Witness Name: Mark Pietroni

Statement No.:

Exhibits:

Dated: 1 May 24

UK COVID-19 INQUIRY

FINAL WITNESS STATEMENT OF Mark Pietroni

I, Prof. Mark Pietroni, Medical Director GHNHSFT, will say as follows: -

Background

1. Gloucester Hospitals NHS Foundation Trust (GHFT) provides acute hospital services from two large district general hospitals, Cheltenham General Hospital (CGH) and Gloucestershire Royal Hospital (GRH). Maternity Services are also provided at Stroud Maternity Hospital. Outpatient clinics and some surgery services are provided by Trust staff from community hospitals throughout Gloucestershire. The Trust also provided services at the satellite oncology centre in Hereford County hospital. The Trust has approximately 8000 members of staff, 22 Wards in GRH and 12 wards in CGH.

2. The Trust serves a patient population of 646,627 sitting in a geographical area of 2,653 km2 / 1,024 sq. Miles. The socio-economic landscape is made up of Cheltenham and Stroud, with a pronounced grouping of affluent population, contrasting with that of Gloucester, demonstrating a notably higher level of deprivation. Tewkesbury and Forest of Dean have a more even spread of socio-economic groupings weighted towards the more affluent, with Cotswold the most balanced region in the catchment area.

3. The patient population demographic has a higher-than-average older population peaking in the 50-59 zone of c90,000. There is a significant number of 70-79 year olds (c80,000) and 80-89 yr olds (c65,000). Ethnicity is strongly White (both English, Welsh, Scottish, N Irish or British and Other White) averaging around 91% with Gloucester the only significant outlier at 83%. The remaining ethnic diversity is relatively evenly spread across groupings with a slight weighting towards Asian groups (Bangladeshi, Chinese, Indian, Pakistani, Other Asian). Supporting evidence exhibited in MP/01 INQ000436631 under Population Gender, Ethnicity, and Deprivation.

Staffing Capacity

4. There were times in all waves when we were significantly short of medical, nursing and AHP staff. We compensated for this in a number of ways but all of them resulted in staff working many additional hours for weeks on end. During the first wave we created 'pods' of medical staff, including re-deployed staff, to work on fixed wards or pairs of wards 12 hours a day, 3 days on and on 3 days off.

5. Nursing and other staff worked usual shift patterns but were also doing more hours overall to fill vacant shifts. On ITU - when ratios were diluted (from 1:1) to what ordinarily be considered "unsafe" - we backfilled gaps with non-critical care staff. This is well recognised to have impacts on safety, morbidity, and outcomes for patients but also on staff wellbeing.

6. Whether shortages had any particular impact remains difficult to quantify at such a unique time, however if we use ICNARC data and survival as a crude measure of patient outcomes then as a Trust we had significantly better outcomes than other comparable units. ICNARC data produces a large amount of data, but what it does not fully demonstrate is the variation in denominator, i.e. how many patients were being triaged/treated by those units, and we are all aware of the heterogenous distribution of patient influx to each hospital.

7. During this period, the main reasons for staffing shortages were; acute sickness, with or without positive COVID19 tests, and for a small minority of staff, shielding requirements. In neonatal intensive care, we had 1 out of 6 consultants shielding.

This gap was covered by the other consultants. No external locums were required. Similarly for junior doctors, any gaps were largely covered by internal locums. There was no significant variation in this position throughout the period in question.

8. In the paediatric department; there was a significant change to the setup of the paediatric ED, which relocated from main ED to the children's ward in order to provide space to see COVID patients. This put a significant pressure on the ward due to the increase in patient numbers and challenges with space for the team, but they adapted very well. Similar reasons for staffing shortages were seen in paediatrics and maternity. There was a pre-existing high vacancy rate in midwifery, and it increased during the period in question.

Effect on workforce capacity of diagnostic and antibody testing, and temporary registers

9. As a result of testing, we saw an increase in the number of staff excluded from work; which was welcomed as this minimised the transmission of COVID between patients and staff but increased the pressure on staff at work. At the very start of the pandemic, before local testing was initiated, the lab redeployed a member of staff to Bristol and aided Bristol in initial specimen preparation for testing. This continued until we were provided with consumables to start testing within our own Microbiology department. In Microbiology as we stepped up COVID testing, we had to introduce an extension of the working day from 0830-2100 with on call only thereafter, to 0600 -2200 within the same staff group for 6 months (no additional staff) meaning that we had to stop processing certain specimens e.g., mycology, urine microscopy, andrology, parasitology.

10. The Trust had support from some temporary staff going forward as we stood up COVID testing over weekends as well as during the extended day - these included unpaid 109 voluntary staff for admin tasks, 36 retired staff who returned, and appointment of 109 temporary new graduates. We were able to extend testing to 24 hours for a short period at short notice to help patient flow. Of all those additional staff only 2 retired staff worked in critical care.

11. Because of uncertainty over ongoing funding, the recruited new graduates left for new posts, and we had to recruit new staff into the additional COVID posts at a time when every Microbiology laboratory was trying to recruit from the same pool of staff.

COVID testing was managed solely within our own Microbiology department with no additional help from universities or other scientific services. Band 2 data entry staff also had to increase working shifts to 0600-2200 to support the COVID testing hours. Fewer specimens were dealt with after 2200 and therefore band 2 staff did not work in the Microbiology lab after 2200.

12. The Siren study could be accessed by staff and provided regular antibody testing. Staff testing was initiated on 29/05/2020 using the nucleocapsid assay until conversion to the spike assay on 14/01/2021. All staff were offered antibody testing when this became available. At first, we were unsure how to interpret the results as there was little understanding about immunity and the significance of the results, but quantitative results were provided to the infection prevention and control team. As antibody testing was introduced the influx of additional test requests overwhelmed our data entry staff requiring temporary redeployment of staff to book samples on to our LIMS.

13. Staff interest in joining the professional temporary register was slow to take off. Many staff were concerned at not having up to date skills to care for very sick individuals, particularly with the unknown nature of Covid. We then saw an increase in staff joining the temporary register once other non-critical activities were identified.

14. The largest proportion of staff that came forward wished to work in delivery of vaccinations. These were staff from all the professional registers: doctors, nurses, physios, pharmacists etc. The Trust was the county vaccination centre for all health and care staff, so having access to this qualified workforce was very beneficial. It also meant that we did not have to pull other clinical staff off their direct care work to do vaccinations. Staff training and updating was a further issue especially as there was specific training required for vaccinations using a new vaccine. There were delays in issuing the on-line and face to face training information but once it was available staff were very willing to participate. Trust staff were not used to do the training as this would have pulled them away from clinical work. Training was led by clinical staff working for the CCG.

15. Many of the staff who were taken on to do the vaccination work are continuing to undertake this activity. It particularly suited people who had retired but were looking

to help in the pandemic. It is a concern that staff who are still required to help with vaccinations temporary registration will cease at the end of 2024.

Constraints on increasing staffing capacity

16. Unusually, certainly in the first two waves, finance was not a constraint, and COVID-related expenses were reimbursed by central government. Essentially external locums were not available as all staff were supporting their base organisation and no-one had any appetite to 'rob Peter to pay Paul'. However, Trust staff worked longer hours, extra shifts, and unique rotas in order to provide care.

17. During periods of elective inactivity staff were re-deployed to unusual roles or more junior positions e.g. consultant surgeons supporting medical teams on COVID wards working in 'junior doctor' roles or in ITU to do more general talks such as proning to release specialist staff to supervise teams or to do specialist tasks when staffing ratios were diluted.

18. Other staff, including non-clinical staff, were re-deployed to support direct patient care or staff wellbeing e.g. psychologists providing support at the end of shifts or admin and clerical staff supporting procurement. It was clear that, with the exception of final year medical students who were graduated early to help, we would need to manage the workload with existing staff and this was successful although it came at a cost for staff.

Alleviating staffing shortages

19. The NHS in Gloucestershire already had in place pre-Covid, a staff mutual aid agreement. This allowed for any member of staff working in the county who had an NHS contract to work for a different NHS organisation to offer support in a time of crisis or emergency. This system had been used before to manage winter pressures, so it had been tested. It was immediately agreed that this would be used during the pandemic and the deployment of staff would be co-ordinated by the CCG.

20. The largest group of staff to be redeployed were Nursing staff working in the CCG, particularly nurses who worked in Continuing Health Care (CHC) and the Clinical Quality and Chief Nurse's team. These were all very experienced clinicians who were

able to be redeployed to support patient care and discharges so that beds could be free for new Covid patients.

