to other equipment used in English hospitals e.g. the ventilator tubing was not compatible with the wall sockets **[SP/0266 – INQ000087462]**.

467. On 31 March 2020, two NHS Trusts reported that they had run out of Continuous Positive Airway Pressure ("CPAP") machines **[SP/0267 – INQ000087372]**. NHS England, after confirming that Non-Invasive Ventilators ("NIV") were acceptable, liaised with the Cabinet Office to arrange for a delivery from the central stock held at the warehouse at MOD Donnington.

468. On 1 April 2020, NIRB was provided with an update on ventilator capacity and the ongoing work to address concerns and requests that had been raised by regional teams **[SP/0268 – INQ000087376]**.

469. Over the following days, more NIVs were delivered with 253 mechanical ventilators being delivered to five NHS Trusts in the Midlands area on or around 4 April 2020 **[SP/0269 – INQ000087375]**.

Whether there was a sufficient number of ventilators during this period for all patients in NHS hospitals in England (other than Nightingales) who required use of ventilators

470. NHS England is not aware of any point when a patient who needed a ventilator was unable to get one.

471. From 17 March 2020 onwards, DHSC circulated the Oxygen and Ventilation Situation Report **[SP/0270 - INQ000087358; and SP/0271 – INQ000087359]** - a spreadsheet

updated daily setting out updates on various workstreams relating to ventilator procurement, including conventional procurement (new deals with suppliers, manufacturers and intermediaries), the Cabinet Office's ventilator challenge, ventilator consumables and the "PO to Ward" process (how to distribute procured ventilators and manage trust engagement processes). Recipients of these sitreps included NHS England officials, as well as NHS colleagues in the regions and persons within other government departments.

472. On 2 April 2020, the National Ventilation Advisory Group ("NVAP") was established with regional representation. Calls were held daily (7 days a week) to challenge, review and allocate where required based on urgent clinical need. Frequency of meetings were altered over the next 18 months based on Covid-19 prevalence rates.

473. On 14 April 2020 (which is close to the peak of the initial wave), in acute hospitals with a type 1 A&E department, there were 6,557 available beds offering invasive ventilation of which 2,684 were occupied with Covid patients, 1,004 were occupied with non-Covid patients and 2,869 (44%) were unoccupied. In London, the worst affected region at the time, 22% of beds offering invasive ventilation were unoccupied.

474. Considering this across all NHS providers (i.e. acute hospitals with a type 1 A&E, other acute hospitals and community and mental health trusts), then on 14 April 2020, there were 6,818 beds offering invasive ventilation, available of which 2,849 were occupied with Covid patients, 1,031 were occupied with non-Covid patients and 2,938 (43%) were unoccupied.

475. From an NHS England senior governance perspective, regular updates on ventilator availability and capacity were provided to NHS England's NIRB. At its 20 March 2020 NIRB meeting **[SP/0264 – INQ000087347]**, NHS England emphasised the importance for clear guidance and criteria on the process for allocating ventilators to be made available as soon as possible. Updates were provided to NIRB meetings on 25 and 27 March 2022 on ventilator procurement **[SP/0272 - INQ000087537; and SP/0273 – INQ000087538]**. It was noted at the 27 March meeting that the key aim was ensuring sufficient oxygen and ventilator supply was available to equip all surge and hospital facilities across the country.

476. Ventilator availability was considered by NHS England at its NIRB meetings throughout April. On 8 April 2020, an update on current oxygen and ventilator supply was provided to the NIRB meeting. It noted that sufficient oxygen supply was in place to meet current demand across the regions. The potential to establish a mutual aid

arrangement between the seven regions to support the distribution of oxygen and ventilator supply was considered. Also on 8 April 2020, a communication from NHS England's Chief Operating Officer to regional directors stated "*The numbers also suggest that we will also have enough physical ventilators and associated equipment and supplies in the country*" **[SP/0274; SP/0275; SP/0276; SP/0277 – INQ000087383; INQ000087384; INQ000087385; INQ000087386]**.

477. As part of a focus on the Birmingham and Manchester Nightingale field hospitals, the 10 April 2020 NIRB meeting **[SP/0278 – INQ000087539]** considered the ongoing work on oxygen and ventilator capacity across the region to manage supply for the new and existing NHS facilities. On 15 April 2020 **[SP/0279 - INQ000087404]**, NIRB members considered the need to review the ventilator and oxygen capacity that could be deployed over the next six to twelve months at a regional and national level, the phasing of this and the potential risks to implementation. At the 24 April 2020 NIRB meeting **[SP/0280 – INQ000087421]**, the reported demand and capacity across the service and the regional variation in the number of ventilated patients were considered. The potential to carry out a retrospective clinical study of the impact of mechanical and non-invasive ventilation on Covid-19 patients was considered.

478. At the 11 May 2020 NIRB meeting **[SP/0281 – INQ000087541]**, there was a discussion on the reported reduction on admission rates for Covid-19 patients. NIRB members noted that current demand for ventilated, non-invasive ventilation and general beds with low flow oxygen could be managed within core NHS critical care capacity. On 29 July 2020 **[SP/0282 – INQ000087448]**, NIRB members considered a report on the proposed approach to strategic allocation of ventilators and associated equipment to regions.

15. Creation of Nightingale Hospitals

479. We have been asked to describe the rationale for the creation of the Nightingale field hospitals, together with details of when the decision to set up the Nightingales was taken, and any relationship between that decision and issues as to bed, care or ventilator capacity in NHS hospitals in England.

480. On 20 March 2020, NIRB considered the position in London **[SP/0283; SP/0284; SP/0285; SP/0264 – INQ000087329; INQ000087330; INQ000087331; INQ000087347]**. Based on the Imperial modelling, 455 ITU beds were likely to be required per million, population leading to a projected 4,000 critical care requirement for London.

481. The vision of what became the concept of the Nightingale Hospitals was largely conceived over the course of the weekend of 21 and 22 March 2020. This followed models that had already been deployed in other countries (e.g. China), and that at the point of conception, the scientific understanding and the experience of other countries indicated that there was likely to be a greatly increased need for ventilated beds and critical care, and the projections at this point suggested that the NHS in England would quickly run out of suitable facilities to treat patients. The Nightingales were therefore created as an insurance policy, which NHS England hoped never to use.

482. Historically, a Nightingale ward is a large open-plan ward that provides dormitory-style accommodation for hospital in-patients, rather than the bays which are now favoured in modern hospitals. It allows for easier observation of patients as there is no subdivision of the ward. Arenas and exhibition centres are vast indoor spaces with the ability to be easily reconfigured for many purposes (in theory, any purpose). The original Nightingale model was for a field hospital, to be used in extremis as critical care surge units for Covid-positive patients. The idea of field hospitals built on the emerging WHO recommendations that Covid positive patients should be treated separately and in separate facilities where possible.

483. The creation of the Nightingales was a separate scheme to the other attempts to increase the capacity of the NHS to treat patients with Covid-19. Once the idea of the Nightingale had been formed, NHS England needed to assess three key factors -; costs, authority to proceed, and who practically would be able to make this happen. Rough costings were initially produced to give the Government a general indication, following their steer that funding should not be the limiting factor at this point.

Government approval

484. On 23 March 2020, NHS England officials, including the London Regional Director, London Regional Medical Director, Chief Executive Officer and the Chief Operating Officer, attended a meeting with the Prime Minister SSHSC and a number of other Government ministers and officials **[SP/0286 - INQ000087337; and SP/0287 – INQ000087338]**. At the meeting, the Prime Minister was briefed that, based on the current trend, expected demand over the next two weeks for critical care beds in London would be 7,488. It was explained how the NHS would be able to surge its capacity in London, within its existing footprint, to a total of 1,555 staffed and equipped beds (Surge 1) over the next two weeks, and a further 1,955 (Surge 2) with

the introduction of radical staffing models never before used in the NHS. This would give a total capacity in London of 3,510 beds, and so, despite these extraordinary measures, the demand for critical care beds would still be overwhelmed on Monday 30 March 2020. This also factored in utilisation of 132 independent sector beds.

485. The group was advised that capacity could be expanded by establishing a Nightingale field hospital. This would see the creation of an additional 4,000 critical care beds in the ExCeL Centre in Newham. Together, implementation of all capacity initiatives would see a total of 7,642 beds available over the next two weeks.

486. The Prime Minister confirmed approval for the creation of the London Nightingale field hospital in the meeting on 23 March 2020.

London Nightingale – next steps

487. Following the meeting with the Prime Minister, NIRB was updated on 23 March 2020 that the Nightingale field hospital in London would proceed. NIRB considered the progress made and risks to delivery of the plan to establish an additional in-patient facility in London **[SP/0288 - INQ000087339; SP/0143 - INQ000087340; and SP/0289 – INQ000087357]**.

488. NIRB also considered the potential risk around ventilator capacity and the ability to both equip this facility and ensure sufficient supply in and outside of London, for Covid-19 related and non-Covid-19 related care, as well as the changes in clinical advice on the use of mechanical versus NIV for Covid-19 patients.

489. At the same meeting on 23 March 2020, NIRB also considered the approach to surge capacity planning across the other six regions. This included the timeframe for implementation in London and the other regions, taking into account the anticipated increase in Covid-19 cases in the coming weeks. NIRB requested that the London region develop modelling and plans to clarify and provide assurance on the approach at two, four, six and twelve weeks. NIRB members also requested that, drawing from the London region's approach, surge capacity plans should be developed by the other 6 regions.

490. NHS England announced the creation of the London Nightingale Hospital on 24 March 2020 **[SP/0290 – INQ000087578]**.

Expansion and governance

491. NIRB decided on 25 March 2020 **[SP/0291 – INQ000087356]** that the new facility in the Excel centre should be managed as part of Barts Health NHS Trust. Under this approach, the staff working at the hospital would be seconded into Barts Health NHS Trust and the hospital would be managed in accordance with the Trust's routine management processes.

492. Feasibility assessments on potential sites had begun on 24 March 2020, with support from the Ministry of Defence; consideration was given to sites similar to the Excel, as well as smaller facilities **[SP/0292 – INQ000087346]**. Ultimately, sites were chosen on the basis of their ability to create a "spine" of resilience in England, considering the outputs of a mapping exercise undertaken by the Ministry of Defence to determine where resilience was low. These further sites were considered by NIRB on 25 March 2020. Details of the selected sites were shared with the PM on 26 March 2020 **[SP/0293 - INQ000087350; and SP/0294 – INQ000087351]** which was followed by SSHSC Directions issued on 28 March 2020 which established the powers to commission the facilities.

493. On 27 March 2020, NIRB was provided with a further update on the Regional Surge Plan. Workforce was identified as a key issue, along with ventilators and medicines supply **[SP/0295 – INQ000087354; and SP/0296 - INQ000087355]**. Staff were being identified alongside a "call to arms" for volunteers, with staff expected to arrive on site at the London Nightingale to commence training the following day. A new Critical Care Staffing Model was proposed for all NHS London Trusts to be implemented immediately, along with the creation of the Greater London Workforce Hub, to allocate all staff groups into NHS and NHS Nightingale Hospitals, co-ordinated by Health Education England. Some Trusts were keen to surge into the Nightingale first before using their own facilities, mainly due to ageing estate issues. Those volunteers and staff seconded into the Nightingale were offered free accommodation, meals and transport between their accommodation and the Nightingale Hospital.

494. The proposed assurance process via the National Nightingale Assurance Panel was approved by NIRB on 17 April 2020 **[SP/0297 – INQ000087405]**. NIRB discussed the robust level of assurance provided through this process. It was noted that the proposals for NHS Nightingale Hospitals in the London, Midlands, North West and South West regions had been subject to this process. The process included estates, supplies, clinical (including a review of the clinical model and an in situ walk through) and legal domains, with papers then being presented to NIRB to consider whether to approve opening. Once the national assurance process has been completed, the host

Trust undertook their own assurance and notified the national team once this was complete before the first patient could be received.

Future use of Nightingales

495. Following the first wave, consideration was given as to whether Nightingales should remain in place, as a contingency against further waves. Discussions regarding the longer-term use of the capacity created by the Nightingale sites began in early April 2020 **[SP/0298 – INQ000087379; and SP/0299 - INQ000087393]**, leading to a paper which was presented to NIRB on 15 May 2020 **[SP/0300 – INQ000087431]** entitled "Future Use of Nightingales". This explained how the National Nightingale team had been working with each of the regions to progress and finalise details around future use of Nightingales. In general, regions were considering: (i) continuing to use their Nightingale capacity for either the approved clinical model or a different clinical model; (ii) putting their Nightingale into standby to re-open if required;, or (iii) de-commissioning the Nightingale in part or in full (currently only considered as a result of licence negotiation issues) **[SP/0301 – INQ000087425]**.

496. A further paper was brought to NIRB on 8 June 2020 **[SP/0302 - INQ000087435; and SP/0303 – INQ000087436]**. Indicative costs had been calculated for each site on standby and a range of stand-up scenarios based on utilisation of beds. The total standby costs on a monthly basis were approximately £8.86m, and stand-up costs ranged from £290m - £96.58m depending on the bed capacity utilised. As a result of the Nightingales already having been built and because modelling indicates that these facilities may be required in the RWCS, Regional Directors requested that the capacity of the Nightingales should be maintained through a potential second peak, winter pressures and recovery of other services. The Nightingales would, in these scenarios, provide valuable back up capacity which will be needed to manage Covid-19 and non-Covid-19 spaces, whilst longer term, more permanent capacity is developed within the healthcare system.

497. At that meeting, NIRB approved proposals to maintain Nightingale capacity as below:

    a. London Nightingale: Reduce capacity to 425 beds;

    b. Birmingham Nightingale: Reduce capacity from 1,200 to 850 beds;

    c. Manchester Nightingale: Maintain capacity of 633 beds;

    d. Harrogate Nightingale: Maintain capacity of 495 beds;

e. North East Nightingale: Maintain capacity of 460 beds;

f. Bristol Nightingale: Maintain capacity of 301 beds; and

g. Exeter Nightingale: Maintain capacity of 116 beds.

498. The use of Nightingale facilities continued to be adapted and changed throughout the response to the pandemic, based on ongoing learning and clinical need. Most of the Nightingales also provided other services depending on the need of local communities and local health systems. For example, Bristol provided ophthalmology diagnostic services and paediatric day-case procedures, Harrogate undertook CT scanning and Exeter diagnostic scanning, vaccine trials and nurse (OSCE) training. The Nightingales in London and North East also operated as mass vaccination centres. From June 2020-March 2021, the CFO and COO considered a strategic approach for the continued use of Nightingale facilities. This took into account a number of factors, including NHS England's duties to promote a comprehensive health service and arrange for the provision of sufficient accommodation and health services for patients; and its duty to exercise its functions effectively, efficiently and economically. The Nightingales were decommissioned for patient care from April 2021.

Nightingale Surge Hubs

499. In late 2021, NHS England took steps to establish surge capacity taking into account lessons it had learned from previous use of Nightingale facilities, new temporary structures were planned as an urgent means of improving NHS resilience in circumstances where high levels of staff absence due to Covid-19 infection, combined with the rapid increase in infections driven by the new Omicron variant and uncertainty over whether hospitalisation rates would be similar to previous waves, raised the prospect of a surge in hospital admissions exceeding what could be provided within current capacity **[SP/0304 – INQ000087576]**.

500. These new structures were generally referred to as Nightingale surge hubs. Based on learning the clinical model was different to the original Nightingale hospitals established in the first wave of the pandemic which were to be established off-site. It was decided that the surge hubs would be co-located with acute hospital sites, in order to provide better access to NHS resources and personnel as required; the

majority provided step-down beds to free up capacity for more acute admissions in the main building.

501. As set out in the Covid Hospital Emergency Capacity Principles and Procedures (developed from those used in NHS Nightingale facilities and in other resource constrained environments such as conflicts and natural disasters), the primary purpose of these hubs was to provide more bed capacity in extreme conditions and for the minimum time needed. There was an option to rapidly expand ward capacity by moving patients who no longer required frequent medical/ nursing input and could be managed by staff with essential care skills working to agreed protocols and under appropriate clinical oversight. The procedure envisaged that essential bedside care would be given by a wider pool of staff, including but not limited to healthcare students, therapists, and healthcare assistants. Trusts were invited to consider local volunteers with a health background, including St John's Ambulance volunteers and those willing to come out of retirement.

502. As part of broader steps to expand capacity, including the use of virtual wards and monitoring technology, on 21 December 2021, a multi-disciplinary team comprising NHS England, DHSC and commercial partners took steps to coordinate the establishment of Nightingale Surge Hubs. The initial temporary structures were each capable of housing around 100 patients, to be located in the grounds of eight hospitals across the country:

    a. North West – Royal Preston;

    b. North East and Yorkshire – Leeds, St James' site;

    c. Midlands – Solihull Hospital and Leicester General Hospital;

    d. East of England – Lister Hospital, Stevenage;

    e. London – St George's;

    f. South East – William Harvey Hospital, Ashford; and

    g. South West – North Bristol.

503. There was also potential to add further Nightingale surge hubs that could provide up to 4,000 "super surge" beds across the country.

504. NHS trusts were also asked to identify additional clinical space (such as mothballed wards or outpatient areas) and non-clinical space (such as training facilities) which could be used as super surge capacity. Around 5,100 potential additional bed spaces were identified through this route **[SP/0305; SP/306; SP/0307; SP/0308; SP/0309; SP/0310; SP/0311; SP/0312; SP/0313; SP/0314; and SP/0315 – INQ000087521; INQ000087522; INQ000087523; INQ000087524; INQ000087525; INQ000087526; INQ000087527; INQ000087528; INQ000087529; INQ000087530; and INQ000087531]**.

505. Hub construction expenses incurred by relevant NHS Trusts were directly reimbursed by NHS England using existing Covid-19 monies and mechanisms.

16. Intensive care

506. We have been asked to explain whether intensive care was rationed in NHS hospitals in England during the period from the beginning of March 2020 to 4 July 2020, and whether any triage tool or guidance was distributed for this purpose.

507. NHS England took no steps towards, nor issued any guidance intended to achieve, the rationing of intensive care either between 1 March 2020 and 4 July 2020, or at any stage during the pandemic. The reason that the NHS expanded capacity, and the reason why we worked closely with Government on the policies they introduced, was to ensure that we did everything we possibly could to avoid that situation.

508. It is important to understand that there is no single "bright line" test for when someone should be admitted to intensive care. The alternative to intensive care is not no treatment but other hospital treatment. In ordinary times, doctors and clinical staff have to make difficult decisions daily as to which patients would best benefit from intensive care treatment and which may remain in ordinary hospital care. The pandemic conditions did not disturb that principle.

509. Modelling from a number of sources done in the early stages of the pandemic, including those seen by SAGE, indicated that, in the event of the RWCS, demand for NHS services would exceed capacity even with implementation of surge capacity options. In light of that, the four CMOs and NHS England's National Medical Director considered it prudent to commission a piece of work designed to look at what an intensive care rationing tool would look like if it became necessary to adopt one. This was mindful that the expansion of intensive care, through surge capacity, is limited by

bed capacity – including appropriate staffing and the availability of oxygen and ventilators as necessary.

510. The work on a tool was undertaken by an independent, senior, experienced clinical group chaired by Professor Sir Jonathan Montgomery (who was the Chair of the Medical Ethics Advisory Group ("**MEAG**"), set up by DHSC). The result of their work, centred on a Decision Support Tool which assessed patients by means of a scoring system. By the time their initial work was concluded, it was clear that the introduction of NPIs had reduced the R rate to below 1 and therefore the concern that intensive care might be overwhelmed was receding. It was also apparent that a tool based on 'scoring' patients was likely to be disputed and that, without proper time for consideration and consultation, could potentially be viewed as the application of a rationing policy in a blanket, unfair or discriminatory manner **[SP/0316; SP/0317; SP/0318; SP/0319; SP/0320; SP/0321; SP/0322; and SP/0323 – INQ000087360; INQ000087361; INQ000087362; INQ000087363; INQ000087352; INQ000087353; INQ000087366; and INQ000087364]**.

511. Whilst the Decision Support Tool was sent to the Strategic Incident Director and the Chief Executive's office for consideration, the work was not progressed for the reasons noted above and therefore was never put through NHS England's governance processes for publication **[SP/0324 – INQ000087371]**.

512. NHS England resisted requests from a number of quarters for the publication of national rationing policy/ guidance, although we are aware informally that draft versions of the document may have been circulated amongst clinicians. That resistance was tested by Claimants in judicial review proceedings. The High Court refused permission for their challenge to proceed21.

513. The work done by the group did inform some subsequent discussions in academic circles but it was never published by or with the authority of NHS England.

514. The Sunday *Times* wrote a story on 25 October 2020 alleging that frail and elderly patients were denied care by clinicians in wave one of the pandemic. The NHS and other professional bodies, including NHS England, responded to that story on the same day **[SP/0325 - INQ000087543]** to confirm that those claims were *"demonstrably wrong"* and also that *"NHS hospitals did not run out of intensive care beds, so there was never a need to refuse anyone treatment on the basis of NHS capacity."*

[21] See *R(Thompson) v. SSHSC and NHS England* [2021] EWHC 478 (Admin)

17. Public communications

515. We have been asked to provide a high-level summary outlining to what extent NHS England, and individuals within NHS England, were involved in the provision of advice and briefings on the use of behavioural management, the use of public communications and the maintenance of public confidence in the response to the Covid-19 virus. We have been asked to include details of the involvement of NHS England in public communications by way of the government press conferences.

516. NHS England did not lead communications made to the general public by the Government, which had its own communications advisers and operations. It did however contribute to Government thinking about communications in respect of specific matters within its own sphere of responsibility and participated, for example, in briefings to the public in government press conferences. Its effort was focused on communications with public and the health system.

517. NHS England's communications team, led by its Director of Communications, engaged with the Government in a number of respects. Until about mid-February 2020, the team attended briefings organised by the 10 Downing Street press office at which it fed back, as requested on information gained through the health system, on matters such as hospitalisations. Thereafter, however, it was decided that those matters were operational rather than matters of communications, such that the attendance of the team was no longer required. Alongside such meetings, there were various ad hoc meetings and communications, including providing input into briefings delivered by the Chief Medical Officer and one early attendance at SPI-M-O.

518. Prior to mid-February 2020, much of the work of the communications team was directed to messaging for travellers arriving from China, preparing appropriate literature in English and Chinese and relaying to Government developing information on hospitalisations and deaths. Participation in meetings at this stage was directed to relaying information and receiving messages which needed to be passed back into NHS England, rather than advising government.

