

Witness Name: Simon Laurence Stevens

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UK COVID-19 INQUIRY

Module 2

FIRST WITNESS STATEMENT OF SIMON LAURENCE STEVENS

I, SIMON LAURENCE STEVENS, Lord Stevens of Birmingham, House of Lords, London SW1A 0PW, will say as follows:

Introduction

1. I served as Chief Executive of NHS England from 1 April 2014 to 31 July 2021. This role involves leadership of the NHS in England, and close working with patients' and public organisations, professional bodies, Government ministers, and many others. The NHS England CEO is formally accountable to the Board of NHS England, and as its statutory Accounting Officer also directly to Parliament.
2. My professional working life has principally been in health care, in the public and private sectors, in the UK and overseas. I first joined the NHS in 1988 and subsequently led local hospital, mental health, primary and community services. From 1997 I spent seven years at the Department of Health and 10 Downing Street. Then in the following decade I worked internationally in a number of countries around the world before returning to the NHS in 2014.
3. I take this opportunity again to thank my colleagues right across the Health Service. Very few of us will not have family members, colleagues or friends whose lives were profoundly affected by this pandemic. We are still living with the consequences. But particularly for people working in the health and care services - and for patients and

their families - these were sometimes the most awful of times. We owe a deep debt of gratitude for the professionalism, selflessness and dedication of our nurses, doctors, therapists, scientists, care and support staff, volunteers, and countless others.

4. This statement is in response to the UK COVID-19 Inquiry's Rule 9 request to me for evidence dated 21 June 2023 under Module 2 of the Inquiry, which focuses on the UK's core political and administrative decision-making in relation to the COVID-19 pandemic. I understand that the Inquiry defines "core political and administrative decision-making" as those decisions that were mainly taken by Government between early January 2020 until February 2022.
5. Given the volume of potentially relevant materials, many of which are not held by NHS England, I have not been able personally to review them all. This witness statement also does not seek to duplicate the extensive factual material provided to the Inquiry in NHS National Medical Director Professor Sir Stephen Powis's Module 2 corporate witness statement, submitted on behalf of NHS England, and on which I have partly relied. Instead I am responding to specific questions the Inquiry has asked, as well as the request to offer some contextual observations on the period up to July 2021 when I left office. This rest of this statement is therefore structured as follows:
 - (i) The role of expert advice (paras 6–11)
 - (ii) Government decision-making structures (paras 12-18)
 - (iii) NHS considerations in the Government's management of the pandemic
 - (a) Early 2020 (paras 19-21)
 - (b) Data and 'situational awareness' (paras 22-27)
 - (c) NHS capacity in Spring 2020 (paras 28-36)
 - (d) Autumn and winter 2020 (paras 37-45)
 - (iv) Inequalities and vulnerable and at-risk groups (paras 46-56)
 - (v) Public communications on the NHS (paras 57-59)
 - (vi) NHS resourcing in the run-up to, and during, the pandemic (paras 60-68)
 - (vii) Concluding observations (paras 69-70).

The role of expert advice

6. The Inquiry has asked for observations on the quality and timeliness of scientific analysis, modelling and advice. In general, British science, our universities and our medical researchers and clinicians performed spectacularly well on a range of fronts. They made a major contribution, not only to the UK's pandemic response, but also benefiting millions of people around the world. That was true in many ways, including vaccines and research run in partnership with the NHS such as the RECOVERY COVID-19 treatments trial which has saved over a million lives globally.
7. Sharing of best practice between clinicians and scientists internationally helped continuously improve clinical outcomes as the pandemic evolved. In this country, clinical advice was developed by a number of expert bodies including NICE and various specialty associations, societies and medical Royal colleges. As scientific knowledge of SARS-CoV-2 developed, independent panels such as the Advisory Committee on Dangerous Pathogens made recommendations to Government on its declassification as a High Consequence Infectious Disease.¹ Agencies such as Public Health England (PHE) helped develop guidance on use of personal protective equipment and a range of other measures to protect staff and patients.
8. A large volume of international medical and scientific research was (rightly) published quickly on an open access basis, but therefore without the usual pre-publication scrutiny and independent quality oversight. Subsequent analysis suggests that did not materially diminish the validity and reliability of most of the research published in this way. However a recent paper has shown that a fifth of some preprint abstracts had still not been formally published at least a year after being initially publicised. These tended to have been less complete but to have made more sensationalist attention-grabbing claims [SLS01 - INQ000283168]; [SLS02 - INQ000283177].
9. During the pandemic the range of external modelling available to policy-makers and the NHS, including those via SAGE/SPI-M, significantly increased. This was largely thanks to academics and other scientists who generously gave their time and expertise to do so. NHS analysts regularly interacted with external modellers throughout the pandemic to share data and understand the modellers' assumptions and outputs, including in February 2020 and an all-day session on 1 March 2020 (see

¹ Pandemic planning had however envisaged the use of wider hospital capacity as needed - see also paragraph 28 below.

also section 9 of Professor Powis's Module 2 witness statement). As discussed further below, NHS England was then asked by Government at particular points of the pandemic to use SPI-M endorsed model outputs as the basis for assessing potential COVID-19 demand pressures on the NHS.

10. The Inquiry has asked whether these models were reliable, timely, whether they appropriately considered wider non-COVID health and social impacts, and whether they were understood by decision-makers. I defer to others better placed to answer those questions comprehensively, but offer the following observations. Policy-makers were typically offered model outputs that were – initially at least - characterised as scenarios, when they would also have liked forecasts. That is not a criticism of the modelling enterprise per se. However at times some of the model outputs described as 'Reasonable Worst Case' were used as the 'central/base' case, and vice versa. In Autumn 2020 the level of COVID-19 hospitalisations were in fact sometimes above the SPI-M Reasonable Worst Case. Where possible, policy-makers might therefore also be offered clearer probabilistic forecasts using cones of uncertainty (as began to be available) and perhaps adopting in public discourse the careful quantitative nomenclature now applied to intelligence assessments **[SLS03 - INQ000283194]**. These forecasts should continue to be subject to 'look-back' to compare their relative performance against what actually happened while continually improving their calibration.
11. More generally, policy-makers (and the public) benefit from independent and trustworthy assessment of evidence. To do that, there is virtue whenever possible in separating membership of panels charged with assessing evidence from those who have generated it.² Equally, it is sometimes easier to describe a problem than it is to identify a workable solution, and even then, the solution to one set of problems may 'in the real world' have significant opportunity costs for other important goals. Therefore - as the UK CMO and CSA have emphasised, and paralleling recommendations of the Butler and Chilcot inquiries - there is benefit in trying to distinguish the evidence/intelligence assessment function from that of policy