21. The CHC staff had a particular role in the Trust in doing rapid discharge assessments, organising onward care and funding for patients to go into care homes or have home care. They acted as the liaison with adult social care. Also redeployed were therapists in the CCG who helped with the management of PPE for the Trust and delivering vaccinations.

22. The most effective central action was the early graduation of final year medical students who were both keen to be part of the response and a very effective help. Attempts at bringing staff back into practice who had retired or allowed their registration to lapse, or enabling overseas qualified staff to practice, were not a major part of our response on the wards. However, once the vaccination programme started this group of staff were very keen to take part and reduced the number of staff needed to support the vaccination programme. It was clear that working in a vaccination clinic was more acceptable to this group of staff compared with working on the wards which caused much higher levels of anxiety.

Effects of redeployment of staff

23. As alluded to earlier the approach was an effective response to the staffing needs. However, it should be noted that it is not possible to re-deploy staff without appropriate training and supervision. We developed a number of video or online training modules for staff e.g. *Respiratory Assessment and Support* and ensured that staff working in unusual situations were always working alongside appropriately trained and qualified colleagues. It is important not to underestimate the anxiety caused by asking people to work in this way and its impact on them. However, particularly during the periods in which people worked in 'pods' alongside the same team day by day, the ability to support each other and the sense of a shared purpose at a time of crisis helped.

24. Critical Care was a significant concern as an ITU bed is useless without appropriately trained and experienced staff. Diluting already stretched staffing numbers was a huge challenge. This had to be balanced with the delivery of safe organ support for most patients. The solution found was counter-intuitive: to support other, non-ITU,

high care areas with critical care staff for example respiratory high care. Critical care areas could then be backfilled with non-specialist (redeployed) staff. This allowed more straightforward organ support (e.g. CPAP and BiPAP) to be delivered in large numbers in the ward environment. Re-deployment of experienced Critical Care (ITU) nursing staff to Respiratory High Care (RHC) was managed in a planned way within second surge. 2 x Band 6 ITU Sisters led on this to help plan re-deployment rotas, inform and support staff who were allocated to RHC on a weekly / daily basis. The designated silver 'tactical' ITU nurse co-ordinator, as well as leading within ITU, also visited RHC each shift to meet with RHC nurse co-ordinator to assess plans and patient / staffing risks. Whilst anxiety and stress amongst the nursing teams was evident, this approach provided cohesion between the teams and points of contact with familiar staff. While it diluted the ratio of experienced staff within ITU, over-all it reduced / mitigated risk to patients requiring respiratory support and intervention across the organisation and allowed for patients to be cared for within the right environment in relation to estate, facilities and equipment available. Consultant ITU and RHC colleagues also worked collaboratively which provided a sense of teamwork and cohesion, thereby improving staff morale and patient safety. This approach created a high level of over-sight for all patients within ITU/RHC and patients were transferred between the units according to clinical need in relation to deterioration / improvement in condition. Staff did suffer stress and burn-out – this was managed through compassionate leadership and access / referral to psychologists during and after Covid surges within planned group sessions and individual referral.

25. The approach freed up critical care beds for only those needing invasive or multiorgan support. This remains one of the most clinically challenging decisions taken, but one of the most beneficial. In addition, skilled clinicians were also used to form specialist teams e.g. MERIT (using anaesthetists and theatre staff to form unwell patient stabilisation teams - these later became proning teams).

26. Staff from the Trust supported the wider network undertaking shifts for Retrieve (Critical Care Transfer moving the most unwell patients in region and nationally) and in the design and planning of the Bristol Nightingale hospital but no staff were re-deployed there.

Impact of Long COVID

27. Covid significantly impacted on staffing capacity with increased sickness absence, but it is difficult to differentiate between Covid and long Covid absence now that Covid absence is not reported separately -

Deaths of staff

28. We were very grateful not to lose any members of staff despite some being very unwell.

'Vaccination as a Condition of Deployment' - approach

29. A short anonymous survey was offered to all those who had not undertaken their vaccinations. A letter was sent out to all colleagues we did not have a full vaccination record for. The letter informed staff how they could update the record if it was incorrect.

30. It also gave information to staff if they worked in a patient facing role and they had decided to not have the vaccines / provided support if they were clinically exempt. Line managers were asked to contact individuals to have an initial conversation to ensure the records we had were correct and establish whether they wanted or were going to be vaccinated by the deadline.

31. There was variation among staff groups, often led by the likelihood of the ward or department leader's willingness to get vaccinated. A very few staff indicated they would not want to be vaccinated and were informed they would be re-deployed. Within ITU we there was one staff member who did not wish to be vaccinated. They were allocated to work within the 'Green' non-covid clinical area and were confident in the level of PPE provided. A risk assessment was completed for all ITU staff, including this staff member, who was accepting of the risk posed by remaining unvaccinated. There was only one doctor who declined to be vaccinated. Redeployment never happed as the government did not implement the policy.

32. Significant divisions were created amongst some staff when mandatory vaccination was being considered as it became clear who had not wanted to be vaccinated. All of this was ultimately pointless and unnecessary as the Government dropped the

scheme at the final moment and after these divisions had become apparent and a huge amount of work had happened.

33. The Trust did not have its own VCOD policy and was pleased to see the national policy go.

Other staffing issues

34. The plans to staff the Bristol Nightingale Hospital caused a lot of concern as the Trust did not have enough staff to support its own patients. The clinical opinion was that while the Nightingale Hospital might be a good option for an urban centre like Bristol, however the mutual aid system was working effectively in Gloucestershire and provided a better solution to ITU capacity issues for our Trust.

35. There was a sense that the Nightingale Hospitals were being driven more by political than clinical need. However, it should also be said that in the South West we were fortunate never to be in a situation in which we were at risk of being completely overwhelmed; and had that situation arisen opinions about the Nightingale Hospital might have been different.

Bed capacity

36. The Trust was working at full capacity as is normal in any Winter period. However, from early March we were working with community and social care colleagues to empty beds. The change in discharge policy on March 17th was part of a step-change in discharges and, together with the removal of financial barriers between the NHS and social care, rapidly led to empty beds and, indeed, empty wards in preparation for the first wave.

37. It is also worth noting that the behaviour of the public significantly changed as well, and the number of patients attending the ED or being referred in by GPs was significantly reduced. This came both from a desire to 'protect the hospital' for COVID patients but also an anxiety or fear of catching COVID in hospital. The reduction of this anxiety was one of the successes of our two-site policy and the creation of a relatively COVID-free 'green' site in Cheltenham after the first wave. However, it is

sadly true that many patients who should have attended for emergency treatment for conditions such as stroke and heart attack did not attend during the first wave.

38. In critical care all non-emergency surgery was ceased to create capacity, train staff and pool resources. Elective operating was reduced, equipment (ventilators, CPAP, infusion pumps) were source from all areas. A MERIT (Critical stabilisation) team was created and simulated. Recovery areas were used to provide level 2 care to support urgent and cancer surgery. Neonatal ICU teams to support infants requiring critical care to reduce pressure on adult services were planned.

39. Our first COVID case was on 13 March (earlier than most in South West) and we breached side room capacity (i.e. dedicated COVID ICU) on 25/3/20).

Steps to increase ICU capacity

40. Expansion areas identified and equipped on both sites. These were physical beds in which level 2 and 3 care could be provided (i.e., physical space, air/oxygen power supply to permit ventilation and/or non-invasive ventilation). This increased ICU physical bed capacity from 31 to 96 physical potential beds. Oxygen and air pipelines were rapidly continued into all expansion area. MERIT teams were trained, equipped and staffed to assess, resuscitate and stabilise the most unwell patients.

ICU Capacity

41. Prior planning included escalation pathways and cohorting sequence. Twice daily situation report meetings reviewed status. A command chain within critical care (Gold, Silver, Bronze) was created. Once overcapacity was reached the plan for dilution of staffing ratios with support from non-critical care medical professionals was enacted. Staffing ratios were diluted within ITU following RCN/ICS guidance of A and B category staff to mitigate patient risk. ITU nursing staff were allocated to work with A & B category non-ITU staff, leading the care of a group of patients with over-sight from a 'Bronze' operational (nurse in charge) lead. This plan was executed during each surge and the details were recorded daily within the staffing dashboard that fed into national data entry. Each day during surge, the South West Critical Care N leads (Matron/Band 7 + clinical lead) attended a conference call to discuss patient to staff ratios and any requirement for 'mutual aid', within and beyond the local

network. Twice a day, the senior ITU leads met to undertake a 'safety brief, following a set agenda to discuss all aspects of patient and staff safety to include staffing ratios.

42. Concerns were expressed with multiple risks of running at near max, max and over capacity both to patient care, morbidity and mortality. Risks were escalated and formed part of the Trust risk register and process.