519. There were however some specific matters in relation to which NHS England expressed opinions to Government. Part of the messaging delivered to the public by Government included the slogan "Protect the NHS". As that message was being developed around the time of the first lockdown in March 2020, NHS England queried whether that might have the unintended consequence of deterring people from approaching the NHS for help but the message went ahead. Concerns grew about its

impact and there were further discussions. For example, on Sunday 5 April 2020, there was an exchange of emails between NHS England's Communications Director, the Cabinet Office, No. 10 Downing Street and DHSC, in which NHS England flagged concerns arising from the messaging under two broad headings, namely: (1) fear amongst staff; and (2) people who needed medical help – including from Accident and Emergency Departments - delaying presentation or staying away from NHS services completely. NHS England wanted to promote a message which encouraged people to come forward for medical help with non-Covid-19 problems **[SP/0326 – INQ000087377]**. By about July 2020, funding was authorised by the Cabinet Office for a campaign encouraging people to come forward. The importance attached by NHS England to encouraging patients who needed care to seek it was evident, for example, from: (1) NHS England's National Medical Director speaking at a No. 10 press conference in early April 2020 about the importance of people coming forward; and (2) the exhibited slide pack recording the information campaigns run by NHS England for the four years 2019/20 to 2022/23; the Open for Business campaign is seen as especially prominent in April to July 2020 as part of the Help Us Help You theme **[SP/0327 – INQ000087545]**.

Behavioural science

520. NHS England had a Behavioural Change Unit which operated until March 2021. Its purpose was to advise NHS England on the ways in which behavioural science affected the response of people to the pandemic and to inform NHS England's approach to its own communications where appropriate.

521. The Unit was not an adviser to Government; the Cabinet Office had its own experts in behavioural science. It did, though, have some contact with the Government throughout its period of operation.

522. For example, the Unit participated in a cross-Government behavioural science group, initially containing Public Health England and the Cabinet Office. One topic that the group discussed was the potential impact of NPIs on people vulnerable to abuse in the home, including children who might not be in school daily. Government messaging around the issue was taken up by the Home Office, which wanted to include the issue in a wider campaign about the safety of patients at home. The Unit was also a contributor to a plan for a broad wellbeing communications initiative, and in that connection had contact with DHSC, including the then Health Minister Nadine Dorries. An outcome of those discussions was a dedicated BBC platform for coronavirus news

and public information. Beyond, that, however, it was decided that the initiative was not something that NHS England should be taking forward; rather it was a matter for the Cabinet Office.

Vaccine communications

523. In late 2020 and 2021, the communications team worked on the messaging around the vaccine programme, the campaign in support of which was funded by the Cabinet Office. There were ongoing concerns about the impact of Covid-19 upon Black, Asian and other minority ethnic people, their likely take-up of the vaccine and indeed the take-up of the vaccine by the population a whole. The campaign supporting the programme deliberately gave prominence to the participation of ethnic minority people, both as those receiving the vaccine and those administering it.

Press conferences

524. NHS England staff attended government press conferences and presented alongside others including the Prime Minster, SSHSC, Chief Medical Officer and Deputy Chief Medical Officer.

525. In the period from 24 March 2020 to 19 January 2022, NHS England attendees and presenters were its National Medical Director, Chief Nursing Officer Chief Executive Officer, Medical Director of Primary Care, Chief Operating Officer and Regional Medical Director for London.

526. The daily press conferences were driven by Government usually with an overarching theme. NHS England provided spokespeople at the request of No.10 Downing Street or DHSC; the requests were typically made through communication teams or from private office to private office. The NHS England communications team would confirm who was available and most appropriate to the theme of the Government press conference. On occasions, Government would request a specific spokesperson. Attendance of NHS England spokespeople at Government press conferences did not mean that we endorsed everything that was said by other attendees. Although NHS England was not the driver of the content of press conferences, it did seek to use one early occasion to countermand publicly some of the rumours or conspiracy theories circulating to the effect that the pandemic was some sort of hoax.

527. The NHS England communications team would meet with NHS England spokespeople ahead of the Government press conference to discuss key issues and provide a verbal

brief. There would then normally be another briefing session at No. 10 with the relevant Minister, special advisers and other officials who were appearing. The NHS England communications team were sometimes but not always invited to attend these sessions.

528. The NHS England communications team provided ad hoc lines on key issues, with both DHSC and No. 10, for lobby briefings and press conference as requested.

18. Legislative measures

529. We have been asked to provide details of any advice or briefings prepared by NHS England for central Government on the public health and Covid-19 legislation and regulations that were proposed and enacted, and in particular any advice or briefings shared with or discussed with the Prime Minister, the Office of the Prime Minister, Cabinet and Cabinet Committees.

530. We are not aware of any NHS England briefings or advice on the public health and Covid-19 legislation and regulations being shared or discussed with the Prime Minister, the Office of the Prime Minister, Cabinet or Cabinet Committees. We are aware that the Coronavirus Bill was considered in 'Quad' meetings attended by the SSHSC and NHS England's then Chief Executive before the Bill became the Act. NHS England did make suggestions and proposals for legislative change at departmental level, and we have provided a high level summary of key suggestions and proposals in the following paragraphs. We have, as requested, focused on the early days of the pandemic (and in particular, the Coronavirus Act 2020) and have not sought to provide a comprehensive explanation of every proposal for change in the regulations or directions.

531. Before the pandemic, a draft Pandemic Influenza Bill had been drawn up in 2009 and revised in 2018. We understand that this formed the starting point for the emergency legislation enacted in response to Covid-19.

532. The first legislation made in response to the pandemic was the Health Protection (Coronavirus) Regulations 2020. These Regulations were published and enacted on 10 February 2020 and set out powers of detention related to individuals suspected of having coronavirus. To the best of our current knowledge, NHS England did not share any advice or briefings in relation to these with central Government.

533. The Coronavirus Act 2020 was passed on 25 March 2020, the Bill having been first introduced and published on 19 March 2020.

534. On 13 February 2020, DHSC sought input from NHS England in relation to a proposed clause on mandatory (flu) vaccination **[SP/0328 – INQ000087253; SP/0148 – INQ000087256]**, and NHS England officials attended a call to discuss on 17 February 2020 **[SP/0329 – INQ000087255]**, and by 20 February 2020, NHS England had been provided with a list of possible clauses **[SP/0330 – INQ000087257]**.

535. On 2 March 2020, NHS England's Chief Executive attended a meeting with Ministers in which it was agreed, as part of RWCS planning, to bring forward emergency legislation led by the DHSC.

536. Also on 2 March 2020, DHSC provided NHS England with a copy of the draft Pandemic Influenza Bill (as amended in 2018), with a steer that the new Coronavirus Bill would incorporate temporary amendments to the Mental Health Act 1983 **[SP/0331 – INQ000087289]**. These would offer flexibilities to practitioners and decision makers in terms of the number of doctors needed to make decisions, and extend some of the timelines applicable to statutory responsibilities as set out in that Act. NHS England provided suggestions around the easing of continuing healthcare assessment requirements in order to improve discharge flow. NHS England's Mental Health, Learning Disability and Autism team continued to engage at departmental level on the mental health provisions that were ultimately included in the Coronavirus Act.

537. On 4 March 2020, NHS England's Chief Executive attended a meeting of COBR(M) in which it was agreed that Government engagement with trusted stakeholders and operational partners on the proposed contents of the legislation should begin on a confidential basis to ensure the operationalisation of the Bill's powers.

538. NHS England was provided with an overview of the proposed Bill on 6 March 2020 and invited to comment, **[SP/0332 – INQ000087282]** and it was considered in a Quad meeting on 9 March 2020 attended by NHS England's then Chief Executive and the SSHSC **[SP/0333 – INQ000087283]**.

539. At 11am on 11 March 2020, NHS England's Chief Executive attended a meeting of COBR(M) in which the committee agreed that no further measures would be included in the Coronavirus Bill following that meeting.

540. At 4pm on 11 March 2020, NHS England's Strategic Incident Director attended a DHSC Covid-19 Oversight Board meeting, in which the agreed list of Bill provisions was on the agenda. DHSC provided an update on the Bill and it was noted that the date of the Bill had been agreed. **[SP/0334 - INQ000087318]**

541. Later the same day, 11 March 2020, NHS England's National Director – Primary Care, Community Services and Strategy sent DHSC a list of NHS England's 'legislative asks' **[SP/0335 – INQ000087301; SP/0336 - INQ000087302; and SP/0337 - INQ000087303]**.

542. The list set out 14 proposals, under the following headings:

a. *Enhanced capacity and flexible deployment of staff* – this included a proposal for temporary NMC registration of nearly qualified student nurses and proposals to relax the requirement that clinicians providing primary medical services (i.e. GP services) must be on the Performers' List (a list maintained by NHS England);

b. *Easing of legislative and regulatory requirements* – this included a proposal to suspend 'continuing healthcare assessments', with the aim of improving the flow of patients being discharged from hospital by eliminating delays caused by assessment of who should pay for continuing healthcare. It also included a proposal to suspend CQC inspections during the course of the pandemic, to alleviate pressure on NHS providers, and a proposal to enable NHS England to provide assistance or financial support directly to NHS providers of secondary (i.e. not GP, community pharmacy, dentists and optometry) care; and

c. *Managing the deceased* – this was a proposal to extend the role of advanced nurse practitioners in death certification.

543. In response, DHSC explained that the clause list for the Bill had been agreed before NHS England's submission, but in fact, several of the provisions suggested by NHS England had indeed been provided for.

544. In particular, the Coronavirus Act 2020 did provide for the suspension of CHC assessments to further the objectives of expediting safe discharge of patients from acute hospital beds, reducing the NHS continuing healthcare assessment burden in and out of hospital settings, and to releasing clinical and support staff to support the system to manage the Covid-19 outbreak. The explanatory notes to the Act explain that:

> *Currently, patients with social care needs go through a number of stages before they are discharged from hospital. For some patients, one of these stages is an*

NHS Continuing Healthcare (NHS CHC) Assessment, a process that can take a number of weeks. The Bill will allow the procedure for discharge from an acute hospital setting for those with a social care need to be simplified.

545. NHS England and DHSC colleagues also attended a Covid-19 Legal oversight group for Mental Health, Learning Disability and Autism, in which participants discussed key legal issues and NHS England provided advice which would have been relevant to the coronavirus legislation, and which informed guidance published shortly afterwards.

546. On 30 March 2020, NHS England duly published legal guidance for Mental Health, Learning Disability and Autism, and specialised commissioning services supporting people of all ages during the coronavirus pandemic. This provided an explanation of relevant provisions in the Coronavirus Act 2020, for the benefit of service providers in the Mental Health and Learning Disability and Autism sectors **[SP/0338 – INQ000087365]** as they responded to the outbreak.

547. On 9 April 2020, the NHS (Performers Lists) (England) Coronavirus) (Amendment) Regulations 2020 were made. These dealt with an issue raised by NHS England on 11 March 2020 – the relaxation of the requirement for GPs to be registered on a Performer's List maintained by NHS England. As the explanatory note to the Regulations explains:

Currently medical practitioners cannot provide general medical practitioner services for the National Health Service unless they are general medical practitioners on a performers list ("the medical performers list") maintained by the NHS Commissioning Board. These Regulations change so that medical practitioners who are not general medical practitioners can provide such services without being on the medical performers list if they are employed by or are registered with bodies designated by the Medical Profession (Responsible Officers) Regulations 2010, or are granted permission to practise as medical practitioners in hospitals owned or managed by such bodies. These are bodies such as NHS bodies, the Department of Health and Social Care and the armed forces.

548. On 11 August 2020, NHS England wrote to DHSC with proposals for further legislation to support ongoing reform of NHS continuing healthcare and hospital discharge approaches, following expiry of the time limited provisions of the Coronavirus Act 2020 **[SP/0339 – INQ000087446]**. The letter was sent in advance of the six month scrutiny debate in Parliament on the Coronavirus Act, to prepare for the possibility that the time

limited provisions may be repealed following that debate. In the event, the provisions were not repealed until they expired on 25 March 2022.

Directions

549. Under section 253 of the NHS Act , DHSC may give directions to a number of NHS bodies (including NHS England), if it considers that by reason of an emergency it is appropriate to do so. The directions may, among other things, require the relevant body to carry out its functions in a particular way, or exercise any functions conferred on another body or person under the NHS Act.

550. From 20 March 2020, DHSC issued a number of directions allowing NHS England to exercise the functions of CCGs, NHS Trusts and NHS Foundation Trusts in respect of the commissioning or provision of healthcare services for any purposes related to the prevention, diagnosis or treatment of Covid-19. NHS England was also directed to exercise the support functions of DHSC under section 254A of the NHS Act for the purpose of assisting any person exercising functions in relation to the health service, providing services for its purposes or for any purposes directly or indirectly related to the prevention, diagnosis or treatment of Covid-19.[22] NHS England had considerable operational input into the content of these Directions.

551. These directions empowered NHS England to take specific actions in order to further agreed policy objectives, such as directly commissioning the services to be provided in Nightingale field hospitals (which would ordinarily have fallen within the remit of local commissioners: clinical commissioning groups).

19. Reflections and lessons learned

552. We have been asked to describe anything that worked well and difficulties or challenges encountered by NHS England and its officials in supporting core political and administrative decision-making with the Prime Minister / No.10 Downing Street, Cabinet, Cabinet Committees, MIGs and the LGD. We have been asked to identify any steps taken to address difficulties or challenges. We have been asked to list and explain lessons learned and exercises undertaken in respect of the matters under consideration in this module.

[22] See The Exercise of Functions by the National Health Service Commissioning Board (Coronavirus) Directions 2020; The Exercise of Commissioning Functions by the National Health Service Commissioning Board (Coronavirus) Directions 2020 and The Exercise of Commissioning Functions by the National Health Service Commissioning Board (Coronavirus) (No. 2) Directions 2020; subsequently replaced and extended until 31 March 2021 by The Exercise of Functions by the National Health Service Commissioning Board (Coronavirus) (No. 2) Directions 2020; and The Exercise of Commissioning Functions by the National Health Service Commissioning Board (Coronavirus) (No. 3) Directions 2020.

553. The NHS is a learning organisation which strives for continuous improvement in services for the benefit of patients. As such, throughout the pandemic, individuals, teams, networks and the organisation have conducted different types of reviews at different levels in the organisation – formal and informal – and a number of our staff may also have participated in the reflective exercises of others. For example, the CNO contributed to a technical report on the COVID-19 pandemic in the UK and NHS England's National Medical Director was a senior author of the report[23]. These have ranged from rapid light touch after-action reviews, to evidence digests, case studies and wider, in-depth reflections. Many 'real-time' changes were made by NHS England and the NHS, as both made changes and adapted as we went along and learned more about the virus. Naturally, these reflections we have described are mostly focused on the actions that NHS England was responsible and accountable for, and this is expected to be covered in detail in Module 3.

554. Whilst it is the role of NHS England to inform and implement the national policy decisions made, it is not our role to critique the decisions made by the Government outside our remit. No doubt there will be many individual, personal opinions on decisions made by the Government, but there is no corporate i.e. Board signed-off, 'NHS England' position.

555. Furthermore, as this statement demonstrates, there were a multitude of communication routes open between NHS England and the Government at every level; early-stage issues faced when dealing with the pandemic were dealt with directly in real-time and usually resolved at speed. For the most part, these would be largely operational, as people attempted to respond and react to exceptionally challenging circumstances under incredible pressure.

556. It has therefore not been possible to point the Inquiry to a specific set of reports or documents that were produced that are specifically related to the issues under focus for Module 2.

Challenges

557. However, in order to be of help to the Inquiry, NHS England has considered the question asked, and set out some key areas that it considers exacerbated the

[23] See the 'Technical report on the Covid-19 pandemic in the UK' published on 1 December 2020

challenges encountered by NHS England with regard to the issues covered in this Module:

a. **The complexity and novelty of the global pandemic was itself the overriding critical factor in the challenge of core Government decision making.** Actions had to be taken at speed, under incredible pressure and with limited knowledge. This was the first pandemic of this magnitude in a generation; practical lessons had to be learned in real time by huge numbers of people working to support the response.

b. **Pandemics are global, and the problems they generate are internationally complex.** Medicines procurement offers just one example, as every component of a medicine may come from a different country, with manufacture of the final product being outside the UK. A global pandemic results in all countries seeking the same products in high demand, so products are in scarce supply at times of peak demand for patient need. It is difficult for any one country, let alone a single organisation, to tackle these challenges perfectly.

c. **The capacity and resilience of both the health and care system, and the country as a whole, prior to January 2020 naturally had a significant impact on the ability of the NHS to respond to the pandemic.** Every part of the country had to react to the pandemic. Each sector's ability to react naturally rested on the available capacity and capability to draw from in tackling the new crisis. Some of the NHS pre-pandemic constraints are set out below. The position that the NHS finds itself in today also demonstrates that pandemics can last years and recovery takes substantial time, energy and resources.

d. **The NHS is one part of a complex and interconnected system, whose individual components are organised, led and funded differently.** We expect the interaction between health and social care to be of particular interest to Module 3. It is noted here that there are significant differences in leadership, structure and funding mechanisms for health care and social care. The social care sector is a mixed market, regulated by CQC and commissioned from a wide range of providers by Local Authorities and individuals. These structural issues can create artificial boundaries around patient care and in part led to the creation of Integrated Care Boards and Systems which went live in July 2022. Required partnership working will drive many things including joined up data sharing.

e. **Information and data sharing is vital, but in the early stages of a pandemic there is significant uncertainty**. Good quality data is vital to an effective pandemic response. Early in the pandemic, however, there was both a proliferation of separate data summaries from different organisations, shared in different formats and gaps in acquiring the information that mattered. New data acquisition at speed was extremely challenging. Huge progress had to be made rapidly at the start of the pandemic to identify, collect, collate and present the information required. These efforts, particularly those led by the Joint Biosecurity Centre's team for data acquisition, went a long way to facilitating swift data sharing but they had to be done whilst responding to the pandemic.

   In addition, how new and emerging data and information is communicated publicly is in itself difficult. A careful balance needs to be struck between transparency and rigour – not least in a world of increasing disinformation.

f. **Community prevalence and its predictable fluctuations correlated to the severity of impact on the NHS.** The NHS understood that the Government has to balance competing factors in deciding what approaches should be taken to respond to the pandemic. Whilst NHS England was less involved in supporting decision making on interventions to reduce community prevalence, we ensured that the NHS data could be made available and the operational impact understood, including what it would take to add additional capacity, and the wider health implications such as the consequences for waiting lists and the burnout impact on staff.

g. **Pandemic response structures, such as SAGE, NHS England EPRR Cells, are 'activated' when needed, resulting in early teething problems.** During the initial stages of establishing any new organisations or structures, there is a period of learning and identifying the most effective methods and people to proceed. The pandemic meant that the NHS itself had to initiate the "fastest and most far-reaching repurposing of NHS services, staffing, and capacity" in its history. In a fast-moving environment, it is unsurprising that several iterations of structures were implemented and subsequently reviewed, and that the right people were not always identified and embedded at the earliest opportunity.

h. **Communication and collaboration across organisations and sectors are vital to any successful response.** The NHS achieved remarkable things but this was only made possible by the frontline NHS staff, the volunteers, armed

forces and an unprecedented partnership with local authorities and our communities across the country. This effective collaboration depended upon being clear on roles and responsibilities at local, regional and national levels, both across government and within organisations. The key strategic relationships that were forged during the pandemic, such as through MACA[24] or the CMOs network were of varying degrees of maturity prior to the pandemic and would do well to be retained.

i. **The pandemic had a disproportionate impact on different groups of people, largely as a result of societal inequalities that are longstanding and deep rooted.** Understanding the principal drivers of these inequal outcomes was complex because of the overlapping nature of many of the risk factors, such as profession, co-morbidities, household size or simply being in an area of enduring transmission. Determining effective solutions was therefore difficult. We expect this to be covered in detail in Modules 1 and 3, and later Modules dealing with inequalities generally.

Constraints

558. By constraints, we mean the capacity of the NHS (a factor of many things): the baseline from which we had to 'surge' in each wave; the way it is 'arranged', which in some cases meant limited data visibility and so required new data sets to be built; and fatigue, from the seasonal pressures of winter whilst planning for different forms of the EU Exit. Resilience of the NHS should be considered not just in terms of the number of beds available, but also in terms of the people and estate from which services are delivered.

559. Some context. The NHS has historically had low bed numbers compared with other G7 and European countries. In 2019, across the UK, the NHS had 2.5 beds in its hospitals per 1,000 population, compared with 5.8 in France and 7.9 in Germany, and over 12 in south east Asian countries including South Korea and Japan.

560. The NHS workforce was already under significant pressure in the run up to the pandemic. In March 2020, there were just over 88,000 substantive posts that were unfilled in NHS organisations. The impact of these vacancies on staff was demonstrable, with clear links established between workforce shortages and burnout.

[24] See 'COVID Support Force: MOD's contribution to the coronavirus response' published on 30 October 2020. NHS England utilised MACAs for a range of reasons during the pandemic. MACAs need authorisation by central government and these processes worked well and NHS England is grateful for the co-operation of government and the armed forces themselves in this aspect.

Indeed, in the same month, anxiety, stress, depression or other psychiatric illnesses accounted for 21% of all sickness absences. The government provided additional funding for various interventions to provide psychological support for staff.

561. The NHS Estate is the largest and most complicated in the UK, encompassing some 17,000 buildings. While many of these are newly and purpose built or refurbished facilities, many are not. The 'estate' includes buildings which are not owned by the state, such as GP practices. Such privately owned premises inevitably lack uniformity e.g., in IT or telephony systems.

562. As explained in section 10 we entered the pandemic with a number of estate-related challenges, particularly as a result of the age of properties and the challenges implementing digitally-enabled healthcare and effective Infection prevention control measures.

563. We have dealt with the 'surge' of beds response earlier in this statement . Particularly during the first wave, large parts of the health sector could not carry on as normal, nor increase capacity without changing their ways of working. For example, there were clear clinical risks to patients accessing care in GP surgeries, and public health guidance set out the need to consider what facilities could not remain fully open and how access to this care should be managed. The government recognised these problems in the way it approached the re-arranging of contractual commitments – effectively a furlough scheme. Significant innovation in these sectors was generated as a result, and in due course they would also be called on to support the vaccination delivery.

564. Over time, NHS England designed and adapted a dataset which fed into multiple Government forums - the 'decision-makers dashboard'. The reach of this meant whatever the decision the Government wished to make, we knew it was 'sighted'. The prioritisation of this dashboard by all parties worked well and helped the Government understand the impact of various constraints, and that there was informed decision-making.

565. SPI-M-O is a sub-group of SAGE that brought together a number of independent academics to provide advice to the Government on Covid-19 based on infectious disease modelling and epidemiology.

566. It was not always possible for SPI-M-O to produce models specifically focused on the NHS or that matched the exact needs of NHS England. It was not always their remit to

do so. It is unsurprising that, in the early days of the pandemic, we were concerned to ensure adequate data support for the NHS and requested specific modelling in order to understand the regional picture in more detail, and understand whether there was enough capacity in the NHS to prevent deaths. This modelling was, in the end, progressed by NHS England internally (both nationally and regionally), which made sense to some extent given the detailed data we were receiving from the regions through sitreps and our understanding of the NHS system. This is not a criticism of SPI-M-O and NHS England maintained excellent relations with SPI-M-O and its core academic modelling groups, including regular meetings, exchange of information between modelling teams and lots of work with them throughout the pandemic.

