Witness Name: Ashley Shaw Statement No.: 1 Exhibits: AS/1-AS/6 Dated:07 January 2025

UK COVID-19 INQUIRY

WITNESS STATEMENT OF ASHLEY SHAW ON BEHALF OF CAMBRIDGE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST

- I, Ashley Shaw, will say as follows: -
- 1. I provide this statement to the UK Covid-19 Inquiry in response to a Request for Evidence dated 5 June 2024.
- 2. As Medical Director of Cambridge University Hospitals NHS Foundation Trust (CUH), I lead and am ultimately responsible for the professional activities of the medical staff within CUH, medical research, postgraduate medical education, infection prevention and control, medicines and medical equipment. I was in post as Medical Director of CUH throughout the pandemic period.

Overview of the role, functions and activities of Cambridge University Hospitals NHS Foundation Trust

- CUH is a large acute teaching and research NHS foundation trust located on the Cambridge Biomedical Campus (CBC) in Cambridge. Regionally, we are part of the Cambridgeshire and Peterborough Integrated Care Board (ICB).
- 4. CUH encompasses Addenbrooke's Hospital which provides emergency, surgical and medical care for local people and is also a regional centre of excellence for specialist services including organ transplantation, neurosciences, paediatrics and genetics. The Rosie Hospital is also part of CUH, providing maternity and neonatal services to the local population and specialist services in high risk obstetrics, fetal and maternal medicine and neonatal intensive care for the whole of the East of England region.

- 5. We work closely with a range of NHS and academic partners, including the University of Cambridge for which we are the teaching hospital. We are also an academic health science centre and host the National Institute for Health Research (NIHR) Cambridge Biomedical Research Centre.
- 6. As with other acute NHS trusts, CUH maintained its urgent and emergency care services throughout the pandemic but necessarily had to postpone a large volume of elective activity in order to be able to care for Covid-19 inpatients. Early in the pandemic, CUH, together with its key partners, also paused more than 200 research studies and moved the focus of its research infrastructure towards Covid-19, including vaccine trials and trials of potential Covid treatments.
- 7. Throughout the pandemic, CUH played a vital role in providing acute and critical care to large numbers of Covid-19 inpatients, significantly expanding its critical care capacity and working in particular with Royal Papworth Hospital NHS Foundation Trust (a separate NHS foundation trust based on the CBC) to provide support to local hospitals in the region. CUH also worked closely with other trusts across the region through the Critical Care Network, with daily calls to arrange patient transfers in an effort to make the best use of available capacity. CUH also continued to liaise closely with other 'Shelford Group' teaching trusts across the country to share information and best practice.
- 8. During the pandemic period, CUH worked in partnership with trade unions through the Management Staff Forum which continued to function during this time. This involved information sharing, identifying staff challenges and issues, and formulating management solutions and actions for implementation. At this time, trade unions nationally agreed to pause all employee relations activity, so the collective focus during this period was on the Trust's response to the pandemic.
- 9. CUH also worked with a wide range of other external agencies during the pandemic period to support the delivery of effective healthcare services.
- 10. At a national level, CUH worked closely with the Department of Health and Social Care (DHSC), NHS England (NHSE) and Public Health England (PHE) to implement, and in some cases provide input to, national policy and guidance. CUH also worked with NHSE at an East of England regional level and with the Cambridgeshire and

Peterborough ICB to support the regional and local healthcare response to the pandemic.