² This might ensure greater 'tire kicking' before more speculative hypotheses are published. For example, the SAGE meeting of 4 June 2020 suggested "Potentially one third to one half of hospital admissions labelled as Covid-19 admissions are readmissions or not acute Covid-19 disease". On investigation, the NHS National Medical Director showed that was not correct, and readmissions were in fact $\leq 5\%$, which was then reflected in SAGE minutes of 23 June 2020. Similarly, modelling suggestions around that time that nosocomial infections were a major driver of overall national infection levels were subsequently assessed as inaccurate by the first comprehensive national records-linked study. It concluded that fewer than 1% of national COVID-19 cases during March to August 2020 could be attributed to nosocomial transmission. Even confining the analysis to the subset of laboratory-confirmed COVID-19 cases, it estimated that in June 2020 the figure was $\leq 4.8\%$ of overall cases.

formulation, which needs to be properly grounded in considerations of operational feasibility. In a crisis such as COVID-19, these roles sometimes become blurred.

Government decision-making structures

12. The Inquiry has asked about my experience of Government decision-making structures during the pandemic. Evidence from those at the centre of Government will be better able to provide a full description and chronology of their committees and forums. NHS England, as a statutory public body rather than a government department, participated in some but not all of those structures. So I provide an inevitably circumscribed perspective.
13. **COBR.** I attended several COBR meetings early in the pandemic. They usefully brought together a cross-section of departments, agencies and the devolved administrations. However these meetings were arguably not optimally effective. They were very large, and when COBR meetings were chaired by the Health and Social Care Secretary other secretaries of state sometimes avoided attending and delegated to their junior ministers instead. Evidently low levels of political trust between the Westminster and Holyrood governments meant participants were sometimes guarded in what they said. So as the pandemic advanced it appeared that the Government mainly looked to other decision-making processes and forums instead.
14. **Cabinet and cabinet committees.** I cannot comment on how well full Cabinet meetings functioned during this period, having attended only two meetings in January 2021 to brief the Cabinet on NHS England's rollout of COVID-19 vaccination, and our response to the winter COVID-19 wave. As for the various iterations of ministerial committees that evolved through spring and summer of 2020, my experience was that they were probably better suited to discussing inter-departmental policy questions than the operational response, certainly as it pertained to the NHS. They were also often privately acknowledged to be duplicative and time-consuming. The Cabinet Office / centre of Government therefore helpfully moved to bring greater coherence, enhanced by the creation of the COVID-19 Taskforce in May 2020.
15. **Prime Minister's 'Dashboard' meetings.** From my more operational perspective, the Prime Minister's 'dashboard' meetings (whose frequency could flex from daily to three times weekly) became an effective forum for sharing a common picture of the national response and surfacing NHS-related issues for the attention of senior Government decision-makers.
16. **Other subject-specific ministerial meetings.** Various subject-specific meetings that

related to the NHS were held from time-to-time with senior ministers including the Prime Minister, Chancellor, Secretary of State for Health and Social Care and Chancellor of the Duchy of Lancaster. Some were to respond to particular issues or concerns - for example the ministerial meetings in mid-March 2020 which agreed the approach to expanding and freeing-up NHS hospital capacity, as set out further below. Others were on a more regular cycle – for example later on in the pandemic, the Prime Minister’s weekly meetings on NHS England’s rollout of COVID-19 vaccines generally worked well. Other important topics however struggled to get traction – for example meetings with the centre of Government to agree how much ‘buffer’ capacity hospitals should be funded to create ahead of a possible winter 2020 COVID-19 wave dragged on for many months without reaching a satisfactory conclusion.³ There were also of course many other ministerial and official meetings that NHS England - entirely appropriately – was not present at.

17. **DHSC (the ‘Lead Government Department’)**. I and colleagues from NHS England routinely had a variety of meetings with DHSC ministers, officials and other health agencies. These pre-dated the pandemic and continued throughout covering a variety of topics. In general there was constructive working on many aspects of the pandemic response. In addition to its policy-making responsibilities, operationally DHSC managed procurement of PPE and other supplies via its direct control of the so-called ‘NHS Supply Chain’, the Secretary of State’s wholly-owned company SCCL and in due course the Parallel Supply Chain. DHSC (supported by the Cabinet Office) therefore procured on behalf of the NHS and in time the wider care sector [SLS04 - INQ000283203]. DHSC also managed the ultimately successful expansion of SARS-CoV-2 national testing volumes, allocating equipment reagents and supplies to NHS hospital labs, with the Secretary of State for Health and Social Care setting SARS-Cov-2 test eligibility prioritisation [SLS05 - INQ000283204]. NHS England and the wider NHS seconded staff to support DHSC and its public health agencies in responding to these challenges. In many ways the health response was a huge team effort.
18. The Inquiry has asked for my view on how well continuity of government worked during the Prime Minister’s medical absence. The day after he was admitted to hospital, on Monday 6 April 2020 I received a confidential medical briefing from St Thomas’s hospital on the PM’s worsening prognosis and move to intensive care. I

³ See Module 2 Witness Statement of Professor Sir Stephen Powis paras 273-284 and para 61 of this witness statement.

phoned the Cabinet Secretary in confidence to check that he and others were sighted on the potential implications. Accepting that this was an unprecedented situation, my experience was that the interim arrangements then put in place under the leadership of the Deputy Prime Minister Dominic Raab worked well during the PM's hospitalisation and recuperation.