Collaboration

567. What worked well was the range of people interacting with the Government in a range of official meeting spaces, information channels and the energy to get teams together to jointly problem solve e.g.:

a. The National Medical Director being brought into SAGE;

b. The way in which the Four Nations chief clinical leaders (doctors and nurses) came together;

c. How the chief nurse leadership teams cross-worked and supported PHE;

d. Building of the 'decision maker's dashboard' for Cabinet, utilising NHS England talents appropriately to support wider Government;

e. Daily cross government and cross health sector information sharing, through EPRR channels, to enable rapid dissemination of relevant information;

f. Adapting to virtual meetings and other forms of rapid communication; and

g. Secondments and informal arrangements were made to enable NHS staff to move to the DHSC to provide additional expertise to support its pandemic response. This included individuals from the highest level within the NHS England Executive who were able to provide expert advice and also a bridge between the NHS and Government to help ensure that NHS' needs and issues were properly understood.

Lessons learned

568. We have sought to set out below a range of ways in which NHS England has identified and learned lessons arising from the Covid-19 pandemic, to the extent that those lessons fall within scope of Module 2. The bulk of NHS England's work in relation to lessons learned will fall within scope of Module 3, as inevitably it is predominantly directed more towards NHS England's own decisions and activity rather than that of the Government.

569. In line with the values set out within the NHS Constitution, NHS England aspires to be a learning organisation, and actively supports learning across the wider system. This focus continued during the pandemic.

570. NHS England acknowledges the significant impact of the pandemic upon at-risk and other vulnerable groups. The pandemic and lockdowns impacted people's physical and mental health and exacerbated existing inequalities in health outcomes. The disproportionate and damaging impact of Covid-19 on people from ethnic minority groups, particularly those of black and Asian heritage, has been widely recognised. NHS England continues to be committed to learning lessons regarding differential impacts across all areas of the pandemic, and this process is ongoing.

571. For example, proactive collaboration with multiple partners, including local authorities, charities, community and faith sectors, has shaped and informed new approaches to vaccination and healthcare, including the vaccination of people in places they are familiar with such as in places of worship and using trusted community or faith leaders to increase confidence. How the programme communicated with the public and NHS staff was extremely important to allay fears and inform people how and where they could receive their vaccinations. The messaging has improved throughout the pandemic with the programme rapidly responding and developing a plethora of communication mechanisms. This has provided more focused and tailored messaging, targeted to specific audiences, and is continuously being refined to encourage ongoing vaccine uptake.

572. The Beneficial Changes Network was established by NHS England during the pandemic to support frontline stakeholders and partners from across health and social care and to seek their direct input to identify, share and understand the significant change that occurred in the changed operational circumstances of the Covid-19 response. The Network is a collaborative group of health and social care stakeholders who share knowledge and learning across the health and care sector.

573. In December 2020, the Beneficial Changes Network and NHS Accelerated Access Collaborative (AAC) (which includes representatives from DHSC / BEIS / MHRPA / Royal Colleges) jointly commissioned Frontier Economics, Kaleidoscope Health and Care and RAND Europe, to conduct an independent review to help learn lessons from this period and recommend how potentially beneficial changes can become day-to-day practice. It was conducted between October and December 2020 and involved a range of lived experience voices and over 80 stakeholder organisations **[SP/0340 – INQ000087494]**.

574. In March 2021, a summary of the NHS England's response to the ongoing Covid-19 pandemic was presented to the NHS England Board in recognition of the clinical and operational innovations achieved during the period and our ongoing contribution to research **[SP/0341 – INQ000087492]**.

575. NHS England substantially reorganised itself in response to the pandemic. The IMT, Tactical Fusion, Strategic Fusion, NIRB and respective sub-groups which were established to manage the response to the pandemic continually made changes to the way in which NHS England delivered its functions in light of NHS England's involvement in the response to Covid-19. For example, EPRR assurance was not undertaken in the usual way, rather a light touch assessment was undertaken.

576. Examples of 'in the moment' outcomes include some directorates in NHS England suspending routine activity which would have had an impact on the NHS. Information relating to NHS activity, specialist beds e.g. critical care were embedded into NHS England's data platform to ensure that all decision makers had access to the same information.

577. In late 2021, NHS England worked with DHSC to prepare a retrospective interim economic evaluation of the Covid-19 Vaccine Deployment Programme **[SP/0342 – INQ000087532]**, which involved assessing use of resources against the Public Value Framework Assessment. The intention of this was to inform the impact of the programme and provide insight for any similar future programmes. The final report was prepared in December 2021.

578. The learning from the NHS vaccines programme continues to positively influence work across the health sector, whether through demonstrating the value of using data to identify those who can benefit from early intervention, such as those with cardio-vascular disease, providing a model for community out-reach, or providing the model

for taskforce-style approaches to funding research into cancer, obesity, mental health and addiction.

Updates to EPRR planning following Covid-19

579. NHS England's EPRR team also worked to collate wider lessons identified at key stages throughout the pandemic, which generally culminated in reports to the EPRR Steering Group and NIRB to support ongoing planning. Findings were identified from group cell workshops, interviews with selected national and regional directors and other *leads, and template submissions from cells and regions.*

580. The EPRR Framework (version 3) now contains a section confirming that as part of the debrief, there should be a mechanism for sharing lessons identified across the local Integrated Care Systems, through the LHRP, the wider NHS and with partner organisations. Following the response to Covid-19, numerous plans have been tested/implemented and this learning should be considered and fed back into other resilience plans as required.

581. The inequalities during a major incident section has also been updated to confirm that, as part of learning from Covid-19 and similar incidents, specific guidance on managing health inequalities during a major incident is being developed and will be published in due course.

582. The NHS England Incident Response Plan (National) was updated in November 2022, and included:

    a. A definition of a protracted incident: An incident lasting for an extended duration, of significant complexity and which may require enhanced measures, resources and/ or mutual aid over and above those required to respond to an isolated incident, using Covid-19 as an example; and

    b. An annex for protracted incidents, which describes the arrangements that may be put in place nationally following a declaration of a protracted incident.

National Audit Office ("**NAO**") and Public Accounts Committee ("**PAC**")

583. NAO and PAC scrutiny and reports are key ways in which NHS England is held to account and learns lessons.

584. NHS England's Strategic Finance Parliamentary Accountability (**"SFPA"**) Team facilitate the work of NAO in preparing reports on matters which falls within NHS England's responsibilities, and have continued this work throughout the pandemic. The SFPA will liaise with policy teams and leads as required to support development of the NAO reports and to complete factual accuracy checks of reports prior to publication.

585. Based on reports by the NAO, the Government's PAC hold sessions to consider each NAO report, and will invite oral and written evidence. In general, NHS England will submit oral evidence for matters which relate to them.

586. Following the hearing, the PAC may publish their own report, making recommendations based on the NAO reports. The SFPA will then work with relevant teams to monitor and respond to both NAO and PAC recommendations. NHS England is held to account on its commitment to implement PAC recommendations and NHS England has provided updates for those studies through the Treasury Minute process, which happens on a twice-yearly basis. The Government response to Treasury Minutes is published online. The NAO similarly publish an online tracker setting out progress towards each recommendation.

Select committees

587. Parliamentary scrutiny of the activity of Government and its ALBs is also undertaken via wider select committees, who establish Inquiries which allow them to consider oral and written evidence on a particular topic. They usually result in the publication of a report. NHS England attends those committees when required.

588. Once the Committee has reported, the NHS England team shares this with relevant leads to support learning. NHS England also contributes to the Government response to these reports.

Chronological List

589. A chronological list of PAC and Select Committees which were attended by NHS England within the timeframe identified for Module 2 can be found at Annex 9. This chronology also involves internal lessons, learned documents and relevant exercises mentioned elsewhere in this statement.

Statement of Truth

I believe that the facts stated in this statement are true. I understand that proceedings for contempt of court 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 in its truth.

Signed	Personal Data	**Position or office held**	**National Medical Director**
Print Full Name	**Professor Sir Stephen Powis**	**Date**	**27/02/2023**

Annex 1: Key officials: role and meeting attendance

Summary of roles

Chief Executive Officer

1. The Chief Executive Officer (CEO) of NHS England leads the NHS' work nationally to improve health and ensure high quality care for all. The role is accountable to Parliament for the NHS' £153 billion of annual funding in 2022/23.

2. The CEO is jointly accountable to the Board of NHS England, the Department of Health and Social Care, and to Parliament.

Chief Operating Officer

3. The COO is responsible for operational delivery of the NHS in England including performance standards across all systems. This includes oversight of the ongoing NHS emergency response to Covid-19 and other EPRR incidents, ensuring that appropriate plans are in place to support the delivery and recovery of NHS services. They are also responsible for the Delivery of National programmes for UEC, cancer, mental health and learning disabilities, and other major clinical and operational strategies to address health inequalities and improve outcomes.

National Strategic Incident Director

4. The National Strategic Incident Director leads the Emergency Preparedness, Resilience and Response ("EPRR") and Potential Incident Investigation Preparation and Recovery ("PIIPR") teams, reporting directly to the Chief Operating Officer.

Chief Financial Officer

5. The Chief Financial Officer is responsible for strategic financial management of NHS England's resources. They provide the development and administration of financial policy levers, and lead financial and corporate performance management to ensure we know that objectives are being met.

Chief Nursing Officer

6. The Chief Nursing Officer ("CNO") for NHS England is employed by NHS England to provide expert clinical and workforce advice to the Board and is formally the Chief Nursing Officer providing advice to the Government and the Department of Health and

Social Care. The role also provides professional leadership for all Nurses and Midwives in England (with the exception of public health nursing), including the c360,000 nurses and midwives who work for the NHS and who make up the largest group of the total NHS workforce.

National Medical Director

7. The National Medical Director is the most senior doctor in the NHS in England and provides clinical governance across the health system. He/She/They sit on the Board of NHS England.

Director of Community Services and Strategy

8. The Director of Community Services and Strategy is an Executive Director on the Board of NHS England with responsibility for commissioning strategy, policy, and analysis.

Chief Commercial Officer

9. The Chief Commercial Officer is responsible for leading the NHS to improve delivery, quality, efficiency and value of its commercial and wider estates management, services and functions, and supports the spread of innovations across the NHS.

Chief People Officer

10. The Chief People Officer is part of the NHS Executive Group and is responsible for ensuring that the NHS in England has enough people, with the right skills and experience to deliver the improvements for patients set out in the Long Term Plan.

11. Their responsibilities include staff workforce strategy, staff experience and engagement, equality and inclusion, and talent development.

Summary of regular meetings

12. In addition to inclusion within the chronology, a summary of the meetings regularly attended by NHS England representatives is provided below. A broad overview of the intended purpose is provided where possible. In addition to the regular meetings outlined below, NHS England representatives engaged with ministers and Government colleagues at various levels on a daily basis.

a. **Covid 19 Operations Committee**. Chaired by the Prime Minister with attendees from cabinet and cross-Government departments. NHS England attendees included the National Medical Director, Chief Operating Officer and the Chief Nursing Officer (when invited to discuss specific issues related to her portfolio);

b. **SSHSC Covid-19 meetings**. These meetings were held several times per week from 4 February 2020 to 19 March 2020 with the SSHSC. DHSC and PHE officials, and the NHS England CEO, were invited. This meeting series was superseded by a daily catch up with the Prime Minister and the SSHSC;

c. **Prime Minister and SSHSC Covid-19 meetings.** Hosted by the Prime Minister, these meetings were held daily from 21 March 2020 to 15 May 2020. The SSHSC was invited, alongside a range of Government departments. The NHS England CEO was invited. This meeting series was superseded by regular meetings to discuss the 'Covid-19 dashboard', which started on 1 June 2020;

d. **Prime Minister 'Covid-19 dashboard' meetings.** Hosted by the Prime Minister, meeting attendees included SSHSC, HMT and the Chancellor. NHS England attendees included the Chief Executive Officer, Chief Operating Officer and National Medical Director;

e. **Daily catch-ups with No. 10 Downing Street (Malcolm Reid).** Daily calls were established with NHS England's Director, Office of the NHS Chairs, CEO and COO, Malcolm Reid (No. 10 Downing Street), Natasha Price (DHSC) and Ed Middleton (DHSC) to discuss priority tasks. The meetings started on 17 March 2020 and were held daily Monday to Friday where possible. The meetings ended on 17 April 2020;

f. **Daily Test and Trace meetings with SSHSC**. Meetings organised by Dido Harding as the interim CEO of Test and Trace to consider a range of test and trace and related general healthcare matters. NHS England attendees initially included its Chief Nursing Officer and her deputy, who were invited in June/July 2020, and later the National Director for Emergency Planning and Incident Response;

g. **UK Senior Clinicians Group**. Established in February 2020 as a forum at which senior UK clinicians involved in pandemic management could discuss

predominantly clinical issues relating to Covid-19. It was not a decision-making group. Meetings were chaired by the CMO or an appropriate deputy and involved all the DCMOs, Chief Medical Officers, Deputy Chief Medical Officers and clinical advisors from all four nations, UK CNOs, and representatives from GCSA, HEE, Scottish Government, Public Health Scotland, NICE, Ministry of Defence, and DHSC as well as NHS England;

h. **SAGE**. The Scientific Advisory Group for Emergencies ("SAGE") meetings were convened in January 2020 by the Government Chief Scientific Advisor ("GCSA") and is convened to provide scientific advice to support decision-making in the Cabinet Office Briefing Room ("COBR") in the event of a national emergency. It is intended as an advisory group limited to scientific matters and its members vary from meeting to meeting. NHS England did not begin to attend these meetings until 'SAGE 10' (25 February 2020) with NHS England's National Medical Director attending regularly, and intermittent attendance from other NHS England colleagues. The primary purpose for NHS England attendance was to support in providing NHS specific information as necessary;

i. **SPI-M-O Group**. This group gave expert advice to DHSC and the wider UK Government on scientific matters relating to an influenza pandemic or other emerging infectious disease threats. NHS England was not a regular attendee but was occasionally invited;

j. **Hospital-Onset Covid-19 (HOCI) Working Group**. This sub-group was commissioned by SAGE on the 3rd April 2020 and initially jointly chaired by NHS England (*CNO) and PHE (Sharon Peacock), but by 15 April, Sharon Peacock had passed joint chairing duties to NHS England's National Clinical Director for IPC*. This group focused on hospital onset Covid-19 infection / nosocomial infections, and its purpose was to provide thought leadership, direction to analysis and precipitate policy change and interventions that lead to a rapid and sustained reduction in the rate of HOCI. Information from this group fed into groups such as SAGE and supported NHS England's operational response. Members included several NHS England attendees, PHE/UKHSA, NHS National Services Scotland, Public Health Wales, Northern Ireland Executive and several university academics. It is no longer a government sub-group and is now an advisory group within NHS England;

k. **'4CNO & NMC' meetings.** Chaired by the UK CNOs on a rotating basis and with the NMC as secretariat, these meetings were established specifically to respond to the pandemic and were focused on the nursing response – returners and student deployment. Some of these meetings also included Unite and Unison when these issues required wider engagement and input. Members included Chief Nursing Officers from all four UK nations, including the Chief Nursing Officer for NHS England and NMC members. During the response, these meetings included discussions around student fees, registration and impact on pension of returning retirees. Regular meetings with the NMC ceased after wave 1, but the 4 CNOs continued to meet regularly throughout and still meet on a fortnightly basis;

l. **Joint Biosecurity Centre Local Action Committee (Gold) meeting with SSHSC (also known as DHSC Gold).** The Joint Biosecurity Centre was established in May 2020 by SSHSC as part of the Test and Trace service to help inform actions on testing, contact tracing and local outbreak management in England, and to advise on Covid-19 alert levels and inbound international health risks. Membership included PHE, ONS, academic institutions and private industry. Regular NHS England attendees included NHS England's National Medical Director, Chief Nursing Officer and Strategic Incident Director. The Chief Executive did not attend;

m. **Joint Biosecurity Centre Silver meetings (also known as DHSC Silver).** Chaired by the Chief Medical Officer, Joint Biosecurity Centre Silver addressed issues of concerns raised at Joint Biosecurity Centre Bronze meetings, to be escalated to Gold as necessary. NHS England's National Medical Director, Chief Nursing Officer and the National Director of EPRR / National Director for Emergency Planning and Incident Response attended on behalf of NHS England. The weekly silver meetings were to discuss the latest Covid issues covering a wide range from epidemiology, projections, outbreaks and modelling. The silver meeting fed into the gold meeting and the papers were usually identical;

n. **GCSA, CMO, NHS England CEO and PHE meetings**. These weekly meetings pre-dated the Covid-19 pandemic as a healthcare-specific communication and information-sharing tool. Meeting attendees included Sir Patrick Vallance, Prof. Chris Whitty and PHE representatives alongside NHS

England's Chief Executive Officer. These meetings remained broad in purpose during the pandemic response;

o. **Quad meetings (also referred to as "NHS Weekly").** These weekly meetings (normally Monday morning) were held between the SSHSC, Minister of State for Health (MSH), Permanent Secretary of DHSC and typically the Chief Executive of NHS England (CEO) and Chief Operating Officer of NHS England. Following the change in NHS England's CEO in August 2021, the Chief Financial Officer typically attended instead of the COO. The meetings pre-dated the pandemic and continued throughout. They were relatively informal discussions covering a broad variety of different topics, rather than a formal decision-making forum. Key points from these meetings were noted by SSHSC's private office and shared with attendees. While some limited opportunity to comment on the notes of the meeting was afforded to NHS England, the notes of the meeting were never formally agreed by the attendees;

p. **DHSC tripartite 'Daily Coordination' calls.** Established by DHSC on 20 January 2020, the Director and/or Deputy Director of EPRR(N) attended these calls on behalf of NHS England;

q. **PHE Strategic Response Group.** The PHE Strategic Response Group is a PHE-led group which NHS England attended on at least one occasion. It is NHS England's understanding that the role of the group was to support the SD in their role of cross Government liaison and communication, including supporting the tripartite arrangements in place with DHSC and NHS England;

r. **The New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG).** This is a DHSC expert committee which advises the CMO (and through the CMO, it advises ministers, DHSC and other government departments). Membership includes a range of clinicians and academics. Dr Lisa Ritchie, who became NHS England's Head of IPC on 1 April 2020, was a member of NERVTAG before this appointment and continued in this role through 2020. The Deputy Head of EPRR for NHS England's London Region was a member of NERVTAG throughout the pandemic;

s. **Daily Finance meetings.** The daily finance meetings begun on 16 March 2020 and were a daily check-in between senior finance representatives from NHS England, DHSC and HMT to discuss emerging issues and developing

policy. This was not a decision making group nor did it have a core membership. The meeting series ended in June 2020;

t. **Cross-System Efficiency and Finance Board.** This is a regular meeting organised by the Finance Directorate in DHSC. The NHS England CFO and Finance staff were invited to the series. The meetings focused on the NHS financial position, financial frameworks as required and the outcomes of the finances (i.e. NHS' performance). The series pre-dated Covid-19 and continued throughout;

u. **Capital Delivery Portfolio Board.** This is a monthly meeting organised by the Portfolio Directorate in DHSC. The NHS England CFO and finance staff were invited to the series. The meeting focussed on capital projects. The series pre-dated Covid-19 and continued throughout; and

v. **Monthly Finance meeting**. This is a monthly meeting organised by DHSC and including MS(H). The NHS England CFO was invited. The meeting series was requested by MS(H) upon entering his post with the intention of providing an informal brief on the latest financial position and an opportunity for an open discussion on any current pressing issues. These meetings were not formal accountability discussions. The request for the series pre-dated Covid-19.

Annex 2: Key materials

1. We have been asked to identify and describe any key materials that NHS England holds relating to its involvement in the response to Covid-19 between 1 January 2020 and 24 February 2022, the volume of those materials and if they can be indexed or categorised to identify those that deal with particular issues.

2. The focus of Module 2 is on core political and administrative decision-making in relation to the pandemic – i.e. decisions taken by the Government, rather than those taken by NHS England.

3. The bulk of material that NHS England holds which is key to Module 2 relates to Government meetings that NHS England officials attended and requests for information to support them. As set out throughout this corporate witness statement and the accompanying timelines, and summarised in Annex 1, NHS England officials attended many meetings with senior Government officials and Ministers, with differing degrees of regularity throughout the pandemic. As these were government meetings, NHS England was not generally responsible for organising them, setting the agenda, issuing papers or producing minutes, readouts or actions. NHS England does hold substantial volumes of information related to these meetings but does not hold a systematic record of all of them. Rather, we hold the documents shared with us by the meeting organisers and papers that NHS England officials submitted to meeting organisers for inclusion in the meetings.

4. As set out in Annex 3, NHS England's approach to structured record identification and management has to date focused on decisions taken by NHS England. It is not therefore geared towards collating material that responds to Module 2. These documents are predominantly located in individual email accounts, and in particular, in those of NHS England's National Directors, their deputies and their private offices over the course of the pandemic. This amounts to approximately 100 email accounts.

5. As set out in Annex 3, NHS England estimates that an average mailbox within this group contains approximately 61GB of data. Applying this estimate to the c.100 emails accounts identified as potentially relevant, gives an approximate total volume of data of 6.1TB, equivalent to c.109,000,000 plain text documents. As noted below, to understand the benefits of inbox searching, we have recently loaded the contents of one large private office inbox into NHS England's Relativity account. This inbox contains 173,368 documents (with each 'document' being a single email or any attachment) (79 GB of data) over the period from January 2020 to April 2021 (i.e.

considerably shorter than the total period under consideration by the Inquiry). If we take that as an example, multiplying by 100 produces an estimated total number of 17,368,800 documents (i.e. emails plus their attachments) (7.9 TB of data). This is likely to be closer to the actual number of documents, as we would expect a considerable proportion of emails to have attachments, and so the average file will be larger than an average plain text document.

6. It is not straightforward to search individual email accounts. NHS England's Inquiry team can be granted (and in some cases, already have) "read-only" delegated access to live mailboxes. This has limited functionality but maintains the integrity of the mailbox. To ensure business continuity, the NHS England Inquiry Team can only access the mailbox via 'outlook office browser' view. This limits the functionality of searches in the mailbox. We are able to locate key records by looking at a date. We are unable, however, to apply complex filters and extract material directly. Rather, specific records have to be identified in "browser view", identified in the delegated mailbox and then copied (retaining meta data) into NHS England's dedicated Covid-19 repository - CERMS. This is labour intensive, and in the context of millions of documents, means that it would be practically impossible to identify, index and categorise key materials using this method.

7. In light of this difficulty, NHS England has very recently been able to arrange for one key email account, from a member of NHS England's Chief Executive Officer's private office, to be uploaded to NHS England's Relativity account to understand the benefits of searching on Relativity. As noted above, this inbox (which has been cleansed to remove obviously out of scope material) contains 137,236 documents (79 GB of expanded data), over the period from January 2020 to April 2021. Of these, c. 40,000 are emails between NHS England and the Government. It would be possible to identify, index and categorise relevant material within that subset, through use of targeted searching. However, there would be significant hurdles to replicating this approach across all 100 identified mailboxes. First, we anticipate that the end-to-end process of obtaining a forensic copy of the mailbox and uploading that copy to Relativity would take 3 weeks per account (with up to 10 mailboxes uploading concurrently), in accordance with a processing agreement with NHS.net accessed via NHS Digital. Additional time would be required to cleanse and load to the staging platform prior to the upload to Relativity. This time period does not account for the volume of data involved. Secondly, the cost would be extremely high. Thirdly, once uploaded, an enormous manual review exercise would be required to identify key

materials from amongst the total. We estimate that the time required to conduct that exercise would be measured in years, rather than months or weeks.