Key figures and decision makers

- 11. The CUH Board of Directors, chaired by Dr Mike More as Trust Chair, was accountable for the Trust's response to the Covid-19 pandemic and received weekly updates in addition to formal monthly Board reports. Day-to-day responsibility for the Trust's response and decision making sat with the Chief Executive, Roland Sinker, and the group of Executive Directors and the Directors of the five clinical divisions who together comprised the Trust's Management Executive. Executive Directors populated the Gold Command structure and led the Trust's Covid-19 Taskforces (see below).
- 12. The Board of Directors and key Board assurance committees continued to meet during the period, albeit virtually and with amended agendas to reflect the focus on the Covid-19 response.
- 13. Management Executive increased the frequency of its meetings from weekly to twice weekly given the fast pace of decision making and oversight required. The Trust Chair joined Management Executive as an observer to strengthen Board oversight of decision making.
- 14. When the NHS entered a Level 4 National Incident on 3 March 2020, CUH enacted its Major Incident protocol, establishing Gold, Silver and Bronze command structures and a rhythm of daily meetings. Silver and Bronze Command held a daily Incident Management Team meeting each morning, and Silver Command updated Gold Command twice daily, seven days a week.
- 15. Management Executive and the Command Structure were supported by a daily medical meeting to coordinate clinical strategy across specialties, and by a series of Executive-led Taskforces. These goal-specific Taskforces were established to address and take decisions on time-critical, cross-cutting issues and challenges faced by the Trust including in relation to cohorting and configuration, supply chain, ventilation and oxygen, personal protective equipment (PPE) and respiratory protective equipment, and testing.

Experiences of Cambridge University Hospitals NHS Foundation Trust during the pandemic in relation to the procurement and distribution of key healthcare equipment and supplies

- 16. Infection Prevention and Control (IPC) and PPE guidance was routinely released late on a Friday afternoon by national bodies. This added to anxiety for the IPC team and across the organisation as it allowed little time to implement the guidance in a timely and considered manner ahead of the weekend. Some trusts appeared to receive information sooner than others which led to further confusion and anxiety. The PPE guidelines, when they were issued, were typically clear and comprehensive.
- 17. There was initially a perception among staff that Italy used 'better' PPE than the UK (based on news reports) so staff were understandably anxious.
- 18. As local leaders, we felt that it was important to be able to reassure staff that they were being provided with the PPE that we felt was necessary to maintain safety, and to demonstrate that this was supported by evidence and research and evidence. This helped to counter a perception held by some that supply was being driven solely by what was available at the time.
- 19. CUH introduced mask wearing in key areas across the hospitals earlier than nationally recommended. We also introduced FFP3 masks for staff working in certain situations in excess of national guidance as we had published evidence that this provided a benefit (AS/1-INQ000516738).

PPE supplied by the UK Government/DHSC

- 20. There were multiple types of Fluid Resistant Surgical Mask (FRSM) and FFP3 mask. There were concerns from some staff that the masks supplied did not fit properly. Many masks did not appear to be designed for those with smaller faces. Some staff could only be successfully fit tested to one type of FFP3 mask which was then not subsequently available through the national supply route.
- 21. We were instructed to retrieve and store single use gowns so they could potentially be cleaned and reused.
- 22. We found local suppliers who made masks and face shields. Any excess equipment was sent to local care homes.

- 23. The use of double gloving in some instances was trialled. However, in hindsight this was probably at least partially responsible for a rise in bacterial healthcare acquired infections. This practice was therefore stopped.
- 24. The Trust's IPC team devoted a large amount of time to the local interpretation and implementation of national guidance, and the education and awareness raising of staff (both electronically and in person). This took up significant resources but was essential in order to be able to reassure and support staff in the face of significant fear and uncertainty.

Ventilators

- 25. In relation to ventilators, the Trust worked with the Cabinet Office, NHSE, the Medicines and Healthcare products Regulatory Agency (MHRA) and the Ministry of Defence (MoD) in undertaking Clinical and Technical due diligence, and signing off the equipment into four categories:
 - Appropriate equipment for Covid-19 patients;
 - Potential equipment for Covid-19 patients (some identifiable problems);
 - Extremely limited clinical use for Covid-19 patients (multiple identifiable problems); and
 - Not clinically suitable for Covid-19 patients (does not require testing, remains in quarantine).
- 26. It was found that the device specifications were typically poorly written with no quantitative information. This made evaluation difficult as there was nothing to measure against. As a result, we had to revert to the device essential criteria from a regulatory perspective which was then used to evaluate the devices against.
- 27. Locally there were numerous discussions with the clinical teams and local Emergency Planning, Resilience and Response (EPRR) teams around selection of devices from the national stock. Many of the devices provided would not necessarily be models or manufacturers of choice. However, to get up to a potential ventilatory capacity of 160 to 200 patients, we needed to accept the devices which were available. We did reject

some models such as the Nanjing Superstar Ventilator which was determined to be clinically and technically inferior.