NHS considerations in the Government's management of the pandemic

Early 2020

19. In terms of understanding of and response to SARS-CoV-2, the NHS National Medical Director Professor Sir Stephen Powis has provided a comprehensive Module 2 corporate witness statement on behalf of NHS England which includes detailed information and chronologies. Chief Medical Officer Professor Sir Chris Whitty and colleagues have also published a useful description of how the scientific understanding and response to SARS-CoV-2 changed over the course of the pandemic [INQ000205650]. In the interests of concision I do not therefore look to repeat that material here. As Professor Powis has also noted in his evidence, NHS England was not a decision-making body per se in respect of lockdowns and other so-called Non-Pharmaceutical Interventions (NPIs), so cannot provide comprehensive evidence on those Government deliberations.
20. NHS England moved to the highest state of emergency preparedness (EPRR Level 4) on 30 January 2020, six weeks before WHO declared a pandemic on 11 March 2020. The Inquiry has asked whether time spent in preparing for Brexit (including the possibility of 'no deal') helped or hindered the UK's pandemic response. I cannot authoritatively assess the broader impacts on the UK Government. But from NHS England's perspective, work undertaken in the run up to Brexit - for example by DHSC and other agencies responsible for the medicines supply chain - certainly helped when the pandemic struck.
21. The Inquiry has asked about the 'Nimbus' planning exercise led by the Cabinet Office and held on 12 February 2020. My sense at the time was that it helpfully sensitised a wider range of government departments (beyond the health sector) to the type of pressures the UK might experience. It did however result in – to my mind at least - an unresolved but fundamental ethical debate about a scenario in which a rising number of COVID-19 patients overwhelmed the ability of hospitals to look after them and other non-COVID patients. The Secretary of State for Health and Social Care took the position that in this situation he – rather than, say, the medical profession or the

public - should ultimately decide who should live and who should die. Fortunately this horrible dilemma never crystallised.

Data and 'situational awareness'

22. In terms of the Government's situational awareness, PHE took the lead from January 2020 to mid-March 2020 for daily Sitreps reporting the number of COVID-19 cases in the UK. Modelling presented to SAGE suggested that without some combination of countervailing action and behavioural change the number of COVID-19 deaths might over a period of time exceed 500,000, and even with the greatest feasible expansion and repurposing of hospital capacity the number of patients could vastly outstrip its availability. But it was unclear how imminent that threat was. That is because the lack of national public health SARS-CoV-2 prevalence testing and community surveillance during February and much of March 2020 meant that the UK did not know how many people actually had SARS-CoV-2 infection.
23. This was compounded by the fact that many other European countries also lacked comprehensive community surveillance, and so were likely under-reporting their own COVID-19 cases. Therefore UK COVID-19 'case definitions' based partly on recent international travel histories missed the fact that, according to subsequent genomic research, during February and early March the main countries from which SARS-CoV-2 was imported into the UK shifted rapidly, from Asia to continental Europe (including an estimated 29% from France and 33% from Spain) - particularly after the February half term holidays [SLS06 - INQ000283165].⁴
24. During this period the number of confirmed COVID-19 hospital inpatients was low. In any event, hospital inpatient data are a poor substitute for the lack of epidemiological data generated by community / public health surveillance testing, because they are an intrinsically 'lagging indicator' of new infection rates. It may take between 10 days and 3 weeks after someone is infected with SARS-CoV-2 before they become ill enough to require admission to hospital and intensive care. So today's hospital or intensive care admissions will be reflective of population infection rates several weeks ago.
25. This 'rear view mirror' picture was particularly misleading when population infection levels were quickly increasing, as we now know was the case in the UK in early

⁴ This circularity of case definition and case identification was problematic in many other countries too. An independent review panel for WHO has observed that, at the time, most reported SARS-CoV-2 cases outside China were said to have a recent history of travel in China/ Asia. But that was partly because limited international testing was initially directed only at those who had symptoms and had recently travelled there.

Spring 2020. It is even less informative early in a novel pandemic when the natural history of infection is uncertain, and it is unclear how many (unmeasured) community infections can accurately be inferred from a given number of (measured) hospitalisations. Therefore although hospital admissions and occupancy data for COVID-19 patients were available once COVID-19 inpatient numbers began to increase, these inpatient data can never be a satisfactory alternative to a proper public health incidence and prevalence surveillance system.

26. Subsequently, important public health surveillance systems were put in place by DHSC/UKHSA including the ONS COVID-19 Infection Survey [SLS07 - INQ000283166] and the Imperial College REACT study [SLS08 - INQ000283167]. 'Early warning system' capabilities such as these (with associated genomic sequencing) are critical defences in the UK's future pandemic preparedness.
27. In terms of data on NHS capacity, the suggestion that at the start of the pandemic it was not known "how many hospital beds there were" is demonstrably incorrect. Statistics on NHS hospital bed availability are routinely collected and published in a time series dating back to 2000 [SLS09 - INQ000283195]. Since 2012 these figures have been supplemented with daily Sitrep data during periods of high bed pressure each winter, showing bed availability for adult and paediatric general and acute beds, as well as adult critical care, paediatric intensive care and neonatal critical care [SLS10 - INQ000283196]. Here, for example, are the published bed availability and occupancy data for 17 February 2020 [SLS11 - INQ000283193]. Going into the pandemic, the NHS was therefore already publishing more granular and more timely information on its hospital bed availability and usage than probably any equivalent country in the world. Nevertheless, the unique operational management requirements of the pandemic meant that new data feeds and systems were needed.⁵ PHE's CHES process for tracking inpatient numbers [SLS12 - INQ000283160] was supplemented initially by manual daily data submissions, which were then upgraded and automated in the second half of March once the number of COVID-19 patients began to increase. This was greatly facilitated by new data capabilities and platforms (particularly Faculty and Foundry) [SLS13 - INQ000283202] and by the Secretary of State's removal of legal impediments to data sharing via his "COPI" notices.

⁵ The fact that at the time it was not possible automatically to 'pipe' real time information on patient case mix and capacity should not have come as a surprise to ministers because in the years before the pandemic DHSC/NHS proposals to invest in giving all NHS hospitals modern electronic health records and nationally-networked clinical information systems had been repeatedly rejected or scaled back in successive Treasury Spending Reviews.

28. NHS preparations continued in February and early March. On 2 March 2020 NHS England updated NHS organisations on planning for local surge capacity and mutual aid, as well as notifying them of PHE's new case detection, testing and reporting protocols for intensive care units. On 3 March 2020 the DHSC announced there were 51 *confirmed* COVID-19 cases in the UK, and the Government published its Coronavirus Action Plan [SLS14 - INQ000283197]. Similar to SPI-M and SAGE's use of a flu pandemic as the basis for their initial scenarios, the Government's Plan said that "...contingency plans developed for pandemic influenza, and lessons learned from previous outbreaks, provide a useful starting point for the development of an effective response plan to COVID-19. That plan has been adapted, however, to take account of differences between the two diseases." In respect of NHS capacity, the Government's Coronavirus Action Plan envisaged that "when necessary, the provision of care may move from specialist units into general facilities in hospitals", and "health and social care services will work together to support early discharge from hospital, and to look after people in their own homes".
29. As medical research and international understanding of optimal care for people hospitalised with COVID-19 advanced there was an evolving need to prepare hospitals for different types of inpatient care, spanning multi-organ failure through to basic respiratory support.⁶ Ventilatory and oxygen support became a particular focus. (It should also be noted that while throughout the pandemic there has been a tendency to comment on hospital capacity, the impact on, and response from, primary care, community and mental health services has been at least as significant.)
30. Given the inevitable disruption to wider health services and non-COVID patients from redeploying staff, equipment and facilities to be ready to care for COVID-19 patients, it was important not to activate this switchover too far in advance. However, expert advice evolved rapidly in the first two weeks of March 2020, predicting that the pandemic was about to impact the UK sooner and harder than previously anticipated. NHS England was therefore asked to maximise the availability of hospital capacity for