43. At peak times, and where appropriate, transfers were made to other critical care units within the local Critical Care Network, as explained in the next paragraph.

Use of Critical Care Network

44. Over the pandemic we transferred over 10 ICU patients in and 2 Covid patients out (the transfers out were in Wave 1). This was from both within and outside the network (including Midlands and South East)

45. Gloucestershire was a key part of SWCCN. Regular meetings took place during pandemic waves (increasing to daily at peak). Whole network capacity assessed and dependency manged as a whole network. In the beginning of the pandemic this meant patients were transferred out (initially one of hardest hit centres), later in the pandemic we were a net importer of critical patients even when overcapacity locally. This was done at Network and National Level.

Shortages: Medical equipment, medicines, infrastructure.

46. Through the cessation of elective operating in all Gloucestershire hospitals we managed to have sufficient ventilators by using anaesthetic machines from theatres (from our hospital and others in independent sector). Other shortages were monitored and flagged at daily escalation meetings. Where necessary alternative and equivalents were sought e.g., PPE and medicines.

47. CPAP was delivered using the non-invasive ventilation machines from the respiratory wards and intensive care and through acquisition of additional kit between waves 1 and 2. This stock was supplemented by repurposing domiciliary CPAP machines

normally used to treat obstructive sleep apnoea. At no point were any patients denied access to CPAP due to lack of equipment.

48. Domiciliary CPAP machines are designed to work at lower oxygen flow rates which reduced our oxygen requirements and the risk associated with oxygen leakage in wards. We were fortunate in having multiple VIEs across site so that we had sufficient reserve to manage demand. Prior the first patients being admitted we tested the oxygen supply and we able to increase demand locally to set off the alarms about the supply. This was managed by publishing an SOP to reduce oxygen delivery where able and to avoid dialling up flows that could be well in excess of 15l per minute.

49. At no time did we have an issue with oxygen supply and we were confident we had enough oxygen to supply the number of ventilators and CPAP machines we had available. The oxygen supply was part of twice daily sitrep meetings

50. Hemofiltration was identified early as potential resource issue as we had ten machines available across both sites and no more were obtainable due to the pandemic. Instead, we put home dialysis units into side rooms that could be used by ITU patients. These could provide renal replacement for 3 patients per day each so significantly increased the resource available.

51. The next issue related to disposable supplies; these were coordinated by the intensive care network. While this was a concern we never ran out of disposables. We did at one point have all the hemofiltration machines in use a plan was made as to how we would manage any further increase i.e. providing hemofiltration on alternate days for more stable patients.

52. Overall, we managed to avoid the worst impact of catastrophic shortages, with the focus heavily on critical meds (of which we were only allowed to hold 4 days stock). Further detail exhibited in MP/02 INQ000436632.

53. Early reporting within divisions could be escalated through twice daily Trust sitrep meetings. These were then actioned and reviewed. If local solutions were not available then issues were escalated regionally and nationally.

Private healthcare

54. The Trust did not use this agreement to move staff from the Overall, private healthcare sector to the Trust but did take advantage with regard to equipment: ventilators, PPE (masks, sanitiser), and body bags.

55. On behalf of the Trust the CCG made contractual arrangements with a local private hospital – The Winfield (run by the Ramsay Healthcare UK) to provide bed capacity for non-covid and urgent elective care surgery patients. During the summer of 2020 this facility had limited use due to planned upgrading of theatres at Winfield hospital. This private hospital facility was back in use by September for NHS patients. Surgical staff from the Trust were redeployed to the hospital to undertake the clinical work supported by the private hospital staff. In addition, ophthalmic surgery continued at the stand-alone eye unit run by Newmedica. The Nuffield Hospital was used as pre-discharge / recovery ward for covid-negative patients.

NHS Nightingale Bristol

56. We never considered admitting patients to the NHS Nightingale Bristol largely due to the distance and the fact that other supporting measures and mutual aid were sufficient.

Infection Prevention Control (IPC)

57. National guidance was not always popular amongst staff but as a rule we stuck to it as much as possible although there were some exceptions. This was because national guidance refused to acknowledge that COVID was airborne and required FFP3 masks. Later in the pandemic this was included in PPE guidance which was changed locally and required staff to wear FFP3 respirators for all contact with patients who are suspected or confirmed to have COVID-19 as opposed to type IIR surgical masks.

58. Universal masking was first instigated on 2/4/2020 across the Trust, which was ahead of national guidance. The Trust also included the mild symptoms for COVID-19 as a requirement for testing in April 2020 before national guidance, which was in response to an inhouse pilot of asymptomatic staff testing.

59. We used patient antibody testing to decide where to safely place patients in the hospital. For example, we placed patients in the middle beds of 6 bedded bays that had an immunological history of COVID exposure. This was an attempt to protect patients as much as possible. The COVID spike antibody quantitative result was used to risk assess patients.

60. Initially a level of >50 was used to place a patient in the middle bed of a bay as a barrier within a bay so that if a patient in a peripheral bed developed symptoms, they were considered to be at lower risk of developing COVID – but they were still considered exposed. This level was then increased to >100 as a small number of patients with antibody levels 50-100 became infected. Eventually this was increased to >250.

61. The strategy was discontinued once most people were vaccinated and were found to have levels >250 at which point vaccine history was used for this patient placement. We also considered COVID recovered patients, initially within 3 months of recovery, as barriers to the spread of infection. COVID recovered patients were admitted to otherwise closed COVID exposed bays. Again, we tried to locate these COVID recovered patients in the middle beds of a 6 bedded bay. This was reduced to COVID recovered within 1 month when a few patients were thought to have developed new symptomatic COVID infections 1-3 months following a prior infection.

62. Later in the outbreak (2022) COVID recovered patients were admitted to COVID outbreak wards and outbreak bays - they were considered 'golden patients' who could be placed in any bed. This led to patients being moved around the hospital multiple times but allowed beds to be used that would otherwise be closed. This was very difficult for patients and their families, and some patients were moved more than 10 times during an admission.

Implementing IPC guidance and associated challenges

63. Information was disseminated via daily global communication emails to all staff. National guidance was summarised into local action cards for staff and was accessible via the intranet; these were updated when new guidance was received. The IPCT held trust wide staff webinars in response to guidance changes and

enabled question and answer time for staff; which were recorded and made available on the intranet for staff to watch.

64. PPE safety and IPC guidance videos were also created and shared on the intranet to share updated IPC guidance. Posters were created and updated regularly with IPC guidance on and displayed in all ward and departmental areas. The trust also had PPE safety officers in all areas; these staff were trained by the IPCT in all IPC guidance and provided with updates to be shared with their staff colleagues on wards.

65. The IPCT also attended Trust meetings to update the senior leaders in the Trust of any new IPC guidance updates. The Trust had COVID intranet pages with a focus on IPC practices and guidance that was updated when new guidance was released.

66. New guidance often was received late on a Friday afternoon and it was a challenge to then ensure that this information was disseminated contemporaneously to staff. The IPCT regularly worked late to ensure that the communications were sent out to the relevant departments. The IPCT also worked at the weekends to ensure that the action cards, posters were updated and ready for dissemination to all departments on a Monday morning.

67. The PPE safety officers were contacted via a WhatsApp group and were also then able to share information more widely. An A3 colour printer was ordered and suppled to the IPCT to allow timely poster production and dissemination to staff. Urgent responsive system wide meetings were also convened to ensure information was consistent across the ICS and shared across the healthcare community.

Challenges implementing IPC guidance

68. It was a challenge to implement national guidance where Royal College guidance went against this. Royal College or specialty specific guidance almost never had infection specialists amongst their authorship and was usually more restrictive than national guidance. This created very significant challenges around processes and PPE as some medical staff would want to follow their College or specialty specific guidance often calling it "national" guidance which it was not. This was extremely unhelpful. A specific example includes the agreement on what constituted an aerosol

generating procedure (AGP) and therefore what PPE including FFP3 respirators was needed for different procedures. Some Royal College guidance included procedures not deemed to be Aerosol Generating Procedures (AGP) in the national guidance a specific example included some gastro-intestinal endoscopies such as colonoscopies. This caused a lot of upset amongst staff as we followed national guidance in these cases. However, the hospital did move away from national guidance as our local policy is that FFP3 respirators are worn for contact with suspected and/or confirmed COVID (national guidance requires only a type IIR surgical mask) and for all AGP for all patients regardless of whether they are suspected to have a respiratory viral infection or not (national guidance is FFP3 use for AGPs for those with infections only.