- 28. Adult critical care ventilators were provided by the government which were a completely new model to the Trust. While initial support for the installation and training of these devices was provided there did not appear to be long-term plans in place in relation to ongoing training, maintenance, spare parts and consumables provision. Many teams had to take the minimal training materials and train themselves in the specific nuances of the devices, based on previous experiences. In addition, many of the devices and consumables came from China, and the instructions for use and associated documentation was accordingly in Chinese. On occasion DHSC/NHSE endeavoured to obtain translations of the documentation, but these varied in quality.
- 29. Clinical Engineering worked in close collaboration with the Intensive Care Unit (ICU) team on assessing capacity and demand. With our Servo I ventilators and 67 VG70s from the national stock, we were able to secure sufficient capacity of ventilators.
- 30. There was no point during the pandemic when a ventilator was not available for a CUH patient who needed it.
- 31. Issues were fed back through the EPPR and Critical Care Bronze Cells. However, this led to some duplication of tasks. On reflection, having more clearly defined key roles would have removed this duplication and resulting inefficiencies. Several people would often make contact regarding the same issues, whereas during business as usual periods all equipment management issues would have been picked up by Clinical Engineering.
- 32. Any issues relating to ventilators were fed back to the newly formed National Clinical Engineering network which was, and still is, chaired by NHSE Deputy Chief Scientific Officer. During the pandemic, representatives from the National Equipping team, MHRA and MoD were also sitting with the newly formed regional Clinical Engineering Leads. This was used as a forum to write policy, escalate issues, etc.

Oxygen

- 33 At the onset of the Covid-19 pandemic, the Trust established the Oxygen Stewardship Group including Executive Director, clinical and technical representation to oversee the management of oxygen supplies within the Trust. As part of this management process, a live document was maintained to update the Group and wider audience on the status of the oxygen supply system (example enclosed at AS/2-INQ000516739).
- 34 In February 2020, considerable testing of our oxygen system was undertaken to demonstrate what oxygen demand could be maintained at a departmental level for wards, ICU and Theatres. It was identified that while wards could supply oxygen at significantly higher volumes than the intended design, the overall oxygen system would need to be managed to maintain the oxygen volumes on the system.
- 35 The Trust operates a Ring oxygen system providing a high level of system resilience during normal oxygen consumption. Forecasts of potential oxygen demand during the pandemic, informed by NHSE Modelled Covid-19 Acute Hospital Bed Demand figures (AS/3-INQ000516743), and also national guidance on High Flow Oxygen devices (AS/4-INQ000516744), identified a potential issue in reserve capacity if we were to have a main VIE (Oxygen Storage Vessel) failure. If a VIE failed, this would result in only a single VIE remaining and if this then failed, the oxygen reserve through bottled supply would be exhausted too quickly to maintain an oxygen supply to patients. To address this, we obtained approval via the NHSE Oxygen Group in conjunction with BOC to procure and install additional main and reserve capacity at each of our two VIE installations.
- 36 Between March 2020 and September 2020 we designed, gained approval, installed and commissioned these works to install the additional infrastructure required. The benefits of these works were that we had an oxygen Ring system which was resilient in the event of equipment failure in maintaining oxygen supply to the entire site and which could also be re-configured at times of extremely high demand to balance the flow of oxygen between these systems to ensure demand could be met.
- 37 As part of this system modification, we also installed ultrasonic flow metering so that we could monitor real time data on the oxygen demand, including alarm notifications for high demand, to our 24/7 on-site technical engineers. This was crucial in providing assurance that the oxygen system was not under stress and that we were confident in

providing oxygen to patients. In addition, to inform the understanding of oxygen use on the system, flow rates were identified for patients on differing forms of oxygen therapy. In practice, we only had to reconfigure our oxygen ring system once as a precautionary measure.