⁶ As the pandemic advanced, capacity to offer the varying COVID-19 treatment modalities had to be tracked using new classificatory categories – for example 'V' beds with ventilatory support, 'O+' beds with enhanced high flow oxygen support, 'O' beds with oxygen, and so on. These supplemented prior categories of hospital bed such as 'general and acute', 'overnight' versus 'day case', adult versus paediatric, maternity, mental health and so on. At this point it became overly simplistic to quantify available treatment capacity and usage on a single measure of "hospital beds". Doing so would have been clinically inappropriate and operationally misleading.

the imminent influx of severely ill COVID-19 patients.⁷

31. Specific measures were discussed and finalised in multiple forums with Government, including in the week beginning Monday 9 March 2020. On 11 March 2020 COBR considered 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." In a statement to the House of Commons that day the Secretary of State for Health and Social Care was asked about accelerating hospital discharges to social care and he stated: "This is a really important point that I met the NHS to discuss specifically today. 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" **[SLS15 - INQ000283169]**. Also on 11 March 2020 the Chancellor presented his Budget in which he committed additional resources for the NHS and social care which were used to fund this enhanced discharge from hospital. On 12 March 2020 there was a further COBR chaired by the Prime Minister with the Chancellor and other senior ministers, and also a separate meeting at 10 Downing Street with the Prime Minister, Health and Social Care Secretary, other senior ministers and officials to agree the details of expanding NHS surge capacity, deferring non-urgent operations, reducing hospital delayed discharge, use of the independent sector, and government funding for social care providers **[INQ000087307]**.⁸

32. Work continued the following week. After a COBR meeting chaired by the Prime Minister on Monday 16 March 2020, the Secretary of State for Health 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" **[SLS17 - INQ000283170]**. An NHS communication setting out those actions agreed with

⁷ For a more detailed explanation of the practical considerations in doing so, see Powis statement paras 246-253.

⁸ Para 265 of Mr Hancock's second witness statement suggests that in a phone call on the evening of 12 March 2020 he in some way persuaded me of the need to scale-up NHS capacity. My recollection is somewhat different, given both the chronology set out above and because by then work was already under way on both facilities and workforce expansion including use of clinically-qualified returners, health professions students and volunteers. Indeed that same day leaders of the UK nursing profession had issued a public statement on flexible staffing models, building on the Nursing and Midwifery Council's notice of 3 March 2020. See **[SLS16 - INQ000283205]**. Furthermore, Para 270 of Mr Hancock's second witness statement can be read as implying that it was on 13 March 2020 when he first heard about and agreed measures to free-up beds, and that this had previously been discussed with the Prime Minister rather than him. The chronology in paragraph 31 shows that is not correct.

Government to free-up hospital capacity (and which requested that “emergency admissions, cancer treatment and other clinically urgent work should continue unaffected”) was in fact deferred until 17 March 2020, and minutes of that morning’s full Cabinet meeting record that it discussed that “to free up hospital beds over 30,000 patients were expected to leave hospital into social care imminently” **[INQ000056135]**. This was again discussed on 18 March 2020 at a meeting on NHS resilience with the Prime Minister **[INQ000087319]**. On 19 March 2020 DHSC issued multi-agency Hospital Discharge guidance **[INQ000087450]**.

33. On 23 March 2020 I and other NHS England colleagues attended a further meeting with the Prime Minister, Chancellor and other senior ministers to review the situation, discussing amongst other items the creation of Nightingale hospitals designed and equipped as open-plan dormitory-style facilities for sedated / unconscious ventilated COVID-19 patients as a back-up to other efforts, in line with similar approaches internationally. That same day the Secretary of State for Health and Social Care told 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 **[SLS18 - INQ000283198]**. 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.”⁹
34. The Inquiry has asked whether I heard Mr Hancock state (particularly to his ministerial colleagues) that patients discharged to care homes before 15 April 2020 would be tested. I do not recall hearing him say that, and it would have been surprising if he had, given that a) on 11 March 2020 he had decided on an alternative published national prioritisation list for scarce SARS-CoV-2 tests which did not include this, and b) on 17 March 2020 he had taken personal control of all testing in place of PHE **[SLS19 - INQ000283206]** (see Q1333).
35. Faced with broadly the same facts and forecasts, all four UK administrations made similar judgements about expanding hospital capacity, freeing up beds, and

⁹ The Inquiry has asked whether it could be argued that delayed discharges somehow “forced” the first lockdown. The facts do not support this contention. The emergency influx of COVID-19 patients in March 2020 was projected to vastly exceed the number of beds blocked by delayed discharge. Furthermore, as a result of Government making legal changes to continuing care assessment processes and HM Treasury allocating earmarked funding for social care support there was a significant reduction in delayed discharges - yet even so, the Government decided subsequently to introduce two further national lockdowns. (It should also be noted that the changes Government introduced were not something either local authorities or local hospitals had the statutory or funding authority to bring about by themselves. The fact that these solutions had not been previously introduced was therefore self-evidently not because local councils, social care providers or hospitals had in some way “failed to grip” them.)

temporarily delaying non-urgent care (the latter request in England lasting six weeks to 29 April 2020). Looking back on this period, it is also apparent that many other European countries made comparable decisions on repurposing capacity and postponing non-urgent care [SLS20 - INQ000283191].