69. Social distancing guidance was difficult to implement, especially in staff rooms, the canteen had to be closed for example. In inpatient areas during 2 significant waves beds were closed to allow for social distancing and screens were procured and fitted between beds and chairs as a means to support COVID security. Fit testing staff was very difficult, at one point we abandoned fit testing and moved to fit checking to avoid being overwhelmed. The difference between fit checking and fitting is described as follows. A fit check is required every time a respirator is used to ensure the fit of the mask. This check is to determine whether the wearer has correctly donned a facepiece before entering a work area. When fit checking, wearers use negative and positive pressure techniques to judge the quality of fit so it can be readjusted. Fit testing is a method for checking that a specific model and size of tight-fitting facepiece matches the wearer's facial features and seals adequately to the wearer's face. It will also help to identify unsuitable facepieces which should not be used. A fit test should be carried out as part of the initial selection of the respiratory protective equipment. A fit test should be repeated whenever there is a change to the respiratory equipment type type, size, model or material or whenever there is a change to the circumstances of the wearer that could alter the fit of the equipment. The trust uses qualitative fit testing (QLFT), which is a pass/fail test based on the wearer's subjective assessment of any leakage through the face seal region by detecting the introduction of bitter- or sweet-tasting aerosol as a test agent.

Local challenges regarding implementing IPC guidance

70. Covid patients were advised not to come to outpatient appointments if they were symptomatic or had tested positive for Covid 19. Once the patient had recovered then an appointment would be sent to them. The only exception for this would be the oncology pathway and these patients would be seen in a separate area to ensure their treatment plan would not be interrupted.

71. Outpatient areas were reconfigured to allow social distancing and reception desks had screens fitted. Wards were split into red and green areas. The ED at GRH was reconfigured several times depending on the number of COVID patients presenting to the hospital; when the unit was 'flipped' this resulted in an enhanced clean of the environment each time it was moved from red to green.

72. One of the main issues at the start of the pandemic was the sudden increase in patients with COVID attending ED, and the number of patients requiring admission to Critical Care. There was a matter of days between the first known case on Critical care to there being no more isolation rooms and the main units at both sites being full, so a one-way system with dedicated donning areas, and PPE removal areas was in place from the start.

73. The Emergency department was reconfigured several times to accommodate a red (covid) pathway ensuring this was secure from other non-covid patients. The ED pathway was changed to match as closely as possible the number of patients with Covid attending the department. The ITU departments were relocated to the other areas to allow for both a Red (Covid) and Green (non-covid) ITU facilities.

74. There were difficulties in implementing one-way systems due to the wards only having a single exit and entrance, - corridors were divided by tape to the floor to allow for some segregation.

75. Donning and doffing of PPE was also a challenge due to some rooms not having a lobby. Hand wash facilities were not always available in the appropriate area. Lifts were also separated to green and red areas and marked with tape to show different pathways. Private hospitals were used for green pathway activity. Additional staff were required mostly due to the time it took for PPE to be donned and doffed.

76. Due to lack of isolation facilities, the Trust had to use a cohorting model for isolation of patients with COVID and those exposed to COVID separately on different wards. Antibody levels were also used to risk mitigate patient placement.

77. The COVID exposed 'amber' wards were not successful and were discontinued within a few months. As amber wards were for patients exposed to COVID we moved exposed patients from other wards to be cohorted together onto these wards to try and control outbreaks and onward transmission in other areas. The nature of transmission at the early stages of pandemic almost certainly meant that those exposed would go on to get a COVID infection. This therefore re-exposed patients on amber ward numerous times during their stay on the ward and ultimately led to most of that patient cohort acquiring COVID; which resulted in patient deaths. The amber ward would essentially become a red ward/ COVID ward. After this, patients were moved to red wards and exposed patients were cared for in isolated closed bays although COVID recovered and or antibody positive patients could be admitted to these bays.

78. Most wards have no forced air ventilation and COVID spread very quickly and efficiently across wards. Air purifiers were purchased to support improvements in indoor air quality but these did not seem to reduce the number of outbreaks affecting inpatient areas.

Testing as an infection control measure

79. Asymptomatic staff testing started in Nov 2020- which included twice weekly LFDs; this was because the Trust was one of the chosen pilot areas as early adopters. Asymptomatic testing of patients commenced in June 2020; starting with all patients requiring a PCR on admission as per national guidance.

80. Gloucestershire decided that lateral flow testing for patients would be processed within the Microbiology laboratory in order to improve the accuracy of test, maintain governance and reduce the IPC risk of staff handling COVID in ward rather than laboratory conditions. In addition, Microbiology had staffing capacity to process the lateral flow tests whereas ward staffing was under higher pressure. Within the laboratory tests were handled in a Class 1 safety cabinet - these cabinets were not

available on any wards, and space and staffing restrictions prevented deployment of a Class 1 cabinet to A&E.

81. We commenced symptomatic testing with relevant travel history on 10/02/2020. Testing without travel history commenced March 2020.

82. At the start of initiating testing in Gloucestershire, consumables were so restricted that only 66 tests were available per day in county. Clinical staff liaised with Consultant Microbiologist staff to prioritise which patients were a priority for testing. There was some restricted additional capacity in Bristol. Prioritisation was on the basis of severity of illness and patient vulnerability. In addition, staff in critical roles due to work shifts were prioritised.

83. Due to shortages the department had to rapidly verify testing on a range of platforms - initially Easyplex PCR by Aus Diagnostics (commenced 13/03/2020), then Samba platforms (May 2020), then Bosphore by Launch (May 2020), then GeneXpert (June 2020), then VitaPCR Menarini (18/09/2020), then Q16 by Primer Design, then Aptima on Hologic Panther (June 2020 but insufficient consumables to test until later), then IDNow by Abbott (Dec 2020), then Lumira. We also had DNA Nudge (Nov 2020) but were provided with insufficient consumables to put these into clinical service. There was considerable complexity in interpretation of so many different platforms that were used due to the lack of sufficient supplies for any one platform.

84. Point of care testing was not initially available due to lack of consumables. When GeneXpert consumables were initially made available to us we were restricted to 20 tests per day and therefore we could not deploy these at point of care. Only when Abbott IDNow equipment and consumables became available, could we introduce point of care testing within the acute trust environment (Dec 2020). We were able to extend to community hospitals later. Point of care testing for COVID in primary care was initiated when Lumira devices and consumables became available (insufficient equipment or consumables for ID Now).

85. Our capacity for rapid turnaround testing was limited by consumables for our high volume Hologic Panther platform. By repurposing and relocating a Cytology platform, against pressure of relocation to an alternative Trust, we were able to use two Hologic Panther platforms to increase our capacity to over 1000 tests per day as well

as maintaining essential services such as HIV viral load testing along with Hepatitis B and C viral loads plus testing for Herpes Simplex. We were unable to use one of our potential high-volume platforms (Cobas 4800 by Roche) because we were unable to obtain required consumables.

86. We are unaware of any Trust that stood up testing on as many platforms due to consumable restriction. This was a considerable workload but despite this we managed to get extended scope accreditation for AusDx, Samba, and Launch, by August 2020 - followed by Hologic Panther and GeneXpert later in July 2023. To perform tests within the Microbiology laboratory safely, PPE was required.

87. Supplies were restricted meaning that normal safety procedures within the laboratory were partially compromised for example, single use equipment had to be decontaminated and reused e.g., visors, and gowns were allocated for single staff member use but reused for multiple days.

88. Testing swab supply was restricted - in total over time 8 different types of swabs were received all of which had to be verified on our different platforms. Some types of swabs gave false results on certain platforms restricting which swabs could be used and adding to the complexity of supply and testing. This was managed by the Microbiology laboratory. It is worth noting that the HPA withdrew funding to the laboratory around 2012 and this included an element of surge capacity funding to support outbreak management and testing - this has never been replaced.

89. Point of care test introduction date - lack of availability of GeneXpert consumables training had to be deployed at short notice. Prior to the deployment of POCT in ED, we had delays in results for those presenting with symptoms; and being unable to isolate all those with symptoms in ED, this led to patient exposures in the department that subsequently seeded further outbreaks across the Trust.

90. Early in the pandemic, all tests were agreed via a Consultant Microbiologist or, for staff, the Medical Director as only 66 tests per day were available. Symptomatic patients and rota critical staff were prioritised along with occasional VIP testing. As tests became more available there was no priority testing.

91. Asymptomatic staff completed twice weekly lateral flow devices and asymptomatic patients were tested on admission, day 2, day 3, day 5, day 7, day 10 then every 5 days whilst the patient remain an inpatient. all care home patients required a screen a 48hours prior to discharge. All exposed patients were screened daily for 10 days after exposure

92. We followed national guidance for testing although patient lateral flow tests were processed in the Microbiology laboratory rather than by the patient bedside.