8. NHS England also holds a substantial number of emails between NHS England and Government officials, in which NHS England provides information, advice and input into Government decisions, as discussed throughout this corporate statement. These are contained predominantly within the email accounts referenced above, and attempts to identify, index and categorise them would raise the same issues.

9. Some of the officials identified above kept handwritten day books or dedicated incident log books. These may contain materials relevant to Module 2 (including for example personal notes of meetings with government officials and ministers). Individuals have been asked to retain handwritten day books and we are digitising incident log books. Digitised incident log books are searchable but our experience to date is that they will then nearly always require direct conversations with the authors, to explain the detail and context of those incident log book entries, as they were written at speed in personal 'short hand' in many cases.

10. Instant messages (e.g. WhatsApp messages) sent and received by this group may also contain relevant material. As noted in paragraph 30 of Annex 3, NHS England has analysed WhatsApp group membership, and retained devices from those in this group who have left the organisation. We are in different stages of capturing exported messages.

11. Alongside the two Chronologies NHS England is submitting to respond to the Inquiry Rule 9 request, the NHS England team has also identified various documents to illustrate the role and involvement of senior officials of NHS England in some of the meetings recorded in those Chronologies. Those documents are in addition to documents exhibited formally to the witness statement of NHS England.

12. As stated elsewhere in this Annex 2, many of the meetings and activities detailed in the NHS England witness statement and chronologies were organised by other parts of Government. Equally the Inquiry directed NHS England to focus the chronology it was asked to develop for Module 2 on key meetings and events. NHS England assumes that the primary records for most of the meetings its officials attended will be provided by the host/ organising departments. However, where NHS England has identified documents which, in its opinion, might be relevant to help the Inquiry understand the context or other aspects of meetings that NHS England official

attended (and are recorded in the Chronologies), those documents have been assembled and will be presented alongside the two Chronologies.

13. Annex 3 provides information about NHS England's wider approach to records management, and the volume of material held in its structured data repositories - CERMS and ServiceNow (currently c. 6.5 TB, expected to rise to 8.1 TB in CERMS and c. 43,164 lines of decisions with indexed records in ServiceNow). As noted there, the volume and complexity of this data make it practically impossible to index and categorise it all. From those materials, however, certain datasets can be identified that are likely to contain key materials for Module 2, although they are not Module 2 focused.

Annex 3: Records management – background, structure, volume and searchability

1. NHS England provides national leadership for the NHS, promoting high quality health and care for all and supporting NHS organisations to work in partnership to deliver better outcomes for patients and communities. NHS England is split across seven integrated regional teams covering East of England, London, Midlands, North East and Yorkshire, North West, South East and South West. The executive group, comprising the Chief Executive Officer (CEO), Chief Operating Officer (COO), National Medical Director (NMD), Chief Finance Officer (CFO), Chief Nursing Officer (CNO) and the seven regional directors amongst others, provide executive leadership. NHS England's board comprises non-executive directors who bring a range of complementary skills and experience in areas such as finance, governance and health policy and some of the senior executive group, such as CEO, CFO and CNO.

2. NHS England's seven regional teams are responsible for the quality, financial and operational performance of all NHS organisations in their region, drawing on the expertise and support of NHS England's corporate teams to improve services for patients and support for local transformation.

3. NHS England is obliged to comply with the legal and professional obligations set out for records. Records are created by NHS England, as per their legal and professional obligations set out for records, to provide information about what happened, what was decided, and how to do things. Therefore as part of their daily work, NHS England staff must keep a record; by updating a register or database, writing a note of a meeting or telephone call, audio recordings of customer interaction or filing a letter or email in order to ensures that they and their successors have something to refer to in the future.

4. However, since inception, NHS England has not had one single electronic record management system as part of its IT platform(s). Prior to the pandemic, teams and individuals worked off a variety of servers and systems transferred from legacy organisations. This included NHS Trust Development Authority, Monitor, Department of Health, and the NHS Commissioning Board servers.

5. No standard process was in place, with documents saved on personal, corporate shared-drives and SharePoint sites, as well as external "data lakes" – across multiple platforms (MS Teams, Office 365, Microsoft Outlook etc).

6. There was no one system for saving emails as records, with nhs.net email accounts being hosted externally by NHS Digital.

7. The volume of data held across these multiple platforms equates to around 300TB (crudely 1TB = 18 million plain text documents or 84 million word pages). No "back end" or ability to search across all NHS records existed (this includes the ability of a third party to access).

8. In order to provide some consistency of record management across disparate teams and IT systems, NHS England has, for some time, had a Corporate Records Team. Pre-pandemic the Corporate Records Team consisted of four staff members. The Corporate Records Team produces and owns the Corporate Document and Records Management Policy (the "policy"), which sets out advice and guidance to all NHS England staff regarding creation, management, storing and disposal of records. The current version of the policy is 4.0 which was updated in June 2022 (from October 2021).

9. All NHS England directorates fall within the scope of this document. This includes staff who are employed on a permanent or fixed term basis, contractors, temporary staff and secondees.

10. The policy states that NHSX staff and hosted bodies are to follow the principles of the policy when managing their records and information, with the only differences being the systems to which records and information are saved and the support network available.

11. The policy is mandatory and relates to all documents and records held by NHS England, regardless of format, including, but not limited to, email, paper, digital, instant messages, social media, videos and telephone messages. The policy covers all stages within the information lifecycle, including create/receive, maintain/use, document appraisal, declare as a record, record appraisal, retention and disposition.

12. Staff members must not alter, deface, block, erase, destroy or conceal records with the intention of preventing disclosure under a request relating to the Freedom of Information Act 2000 or the Data Protection Act 2018.

13. NHS England's approach to records is that they are a valuable resource because of the information they contain. High-quality information underpins the delivery of high-quality evidence-based healthcare. Information has most value when it is accurate,

up-to-date and accessible when it is needed. An effective records management function ensures that information is properly managed and is available whenever and wherever there is a justified need for that information, and in whatever media it is required.

14. Records management is about controlling records within a framework made up of policies, standard operating procedures, systems, processes and behaviours. Together they ensure that reliable evidence of actions and decisions is kept and remains available for reference and use when needed, and that the organisation benefits from effective management of one of its key assets, its records.

NHS England's approach to document management and procedures once the pandemic began

15. NHS England requested in March 2020 that all operational team structures which provided a response to the Covid-19 pandemic retain relevant Covid-19 records and a Decision Register of critical and important decisions made during the pandemic. The principle behind this was to ensure that all of NHS England's Covid-19 records and information were securely recorded, captured, stored and accessible in line with NHS England Corporate Records Management Policy. Decision Registers are discussed further below.

16. In response to the pandemic NHS England established a "cell" governance structure. This worked initially in parallel to existing structures, and then gradually all-but-replaced it. Cells were flexible and new, recruiting from across the organisation from different teams. i.e. they were not pre-existing policy teams, but essentially new "project teams". They predominantly established new file structures and document repositories. These cells are now closing rapidly, and individuals returning to business as usual ("BAU") teams and leaving records behind them. We have identified 385 Covid cells and sub cells.

17. The set up and subsequent changes to operational structure, and therefore location of 'cell' records within NHS England during the pandemic is a significantly different approach, and is unique, to that of other organisations. This poses a challenge for single point of contact and Senior Responsible Officer ("SRO") responsibility for records within cells that are closed and we have developed a tracking and assurance approach to Covid records.

18. Early on in the pandemic, two factors (inability to search, and temporary nature of cell structure) were recognised as a significant risk; in that it would not be possible to locate a significant proportion of relevant documents for any future inquiry. Steps were taken to ensure that Covid-19 records were secured. This included taking the following steps:

    a. A records repository (Covid Electronic Records Management System - CERMS) was developed in Office 365 to capture Covid-19 records (this is a bespoke document repository for Covid-19 records. It holds a duplicate of the records held in each cell's source SharePoint site, together with their meta data (by export to CSV file). CERMS is discussed in further detail below;

    b. Standardised "Decision Registers" created to log actions in each team, with the ability to link to core documents and decisions via a database built in "ServiceNow" to hold all the decision registers to support searching. Decision Registers are Excel documents containing a summary of the decision made, the date of the decision, who was involved and containing a hyperlink to the documentation which supports those decisions. They provide an index of 'critical and important' decisions made by cells/teams during the pandemic;

    c. Communicating that all cells ensure relevant Covid-19 records and decision register of critical and important decisions made be kept;

    d. Workforce trackers were also requested to ensure that those working in a cell could be identified if needed. SRO roles and responsibilities around record retention were also clearly set out;

    e. Training 100s of Records Information Management Co-Ordinators (RIMC) on records management;

    f. Changing/updating mandatory records management training and Corporate Guidance. NHS England's corporate guidance states that all NHS England records should be saved to a central repository (Office 365/SharePoint) as a 'declared' record. Personal email folders or mobile devices are not records repositories and corporate guidance dictates that this should not be the only place that records are recorded. This guidance was updated to ensure that Covid-19 specific records would be retained. Guidance was issued on what

is a record and what should be included in decision registers and the migration to CERMS. This included emails, apps and paper records. This was for all relevant records that met the guidance criteria. SROs for operational team structures (cells, teams, regional offices, private offices) were asked to sign off records saved centrally for copying to CERMS;

g. Issuing a litigation hold/Stop notice(s), identification of key persons of interest and holds on email accounts, info gathering on paper records, data-lakes (logging this and SPOC), guidance and identification of TOTO WhatsApp groups. Leavers process and retention of IT hardware of key named individuals (CAT 1 VSMs); and

h. Securing access agreements with private offices and data lake SIROs (in progress).

Data sources and volumes

19. NHS England now has a vast amount of information that it generated during the Covid pandemic. NHS England, as the national body which had the widest and most active operational role in the pandemic, is likely (amongst all of the (expected) Core Participants) to have the largest volume of information to be reviewed. This presents NHS England with a challenge in terms of searching and extracting information in order to supply it to the Inquiry.

20. The global volume of emails and email traffic during the pandemic will be vast. NHS England has approximately 9,000 staff. (On a purely headcount basis, NHS England is over four times the size of DHSC). Most, if not all, of these staff have individual email accounts and each staff member has 50GB of email storage built into their account. NHS England also utilises a number of shared inboxes, allowing a group of people or a team to receive and send email communications from that shared facility. Shared inboxes have c100GB of email storage. This does not include online archive which staff can also use. Additionally, there are then the email accounts of people who have left the organisation. Our initial assessment of unexpanded email data volume for 14 very senior key individuals was over 1TB (these key individuals have been given larger mail box sizes than standard users to ensure as part of a targeted litigation hold emails can't be deleted). The exported data value is 1.5TB of data. 1TB = approximately 18 million plain text documents or 84 million word pages.

21. A targeted approach to records held in emails has been taken to identify and apply a hold to approximately 280 NHS.net key individual NHS.net accounts, hosted externally by NHS Digital. Our estimate is that these 280 email accounts equate to > 16.5TB of data (mean data – 61GB per user).

22. In relation to data volumes within CERMS, as of 13 December 2022 there is 6.5TB of data, this is estimated to equate to 81% of all cells/teams records that are to be migrated (copied) to CERMS. We anticipate c.8TB of data in CERMS once full migration has occurred.

23. For ServiceNow there are a total of 243 Decision Registers that record 1000s of lines of decisions made by each cell/team that are all to be uploaded to ServiceNow. Currently on ServiceNow we have 43,164 decisions identified, for decisions up to the end of February 2022. The remaining Decision Registers are being collated and uploaded to ServiceNow. ServiceNow provides an added ability to search using key word searching for 'relevant' decisions.

24. Wider data sources will be outside CERMS. These include: Covid-19 records held by BAU teams should be saved into 0365/SharePoint and can be searched; data lakes (databases held on a system outside NHS England O365 tenancy; including on servers being held outside the NHS), records on devices (that have not been transferred to 0365 as per corporate policy), paper records (corporate policy is team is owner but these should be indexed and securely stored).

25. Requests for records from BAU corporate teams (national and regional) are being managed by a targeted approach for records where required for Inquiry preparation or to respond to an Inquiry Information request. These BAU teams are based in over 43 offices (quantity undefined), and corporate guidance is that any Covid-19 records should have been identified and saved in a separate folder to aide searching for records. Most teams will be saving these records on their respective 0365/SharePoint site (Microsoft Azure), these are indexed and categorised in accordance to filing structure on SharePoint with limited content search functionality

26. Large data lakes and SPOCs have been identified across multiple teams. A targeted approach has been taken to identify critical data lakes such as complaints, communications, Freedom of Information Requests and large data warehouses that hold raw and processed data as well as analytics visualisations and dashboards. Key identified data warehouses and platforms hold terabytes of data/datasets (unquantified number) and are indexed/categorisation according to system, usually by dataset or

dashboard name. NHS England's corporate records management team has identified 112 externally hosted systems that hold records. In reviewing these we have identified 30 systems that hold Covid-19 records outside of our O365 environment, these systems are considered to be data lakes. We have established contacts for each of the systems and agreements in place for when the systems need to be searched and in scope Covid-19 material provided to us within the Inquiry Team.

27. Emails are unstructured records and corporate guidance is that all critical emails should be saved centrally into a formal records repository and where Covid-19 specific, are recorded as part of a Decision Register as the index to key emails that will be held in CERMS. As noted above, a targeted approach to records held in emails has been taken because of the sheer volume of email traffic across the organisation during the pandemic.

28. All NHS England staff have a second email account @england.nhs.uk which is used to access Microsoft Office 365 applications (including but not limited to OneDrive, SharePoint, MS teams, Yammer). These are all separate repositories which are not indexed or categorised in any structured format.

29. A targeted approach has been taken to physical retention of devices (e.g. iPhones) for any leavers; currently 14 very senior key individuals. Corporate policy is no records should be solely held on devices and where critical decisions have been made these should be saved centrally in formal records repositories.

30. A targeted approach has also been taken for identification of specific instant messaging groups used by key individuals to ensure these are exported and saved centrally as a record by the source team to be requested in due course by the NHS England Inquiry Team were deemed relevant as part of responding to an Inquiry Information request. To date this is circa 200 groups. Export, indexing and categorisation of, for example WhatsApp groups, does require a significant level of manual intervention, because further limitations are placed on the interoperability of systems by the corporate IT/cyber tech policies on devices.

31. A targeted approach has been taken for records held in paper format for key teams/individuals. These include central collation and digitisation of formal incident log books (issued by EPRR) and any dedicated notebooks held by key individuals. Any ad hoc notes made should have been followed up in an email or recorded in formal minutes as per corporate guidance. We have located formal incident log books which have been completed and are reviewing these. We believe there are 70-80 in scope

which will be collated and digitised for purposes of searching. Indexing and categorisation is conducted post digitisation. These outputs will be searchable PDF documents, with optimal character recognition-OCR applied.

32. NHS England will also have some legacy records held on network shared drives that have not yet been migrated to 0365/SharePoint (NHS England's long term formal records repository). Some NHS England BAU teams still work from network drives so any requirement to identify material, index and categorise these records is a significant task and would require IT/technical input to achieve this.

Searchability

33. In consideration of the different data repositories and platforms there is a significant amount of data that is held by NHS England. Some of this will be held in CERMS as Covid-19 records but other records are held across multiple other platforms and repositories. As noted above, previous estimates from IT were that this could equate to around 300TB. No "back end" or ability to search across all NHS England records repositories existed.

34. CERMS is organised by region (which align with the National Covid Operating Model). There are various search functions; by region, cell, subject matter and a limited means of searching by date range (i.e. created before x date). There is an enhanced search function which allows searches by key word, wild cards and filtering. Search results can be exported to an excel spreadsheet with links to the file system. It is also to show how many search results for each particular search.

35. Having undertaken some initial key word search testing, key word searches produce significant numbers of "hits". The limited ability on CERMS to search by date range is also problematic when trying to narrow down search parameters.

36. In Service Now, the searching capabilities are better – it is possible to search for dates on, before, between and after, responsible cell, SRO and via a key word search to filter Decision Registers down.

37. Given the volume of data and complexity it would be impossible at significant scale to index and categorise material held in various repositories and platforms as outlined above. Because of this, there would be some merit to searches being focused on key dates, events, people and decisions as recorded in the Decisions Registers and then looking for the key records related to those search results in CERMS. Essentially the

Decision Registers would act as a main index to key records held in CERMS, in addition to other searches for records held by BAU teams or in the other data repositories as outlined in this statement.

Limitations

38. NHS England recognises that the quality of Decision Registers and the associated pandemic records contained in CERMS is reliant on cells having followed Guidance, feedback given by the CRMT in spot checks, self-assessment checklists and the judgment of SROs about what documents should be stored to support critical or important decisions taken. The majority of returns have been signed off by SROs and declared as records. However, some cells disbanded prior to sign off of their records.

39. Decision Registers require completion of all fields and dates in template format prior to upload to Service Now, which can then be filtered by fields. Although guidance has been given about completion of Decision Registers, we cannot guarantee that all fields have been completed and we recognise that some Decisions Registers will be less detailed than others.

40. Furthermore, Decision Registers are not designed to capture all surrounding and contextual debate and correspondence in respect of any one decision. Instead they capture the documentation in support of the decision made, including links to key board/group meetings where such decisions were taken. Records are linked from Decision Registers into CERMS. This relies on hyperlinks to repositories in SharePoint being maintained and work is ongoing to ensure this occurs.

41. There are currently 15 licences for Service Now (Decision Registers) across the Covid Records Team. Two people have Super Admin or Admin rights (to view, search, upload, edit and delete). 13 people have User rights (view and search only). No-one other than the two people with Super Admin or Admin rights can alter or delete documents.

42. CERMS is a SharePoint (Office 365) site and although it is locked down (so users have Read Only access), there is no ceiling on how many people can be given access to it. CERMS functionality provides full control and audit measures.

43. A further limitation of CERMS is that when search results include emails, attachments to those emails can only be viewed by downloading the email itself. There is,

therefore, no easy way of viewing the email attachment within CERMS and this makes identification and review of relevant emails time consuming.

44. As noted above, further limitations are placed on the interoperability of systems by the corporate IT/cyber tech policies on devices. There are technical issues with NHS England's corporate security settings on mobile devices. We carried out a forensic test of this, by employing a forensic company who were unable to download data from the organisation's mobile phones (if a device is plugged in to download phone content, the phone is automatically wiped). This applies to all phones pre-February 2021. We have gone back to Apple in California for assistance with this but they have been unable to find a resolution. All new phones, rolled out post February 2021 do not have these security settings on them. We have a list of key individuals phones affected by this. Corporate policy places the onus on the individual to retain and store records of decisions.

Annex 4: NHS England's duties and functions

1. In order to give context to the role played by NHS England in response to the pandemic, both in general terms and relating to Module 2 more specifically, it is helpful to understand NHS England's specific statutory duties and functions as they existed before the pandemic, to contextualise its role in relation to the response to the Covid-19 pandemic. With that in mind a brief recital of NHS England's history is as follows.

2. The "NHS Commissioning Board Authority" was established in October 2011 to support establishment of the "NHS Commissioning Board" from October 2012. The NHS Commissioning Board became fully operational from April 2013, adopting the name "NHS England" with the agreement of the SSHSC for Health (as he then was).

3. On 1 April 2016, the Trust Development Authority (TDA) and Monitor were brought together to create NHS Improvement. Monitor was an independent regulator for NHS health care services in England, and in exercising its functions was required to protect and promote the interests of patients by promoting provision of health care services which is economic, efficient and effective and which maintains or improves the quality of the services. Additionally, Monitor oversaw the regulation of NHS Foundation Trusts – a category of health care provider with greater freedoms and 'independence' from central administration than other NHS Trusts.

4. The TDA was a Special Health Authority established by the SSHSC by order under section 28 of the NHS Act 2006. The TDA was established primarily to exercise such functions as the SSHSC may direct in connection with the management of the performance and development of English NHS Trusts.

5. From April 2019, NHS Improvement and NHS England came together to work as a single organisation to help improve care for patients and provide leadership and support to the wider NHS. They were collectively referred to as "NHS England and NHS Improvement" or "NHS EI" until July 2022 when the three constituent organisations formally merged pursuant to the Health and Care Act 2022 to formally become NHS England. In this statement the term NHS England is used throughout to describe the combined organisation even though it only formally came into being in July 2022.

NHS England's core statutory functions

6. Sections 1(1) and 1H(2) of the NHS Act 2006 ("the NHS Act") provide that, concurrently with the SSHSC and Social Care, NHS England is subject to a general duty to promote a comprehensive health service in England, *except in relation to the part of the health service provided pursuant to the public health functions of the Secretary of State and local authorities*.

7. As set out in section 1H of the NHS Act, NHS England's general functions are to:

    a. arrange the provision of services for the purpose of the health service in accordance with the Act; and

    b. exercise functions conferred on it by the NHS Act in relation to clinical commissioning groups (now ICBs) so as to secure that services are provided for the purposes of the NHS Act.

8. More specifically, NHS England is the responsible commissioner for:

    a. Certain community and hospital dental, armed forces and justice estate services as set out in the National Health Service Commissioning Board and Clinical Commissioning Groups (Responsibilities and Standing Rules) Regulations 2012 ("the Standing Rules Regulations") (section 3B of the NHS Act);

    b. Certain specified treatments or services, often referred to as "specialised services" as set out in the Standing Rules Regulations (section 6E of the NHS Act);

    c. Highly secure psychiatric services (section 4 of the NHS Act); and

    d. Primary care services (GPs, dental, optometry and community pharmacy) (Parts 4 to 7 of the NHS Act).

9. The above core functions should be read alongside section 2 of the NHS Act, which provides NHS England with the power to do anything which is calculated to facilitate, or is conducive or incidental to, the discharge of any function conferred on it by the NHS Act.

Emergency preparedness

10. NHS England also plays an important role in emergency preparedness. Under the Civil Contingencies Act 2004 (CCA 2004) and its subsidiary regulations, the Civil

Contingencies Act 2004 (Contingency Planning) Regulations 2005 (2005 Regulations), NHS England is classed as a Category 1 Responder. Since July 2022, Integrated Care Boards established under section 14Z25 of the NHS Act 2006 have been Category 1 Responders.

11. Although NHS England will deal with the Category 1 Responder role more fully in Module 1, it is helpful to briefly set out the role here. The CCA 2004 requires Category 1 Responders to access, plan and advise, which includes a requirement to undertake a number of tasks as specified in section 2(1) of that Act. NHS England, as a Category 1 Responder, has certain duties of co-operation under the 2005 Regulations, including co-operation with other general Category 1 Responders in connection with the performance of their duties under section 2(1) CCA 2004 and co-operation with relevant general Category 2 Responders (listed in part 3 of schedule 1 to CCA 2004) in so far as such co-operation relates to or facilitates the performance of the relevant general Category 1 Responder's duties under section 2(1) CCA 2004. There is a reciprocal duty on relevant Category 2 Responders to co-operate with relevant Category 1 Responders, as well as a duty for Category 2 Responders to co-operate with each other. Under the CCA 2004 and 2005 Regulations responders have a duty to share information with partner organisations. This is a crucial element of civil protection work; it underpins all forms of co-operation

NHS Constitution

12. We have set out below a detailed overview of the NHS Constitution. The rights contained in the Constitution are not legally enforceable.