36. Whether that was reasonable under all the circumstances is a question that has been independently examined by the High Court in Judicial Review (*R (Gardner and others) v Secretary of State for Health and Social Care and others* [2022] EWHC 967 (Admin), paras 281-283). The Court found as follows:

“We regard the sustained attack on the Hospital Discharge Policy as quite unrealistic. As we have noted, [the Government, PHE and NHS England] were extremely and understandably concerned by the prospect of the numbers of seriously ill patients requiring intensive care rising so rapidly that the NHS’s intensive care capacity would simply be overwhelmed. In Italy, where the disease had spread some two weeks earlier than in England, hospitals had run out of beds and patients were being left to die at home. It must be remembered that, at this stage of the emergency, vaccines lay far in the future and the experts were unable to predict whether the graph of serious infection would go on rising exponentially for a long period. [...] At this stage there was a shortage of PPE (both in this country and worldwide) and of tests. [...] The Government was advised by experts that there was a real risk of the NHS being overwhelmed and it could not afford to wait to see whether that advice was over-cautious.”¹⁰

Autumn and winter 2020

37. Between July and October 2020 the Government introduced various local restrictions in response to rising infection rates. However by early Autumn 2020 it was clear that

¹⁰ The High Court dismissed all claims against NHS England. It did find against DHSC and PHE on the grounds that guidance to care homes at that time should have recommended isolation within the care home where possible. However the Court did not criticise the Secretary of State for Health and Social Care’s decision not to require testing of patients being discharged from hospital to care homes. Instead the Court said: *“We also regard as unrealistic the...suggestion that the transfer of patients from hospital into care homes should have been conditional on an assessment of the ability of each care home to provide safe care. It was properly open to the Government to regard the need to discharge from hospital those who appeared medically fit to be discharged as paramount. That could not sensibly wait for every care home to be assessed. Similarly, the suggestion that the Government should have made provision in March for the testing of each patient before discharge to a care home is hopeless.”* In subsequently assessing the epidemiological and genomic evidence, the UK Chief Medical Officers’ Technical Report found that “hospital discharge does not appear to have been the dominant way in which Covid-19 entered most care homes” [INQ000205650].

local lockdowns and Test and Trace were not meaningfully limiting the growth of infections.

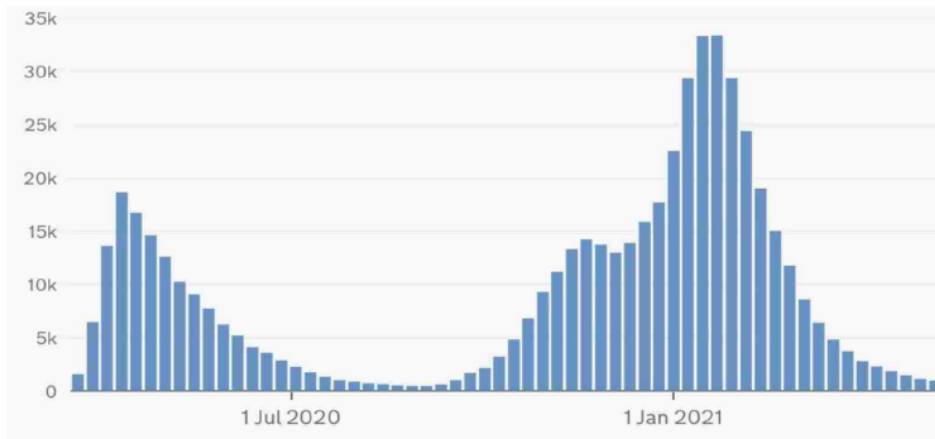
38. As Government policy-makers contemplated action in response to rising infection, to the extent that their goal was reducing death and disability¹¹, this could not be assessed solely by reference to the availability of hospital treatment capacity. That is because even with the best available medical therapies and interventions, COVID-19 still killed a proportion of all those infected. Said another way, if hospitals were unable to admit patients requiring admission, then excess deaths would of course be higher. But even if hospitals had treatment capacity, deaths would not be minimised if population infection levels were high, particularly amongst higher risk groups. For that reason, “the NHS not being overwhelmed” is not an accurate proxy for “minimising the number of lives lost”. It may be a necessary, but it is not a sufficient, condition for doing so.
39. Nevertheless, policy-makers were particularly focused on the question: “At what point in the curve of rising infections would the NHS be ‘overwhelmed?’”. NHS England was therefore asked to overlay the latest SPI-M forecasts of increasing COVID-19 cases nationally and regionally on to hospital capacity. The situation was in some ways different from March and April 2020, when hospitals in northern Italy were obviously overwhelmed, and UK modellers had said NHS critical care was about to be overwhelmed many times over. By contrast, in early Autumn 2020 we were not – at least initially – facing a binary switch from ‘not overwhelmed’ to ‘overwhelmed’. Instead we had to consider a more graduated set of impacts, by care type and by geography.
40. In terms of care, we pointed out that there was a pyramid of escalation that the local NHS worked up as COVID-19 emergency demand increased, such as once again being forced to defer non-urgent non-COVID care, repurposing operating theatres as COVID-19 treatment bays or flexing critical care staffing ratios. There was no single ‘bright line’ above which it could be said patients were being affected; in many ways these were matters of degree.
41. In terms of geography, because the NHS operates as a clinically-networked service, we were, in extremis, able to move patients needing critical care from areas where capacity was stretched to adjacent parts of the country. (In the same way, COVID-19 intensive care patients were sometimes transferred between neighbouring parts of

¹¹ In that connection, the Inquiry has asked me whether I heard the PM say there should be no more lockdowns even if “the bodies pile high”. To the best of my recollection I did not.

France, Belgium, Germany and the Netherlands.) In the UK this was more straightforward in conurbations and would not have been medically sustainable if, for example, extreme and extended demand pressures in Cornwall could only be met by spare critical care capacity on Tyneside. Therefore in answering the question about the point at which patient need would exceed the availability of care, NHS England argued this also had to be assessed locally and regionally as well as nationally.

42. We also faced uncertainty as to the extent of customary winter pressures including other seasonal infectious conditions; about the extent to which reduced 'health seeking behaviours' by patients seen in the first wave would be repeated; about levels of staff absence isolating given improvements in self-testing options, and so on.
43. Colleagues and I discussed these analyses with senior ministers including the Prime Minister, Chancellor, and the Secretary of State for Health and Social Care in a series of meetings, including in early and late October 2020 (the chronology of this period is detailed in Professor Powis's statement). Throughout this period, data on hospitalisations and various categories of bed availability were readily and transparently available to policy makers [INQ000087429]. On 4 November 2020 I placed the NHS back on its highest level of emergency preparedness, which had to be maintained until 25 March 2021.
44. By mid-January 2021 hospitals were under extreme pressure, with a 15,000 increase in COVID-19 inpatients just since Christmas Day. For comparison, around 34,000 inpatient beds were being occupied by COVID-19 patients that January, compared with around 19,000 in the first wave in mid-April 2020. While medical advances meant clinical outcomes had continued to improve, population infection levels meant more people died after the first pandemic wave of Spring 2020 than during it.