Nosocomial outbreaks

93. The hospital had both Covid positive wards and wards which housed the exposed patients. Any positive patient was transferred to the Covid ward and this was in line with outbreak management so that the positive patients were cohorted. The exposed wards were not used for very long as the transmission of covid 19 affected the majority of patients within these areas.

94. All outbreaks, whether staff or patients, were investigated by the IPCT and contact tracing was done on all cases both for patient and staff. The outbreaks were reported on a daily basis, at a covid management meeting - this would include the hospital site team, the divisional leads as well as the IPCT. This did follow the national guidelines at the time. Once a patient was diagnosed as covid positive they would remain in isolation for 14 days. The exposed patients would be swabbed on a daily basis. Any patient contacts were telephoned to advise to isolate for 14 days and monitor for any symptoms. (South West Regional Covid 19 hospital outbreak Framework 15/06/20). Healthcare workers who were contacts of a positive case were not excluded from work unless they became symptomatic.

95. Further insight and supporting information can be found in MP/03 INQ000436633 and MP/04 INQ000436634 and MP/05 INQ000436635.

Personal Protective Equipment ("PPE") and Respiratory Protective Equipment ("RPE")

96. To enable rapid access to PPE for both the Trust and other health and care providers, a county-wide central PPE store was established in a local fire station.

The movement of urgent supplies of PPE to the Trust was facilitated by the fire service and military personnel. The management of the store was undertaken by CCG staff.

97. Initially we were running on 2-3 day delivery, based on spot purchasing of PPE that was physically on site and held by the suppliers. As time went on and we transitioned to the parallel supply chain the weekly deliveries and stock amounts stabilised and we moved away from local purchases. Note: this was only possible by the Trust and its local partners securing external warehousing space to support this, along with adjustments to the local materials management team.

98. In terms of centralisation, it did stabilise the situation, and was required. Once it stood up fully and got dialled in it worked reasonably well, but still required a significant manual effort to keep it running.

99. Quality however was problematic. There were numerous recalls and changes in guidance that knocked confidence in what was being provided. A key example was the push of the safety glasses in the early days due to a shortage in the supply of full face masks only for the central team to realise that they didn't pass the splash test requirements and had to remove them all from distribution and replace. This happened with goggles and aprons, and gowns and masks where the quality ended up being inadequate and needed to be swapped out and stock quarantined until collection could be arranged, again taking up significant space, which was at a premium.

100. The biggest single quality issue of all was linked to the FFP3 mask pandemic stock. We went through a painful time locally both in terms of supply and quality issues due to poor storage. The media coverage of the products being sorted with black mould and other issues did not help build confidence in the quality of what was being shipped.

The Emergency Request System

101. As the emergency request system was initially the only route to top up shortfalls and the only route to order FFP3 test kits, it became a routine call at least once a week to utilise in the beginning, reducing over time as the stock levels on site

locally rose following the warehouse going on-line and enabling a better buffer on site.

102. The main issue in the early days was the turnaround time of decisions being collated, considered and then being informed of what was coming the next day. This was understandable, as calls needed to be collected and stock rationed, but still a time frustration when trying to plan for the following day to ensure priority areas had the necessary items. However, the rationale behind why you could only have X amount of product was never clear, and we were never told what the regional stock level situation was.

103. It truly felt to teams on the ground that that the central desire to manage the media messaging was taking precedence over the need to explain the stock position to the teams and trying to plan for the next week ahead. We were informed regularly in regional meetings that a national communication message would come once the team had cleared the wording. These delays had knock on effects and frustrated teams trying to keep executives and senior managers informed of what was going on with PPE stocks, and affected whether mutual aid was released or not locally. This lack of transparency is an area to learn from.

Examples of unsuitable PPE or RPE

104. There are too many occasions to list when we were sent expired FFP3 masks. In the beginning the centre was shipping out the old pandemic stock which had obviously been stored incorrectly in a deep store warehouse (so could not deploy them quick enough as well) where stock had not been rotated properly, and clearly considering the condition issues we had, were not stored within the proper parameters either.

105. For example, the Cardinal masks were expired, so the centre extended the use by dates (multiple times over the pandemic), the masks had mould on the packaging, so could not be used, the masks had deteriorated foam that had perished so could not form a seal and thus failing fit testing, etc. There were numerous issues raised and communicated back via the central PPE team and the NHSE Regional teams. Some included:

a. Aprons and gowns were prone to tearing and therefore being insufficient protection. Face coverings, safety glasses were rolled out for a number of weeks before being informed they failed the splash test requirement and had to be recalled.
b. FFP3 mask: numerous attempts to fill demand from the centre but the size was inconsistent, the fit testing failure rates were 50% + and so were creating waste and shortfalls, as stock projections and push delivery requirements were not based on this failure rate.
c. Latex appearing in examination gloves and causing allergy reactions occurred more than once.

106. There was such a mix of products being pushed from the centre that trying to stay on top of which ones were causing issues was problematic.

Fit testing for PPE

107. The Trust re-deployed staff to support drop-in fit testing sessions for staff across both hospital sites. These staff were trained by the IPCT using a train the trainer model so they could also train other staff members to perform fit testing in their areas. This included a group of staff called PPE safety officers who supported staff with fit testing and PPE use in their local areas/ departments.

108. A challenge that rose during this time was access to fit testing kits via normal NHS supply chain methods - it was almost impossible to get supply. However, this was soon rectified with the provision of fit testing kits from push stock. Another issue was the constant change in FFP3 suppliers. This meant that staff who were fit tested on a particular mask would then need to access fit testing again when a new respirator was provided on push stock because the supply of their fit tested mask had stopped. This added additional demand on the already busy fit testing provision.

109. Some of the respirators were not fit for purpose and could not provide an adequate seal for the wearer (be that design flaws e.g. rigid metal nose pieces or just being too big for smaller faces). This contributed to a high failure rate and essentially meant we could not use the respirator at all for staff. Despite these sessions being provided, and due to the challenges described above, it was not possible to fit test all staff at once.

110. Therefore, an interim solution was agreed for a short period of time which included enhanced staff communications, posters and training was completed to ensure staff could complete an effective fit check prior to wearing a respirator. This would not replace fit testing but could at least ensure safe use when respirators were required. The Trust also purchased a significant number of powered respirator hoods for staff so that those who were not fit tested, could not be fit tested due to contraindication, or failed a fit test could wear appropriate PPE equivalent to a FFP3 respirator.

Impact of PPE and RPE shortages

111. There was staff anxiety during the first wave regarding the supply of FFP3 respirators from push stock that was out of date and was re-labelled with an extended date for use. This went against our usual practice of strictly not using out of date products. The movement to sessional use of respirators was also quite a culture shock as staff were used to wearing respirators for single contact only.

112. Some of the PPE offered was inferior and not fit for purpose. A lot of these items did not get supplied to the wards and departments as products were reviewed by the IPCT before going into circulation. An example that caused a lot of anxiety was a particular supply of aprons - they were too long, came loose as separates and not on a roll and had issues with the ties; many of these could not be used and led to significant wastage.

113. The Trust worked innovatively with other industries such as the nuclear energy industry to obtain PPE including respirators and re-usable/ launderable long sleeve gowns so that we did not compromise staff safety and as a result staff did not go without PPE when it was needed. The re-usable/ launderable long sleeve gowns meant that we were never at risk of running out of gowns, including the period when there was media coverage about hospitals in other parts of the country running out. Being transparent with our staff about stock levels and the need to use re-usable/ launderable long sleeve gowns to preserve stock was very effective and a contrast to the national lack of transparency about stock levels.

114. There was good provision of surgical masks (noting sometimes this was procured by the Trust directly from other manufacturers and not the push stock). We did find that both alcohol hand rub and surgical masks were stolen from public area. It is likely that if there had been enough FFP3 masks from the start of the pandemic for routine use this would have reduced patient to staff transmission.

Visiting

115. National Guidance on visiting was implemented in March 2020 with immediate effect in full - Visiting suspended to all adult wards. Exceptions for compassionate reasons if patient not suspected or confirmed Covid-19. Guidance was updated when issued and in June 2020 was as follows:

a. Physical visiting: Adult inpatient-visiting on compassionate grounds (end of life)
b. Childrens inpatient - 1 parent of guardian, no siblings
c. Maternity services - 1 birth partner during labour who can remain for 4 hours post birth
d. Mental Health and learning disability - visiting on compassionate grounds or exceptional circumstances where not having a visitor could have a detrimental impact on patient care.

116. Early in the pandemic in addition to physical visiting digital visiting and services were instigated to allow relatives to drop off clean clothes, pictures, letters and other keep sakes.