13. Chapter 1 of the Health Act 2009 requires an NHS Constitution for England. Specifically, it places a duty on the SSHSC and Social Care to ensure that the NHS Constitution continues to be available to patients, staff and members of the public. It is published by DHSC and must be reviewed in accordance with the Health Act 2009 every 10 years.

14. This Constitution establishes the principles and values of the NHS in England. It sets out rights to which patients, public and staff are entitled, and pledges which the NHS is committed to achieve, together with responsibilities, which the public, patients and staff owe to one another to ensure that the NHS operates fairly and effectively. The SSHSC, all NHS bodies, private and voluntary sector providers supplying NHS services, and local authorities in the exercise of their public health functions are

required by law to take account of the Constitution in their decisions and actions. The NHS Act includes:

a. a duty whereby in exercising functions in relation to the health service, the SSHSC must have regard to the NHS Constitution (s.1B NHS Act); and

b. a duty on NHS England (s.13C NHS Act), Integrated Care Boards (s. 14Z32 NHS Act) (and previously Clinical Commissioning Groups (s.14P NHS Act) prior to the coming into force of the Health and Care Act 2022) in the exercise of their functions to act with a view to act with a view to securing that health services are provided in a way which promotes the NHS Constitution and promote awareness of the NHS Constitution

15. The Constitution (as amended by the National Health Service (Revision of NHS Constitution-Principles) Regulations 2013 and the National Health Service (Revision of NHS Constitution Guiding Principles) Regulations 2015 contains seven guiding principles:

a. The NHS provides a comprehensive service available to all;

b. Access to NHS services is based on clinical need, not an individual's ability to pay;

c. The NHS aspires to the highest standards of excellence and professionalism;

d. The patient will be at the heart of everything the NHS does;

e. The NHS works across organisational boundaries and in partnership with other organisations in the interest of patients, local communities and the wider population;

f. The NHS is committed to providing best value for taxpayers' money and the most effective, fair and sustainable use of finite resources; and

g. The NHS is accountable to the public, communities and patients that it serves.

16. The Constitution is accompanied by the Handbook to the NHS Constitution, which is to be reviewed every 3 years pursuant to the Health Act 2009. The Handbook to the NHS Constitution for England contains information about the rights and pledges in the NHS Constitution and what these mean for NHS patients and staff.

17. The Handbook covers:

    a. NHS values and the principles that guide the NHS;

    b. explanations of the rights and pledges in the Constitution;

    c. legal sources of patient and staff rights; and

    d. the roles we all play in protecting and developing the NHS.

The transfer of public health functions from the NHS to local authorities

18. Following the 2012 NHS reforms (also known as the "Lansley Reforms" after the then SSHSC, Andrew Lansley), which were given effect in law by the Health and Social Care Act 2012, from April 2013 local authorities were given new legal responsibilities and funding for improving and protecting the health of their local population, moving responsibility, funding and accountability for many public health services from NHS Primary Care Trusts (which were abolished) to local government.

19. Local authorities were given responsibility for ensuring provision of a range of public health services previously provided by the NHS, including most sexual health, smoking cessation and substance abuse services, as well as wider health protection work such as protection from outbreaks of infectious disease. This process resulted in the transfer of a number of public health teams from the NHS to local authorities, and Health and wellbeing boards were established to develop local health and wellbeing strategies.

20. Public Health England ("PHE"), a new executive agency of the Department of Health (as it then was), was created to support the public health system and protect the public against major health risks, including by providing leadership for health protection, emergency preparedness and health improvement. PHE was created as a new integrated public health agency, bringing together the functions of a number of existing bodies including Health Protection Agency and the National Treatment Agency for Substance Misuse. As of 1 April 2021, PHE's functions have been primarily taken over by the UK Health Security Agency ("UKHSA") and the Office for Health Improvement and Disparities ("OHID"). PHE was, and UKHSA/OHID remain, separate entities to NHS England.

21. The Department of Health (now Department of Health and Social Care) retained overall responsibility for setting the legal and policy framework, securing resources and ensuring that public health is central to the Government's priorities.

22. As set out above, Section 1H(2) of the NHS Act (introduced by the Health and Social Care Act 2012) expressly carved out from NHS England's statutory functions the *"part of the health service provided pursuant to the public health functions of the Secretary of State and local authorities"*.

23. The scope of the exclusion of the public health functions of the SSHSC and local authorities from NHS England's statutory functions was addressed by the Court of Appeal in *The Queen (on the Application of National Aids Trust) v NHS Commissioning Board* [2016] EWCA Civ 1100. In that case, the Court of Appeal confirmed that section 1H(2) was intended to operate as a substantive carve out of the Secretary of State and local authorities' public health functions from NHS England's general statutory responsibilities.

24. Despite the exclusion of public health functions from NHS England's statutory responsibilities:

    a. The Court of Appeal concluded that such carve out did not preclude NHS England from commissioning preventative treatment in respect of NHS England's specialist health commissioning functions listed in the Standing Rules Regulations (such as the commissioning of preventative HIV treatment), in circumstances where the discharge of the relevant function was thought to be facilitated by commissioning treatment that prevented the onset of the disease and avoided the expenditure of subsequently treating those that would be infected by the disease;

    b. Section 13E of the NHS Act expressly requires NHS England to exercise its functions with a view to securing continuous improvement in the quality of services provided to individuals for or in connection with the prevention, diagnosis or treatment of illness, or the protection or improvement of public health. This co-exists alongside a range of other statutory duties on NHS England, such as sections 13D and 13G which requires that it exercises its functions effectively, efficiently and economically, and with regard to the need to reduce health inequalities respectively. The range of statutory duties applicable to NHS England inevitably overlap with each other to the extent that it is a balancing act meeting them to the standards required; and

c. Pursuant to section 7A of the NHS Act 2006 the SSHSC retained a power to delegate to NHS England the function of commissioning specific public health services, including a number of immunisation and screening programmes, public health services for adults and children in secure and detained settings and sexual assault services. Prior to the Covid-19 pandemic, the public health services delegated to NHS England pursuant to section 7A agreements were funded by a ringfenced budget allocated by the SSHSC to NHS England each financial year. This is set out in more detail below.

NHS England's mandate from the Government

25. Section 13A of the NHS Act provides that before the start of each financial year, the SSHSC and Social Care must publish and lay before Parliament a document to be known as "the mandate", specifying the objectives that the SSHSC considers NHS England should seek to achieve in the exercise of its functions during that financial year and such subsequent financial years as the SSHSC considers appropriate, and any requirements that the SSHSC considers it necessary to impose on NHS England for the purpose of ensuring that it achieves those objectives.

26. In carrying out its functions NHS England must seek to achieve the objectives specified in the NHS mandate and must comply with any requirements so specified (section 13A(7) of the NHS Act).

27. The Government's 2019-20 mandate to NHS England, published a year before the beginning of the Covid-19 pandemic, set out the following two main objectives for NHS England to pursue during that year:

    a. Ensure the effective delivery of the NHS Long Term Plan by:

        i. Laying the foundations for successful implementation of the Long Term Plan (paras 4.4 - 4.7 of the Mandate);

        ii. Achieving financial balance (paras 4.8 – 4.9);

        iii. Maintaining and improving performance, and improving the quality and safety of services, particularly by improving prevention and ensuring that technology is harnessed effectively (paras 4.10 – 4.11); and

        iv. Establishing a joint NHS England and NHS Improvement operating model to deliver integrated system leadership of the NHS (para 4.12);

b. Support the Government in managing the effects of EU Exit on health and care by working with DHSC, Government and wider system partners to mitigate and manage and adverse impacts of EU Exit, as well as identifying and making a success of opportunities that may emerge.

28. The Government's 2020-21 mandate to NHS England, laid before Parliament on 25 March 2020, noted at the outset the Government's guarantee *"that the NHS will receive whatever funding is necessary … to ensure it can tackle the Covid-19 pandemic effectively) and set out five objectives for NHS England to pursue."* The five objectives of the mandate were to:

a. Support the Government to delay and mitigate the spread of Covid-19 and to contribute to research and innovation in prevention and treatment, whilst ensuring that everyone affected by it receives the very best possible NHS treatment;

b. Ensure progress towards the effective implementation of the NHS Long Term Plan, including the commitments and trajectories set out in the National Implementation Plan and People Plan to be published later in the year and maintain and enhance public confidence in the NHS;

c. With support from Government, help ensure delivery of its wider priorities, which include manifesto commitments to further improve the experience of NHS patients, working with local government to support integration and the sustainability of social care through the Better Care Fund, and contributing to planning for life outside the EU once the current transition period ends;

d. Deliver the public health functions that the SSHSC and Social Care has delegated to NHS England to exercise under section 7A of the NHS Act 2006; and

e. Share all information with Government that is necessary to enable progress against this mandate to be effectively monitored, and to support the SSHSC in fulfilling wider statutory functions, including in respect of Covid-19.

29. The Mandate noted that the first objective on supporting the Government to manage the Covid-19 pandemic would be the main focus, and that this would need to be supported by timely and improved information sharing, in line with the fifth objective, to ensure that the Government's response can continue to be informed by the latest data.

30. Of relevance to public health, the Government's 2021-2022 mandate to NHS England included the following objectives:

    a. *"Continue to lead the NHS response to Covid-19"*, which includes ensuring that *"Covid vaccinations are rolled out at maximum pace consistent with the Joint Committee on Vaccination and Immunisation's recommendations on priorities, vaccine supply, operational and clinical safety, and working with Government to achieve the highest possible uptake";*

    b. *"Continue to implement the NHS Long Term Plan, focusing on transformation of services, to support NHS resilience, and continue to inspire public confidence" which includes 13 priority commitments including investment "in prevention to improve health outcomes";*

    c. With support from Government, deliver the manifesto priorities that will enhance delivery of the NHS Long Term Plan, which included commentary that the Government would also be bringing forward a long-term solution for adult social care. To ensure that patients can move seamlessly between health and social care services in accordance with their needs and in a way that helps embed improvements in hospital discharge, NHS England will need to continue to ensure that Clinical Commissioning Groups work effectively with local authorities in 2021- 22 to deliver the jointly managed Better Care Fund;

    d. "*Improving prevention of ill health and delivery of NHS public health services".* The mandate explains that progress on this objective will take account of a number of expectations including maximising efforts to recover NHS public health services that were paused or had reduced uptake due to the pandemic including NHS cancer and non-cancer screening programmes; and

    e. Maintain and improve information sharing, requiring NHS England to continue to embed a culture of transparency and openness through the NHS, reducing barriers to information sharing (including between providers of services) to ensure that patients receive high quality, safe and integrated care, whatever service they are using.

Delegation by the SSHSC to NHS England of certain public health responsibilities

31. The delegation of responsibility from the SSHSC to NHS England for the commissioning of certain public health services (known as Section 7A services) has

usually been taking place yearly by way of arrangements commonly referred to as "section 7A agreements" which set out the nature and scope of the public health services to be commissioned by NHS England, the outcomes to be achieved, and details as to the ring-fenced budget to be provided by the SSHSC to NHS England to support the commissioning of these services.

32. For example, in the year 2019-2020, public health commissioning functions delegated by the SSHSC to NHS England pursuant to section 7A agreements included:

    a. National immunisation programmes;

    b. National population screening programmes;

    c. Child Health Information Services (CHIS);

    d. Public health services for adults and children in secure and detained settings in England; and

    e. Sexual assault services (Sexual Assault Referral Centres).

33. The above functions were formally delegated for the period between 1 April 2019 – 31 March 2020. In the light of the ongoing exceptional circumstances and unprecedented challenge of managing the response to Covid-19, details of the section 7A delegation of functions for 2020-2021 were only published in September 2020 (i.e. 5 months after the expiry of the 2019-20 section 7A agreement), in the form of a short covering letter and Annex requiring NHS England to continue to commission the services listed in the Annex in according with the relevant service specifications (albeit in the absence of specific deliverables).

34. The covering letter also recorded the absence of any ringfence in financial directions for the delivery of the 2020-2021 public health services, which would to be provided within the totality of the mandate resources, and with additional funding to be provided by the Department for agreed flu and Covid-19 vaccination costs.

35. For the same reasons, an equivalent approach to the section 7A delegation of public health functions was adopted for the 2021-2022 financial year.

Statutory functions in emergencies

36. NHS England is positively obliged by section 252A to take appropriate steps to ensure it is properly prepared to deal with a relevant emergency, such as a pandemic. It is

also obliged to ensure that providers of NHS services as well as Integrated Care Boards (the successor bodies to Clinical Commissioning Groups) are similarly prepared. In order to meet those obligations NHS England is empowered to take such steps as it considers appropriate in order to facilitate a coordinated response to the emergency across the NHS.

37. Section 253 NHS Act (Emergency Powers) provides that the SSHSC may give directions if they consider that by reason of an emergency it is appropriate to do so. Directions may be given to various persons or bodies. Many of the directions given during Covid-19 were given by SSHSC in exercise of the powers conferred by section 253. During the Covid-19 pandemic the SSHSC and Social Care issued a number of emergency directions under section 253 of the NHS Act 2006, which expanded NHS England's statutory functions (including in respect of public health), by providing NHS England, among other things, with the powers to:

    a. Exercise the functions of CCGs, NHS Trusts and NHS Foundation Trusts in respect of the commissioning, or provision, of healthcare services to address Covid-19 – this was in contemplation of the commissioning of services to be delivered in Nightingale Hospitals and of the commissioning of services from independent sector providers. Without these directions, the legal function of commissioning those services would have sat with local clinical commissioning groups ("**CCGs**"); and

    b. Exercise the SSHSC's powers under section 254A of the NHS Act to provide support and assistance to persons exercising functions in relation to the health service, for the purpose of assisting, "for any purposes related to the prevention, diagnosis or treatment of coronavirus and coronavirus disease."

NHS England's functions in respect of social care

38. NHS England has very limited statutory responsibilities in respect of care homes and adult social care.

39. Responsibility for adult social care and care home provision is primarily shared between the SSHSC, local authorities, the Care Quality Commission ("CQC") and care home providers. In short:

    a. The SSHSC has overall responsibility for adult social care policy and funding;

b. Pursuant to Part 1 of the Care Act 2014, local authorities are responsible for meeting individuals' social care needs, including through the commissioning of accommodation in care homes;

c. Care home providers owe a range of duties to their residents, including a duty to act compatibly with their European Convention on Human Rights ("ECHR") rights, including Article 2 rights;

d. Care home providers are also regulated providers for the purposes of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 ("the Regulations"), which set out, among other things:

   i. a general duty to provide care in a safe way for service users, which includes, among other things, a specific duty to *"assess the risk of, and preventing, detecting and controlling the spread of prevent and control the spread of, infections including those that are health care associated"*; and

   ii. a duty to employ sufficient numbers of suitably qualified, competent, skilled and experienced persons in order to meet the standards set out in Part 3 of the Regulations.

e. The CQC is responsible, among other things, for monitoring and regulating care home providers' compliance with the Health and Social Care Act 2008 (Regulated Activities Regulations) 2014.

40. NHS England has no statutory functions in relation to care homes and social care beyond a general duty to promote integration between health and social care services. The NHS (usually local commissioners) does of course commission health care for patients in care homes who need it.

41. Under section 63 of the Health and Social Care Act 2012, the SSHSC has a power to make regulations enabling or requiring Monitor (part of NHS England) to exercise certain specified functions in relation to adult social care in England. However, regulations have never been issued under that section.

Annex 5: A brief outline of NHS England's EPRR function and initial pandemic response

1. Whilst NHS England will deal with EPRR structures more fully in Module 1, we have included in the following description a brief overview of the EPRR function given its significance to the Covid-19 response.

2. Preparedness planning is not about having an exact plan for every eventuality, but having a plan which can be stood up and adapted as required to respond to the relevant incident. NHS England has maintained standing plans for both a HCID incident, and for Pandemic Influenza. Both of these plans were maintained and updated in discussion with national and regional stakeholders. The plans available to NHS England (HCID and pandemic influenza) informed the early Covid-19 incident response plans at national and regional level, however, it was swiftly realised that a bespoke plan, responding to the unique epidemiological characteristics of Covid-19 was required. The pandemic related plan which NHS England maintained was due to the contents of the National Risk Register. This register determines the health-related risks that NHS England should focus on, and exercises will involve matters that are on this register. In the five years prior to the Covid-19 incident being declared in January 2020, EPRR across the NHS had needed to respond to an unprecedented series of major incidents, including the Manchester Arena terrorist attack, the 2017 London Bridge attack and the Grenfell Tower fire, as well as the WannaCry cyber-attack and several major supply and service disruptions. The NHS nationally had not been out of an incident response (Level 3 or lower) for more than 10 consecutive days for over three years.

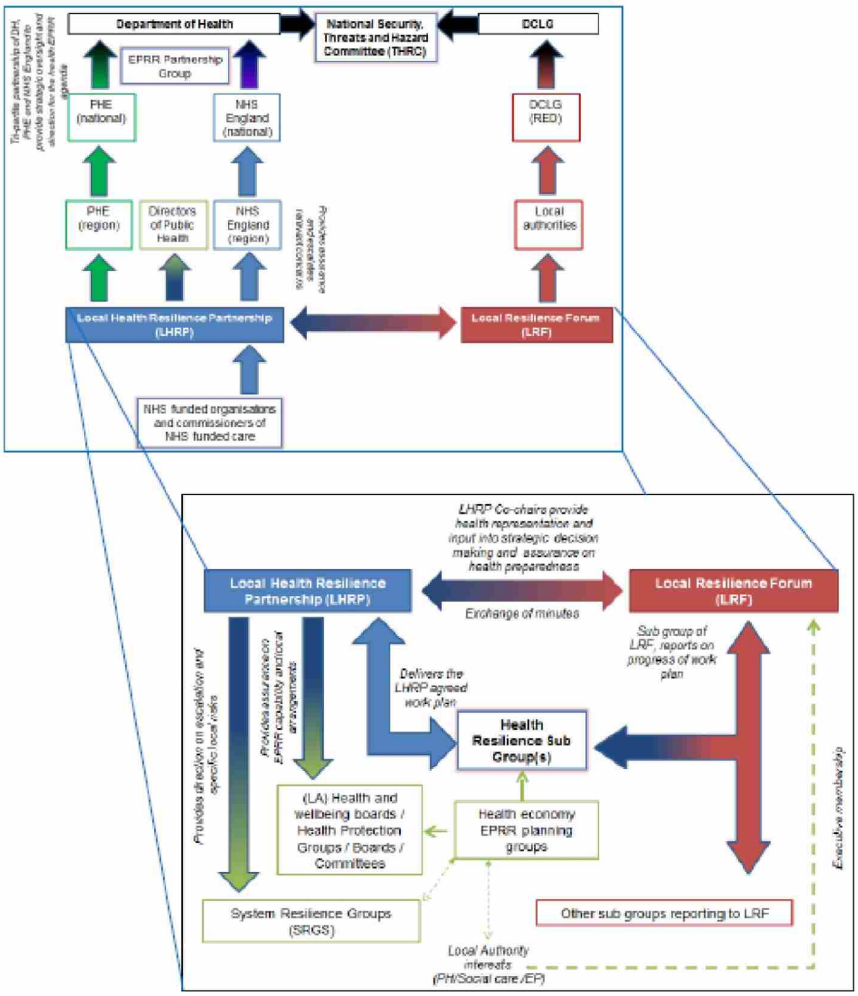
3. The 2015 EPRR Framework explains that NHS England and the NHS in England cannot prepare for or respond to a pandemic in isolation. NHS Improvement (NHSI) and Clinical Commissioning Groups (CCGs) are key partners throughout NHS pandemic preparedness and response. LHRPs will oversee health pandemic preparedness and act as a conduit for health to engage with LRF-wide preparedness arrangements. PHE and the local authority Directors of Public Health also have roles to play in pandemic influenza resilience. It is essential planning is undertaken in partnership with others to ensure the best possible outcomes

4. The roles of NHS England, DHSC, UKHSA, DCLG and Cabinet Office and COBR are related but distinct in respect of EPRR. It is the EPRR role of DHSC to work with devolved administrations and internationally for both planning and responding to

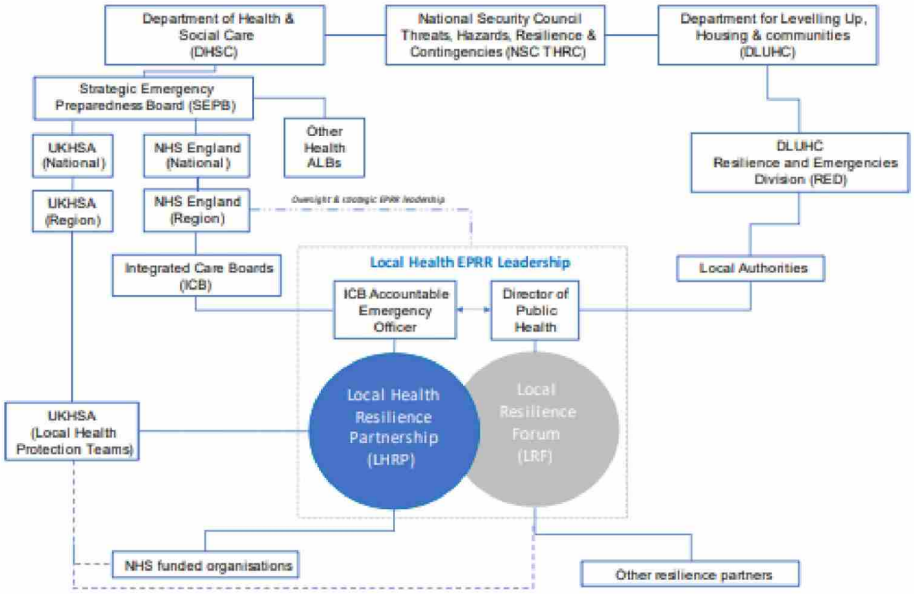
emergencies. NHS England were not always invited to meetings with the devolved administrations and did not have extensive input.

5. The roles of each organisation involved in England's response is set out in the NHS England EPRR Framework (the 2015 version applied until July 2022 when version 3 was published taking into account the changes under the Health and Care Act 2022). NHS England's role (vis-à-vis DHSC pursuant to the EPRR Framework) is to provide support to DHSC in their role to the central government response to an emergency.

6. The EPRR Structure for the NHS in England in relation to the 2015 EPRR Framework, can be described by the following diagram:



7. From 1 July 2022, the EPRR structure for the NHS in England changed as follows:



8. LHRPs will be co-chaired by the ICB AEO and a Director of Public Health. NHS England will be a member of each LHRP. Health resilience sub-groups may exist at LHRP level and at an ICS level to undertake strategic and tactical EPRR work.