Confirmed COVID-19 hospital inpatients, England (Source: ONS¹²)



45. UK research and procurement decisions taken early in the pandemic meant that on 8 December 2020 the NHS became the world's first health service offering COVID-19 vaccination, and by mid-January we were able to vaccinate four times faster than people were catching SARS-CoV-2 [SLS22 - INQ000283162]. Further increases in vaccine supply meant NHS England was subsequently able to deliver the Government's target of offering vaccination to all adults a month early.

Inequalities and vulnerable and at-risk groups

46. The Inquiry has asked about the extent to which Government involved NHS England in assessments of how the pandemic, and the response to it, might particularly impact on vulnerable groups and affect health inequalities. Professor Powis's Module 2 witness statement and chapter two of the Chief Medical Officers' Technical Report both contain detailed information on that question which I do not repeat here. I offer these supplementary observations.
47. A distinction can be drawn between inequalities in the epidemiological risk of becoming infected with SARS-CoV-2 (for example living in a high prevalence urban area in a crowded multigenerational household) versus inequalities in the clinical risk once infected of then developing a severe form of COVID-19 (for example as an older person or someone with obesity).
48. Some of these risks were almost immediately evident; others became clearer as the pandemic progressed – for example the higher risk to people with diabetes. In

¹² See [SLS21 - INQ000283172].

population terms, some of the most adversely affected groups have been people whose categories of risk intersected (also thereby making it more complex to disentangle the relative contribution of separate risk factors). Those risks often also correlated with race and deprivation. So a range of pre-existing inequalities made the pandemic worse, and they in turn have been worsened by it.

49. Of course had the NHS been overwhelmed by the number of COVID-19 patients vastly outstripping the availability of care (as for example was feared might be the case in March and April 2020), then these unequal outcomes would self-evidently have been far worse. When considering the unequal impact of the pandemic, its impact on the care of people with *non*-COVID conditions has also been a major concern. Fortunately hospitals were able to admit patients needing their care: although each time population infection accelerated we had no way of knowing ahead of time whether this would be the case, in fact the NHS never became a 'COVID-19-only service' and every week non-COVID inpatients always outnumbered COVID-19 inpatients by at least two-to-one.
50. As well as general protective measures, various actions were taken to try and better protect specific at-risk groups. Paragraphs 418 to 432 of Professor Powis's Module 2 statement describe NHS England's contribution to the Government's 'shielding' programme, and in particular its role in working with DHSC, NHS Digital and others on the definitions for the 'clinically extremely vulnerable' and other high-risk groups. Over time it became possible to use increasingly sophisticated data tools accurately to stratify COVID-19 risk, including through the QCOVID population-based risk algorithm [SLS23 - INQ000283181].
51. This tool was also used to identify a further 820,000 high risk adults for early COVID-19 vaccination [SLS24 - INQ000283182]. Indeed the rollout of the COVID-19 vaccine involved designing-in equity considerations from the start, and then carefully tracking and adjusting delivery as required. The NHS's rapid but carefully sequenced vaccine delivery - beginning with those identified by JCVI as highest risk and then working down the risk pyramid – both reduced inequalities and is likely to have saved more lives overall than less well-targeted rollouts seen in some other countries. This approach was fully supported by the UK Government.
52. In respect of race and ethnicity, the Inquiry has asked about the decision I announced on 30 May 2020 to establish and fund the NHS Race and Health Observatory, hosted by the NHS Confederation. Doing so was just one part of the response to emerging evidence about the disproportionate impact of COVID-19 on people from minority

ethnic backgrounds, overlaid on longstanding concerns about race and ethnicity-based health inequalities. On 15 April 2020 I had convened a 'summit' of stakeholder groups and staff representative organisations in the light of emerging concerns, and this was followed on 29 April with a letter from NHS England to all NHS employers setting out further action they should be taking [INQ000087412]. Working with NHS England, NHS Employers published additional guidance for NHS organisations including on staff risk assessments. This sat alongside guidance PHE had developed on PPE and other protections for NHS staff. This work was reinforced by wider advice from a national expert group on reducing race and ethnicity-based inequalities in health services during the pandemic. That was the context within which the NHS Race and Health Observatory was launched [SLS25 - INQ000283184]; [SLS26 - INQ000283183].

53. Module 3 of the Inquiry is rightly also considering in depth the risks to, and concerns of, health and care staff in responding to the pandemic. Without pre-empting that comprehensive evidence here, at the start of the pandemic there were concerns in this country and across Europe about access to PPE and staff testing. While DHSC reports that the UK did not run out of PPE, the National Audit Office has noted that "The NHS provider organisations we spoke to told us that, while they were concerned about the low stocks of PPE, they were always able to get what they needed in time. However, this was not the experience reported by many front-line workers" [INQ000145895]. In respect of testing, worldwide shortages particularly of lab reagents and supplies meant scarce capacity was initially targeted by DHSC at critical patient testing. Health care workers began to be nationally eligible for tests from 29 March 2020. Alongside the initially constrained testing capacity there was also some initial scientific uncertainty about the extent of false positives and false negatives 'in the real world', and their impact on different potential testing strategies.¹³¹⁴ In the first wave, staff absence peaked in early April when 15% of acute hospital staff in London, the Midlands and North West were reportedly off work, some self-isolating on a precautionary basis.
54. The Inquiry has also asked about Long Covid. In the months after the first peak of COVID-19 it became apparent that some people were suffering what has become

¹³ For example, scientific advice to the Health and Social Care Select Committee on 17 March was that "There is some evidence that, if you are asymptomatic and you are infected, the test is not at all sensitive, so nobody is able to pick up the asymptomatic people very easily." See [SLS27 - INQ000283199] (Q78).

¹⁴ A Government Office for Science review dated 3 June 2020 stated that at that time both the UK operational false positive and false negative rates for RT-PCR tests were "unknown" [SLS28 - INQ000283200].

known as Long Covid. Symptoms were wide-ranging and fluctuating. Professor Powis's supplementary Module 2 statement details NHS England's work in this area beginning in May 2020, which I do not reproduce here. While evidence was still emerging as to the aetiology and best therapeutic response, by summer/Autumn 2020 it was apparent that subsequent waves of SARS-CoV-2 infection might pose a health risk to younger people in a wider age range than those who were by that stage known to be at the highest acute clinical risk from COVID-19. In early October 2020 I announced an NHS England Long Covid taskforce, and new funding to begin designating specialist Long Covid clinics to complement existing primary, community and rehabilitation care [SLS29 - INQ000283185]. New guidance was commissioned from NICE on the support that long covid patients should receive, and an expanded online information and support service was commissioned from experts in Leicester. In June 2021 shortly before I stood down as NHS England Chief Executive we further expanded support for people with Long Covid, backed by £100 million of earmarked funding [SLS30 - INQ000283186]. As understanding has developed it is clear that important service gaps remain for people experiencing Long Covid and more investment in support, care and research will be required.