117. Restricted visiting was implemented prior to NHS England suspension of visiting on 16.3.20. As stated in the minutes of a key decision-making group, known as the COVID Task and Finish Group:

a. *10.3.20 - Communication needed regarding guidance of no visiting times for cohorted wards, unless for inpatient children.*
b. *12.3.20 Staff Update Covid-19: Staff were informed that restrictions to visiting including hours, numbers and eligibility were being finalised and would be implemented from 12.3.20.*
c. *13.3.20 Staff update Covid-19: Staff were informed that in line with national guidance restrictions to visiting including hours, numbers and eligibility were introduced from 13.3.20. Restricted visiting form 1pm to 6pm, only 1 visitor*

allowed per patient and a maximum of 2 visitors a day. Posters on visiting times displayed from 13.3.20.

d. *14.3.20 - Maternity, Neonatal Unit and Childrens Centre implemented own visiting arrangements.*

118. National guidance on the suspension of visiting was followed when this was issued in March. In June 2020 NHS improvement directed NHS organisations to develop their own hospital visiting guidelines, a countywide, 'One Gloucestershire' approach to visiting was developed and proposed to the strategic Gold group, for implementation beginning of July 2020. The following general principles were applied:

a. Visiting remained restricted
b. Digital should be the first option
c. Visiting could be restricted or stopped should community rates increase
d. Recognition that visiting is an important part of recovery for patients.
e. 'One Gloucester' visiting for acute and community hospitals from June 2020- Visiting 2pm to 7pm, 1 visitor for 1 hour, in each bay only 2 visitors at a time. Maternity - Birth partner can attend scans, intrapartum, during labour, and post-natal (1 hour per day), Childrens inpatient- visiting open and negotiated with nurse in charge, 2 visitors, no siblings or extended family, Neonatal - as Childrens inpatients, Mental Health and learning disability- as adults but will additionally visiting if necessary.

119. Any visiting that departed from restrictions would be based on compassionate grounds or exceptional circumstances. Visits for patients who were positive for Covid-19 was introduced and managed where this was necessary for compassionate reasons from April 2021 with specific Infection Control advice included in an Action Card published on 26.4.2021.

120. There was guidance on visiting, and this was clearly documented in the Action Cards and in comms to staff, however the Infection control leads, consultant microbiologist and public health did discuss individual cases - in particular cases that involved persons travelling to see dying relatives.

121. On 30.3.20 an End-of-life Covid-19 Action card was developed to guide staff through end-of-life care. In line with national guidance the action card restricted

visiting to 2 people. Because of the impact of restricted visiting on both patients and staff, Staff were encouraged to develop thinking around 'Every name a person' - our pledge to those approaching the end of life and their loved ones (ENAP). ENAP posters distributed and Trust face book and twitter posts.

122. On 2.4.20 Palliative care team produced a guide for compassionate visiting for staff and relatives related to Covid -19 - specifically those that were critically unwell or dying. This explained how Skype and WhatsApp could be used to communicate with relatives. It also advised that if relatives did visit this did increase the risk of infection from Covid -19, and that they should be prepared to self-isolate if this was in line with National Guidance.

123. Visitors were provided with clean PPE by the ward at the time of visiting, and universal wipes were used to clean their personal devices, e.g., phones before and after visiting, with hand hygiene facilities at ward entrances. Wards were provided with iPads to enable remote contact between families and patients.

124. Covid-19 Action Card Virtual patient visiting was developed, Spiritual support was also provided virtually. A Patient Support Service Hub was introduced - to provide support to family. Families were able to e-mail in photographs or messages to a trust helpline e-mail, which were printed off and taken to the patient. In Critical Care where ensuring at least daily contact was a priority, staff were allocated to this role.

125. There was no specific policy in place for patients with communication difficulties, however all Covid -19 action cards for visiting made reference, to patients who may have additional needs - dementia, learning difficulties, or mental health concerns. As visiting guidance was updated the principles was applied to inpatient, outpatient, diagnostics and Emergency department.

126. On 16.5.20 the Staff update advised staff that new guidance had been received on end of life visiting, on visiting for patients thought to be in the last 24-48 hours of their life, and that the Trust visiting guidance would be updated in the next few days – staff were advised to contact the senior nurse on call if there were any specific instances over the weekend which would be affected by this change, who would be able to assist.

127. On 9.7.20 - Revised Hospital Visiting guidance was issued that Implemented restricted visiting. This policy presented challenges to ward staff in monitoring who was visiting and for how long. Staff found that some visitors did not wear masks when asked and would not leave the bay or ward when asked. There was an onus on the nurse in charge where decisions over compassionate visiting were needed, which did cause additional stresses for these nurses. Staff found it upsetting when relatives were unable to come in, particularly in Critical Care, looking after Covid patients were deeply affected by this. Staff support at these times was essential.

Effect of visiting restrictions

128. Restricting visiting had a negative effect on both patients and their families and this was shown by the number of complaints the Trust received regarding this. The IPCT had to respond to many complaints regarding this.

129. The guidance was limited by the law. In the early days of the pandemic there were times when relatives travelled from abroad specifically for the purpose of visiting patients who were dying. In one specific incident we asked for advice from Public Health England and were able to facilitate visiting. It was assessed that the guidance on visiting struck the right balance between minimising the risk of infection, and enabling patients to benefit from the support and comfort of visitors and/or carers.

Patient treatment and care

130. In preparation for the first wave the Trust considered attempting to create a COVID-free site at CGH to maintain elective diagnostic and therapeutic activity, including operations. We decided that we had neither the time nor the capacity in GRH, given the projections, to do this. In retrospect it was the correct decision as it allowed us to prepare our estate for an expansion of ITU activity and respond to the early wave of COVID that came unexpectedly in Cheltenham just after the Cheltenham Festival. We developed COVID pathways for emergency care on both sites as some services are only available in CGH, for example coronary angiography, oncology. This was modified in later waves.

131. Teams were asked to prioritise patients clinically. Every attempt was made to continue surgery for urgent (life or limb threatening) or cancer if alternative options were considered unlikely to provide an acceptable outcome. After the first wave, when we used the CGH site as an elective site and treated all COVID patients in GRH, we were able to significantly increase both the diagnostic work e.g. CT or MRI scans and the number of operations we were able to do. To support surgery for very high-risk patients we converted the Aveta Birth Unit in CGH into a 'Green-Green' ward with very strict precautions to reduce the risk of catching COVID.

132. We maintained both 'red' and 'green' pathways for operations in GRH for surgical emergencies and for those cases that could not be done in CGH. This was largely successful.

133. However, this did result in the complete stopping of some services which were considered non-urgent clinically e.g. elective orthopaedics and the inevitable increase in waiting lists.

134. Elective orthopaedic operating was stopped in early March 2020. Trauma operating continued in the run-up to the pandemic taking hold. The number of trauma cases did significantly decrease once the lockdown had taken effect as written up in a published paper: *Impact of the 2020 COVID-19 pandemic on the workload of the orthopaedic service in a busy UK district general hospital T Murphy , H Akehurst , J Mutimer:* Elective orthopaedic work restarted in July 2020. A thorough risk assessment was undertaken to ensure a green pathway could be achieved and national figures show that we were successful in returning to elective operating in significant numbers in a relatively short period of time. There were further pauses in the provision of elective orthopaedic work mainly due to bed pressures over winter 2020. Some elective operating was undertaken at two local private hospitals. The Winfield hospital was used for elective orthopaedic work and to a lesser extent at the Nuffield, although that was largely repurposed as a ward for patients transferred from the Trust. Supporting evidence to above paragraphs exhibited in MP/06 INQ000436636.

135. Rapid innovation included the development of virtual clinics in almost all specialties, initially out of necessity but subsequently due to both patient and doctor preference. We learned which conditions were amenable to telephone or video follow

up and which required a face-to-face appointment. Other examples include using dissolvable sutures rather than ones which needed removing to reduce follow ups. There was national guidance about accepting certain fractures and treating them conservatively rather than surgically due to the lack of capacity and the increased risks of operating.

136. The stand- alone midwifery-led birth unit at CGH 'Aveta' was closed to enable a 'green-green' elective surgical ward to be established to support the continued treatment of clinically urgent and cancer patients. Women wishing to give birth in a midwifery-led birth unit during the period of the closure were still able to do so by accessing the units at both GRH & SMH, both of which remained open.

Ambulance handover times

137. Flow through the Emergency Department, and thus ambulance handover times, was supported by matching the size of the 'Red ED' cohort area to the number of patients presenting. This resulting the Aveda repeated 'flipping' of a smaller contained area, previously the children's ED which had moved to the paediatric ward, and sections, or all, of a larger area, previously the fracture clinic which was moved to the outpatient area. The aim was to match demand and capacity as much as possible. This was supported by red and green pathways to dedicated red and green wards reducing time in ED as much as possible.