- 38 In relation to oxygen management, patient numbers requiring standard masks, ventilators and Continuous Positive Airway Pressure (CPAP) were reviewed to ensure that the anticipated oxygen demand on each ward/department would not exceed the available oxygen capacity identified in previous testing. This was extended when theatre areas were prepared to provide additional critical care capacity for Covid-19 patients to ensure that the oxygen demand would remain balanced and safe.
- 39 The attached report 'COVID Oxygen Oxygen Status overview 14.01.2021 Final' provides the overview of the outcome of this work (AS/5-INQ000516745).
- 40 Concerns were raised about an increase in levels of oxygen saturation of ambient air in areas of high oxygen use, leading to a potential fire risk. As a consequence, in January 2021, 65 oxygen monitors were procured and distributed to areas of high oxygen use. Based on the Trust's monitoring, at no point did oxygen saturation exceed safe levels.
- 41 As part of shared learning, a group of stakeholders produced a guidance document for the East of England Intensive Care Network on the experiences from this period (AS/6-INQ000516747).

Testing

- 42 A range of PCR (polymerase chain reaction) tests for Covid-19 were available within the hospital. These were processed in-house initially by PHE (now UK Health Security Agency) clinical microbiology laboratory. Panther, Samba, Cepheid and Biofire testing was, however, ultimately introduced. Laboratory capacity was initially limited to 160 tests per day to cover the entire region.
- 43 Testing was initially limited to symptomatic patients but, when it was realised that asymptomatic patients could be a source of infection, DHSC mandated that every admission (emergency and elective) required a Covid-19 test. In the week that this was introduced (in line with the need to do 100,000 tests per day set by the Department of Health and Social Care), this increased the turnaround time from 1-2 days at the

start of the week to 6 days by the end of the week as capacity did not increase. As a result, samples had to be sent across the country. Ultimately, biomedical scientists were drafted into other PHE laboratories in Colindale and Porton Down to help but this took several months to set up.

- 44 Because PCR-based tests were limited to patients for much of the early pandemic period in 2020, a bespoke pathway was required to test staff to ensure the safety of staff and patients. In collaboration with the University of Cambridge, in March 2020 we developed at CUH a first-of-its-kind SARS-CoV-2 screening service for all staff. We were able to test all symptomatic individuals, as well as implementing a rotating system to enable asymptomatic screening. For example, very early in this programme, over three weeks in April 2020, we screened over 1,000 asymptomatic healthcare workers (HCWs), and over 200 symptomatic HCWs or household contacts. This led to critical observations, including that 3% of healthcare workers were asymptomatically infected, that HCWs working in 'red' or 'amber' wards were significantly more likely to test positive than those working in 'green' wards, and that nosocomial SARS-CoV-2 infection was common, demonstrated using viral genome sequencing.
- 45 By expanding this testing programme, we:
 - (a) observed that the proportion of both asymptomatic and symptomatic HCWs testing positive for SARS-CoV-2 rapidly declined to near-zero during the first UK lockdown. This demonstrated how infection prevention and control measures including staff testing could help prevent hospitals from becoming independent 'hubs' of SARS-CoV-2 transmission, and illustrated how, with appropriate precautions, organisations in other sectors could resume on-site work safely;
 - (b) provided real-world evidence of short-term protection against asymptomatic SARS-CoV-2 infection following a single dose of BNT162b2 vaccine, suggesting that mass first-dose vaccination would reduce SARS-CoV-2 transmission, as well as the burden of COVID-19 disease; and
 - (c) found that FFP3 masks provided more effective protection than FRSMs for HCWs caring for patients with Covid-19.

Lessons Learned

- 46 As a result of the above, we were able to contribute to the national SAGE committee discussions, and provide advice to NHSE and PHE, as well as hosting visits by the national director of mass testing and the Prime Minister's health adviser.
- 47 We learned that, in such challenged circumstances, it was more important than ever to ensure effective collaboration with other healthcare and academic partners to achieve the rapid changes which were required in healthcare provision and to learn from best practice elsewhere.
- 48 We recognised the importance of keeping our staff well protected and of ensuring that they felt informed, supported and well protected at what was a time of great uncertainty and fear. Our asymptomatic testing programme which was available to all staff in the organisation is a good example of this.
- 49 Finally, I would like to take this opportunity to commend all of our staff at CUH and our partner organisations who worked with us in unprecedented circumstances and at a time of significant fear and uncertainty to ensure that we continued to deliver the very best possible healthcare to our p

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.



Dated: 07 January 2025