55. Turning to social care, the Inquiry has specifically asked whether or not I concur with the statement that Government had "right from the start tried to throw a protective ring around our care homes". Given the disproportionate impact of COVID-19 on older people including those using institutional social care services in the UK and many other countries, it cannot reasonably be concluded that a protective ring was *successfully* applied. Instead, the Chief Medical Officers' Technical Review shows that that "outbreaks in care homes were closely correlated with community prevalence throughout the pandemic" [INQ000205650]. Indeed in late 2020, even with testing, widely available PPE, guidance on isolation in designated settings and other protections, there is some evidence that the new SARS-CoV-2 variant spread quickly in care homes as it increased in the general population.¹⁵ This experience is sadly consistent with international evidence showing that many countries with high levels of community SARS-CoV-2 infection ended up with high levels of care home infections.
56. None of the above means that UK government departments and local authorities (and indeed care providers and local health services) did not actively try to support social

¹⁵ See for example [SLS31 - INQ000283187].

care. In doing so they faced heavy initial practical limitations including a worldwide shortage of PPE, lack of UK testing capacity, and at that point no vaccinations. Arguably COVID-19 vaccinations – for which care home residents and staff were rightly prioritised – constituted the most effective immunological ‘protective ring’. However all of these efforts were undoubtedly made harder by the wider failure over prior decades to properly resource and modernise social care [SLS32 - INQ000283174]; [SLS33 - INQ000283171].

Public communications on the NHS

57. The Inquiry has asked whether there were divergences between the NHS’s operational need to communicate with staff, patients and NHS organisations on the one hand, versus the Government’s wider presentational aims on the other. My recollection is that, judged over the course of the pandemic, issues arose on only a small number of occasions. These typically related to our wanting to ensure operational feasibility had been properly stress-tested, the practical consequences of new commitments properly thought through, and with a delivery plan put in place, so that new public promises could be kept. The Inquiry has further asked for my view on the Government’s public exhortation to “Protect the NHS”. In short, while understanding the behavioural salience of the slogan, and fully accepting that it was deployed in good faith, we were not involved in its formulation and NHS England had some concerns about its use.
58. These were essentially threefold. First, the fundamental point of limiting SARS-CoV-2 infection should be to limit the death and disability it causes (even with access to hospital treatment), not to ‘protect the NHS’. Second, minimising infection levels was desirable not to protect the NHS *from the public* (as some inferred from the slogan), but for the opposite reason so as to ensure hospitals were able to treat both COVID-19 and non-COVID patients who needed their care. Third, we assessed – as it turned out, accurately - that there was a risk that the heavy communications emphasis on ‘protecting the NHS’ could lead some members of the public to delay seeking needed medical care for other urgent non-COVID related health problems such as cancer or cardiovascular disease. So while the slogan was well-intentioned, it was not well-calibrated to convey accurately the intended message.
59. To try to partly mitigate this risk, NHS England launched its own public messaging campaign under the rubric “Help Us Help You”. This emphasised a) acting sensibly to reduce your chance of getting SARS-CoV-2 and potentially needing hospital admission, while b) also explicitly encouraging people to come forward for diagnosis

and treatment, for example for cardiovascular conditions or cancer. [INQ000205654]
So for example in April 2020 the NHS Medical Director made these points at a
Downing Street press conference and I did the same in national TV news interviews
[SLS34 - INQ000283192].

NHS resourcing in the run-up to, and during, the pandemic

60. The Inquiry has asked whether during the pandemic the Government provided NHS England with the additional funding it needed to respond appropriately. My answer is broadly yes, particularly at the start of the pandemic. NHS England liaised closely with DHSC, Number 10 and HM Treasury throughout, and after discussion generally secured the core resourcing needed to cover the NHS's extra costs of responding to what was the biggest health challenge in its seven decade history.
61. One caveat to this would be the decision in summer/Autumn 2020 not to fund our proposed extra 'buffer' inpatient capacity in hospitals going in to winter 2020/21.¹⁶ The funding the NHS sought at this time to limit further impact on non-COVID health services was relatively modest compared with the sums the Government was spending overall on the pandemic response. When COVID-19 again took hold in October 2020 - March 2021, more patients had their non-COVID care disrupted than would otherwise have been the case.
62. The Inquiry has further asked whether, notwithstanding the above, the NHS's overall response was adversely affected by the constrained funding growth it had received in the decade prior to the pandemic. The Inquiry has already received extensive evidence on this point in Module 1, which I will only briefly reprise here. Whereas our long run real terms health funding growth has averaged 3.9% per annum, in the decade before the pandemic that fell to an average of 1.1% per annum between 2009/10 and 2014/15 and then 2.4% per annum to 2018/19 [SLS35 - INQ000283188] (see Table 1). The comparative funding position relative to other European countries was even starker. It has been calculated that between 2010 and 2019 day-to-day health spending per person in the UK was 18% below the EU14 average. If UK health spending per person had matched the EU14 average, the UK would have been spending £40bn more each year, and at German levels that would have been an extra £73bn a year (a 39% increase each year) [SLS36 - INQ000283189].
63. Whether spending at the higher levels seen in other comparable countries in the

¹⁶ See Module 2 Witness Statement of Professor Sir Stephen Powis, paras 270-285.

decade before the pandemic would have been feasible (given the UK's economic growth record since 2008) or desirable in-the-round (given competing calls on the nation's economic resources) is, in a tax-funded health service, ultimately a political judgement made by elected governments.