9. When an incident triggers the EPRR Framework the roles of organisations change. When NHS England moved to a Level 4 incident to respond to Covid-19, the Framework allowed for the architecture of NHS England to pivot to support the incident response. Level 4 permits NHS England, at a national level, to take command of all NHS resources in England. In practice this results in the regional teams actioning direction from the national team. This is different, for example, to a Level 1 or 2 incident where responses may be managed by an individual organisation or local health economy through the CCGs (as they then were) in liaison with the NHS England regional team.

10. In response to the early signs of the global spread of Covid-19 and before the WHO had formally declared a pandemic, on 21 January 2020, NHS England activated an Incident Management Team ("**IMT**") under NHS England's Strategic Incident Director and, National Director for Emergency Planning and Incident Response.

11. On 22 January 2020, NHS England's Strategic Incident Director formally commenced his role as NHS England's Strategic Incident Director for Covid-19. Steven Groves

was appointed as Incident Director. The National Incident Management Team (IMT(N)) and the Incident Co-ordination Centre (ICO(N)) were formally established and early cells were initiated, including IPC, 111 and Supply Chain.

12. Also on 23 January 2020, the first IMT meeting was held, which was attended initially by the Medical Director for EPRR, the Director for EPRR, the Head of EPRR, EPRR (National), Regional Heads of EPRR, National Communications Response, Specialised Commissioning, IPC Leads, NHS 111 Lead, HCID-A Network Lead. Meetings were initially scheduled to take place twice daily, Monday to Friday.

13. With the first patients identified in late January, NHS England declared a level 4 incident on 30 January 2020. Following this the EPRR team worked to establish a cell structure enhanced by the 'pillar' system. Operational tasks included increasing the number of available oxygen supplies and ventilators, supporting the creation of additional capacity (including Nightingale facilities) and providing quarantine facilities – initially in the form of HCID units and latterly to support returnees from Wuhan, China and the Diamond Princess.

14. In establishing and providing ongoing operational support to the Incident Management Team (National) (**IMT(N)**), Incident Co-ordination Centre (National) (**ICC(N)**) and wider organisation's Covid-19 response, and in line with the NHS England EPRR framework, EPRR(N) and Potential Incident Investigation, Preparation and Recovery (**PIIPR**) remained central to the national Covid-19 response interacting with central government (including DHSC and Ministry of Defence), ALBs (including PHE and MHRA), the seven NHS England regional teams and national Covid response cells. The mechanisms by which EPRR(N), PIIPR and the ICC(N) interacted with such stakeholders were through strategic, tactical and operational Covid-19 response committees (e.g. IMT(N) meetings, Strategic/Fusion and Tactical Fusion, NIRB) and communication channels through the ICC(N) including an established Covid specific single point of contact and task allocation process

15. The incident response governance framework contained several regional interfaces:

    a. Incident Management Team (National) and Incident Management Team (Regional) links;

    b. Incident Director (Regional) and NIRB links; and

    c. regional cells and workstreams docked into national equivalents.

NHS England Cell structure

16. The detail regarding the role of cells in NHS England's governance and decision-making procedures will be covered in response to Module 3. However, for the purposes of Module 2, it is helpful to provide some brief information regarding aligned cells and touchpoints with central-government and other organisations.

17. Cells were set by NHS England as a way to give a focus to particular operational issues that arose during the pandemic, with a defined task and team allocated to each cell. The cells also became the building blocks of day-to-day management and record keeping of how each task was addressed.

The NHS England Board and the National Incident Response Board ("NIRB")

18. A role of NHS England is to ensure that NHS England and the NHS in England is properly prepared to deal with potential disruptive threats to its operation and to take command of the NHS, as required, during emergency situations. As such the NHS England Board receives update at Board meetings regarding the state of readiness and incidents since the previous update.

19. NHS England and NHS Improvement (which consisted of the Boards of Monitor and the NHS Trust Development Authority) each established a group known as the Covid-19 National Incident Response Board on 18 February 2020, which met in common (known as the "Covid-19 Board", "Covid-19 NIRB" or simply "NIRB") to support the discharge of each organisation's respective duties and powers and their combined responsibilities by setting the strategic direction and providing oversight of NHS England and NHS Improvement's response to the Covid-19 incident.

20. The duties of NIRB were (in summary) to:

    a. set the strategic direction and provide oversight of the NHS England response to the incident;

    b. work in partnership with other originations (e.g. DHSC & PHE) to protect the public and minimise health impact;

    c. agree the approach to the implementation of national response measures and related key communications activity;

d. determine the redeployment and/or reallocation of NHS England resource to support NHS operational readiness and the response to the incident based on the Government's cross-departmental strategy and priorities, making recommendations to the NHS England Boards where a proposal has a material impact on staff, the public and/or patients, or where a decision is considered to be contentious and/or repercussive;

e. provide oversight and challenge to NHS England operations;

f. review key risks and issues escalated to NIRB; and

g. ensure appropriate arrangements were established at the appropriate time to manage recovery work.

21. NIRB approved the evolving iterations of the Covid-19 operating model (as evidenced through the revised iterations of incident governance diagram and cell structures that were presented to NIRB), as well as being the central link between the response and the NHS England executive Group and NHS England Board. Additionally, there were lines of communication through to NIRB via the Chair of each of Tactical Fusion and Strategic Fusion. It is also worth highlighting that the Incident Response Team (National) reported key updates on issues through to Tactical Fusion, and then as required, back to NIRB.

22. In November 2020, the duties of the NIRB were amended also to support the implementation of nationally-agreed strategies and programmes and oversee delivery of these. To do this, NIRB would:

a. Monitor in-year delivery and take action to ensure finance, performance, workforce and quality objectives are achieved;

b. Consider and agree the approach to implementation for national response measures and related key communications activity, and associated targets

c. for regional and local response, and monitor delivery of these;

d. Consider the redeployment and/or reallocation of NHS England resource to support NHS operational readiness and the response to COVID-19 based on the Government's cross-departmental strategy and priorities and in the context of delivery of NHS Long Term Plan programmes, the NHS People Plan and EU Exit programme, making recommendations to the NHS

Executive Group and NHS England and NHS Improvement Boards if required; and

e. Review key programme risks and any issues escalated to the COVID-19 Board and, where necessary, determine appropriate action to mitigate these and resolve any barriers to progress.

23. NIRB was chaired by NHS England's Chief Operating Officer, and in her absence, the National Medical Director, Chief Finance Officer. or Strategic Incident Director.

24. NIRB was re-established upon the move back to a Level 4 incident in November 2020.

25. NIRB was stood down on 31 July 2021 and the Operational Response and Delivery Group (OpReD) went live on 1 August 2021 to support the move to the recovery phase of the pandemic.

26. The Chief Operating Officer as the Accountable Emergency Officer for Covid-19 was responsible for ensuring that updates on the work of NIRB were reported to the NHS England Executive Group and the Boards of NHS England and NHS Improvement monthly, and more frequently as required.

Other key NHS England meetings

Tactical Fusion

27. Tactical Fusion was established to support the national response from 14 April 2020 as the IMT and NIRB needed to be supplemented.

28. Tactical Fusion was responsible for:

a. Providing daily operational status updates from Cells and Operational Functions covering:

i. Current operational assessments;

ii. Forward look on operational matters for the next 48 hours - 14 days;

iii. Horizon scan to identify issues needing early action 2 weeks+;

iv. Support and/or guidance required; and

v. Potential risks, issues and mitigations.

b. Providing response to regional concerns raised at daily IMT where appropriate;

c. Providing situational awareness to attendees of wider strategic focus from Strategic Fusion and National Incident Response Board (NIRB);

d. Cohere and co-ordinate cross cell activity at the tactical level;

e. Provide a platform for escalation of issues;

f. Fuse the national tactical operating picture, collating key points to update at the Strategic Fusion meeting;

g. Facilitating information flow across the system to contribute to situational awareness;

h. Identifying areas for Contingency Cell support and provide advice and guidance;

i. Providing direction, guidance and prioritisation for ongoing work; and

j. Feed into the NHS Chief Operating Officer's end of day report with key topics arising.

29. Tactical Fusion was chaired by the Incident Director (National) and, in his absence, the Deputy Incident Director (National).

Strategic Fusion

30. Strategic Fusion was established to support the national response from 14 April 2020 as the IMT and NIRB needed to be supplemented.

31. The role of Strategic Fusion was to support the cohesive delivery of nationally-agreed strategies and programmes, including NHS England's response to the COVID-19 pandemic and recovery towards the goals set out in the Long Term Plan and other commitments, and the Strategic Fusion Delivery Group by:

a. Reviewing and seeking to resolve issues escalated to the Group from the Tactical Fusion Delivery Group or other routes and, where necessary, escalate these to the Operational Response and Delivery Group;

b. Sharing information around key areas of interdependency to support alignment in planning and delivery;

c. Agreeing national strategic key lines and actions on urgent priorities and issues;

d. Receiving regular updates on the latest situation with regard to COVID-19 and NHS recovery from the pandemic to ensure common situational awareness at a strategic / executive level;

e. Considering communications prioritisation; and

f. Feeding into summary reporting documents with key topics arising as required.

32. Strategic Fusion was chaired by the National Director for Emergency Planning and Incident Response as Strategic Incident Director (or in his absence by the Incident Director (National) or Deputy Strategic Incident Directors). From June 2021 as the incident moved into a recovery phase it was co-chaired by Director for Long Term Plan Delivery and Deputy Chief Operating Officer.

IMT

33. The first Incident Management Team (National) meeting was held 21 January 2020. IMT was responsible for:

a. Receiving daily operational status updates from Regional Incident Directors and the national workstreams covering:

i. Operational assessments of the last and next 24 hours;

ii. Operational assessments of the next 48 hours;

iii. Risks and mitigations; and

iv. Issues and resource requests.

b. Act as the national first escalation point for the regions and national workstreams;

c. Provide response to regional concerns where appropriate;

d. Provide strategic and operational support and guidance to the regions and national workstreams;

e. Disseminate key strategic and operational messages from National Strategic and Tactical Fusion to the regions and national workstreams;

f. Escalate key tactical/operational messages to National Strategic and Tactical Fusion;

g. Disseminate the NHS Chief Operating Officer's daily message to the regions and national workstreams.

34. IMT was chaired by the Deputy Incident Director (National), and in his absence, the Duty Incident Coordination Centre Manager.

Annex 6: Operational working between NHS England and Government

1. At an operational level, NHS England and Government worked together through aligned 'cells'. These cells consisted of multi-organisational efforts led by other Government departments, reflecting the fact that policy responsibilities sit outside of NHS England. The aligned cells were:

    a. Volunteering (vulnerable individuals & group support) (DCSM, DHSC, MHCLG and NHS England);

    b. Outbreak management (PHE led);

    c. Testing (Test and Trace and NHS England);

    d. PPE (DHSC and NHS England);

    e. Shielding Vulnerable individuals & Groups (MHCLG and NHS England);

    f. Medicine (DHSC and NHS England); and

    g. Vaccine Delivery and Screening (part of Vaccine Deployment Programmes with DHSC, HEE, MHRA and Devolved Administrations)

2. At NHS England National Level:

    a. testing cell colleagues attending NHS England Strategic Fusion and Tactical Fusion meetings and regular attendance at the National Test and Trace Programme's Programme Board and other meetings as requested by DHSC colleagues, especially during the period when testing capacity was being rapidly increased over the summer/autumn of 2020; (e.g. testing cell); and

    b. At a regional level, the IPC team links with Regional Chief Nurses for IPC related issues and with Regional Medical Directors as appropriate. Each region has a regional IPC team who work with trusts to support implementation and best practice, along with supporting the handling of any outbreak issues.

3. At national/Department level:

    a. working closely with other organisation's cells e.g. the NHS England testing cell worked in close collaboration with the PHE testing cell to support the coordination of efforts to significantly expand testing capacity accessible to

NHS patients and staff, underneath the overall lead of DHSC. This relationship was maintained throughout the Covid-19 testing response; and

b. NHS England representatives attending (in various capacities) cross-government structures with decision making powers such as the Health Ministerial Implementation Group (e.g. in relation to the shielding programme).

4. An example of cross-working includes the Covid 19 Medicines Cell, which was formally established in March 2020, however, a significant programme of work commenced prior to the cell's establishment, to prepare for the expected increased demand for medicines to support Covid-19 patients.

5. The Covid 19 Medicines Cell built on some of the foundations (processes, knowledge, contacts) that had been created to support medicines supply issues as a result of EU Exit planning. For example, shortage mitigation actions such as stockpiles were implemented for EU-Exit and were then also used for assuring the supply of priority Covid-19 medicines. This included: understanding what medicine support Covid-19 patients may require, possible issues in the medicine supply chain due to Covid-19, sourcing additional stock, stock visibility in the NHS and wider supply chain and governance structures needed to support the response.

6. The NHS England Medicines Supply team handled both EU Exit planning and managed the Covid-19 (Medicines Cell) activity, working collaboratively with colleagues from the NHS England Commercial Medicines Unit (CMU) and DHSC colleagues from their Medicines Supply Branch. An Allocation & Distribution Group (ADG) was established to allocate national supplies of medicines where there were known shortages relating to Covid-19 priority medicines. Overarching governance to ADG was provided by the Medicines Shortage Response Group, which was NHS England chaired, but DHSC administered. This was a pre-existing joint group for managing medicines supply issues.

7. The cell membership also included colleagues from other areas of the NHS , such as the Specialist Pharmacy Service (SPS), an independent pharmacy service that NHS England supports , where the Regional Procurement Pharmacy Specialists (RPPSs) had a key role in the allocation and distribution of Covid-19 medicines, as well as providing intelligence from the system. Governance meetings that provided key oversight and decision-making functions included a wide range of key stakeholders,

including: DHSC, MHRA, Devolved Administrations, PHE and NICE. The Medicines Cell also engaged with clinical stakeholders, professional bodies, and the wider NHS.

8. DHSC holds overall responsibility for continuity of supply of medicines to England and, while it is a generally devolved matter, in some circumstances including shortages management, also for the other nations of the UK and the Crown Dependencies. Manufacturers have a legal requirement to inform DHSC of any supply problems. DHSC works closely with NHS England, MHRA, PHE, the wider NHS, industry, wholesalers, and others in the supply chain to ensure consistency of supply of medicines. DHSC is also responsible for engagement with the Devolved Administrations and UK Crown Dependencies. The CMU is responsible for coordinating operational management of supply problems for medicines procured for NHS hospitals on CMU frameworks. It has also over recent year strengthened the contractual obligations under those contracts to both inform the NHS of supply problems and increase minimum stock levels held in the UK.

9. During the pandemic response, NHS England took on extra responsibility for functions connected with supplier management, such as the UK wide allocations for medicines at risk of shortage and commercial arrangements with suppliers of medicines required to support Covid-19 patients. Three categories of medicines were identified as being both high priority and at risk of (global) shortage for the treatment of Covid-19 patients. These were (1) Intensive Therapy Unit medicines, (2) Antibiotics and (3) End of Life care medicines. Specific list of priority medicines in these areas were created, with input from National Clinical Directors and other clinical expertise, and regular analysis of their supply status was conducted.

Infection Prevention and Control and Four Nations

10. Prior to the pandemic, NHS England was responsible for supporting individual trusts to deliver high quality Infection Prevention and Control ("**IPC**") practice as part of delivering high quality, safe care in accordance with the contemporaneous PHE guidance. In relation to the pandemic, each of the Devolved Administrations operated a similar cell structure to provide IPC support/response as per their country's EPRR.

11. The UK wide IPC cell was a multi organisation cell, developed to advise on Covid-19 IPC guidance published by PHE. The cell brought together the lead IPC specialists from the Four Nations (membership organisations: NHS England, PHE, Public Health Wales, Antimicrobial Resistance and Healthcare Associated Infection Scotland, Public Health Agency Northern Ireland, and the Ambulance Service).

12. The IPC cell's role developed over time and so too did how guidance was produced. In the initial months of the pandemic, PHE authored the UK IPC Guidance which advised NHS organisations on Covid-19 specific IPC measures. As the pandemic evolved, particularly when the virus was in widespread circulation, the UK IPC Cell used its operational expertise to lead on drafting these guidance documents, engaging with stakeholders on their development. The drafts produced were then approved and published by PHE and later UKHSA.

13. NHS England continued with its operational IPC responsibilities for England, which included developing strategies to support the wider system to implement the UK IPC Guidance. This included publishing supporting material, amongst a range of supportive measures developed and offered by the organisation.

14. At a regional level, the IPC team links with Regional Chief Nurses for IPC related issues and with Regional Medical Directors as appropriate. Each region has a regional IPC team who work with trusts to support implementation and best practice, along with supporting the handling of any outbreak issues.

Annex 7: Exercises

1. One way in which NHS England collaborated across government throughout the pandemic was through 'exercises'.

2. The PHE (now UKHSA) Exercises team works with national and international partners to ensure that healthcare professionals and multi-agency partners are better able to respond to emergencies and incidents.

3. The PHE team delivered exercises at national, regional and local level, as well as internationally with partners. In addition, the team work internally within PHE, to help PHE prepare to respond to incidents by developing resources and delivering exercises at both national and regional levels. In addition, the team aid the tripartite partnership (DHSC, NHS and PHE) with preparedness exercises. Structured debriefs are an important element of the emergency preparedness cycle and the Exercises team have considerable experience in facilitating and reporting on this type of event.

4. Exercises can be national, including national partners, cross-border, regional or local.

5. Between January 2020 and February 2022, NHS England was involved in a number of EPRR exercises, as set out in the accompanying timeline. These were generally led by either PHE or Government, and NHS England were participants. Outputs are summarised in reports produced by the lead organisation. These included:

    a. **Exercise Nimbus** (February 2020, Cabinet-Office led). This was a table-top exercise which simulated a fictional COBR meeting, taking place on 13 April 2020. The aim was to rehearse ministerial-led decision-making for the UK's pandemic preparedness and response within the context of the present novel coronavirus outbreak. The objective was to expose the potential scale and range of impacts arising during a pandemic, and to identify the likely type and range of decisions that would need to be made by minsters at key points during the pandemic. A further objective was to rehearse the structure, process and protocols for supporting clinical, strategic decision making in the response to the novel coronavirus outbreak in the UK. Participants worked through the context, choices and consequences for a number of topics arising from a fictional scenario. These included: Caring for the sick, staff absences and communications. Attendees included representatives from No10, PHE, DHSC, Home Office, Go Science and the cabinet office. NHS

England's Chief Executive, Strategic Incident Director and National Head of EPRR also attended;

b. **Novus Coronet**: March 2020. (PHE led) Designed primarily for health organisations to explore the response to a novel coronavirus outbreak in England and the interdependencies with LRF partners. The scenarios, injects and question sets were designed entirely to demonstrate, test and explore the RWCS that may arise from an outbreak of a novel coronavirus which has the potential to escalate to a declared pandemic;

c. **Exercises Gemini:** June 2020 (DHSC led). The SSHSC for Heath led a pair of exercises to explore, inform and assess the progression of the NHS Test and Trace system (Gemini I and Gemini II). Exercise Gemini I was undertaken to explore the development and understanding of NHS Test and Trace approach and how it was to aid national decision making. Exercise Gemini II was used to explore progress toward the implementation of the recommendations from Exercise Gemini I;

d. **Exercise Swift:** September 2020 (DHSC led). This was an exercise to test operational planning in the event of a care home provider collapse. A key output from this was an update operational plan for such a scenario;

e. **Exercise Fairlight**: September 2020. (Cabinet Office led). The Prime Minister asked the Ministry of Defence to conduct an exercise to test the Government's Operational Delivery Plans for Covid-19 ahead of winter. The exercise was delivered based on the RWCS which included progressive deterioration of conditions over winter, and which at certain defined points would present a scenario which would require inter-departmental planning involving SROs and Programme Directors from across government, and which will make use of the Covid-19 governance structures. There were four exercise scenarios: (i) regional lockdown management; (ii) increase in national transition level; (iii) national transmission reaches new peak; and (iv) transition to recovery. NHS England did not receive the outputs from this wider exercise;

f. **Exercise Fairlite**: (NHS England led) In preparation for Exercise Fairlight, NHS England regions and cells participated in "Exercise Fairlite". This was split into Fairlite I and II which were workbooks for NHS organisations to complete over a one week period.

i. Exercise Fairlite I was undertaken during August 2020 prior to Exercise Fairlight and was run to test and assure ongoing preparatory work within the health system; and

ii. Exercise Fairlite II was undertaken during end of September / beginning of October 2020 and built on ongoing work around Phase 3 planning for elective recovery, wave 2 planning to date and the then recent separate request for system surge and capacity plans.

g. **Exercise Asclepius:** October 2020, NHS England and partners conducted a live play field exercise, with an aim to gauge the capabilities of the POD concept for the scalable delivery of mass vaccination, and identify what steps would be needed to mitigate the issues faced by the Mass Vaccinations programme as it steps up for the SARS-CoV-2 targeted vaccine rounds.

Annex 8: NHS Incident Levels during the pandemic

Date	NHS Incident Level	Supporting Commentary
30 January 2020	Level 4 declared	Not immediately publicised but covered elsewhere in this corporate statement
1 August 2020	Transition to Level 3	*On 19 June 2020 the Chief Medical Officers and the Government's Joint Biosecurity Centre downgraded the UK's overall Covid alert level from four to three, signifying that the virus remains in general circulation with localised outbreaks likely to occur.* *the current level of Covid demand on the NHS means that the Government has agreed that the NHS EPRR Incident Level will move from Level 4 (national) to Level 3 (regional) with effect from 1 August.* [https://www.england.nhs.uk/coronavirus/documents/third-phase-of-nhs-response-to-covid-19/]
5 November 2020	Return to Level 4	*In response to increasing coronavirus infections the Government and Parliament have today enacted a further set of national Covid measures. The NHS is also seeing increased Covid demand on our hospitals, which is projected to intensify over the coming weeks. The NHS England Chief Executive has therefore today announced that the health service in England will return to its highest level of emergency preparedness, Incident Level 4, from 00.01 tomorrow, 5 November.* *This means the NHS will move from a regionally managed but nationally supported incident under Level 3, returning for the time being to one that is co-ordinated nationally.*
25 March 2021	Transition to Level 3	*Since the peak of Covid demand in late January, we have seen overall cases of Covid-19 in England steadily decline, with pressures on bed occupancy and critical care reducing accordingly.*

Date	NHS Incident Level	Supporting Commentary
		At the NHS England public board meeting this afternoon the NHS England Chief Executive therefore announced that the national incident level for the NHS Covid-19 response will now be reduced from Level 4 to Level 3, effective today. [https://www.england.nhs.uk/coronavirus/publication/nhs-response-to-covid-19-transition-to-nhs-level-3-incident/]
13 December 2021	Return to Level 4	*The UK chief medical officers on 12 December increased their assessment of the Covid-19 threat level to 4, and advice from SAGE is that the number of people requiring specialist hospital and community care could be significant over the coming period.* *In light of this, we are again declaring a Level 4 National Incident, in recognition of the impact on the NHS of both supporting the vital increase in the vaccination programme and preparing for a potentially significant increase in Covid-19 cases.* [https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2021/12/C1487-letter-preparing-the-nhs-potential-impact-of-omicron-variant-and-other-winter-pressures-v4.pdf]
19 May 2022	Transition to Level 3	*With community cases and hospital inpatient numbers now seeing a sustained decline – thanks in part to the success of winter and now spring booster vaccines – and following advice from the National Incident Director, today I will report to the NHS England and NHS Improvement Board my decision to reclassify the incident from a Level 4 (National) to a Level 3 (Regional) Incident.* [https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2022/05/C1647-incident-response-letter-transition-from-response-to-recovery-190522.pdf]

Annex 9: Lessons Learned Chronology

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
12 February 2020	NHS England participated in **Exercise Nimbus** Note: This entry also appears on the wider Rule 9 Chronology	This exercise was a Ministerial table-top exercise on Coronavirus. This was a Cabinet Office-led exercise, simulating a COBR meeting on 13 April 2020. Participants worked through the context, choices and consequences for a number of topics arising from a fictional scenario. These included: Caring for the sick, staff absences and communications. Alongside NHS England, other participants included: No 10, Public Health England, Department of Health and Social Care, Home Office, the Government Office for Science and the Cabinet Office. NHS England's Chief Executive Officer, was amongst NHS England attendees.	NHS England did not receive a final report for this Exercise.
17 March 2020	NHS England's Chief Executive Officer, Chief Operating Officer, Strategic Incident Director (Director for Acute Care, NHS England) and National Medical Director, gave oral evidence at the Health and	This Inquiry considered the management of the coronavirus epidemic by the Government and its agencies. NHS England, the Department of Health and Social Care and the Government Office for Science were included amongst witnesses who	The Health and Social Care Committee did not publish a report into this Inquiry.