138. The time of highest pressure was Nov/December 2020 when the second wave of Covid combined with the usual increase in winter admissions, perhaps made worse by patients staying away from hospital earlier in the year, and in-hospital nosocomial transmission of covid further impacting bed capacity. The steps we took, successfully, to respond to this are described elsewhere. Supporting data is exhibited at MP/6 INQ000436636 Performance Data under Ambulance Handover Delays

Escalation of care decision making

139. Discussions about the possible need to ration care, especially ITU beds, started very early in the pandemic driven in large part by the harrowing news from Italy. An initial screening tool was discussed and proposed at national level but never

implemented. As it became clear that there would be no national guidance, we realised that we would have to address this ourselves.

140. The Trust local ethics group met 3/4/2020 to confirm our approach. Early UK evidence suggested a high mortality for COVID-19 patients who require critical care. In addition, critical care may be prolonged, and therefore associated with significant morbidity and a reduction in an individual's function. The approach the Trust took was not significantly different from pre-pandemic times except for the requirement to involve three consultants in decision making. It is summarised as follows:

a. *Decision making for critical care escalation will be formulated within the context of:*

- *The clinical situation (acute and chronic)*
- *An assessment of the patient's likelihood to recover*

b. *Central to this will be honest conversations and engagement with patients, families, carers and representatives about the risks, benefits and possible likely outcomes of the different treatment options. These conversations will be undertaken using the most up-to-date knowledge, evidence and understanding about the disease so that informed decisions can be made about the patient's treatment wherever possible.*

c. *Early indicators of poor prognosis have specifically been described as:*
d. *Increasing age – linear increase in mortality with age*
e. *High frailty score* in >65-year-olds*
f. *Poor physiological reserve/pre-morbid state*
g. *Significant co-morbidities*

141. This approach to decision making took into context the rapid changes in clinical understanding and outcomes and was therefore able to be useful throughout the pandemic. This is because the approach was individual, with decision making on a case-by-case basis.

142. From early in the first wave, we introduced the requirement for three consultant decision making for all escalation decisions. This was done formally with two critical care and one respiratory care physicians on an individual case basis.

Daily to twice daily MDTs were held with respiratory and critical care teams to review all individuals requiring organ support (RHC, DCC and referrals)

143. Key learning from wave one was that waves were not rapidly overwhelming, more a gradual increase of patients to a level outside of normal capacity. We used data, rapid learning from local cases (including covid deaths) and international wisdom clinical and non-clinical expertise and learning to revise the way we managed our hospitals in the subsequent waves.

144. The key learning point was that despite severe hypoxia not all patients needed management on critical care. The key challenge was the need to continue usual care and elective operating too. This led to the formation and generation of a respiratory high care unit to deliver NIV support. Both critical care (ICU) and respiratory high units (RHC) would combine staffing and equipment resources to optimally manage patients. In addition, recovery units would support level two care for elective operating. This was incredibly successful.

145. In wave one Critical Care breached normal capacity about one month after the first admission and elective activity was stopped. In the 2nd wave critical care capacity was not exceeded until over 3 months from first patient admitted with zero cancellations of (reduced) planned elective care. RHC managed the majority of cases needing NIV support. In addition, the Trust mortality (Critical Care and RHC) outcomes were significantly better than the national average.

146. Other learning also included better access for families both in person and via iPad, regular dedicated communication and palliative care team involvement. Change in clinical practice as guided by clinical evidence e.g. anticoagulation and immunosuppression, was also rapidly integrated.

Rationing of Care

147. With regards to the rationing of care in the run up to the first wave, and based on early projections, we were concerned that we might run out of ventilated beds for people who needed them. In the absence of national guidance we agreed an approach which was essentially unchanged in terms of clinical decision making but involved 3 consultants. In practice we never reached this point and all decisions were

made on clinical grounds. Although we were close to running out of medication and PPE at times, we always found acceptable alternatives, mutual aid, or solutions so that at no point were decisions made on the basis of a lack of resources.

ReSPECT Forms and DNACPR Notices

148. Feedback from clinicians is that they didn't change their approach to ReSPECT / DNACPR decisions. If a prior discussion had taken place, this informed recommendations. The aim was that all patients admitted (whether very ill or otherwise) had a ReSPECT conversation and form before leaving ED.

149. Recommendations/decisions around escalation of treatment (suitability or otherwise) were taken on a consensus basis in partnership with the patient, family and carers; three clinicians came to an agreement, particularly where the decision was not to escalate to critical care in a borderline situation. Recommendations were based on evolving awareness of COVID; we had no formal guidance. We did not have to, at any point, make decisions based on (the lack of) availability of resources; all decisions/recommendations were made based on likelihood of success, and patient wishes.

150. ReSPECT was launched countywide in 2019 with an eLearning training package. There is one DATIX incident record recording a patient who felt the recommendation was made against their wishes prior to the pandemic. Review of concerns recorded on DATIX during the time period shows 14 instances when patients or families highlighted that they were unhappy with the recommendations recorded on the ReSPECT forms and / or indicated that they had not been involved in these recommendations.

151. ReSPECT forms are not available electronically, but recommendations are sometimes mentioned as part of annotations and discharge summaries. There are check boxes in discharge summary documentation to highlight if a patient has a ReSPECT plan and if it has been changed during the admission.

152. Assurance has been received from the Trust Safeguarding Lead regarding people with learning disabilities that there were no concerns that ReSPECT plans were issued disproportionately or inappropriately. LeDeR reviews at that time have

not found any evidence of disproportionate or inappropriate use. There are not trends of concerns identifiable regarding other protected characteristics. There is one concern recorded when the family indicated that a recommendation was made without an interpreter present.

153. There was no evidence in DATIX nor highlighted by clinicians of patients arriving at the at the hospital that had DNACPR notices which did not appear to be clinically appropriate.

154. The Trust did not measure whether there was an increase in the number of patients arriving at the hospital with a DNACPR notice on their notes. An audit that was undertaken in February / March 2021 of deaths occurring within 24hrs of ED attendance demonstrated that 77% of these patients had a ReSPECT form. There is no comparison data.

155. The ReSPECT training package guidance to clinical staff regarding how to communicate and explain DNACPR decisions to patients and their families, carers, and loved ones. 3225 staff members are recorded as having completed the training by the end of Q1 2022. Other guidance included a short audio guide on communication skills based on nationally shared guidance. Junior doctors received training in the form of a taught session and video based small group sessions as part of the foundation training programme.

PPE equality impact

156. The impact that PPE had on communication was clear from very early on. Masks were the most obvious problem which affect people who were hard of hearing and those who used lip reading to understand. As soon as clear masks were available, they were provided to staff to reduce the impact of PPE. However, it was an issue for all staff-patient interactions.

Use of Cheltenham General Hospital as relatively Covid free /Green hospital

157. After the first wave the Trust decided to bring all COVID positive patients to GRH to enable CGH to be kept as COVID free as possible and be used for elective activity – both diagnostic and therapeutic. As well as reducing the risk to patients and

providing capacity for elective work it also encouraged patients to attend who were anxious about coming to hospital.

158. There is no doubt that this decision enabled the Trust to do more elective work than many other Trusts and meant that our waiting lists coming out of COVID were shorter than most comparable Trusts. As the supplied data demonstrates, cancer performance improved as exhibited in MP6 INQ000436636 Performance data under tabs 2ww,28dw,31dw,62dw Performance.

159. The decision was taken at the Trust COVID 'Task and Finish Group' in April 2020 as recorded in the COVID Service Change Decision Log 11 and 24 Apr 20.

160. In general, staff supported the decision as it allowed the Trust to do more elective activity, especially cancer and other urgent work. It also provided a higher degree of protection to patients at most risk from COVID. We were able to use this two-site split to reduce the risk to staff who were at higher risk from COVID for personal medical or other reasons, and those who were pregnant, by using them to staff rotas at CGH or working at CGH.

Staff welfare

161. The Trust produced a one-page infographic to highlight and signpost staff to the different sources of support that were available. We used NHS Charities Together fund to invest in a 6-month Psychology Link Worker to carry on the efforts of the Health Psychology team who were deployed to support COVID ward staff during the first wave. This eventually expanded to a permanent Staff Psychology service offering a range of one-to-one and group- therapy/debrief sessions on COVID and non-COVID matters.

162. The staff advice and support hub were used as the first port of call for all covid-related queries which impacted on staff wellbeing and ability to work. This included making provision for clinical staff who had family members that were unwell whereby they could stay in alternative accommodation thereby reducing the risk of them contracting COVID and therefore unable to work. The opening hours of the staff advice and support hub during the first and second waves of the pandemic. At one point it was open from 7am-10pm 7 days per week.