64. Purely from a health care perspective, doing so would undoubtedly (as evidenced by successful investment and reform in earlier periods) have meant the NHS would have entered the pandemic with more capacity, a wider range of services, considerably shorter waits, fewer staffing gaps and more modern data and digital technology.
65. Furthermore, the ability of hospitals to separate COVID-19 and non-COVID care pathways - and therefore minimise nosocomial infection risk while maximising the amount of non-COVID care – was often hampered by the aged and suboptimal facilities they were having to operate out of.¹⁷ Older hospitals tend to have more large open wards, shared patient bathrooms and fewer single rooms. 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 situation was obviously exacerbated by the UK's lower level of capital investment in health care as a share of GDP compared with other European countries. If the UK had matched the average of the EU14 countries we would have invested £33bn more between 2010 and 2019 – which is around 55% higher than our actual capital investment during that period **[SLS36 - INQ000283189]** (see Figure 3).
66. Looking beyond those functions and budgets conferred on NHS England, there had been a sustained squeeze on local authorities' public health services, and responsibilities for adult social care were unhelpfully fragmented between DHSC, MHCLG, local authorities and care providers themselves. It is also clear that in discharging its procurement functions on behalf of the NHS (and then the wider care sector), DHSC inevitably incurred higher costs securing PPE and testing equipment, reagents and supplies on the world market at the start of the pandemic emergency than would have been the case if it (and PHE) had been able to create more substantial domestic buffer capabilities and a more sizeable UK diagnostics sector in the years beforehand **[INQ000145895]; [SLS37 - INQ000283178]**. The National Audit Office has estimated that the UK's de facto under-stockpiling of PPE ended up costing DHSC/HMT an extra £10bn in higher prices in February to July 2020 alone.¹⁸

¹⁷ See Module 2 Witness Statement of Professor Sir Stephen Powis, para 247.

¹⁸ See para 2.11 in **[INQ000145895]**.

(By way of comparison, the annual public health grant by central Government to local authorities for preventative health programmes is around £3.6bn [SLS38 - INQ000283201]).

67. All that said, even if the NHS had been funded at somewhat higher levels in the decade leading up to the pandemic, it would probably have been unable to avoid many of the temporary NHS emergency measures introduced in March 2020. Faced at that time with expert independent advice suggesting that COVID-19 hospitalisations could imminently fully exceed hospitals' capacity many times over, it would in all likelihood still have been considered necessary to redeploy staff and facilities ahead of the potential onslaught of COVID-19 admissions and deaths. Indeed at that very moment that tragic reality was coming to pass in China and northern Italy [SLS39 - INQ000283176]. Most European countries subsequently reported disruption to their essential health services during 2020 [SLS40 - INQ000283161]. During the resurgent winter 2020/21 pandemic wave there were further fears in many other countries (including in regions of Germany [SLS41 - INQ000283179], Japan [SLS42 - INQ000283180], Spain, France [SLS43 - INQ000283207] and the USA [SLS44 - INQ000283190]) that their hospital provision was about to be overrun.
68. In summary, therefore, on the resourcing questions posed by the Inquiry I would suggest a balanced assessment might conclude:
- a) the Government did generally provide the NHS with the emergency funds needed at the start of the pandemic;
 - b) the main NHS impacts of constrained funding in the prior decade were on its lower capacity and the extra pressure it created for NHS staff when covid hit, and on the operational constraints in running COVID-19 and non-COVID services in parallel. This is one reason why the backlog in delayed patient care is greater than it might have been, and why recovery is taking longer; however
 - c) when COVID-19 struck, the health service - like those in a number of other countries – would probably still have been faced with difficult choices. The 'bottom line' is that sadly no country's health care system, however sophisticated, can ultimately withstand an out-of-control pandemic.

Concluding observations

69. Finally, the Inquiry has asked for broader reflections on the topics covered by its

Module 2, which I offer as follows:

- a) When faced with a new, uncertain and dangerous communicable pathogen spread by social contact for which there are initially no effective treatments or vaccinations, it is self-evident that reducing the number of deaths may require reducing the amount of person-to-person interaction. The debate about doing so has now become highly polarised, particularly in respect of 'lockdowns'. In weighing the empirical evidence, the Inquiry could therefore helpfully not only assess the COVID-19 and non-COVID impacts of NPIs (positive and negative), but also address the separate question (drawing on UK and international evidence) of the extent to which they would be likely to succeed through voluntary public persuasion as against legal mandation.
- b) Most COVID-19 hospitalisations and deaths in the UK occurred *after* the 'first wave' of infections in Spring 2020 [SLS21 - INQ000283172]. The same may be true for the indirect non-COVID harms associated with the pandemic. It will therefore be as important to consider lessons that might be learned in respect of decision-making in the second and subsequent waves of the pandemic, as in the first wave.
- c) One of the issues discussed in the Inquiry's Module 1 hearings was that UK public health agencies had been particularly focused on preparing for pandemic influenza rather than other types of potential pandemic. In drawing lessons for the future from COVID-19, it will be similarly important not just to prepare to 'fight the last war' by assuming that a future pandemic would be a re-run (virologically, epidemiologically, clinically etc) of the one we have just been through. There is therefore a need to be clear about which contingent features of SARS-CoV-2 and COVID-19 shaped which elements of the national (and international) response. For example a future pandemic virus which differed in its severity and transmissibility might mean different judgements about the effectiveness of, say, temporary border controls, or the importance of oxygen-based respiratory capacity in hospitals, or if it disproportionately attacked younger rather than older people the balance of consideration about schooling might change. If the facts change, we should be willing to change our minds.
- d) However, many lessons from the recent pandemic are likely to endure. Within the past few weeks the UK Government has published the 2023 version of its National Risk Register (NRR). Of the 63 risks mapped in the register, a further pandemic scores highest on the Government's Reasonable Worst Case

combined probability/impact matrix, with an assessed “5-25% likelihood” of “catastrophic” impact over the next five years.¹⁹ It is therefore encouraging that the Government has now permitted NHS England to publish a funded long-term workforce plan. However in the light of this latest NRR risk judgement there is also a strong case for revisiting several other national decisions. These include the dismantling of some community infection surveillance infrastructure; cancelling some scientific and clinical research programmes developed during the pandemic; postponing various preventative health measures; deferring reform of social care [SLS46 - INQ000283173]; and further delaying upgrades of health buildings, equipment and technology [SLS47 - INQ000283175]; [SLS48 - INQ000283163].

70. This country would have benefited greatly had these all been in place when SARS-CoV-2 struck in early 2020. Given the loss of life and vast economic costs of the pandemic, chronic short-termism has proven to be penny-wise but pound-foolish. If COVID-19 teaches anything, it is that relying on a ‘just-in-time’ emergency response can end up being more dangerous, and far more expensive, than building adaptable and resilient capabilities ahead of time.

Statement of truth

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

SIGNED

Personal Data

DATED

22 September 2023

¹⁹ Chapter 2 Page 15 of the UK National Risk Register [SLS45 - INQ000283164]