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	Social Care Committee hearing on **Management of Coronavirus outbreak.**	gave oral evidence to the Inquiry.	
17-20 March 2020	Public Health England (PHE) co-ordinated **Exercise Novus Coronet,** on behalf of NHS England.	This was a paper-based workbook exercise to explore the health response to a novel coronavirus outbreak in England, and the interdependencies with Local Resilience Forum partners.	No final report is available due to the nature of the exercise.
08 April 2020	Stephen Powis (National Medical Director, NHS England) gave oral evidence at the Science and Technology Committee hearing on the **UK response to Covid-19: use of scientific advice**	This Inquiry considered the place of UK research, science and technology in the national and global pandemic response, and what lessons should be learned for the future. NHS England was included amongst witnesses who gave oral evidence to the Inquiry.	The Government's response to the Committee's recommendations was published in May 2021 and sets out which recommendations have been accepted. Recommendations cover: expert advice and government decision-making, activation and operation of SAGE, transparency and communication, nature of scientific advice to government, and application of science expertise. There were no direct recommendations to NHS England. However, NHS England and NHSX are directly mentioned within the response to a recommendation requiring Department of Health and Social Care to set out in an

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
			action plan what efforts have been made, and will be made during the pandemic, to address the poor data access issues raised by the scientific community and SAGE and its sub-groups. There are a number of recommendations and response that reference NHS Test and Trace. The NHSX project came to an end in February 2022.
01 May 2020	NHS England's National Cancer Director and National Mental Health Director, gave oral evidence at the Health and Social Care Committee hearing on **Delivering core services during the pandemic and beyond.** (First session: see second oral evidence session on 30 June 2020).	See entry for 30 June 2020	See entry for 30 June 2020
22 May 2020	NHS England's Chief Executive Officer, Finance Officer & National Medical Director, gave oral evidence at the Public Accounts Committee hearing on **NHS capital**	This Committee questioned officials from the Department of Health and Social Care (DHSC) and NHS England on capital expenditure in the NHS and considers findings of the National Audit Office's investigation into NHS financial management and	The Government's response to the Committee's recommendations was published in September 2020 in the form of Treasury Minutes. This sets out whether the Government agreed to the recommendations.

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	expenditure and financial management.	sustainability (published 5 February 2020, as referenced in the Government response).	This includes the response to a recommendation that DHSC should review the effectiveness of having a separate body overseeing the planning and supply of the NHS's future workforce. NHS England should work with Health Education England (HEE) to evaluate how workforce planning can be improved including the integration of training and education funding models with service planning and delivery in order to overcome persistent challenges. HEE is due to merge with NHS England from April 2023.
June 2020	NHS England establishes the **Beneficial Changes Network** (BCN).	The BCN is a network of interested stakeholders who work together to harness and capture benefits, evaluate changes, share knowledge, and help to embed learning. It is hosted on NHS Futures, a collaborative working platform that is managed by NHS England. As well as providing and receiving resources through the platform, the BCN hosts lunch and learn webinars, undertakes external evidence scans and videocasts, and collates case studies in an annual cycle of submissions. A key focus of the network	There are no direct recommendations from this activity, but the network supports collaboration between stakeholders. On 14 October 2020, a paper was presented to the National Incident Response Board (NIRB) summarising outputs from this year of activity. This notes that over 3,000 submissions had been received and distilled using thematic analysis. In addition, the team had reviewed a further 170 documents and pieces of evidence to produce a long list of 700 recognised beneficial changes. Priority themes to consider for

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
		has been on understanding the patient experience of change, and considering the impact of change on health inequalities. As at September 2022, the BCN had grown to make up nearly a thousand representatives from over 250 organisations including providers from all sectors: primary, community, secondary, mental health, ambulance trusts, integrated care systems, clinical commissioning groups, local government; patient groups; think tanks such as the Kings Fund and Health Foundation; Care Quality Commission, The National Institute of Health and Care Excellence, Public Health England, NHS Confed, NHS Providers, Academic Health Science Networks, voluntary and community sector organisations and many more.	future activity are identified as: Patient / care; Primary care; Clinical change; Citizen and public; People, culture and workforce; Community Care; Mental health; Commercial; Professional Practice (Nursing, Medical, AHPs); Emergency and Elective Care and Patient Flow; Ambulance; System Improvement; and Digital.
10 June 2020	NHS England's National Mental Health Director, and Chief Executive Officer of Central and North West London NHS Foundation Trust gave oral evidence at the	This Committee was established by the Lords Public Services Committee to examine what the experience of the coronavirus outbreak can tell us about the future role, priorities and shape of public services.	The Government responded to the Committee's recommendations in February 2021, and set out which recommendations have been accepted. A number of recommendations were made to Government that

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	Lords Public Services Committee hearing on **Public Services: Lessons from Coronavirus**		involved the NHS working with the Government and others on certain matters related to topics of health.
22 June 2020	NHS England's Chief Executive Officer, Chief Operating Officer, and National Medical Director gave oral evidence at the Public Accounts Committee hearing on **Readying the NHS and social care for the Covid-19 peak**	This Inquiry questions the methods used to select providers and award contracts for Personal Protective Equipment provision, the use of consultants and other private contractors in mounting the UK emergency response including building and supplying the Nightingale hospitals, the development of the UK's testing capacity and contact tracing system, and what capacity the NHS has now to withstand a potential second peak later this year. This builds on the findings of the National Audit Office's investigation into Readying the NHS and social care for the Covid-19 peak (published 12 June 2020, as referenced in the Government response). Officials from NHS England, the Department of Health and Social Care; Ministry of Housing, Communities and Local Government and Public Health England were amongst organisations	The Government's response to the Committee's recommendations was published on 18 November 2020 in the form of Treasury Minutes. This sets out whether the Government agreed to the recommendations. This included some joint recommendations for DHSC and NHS England to: • review which care homes received discharged patients and how many subsequently had outbreaks, and report back to us in writing by September 2020. • develop procedures so that all patients deemed fit to leave hospital are safely discharged into settings in a way which limits the spread of COVID-19. • identify and agree with relevant professional bodies specific actions to support health and

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
		invited to give oral evidence.	social care staff to recover from the impact of the first peak and how they will monitor and provide further support to staff through to the end of the pandemic.
23 June 2020	NHS England participated in **Exercise Gemini 1** (See also: Gemini 2 on 30 July 2020).	The first in a set of table-top discussion exercises to understand the NHS Test and Trace approach and how it would aid national decision making. This was a cross-government ministerial exercise, co-ordinated by Public Health England (PHE). The exercise was attended by the Secretary of State for Health and Social Care and senior leaders from: NHS Test and Trace, the Joint Biosecurity Centre, Department of Health and Social Care, the Social Care Task Force, PHE and NHS England. NHS England was represented by its Medical Director for Acute Care/ Emergency Preparedness and Strategic Incident Director) and National Director of EPRR.	PHE provided a summary report of this exercise. There were no specific recommendations made to NHS England, but one recommendation concerned the definition of the relationship between the roles of the NHS Test and Trace Regional Convenor, PHE Regional Director of Public Health and the NHS Regional Director (including the relationship with local authority Chief Executives and Directors of Public Health), for all stages of the COVID-19 National Alert Level, but in particular for Level 3 and in escalation to Level 4.
30 June 2020	NHE England's Chief Executive Officer, Chief Operating Officer, and National Medical Director, gave oral evidence at	This Inquiry considered the following issues: ☐ communication with patients;	The Government response to the Committee's recommendations was published in January 2021 (Appendix to the Committee Report), which set out which

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	the Health and Social Care Committee hearing on **Delivering core services during the pandemic and beyond**	☐ managing waiting times and the backlog of appointments; ☐ issues facing NHS and care staff relating to access to Personal Protective Equipment (PPE) and routine testing of staff; ☐ issues facing NHS and care staff relating to workforce "burnout"; and what lessons can be learnt from the pandemic in order to support the NHS in the future.	recommendations have been accepted. A number of recommendations were made to NHS England which include managing waiting times and backlog of appointments, mental health, dental services, workforce, PPE, testing staff, support for Accident & Emergency and technology. In Appendix 2 of the report there are some recommendations that are answered by NHS England's Chief People Officer, regarding workforce, wellbeing and discrimination, which NHS England has responded to.
14 July 2020	NHS England's Children Qualities Lead, Health and Justice, gave oral evidence at the Justice Committee hearing on **Children and Young People in Custody**	This forms the second part of an Inquiry into Children and Young People in Custody and considers the condition of the estate in which they live and learn, as well as examining what options are open to children and young people as they leave the youth estate, both to return to the community or to move into adult prison accommodation.	The Government response to the Committee's recommendations was published in April 2021, which set out which recommendations have been accepted. There were a number of recommendations that involved the remit of NHS England, including mental health and self-harm (including during the pandemic), and use of force and pain-inducing techniques.
20 July 2020	NHS England's Chief Nursing Officer, and Chief People Officer, gave oral evidence at the	This Inquiry considers what the action being taken to address long term problems in the NHS nursing workforce, and what impact the Covid-19	The Government's response to the Committee's recommendations was published on 3 February 2021 in the form of

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	Public Accounts Committee hearing on **NHS Nursing Workforce**	pandemic has on current and future plans. It builds on the findings of the National Audit Office's investigation into the NHS Nursing Workforce (published 5 March 2020, as referenced in the Government response). Officials from the Department for Health and Social Care, NHS England and Health Education England were amongst organisations invited to give oral evidence.	Treasury Minutes. This sets out whether the Government agreed to the recommendations. These recommendations included: We welcome NHS England's publication of early lessons from COVID-19. NHS England should ensure it also makes available a full and frank assessment of the new challenges to nursing recruitment and retention specifically and how health providers should address them, particularly where this could disadvantage certain groups for example students or minority ethnic staff. As part of this assessment, NHS England should take stock of the measures in place to support nursing staff's mental health and wellbeing, to share good practice and identify what else staff may need.
22 July 2020	NHS England's Medical Director for Clinical Effectiveness, gave oral evidence at the Women and Equalities Select Committee hearing on **Unequal Impact? Coronavirus, disability and**	This sub-inquiry was established to consider ways of easing some of the problems disabled people are facing when they need access to essential services during the pandemic. It includes consideration of access to food, health and social care and education, and how the Government could improve its communications and	The Government's response to the Committee's recommendations was published on 14 April 2021, which set out which recommendations have been accepted. The recommendations that NHS England are linked to concern barriers to food shopping during the pandemic (NHS responders), annual health

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	access to services.	consultation with disabled people about guidance and policies that are having substantial effects on their daily lives.	checks for learning disabilities, introducing clear face masks in trusts and public health messages in Accessible Information Standard.
30 July 2020	NHS England participated in **Exercise Gemini 2** (See also: 23 June 2020)	The second in a set of table-top discussion exercises to understand the NHS Test and Trace approach and how it would aid national decision making. This was a cross-government ministerial exercise, co-ordinated by Public Health England (PHE). It was used to explore progress toward the implementation of the recommendations from Exercise Gemini 1 NHS England was represented by its Medical Director for Acute Care and Emergency Preparedness and Strategic Incident Director) and National Director of EPRR.	PHE provided a summary report with recommendations for this exercise. Only one suggested action was made to NHS England, relating to local communications activity.
August to September 2020	NHS England ran **Exercises Fairlite (1 & 2)**	A set of two internal paper-based exercises which were co-ordinated internally by NHS England. Participants were internal to the NHS. Fairlite 1 was taken forward as part of preparations for Exercise Fairlight and to test operational readiness of the NHS's ongoing preparatory work for	A summary of key findings of Fairlite 1 was presented to NIRB on 14 September 2021, alongside plans for Fairlite 2. A thematic summary was then shared with Regional Heads of EPRR in October 2020. The focus was on operational readiness and themes included: urgent and emergency care, elective restoration, workforce, PPE, testing,

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		Winter. Workbooks were issued on 27 August 2020. Fairlite 2 built on the ongoing work around Phase 3 planning for elective recovery, Wave 2 planning and surge and capacity plans. Workbooks were issued on 28 September 2020.	infection prevention and control, primary care, comms, command and control, winter challenges and support for systems. Note: NHS England had planned to run two further "Fairlite" exercises but these were not taken forward due to Wave 2.
1-3 September 2020	NHS England participated in **Exercise Fairlight.**	This exercise was led by the Cabinet Office and Ministry of Defence to explore the key areas of the Government's operational response to COVID-19 over Winter. NHS England attended the session with cross-Government SROs, programme directors and representatives from No. 10 and the Cabinet Office. NHS England was represented by its Medical Director for Acute Care and Emergency Preparedness and Strategic Incident Director).	NHS England did not receive a final report for this Exercise, but discussed preparations for the exercise at NIRB on 26 August 2020.
17 September 2020	Matthew Gould (Chief Executive Officer, NHSX) gave oral evidence to the Public Accounts Committee hearing on **Digital transformation in the NHS.**	This Inquiry considers how the NHS is renewing its efforts to transform patient services by making use of modern technology and systems and builds on the findings of the National Audit Office's **investigation into Digital transformation in the NHS** (published 15 May	The Government's response to the Committee's recommendations was published on 4 February 2021 in the form of Treasury Minutes. This sets out whether the Government agreed to the recommendations. NHS England were not present at the Committee

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		2020, as referenced in the Government response). NHSX and the Department for Health and Social Care were amongst organisations called to give oral evidence.	but this is included for completeness. The NHSX project came to an end in February 2022.
29 September 2020	NHS England's National Clinical Director for the Maternity Review and Women's Health, and Chief Midwifery Officer gave oral evidence at the Health and Social Care Committee hearing on **Safety of Maternity services in England**	This inquiry examines evidence relating to ongoing safety concerns with maternity services and builds upon investigations that followed incidents at East Kent Hospitals University Trust and Shrewsbury and Telford Hospitals NHS Trust, as well as the inquiry into the University Hospitals of Morecambe Bay NHS Trust. It also considers whether the clinical negligence and litigation processes need to be changed to improve the safety of maternity services and explore the impact of blame culture on learning from incidents	The Government response to the Committee's recommendations was published in September 2021, which set out which recommendations have been accepted. Recommendations were made to the Department of Health and Social Care and NHS England, including recommendations on: supporting maternity services and staff to deliver maternity care (including staffing, funding and training), learning from patient safety incidents (including engaging with trusts, streamline data collection processes), and providing safe and personalised care for all mothers and babies (including continuity of carer, ending disparity in outcomes, choices at birth, and caesarean section rates).
12 October 2020	NHS England's Chief Commercial Officer gave oral evidence at the Public Accounts	This Inquiry considered the findings of the National Audit Office's investigation into the supply chains and procurement of ventilators (published 30 September	The Government's response to the Committee's recommendations was published on 25 March 2021 in the form of

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	Committee hearing on **COVID-19: Supply of ventilators**	2020, as referenced in Government response). NHS England, the Cabinet Office and the Department for Health & Social Care (DHSC) were amongst organisations called to give evidence.	Treasury Minutes. This sets out whether the Government agreed to the recommendations. This contains one recommendation to NHS England to work with DHSC to set out how future plans for responding to emergencies will address: Maintaining an adequate asset register of its critical equipment and a method for quickly gathering the up to date data; protocols for rapid procurement of critical equipment and the need for surge capacity in the NHS's supply chains.
12-13 October 2020	NHS England and partners conducted **Exercise Asclepius**	This was a live play field exercise to gauge the capabilities of the 'POD concept' for the scalable delivery of mass vaccination models. NHS England were participants along with a range of other local public sector organisations.	The Vaccine Delivery Programme produced a final report with recommendations. These are all specific to the operational delivery of a mass vaccination programme (in terms of access, those most at risk, etc.).
October to December 2020	Between October and December 2020, NHS England's Accelerated Access Collaborative and the Beneficial Changes Network (BCN) commissioned Frontier Economics, Kaleidoscope Health and Care,	The review focused on the impact of the response to the COVID-19 pandemic in relation to innovation (particularly innovation in service delivery), research (particularly clinical research) and collaboration. It was conducted over five phases: scoping; rapid review (research on deep dive topics); International Insights (expert interviews); stakeholder	This work is linked to the work of the wider BCN (see entry for June 2020). Core findings were general and not specific to NHS England. Key themes included: clarity of purpose; leadership and agency; inclusion and personalisation; skills and capability; data, technology and infrastructure and evidence-based decision-making.

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	and RAND Europe, to conduct an **independent review of health and social care innovation, research and collaboration** to help learn lessons from the pandemic and recommend how potentially beneficial changes can become day-to-day practice.	engagement (expert workshops) and finally, reporting. A final report was published in December 2020.	
28 October 2020	NHS England's Chief People Officer and National Mental Health Director, gave oral evidence at the Health and Social Care Committee hearing on **Workforce Resilience and Burnout for NHS and Social Care Staff** (First session: see also 24 February 2021)	See entry for 24 February 2021	See entry for 24 February 2021
01 December 2020	NHS England's National Clinical Director for Critical Care, gave oral evidence to the Joint Health and Social Care	See entry for 26 January 2021	See entry for 26 January 2021

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	Committee and Science and Technology Committee oral evidence session on **Coronavirus: lessons learnt to date** (First Session. See also: 26 January 2021)		
14 December 2020	NHS England's Chief Commercial Officer gave oral evidence at the Public Accounts Committee (PAC) hearing on **Government procurement and supply of personal protective equipment**	This Inquiry was established to consider findings from the National Audit Office's investigations into government procurement during the COVID-19 pandemic (published 18 November 2020, as reference in Government response), and the Supply of personal protective equipment during the Covid-19 pandemic (published 25 November 2020, as referenced in Government response). NHS England, the Cabinet Office and Department for Health and Social Care were amongst organisations invited to give evidence.	The Government's response to the Committee's recommendations was published on 3 September in the form of Treasury Minutes. This sets out whether the Government agreed to the recommendations. No recommendations were made to NHS England.
11 January 2021	NHS England's Chief Commercial Officer and Chief Executive Officer gave oral evidence to the Public Accounts Committee hearing on	This Inquiry considers the UKs vaccination programme and follows findings of the National Audit Office's investigation into preparations for potential COVID-19 vaccines (published 16 December 2020, as	The Government's response to the Committee's recommendations was published on 3 September 2021 in the form of Treasury Minutes. This sets out whether the

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	COVID-19: Planning for the Vaccine	referenced in the Government response). NHS England, the Department for Business, the Department for Health and Social Care (DHSC), the Vaccine Taskforce, and Public Health England were amongst bodies called to give oral evidence.	Government agreed to the recommendations. A number of recommendations was set out for NHS England, around joint activities with DHSC on planning, risk assessment and communications with a specific focus on the vaccines programme. As such, these are not considered directly relevant to Module 2. Note: NHS England's Chief Executive Officer and National Director Vaccine Deployment also gave oral evidence to the Public Accounts Committee on the **Rollout of the COVID-19 vaccination programme in England** on 28 March 2022. This has not been included as it falls outside the Module 2 scope.
26 January 2021	NHS England's Chief Executive Officer gave oral evidence a Joint Health and Social Care Committee and Science and Technology Committee hearing on **Coronavirus: lessons learnt to date** (Second Session. See also: 1 December 2021)	The two Select Committees jointly conducted evidence sessions examining the impact and effectiveness of action taken by Government and the advice it has received. Each Committee drew on specialist expertise and call witnesses to consider a range of issues including: ☐ the deployment of non-pharmaceutical interventions like lockdown and social	The Government response to the Committee's recommendations was published in June 2022. This falls outside of the scope of the request for the Module 2 Rule 9. However, the Committees' recommendations span the issues to be explored, including pandemic preparedness, social care, at risk communities and vaccines

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
		distancing rules to manage the pandemic; - the impact on the social care sector; - the impact on BAME communities and other at-risk groups; - testing and contact tracing; - modelling and the use of statistics; - Government communications and public health messaging; - the UK's prior preparedness for a pandemic; and the development of treatments and vaccines.	
24 February 2021	NHS England's Chief People Officer gave oral evidence at the Health and Social Care Committee hearing on **Workforce Resilience and Burnout for NHS and Social Care Staff.** (Second session: see also 20 October 2020)	This inquiry focused on workforce burnout and resilience across the NHS and social care. It considered: - burnout, resilience and stress levels before and during the covid-19 pandemic - the impact of workforce burnout on service delivery, staff, patients and service users - workforce planning and projections - the measures set out in the NHS People Plan	The Government response to the Committee's report was published in February 2022 and sets out which recommendations have been accepted. A number of recommendations were made regarding the NHS which focus on health and wellbeing support for the workforce, freedom to speak up, use of targets, the Workforce Race and Equality Standards, monitoring the impact of Covid-19 on the workforce, spreading learning across the system and improving support for colleagues from

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		▯ any further measures required to tackle burnout, including how to achieve parity for the social care workforce. NHS England, the Department of Health and Social Care and Health Education England were amongst organisations giving oral evidence.	Black and Minority Ethnic backgrounds.
23 March 2021	NHS England's National Mental Health Director, and National Clinical Director for Mental Health gave oral evidence at the Health and Social Care Committee hearing on **Mental health of children and young people** (First session, see also: 22 June 2021)	The Inquiry was established to examine the progress that has been made by Government against their own ambitions to improve children and young people's mental health provision. NHS England and the Department of Health and Social Care were amongst organisations giving oral evidence.	The Government response to this inquiry was published in March 2022 and sets out which recommendations have been accepted. This falls outside of the parameters of the Module 2 Rule 9 request.
25 March 2021	NHS England's National Directors presented a paper to the NHS England public Board with an **overview of the COVID-19 response.**	The paper provides an overview of the work of the NHS to prepare for and respond to Covid-19. It recognises the extraordinary contribution and burden placed on NHS and other staff to care for and treat Covid and non-Covid patients	This paper sets out a summary chronology of the NHS England response to Covid-19 as at March 2021. It also contains reflections which are internal to NHS England, including on some key achievements which relied on cross-government working such as the use of Dexamethasone and Tocilizumab to treat COVID-19, and delivery of