163. Free tea, coffee and parking for staff was provided during the pandemic which was highly appreciated by staff. Detailed Staff briefing and FAQs were updated and issued regularly through Corporate Communications team and printed for Wards and other departments. There was signposting to offers of virtual Pilates and Yoga sessions.

164. The Trust commissioned Trauma Awareness Training for Managers through a charity called PTSD Resolution which supported almost 250 managers to go through the half-day online training.

165. Some teams came together virtually on a regular/daily basis to support people who were working from home. The Trust signposted to various national virtual gatherings and common rooms which were advertised through NHSE. A number of 'wobble rooms' were set up around the Trust and provided access to free tea, coffee, biscuits and nibbles and wellbeing information.

166. The One Gloucestershire ICS Wellbeing Line set up a Long Covid support group which continues to meet to this day.

Covid19 Risk Assessments

167. A Covid 19 Risk assessment tool was rolled out and undertaken by Divisional leadership teams with significant support from the Trust Health and Safety team. The Trust complied fully with the national requirements. The roll out was challenging and impacted on capacity and deployment of staff. The Trust used COVID tools provided by a medical body, but managers still felt out of their depth assessing the vulnerability of a person with complex pre-existing medical conditions. The COVID tools were very basic and allowed a generic assessment but did not take account of the need for individual personal risks assessments (as required by H&S law) that needed to be more detailed. These really needed a combination of a GP / medical professional and a line manager to work on them together as neither could offer advice in isolation. GPs / medical professionals did not have the capacity to do this in practice. We struggled where staff wanted to work (even when vulnerable) but the tool or assessment showed it was high risk. These staff felt penalised when they were moved. Pregnant staff were one of the largest group for this. Often staff did not

want to work from home in the 3rd trimester but the Trust was unable to offer them any other option due to the strict government guidance. Often a referral was made to Occupational Health or the staff member was asked to get advice from their GP but even these routes were not always able to provide advice on whether someone should be moved or stop doing specific tasks.

Equality Impact Assessments

168. Formal EIAs were not completed as we followed national COVID-19 guidance and because this changed frequently and at pace. Locally adapted procedures and policies were made into practice specific, and easy to update, action cards, and did not go through the usual Trust policy processes that included completion of EIAs. This changed when national COVID guidance aligned to other respiratory tract infection management and then an EIA was performed as part of that transition. EIAs were a key part of the staff COVID-19 risk assessment and mitigations. These risk assessments were required for staff to ensure safe working practices.

Unequal impact of measures

169. Wearing masks was mandatory for all although there were a few minor exceptions due to individual medical conditions. These staff were given access to sunflower lanyards and re-deployed to areas that reduced their risk of exposure to COVID on enabled to work from home if possible.

Channels of communication

170. The Trust worked hard on communication with staff from the start of the pandemic and maintained a tone of transparency, trust, and emotional intelligence throughout. This included daily global emails, video blogs, new online and video training and, most effective, a twice daily sit rep phone call (prior to Teams) which all staff were invited to join. Groups across the Trust would put the call on speaker phone and listen in. This allowed them to connect to the Trust response and have a twice-daily update on issues, plans etc and to raise concerns themselves. Anecdotal reports confirm that the Trust communications was widely circulated outside the Trust as well.

171. The Trust Board was hugely supportive of executive leads and all staff. Despite the difficulties a light touch governance was maintained with shortened board meetings and committees and Divisional reviews. Serious Incident Reporting and Incident Reporting continued and as well as reviews. The focus was on supporting staff to make clinically appropriate decisions, dealing with issues of concern and other urgent issues.

172. The local health system worked well together with a Gold/Silver/ Bronze structure – see supporting documents exhibited at MP/07 INQ000436637 and MP/08 INQ000436638 demonstrating relationships and command and control structures. Relationships between primary and secondary care were strong and improved during the pandemic.

173. National leaders were universally supportive at an individual level and well aware of the pressure people were working under. Initially, it felt as if national bodies stepped back as they were overwhelmed by the pandemic and later returned with a vengeance, and not always helpfully.

174. Last minute communication, and delayed delivery of guidance was a frustration, but it was equally true that regional and national colleagues were learning as fast as we were and working under enormous pressure themselves. While there was sense of loss of freedom as things returned to normal after the first wave there was also a sense of security and safety in knowing that national and regional processes had learned how to respond to the situation.

175. Statements from the GMC and NMC and national medical and nursing directors about regulatory bodies taking in to account the reality of working in a pandemic were helpful in reassuring staff who were working in conditions unknown to most of them e.g. ITU staffing working outside of normal staffing ratios. As described elsewhere IPC guidance by Royal Colleges and specialty groups that conflicted with PHE or national guidance was unhelpful and caused a lot of concern and stress among staff and, at times, conflict with IPC staff.

Recommendations

176. Specific learning points from our emergency planning team and ITU colleagues are below. Please also see exhibited MP/09 INQ000436639 and MP/10 INQ000436640 which were part of the Trust's Lessons Identified and Lessons Learnt process.

177. More generally, it is clear that the country was not prepared to deal with the pandemic and that national decision-makers did not know how to respond when they realised that. While is it true that the nature of the pandemic was unexpected a number of factors contributed to this and should form part of learning for policy makers and national decision makers:

a. The funding / capacity for the national emergency preparedness response system was woefully inadequate and the central stock of PPE was both too small and poorly maintained.
b. When the nature of the pandemic became clear national bodies stepped back and there was little or no national guidance. This was helpful initially as it allowed local teams to innovate rapidly and implement changes required. The removal of financial barriers between organisations was a key enabler to this.
c. This local innovation was key to the success of the initial response in Gloucestershire, and much more could have been done later in the pandemic if a similar approach had been taken to e.g. using local Public Health teams to run contact tracing.
d. The removal of financial barriers also helped mitigate some of the impact of the historic under-resourcing of ITU capacity in the SW as it enabled us to rapidly expand capacity by converting wards and other areas.
e. Once the situation stabilised and national bodies 'regained their nerve' there was an unhelpful battle for priority in some areas e.g. PPE (HSE, MHRA, PHE, NHSE) and even disconnect within organisations e.g. CQC.
f. There was a total lack of humanity in the initial response to covid recovery with NHSE guidance in the late summer / autumn of 2020 that imposed financial penalties on Trusts if they failed to deliver recovery plans imposed by the centre, with no understanding of the personal impact of the first wave on staff. This was made to look doubly ridiculous by the second wave which made these targets irrelevant.
g. The repeated announcement of new policy at the daily news conferences before any other part of the healthcare system had been informed was always frustrating and at times dangerous e.g. March 16th 2020 – the PM announced a change of

guidance re isolation after contact with COVID or COVID symptoms; we were told after the news conference that national guidance was coming on March 17th; however given the timing of the announcement approximately 25% of our staff did not turn up that night which we had been completely unable to plan for.

h. The repeated issuing of new guidance late on a Friday with the expectation of immediate implementation was a constant frustration (as if we had nothing better to do over the weekends).
i. More generally, the lack of transparency about resource constraints, especially PPE and testing, during national news conference and in regional and national meetings was both a frustration and a hindrance to local planning. It was in stark contrast to our local approach in which we were clear with staff about the challenges, and they responded in amazing ways.

ICU Learning points

a. Early strategic clinical response essential
b. Huge value of command structure gold/silver/bronze etc and twice daily Trust COIVD ops meetings
c. Limit ITU nurse dependency to 1:3 ratio
d. MERIT team essential for stabilisation and later Proning/traches/lines
e. Cohesive MDT working e.g. 3 consultant escalations decision
f. Level 2 areas outstanding if well run e.g. Respiratory High Care – managed 75% of patients
g. Support existing hospitals, don't build new ones and dilute staff (Nightingales costly and unhelpful distraction)
h. Each ICU patient needs a designated staff member 24/7
i. Additional ancillary support key - to visit/contact daily e.g. IPC, pharmacy, equipment, stock review/stores/PPE
j. Additional admin support – experienced, consistent and early
k. Minimise/streamline information/form filling to trust and network
l. Donning doffing areas need to work
m. Keep flexible both clinically and non-clinically – review, rethink & respond (both staff and ward areas)
n. Geographical Co-dependency of DCC areas key

Emergency Preparedness Resilience and Response Learning Points

a. Regular and relatively rigid Battle Rhythm (twice a day) of Trust-wide meetings working across all functional areas ensured good situational awareness, dynamic decision making, and quick resolutions to emerging challenge pages.
b. Much normal EPRR activity could not take place. Even now the Trust is recovering in a number of areas.

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: 1.5.24