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
			the vaccination programme. **[SP/0341 – INQ000087492]**
27 April 2021	NHS England's National Mental Health Director, and National Clinical Director for Learning Disabilities and Autism gave oral evidence at the Health and Social Care Committee hearing on **Treatment of people with learning disabilities and autism**.	This Inquiry was established to consider what the Government plans to reform mental health legislation will mean for autistic people and individuals with learning disabilities. NHS England, the Department for Health and Social Care (DHSC), the Ministry of Justice and HM Prison and Probation Service were amongst organisations giving oral evidence.	The Government response to the Committee's recommendations was published on 27 July 2022 and sets out which recommendations have been accepted. This falls outside of the parameters of the Module 2 Rule 9 request. However, it includes joint recommendations for NHS England and DHSC to consider different models of care and admission for autistic people, consider establishing new professional disciplines for intellectual disability and an independent review of deaths of autistic people.
22 June 2021	NHS England's Director for Health and Justice gave oral evidence at a Justice Committee oral evidence session on **Mental health in prisons**	This inquiry was established to understand the current scale of mental health need in prisons, and to identify what support exists and whether there are any gaps in provision. NHS England, the Ministry of Justice (MoJ) and HM Prison and Probation Service (HMPPS) were amongst organisations giving oral evidence.	The Government response to this inquiry was published on 4 February 2022 and sets out which recommendations have been accepted. A number of recommendations were made to NHS England which focus on needs analysis, service provision, procurement, integrated care, health screening, health inequalities and monitoring progress of transfers to inpatient care. This includes joint work with the MoJ on community

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			sentence treatment order requirements, and with DHSC, the MoJ and HMPPS to improve accessibility of prisoner patient records.
22 September 2021	NHS England's SRO, Covid-19 and Flu Vaccine Deployment, gave oral evidence to an Education Committee session on **Covid-19 and vaccination of Children**	This is listed as a non-inquiry session.	Only the transcripts of the evidence are available on the Parliament website regarding this session.
19 October 2021	NHS England's Chief Executive Officer and National Medical Director gave evidence at a Health and Social Care Committee hearing on **Clearing the backlog caused by the pandemic**	This inquiry considered how to quantify the level of pent-up demand for key healthcare services; and to consider whether fundamental changes to the organisation and delivery of NHS services will be required to manage the backlog of cases caused by the pandemic. This included levels of funding, capacity, organisation and leadership for addressing the current backlog for non-covid health services, and concerns that these issues are likely to continue in the longer-term, with a particular focus on elective surgery, emergency care, General Practice, mental health, and long-covid.	The Government response to the Committee's report was published on 25 May 2022, and sets out which recommendations have been accepted. This falls outside of the parameters of Module 2. However, recommendations made to NHS England included joint work with DHSC on: scale and impact of the backlog (recovery planning (including elective care, emergency care, mental health, primary care, community care and social care); public communications; NHS 111; digital; long covid); funding and policies to tackle the backlog (workforce planning; recruitment and retention; health and wellbeing; bed capacity;

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
		NHS England and the Department of Health and Social Care (DHSC) were amongst organisations giving evidence.	system working and use of the independent sector; and digital).
15 December 2021	NHS England's Chief Executive Officer and National Medical Director, gave oral evidence at the Public Accounts Committee on **NHS backlogs and waiting times in England**	This Inquiry considered the current position of NHS backlogs and waiting times following the COVID-19 pandemic, including the points at which patients wait for NHS treatment; how trends in waiting times changed before the emergence of COVID-19; and the effect that COVID-19 has had on waiting times. It followed findings of the National Audit Office's investigation into NHS backlogs and waiting times in England (published 1 December 2021, as referenced in the Government response). NHS England and the Department of Health and Social Care (DHSC) were amongst organisations called to give oral evidence.	The Government's response to the Committee's recommendations was published on 27 May 2022 and sets out which recommendations have been accepted. This falls outside of the parameters of the Module 2 Rule 9 request. However, a number of recommendations are set out for NHS England around recovery planning, including joint work with the DHSC on ensuring this has a strong patient focus, and developing a fully costed plan to enable legally binding elective and cancer care performance standards to be met.
20 January 2022	NHS England's National Cancer Director) and Professor Peter Johnson (National Clinical Director for Cancer) gave evidence at a Health and Social Care Committee	This inquiry was established to consider why cancer outcomes in England continue to lag behind comparable countries internationally and examine evidence relating to the underlying causes of these differences. It also considered what impact disruption to cancer	The Government response to the Committee's recommendations was published on 13 June 2022 and sets out which recommendations have been accepted. A number of recommendations were made to NHS England which focus on raising

Date	Learning event involving NHS England (NHS England)	Summary of aims and methodology	Conclusions and recommendations
	hearing on **Cancer services**	services during the Covid-19 pandemic will have on efforts to catch up, and ask whether the ambitions set out in the NHS Long Term Plan will help close the gap with the best performing countries worldwide. NHS England and the Department of Health and Social Care (DHSC) were amongst organisations called to give oral evidence.	public awareness of cancer symptoms, investment in Community Diagnostic Centres, and embedding cancer leads in Integrated care Systems. This includes joint recommendations to NHS England and DHSC on analysis of the cancer backlog, estimating additional capacity need, retaining the cancer workforce, reviewing the organisation of cancer services and planning for rare cancers.

Notes:

Dates which relate to oral evidence at committees relate to the date on which the oral evidence was given, report and response dates will vary.

Roles of individuals notes in this document relate to the roles as recorded on official documents.

Annex 10: Supplementary request regarding data and modelling

1. We have been asked to provide further detail in respect of modelling, particularly by reference to the following:

    a. additional modelling undertaken by NHS England;

    b. the divergence, and extent of such divergence, between NHS England and SAGE/SPI-M-O modelling, including when and how such divergence(s) was/were identified and the collaboration between NHS England and SAGE/SPI-M-O to address those divergences; and

    c. the impact of any divergence both operationally and in respect of core political and administrative decision making.

2. These are addressed in turn below, but the following introductory and overarching points are important for the Inquiry to bear in mind:

    a. NHS England worked closely with SAGE and SPI-M-O throughout the pandemic to ensure alignment in approach;

    b. That alignment included working on the basis, wherever possible, of the same input assumptions. Further, the purpose of NHS England and SPI-M-O modelling was different – our focus was on producing modelling to inform operational planning and delivery of healthcare services, whereas the latter produced modelling in respect of the progress of the pandemic (population-level incidents and prevalence) and to feed into central government decision-making. As such, like-for-like comparisons of modelling outputs are not straightforward;

    c. NHS England primarily used SAGE and SPI-M-O modelling to inform its own models, notably by using their outputs to produce projected impact on NHS capacity (particularly beds); and

    d. To the extent that any 'divergences' did arise, as detailed further below, they were not fundamental in the sense that undermined the efficacy of the modelling produced by NHS England as an indicator of likely demand for services. All modelling is inherently caveated and has to be treated with

caution as to its reliability, given its forward-looking nature based on a particular snapshot in time.

NHS England's approach to modelling

3. We do not propose to itemise or describe NHS England's modelling work throughout the pandemic in comprehensive detail, as this will be covered in Module 3. Instead, we provide an overview of our approach and describe in general terms how it was used to inform operational decision-making. We provide further detail on specific modelling activities where relevant to the question of 'divergences' with SPI-M-O, as set out in the section below. With that premise in mind, and where relevant, we exhibit a number of examples of modelling produced by NHS England during the pandemic. The Inquiry will note from those modelling examples that once NHS England began using the 'Oxford Simulator', as described further below, it presented the outputs of that modelling alongside those produced by SPI-M-O as well as Sitrep data for comparative purposes. This should help to assist the Inquiry in understanding that there was largely alignment in the projected trends produced by the various models.

4. The mobilisation of NHS England's modelling capability for Covid-19 purposes, and initial work during the early phases of the pandemic, is described in paragraphs 219 to 232 of the corporate witness statement. That description was focussed on the Module 2 scope, which is to say NHS England's interaction with central government from a modelling perspective. As summarised above, that interaction primarily consisted of converting SPI-M-O modelling of hospital admissions into bed capacity projections. We continue to adopt the same focus in this supplementary response but for completeness we briefly describe other modelling activities undertaken by NHS England throughout the pandemic for its own operational purposes (to supplement the bed capacity modelling). That included:

    a. From Summer 2020, the Early Warning System, or **"EWS"**. This used a range of sources, including SitReps, PHE testing data, 111 telephony data on the number of calls which resulted in Covid-19 specific outcomes as well as aggregated Google and Apple mobility data related to footfall in particular types of location (such as parks, retail, grocery, transit stations and workplaces) and rates of driving, walking and other forms of transit. This was used to produce short term forecasts of Covid hospital activity at an individual Trust level. The outputs were initially made available to a number

of senior NHS England officials, including the Chief Executive's Office, the National Medical Director, National Strategic Incident Director and Regional Directors. They were then subsequently made available to individual NHS Trusts; and

b. From December 2021, the Susceptible, Infected, Recovered and Vaccinated, or **"SIRV"** model to project the potential impact of the emerging Omicron variant. This modelled the England population in five 20-year age band and included information on the number of people vaccinated and estimates from the ONS survey on the number of people who had previously had COVID. The model produced projections on the number of infected and hospital people by calibrating outputs to the latest data on prevalence from the ONS survey, sequencing data on variants and admissions from SitReps.

5. We intend to provide further detail on the NHS England modelling (including that which was not dependant on converting SPI-M-O modelling outputs) in Module 3.

6. Moving back to NHS England's early modelling work, we worked closely with SPI-M-O from February 2020 onwards. We worked with the key assumptions and RWC scenarios provided by Imperial College London (**"Imperial"**) and Warwick University, usually received through SPI-M-O but also, on occasion, directly from Imperial. The NHS England team used and enhanced those SPI-M-O models of hospital admissions and converted them into estimates for bed occupancy (categorised by the level of oxygen therapy needed). The models were therefore planning scenarios based on RWC projections, and not real-time projections.

7. The initial modelling produced by NHS England on or around 12 February 2020 is exhibited to paragraph 220 of this corporate witness statement **[SP/0101 - INQ000087427; and SP/0102 - INQ000087428]**. It was produced using SPI-M-O's RWC, which at that time was based on an influenza pandemic. The model itemised the core assumptions on which it was produced, taken from that RWC, and which were as follows:

a. Total population of England - 60m;

b. Total proportion of the population who become infected (50%) – 30m;

c. Proportion of those infected who require hospitalisation (4%) – 600k;

d. Proportion of those hospitalised who require critical care (25%) – 150k;

e. Average Length of Stay for those hospitalised (modelled as a range with medians of O and O+ LOS as 8 days and V LOS as 16 days); and

f. Mortality rate 2.5%.

8. This produced the following projections:

a. Total hospital admissions – 1.2m;

b. Deaths – 750k;

c. Peak number of new daily symptomatic cases – 1.1m (after 42 days);

d. Peak daily demand for O beds – 176,000 (after 50 days);

e. Peak daily demand for V beds – 59,000 (after 50 days);

f. Peak daily deaths – 20,500 (after 50 days); and

g. Peak daily number of symptomatic Covid-19 sufferers (S) who do not require O or V beds – 13.9m (after 51 days).

9. We outline the above to assist the Inquiry's understanding of the basic and fundamental premise applicable to NHS England's bed modelling work. In essence, we used epidemiological outputs of infection rates, and of those infected the proportion requiring hospital treatment, to estimate demand on beds in hospitals. Those estimates became more sophisticated over time, for instance by taking account of variable potential rates of compliance with NPIs and also by reference to more granular regional pictures.

10. In the following weeks we worked closely with SAGE and SPI-M-O, particularly noting the workshop on 1 March 2020, to calibrate and align core input assumptions as we recognised the importance of doing so. It was particularly important to

understand the key, most sensitive parameters to be used for modelling.

11. NHS England's modelling outputs were routinely shared with a number of internal stakeholders, including NHS England's Chief Executive's Office, Chief Operating Officer, Chief Finance Officer, National Medical Director, National Strategic Incident Director and, as the pandemic progressed, Regional Directors.

12. At the height of the pandemic the modelling cell met with the National Strategic Incident Director on a daily basis, in order to foster a strong relationship between those undertaking the modelling and those using the modelling to inform decision making.

13. NHS England's senior officials used the modelling outputs as part of their relevant role, and also fed this into strategic discussions with central government where relevant.

14. In similar fashion, NHS England's modelling outputs were shared with Regional Directors to assist them with their operational decision-making in respect of local delivery of healthcare services. We did not always provide Regional Directors with SPI-M-O official modelling, particularly during periods in 2020, because the fast-moving nature of the pandemic, and associated rates of transmission, meant the projections were often out of date by the time NHS England received them from SPI-M-O. Some regions decided to commission their own modelling. In addition to the SPI-M-O official modelling and projections, Regional Directors were also provided with other modelling outputs produced by NHS England, to include the EWS.

Divergences

15. As explained by way of introduction above, notable divergences in modelling output between NHS England and SPI-M-O were largely by exception, and further subject to the respective function and purpose of those outputs.

16. An example of divergence arose in late March 2020, when we identified a difference between SPI-M-O and NHS England in the projected numbers of patients requiring ITU beds. NHS England identified four main reasons for the difference, which were:

    a. A difference in the population base used for the respective modelling. NHS England, in accordance with its statutory functions and duties, uses the

number of GP registrations for its population figures whereas SAGE used ONS figures. This gave figures of 59.8m and 56m respectively;

b. NHS England's population base has a younger age profile than the one used by SAGE; and

c. The implied overall hospitalisation rate (by combining individual age bands) in the Imperial model used by SAGE was 5.2%, but NHS England used the implied 4.4% rate which had been referenced in previous SAGE papers and from our analysis provided a better fit to the latest data.

17. Initially SPI-M-O modelling groups used an age-increasing probability of critical care use. SPI-M-O later approved, on 6 March 2020, an age-increasing probability with a decreasing probability for the oldest age groups following a presentation from NHS England's Head of Forecasting.

18. In July 2020 the Cabinet Office commissioned three variants of new Reasonable Worst-Case scenarios from SPI-M-O modelling groups, based on expected Covid-19 incidence levels from the end of July 2020 to end November 2020 and measures to reduce non-household contacts from end November 2020 until March 2021 to (A) 25%, (B) 35% and (C) 50% of normal pre-lockdown levels (with variation within this latter scenario to account for the alternative of all school contacts being maintained and not maintained respectively). This was consistent with SPI-M-O's practice of commissioning alternative modelling to understand the differences which may arise when modelling the same scenario.

19. Imperial, Warwick University and NHS England all responded to that commission. We did so in collaboration with Faculty and the Oxford Big Data Institute Pathogen Dynamics Group. We developed our 'Oxford Simulator' modelling of the Cabinet Office scenarios described above, and submitted them to SPI-M-O for consideration **[SP/0343 – INQ000103595]**. SPI-M-O considered those three responses to their commission, as documented in their published paper on 29 July 2020[25]. That paper acknowledged that: *"It is important to note that these scenarios are not forecasts or predictions. They do not represent the full range of possible outcomes and no likelihood is attached to any of these scenarios at this stage. The timings of peaks in infection and demand on healthcare, in particular, are subject to significant*

[25] See 'SPI-M-O: Update on planning and reasonable worst-case scenarios' published 29 July 2020

uncertainty."

20. All three models submitted to SPI-M-O were, unsurprisingly, aligned in showing that different proportions of non-household contacts led to different rates of decline in Covid-19 transmission. There were, however, differences in the shapes of peaks produced by the models; to some extent this reflected the differing levels of starting Covid-19 incidence used by each model. Further, the three models all took a different approach. The Oxford Simulator was developed to simulate the spread of Covid-19 in a city, and was for England only. Both the Warwick and Imperial models were for the UK more widely. SPI-M-O used all three various modelling outputs to inform its decision in respect of the RWC going forward.

21. From July 2020 onwards, NHS England rapidly developed capability to begin to use the Oxford Simulator in its own modelling, calibrated to NHS England SitReps as well as the Imperial RWC and other input assumptions specified by SPI-M-O. The Oxford Simulator was completely opensource meaning that we could calibrate it more specifically to NHS England's purposes.

22. This gave us more modelling flexibility in terms of frequency of modelling runs and testing of alternative scenarios than was available to us via official SPI-M-O outputs and RWCs. We were also able to ensure that our modelling outputs fitted SitRep data to maximise their potential accuracy for operational purposes. Nonetheless, we ensured that modelling assumptions and scenarios were aligned with, and included comparisons to, the SPI-M-O projections in shared outputs.

23. The Oxford Simulator was used to develop England-wide and regional modelling on 27 August 2020 **[SP/0344 – INQ000103587]**, which was presented by NHS England's Director of Performance Information the following day (including a comparison to SPI-M-O modelling) to NHS England's Chief Executive's Office, Chief Operating Office, National Medical Director, Chief Finance Officer and National Strategic Incident Director. At or around that time, NHS England's Director of Performance Information requested that SPI-M-O produce medium term projections so as to assist with modelling impact on NHS resources (particularly beds). SPI-M-O began producing medium term projections of hospital admissions from October 2020, which NHS England's modelling cell then converted into occupied beds.

24. In one iteration our modelling predicted lower figures of bed occupancy than SPI-M-O models although the Inquiry will note from the exhibited NHS England slides that the

SPI-M-O and NHS England curves broadly tracked each other in terms of shape. The higher figures produced by the combination of the Oxford Simulator and NHS Beds models were attributed to SPI-M-O's assumed proportion of V patients, which was higher than NHS England's assumption. For context we saw an age adjusted decline in the proportion of V patients (to 12%) over the course of the pandemic. By analysing the latest data we were able to adjust our modelling to reflect changing V bed utilisation.

25. In the absence of updated modelling from SPI-M-O during November 2020, NHS England continued to use the Oxford Simulator to project the potential impact of mixed scenarios on Covid-19 admissions from December 2020 **[SP/0345 – INQ000103588]**; this was in order to highlight the questions and analyses which NHS England should request from SPI-M-O. That modelling was presented to NHS England's Chief Executive's Officer, National Medical Director and National Strategic Incident Director on 20 November 2020. None of the scenarios were projected to avoid a second peak in hospital admissions.

26. During November and December 2020 we identified misalignment between the medium-term (6 week) projections being produced by SPI-M-O and real-time Sitrep data, which culminated in our modelling of the same on 11 December 2020 **[SP/0346 – INQ000103592]**. For context, unlike SPI-M-O official modelling medium term projections differ in that they are meant to be 'predictive' based on real time data and project for the proceeding two weeks. The misalignment was attributed to the fact that the pandemic was developing so quickly, such that by the time we received SPI-M-O projections they were effectively out of date.

27. By 11 December 2020 NHS England (using the Oxford Simulator model) had also modelled the combined effect of tiered lockdowns and the proposed relaxation of NPIs over the festive period **[SP/0347 – INQ000103593]**.

28. On 17 December 2020, NHS England updated its 11 December 2020 modelling to take account of the 16 December 2020 government announcement regarding changes to local tier restrictions **[SP/0348 – INQ000103596]**. By that time the outputs of the Oxford Simulator and SPI-M-O modelling were relatively well aligned.

29. In January 2021 NHS England began modelling the impact of vaccine rollout **[SP/0349 – INQ000103594]** and from late February 2021 the long-term implications of the Government's roadmap out of lockdown (as published on 22 February 2021).

Our initial long term-modelling, dated 26 February 2021 **[SP/0350 – INQ000103589]**, was broadly consistent but more optimistic than the SPI-M-O assumptions (albeit the models were consistent in projecting much slower increases in bed occupancy than in previous waves). This was because, at the time, the Oxford Simulator could only apply a single effectiveness assumption of the impact of vaccine efficacy on transmission and hospitalisation (to mean it was not calibrated to model the impact of a first and then second vaccine dose). SPI-M O models, on the other hand, allowed for lower effectiveness of the first vaccine dose than the second one. We therefore understood that this made our modelling more optimistic than SPI-M-O models and as a result caveated this appropriately when communicating modelling outputs.

30. Those differences in long-term modelling continued to apply in subsequent modelling undertaken in March 2021 **[SP/0351 – INQ000103590]**, but by April 2021 NHS England and SPI-M-O's roadmap modelling were more closely aligned **[SP/0352 – INQ000103591]**. This was in part due to the fact that we had been able to develop the Oxford Simulator to account for the respective efficacy of a first and second vaccine dose, and also due to the greater certainty we had by the time as to details of the Government's Covid-19 recovery roadmap.

31. By April 2021, NHS England and SPI-M-O's roadmap modelling were broadly consistent with each other.

32. As referenced above, NHS England developed a new SIRV model in December 2021, the outputs of which were shared with senior colleagues alongside medium term projections from SPI-M-O. The SIRV model was particularly good at modelling when growth in infections would begin to slow down because it explicitly modelled depletion of the pool of susceptible individuals.

Impact of divergences

33. This was not a divergence as such, but broadly NHS England and SPI-M-O models worked most effectively once the Government made available regular Covid-19 incidence and prevalence data based on community testing surveillance. This is because hospital admissions data is necessarily a lag indicator reflecting infections that have occurred in the preceding week or two (and as such is a measure which provides a 'rear view mirror' of the development of the pandemic).

34. As explained above NHS England and SPI-M-O modelling was produced for different purposes which, of itself, is likely to prompt differences in output. Further, variation in modelling is fundamentally helpful as it prompts discussion about the potential reasons for any differences but also understanding the range of potential scenarios is very important.

35. In light of that, NHS England's perspective is that any divergences did not have a material impact on its modelling work and/or operational planning.

36. Insofar as availability of SPI-M-O modelling is concerned, NHS England was able to use the Oxford Simulator to produce the outputs required for its own purposes. NHS England along with UKHSA and University of Oxford colleagues have since published the Oxford Simulator work in a special issue of the peer reviewed journal Epidemics[26].

37. NHS England is unable to comment on the efficacy of SPI-M-O modelling in terms of core political decision-making (which was exclusively the remit of SPI-M-O, and not NHS England).

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[26] See Harvard:
Groves-Kirkby, N., Wakeman, E., Patel, S., Hinch, R., Poot, T., Pearson, J., Tang, L., Kendall, E., Tang, M., Moore, K. and Stevenson, S., 2023. Large-scale calibration and simulation of COVID-19 epidemiologic scenarios to support healthcare planning. *Epidemics*, *42*, p.100662.

See also Vancouver:
Groves-Kirkby N, Wakeman E, Patel S, Hinch R, Poot T, Pearson J, Tang L, Kendall E, Tang M, Moore K, Stevenson S. Large-scale calibration and simulation of COVID-19 epidemiologic scenarios to support healthcare planning. Epidemics. 2023 Mar 1;42:100662.